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# Part III

# Environmental Protection Agency

## 40 CFR Part 68

## Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); List of Regulated Substances and Thresholds for Accidental Release Prevention, Stay of Effectiveness; and Accidental Release Prevention Requirements: Risk Management Programs Under Section 112(r)(7) of the Clean Air Act as Amended, Guidelines; Final Rules and Notice

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 68

[FRL-5516-5]

RIN 2050-AD26

## Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r)(7)

**AGENCY:** Environmental Protection Agency.

**ACTION:** Final rule.

**SUMMARY:** The Clean Air Act requires EPA to promulgate regulations to prevent accidental releases of regulated substances and reduce the severity of those releases that do occur. EPA is promulgating rules that apply to all stationary sources with processes that contain more than a threshold quantity of a regulated substance. Processes will be divided into three categories based on: the potential for offsite consequences associated with a worst-case accidental release; accident history; or compliance with the prevention requirements under OSHA's Process Safety Management Standard. Processes that have no potential impact on the public in the case of an accidental release will have minimal requirements. For other processes, sources will implement a risk management program that includes more detailed requirements for hazard assessment, prevention, and emergency response. Processes in industry categories with a history of accidental releases and processes already complying with OSHA's Process Safety Management Standard will be subject to a prevention program that is identical to parallel elements of the OSHA Standard. All other processes will be subject to streamlined prevention requirements. All sources must prepare a risk management plan based on the risk management programs established at the source. The source must submit the plan to a central point specified by EPA; the plan will be available to state and local governments and the public. These regulations will encourage sources to reduce the probability of accidental releases of substances that have the potential to cause immediate harm to public health and the environment and will stimulate the dialogue between industry and the public to improve accident prevention and emergency response practices.

**DATES:** The rule is effective August 19, 1996.

**ADDRESSES:** Supporting material used in developing the proposed rule, supplemental notice, and final rule is contained in Docket No. A-91-73. The docket is available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday (except government holidays) at Room 1500, 401 M St. SW, Washington, DC 20460. A reasonable fee may charged for copying.

**FOR FURTHER INFORMATION CONTACT:** Craig Matthiessen at (202) 260-8600, Chemical Emergency Preparedness and Prevention Office, U.S. Environmental Protection Agency, 401 M St. SW, Washington, DC 20460, or the Emergency Planning and Community Right-to-Know Hotline at 1-800-424-9346 (in the Washington, DC, metropolitan area, (703) 412-9810).

**SUPPLEMENTARY INFORMATION:** *Judicial Review.* Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r)(7) were proposed in the Federal Register on October 20, 1993 (58 FR 54190). A supplemental notice was issued on March 13, 1995 (60 FR 13526). This Federal Register action announces the EPA's final decisions on the rule. Under section 307(b)(1) of the Act, judicial review of the Accidental Release Prevention Requirements: Risk Management Programs is available only by the petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this final rule. Under section 307(b)(2) of the Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

### Regulated Entities

Entities potentially regulated by this action are those stationary sources that have more than a threshold quantity of a regulated substance in a process. Regulated categories and entities include:

| Category | Examples of regulated entities |
|---|---|
| Chemical Manufacturers | Industrial organics & inorganics, paints, pharmaceuticals, adhesives, sealants, fibers |
| Petrochemical | Refineries, industrial gases, plastics & resins, synthetic rubber |
| Other Manufacturing | Electronics, semiconductors, paper, fabricated metals, industrial machinery, furniture, textiles |
| Agriculture | Fertilzers, pesticides |
| Public Sources | Drinking and waste water treatment works |
| Utilities | Electric and Gas Utilities |
| Others | Food and cold storage, propane retail, warehousing and wholesalers |
| Federal Sources | Military and energy installations |

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether a stationary source is regulated by this action, carefully examine the provisions associated with the list of substances and thresholds under § 68.130 (59 FR 4478), the proposed modifications (61 FR 16598, April 15, 1996) and the stay of implementation of the affected provisions until the proposed modifications are final published elsewhere in today's Federal Register, and the applicability criteria in § 68.10 of today's rule. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding FOR FURTHER INFORMATION CONTACT section.

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## I. Introduction and Background

### *A. Statutory Authority*

This rule is promulgated under sections 112(r), 301(a)(1), Title V of the Clean Air Act (CAA) as amended (42 U.S.C. 7412(r), 7601(a)(1), 7661–7661f).

### *B. Background*

The CAA Amendments of 1990 amend section 112 and add paragraph (r). The intent of section 112(r) is to prevent accidental releases to the air and mitigate the consequences of such releases by focusing prevention measures on chemicals that pose the greatest risk to the public and the environment. Section 112(r)(3) mandates that EPA promulgate a list of regulated substances, with threshold quantities; this list defines the stationary sources that will be subject to accident prevention regulations mandated by section 112(r)(7). EPA promulgated its list of substances on January 31, 1994 (59 FR 4478) ("List Rule").

As noted elsewhere in today's Federal Register, EPA has stayed certain provisions of part 68 that were promulgated as part of the List Rule. The stayed provisions are being addressed in amendments to the List Rule, which were proposed in 61 FR 16598 (April 15, 1996). Therefore, EPA has not taken final action on provisions of the Risk Management Program rule that apply to regulated substances, mixtures, and stationary sources addressed by the stayed provisions. Final action will be deferred until EPA takes final action on the proposed amendments to the List Rule.

Section 112(r)(7) mandates that EPA promulgate regulations and develop guidance to prevent, detect, and respond to accidental releases. Stationary sources covered by these regulations must develop and implement a risk management program that includes a hazard assessment, a prevention program, and an emergency response program. The risk management program must be described in a risk management plan (RMP) that must be registered with EPA, submitted to state and local authorities, and made available to the public. On October 20, 1993, EPA published a Notice of Proposed Rulemaking (NPRM) for the section 112(r)(7) regulations (58 FR 54190). (For a summary of the statutory requirements of section 112(r) and related statutory provisions, see the October 20, 1993, NPRM).

Following publication of the proposed rule, EPA held four public hearings and received approximately 770 written comments. Because of these comments, EPA issued a supplemental notice of proposed rulemaking (SNPRM) on March 13, 1995 (60 FR 13526) for comment on: approaches for setting different requirements for sources that pose different levels of hazard (tiering); worst-case releases and other hazard assessment issues; accident information reporting; public participation; inherently safer approaches; and implementation and integration of section 112(r) with state programs, particularly state air permitting programs. EPA held a public hearing on March 31, 1995, in Washington, DC, and received more than 280 written comments. Today's rule reflects EPA's consideration of all comments; major issues raised by commenters and EPA's response are briefly discussed in Section III of this preamble. A summary of all comments submitted and EPA's response to them is available in the Docket (see **ADDRESSES**).

EPA has proposed to delist explosives from § 68.130. Consequently, explosives are not addressed in this rule. EPA had also requested at the time of the final List Rule comments on whether flammable substances, when used as fuel, posed a lesser intrinsic hazard than the same substance handled otherwise (59 FR 4500, January 31, 1994). The comments submitted lacked data that would justify a lesser level of hazard consideration for flammable fuels; hence, the Agency will not adopt a fuel use exemption for purposes of threshold quantity determination.

With today's rule, EPA continues the philosophy that the Agency embraced in implementing the Emergency Planning and Community Right-to-Know Act of

1986 (EPCRA). Specifically, EPA recognizes that regulatory requirements, by themselves, will not guarantee safety. Instead, EPA believes that information about hazards in a community can and should lead public officials and the general public to work with industry to prevent accidents. For example, today's rule requires covered sources to provide information about possible worst-case scenarios. EPA intends that officials and the public use this information to understand the chemical hazards in the community and then engage in a dialogue with industry to reduce risk. In this way, accident prevention is focused primarily at the local level where the risk is found. Further, today's rule builds on existing programs and standards. For example, EPA has coordinated with Occupational Safety and Health Administration (OSHA) and the Department of Transportation (DOT) in developing this regulation. To the extent possible, covered sources will not face inconsistent requirements under these agencies' rules. EPA is encouraging sources to use existing emergency response programs, rather than develop a separate and duplicative program under this rule. In addition, today's rule scales requirements based on the potential risk posed by a source and the steps needed to address the risk, rather than imposing identical requirements on all sources.

To accommodate the concerns of small businesses, EPA is providing guidance with reference tables that covered sources can use to model the offsite consequences of a release. EPA is providing a model RMP guidance for the ammonia refrigeration industry, and will develop similar guidance for propane handlers and drinking water systems. As today's rule is implemented, EPA hopes that other industry sectors will work with EPA to develop model RMPs for other processes, thereby reducing costs for individual sources. Finally, today's rule requires industry to submit RMPs centrally in a format and method to be determined by EPA. Working with stakeholders, EPA will develop mechanisms to allow industry to use appropriate electronic technology to register with EPA and submit RMPs. In turn, all interested parties will be able to access electronically the data in RMPs. This method of submission and access avoids a potentially significant amount of paperwork for all involved parties and promotes uniformity. Users will be able to develop databases for specific purposes and compare RMPs for various sites across the country. In turn, industries' use of the data will promote continuous improvement, for example, through new safety technologies. As the method for submitting RMPs is developed, EPA invites the participation of all stakeholders, including industry, state and local governments, local emergency planning committees, environmental groups, and the general public.

## II. Discussion of Final Rule

### *A. Applicability*

The owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process must comply with these requirements no later than June 21, 1999; three years after the date on which a regulated substance is first listed under § 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.

### *B. Program Criteria and Requirements*

Under today's rule, processes subject to these requirements are divided into three tiers, labeled Programs 1, 2, and 3. EPA has adopted the term "Program" to replace the term "Tier" found in the SNPRM to avoid confusion with Tier I and Tier II forms submitted under EPCRA, also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III). Eligibility for any given Program is based on process criteria so that classification of one process in a Program does not influence the classification of other processes at the source. For example, if a process meets Program 1 criteria, the source need only satisfy Program 1 requirements for that process, even if other processes at the source are subject to Program 2 or Program 3. A source, therefore, could have processes in one or more of the three Programs.

Program 1 is available to any process that has not had an accidental release with offsite consequences in the five years prior to the submission date of the RMP and has no public receptors within the distance to a specified toxic or flammable endpoint associated with a worst-case release scenario. Program 3 applies to processes in Standard Industrial Classification (SIC) codes 2611 (pulp mills), 2812 (chlor-alkali), 2819 (industrial inorganics), 2821 (plastics and resins), 2865 (cyclic crudes), 2869 (industrial organics), 2873 (nitrogen fertilizers), 2879 (agricultural chemicals), and 2911 (petroleum refineries). Program 3 also applies to all processes subject to the OSHA Process Safety Management (PSM) standard (29 CFR 1910.119), unless the process is eligible for Program 1. Owners or operators will need to determine individual SIC codes for each covered process to determine whether Program 3 applies. All other covered processes must satisfy Program 2 requirements. Program requirements and differences are illustrated on Tables 1 and 2:

TABLE 1—PROGRAM ELIGIBILITY CRITERIA

| Program 1 | Program 2 | Program 3 |
|---|---|---|
| No offsite accident history | | Process is subject to OSHA PSM. |
| No public receptors in worst-case circle | The process is not eligible for Program 1 or 3 | Process is in SIC code 2611, 2812, 2819, 2821, 2865, 2869, 2873, 2879, or 2911. |
| Emergency response coordinated with local responders. | | |

TABLE 2—COMPARISON OF PROGRAM REQUIREMENTS

| Program 1 | Program 2 | Program 3 |
|---|---|---|
| Hazard Assessment: | | |
| Worst-case analysis | Worst-case analysis | Worst-case analysis. |
| | Alternative releases | Alternative releases. |
| 5-year accident history | 5-year accident history | 5-year accident history. |
| Management Program: | | |
| | Document management system | Document management system. |

TABLE 2—COMPARISON OF PROGRAM REQUIREMENTS—Continued

| Program 1 | Program 2 | Program 3 |
|---|---|---|
| Prevention Program: | | |
| Certify no additional steps needed | Safety Information | Process Safety Information. |
| | Hazard Review | Process Hazard Analysis. |
| | Operating Procedures | Operating Procedures. |
| | Training | Training. |
| | Maintenance | Mechanical Integrity. |
| | Incident Investigation | Incident Investigation. |
| | Compliance Audit | Compliance Audit. |
| | | Management of Change. |
| | | Pre-startup Review. |
| | | Contractors. |
| | | Employee Participation. |
| | | Hot Work Permits. |
| Emergency Response Program: | | |
| Coordinate with local responders | Develop plan and program | Develop plan and program. |
| Risk Management Plan Contents: | | |
| Executive Summary | Executive Summary. | Executive Summary |
| Registration | Registration | Registration. |
| Worst-case data | Worst-case data | Worst-case data. |
| 5-year accident history | Alternative release data | Alternative release data. |
| Certification | 5-year accident history | 5-year accident history. |
| | Prevention program data | Prevention program data. |
| | Emergency response data | Emergency response data. |
| | Certification | Certification. |

The owner or operator of a covered process must: (1) prepare and submit a single risk management plan (RMP), including registration that covers all affected processes and chemicals; (2) conduct a worst-case release scenario analysis, review accident history, ensure emergency response procedures are coordinated with community response organizations to determine eligibility for Program 1 and, if eligible, document the worst case and complete a Program 1 certification for the RMP; (3) conduct a hazard assessment, document a management system, implement a more extensive, but still streamlined prevention program, and implement an emergency response program for Program 2 processes; and (4) conduct a hazard assessment, document a management system, implement a prevention program that is fundamentally identical to the OSHA PSM Standard, and implement an emergency response program for Program 3 processes.

Measures taken by sources to comply with OSHA PSM for any process that meets OSHA's PSM standard are sufficient to comply with the prevention program requirements of all three Programs. EPA will retain its authority to enforce the prevention program requirements and the general duty requirements of CAA Section 112(r)(1). EPA and OSHA are working closely to coordinate interpretation and enforcement of PSM and accident prevention programs. EPA will also work with state and local agencies to coordinate oversight of worker and public safety and environmental protection programs.

*C. Hazard Assessment*

EPA has adopted the worst-case definition proposed in the SNPRM. For all substances, the worst-case release scenario will be defined as the release of the largest quantity of a regulated substance from a vessel or process line failure, including administrative controls and passive mitigation that limit the total quantity involved or the release rate. For most gases, the worst-case release scenario assumes that the quantity is released in 10 minutes. For liquids, the scenario assumes an instantaneous spill; the release rate to the air is the volatilization rate from a pool 1 cm deep unless passive mitigation systems contain the substance in a smaller area. For flammables, the worst case assumes an instantaneous release and a vapor cloud explosion.

For the final rule, EPA has adopted the term "alternative release scenarios" to replace the term "other more likely scenarios" found in the NPRM and SNPRM. The non-worst-case accidental releases for the hazard assessment portion of the risk management plan were presumed "more likely to occur" and "more realistic" than the worst case. EPA believes sources should have flexibility to select non-worst-case scenarios that are the most useful for communication with the public and first responders and for emergency response preparedness and planning. Catastrophic accidental releases are typically rare events; the words "more likely" suggests certainty of occurrence. Consequently, the scenarios other than worst case provided in the hazard assessment are called alternative release scenarios. For alternative scenarios, sources may consider the effects of both passive and active mitigation systems.

One worst-case release scenario will be defined to represent all toxics, and one worst-case release scenario will be defined to represent all flammables held above the threshold at the source. Additional worst-case release scenario(s) must be analyzed and reported if such a release from another covered process at the source potentially affects public receptors that would not be potentially affected by the first scenario. EPA recognizes that this approach may be problematic for some sources such as batch processors and warehouses where use of listed substances or inventory may vary considerably within an RMP reporting period. EPA suggests that owners or operators of such processes develop a worst-case scenario for future chemical use and inventory based on past practices to minimize the need for frequent revision of their worst-case scenario. For alternative release scenarios, one scenario is required for each toxic substance and one to represent all flammable substances held in covered processes at the source.

An endpoint is needed for the offsite consequence analysis. Appendix A of today's rule lists the endpoints for toxic substances that must be used in worst-

case and alternative scenario assessment. The endpoint for a toxic substance is its Emergency Response Planning Guideline level 2 (ERPG–2) developed by the American Industrial Hygiene Association (AIHA). If a substance has no ERPG–2, then the endpoint is the level of concern (LOC) from the Technical Guidance for Hazards Analysis, updated where necessary to reflect new toxicity data. EPA recognizes the limitations associated with ERPG–2 and LOC values and is working with other agencies to develop Acute Exposure Guideline Limits (AEGLs). When these values have been developed and peer-reviewed, EPA intends to adopt them through rulemaking as the toxic endpoints for this rule. For flammables, vapor cloud explosion distances will be based on an overpressure of 1 psi; for alternative flammable releases, radiant heat distances will be based on an exposure of 5 kW/m² for 40 seconds. For vapor cloud fires and jet fires, the lower flammability limit provided by the National Fire Protection Association (NFPA) or other sources shall be used.

EPA selected 1.5 meter per second (m/s) wind speed and F atmospheric stability class as the default worst-case scenario meteorological conditions. If the owner or operator has meteorological data that show that higher minimum wind speeds or less stable atmospheric class conditions existed at the source at all times in the previous three years, then the higher wind speed and different stability class may be used. Alternative release analyses may use site-specific, typical meteorological conditions. If the owner or operator has no data on typical meteorological conditions, then conditions used in the RMP Offsite Consequence Analysis Guidance (3 m/s and D stability), may be used. Although EPA is providing technical guidance and reference tables for worst-case and alternative release scenario assessments, owners or operators may use any generally recognized, commercially or publicly available air dispersion modeling techniques, provided the modeling parameters specified in the rule are used.

For the hazard assessment and the RMP, populations potentially affected are defined as those within a circle that has as its center the point of release and its radius the distance to the toxic or flammable endpoint. Owners or operators may use Census data to define this population, and may update those data if they are inaccurate. EPA suggests that owners or operators use LandView, an electronic publication of environmental, geographic and demographic information published by EPA and the Bureau of Census. The presence of schools, hospitals, other institutions, public arenas, recreational areas, and large commercial and industrial developments that can be identified on street maps within this circle must be noted in the RMP, but the number of people occupying them need not be enumerated. The presence of environmental receptors within this circle must also be listed. EPA has defined environmental receptors as natural areas such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas, that can be exposed to an accidental release. All of these can be identified on local U.S. Geological Survey maps or maps based on USGS data.

The five-year accident history will cover all accidents involving regulated substances, but only from covered processes at the source that resulted in serious on site or certain known offsite impacts in the five years prior to the submission of each RMP. EPA has replaced the definition of significant accidental release with specific definitions of the types of releases to be covered under each of the specific requirements previously associated with this definition.

*D. Prevention Programs*

EPA has retained the management system requirement proposed in the NPRM, but only for Program 2 and 3 processes. EPA has moved the management system requirement from the prevention program section to the general requirements section because it should be designed to oversee the implementation of all elements of the risk management program. The owner or operator must designate a qualified person or position with overall responsibility for the program and specify the lines of authority if responsibility for implementing individual requirements is assigned to other persons or positions.

In the SNPRM, EPA proposed a Program 2 prevention program that covered training, maintenance, safety precautions, and monitoring, but did not specify any particular actions. EPA solicited comment on whether specific prevention activities should be required for Program 2 sources, such as any of the specific activities initially proposed in the NPRM. For today's rule, EPA has developed seven specific elements for the Program 2 prevention program: safety information (§ 68.48), hazard review (§ 68.50), operating procedures (§ 68.52), training (§ 68.54), maintenance (§ 68.56), compliance audits (§ 68.58), and incident investigation (§ 68.60). Most Program 2 processes are likely to be relatively simple and located at smaller businesses. EPA believes owners or operators of Program 2 processes can successfully prevent accidents without a program as detailed as the OSHA PSM, which was primarily designed for the chemical industry. EPA combined and tailored elements common to OSHA's PSM and EPA's NPRM to generate Program 2 requirements and applied them to non-petrochemical industry processes. EPA is also developing model risk management programs (and RMPs) for several industry sectors that will have Program 2 processes. These model guidances will help sources comply by providing standard elements that can be adopted to a specific source. EPA expects that many Program 2 processes will already be in compliance with most of the requirements through compliance with other Federal regulations, state laws, industry standards and codes, and good engineering practices.

The Program 3 prevention program includes the requirements of the OSHA PSM standard, 29 CFR 1910.119 (c) through (m) and (o), with minor wording changes to address statutory differences. This makes it clear that one accident prevention program to protect workers, the general public, and the environment will satisfy both OSHA and EPA. For elements that are in both the EPA and OSHA rules, EPA has used OSHA's language verbatim, with the following changes: the replacement of the terms "highly hazardous substance," "employer," "standard" and "facility" with "regulated substance," "owner or operator," "part or rule," and "stationary source"; the deletion of specific references to workplace impacts or to "safety and health;" changes to specific schedule dates; and changes to references within the standard. The "safety and health" and "workplace impacts" references occur in OSHA's PSM standard in process safety information (29 CFR 1910.119 (d)(2)(E)), process hazards analysis (29 CFR 1910.119(e)(3)(vii)), and incident investigation (29 CFR 1910.119(m)(1)). These changes are designed to ensure that OSHA retains its oversight of actions designed to protect workers while EPA retains its oversight of actions to protect public health and the environment and to remove possible interpretations that certain elements of process safety management fail to account for offsite impacts. Commenters were particularly concerned about the phase-in of process hazard analyses

(PHAs). Under the final rule, PHAs conducted for OSHA are considered adequate to meet EPA's requirements. They will be updated on the OSHA schedule (i.e., by the fifth anniversary of their initial completion). This approach will eliminate any need for duplicative analyses. Documentation for the PHA developed for OSHA will be sufficient to meet EPA's purposes.

EPA anticipates that sources whose processes are already in compliance with OSHA PSM will not need to take any additional steps or create any new documentation to comply with EPA's Program 3 prevention program. Any PSM modifications necessary to account for protection of public health and the environment along with protection of workers can be made when PSM elements are updated under the OSHA requirements. EPA has modified the OSHA definition of catastrophic release, which serves as the trigger for an incident investigation, to include events "that present imminent and substantial endangerment to public health and the environment." As a result, this rule requires investigation of accidental releases that pose a risk to the public or the environment, whereas the OSHA rule does not. EPA recognizes that catastrophic accidental releases primarily affect the workplace and that this change will have little effect on incident investigation programs already established. However, EPA needs to ensure that deviations that could have had only an offsite impact are also addressed.

*E. Emergency Response*

EPA has adopted the emergency response requirements found in the statute, without additional specific planning requirements beyond those necessary to implement the statute. This action is consistent with the Agency's effort to develop a single Federal approach for emergency response planning. The Presidential Review of Federal release prevention, mitigation, and response authorities (required under section 112(r)(10) of the Clean Air Act) found that there is seldom harmony in the required formats or elements of response plans prepared to meet various Federal regulations. Accordingly, EPA has committed not to specify new plan elements and/or a specific plan format in today's rule beyond those that are statutorily required. EPA believes that plans developed to comply with other EPA contingency planning requirements and the OSHA Hazardous Waste and Emergency Operations (HAZWOPER) rule (29 CFR 1910.120) will meet most of the requirements for the emergency response program. In addition, EPA and other National Response Team agencies have prepared Integrated Contingency Plan Guidance ("one plan") (NRT, May 1996). The NRT and the agencies responsible for reviewing and approving federal response plans to which the one plan option applies agree that integrated response plans prepared in the format provided in this guidance will be acceptable and be the federally preferred method of response planning. An emergency response plan that includes the elements specified in this guidance can be used to meet the requirements in today's rule. 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.

*F. Risk Management Plan (RMP)*

Owners or operators must submit their first RMP by the date specified in § 68.10. After the RMP is submitted, changes at the source may require updates to the RMP other than the standard update every five years. If a new substance or new process is added, the RMP will need to be revised and submitted by the date the substance is first in the process above the threshold quantity. If changes to processes require revised hazard assessments or PHAs, or if a process changes Program level, the source must submit a revised RMP within six months.

EPA intends that the RMP will be submitted in a method and format to a central point as specified by EPA. States, local entities including local emergency planning committees (LEPCs), and the public will be able to access all RMPs electronically. This process will relieve states and local entities of the burden of filing documents and providing public access to them without limiting these agencies' or the public's access to the information.

The RMP is a multi-purpose document. The CAA requires that the RMP indicate compliance with the regulations and also include the hazard assessment, prevention program, and emergency response program. EPA is mandated to develop a program for auditing RMPs and requiring revisions, where appropriate. The RMP, therefore, must include enough data to allow the implementing agency to determine, through review of the RMP, whether the source is in compliance with the rule. EPA, however, believes that the RMP must serve another function; to provide information to the public in a form that will be understandable and will encourage the public to use the information to improve the dialogue with sources on issues related to prevention and preparedness.

To meet both of these purposes, the RMP will consist of the source's registration; an executive summary that will provide a brief description of the source's activities as they relate to covered processes and program elements; and data elements that address compliance with each of the rule elements. While the public and implementing agencies could make use of all sections of the RMP, the executive summary will provide text descriptions and give the source a chance to explain its programs in a format that will be easy for communities to read and understand. The data elements will provide the implementing agency with the basic data it needs to assess compliance without asking for detailed documentation. The Agency is considering development of an RMP form where the data elements of the form would provide the implementing agency with the basic data it needs to assess compliance without asking for detailed documentation. All data elements would be checkoff boxes, yes/no answers, or numerical entries.

This approach will provide data that anyone can download or search. States, communities, trade associations, or public interest groups may want to use the data or a subset of the data to create databases that allow them to compare sources in the same industry or same area. For example, a local entity will be able to download data from all reporting sources that are similar to ones in its community to determine whether the quantities stored and process controls used are typical. The information will provide the public with data that will enhance their dialogue with sources. It will also help sources and trade associations to understand practices in their industries and identify practices that could be used to reduce risks. The risk management program documentation will remain at the source and will be available for review by EPA and the implementing agency.

*G. Air Permitting*

The SNPRM discussed the relationship between section 112(r) and CAA air permitting requirements for sources subject to both provisions. Under the CAA, air permitting authorities must ensure that sources are

in compliance with applicable requirements to issue a permit. Because section 112(r) is an applicable requirement, EPA has identified in the final rule the permit conditions and the actions owners or operators and air permitting authorities must take to ensure compliance. The permit must identify part 68 as an applicable requirement and establish conditions that require the owner or operator of the source to submit either a compliance schedule for meeting the requirements of part 68 by the date specified in § 68.10(a) or, as part of the compliance certification submitted under 40 CFR 70.6(c)(5), a certification statement that, to the best of the owner or operator's knowledge, the source is in compliance with all requirements of this part, including the registration and submission of the RMP. The owner or operator must also submit any additional relevant information requested by the air permitting authority or designated agency to ensure compliance with the requirements of this section. If a permit is already issued that does not contain the provisions described above, then, the owner or operator or air permitting authority shall initiate permit revision or reopening according to the procedures in 40 CFR 70.7 or 71.7 to incorporate the terms and conditions as described above. EPA also allows the state to assign the authority to implement and enforce these requirements to another agency or agencies (the "designated agency") to take advantage of resources or accident prevention expertise that might be available in these other agencies. Finally, the air permitting authority or designated agency must: (1) Verify that the source owner or operator has registered and submitted an RMP or a revised plan when required; (2) verify that the source owner or operator has submitted the proper certification or compliance schedule; (3) for some or all sources, use one or more mechanisms such as, but not limited to, a completeness check, source audits, record reviews or facility inspections to ensure that permitted sources are in compliance; and (4) initiate enforcement action, based on the requirements of this section, as appropriate.

*H. Other Issues*

In the SNPRM, EPA discussed three other issues raised by commenters: accident information reporting, public participation, and inherently safer technologies. EPA has decided not to develop any requirements related to these issues at this time. Although EPA continues to believe that accident reports that provide more detail on the causes and impacts of accidents could be useful, the Agency has decided to limit such reporting required under this rule to the five-year accident history mandated by the CAA. When necessary, EPA will use its authority to investigate individual accidents and to seek additional information to the extent authorized by CAA section 114 (i.e., to determine compliance with this rule and CAA section 112(r)(1), to support further rule development, and to assist research on hazard assessment).

Secondly, the Agency encourages sources, the public, and local entities to work together on accident prevention issues, but believes that the wide variety and large number of sources subject to this rule make any single mandatory approach to public participation inappropriate. RMP information should be used as the basis for dialogue between the community and sources on accidental release prevention, risk reduction and preparedness for emergency response. Industry and the public should continue to use the LEPC as a mechanism for this dialogue.

Finally, 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. Many commenters, including those who support these analyses, indicated that an assessment of inherently safer design alternatives has the most benefit in the development of new processes. Industry generally examines new process alternatives to avoid the addition of more costly administrative or engineering controls associated with a design that may be more hazardous in nature. Although some existing processes may be judged to be inherently less safe than others, EPA believes most of these processes can be safely operated through management and control of the hazards without spending resources searching for unavailable or unaffordable new process technologies. Application of good PHA techniques often reveals opportunities for continuous improvement of existing processes and operations without a separate analysis of alternatives. EPA encourages owners or operators 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. Through the process and prevention program information in the RMP, sources can demonstrate, and users of the RMP information can observe and promote, progress toward safer processes and operations.

EPA is considering the development of incentives and awards to stimulate inherently safer alternative research and development, public outreach and education, and risk communication efforts. The Agency welcomes ideas and participation in this effort.

III. Discussion of Comments

EPA received 1220 comments, including 180 relevant comments submitted for the List Rule, 757 comments on the NPRM, and 283 comments on the SNPRM. The commenters represented 92 chemical manufacturers, 81 other chemical users, 111 petroleum industry companies, 174 industry trade associations, 40 other trade associations, 58 agricultural supply retailers, 102 propane retailers, 132 explosives users, 29 water treatment facilities, 26 utilities, 66 state agencies, 63 local governments, 8 other Federal agencies, 52 academics and consultants, 61 environmental groups, 6 labor unions, and 31 private citizens. The remaining 88 letters were requests for extensions of the comment period, interim or duplicate sets of comments, or had been sent to the incorrect docket. The major issues raised by the commenters are briefly addressed below; a complete presentation of the Agency's response to the comments received on this rulemaking is available in the Risk Management Program Rule: Summary and Response to Comments in the docket (see ADDRESSES).

Many commenters requested that EPA's list be identical to OSHA's list of highly hazardous substances and no thresholds should be less than OSHA's. These comments were addressed in the final list rule (59 FR 4478; January 21, 1994) and background material related to these issues is available in docket number A-91-74 (see ADDRESSES).

*A. Tiering*

Commenters on the NPRM suggested that EPA create different levels of requirements for sources that pose different risks. In the SNPRM, EPA proposed three tiers: a low hazard tier for sources whose worst-case release would not affect any public or environmental receptors of concern; a medium hazard tier for sources that were not eligible or covered by the low or high hazard tiers; and a high hazard tier based on either industry sector accident history and number of employees or simply based on the number of employees. Generally, commenters were concerned that all processes at a source would need to be eligible for Program 1 before any process could be. EPA has revised the rule to clarify that eligibility for any tier

(Program) is based on process criteria, not source. If a process meets Program 1 criteria, the owners or operators need only meet Program 1 requirements for that process even if other processes at the source are subject to Program 2 or Program 3.

1. Rationale. Only 2 of the 57 commenters opposed tiering arguing that the CAA mandates that all covered sources be required to complete a full prevention program and that Congress had considered and rejected exemptions. One commenter argued that EPA had already accounted for "differences in size, operations, processes, class and categories of sources" in developing the list and thresholds. Most commenters supported tiering as an appropriate way to recognize different levels of risks and to allow sources and emergency responders to focus on the highest risk processes.

EPA disagrees that the CAA requires all covered processes to comply with the same detailed risk management program. EPA listed regulated substances because of their inherent hazards, such as toxicity and volatility. EPA did not consider, nor does the CAA indicate that it may consider, "differences in size, operations, processes, class and categories of sources" in selecting chemicals or setting thresholds. In establishing section 112(r)(7) requirements, however, Congress clearly recognized that a "one-size-fits-all" approach may not be appropriate for these regulations and directed EPA to consider these factors in the development of the accident prevention regulations. Furthermore, EPA strongly disputes the assertion that it has exempted any source from regulation by creating different programs for different sources. As noted below, all covered processes will be addressed in RMPs that contain hazard assessment, prevention, and response information, as required by statute.

2. Program 1 vs. Program 2 and Program 3 Criteria. Commenters generally supported Program 1 for low-risk sources, but argued that few, if any, sources would qualify because the requirements were too stringent.

a. Potential for Offsite Impact. Commenters generally agreed that sources that can demonstrate no offsite impact should be eligible for Program 1, but only public health should be considered, not environmental impacts. Others stated that only sources posing a threat of "considerable" impacts should not be eligible for Program 1. One commenter stated that EPA's worst-case scenario is unrealistic and its use as a Program 1 trigger is unreasonable. Other commenters want EPA to allow site-specific modeling for the offsite consequence analysis, rather than look-up tables.

In today's rule, EPA specifically allows owners or operators to use site-specific air dispersion modeling for their offsite consequence analyses. EPA disagrees that offsite impacts should be limited to "considerable" impacts. When offsite impacts are possible, it may be reasonable to implement some additional measures to reduce accidental releases, especially when the burden of measures such as additional training or safety precautions is low. Programs 2 and 3 provide flexibility to allow source-specific consideration of the appropriate level of effort. Program 1 requires no additional prevention measures, which is only categorically justifiable if such measures would not reduce offsite impact. It is reasonable to couple a no impact criterion with a conservative worst-case scenario to conclude categorically the public would not benefit from additional prevention measures. If no impact can be demonstrated for a conservative worst-case release, then no impact is likely to occur for any other release event, and the process could be judged to pose a low threat to the surrounding area.

EPA has decided that potential impact on environmental receptors resulting from a worst-case scenario will not be a criterion to determine eligibility for Program 1. EPA agrees that very little, if any, data exist on the potential acute environmental impacts or environmental endpoints associated with listed chemicals upon accidental release. In addition, the offsite consequence distances estimated using human acute toxicity or overpressure effects may not be directly relevant to environmental effects. However, owners or operators will be required to document in the RMP the presence of such receptors within the distance determined for the worst case. EPA believes that natural resource agencies and the public will be able to benefit from the environmental receptors information in the RMP in discussions with the source.

b. Accident History for Program 1. Many commenters objected to accident history as a Program 1 criterion, arguing that a process that had a significant accidental release in the previous five years may have been changed to reduce or eliminate future events and public impact. Several commenters suggested that such processes that otherwise meet Program 1 criteria should remain eligible, but be required to justify and document the changes. Some commenters also objected to EPA's proposed definition of significant accidental release, arguing that many companies and emergency responders conservatively evacuate or shelter-in-place during minor incidents. Under the proposed definition, these actions disqualify a process from Program 1 even if there were no offsite impacts. Some commenters stated that the accident history provision was unnecessary because, by definition, a Program 1 process is not capable of an accidental release that could affect public receptors.

EPA has decided to retain the accident history criterion for Program 1 processes, excluding events with evacuations and shelterings in place, and to drop the definition of significant accidental release. Program 1 eligibility is not a one-time exercise; owners or operators must certify in each RMP that no qualifying releases have occurred since the previous RMP submission and provide current worst-case release data indicating no offsite impacts are anticipated in the future. Program 1 criteria and accident history provide owners or operators an opportunity to demonstrate to the community ongoing excellence in accident prevention and an incentive to search for and implement ways, such as inventory reduction, to reduce the potential for offsite impacts associated with large scale accidental releases. Further, the unique circumstances surrounding past accidents can provide a reality check on the theoretical modeling and worst-case scenario claims used for the offsite consequence assessment and serve to verify that administrative controls and passive mitigation measures work as intended. EPA decided to delete public evacuations or shelterings-in-place as criteria for Program 1 eligibility. EPA is that inclusion of these criteria in Program 1 eligibility may create a perverse incentive not to report releases and it may encourage sources and local emergency officials to take more chances during an event when there may be potential exposures that do not rise to the endpoint specified in this rule but would otherwise be worthy of precautionary actions by the source or by local officials. If the evacuation or sheltering takes place because of a concern for public exposure to an endpoint as specified in this rule, then public receptors necessarily would be under the worst case distance and the process would not be eligible for Program 1 under the criteria of the rule. Owners or operators of processes that meet Program 1 eligibility requirements are required to report a 5 year accident history for that process. If local

emergency planners, first responders or the public have concerns about processes in Program 1 because of a past evacuation or sheltering-in-place event, then mechanisms under EPCRA could be used to gather more information from the source about its prevention program (such as EPCRA sections 302(b)(2) [designation of a facility if it does not already handle extremely hazardous substances listed under section 302] and 303(d)(3) [provision of information to the emergency planning committee]) and involve the source in emergency planning. Sources and local first responders should be discussing evacuation and sheltering-in-place criteria and decisions as part of emergency response planning.

c. Other. Many commenters asked that specific industries such as ammonia refrigeration, retail fertilizer outlets, all flammables, and all non-PSM sources be assigned to Program 1. EPA disagrees because each source has unique surroundings that must be considered in the worst-case assessment and each source must demonstrate favorable accident history. All ammonia refrigeration units covered by this rule are already subject to OSHA PSM; many of these have had accidents that affected the community and should be required to complete the requirements of the hazard assessment and emergency response program and provide the community with full RMP information. According to the industry, a typical ammonia fertilizer retailer handles 200 tons of ammonia. Some retailers may be very geographically isolated and can qualify for Program 1, but EPA expects that most will be subject to Program 2. Given the large quantity of ammonia involved, EPA considers it important that the community have information on offsite consequences from these sources and that the owner or operator takes the necessary steps to address accidental release prevention and emergency response.

EPA expects that some sources handling flammables will qualify for Program 1 because the distance to a 1 psi overpressure is generally less than distances to toxic endpoints. Nonetheless, those sources handling flammables in sufficient quantity to generate a potential offsite impact should provide the community with information on hazards and address prevention and response steps. Many sources handling flammables are already subject to PSM; the only additional steps required under this rule are completion of the hazard assessment and emergency response programs and submission of an RMP.

EPA does not agree that non-PSM sources should be assigned to Program 1. Many of these sources could have an accidental release that can affect the community. OSHA exempted retailers because they are covered by other OSHA or state regulations that address workplace safety, not because they are incapable of having offsite impacts. All retailers are in Program 2 unless they can meet Program 1 criteria; thus, they should be taking prevention steps and will be providing the community with information. Compliance with other existing Federal and state programs may satisfy many Program 2 prevention requirements, thereby limiting the burden. In addition, EPA expects to develop model risk management programs for these sectors. Public sources in states without delegated OSHA programs are not covered by OSHA PSM because OSHA is barred by law from regulating them. Nonetheless, these sources may pose a threat to the community. Today's rule places these sources in Program 2.

3. Program 2 vs. Program 3 Criteria. In the SNPRM, EPA's preferred approach assigned sources to Program 3 based on SIC code and number of employees; sources in specified SIC codes with 100 or more full-time employees (FTE) would have been subject to the full program in 3 years; sources in a subset of these SIC codes with 20 to 99 FTEs would have been subject to the full program in 8 years. The alternative was to impose the full program on all sources with more than 100 FTEs. Most SNPRM commenters submitted suggestions and arguments about this approach.

a. Number of Employees. Only two commenters supported using the number of employees as the sole criterion, arguing it would be the easiest approach to implement with the greatest amount of industry participation. Commenters opposed it because the number of employees proposed does not reliably correlate with risk, hazard, or quantity on site, and because it could act as an incentive to reduce employment. In addition, some commenters stated that smaller sources may have fewer resources to manage hazards and, therefore, may pose a greater risk to the public.

EPA agrees and has deleted the number of employees as a Program 3 criterion. Although size of a source in the manufacturing sectors may be related to the quantities on site and complexity of the processes, many other sources may have similar characteristics with fewer employees. Complexity is more directly associated with the type of industry (i.e., SIC code) than with number of employees; a highly automated process may involve fewer employees and be more complex than a more labor intensive process. Quantity, if relevant, can be directly measured rather than indirectly by number of employees. In addition, EPA was concerned that the data on which the Agency based its proposed approach may not be representative of all accidental releases. These data, drawn from reports to the National Response Center and EPA regions, appear to indicate that larger sources have more and larger accidental releases than do smaller sources. This finding, however, may in part reflect different levels of reporting, rather than different levels of accidents. Both Federal and state officials report that the number of releases has risen in recent years as more sources learn about their reporting obligations. EPA has decided that, because the processes within the SIC codes basically handle the same chemicals in the same way, smaller sources should not be moved to a different Program based on the number of employees.

b. SIC Code. Fifty-seven commenters, particularly those in the oil industry, utilities, and public systems, supported the use of SIC codes based on accident history; 28 commenters opposed it. Supporters argued that industry accident records represented a reasonable criterion for identifying high risk sources. If an entire industry has a long history without accidental release, it may indicate that the materials handled and handling conditions generate a smaller potential for serious releases or that the industry is effectively controlled by government or industry standards. Some commenters argued that industry accident histories reflect underlying risk better than individual source accident histories because accidents are rare events; a source with no accidental releases over the previous five years is not necessarily safe.

Commenters opposing the use of SIC codes stated that the approach is arbitrary, that accidents with only onsite effects should not be used, that sources in other industry sectors handle similar quantities and pose similar risks, and that sources within an industry that have successful risk management practices are penalized by a few isolated sources within the industry.

EPA has decided to retain the use of SIC codes, adding SIC 2865 based on further review of accident histories, and to add coverage by the OSHA PSM standard as a separate criterion for Program 3. EPA selected the SIC codes by analyzing accident data filed by

sources in response to EPA's request for information in the Accidental Release Information Program (ARIP). ARIP collects data from certain sources that report releases under CERCLA section 103. EPA selected the SIC codes that showed a high frequency of the most serious accidents across a significant percentage of all sources within the SIC code to avoid mischaracterizing an industry based on isolated, problematic sources. Data on the selection criteria were summarized in the SNPRM and the docket at the time of the SNPRM. The accident history of the cyclic crudes industry (SIC code 2865) is similar to that of the categories selected. EPA disagrees that only offsite impacts should be considered; accidental releases that caused death, hospitalizations, or injuries on site are also of concern because they indicate significant safety problems that could lead to releases that cause impacts offsite. The SIC codes selected by EPA are basically the same ones OSHA selected for its PSM program inspection focus. EPA disagrees that sources are "penalized" by this approach because owners or operators of processes in these SIC codes have an opportunity to present their safety record, demonstrate the success of their accident prevention programs, and communicate with the local community the basis for their risk management practices. Sources that receive Merit or Star status in the OSHA Voluntary Protection Program will be favorably distinguished from others in the same industry when implementing agencies are selecting sources for audits (see section III.T.1 below).

EPA agrees that serious accidents occur infrequently even at sources with poor safety practices and that industry-wide accident records provide a better mechanism than the accident history at a single source for identifying those sectors whose chemicals and processes may lead to serious releases. A high proportion of the sources in some SIC codes reported releases; EPA's analysis specifically took into account the number of reports from individual sources to avoid selecting an SIC code because of a small number of sources with serious safety problems.

The OSHA PSM already applies to most covered processes in the selected SIC codes. EPA expects that there will be fewer than 400 additional processes assigned to Program 3 that are not already subject to the OSHA PSM standard at the approximately 1,400 sources in these SIC codes and that all of these sources will already have other processes covered by OSHA PSM. Consequently, fulfilling the RMP requirements imposes little additional burden.

EPA decided to include all covered processes currently subject to the OSHA PSM standard in Program 3 to eliminate any confusion and inconsistency between the prevention requirements that the owners or operators of such processes must meet. EPA's Program 3 prevention program is identical to the OSHA PSM standard. Including OSHA PSM processes in Program 3, therefore, imposes no additional burden on these processes; the only new requirements for such processes are the hazard assessment, emergency response program, and the RMP, which are the same under Programs 2 and 3.

c. Site-Specific, Risk-based Criteria. Many commenters stated that Program assignment should be based on site-specific risk-based criteria. Accident history is one such criterion and is discussed separately in Section III.A.3.d. Other criteria suggested include population density or proximity, quantity on site, number of substances held above the threshold, process conditions, toxicity, volatility, alternative release scenario results, or combinations of these factors as a risk index.

EPA agrees with commenters that Program assignments should be risk-based to the extent possible; however, as the variety of suggestions indicates, a considerable number of variables would need to be considered. EPA knows of no standard approach or equation that is used and generally accepted. The variety of suggestions indicate the likelihood that any proposed formula would meet opposition. No commenter provided a method to comprehensively address these factors on a nation-wide basis.

An important consideration for EPA in developing the rule provisions for Program assignment was to avoid undue complexity, confusion, and resource expenditure by sources and implementing agencies implementing the rule's criteria. To some extent, EPA has incorporated risk factors, including site-specific factors, in determining which sources are eligible for which Program. For example, Program 1 eligibility already considers the potential for offsite impacts; any process for which there are no public receptors within the distance to an endpoint from a worst-case release may be eligible for Program 1, provided there have been no releases with certain offsite consequences within the previous five years. Today's rule allows sources to consider passive mitigation and administrative controls in conducting the worst-case release analysis. Such site-specific considerations affect the extent of potential exposure to a worst-case release, and thus are reflected in the Program 1 eligibility criteria. Elements of risk such as process complexity and accident history are also reflected the design of Program 2 and Program 3 requirements and the assignment of processes to these Programs. Program 2 sources generally handle and store regulated substances, but do not react or manufacture them. EPA believes Program 2 sources can take prevention steps that are less detailed than those in the OSHA PSM standard and still accomplish accident prevention that is protective of any population nearby. Program 3 is reserved for processes already subject to the OSHA PSM standard and processes with high accidental release histories. The SIC codes with an accident history selected by EPA for Program 3 are typically complex processes. The PSM standard was designed for, and is particularly appropriate for, these processes.

EPA takes issue with the appropriateness of some of the suggested factors. Meteorological conditions vary too much to be considered in determining a risk level. Chemical quantity alone does not accurately relate to risk because the location and handling conditions can dramatically change the potential for exposures.

In addition, EPA has implementation concerns about a detailed, national, multi-factor, risk-based approach, were it to be feasible. States such as Delaware have used a simple version of a risk-based approach and found that it created serious problems for the state and the sources. Smaller sources and those without technical staff have had great difficulty in implementing the approach and have had to rely on state officials to determine applicability for them. Delaware specifically recommended that EPA not attempt implementing a similar approach on a national basis because of the burden it imposes on the state and the confusion and uncertainty it creates for sources. Delaware has fewer than 100 sources; nationally, EPA estimates that 66,000 sources will be subject to the rule, approximately 62,000 of which are outside of the chemical and refining sectors. If implementing agencies had to help most of these sources determine the index score and Program for each process, not only would the burden on the agencies be extreme, but implementation would also be delayed. Furthermore, were EPA to simply identify risk factors without an index and leave the determination of Program

level to sources or implementing agencies, the process for such site-specific determinations would be even more complex and resource intensive for sources and implementing agencies; it would create disincentives for a state to become involved and to take on the role of an implementing agency. EPA believes it is better to have sources and agencies focus their resources on prevention activities.

EPA considered, but decided against, a less comprehensive risk-based approach using proximity or population density as criteria for distinguishing between Program 2 and 3. EPA recognizes that accidental releases from sources near or in densely populated areas may harm more individuals and be perceived to pose a greater risk than other sources. However, as stated above, EPA believes that the type of process, its complexity and accident history should be considered for Program 2 or 3 assignment, regardless of the number of people potentially exposed. In other words, EPA does not believe the streamlined Program 2 prevention elements should apply to a complex Program 3 process just because fewer persons could be potentially exposed or that the Program 3 prevention elements should apply to a Program 2 process because more people could be potentially exposed. EPA believes that populations offsite should be protected from harm based on the type of process; the Program 2 prevention elements, properly applied to the expected types of Program 2 processes, serves to protect off-site populations, just as the Program 3 prevention elements for complex processes serves to protect offsite populations.

If Program assignments were based on the alternative release scenario results, sources would not have the flexibility and latitude in today's rule for these scenarios because more definite criteria would need to be considered to ensure the proper scenarios and results are assessed. This places more emphasis and burden for sources on the offsite consequence assessment rather than on accident prevention and communication with the public and first responders. Furthermore, because active mitigation includes process and control equipment that may fail, considering such equipment in evaluating risk would not be appropriate without detailed review by the source and oversight by the implementing agency.

Some commenters suggested yet another variation of a less comprehensive, "risk"-based approach that would have EPA use a site-specific analysis of likelihood of release to assign Program levels. Many of the same difficulties in developing a "risk index" for determining Program assignments would apply to an attempt to incorporate likelihood in a more sophisticated manner than EPA was able to do in its analysis of accident history by SIC code. In addition to the substance-specific properties considered as part of the chemical listing criteria, the site-specific likelihood of a release depends on a number of factors, including the appropriateness of the equipment in use, the maintenance of that equipment, operator performance, and safety systems and their performance. Evaluating site-specific likelihood of release requires data on each of these items; such data rarely exist especially for complex processes where a variety of equipment must be evaluated along with the performance of multiple operators and maintenance workers. Using surrogate data (e.g., manufacturer's failure rate data) introduces error of an unknown magnitude to the analysis. Such analyses are very costly and produce results that are, at best, questionable.

EPA also believes that assessing the likelihood of a release at most sites for site-specific individualized Program-level determinations is neither technically feasible nor cost-effective. In most cases, the data do not exist to conduct a meaningful analysis; where they do exist, the cost of developing a defensible analysis and overseeing it could well exceed the cost of compliance with the rule. Such an approach would resemble a permit program, which would be resource-intensive for sources and implementing agencies. EPA determined that the simpler approach for assigning sources to Program 1 would provide regulatory relief for those sources that could not affect the public while allowing other sources to devote their resources to prevention activities rather than to analyses that would be subject to legal challenges.

EPA notes that sources have the flexibility to implement appropriate accident prevention measures based on the hazards and risks discovered in the hazard review or process hazard analysis. The structure of Programs 2 and 3, therefore, reflect site-specific risk criteria. Further, the purpose of the risk management program and RMP effort is to prevent accidents and facilitate local level dialogue about the risks, prevention measures, and emergency response effort in place at the source. The local community and first responders may have far different concerns that should, and can be addressed better through today's approach than those reflected by a risk index approach.

d. Accident History. Some commenters argued that EPA should assign sources to Program 3 based on the accident history of the source. One commenter suggested that any source with no accidental release that exceeded a reportable quantity (as defined in CERCLA) for the previous five years should be in Program 2. Others argued that a source should be in Program 2 if it had no significant accidental release in the previous five years. Some commenters said that a one-release standard was too stringent and that two or more significant accidental releases should be allowed before a source was assigned to Program 3. Another commenter suggested that a source with no significant accidental releases in the past five years and with few potentially impacted neighbors should be placed in Program 2.

Other commenters opposed this approach, arguing that, in many cases, sources take steps to prevent recurrences following a serious release. In some cases, the offsite impacts from releases are minor and would not justify assigning a source to a particular Program. Other commenters stated that the absence of an accidental release can be indicative of lower risk, but it can also simply mean that a release has not yet occurred. Several commenters noted that a five-year time period is statistically insignificant because accidental releases are infrequent events.

EPA agrees that source-specific accident history is not a reasonable basis for assigning processes to Programs 2 and 3. Given the relative infrequency of serious accidents, a five or even ten-year period without an accident may not be indicative of safe operations. In addition, the criteria necessary to define the types of past accidental release for the purposes of program classification would need to be based on a wide variety of variables and site-specific factors, which would lead to confusion and unnecessary complexity. Factors such as weather conditions at the time of the release, rather than the size of a source or its management practices, often determine whether a release has offsite consequences. EPA believes that accident history is appropriately used on an industry-wide basis as described above for selection of Program 3 sources. If accidental releases with consequences appear to occur at a large proportion of sources within an SIC code, where similar processes, equipment and chemicals are used, then it is reasonable to conclude that

processes in that SIC code pose a greater likelihood of a high hazard release than others. This approach removes the need for at least one accident to occur at every source that EPA believes ought to be assigned to a particular Program, especially when such accidents are rare events. EPA is also concerned that using source-specific accident history as a criterion would create an incentive for sources to fail to report releases. Finally, as EPA has stated, assignments to Program 2 and 3 also consider the appropriateness of the prevention steps for the types of sources. EPA believes that both Programs move sources to greater accident prevention.

e. Other. Some commenters asked that the implementing agency be given discretion to move a source into a different Program based on local concerns and knowledge. EPA notes that states have the authority, under the CAA, to impose more, but not less, stringent standards than EPA (see CAA section 112(r)(11)).

A few commenters suggested that Program 2 be limited to sources for which a model risk management program had been developed. The models would be designed to reflect risks associated with categories of sources that all use the same type of equipment and handle the substances in the same way (e.g., propane retailers and users, ammonia retailers). EPA considered this approach and decided that the Program 2 prevention program provides a better, generic prevention approach for processes for which the more detailed PSM program would be inappropriate. Limiting Program 2 to those industrial sectors where industry-specific models are feasible would place some manufacturing sources at a disadvantage simply because their chemical uses, processes, and equipment were too varied to allow development of a model or because there are too few sources to justify use of EPA or industry resources to develop a model. In addition, if EPA were to limit Program 2 to sources with model programs, Program 2 regulations would need sufficient specificity to enforce the use of these models; otherwise, sources would be able to ignore both PSM and the models. EPA is also concerned that codifying the model plans could stifle innovation in safety practices. If industry codes or other Federal regulations on which parts of the models may be based were updated, EPA would have to revise its models; given the time needed to propose and adopt regulations, sources might have to delay implementation of new systems and, in some cases, might be caught between complying with a revised EPA or OSHA regulation or state law or complying with the model. Consequently, EPA decided it was better to have models available as guidance, but not require compliance with them. Further, EPA believes that the key elements of good accident prevention practices are captured within the requirements of the Program 2 prevention program. Model programs and plans are likely to build on these approaches, making it easier for sources in Program 2 to use models that are later developed by others.

EPA is working with industry to develop model risk management programs and RMPs for ammonia refrigeration systems, propane distributors and users, and water treatment systems. EPA also expects to develop models for ammonia retailers and wastewater treatment systems. EPA encourages other industrial sectors to work together on additional model development.

4. Program 1 Requirements. Commenters were generally opposed to posting signs, and certification of no environmental impact.

a. Certification of No Environmental Impact. Many commenters stated that it would be "virtually impossible" to certify "no potential for environmental impacts," as required by the SNPRM. Commenters said that the definition of environmental impact was too vague, that the list of environments suggested in the SNPRM was too broad, and that the language seemed to require a full environmental consequence assessment, making the requirement impossible. One commenter noted that companies would find it difficult to assert that there could be "no environmental impacts" even after an environmental consequence assessment reveals insignificant impacts. Two commenters suggested that EPA substitute "low potential for environmental impact" or "no potential for long-term, adverse environmental impact." Other commenters requested that environmental impact be dropped or that the requirement be changed to mirror the Program 1 eligibility criteria with an indication in the RMP that no environmental receptors of concern were within the worst-case distance to an endpoint.

As described above in section III.A.2.a. Potential for Offsite Impact, EPA has decided not to make the presence of environmental receptors a part of the eligibility criteria for Program 1 and has deleted the certification requirement. Instead, owners or operators of all covered processes will have to identify in the RMP any environmental receptors that are within the distance potentially affected by the worst case.

b. Signs. Commenters generally opposed the SNPRM requirement that sources with Program 1 processes post signs warning of the hazards on site if the only regulated substances present at the site above the threshold quantity were listed for flammability. Commenters stated that local and state fire and safety codes often already require such signs. In addition, sources are already required under EPCRA section 312 to file annual inventories with the LEPC and fire department that identify hazards on site. Signs would have fulfilled the emergency response program requirements for a source. Because Program 1 eligibility will now be determined on a by-process basis rather than by source-wide criteria and because EPA has revised the emergency response program provisions as noted below, EPA has dropped the requirement for signs.

c. Emergency Response Program. In the SNPRM, EPA asked whether additional emergency response planning and coordination should be required for Program 1 processes. Some commenters supported this requirement, while others stated that most sources are already covered by EPCRA and participate in community response planning. Commenters stated that because the worst-case release could not reach public receptors, such efforts were not necessary.

In the final rule, EPA is requiring the owner or operator of a Program 1 process to ensure that any necessary response actions have been coordinated with local response agencies. EPA believes that local responders may become involved in an incident, even if the public is not threatened. No additional CAA-related planning activities are required, however.

d. Other. Many commenters stated that, since Program 1 processes generate no offsite impact, they should be exempt from this rule. One commenter objected to Program 1 because members of the public, particularly first responders and business visitors, could still be hurt by a release. Other commenters suggested that the annual EPCRA section 312 form could be amended to indicate that a source was covered by the rule, replacing the RMP registration form.

The CAA requires that all sources with more than a threshold quantity of a listed substance register an RMP, perform a hazard assessment, and develop accidental release prevention and emergency response programs. Therefore, total exemption of processes that meet Program 1 criteria is not

possible. See S. Rep. No. 228, 101st Cong., 1st session, at 208 ("Senate Report") (precursor of RMP provision mandating hazard assessments for sources that exceed threshold for listed substance); 136 Congressional Record S16927 (daily ed. October 27, 1990) (remarks of Sen. Durenburger, sources with more than a threshold quantity are subject to regulations); 136 Cong. Rec. H12879 (daily ed. Oct. 26, 1990)(remarks of Rep. Barton)(all users of hazardous chemicals are required to plan for accidents). Moreover, even if an exemption for processes that exceed a threshold were permissible, the owner or operator would need to take steps that are equivalent to the hazard assessment to establish eligibility for the exemption. The offsite consequence analysis is the most significant burden for a Program 1 process under this rule. The minimal additional actions required in today's rule for Program 1 simply establish a record of eligibility and a response coordination mechanism.

EPA recognizes that emergency responders and site visitors could be hurt by an accidental release from any process, but notes that responder safety is covered by OSHA and EPA under the HAZWOPER regulations. It is the owners' or operators' responsibility to inform visitors about the hazards and the appropriate steps to take in the event of an accidental release from any process subject to today's rule.

Finally, EPA has based the registration information requirements in today's rule on the EPCRA section 312 Tier II form. The CAA requires that the RMP be registered with EPA. Because the EPCRA form is not submitted to EPA, it would not substitute for registration with EPA either in its present or amended form. Completion of the registration portion of the RMP should impose little additional burden on owners or operators. However, EPA recognizes the information overlap between the Tier II form and the RMP registration and is considering use of the RMP registration for the Tier II reporting requirement.

5. Program 2 Requirements. Commenters were generally concerned about the lack of specific requirements for the Program 2 streamlined prevention program and emergency response requirements, and how compliance with other regulations would be incorporated.

a. Streamlined Program. Commenters stated that the Program 2 prevention program does not provide much, if any, regulatory relief because sources would need to address most of the ten elements of the Program 3 prevention program. Others said that the majority of the sources affected by the rule are already covered by OSHA PSM and chemical industry standards, the Program 2 requirements do not satisfy the CAA mandate, and that only a full process hazard analysis would meet the hazard assessment requirements under section 112(r). Another commenter argued that EPA's statement that sources must comply with the CAA's general duty clause was inadequate because EPA has not used, and has no policy about, the clause.

EPA agrees that the preferred approach in the SNPRM did not provide sufficient detail on Program 2 prevention requirements to distinguish it from Program 3. EPA solicited comments on whether Program 2 should require additional, specific prevention steps. Today's rule provides specific requirements as discussed in section I.D above and in Section IV below. In the RMP, the owner or operator will be required to report on other Federal or state regulations, industry codes, and standards used to comply with prevention elements as well as any major hazards, process controls, mitigation systems, monitoring and detection systems examined in the hazard review. This streamlined prevention program addresses many of the PSM elements as the basis for sound prevention practices, but is tailored to processes with less complex chemical uses; this program provides considerable regulatory relief by substantially reducing the documentation and recordkeeping burden of PSM. In addition, EPA will provide guidance and model risk management programs to further assist Program 2 processes in developing and maintaining good prevention program practices.

EPA disagrees that only a full PHA would meet the requirements of the Act. Section 112(r) does not contain detailed requirements for the hazard assessment, beyond the key components of accidental release scenarios and a five-year accident history. EPA believes that a PHA is more appropriately considered an element of a prevention program, such as PSM. The statute does not mandate detailed PHA engineering analyses for all sources, whether as part of the hazard assessment or the prevention program. EPA believes PHAs involve a more detailed engineering analysis than is necessary to prevent accidents at Program 2 sources. The "hazard review" provisions of Program 2 should be sufficient to detect process hazards at these simpler processes. EPA recognizes that although hazard assessments and PHAs or process hazard reviews are discreet elements that can be performed independently, hazard assessment results can enhance PHA or process hazards reviews and in turn, the results of the PHA or review can enhance the hazard assessment. EPA encourages owners or operators to make maximum use of the PHA or review and hazard assessment information to manage risks and prevent accidents.

Finally, sources with Program 2 requirements, as well as sources with Program 1 or 3 requirements, must comply with the general duty clause of CAA Section 112(r)(1). The general duty clause provides that owners and operators have a general duty to identify hazards that may result from accidental releases, design and maintain a safe facility, and minimize the consequences of any releases that occur. The general duty clause is a self-executing statutory requirement: it requires no regulations or other EPA action to take effect. The clause provides a separate statutory mechanism that EPA will use in appropriate circumstances to ensure the protection of public health and the environment. To date, EPA has undertaken several inspections designed in part to determine compliance with Section 112(r)(1). As appropriate at a future date, EPA may issue policies or guidance on application of the general duty clause.

b. Other Regulations. Commenters generally agree that OSHA PSM, HAZWOPER, the OSHA hazard communication standard (29 CFR 1910.1200), and NFPA-58 are examples of other regulations or voluntary industry standards that could be cited to meet the requirements of a Program 2 prevention program. Commenters requested that EPA provide a matrix or crosswalk that indicates which other regulations, standards, and codes met specific requirements. One commenter opposed the use of other regulations or referencing of voluntary industry standards, stating that, other than OSHA PSM, no other OSHA standard addresses safety precautions or maintenance. Another commenter objected that this approach creates another documentation burden without any commensurate benefit.

EPA agrees that the SNPRM preferred approach for Program 2 was not specific enough and has provided more detailed requirements in this rule as noted above. EPA continues to believe that many of the Program 2 prevention requirements are already met through industry compliance with existing regulations and voluntary standards. For example, ammonia retailers whose processes are designed to meet the OSHA ammonia handling rule (29 CFR

1910.111) should be able to meet the Program 2 requirement that the process design meets good engineering practices. This effectively allows sources to cite compliance with these other regulations and standards instead of developing specific, duplicative elements solely to comply with Program 2. EPA will also use these existing regulations and standards as it develops model programs.

c. Emergency Response Program. Commenters supported considering HAZWOPER programs as adequate to meet the Program 2 emergency response program. A few commenters said that HAZWOPER is inadequate because it does not consider offsite impacts or the environment. Some commenters also said that coverage of a source by an EPCRA community emergency response plan should be sufficient. Others said that any contingency plan developed under Federal or state law should be considered sufficient because the requirements under these programs are generally consistent with EPA's proposed emergency response program; one commenter noted that, for flammable processes, compliance with 29 CFR 1910.38 should be adequate because the response is usually evacuation of employees. Five commenters opposed any requirement that sources with Program 2 processes conduct drills or exercises because they represent lower hazards.

Consistent with its efforts to consolidate Federal emergency planning requirements, EPA has included language in the final rule that will allow any source in compliance with another Federal emergency response program that includes the elements specified in this rule to use that program to meet these requirements. In particular, this applies to response plans prepared in accordance with the National Response Team's Integrated Contingency Plan Guidance ("one plan") (NRT, May 1996). EPA believes that sources should have a single response plan; creation of multiple response plans to meet slightly different Federal or state standards is counterproductive, diverting resources that could be used to develop better response capabilities.

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.

*B. Offsite Consequence Analysis*

1. Worst-Case Release Scenario. EPA proposed in the NPRM to define the worst-case release as the "loss of all of the regulated substance from the process * * * that leads to the worst offsite consequences" and that the scenario should assume "instantaneous release." Hundreds of commenters stated that instantaneous loss of the total process contents is not technically feasible for complex systems and, therefore, represents a non-credible worst case that would provide no useful information to the public or the source for risk communication, accident prevention, and emergency preparedness. Many commenters also argued that this approach differed from the release modeling assumptions contained in EPA's Technical Guidance for Hazards Analysis, which has been the basis for community emergency planning activities under EPCRA. Although some commenters were generally opposed to the concept of worst case, most of the commenters were supportive of an approach similar to that taken in the Technical Guidance.

In response to these comments, EPA proposed in the SNPRM to redefine a worst-case scenario as the release, over a 10-minute period, of the largest quantity of a regulated substance resulting from a vessel or process piping failure. The 10-minute release time is drawn from the Technical Guidance for Hazards Analysis. EPA believes this duration is reasonable and accounts for comments arguing that an "instantaneous" release is unrealistic for large-scale releases.

EPA has decided to adopt the SNPRM approach for worst-case toxic vapor releases in the final rule because most of the SNPRM comments agreed that the redefinition is generally more credible and that the 10-minute time frame particularly applies to vapor releases. Although some commenters argued that this approach still does not account for all process-specific conditions, EPA believes it is reasonable and representative of accident history. EPA notes that owners or operators may use air dispersion modeling techniques that better account for site-specific conditions, provided modeling parameters as specified in the rule are applied. This release scenario will apply to substances that are gases at ambient conditions, including those liquefied under pressure. Gases liquefied by refrigeration only may be analyzed as liquids if the spill would be contained by passive mitigation systems to a depth greater than 1 cm.

Under the SNPRM, worst-case liquid spills were assumed to form a pool in 10 minutes, with the release rate to the air determined by volatilization rate. EPA recognized that this approach differs from the use of an instantaneous release in the Technical Guidance, which EPA cited as an alternative to its favored approach. The few comments received were divided between support of this approach and arguments that the 10-minute time frame was unrealistic for liquid releases (particularly for pipelines and connected equipment) and thus did not properly account for process-specific conditions.

EPA's approach for the liquid worst-case scenario in the final rule is similar to the Technical Guidance methodology, in which the total quantity of liquid in a vessel or pipeline is instantaneously spilled upon failure, considering administrative controls or passive mitigation discussed below. The rate of release to the air is not instantaneous; it is determined by the volatilization rate of the spilled liquid, which depends on the surface area of the pool formed after the spill. The pool surface area is determined by assuming the spilled liquid rapidly spreads out and forms a one-centimeter deep pool, unless passive mitigation systems contain the pool to a smaller area. EPA believes this approach is reasonable because total vessel or pipeline failure will generally lead to immediate and rapid spillage followed by pool volatilization. Further, if the liquid were assumed to spill over a particular time frame rather than instantaneously, owners or operators would need to calculate the amount of vapor emitted to the air as the liquid is spilled, in addition to the volatilization rate as the pool spreads out and reaches its maximum size. Computer-based models are available for such calculations, but they are complex and require considerable data input to use. EPA believes that liquid spillage from a worst-case scenario is likely to be extremely rapid such that the most significant portion of the release rate is given by pool volatilization; consequently, liquid release time is not necessary. Liquid spill rates and times could be reflected in alternative scenarios discussed below.

As proposed, the worst-case for flammables assumes that the total quantity of the substance in the vessel or pipeline vaporizes, resulting in a vapor cloud explosion. If the vapor cloud explosion is modeled using a TNT-equivalent methodology, then a 10 percent yield factor must be used.

EPA requested comment in the SNPRM on whether the worst-case scenario should include an additional

amount of substance that could potentially drain or flow from process equipment interconnected with the failed vessel or pipeline. Many commenters opposed this option, suggesting that it is technically uncertain and would have little value in terms of what they saw as EPA's intended purpose for the worst-case assessment. Other commenters requested that "interconnected equipment" be defined and clarified. Given the assumption of rapid release associated with initial equipment failure, EPA agrees that determination of the spill rate from connected piping and equipment is likely to be technically complex, very different from that of the quantity in the vessel or failed pipeline, and likely to extend the duration of volatilization rather than affecting the rate overall. Therefore, EPA has not included this requirement in the final rule.

EPA also sought comment in the SNPRM on options for the determination of the relevant quantity of regulated substance in a vessel or process piping for a worst-case release scenario: the maximum possible vessel inventory (design capacity) at any time without regard for operational practices and administrative controls; the maximum possible vessel inventory unless there are internal administrative controls (written procedural restrictions) that limit inventories to less than the maximum; or historic or projected maximum operating inventories without regard to administrative controls. EPA preferred that the maximum vessel inventory including administrative controls that might limit or raise the vessel quantity to be used in the worst-case assessment and reported in the worst-case release analysis section of the RMP. If the quantity used in the assessment were exceeded (e.g., an administrative control were ignored), then the source would be in violation of the rule (i.e., failure to perform a worst-case analysis) and RMP reporting unless the administrative control was revised, the worst-case analysis updated to reflect any changes in the analysis, and a revised RMP submitted. This approach acknowledges the efforts by sources to increase process safety by intentionally reducing the inventory of regulated substances (e.g., vessels kept at half capacity to allow for process upsets, emergency shutdowns, and deinventorying or maintenance turnarounds). EPA notes that at some sources, as a result of inventory reduction measures, the largest quantity may be held in a transportation container that is loaded or unloaded at the source (See section P.2).

A few commenters supported the other options, noting that administrative controls may fail, potentially generating a larger scenario. However, the majority of commenters supported EPA's preferred approach based on the historical reliability of such controls at many sources and the role that such a provision could play in encouraging their use at additional locations. Other commenters asked whether mechanical controls, alone or in combination with administrative controls, should be incorporated into the proposal. Although mechanical controls may also serve to limit the quantity, EPA has decided not to include them in the quantity determination for the worst-case release scenario because the definition for administrative control as "written procedural mechanisms used for hazard control" provides a backup for possible failure of mechanical controls. For more discussion of mechanical controls, see section III(B)(2), mitigation systems, below.

In the SNPRM, EPA considered providing the implementing agency with the discretion to determine the appropriate quantity for the worst-case release scenario on a site-specific or industry-specific basis. EPA noted in the SNPRM, and most of the few comments received on this issue agreed, that implementing agency discretion would result in increased administrative burden on the implementing agency and cross-jurisdictional differences in the methodology used for the worst-case analyses. EPA has decided not to incorporate this approach in the final rule. States, however, may impose more stringent requirements, such as additional modeling, under state authority.

In the NPRM worst-case definition, EPA did not specify what constitutes or how to determine the worst offsite consequences. Some commenters indicated that without clear direction, EPA's proposed worst case might not actually capture the scenario that leads to the most severe offsite impact. In the SNPRM, EPA indicated that the worst-case scenario should be the scenario that generates the greatest distance to a specified endpoint (i.e., the toxic vapor cloud or blast wave from a vapor cloud explosion that travels the farthest).

EPA recognizes that there may be other release scenarios that could generate a greater distance than the release from the largest vessel or pipeline. Consequently, EPA has added paragraph (h) to § 68.25 to require owners or operators to consider other scenarios if those scenarios generate greater distances to the endpoint than the distance generated by the largest vessel or pipeline scenario. Owners or operators need to consider releases from smaller vessels if those vessels contain the substance at higher temperature or pressures or if they are closer to public receptors. In some cases, the largest vessel will be a storage vessel where the substance is held at ambient conditions. A reactor vessel may hold a smaller quantity, but at high pressures and temperatures, generating a release that could travel farther offsite to an endpoint. Vessel location is important, especially at large sources. A smaller vessel located nearer to the stationary source boundary may generate a greater impact distance than a larger vessel farther away. This difference may be particularly important for flammables, because impact distances for flammables are generally shorter than those for toxic releases.

2. Mitigation Systems

a. Worst-case scenario. In the NPRM worst-case scenario, EPA indicated that sources must assume that both active and passive systems fail to mitigate the release. Commenters were generally split between those who wanted passive (as well as certain redundant active) mitigation systems to be included and those who argued that historical evidence from catastrophic releases suggests that the worst case should assume the failure of all such systems. Those who supported mitigation argued that inclusion provides a more credible scenario for improved risk communication, accident prevention, and emergency planning.

EPA proposed in the SNPRM to include passive mitigation systems in the worst-case release scenario as long as the system is capable of withstanding, and continuing to function as intended during and after a destructive event, such as an earthquake, storm, or explosion, which causes a vessel or pipeline to fail. Passive systems such as dikes, catch basins, and drains for liquids, and enclosures for both liquids and gases, could be assumed to mitigate the release. Some commenters opposed this approach, arguing again that the worst case should account for the possibility of passive mitigation failure. The majority supported this approach because the assumption that passive systems specifically designed and installed as protection against a potential catastrophe fail is unrealistic. Furthermore, the approach recognizes and encourages prevention through additional passive mitigation and supports more realistic emergency

planning. A few commenters also suggested that active mitigation measures that were unlikely to fail (e.g., redundant or backup systems) should be considered, for similar reasons. Historical data, however, indicate that certain events compromise active mitigation systems (e.g., explosions have destroyed fire water piping systems).

For the final rule, EPA has decided to adopt the SNPRM approach. Passive mitigation systems would be defined as those systems that operate without human, mechanical, or other energy input and would include building enclosures, dikes, and containment walls. EPA also agrees that reservoirs or vessels sufficiently buried underground are passively mitigated or prevented from failing catastrophically. In this case, sources should evaluate the failure of piping connected to underground storage for the worst case or alternative case scenarios. In addition to the requirements outlined in § 68.25, EPA provides guidance on how passive mitigation would affect release rate and distance to endpoints in its RMP Offsite Consequence Analysis Guidance.

b. Alternative scenarios. EPA initially proposed that sources could include passive mitigation systems in their alternative scenario assessments, but that active mitigation systems (e.g., excess flow valves, fail-safe and automatic shutdown valves, scrubbers, flares, deluge systems, and water curtains) would be assumed to fail. Some commenters generally opposed inclusion of any mitigation systems in the hazard assessment, while other commenters noted that the alternative release scenario should recognize and encourage industry accident prevention efforts, specifically the installation of additional mitigation systems, and support more realistic emergency planning.

EPA proposed in the SNPRM to allow sources to consider passive and active mitigation measures in the alternative release scenario assessment. Commenters supported this approach and EPA has decided to retain it in the final rule. EPA agrees that the assumption that both passive and active mitigation measures fail when such measures are specifically designed and installed to mitigate catastrophic releases is unrealistic for the alternative scenarios. Although not required, EPA notes that sources may choose to apply passive and active mitigation measures to a worst-case type scenario to illustrate the capabilities of such systems to reduce the potential impact of a worst-case accidental release. In addition to the requirements outlined in § 68.28, EPA provides guidance in its RMP Offsite Consequence Analysis Guidance on how passive and active mitigation would affect release rate and distance to endpoints.

3. Populations Affected. EPA described in the NPRM preamble certain locations (e.g., schools and hospitals) where sensitive populations might be present and proposed in the rule that owners or operators identify potentially exposed populations as part of the offsite consequence assessment. Commenters generally opposed requirements for population surveys; several commenters suggested that Census data or other readily available population information should be sufficient, while other commenters indicated that the LEPC or other local planning entities were the appropriate entity to prepare these data.

EPA believes owners or operators need to be aware of the magnitude of impact on populations associated with the worst-case and alternative scenarios. However, EPA learned that, although much of this information is readily available, identification of some sensitive populations could require considerable effort, especially if the distance to an endpoint generated in the offsite consequence assessment is large or crosses several jurisdictions. Consequently, EPA proposed in the SNPRM that offsite populations be defined using available Census data; information on the number of children and people over 65 could be considered a proxy for sensitive populations, thereby accomplishing the same objective as the proposed rule. EPA also indicated that it has developed a geographic information system, LandView, that will facilitate analysis of resident populations. (LandView can be ordered from the U.S. Bureau of the Census customer service at (301) 457–4100.) In general, commenters agreed with the SNPRM approach. However, some commenters questioned the accuracy of potentially ten-year-old Census data and requested additional flexibility, or a greater role for local government, in this analysis.

EPA has decided to adopt the approach outlined in the SNPRM for the final rule. Sources will be allowed to use available Census data to estimate populations potentially affected. Sources may update these data if they believe the data are inaccurate, but are not required to do so. Populations shall be reported to two significant digits. Because Census data are limited to residential populations, sources will also have to note in the RMP whether other, non-residential populations, such as schools, hospitals, prisons, public recreational areas or arenas, and major commercial or industrial areas, are within the distance to an endpoint. These institutions and areas are those that can generally be found on local street maps. Sources will not be required to estimate the number of people who might be present at these locations. EPA provides further guidance on the identification of affected populations in its RMP Offsite Consequence Analysis Guidance.

4. Number of Scenarios In the NPRM. EPA required a worst-case release scenario for each regulated substance. Commenters requested clarification, because one substance could be present in more than one process at the source and sources would need to select the "worst" worst case for substances in multiple processes. In addition, one process may have several, similar listed substances and multiple worst-case analyses of similar substances (e.g., flammables) would not provide additional useful information to the public.

EPA proposed in the SNPRM that sources report in the RMP one worst-case release scenario representative of all toxic substances present at the source and one worst-case release scenario representative of all flammable substances present at the source. Even though additional screening analyses to determine the appropriate worst-case scenario might be necessary, this approach reduces to a maximum of two the number of worst-case analyses reported in the RMP by a source. In general, commenters favored this approach, particularly for flammables, which do not produce markedly different adverse effects. A few commenters argued that a single toxic substance should not be considered representative of all toxic substances at a source, since there are considerable differences in toxic endpoint and adverse affect.

EPA has decided to adopt the approach outlined in the SNPRM for the final rule: report one worst-case release scenario for all flammables and one worst-case release scenario for all toxics at the source. EPA notes that the worst-case scenario is designed principally to support a dialogue between the source and the community on release prevention, and not to serve as the sole or primary basis for local emergency planning. The "worst" worst-case release scenario will inform the broadest range of individuals that they may be impacted by the source so that they may participate in dialogue with the source about prevention, preparedness, and emergency response actions. Lesser worst-case release scenarios would not

inform any person not already within the range of the "worst" worst case even though the health effects may be different; consequently, EPA believes that only a single toxic worst case is necessary. However, sources must also analyze and report another worst-case release scenario (for flammables or toxics) if such a release from another location at the source potentially affects public receptors different from those potentially affected by the first scenario (e.g., if a large-sized source is located between two communities and has a covered process adjacent to each community).

In the NPRM, EPA did not specify the number of alternative scenarios to be reported for each regulated substance. EPA noted in the preamble that this approach, while providing flexibility, may also create uncertainty about what EPA will consider to be an adequate number of scenarios. While a few commenters argued against scenarios beyond the worst case, many commenters supported a requirement for a maximum of two: the worst case plus one additional scenario; others supported a maximum of three. Many of the commenters noted that local entities could request further information under EPCRA section 303(d)(3) authority if they desired. At the same time, a number of commenters suggested that this determination should be made by the source based on their scenario analysis, perhaps in coordination with a local agency.

In the SNPRM, EPA proposed to require one alternative release scenario for all flammable substances at the source and one alternative scenario for each toxic substance at the source. As discussed above, the listed flammable substances behave similarly upon release and have the same endpoint, while each toxic substance has a different endpoint and different atmospheric behavior. EPA sought comment on whether one toxic substance alternative scenario could represent all toxic substances at a source or in a process. Although commenters generally agreed with the approach for flammables, only a few argued that a single alternative scenario for all toxics was also appropriate; most others supported EPA's proposal.

Upon review of the comments, EPA has decided to adopt the approach outlined in the SNPRM: an alternative release scenario must be reported in the RMP for each toxic held above the threshold at the source, and one alternative scenario must be reported that represents all flammables held above the threshold. As EPA noted in the SNPRM preamble and commenters echoed, the differences in the hazards posed by individual toxic regulated substances are significant and should be reflected in the alternative scenarios. This information has significant value for emergency planning purposes and could increase public interest in prevention at the source.

5. Technical Guidance The proposed rule required sources to evaluate the consequences (vapor cloud dispersion, blast wave, or radiant heat modeling calculations) associated with the worst-case and alternative release scenarios. EPA did not specify a methodology or models, expecting that sources would have, contract for, or find the expertise and modeling tools needed to perform potentially complex modeling calculations. Because of the potential burden associated with this approach, EPA began working on the development of a set of simple, generic tools that could provide useful results and become part of the technical guidance for the rule. Based on its experience in developing the Technical Guidance for Hazards Analysis and on advice from commenters, EPA understands that a generic methodology depends on approximations to capture a wide variety of situations, will likely ignore site-specific conditions, and potentially may generate overly conservative or less realistic estimates of offsite impacts. In spite of these limitations, EPA believes that generic modeling tools are capable of supporting greater understanding of the hazards posed by substances and emergency planning. Commenters agreed this approach would reduce the burden on smaller sources unfamiliar with such activities as long as use of the guidance was not mandatory, and the guidance addressed specific industry sectors or was used as part of a screening process to focus resources on significant problem areas. Many commenters recommended that sources be given the flexibility to use any appropriate modeling techniques for the offsite consequence analysis to take advantage of expertise and to apply site-specific considerations to the hazard assessment. Other commenters argued that EPA should establish mandatory guidelines or specify certain dispersion modeling tools to make release scenario results more comparable across sources. Some commenters were concerned about the development of modeling tools by EPA outside of the rulemaking process and requested the opportunity to participate in their development.

In the SNPRM, EPA stated it would develop a generic methodology and reference tables in an offsite consequence assessment guidance to assist sources with the analyses required by the rule. EPA believed that the Technical Guidance could be revised, expanded, and updated to address the rule requirements. The methodologies and tables would be subject to public review prior to publication of the final rule; once finalized, the tables would replace the Technical Guidance. EPA added that sources that wish to conduct more sophisticated modeling could do so, provided the techniques used account for the modeling parameters described in the rule. Alternatively, EPA proposed that only Program 2 sources use the guidance; Program 3 sources would be required to conduct their own dispersion modeling.

Most commenters supported the SNPRM approach, especially if sources were given the option to use their own site-specific modeling. Some commenters argued that the generic methodology and reference tables and the option for site-specific modeling should be applied to processes in all three Programs, while others suggested that they be applied only to a specific Program. In recognition of these comments, EPA prepared draft modeling methodologies and reference tables, provided an opportunity for their review (see 61 FR 3031, January 30, 1996), and has published them as the RMP Offsite Consequence Analysis Guidance. EPA intends to conduct peer review of the RMP Offsite Consequence Analysis Guidance and will revise it as appropriate. For the final rule, EPA will allow sources in all Programs to use the guidance or conduct their own site-specific modeling, provided the modeling techniques used account for the parameters described in the rule. For example, EPA's Office of Air Quality Planning and Standards has prepared a publicly available modeling tool called TScreen that can assist owners and operators with consequence assessments. EPA also encourages local emergency planners, fire departments, and others who use tools such as CAMEO/ALOHA or other modeling techniques to assist businesses in their community who may need help in their modeling efforts. EPA believes the final rule approach takes advantage of the broad range of expertise and modeling tools already available and will provide more useful results at the local level for chemical emergency prevention, preparedness, and response. This approach will also stimulate accidental release modeling research, new and existing model development, and model validation to generate new tools for better understanding of hazards and the behavior of substances in accidental release situations.

6. Modeling Parameters. a. Endpoints. In the NPRM, EPA did not specify toxic or flammable substance endpoints that must be used in the offsite consequence assessment modeling. Most commenters recommended that EPA specify endpoints to provide a consistent basis for modeling; many favored the use of existing standards or guidelines, primarily the emergency response planning guidelines (ERPGs) developed by the American Industrial Hygiene Association for toxic substances. For flammables, commenters suggested overpressure, heat radiation, and explosion or flammability limits. In addition to other specific standards, a few commenters recommended a hierarchy of values if certain levels for some chemicals were not available.

In the SNPRM, EPA indicated that it would select one endpoint for each toxic substance for use in the offsite consequence assessment methodology and sought comment on whether it should use a single endpoint to the extent possible (e.g., the Immediately Dangerous to Life and Health (IDLH) value developed by the National Institute for Occupational Safety and Health (NIOSH), unless one does not exist for a substance), or a hierarchy of endpoints (e.g., ERPGs; if one does not exist, then the IDLH; and finally toxicity data if no other value is available). EPA also asked whether overpressure or both overpressure and radiant heat effects should be used for flammable substance endpoints. Some commenters supported the use of ERPG values for the toxic substance endpoint, or a hierarchy of values beginning with the ERPG. Others opposed IDLH or the IDLH divided by 10 for technical reasons.

EPA agrees with commenters that one toxic endpoint should be set for each substance. The endpoint for each listed toxic substance is provided in Appendix A to the final rule. The endpoint, applicable whether the source uses the EPA guidance or conducts site-specific modeling described below, is the AIHA ERPG–2 or, if no ERPG–2 is available, the level of concern (LOC) developed for the Technical Guidance, corrected where necessary to account for new toxicity data. The LOCs that were based on IDLHs have been updated only if the IDLHs were revised between the original LOC listing in 1987 and the 1995 IDLH revisions. The most recent IDLH revisions were not used because they are based on a methodology that EPA has not reviewed; the previous IDLH methodology was reviewed by EPA's Science Advisory Board for use as LOCs. EPA chose the ERPG–2 first because ERPGs are subject to peer review and are specifically developed by a scientific committee for emergency planning to protect the general public in emergency situations. The ERPG–2 represents the maximum airborne concentration below which the committee judges that nearly all individuals could be exposed for up to an hour without experiencing or developing irreversible or other serious human health effects or symptoms that could impair their ability to take protective action. EPA rejected the ERPG–3, which is a lethal exposure level, because it is not protective enough of the public in emergency situations. About 30 listed toxic substances have ERPGs. EPA chose to use LOC levels for substances with no ERPG because LOCs have been peer reviewed by EPA's Science Advisory Board, they are intended to be protective of the general public for exposure periods of up to an hour, they are widely used by the emergency response planning community, and, for a majority of the listed toxic substances, there are no acceptable alternatives. EPA notes that, for substances with both values, the LOC is comparable to, and in some cases is identical to, the ERPG–2.

EPA recognizes potential limitations associated with the ERPG and LOC and is working with other agencies to develop Acute Exposure Guideline Limits (AEGLs). See Establishment of a National Advisory Committee for Acute Exposure Guideline Levels (AEGLs) for Hazardous Substances, (60 FR 55376; October 31, 1995). When these values have been developed and peer-reviewed, EPA intends to adopt them, through rulemaking, as the toxic endpoint for substances under this rule.

As proposed, vapor cloud explosion distances will be based on an overpressure of 1 psi, and for analysis of worst-case releases, a yield factor of 10 percent. Yield factors (the percentage of the available energy released in the explosion process) can vary considerably. EPA selected 10 percent to generate conservative worst-case consequences. For flammables, EPA selected a radiant heat exposure level of 5 kW/m$^2$ for 40 seconds as recommended by the commenters, and, for vapor cloud fire and jet fire dispersion analysis, the lower flammability limit (LFL) as specified by NFPA or other recognized sources.

b. Meteorology. In the NPRM, EPA proposed that sources model the downwind dispersion of the worst-case release scenario using an F atmospheric stability class and 1.5 m/s wind speed and model the alternative release scenarios using both the worst-case conditions and the meteorological conditions prevailing at the source. EPA did not revise the meteorological assumptions in the SNPRM.

Several commenters argued that the worst-case meteorological conditions were too conservative or not applicable on a national basis and that site-specific conditions should be used, while others agreed that for worst case, minimum wind speeds and the most stable atmospheric conditions should be used. In the final rule, EPA has decided that sources must conduct worst-case dispersion modeling using an F atmospheric stability class and a 1.5 m/s wind speed. A higher wind speed or less stable atmospheric stability class may be used if the owner or operator has local meteorological data applicable to the source that show that the lowest recorded wind speed was always greater or the atmospheric stability class was always less stable during the previous three years.

In the final rule, EPA also requires sources to conduct alternative release scenario dispersion modeling using the typical meteorological conditions applicable to the source. If meteorological data are not available, typical conditions in the RMP Offsite Consequence Analysis Guidance may be used. EPA believes typical meteorological conditions should be used to generate realistic hazard assessments for communication with the public and first responders and for emergency planning.

*C. Consideration of Environmental Impact*

The issue of whether and how environmental impacts should be addressed in the hazard assessment and the rule in general drew considerable comment. The comments divide into three questions: Should EPA consider environmental impacts from accidental releases? If so, which environments should be identified? What constitutes an environmental impact?

1. Inclusion of Environmental Impacts. Environmental groups argued that the CAA requires assessment of potential impacts to the environment and that the environmental receptors listed in the SNPRM should be broadened. One commenter stated that since the CAA Amendments of 1990 strengthened limits of continuous air toxic emissions, wildlife is now threatened more by accidental releases. However, the majority of commenters on this issue, principally industry groups, opposed consideration of the environment because it is adequately protected by other environmental statutes, environmental protection in section 112(r) relates only to emergency

response, and Congress intended in section 112(r) for the environment to be addressed only to the extent that human health is protected. Several commenters argued that flammable substances were unlikely to generate environmental impacts. Commenters also stated that many industries have voluntarily developed nature reserves around their sources, often at the urging of government agencies. Additional regulations based on "environmental" impact consideration would "penalize" these sources for their efforts. Finally, two commenters noted that EPA's endpoints are based on acute human effects; applying these to the environment may not be valid.

EPA disagrees that section 112(r) was not intended to protect the environment as well as human health. Although section 112(r)(5) links the threshold quantity to human health, section 112(r)(3) requires EPA to select substances that could impact human health and the environment. EPA agrees that the only time sections 112(r)(7)(B)(i) and (ii) mention protection of the environment is in conjunction with emergency response; however, this is also true for protection of human health. Congress did not intend to limit concern about either impact strictly to emergency response procedures; Congress may not have mentioned either impact relative to prevention because the act of preventing an accident eliminates the impact on both. When accidents occur, human health and the environment need protection. By mentioning both impacts in the response or post accident phase, Congress was stressing its concern for the environment as well as human health. Given the integrated nature of the RMP, it would be an inappropriately narrow reading of CAA section 112(r)(7)(B) to say environmental impacts must be ignored in hazard assessments and in the design of the prevention program, but must be accounted for in emergency response. In addition, section 112(r)(9) provides authority for EPA to take emergency action when an actual or threatened accidental release of a regulated substance may cause imminent and substantial endangerment to human health, welfare, or the environment. Clearly, section 112(r)(9) allows EPA to take action to prevent, as opposed to simply respond to, accidental releases to protect the environment. Because section 112(r)(7) is intended to prevent situations that could lead to emergency orders under section 112(r)(9), it is logical to conclude that Congress meant EPA to develop regulations that would prevent accidental releases that could cause environmental damage. Although the consequences may not be precisely known, EPA believes that impacts could occur at environmental receptors located within the distance to a human acute exposure endpoint associated with a worst-case or alternative scenario because wildlife may be more sensitive or require less exposure to cause an adverse effect than humans.

2. Environmental Receptors to Be Considered. In the SNPRM, EPA proposed that sources report in their RMP which sensitive environments listed by the National Oceanographic and Atmospheric Administration (NOAA) for the Clean Water Act are within the distance determined by the worst-case or alternative case scenario. A few commenters argued that the list should include state and local level analogues to Federal entities (e.g., state parks), all surface waters that are fishable or swimmable or supply drinking water, and ground water recharge areas. Many commenters opposed the NOAA list, arguing that the list is extremely broad, covers millions of acres in primarily rural areas, and contains areas that are difficult for both the regulated community and the government to clearly identify (e.g., habitat used by proposed threatened or endangered species, cultural resources, and wetlands). They stated that the NOAA list is not appropriate for this rule because it represents guidance applicable to offshore sources, and to a limited number of very large onshore sources, that could have catastrophic oil spills. A few commenters suggested limiting the list to Federal Class I areas designated under the CAA prevention of significant deterioration program, or reducing the list of sensitive areas to national parks and the designated critical habitat for listed endangered species, and limiting environmental concern to those accidents that generate a significant and long-term impact, such as an actual "taking" of an endangered species.

For the final rule, EPA has not used the NOAA list. Instead EPA requires owners or operators to indicate in the RMP the environmental receptors located within circles whose radii are the distances to an endpoint for the worst-case and alternative release scenarios. EPA agrees with commenters that the locations of certain natural resources are difficult to identify. Consequently, EPA has defined environmental receptors as natural areas such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas, that can be exposed to an accidental release. All such receptors typically can be found on local U.S. Geological Survey (USGS) maps or maps based on USGS data. Habitats of endangered or threatened species are not included because the locations of these habitats are frequently not made public to protect the species. Natural resource agencies will have access to the RMP information and can raise concerns with local officials about potential harm to these habitats, as necessary. Local emergency planners and responders may want to consult with environmental management agencies as part of emergency preparedness.

3. Level of Analysis Required. In the SNPRM, EPA proposed that sources only identify sensitive environments within the area of the worst-case release, rather than analyzing potential impacts. A few commenters opposed this approach, stating that the CAA requires that sources analyze impacts. Most commenters supported EPA's position because extensive expertise at considerable cost is required to adequately assess all environmental impacts associated with the environments list EPA provided. Commenters stated that this cost would make fewer resources available for prevention activities and providing no benefit. Other commenters noted that much of the data needed for such analyses is not available.

EPA agrees that extensive environmental analysis is not justified. Irreversible adverse effect exposure level data for the wide variety of environmental species potentially exposed in an accidental release event are not available for most of the listed substances. EPA believes that identification of potentially affected environmental receptors in the RMP is sufficient for purposes of accident prevention, preparedness, and response by the source and at the local level.

*D. Program 3 Consistency with OSHA PSM Standard*

1. Prevention Program. In EPA's original proposal, the prevention program requirements were based on the elements of OSHA's PSM standard (29 CFR 1910.119), and some commenters supported this approach. But EPA added a paragraph to each OSHA prevention program element to explain the purpose of the provision and, in some instances, added additional recordkeeping, reporting, or substantive provisions to ensure that statutory requirements were met. Several commenters argued that these additions cause confusion and appear to require sources to create two separate

prevention programs, which could cause conflicting inspection and enforcement actions and greater cost for sources that must comply with both the OSHA and EPA requirements. Many commenters suggested that EPA simply reference the OSHA requirements.

EPA agrees that the Program 3 prevention program requirements should be identical to OSHA's PSM standard to avoid confusion and redundant requirements and to ensure that sources develop one accidental release prevention program that protects workers, the general public, and the environment. Therefore, EPA has moved the Management System requirement (see section I.D) supported by most commenters to a section separate from the Prevention Program and deleted the introductory paragraphs and modifications to the PSM language. The Agency recognizes that many workplace hazards also threaten public receptors and that the majority of accident prevention steps taken to protect workers also protect the general public and the environment; thus, a source owner or operator responsible for a process in compliance with the OSHA PSM standard should already be in compliance with the Program 3 prevention program requirements.

EPA did not cross-reference sections of the PSM standard in today's rule because, under Office of Federal Register requirements at 1 CFR 21.21(c)(2), EPA cannot adopt OSHA's requirements. EPA and OSHA have separate legal authority to regulate chemical process safety to prevent accidental releases. Furthermore, cross-referencing the OSHA standard would be tantamount to a delegation of authority to set standards in this area from the Administrator of EPA to the Secretary of Labor, because OSHA would be able to modify the PSM requirements without an EPA rulemaking under CAA § 307(d). The Senate explicitly considered and rejected the possibility of the Administrator delegating to OSHA responsibility for hazard assessment. Senate Report at 226. As that term was used in the Senate bill, hazard assessment included many of the elements of PSM.

With the exception of some key terms and phrases, the Program 3 prevention program language in the final rule is identical to the OSHA standard language (the rulemaking docket contains a side-by-side analysis of the OSHA standard and EPA rule text with word differences highlighted). Most of the differences are terms based on specific legislative authorities given to OSHA or EPA that have essentially the same meaning:

| OSHA term | EPA term |
|---|---|
| Highly hazardous substance | Regulated substance. |
| Employer | Owner or operator. |
| Facility | Stationary source. |
| Standard | Rule or part. |

EPA also agrees with commenters that sound process safety management systems ideally address chemical accident prevention in a way that protects workers, the public, and the environment. Since OSHA's responsibility is to protect workers, there are phrases in the OSHA standard that are designed to focus employer attention on accidents that affect the workplace. It could be argued that these phrases inadvertently exclude consideration of offsite impacts. EPA has deleted the phrases noted below to ensure that all sources implement process safety management in a way that protects not only workers, but also the public and the environment:

| OSHA PSM requirement | EPA program 3 requirement |
|---|---|
| 1910.119(d)(2)(E) An evaluation of the consequences of deviations, including those affecting the safety and health of employees. | 68.65(c)(1)(v) An evaluation of the consequences of deviations. |
| 1910.119(e)(3)(ii) The identification of any previous incident which had a likely potential for catastrophic consequences in the workplace. | 68.67(c)(2) The identification of any previous incident which had a likely potential for catastrophic consequences. |
| 1910.119(e)(3)(vii) A qualitative evaluation of a range of the possible safety and health effects of failure of controls on employees in the workplace. | 68.67(c)(7) A qualitative evaluation of a range of the possible safety and health effects of failure of controls. |
| 1910.119(m)(1) The employer shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release of a highly hazardous chemical in the workplace. | 68.81(a) The owner or operator shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release of a regulated substance. |

EPA also made changes to specific schedule dates to coordinate with the OSHA PSM requirements, made internal references consistent, and added a provision to the PHA section specifically grandfathering all OSHA PHAs and allowing sources to update and revalidate these PHAs on their OSHA schedule. EPA believes these modifications do not cause source owners or operators to make major adjustments to their PSM systems established under OSHA. These minor modifications ultimately lead to the development of one comprehensive process safety management system satisfying both OSHA and EPA that works to prevent accidents affecting workers, the public, and the environment.

EPA also modified the OSHA definition of catastrophic release, which serves as a trigger for an accident investigation, to include events "that present imminent and substantial endangerment to public health and the environment." This modification, in combination with the changes noted above, ensure that sources covered by both OSHA and EPA requirements must investigate not only accidents that threaten workers, but also those that threaten the public or the environment. EPA agrees with commenters and recognizes that most catastrophic accidental releases affect workers first. However, the Agency also believes that there are accidental release situations where workers are protected but the public and the environment are threatened, e.g. vessel overpressurizations that cause emergency relief devices to work as designed and vent hazardous atmospheres away from the workplace and into the air where they are carried downwind. Although many sources through the PHA process will have recognized and addressed the potential impact offsite associated with safety measures that protect workers (e.g. an

emergency vent scrubber system), EPA believes that the requirements in today's rule ensure that all sources routinely consider such possibilities and integrate the protection of workers, the public, and the environment into one program.

2. Enforcement. Many commenters expressed concern for conflicting audit procedures, interpretations, and enforcement actions when EPA and OSHA auditors inspect the same processes. EPA has no authority to exempt a source covered under the PSM standard and today's rule from any prospect of an EPA enforcement action for violations of section 112(r) and EPA regulations issued under it. EPA and OSHA are working closely to ensure that enforcement actions are based on consistent interpretations and coordinated to avoid overlapping audits. Such coordination in enforcement was recognized as an appropriate method for exercising the Administrator's duty to coordinate the EPA program with OSHA (Senate Report at 244).

3. Exemptions. Many commenters suggested that the Agency exempt small businesses or certain industry sectors because the rule is too costly, some industries are already subject to substantial regulation by other Federal or state agencies, OSHA exempts certain industries from the PSM standard, and some sources have effective self policing regimes in place.

Regardless of whether the source is covered under some other Federal, state, or local program, EPA has no authority to exempt a source that has more than a threshold quantity of a regulated substance from complying with the risk management program rule (CAA section 112(r)(7)(B)(ii)). EPA established the tiered approach to acknowledge that different industries pose different potential risks to human health and the environment and that elements of other regulatory programs may serve to prevent accidents. EPA believes that owners or operators can indicate in their Program and RMP how compliance with other particular regulations and standards satisfies Program or RMP elements, thereby, avoid duplication. Only those processes in certain SIC codes or covered by OSHA's PSM standard must implement the full PSM program under Program 3. A source owner or operator can demonstrate compliance with the Program 2 or 3 prevention program under today's rule for a covered process by showing that it complies with the PSM standard. This approach is consistent with the authority to set different standards for different types of sources under CAA section 112(r)(7)(B)(i).

*E. Relationship to Air Permitting*

Several commenters on the NPRM requested that EPA clarify the relationship between the risk management program and the air permit program under Title V of the CAA for sources subject to both requirements. In the SNPRM, EPA indicated that in Title V, section 502(b)(5)(A), Congress clearly requires that permitting authorities must have the authority to "assure compliance by all sources required to have a permit under this title with each applicable standard, regulation or requirement under this Act." EPA further states in part 70.2 that "Applicable Requirement means * * * (4) Any standard or other requirement under section 112 of the Act, including any requirement concerning accident prevention under section 112(r)(7) of the Act; * * *" Consequently, EPA must require that air permitting authorities implementing Title V permit programs be able to assure compliance with section 112(r). In the SNPRM, EPA attempted to identify the section 112(r) "applicable requirements," clarify the minimum content of part 70 permits with respect to these requirements, and to specify the role and responsibilities of the part 70 permitting authority in assuring compliance with these requirements.

The sections below address the major issue areas raised by commenters on the SNPRM. More detail can be found in the Risk Management Program Rule: Summary and Response to Comments in the Docket. The SNPRM also addressed the role and responsibilities of the implementing agency with respect to section 112(r). This issue is addressed separately in Section R below.

1. General relationship between the part 68 and air permitting programs. Some commenters agreed with EPA's proposed role for the air permitting authority with respect to section 112(r), but encouraged EPA to avoid new, confusing, and duplicative state and source permitting requirements. A few commenters suggested that all part 68 requirements should become permit conditions, that it be fully enforced through the part 70 permitting program, and that anything less violates the CAA. Most commenters (state air permitting authorities and industry), opposed EPA's proposal stating that Congress did not intend, and legislative history does not support, section 112(r) to be implemented or enforced through the Title V permit program.

EPA agrees that Congress did not intend for section 112(r) to be implemented and enforced primarily through Title V and recognizes the potential for confusion and burden on sources and air permitting authorities associated with section 112(r). EPA believes that the requirements in today's rule are flexible, impose minimal burden, address the concerns raised by commenters and satisfy the CAA requirement for assurance of compliance with section 112(r) as an applicable requirement for permitting. The requirements apply only to sources subject to both part 68 and parts 70 or 71; there are no permitting requirements on sources subject solely to part 68. EPA agrees that ideally, one authority should implement part 68 oversight; however, air permitting authorities should not be responsible for implementation just as implementing agencies should not be responsible for permitting (see implementing agency discussion in Section R, below). The air permitting authority has the flexibility under today's rule to obtain assistance, expertise or resources from other agencies in fulfilling its responsibilities with respect to section 112(r). This will foster interaction and coordination of air pollution, pollution prevention, public and worker safety and health and environmental programs at the state and local levels leading to more effective oversight.

2. Impact of EPA's proposal on air permitting programs. Several commenters stated that EPA's proposal places an unreasonable burden on air permitting programs because states would need to amend or develop new legislative authority and implementing regulations which diverts limited state resources away from the development and operation of more important routine emissions permit programs.

EPA disagrees that today's rule places an unreasonable burden on air permitting programs. Part of the approval process for a state air permitting program is confirmation that states have the authority to ensure that sources are in compliance with air toxics requirements under section 112 including section 112(r). The provisions of section 68.215 are sufficient to meet the obligations under part 70. Thus, for state and local agencies that have approved part 70 programs, states would need to develop new legislative authorities only if they seek delegation to implement part 68 beyond the narrow responsibilities provided in § 68.215 (see Section R, below). State obligations under § 68.215, which should be covered by permit fees (see section E.11, below), should not impose a substantial burden on state resources because the rule streamlines the RMP requirements and establishes centralized recordkeeping for RMPs.

3. Part 68 as an "applicable requirement" under part 70. As described above, the CAA requires that air permitting authorities ensure that sources are in compliance with applicable requirements as a condition of permitting. In the preamble of previous rulemakings for part 70 (57 FR 32301), EPA indicated that the definition of "applicable requirement" under Title V includes "any requirement under section 112(r) to prepare and register a risk management plan (RMP)." This explanatory statement preceded development of part 68, which implements section 112(r)(7). In the SNPRM, EPA proposed more specific provisions to assure compliance with applicable requirements for section 112(r) than the part 70 preamble so that air permitting authority responsibility is clear. EPA believed that all elements of part 68 are applicable requirements; however, compliance with applicable requirements could be assured by including generic terms in permits and certain minimal oversight activities. Together, these steps ensure that permitted sources fulfill their accident prevention and information sharing responsibilities.

EPA proposed standard permit conditions that would allow air permitting authorities to verify compliance with part 68. Commenters stated that alteration of the part 70 rule definition of the term 'applicable requirement' under the part 68 rulemaking is inappropriate and that the role of the air permitting authority with respect to section 112(r) should be defined in part 70 rulemakings rather than in part 68.

EPA's action today does not alter the definition of "applicable requirements" under 40 CFR 70.2, which already includes "any requirement concerning accident prevention under section 112(r)(7)." Rather, EPA is establishing very simple permit terms and flexible, minimal oversight responsibilities that will assure compliance with part 68. EPA disagrees that part 68 cannot establish more specific terms for permits than those given in part 70 or 71 with respect to section 112(r). As mentioned in the SNPRM preamble, part 70 does not preclude EPA from clarifying or even expanding air permitting responsibilities. Specific permit requirements are useful to clearly establish the minimum permit conditions and state responsibilities essential to ensuring compliance with part 68 and to reduce uncertainties that may lead to overly broad interpretations of the requirements. However, air permitting authorities still have the flexibility to establish additional terms for the permit if it so chooses.

4. Role of the air permitting authority. In the SNPRM, EPA proposed certain air permitting authority responsibilities necessary to ensure that sources are in compliance with part 68 for purposes of permitting. Commenters stated that the role of the Title V permitting authority should be defined in part 70, not in part 68 and opposed EPA's proposal arguing that it causes unnecessary confusion for sources. Commenters also argued that air permitting authorities do not have the relevant expertise needed and that states should have the flexibility to implement risk management programs in whichever agency they see fit. Other commenters argued that air permitting authorities, without section 112(l) delegation, could not accept the responsibilities assigned by the SNPRM and that EPA was unlawfully attempting to delegate the responsibility for implementing section 112(r) to the state permitting authorities. Several commenters believed the permitting authority should have no responsibilities beyond those set forth in EPA's April 13, 1993, policy memorandum from John Seitz, Director of the Office of Air and Quality Planning and Standards (OAQPS), to EPA Regional Air Division Directors, available in the docket because states invested significant resources and effort into the development of their programs, guided by this EPA memorandum. However, a state permitting authority stated that the EPA memorandum did not account for many of the key program elements, including the necessary incorporation of standard permit conditions. Many commenters also opposed requiring extensive details or all aspects of part 68 compliance in the permit, finding this approach excessive and overly burdensome on both state air permitting authorities and sources and contrary to the law and Congressional intent in that it would have required section 112(r)(7) to be fully implemented by state permit programs.

Several commenters were concerned that a single violation of part 68 could potentially be enforced by both the permitting authority and the implementing agency. One commenter suggested that the only case where a violation of a part 68 requirement should also be considered a violation of part 70 would be the failure to register an RMP on time under the requirements of §68.12. Another commenter requested that, at §68.58(b)(3), EPA should allow the state the discretion to determine whether a penalty should be assessed. Several commenters, uncertain how the Programs proposed by EPA in the SNPRM would affect the role of the permitting authority, suggested that EPA develop a process to inform states of the tiering approach and to exclude Program 1 and 2 sources from additional permitting requirements.

EPA believes that part 68 should more clearly define the role of the air permitting authority with respect to section 112(r). Part 70 requirements were established well before part 68 and are therefore vague. Consequently, EPA is using part 68 to clarify the applicable requirements, to specify permit terms and to establish the minimum permit conditions and activities to avoid misinterpretations and to ensure compliance with part 68. EPA agrees that air permitting authorities may not have the expertise necessary with respect to part 68; consequently, the requirements in today's rule only specify the actions the state must take to assure that sources have met their part 68 responsibilities while giving the state flexibility to assign or designate by agreement entities other than the permitting authority to carry out these activities. The elements in today's rule are the minimal components of a successful compliance program; anything less falls short of the statutory requirements of assuring compliance with all applicable requirements. EPA also disagrees that it is forcing delegation on air permitting authorities to implement section 112(r). As described in the SNPRM and above, air permitting authorities must ensure that sources are in compliance with applicable requirements for purposes of permitting. This is not section 112(r) implementation (see section R below). EPA is merely specifying more clearly the requirements already upon air permitting authorities; without the specification given in today's rule, it could be argued that air permitting authorities are obligated to review and evaluate the adequacy of RMP submissions. EPA agrees that oversight of the adequacy of part 68 compliance, including RMPs, is not an appropriate activity for the air permitting authority and is more appropriately an implementing agency duty. Delegation of these implementing agency activities can only be accomplished through a delegation consistent with part 63, subpart E.

EPA also maintains that the air permitting authority role should be more specifically defined than that offered by the April 13, 1993, memorandum. The April 1993 policy was prepared prior to the NPRM and SNPRM, it does not account for implementation of the risk management program by the source (as opposed to

implementation of the plan), and there is no mechanism, such as a review of the RMP by the permitting authority, to ensure that the plan contains the elements required by part 68. These deficiencies were previously indicated by EPA in a June 24, 1994, memorandum from John Seitz and Jim Makris, Director of the Chemical Emergency Preparedness and Prevention Office (CEPPO) to EPA Regional Division Directors, which stated that "approval criteria in the April 13 memorandum may not be sufficient to ensure compliance with all 'applicable requirements' established" in the risk management program rule. EPA acknowledges that states may have invested considerable resources and effort in development of air permitting programs based on the April 13, 1993 policy. However, EPA also believes that the minimum requirements and flexibility offered by today's rule allow air permitting authorities to fold these activities into their programs with minimal burden. EPA recognizes that there may be multiple agency oversight related to permitting and part 68. As mentioned above, today's rule allows the air permitting authority the flexibility to use other agencies, such as the implementing agency or a designated agency (upon agreement), to better coordinate at the state and local level. In addition, EPA must note that there is no 'approval' of either initial or revised RMP submissions.

EPA agrees that requiring the permit to contain extensive details of part 68 compliance goes well beyond the need for part 70 permits to assure compliance with applicable section 112(r) requirements and it would impose considerable resource and expertise burdens on the permitting authority. EPA has maintained that it is not appropriate to include risk management program elements as permit conditions since these elements will be highly source-specific and subject to change as the source develops and implements its programs.

While enforcement would primarily occur using part 68 authority, EPA agrees that the permitting authority also has the authority to pursue violations under part 70 and sources could be subject to multiple violations. This is no different from any other standard promulgated by EPA that becomes an applicable requirement for permitting. EPA agrees that the air permitting authority has the discretion to coordinate with the implementing agency with respect to penalty assessment associated with § 68.58(b)(3) in the SNPRM (§ 68.215(e)(4) under today's rule).

Finally, the tiering (Program) approach benefits sources as well as air permitting authorities. EPA has simplified the tiering provisions so sources and air permitting authorities should be able to readily determine the Program requirements each process must satisfy, leading to more effective oversight. EPA has also streamlined the RMP reporting requirements and is working on electronic submission of RMP information which serve to reduce the burden on air permitting authorities and implementing agencies.

5. Title V permit application contents. Many commenters stated that sources regulated under parts 70 or 71 and part 68 should only be required to certify whether they are subject to section 112(r) in their initial permit application to allow timely processing. Although EPA indicated that it did not want the RMP included in permit applications or in the permit, many commenters stated their opposition because the additional time required for RMP review could delay permit grants and, in some states, the RMP could be included in the source's permit. Several commenters suggested that the air permitting authority should decide whether it wants the RMP; one commenter stated that sources would have a significant incentive to comply with such a request, given the permitting authority's ability to withdraw an application shield. Others stated that the permitting authority should be prohibited from asking for the RMP as part of the permit application.

As EPA has indicated, the RMP should not be submitted with the permit application or made part of the permit. EPA is working to streamline permit application requirements and has indicated that the minimum with respect to section 112(r) is a "check box" for the source to note whether it is subject to section 112(r), and either certification that the source is in compliance with part 68 or has a plan for achieving compliance. Any other requirements are up to the air permitting authority. All sources will be required to submit their RMP to a central point to be specified by EPA and will be immediately available to local responders and the state which may elect to make it available to air permitting authorities.

6. Air permit contents. EPA proposed in the SNPRM that each permit contain standard conditions that address key compliance elements in part 68 and mechanisms for compliance plans, certifications and revisions. Although EPA indicated it did not believe the RMP should be part of the permit, two commenters suggested that it should be included while most others indicated that it should not or that the air permitting authority should decide. Several commenters supported no more than the four conditions proposed in the SNPRM while others suggested requirements including: prompt development and updating of a complete RMP; no conditions other than an indication that a source is subject to part 68; provisions stating the need to register according to § 68.12; a condition stating that the source will comply with all part 68 requirements; and a standard provision recognizing that the implementing agency has the section 112(r) enforcement authority.

Except for the provisions of § 68.215(a), EPA does not believe that the RMP or all or any portion of the remainder of part 68 should become permit conditions because the RMP and part 68 elements will be highly source-specific and subject to frequent change introducing unnecessary complexity and delaying permit implementation. The provisions of § 68.215 should allow the air permitting authority to implement the conditions in a standardized way across many sources with minimal burden. EPA has revised § 68.215 to require that all permits contain a statement listing part 68 as an applicable requirement and that conditions shall be added that require the source to submit a compliance schedule for meeting the requirements of part 68 or, as part of the compliance certification all permitted sources must submit under 40 CFR 70.6(c)(5), a certification statement that, to the best of the owner or operator's knowledge, the source is in compliance with all requirements of this part, including the registration and submission of the RMP. EPA had amended the authority citation for part 68 to include CAA Title V because EPA is promulgating permit terms and oversight duties. Consistent with parts 70 and 71, the permit shield provisions of parts 70 and 71 would not apply to the substantive requirements of part 68 because the detailed substantive requirements of part 68 are not addressed in the Title V permit or permit application. If a permit without these conditions has already been issued, then when the permit comes up for renewal under part 70 or 71 requirements (40 CFR Part 70.7), the owner or operator shall submit an application for a revision to its permit to incorporate these conditions. The suggested alternative conditions, not adopted, generally help assure compliance only with portions of part 68, such as registration or the preparation of the RMP, or omit critical

information, such as whether the source is subject to part 68 or what its compliance status is. The implementing agency's enforcement authority is apparent on the face of the CAA.

7. Completeness review. As part of ensuring compliance, EPA proposed in the SNPRM that within a certain time-frame the air permitting authority must verify that an RMP containing the required elements had been submitted and indicated in the preamble that it would assist air permitting authorities by developing a checklist. EPA stated that this review is independent of completeness reviews required for permit applications to avoid interfering with the permit process. Further, air permitting authorities could arrange for other agencies, including the implementing agency, to perform the completeness review. EPA also requested comment on whether the permitting authority should be able to require sources to make revisions to an RMP.

Most commenters disagreed with this proposal arguing that if a completeness check is necessary, it should be performed by the implementing agency since most air permitting authorities will not have the technical expertise (e.g., chemical process safety) required to adequately review RMPs for technical completeness. Commenters also argued that a completeness review would be merely procedural, it duplicates effort without creating any real benefit, it consumes scarce resources, and it leads to inconsistent RMP review without ensuring the source is in compliance with risk management program requirements. Some commenters suggested that the completeness review could be better defined only as a review of source self-certification that a complete RMP was submitted rather than a substantive review. Some commenters generally agreed that completeness checks should be completed within sixty days. Finally, most commenters argued that only the implementing agency should be able to require revisions to the RMP. Otherwise, another revision review, appeal and verification process would be necessary, duplicating the process already established for the implementing agency.

Based on these comments, EPA has decided not to require that air permitting authorities perform a completeness check as part of the verification of compliance with part 68. EPA has modified the rule requirements so that the air permitting authority may select for itself one or more appropriate mechanisms (such as source audits, record reviews, source inspections or completeness checks) and time-frame in conjunction with source certifications, to ensure that permitted sources are in compliance with the part 68 requirements. Without some kind of oversight, source self-certification is not a sufficient means of compliance assurance, given that an RMP contains information essential at the local level for emergency prevention, preparedness, and response and is not subject to routine, case-by-case review for quality. These oversight mechanisms do not need to be used on each source in order to be effective. EPA agrees that the review for quality or adequacy of the RMP is best accomplished by the implementing agency on a frequency and scope that may vary. EPA is willing to work with air permitting authorities on guidance, checklists or other tools to assist in the development of compliance mechanisms related to the RMP. In addition, EPA is willing to assist air permitting authorities in electronic checks once the electronic system for RMP submittal is developed. EPA emphasizes that if an RMP completeness check is used by the air permitting authority, it should remain independent of the completeness determination for the permit application. The RMP will most likely be submitted at a different time than a permit application, since almost all permit applications will have been submitted well in advance of the risk management program rule deadline. If the completeness check determines that an incomplete RMP has been submitted, the permitting authority can request additional information under § 68.215(b) and should coordinate with the implementing agency on necessary RMP revisions. The completeness checks are facial reviews of RMPs to verify that there are no omissions. Such checks could be performed on a select basis and occasionally integrated with a multi-purpose source inspection conducted to ensure that the air source is in compliance with its permit.

8. Interaction of the implementing agency and the permitting authority. In the SNPRM, EPA attempted to delineate the specific requirements unique to the air permitting authority and the implementing agency. The role of the state is described in more detail in E.4 while the implementing agency is discussed in R. Commenters on the SNPRM suggested that EPA should require the implementing agency to certify to permitting authorities whether part 68 sources regulated under part 70 are in compliance with part 68 requirements. Such certification should be deemed sufficient to "assure compliance" with the applicable requirement under part 70. Other commenters suggested that the permitting authority could simply consult with the implementing agency when it believes there is a problem requiring attention or that the implementing agency should notify the permitting authority of any problems in part 68 compliance, so that the permitting authority may then expand the permit conditions accordingly.

EPA does not believe it is necessary to define the interaction between the permitting authority and the implementing agency. Ideally, this coordination and interaction should occur at the state or local level. Coordination of other CAA programs (Title V, SBAP, and other 112 programs) with the 112(r) program will ensure that the programs are more consistently implemented and enforced, while easing regulatory burden and providing the public greater access to information. However, when EPA is the implementing agency, it stands ready to work with air permitting authorities on oversight associated with permitting and enforcement of the part 68 requirements. Today's rule also provides the state the flexibility to assign some or all of its responsibilities by prior cooperative agreements or memoranda of understanding to the implementing agency or another state, local, or Federal "designated agency." EPA recognizes that each state is structured differently and will have different impediments and opportunities; therefore each state has the flexibility to place the program in an appropriate agency or department, including the air permitting agency.

9. The "designated agency." In the SNPRM, EPA proposed to define the designated agency as the state or local agency designated by the air permitting authority as the agency responsible for the review of an RMP for completeness. This provision was designed to give the air permitting authority the flexibility to obtain expertise from other agencies to fulfill its responsibilities. Several commenters believed the SNPRM does not clearly allow the permitting authority to delegate tasks to a designated agency and the permitting authority should be able to delegate more than the completeness review, e.g., enforcement. Some commenters requested that EPA redefine the term to allow permitting authorities to delegate tasks to EPA or other Federal agencies; while one commenter argued that EPA should not allow the permitting authority to designate EPA as the designated agency.

EPA agrees that the definition should be revised to give the air permitting authority more flexibility. EPA has dropped the mandatory completeness review, added broader implementation and enforcement activities, and included Federal agencies in the designated agency definition. Thus, a "designated agency" may be any state, local, or Federal agency designated by the state as the agency to carry out the provisions of § 68.215, provided that such designation is in writing and, in the case of a Federal agency, consented to by the agency. The parties to any such designation should negotiate the terms and details of any agreements.

10. Reopening part 70 permits to incorporate section 112(r) requirements. In the preamble to the SNPRM, EPA indicated that part 68 requirements should be incorporated into part 70 or 71 permits using the part 70 administrative amendment process because of the timing difference between part 68 and air permitting. Most commenters agreed with this approach or indicated that permits should not be reopened at all; instead, sources that submitted permit applications prior to promulgation of the final section 112(r) regulations should not be subject to enforcement action under Title V until after the first renewal of the permit (i.e., after 5 years).

As discussed under section E.6, if a permit without the necessary part 68 conditions has already been issued, then the owner or operator or air permitting authority shall initiate a permit revision or reopening according to the procedures detailed in 40 CFR 70.7 or 71.7 to incorporate the terms and conditions under paragraph (a) of § 68.215. Although EPA has not completed part 70 permit streamlining efforts, the requirements for permit revisions or reopenings should be complete by the time sources will be required to be in compliance with the part 68 requirements. Under the most recent part 70 proposal, the part 68 requirements would be classified as "less environmentally significant" and the associated procedures would be followed. Sources with such permits shall be subject to enforcement under authorities other than Title V.

11. Use of Title V funds. In the SNPRM, EPA indicated that activities conducted by air permitting authorities should be covered by fees collected under part 70 since part 68 is an "applicable requirement." EPA also acknowledged that air permitting authorities may not have planned for section 112(r) activities and requested input on alternative funding mechanisms or whether resources would need to be reduced in other programs to allow completion of part 68 responsibilities.

Several commenters raised concerns about the impact of the section 112(r) requirements on state and local air permitting authorities because funding will be needed and it may not be possible in the current political climate for the permitting authorities to raise the necessary fees through Title V. Some commenters argued that funding decisions should be left up to the air permitting authorities.

EPA agrees that funding decisions regarding the part 68 program should be made at the discretion of the state and local agencies. However, air permitting authorities need to be aware that the CAA requires states to impose permit fees that are sufficient to cover the direct and indirect costs of implementing the permit program, including part 68 activities and activities conducted by state designated agencies. EPA believes the straight-forward and flexible requirements established in today's rule impose minimal additional burden on air permitting authorities. Funding associated with section 112(r) implementation is addressed in section R, below.

12. Other issues. In the SNPRM preamble, EPA stated that it worked closely with and directly involved several state and local air program officials and state emergency response and prevention representatives in the development of the preamble and regulatory language to prepare the approaches described. EPA stated that the proposed approaches "best reflect the concerns of the states about air permit program implementation and the needs for comprehensive participation in chemical accident prevention, preparedness, and response at the state and local level." Two commenters disagreed, arguing that in January 1995, the National Governors Association (NGA) and ECOS (organization of state environmental officials) presented numerous recommendations to EPA Assistant Administrator Mary Nichols for changes in several clean air programs; regarding section 112(r), NGA/ECOS recommended that Title V permitting authorities be required only to certify that an RMP has been submitted. These commenters believe that the SNPRM fails to adequately address states' central concern; requiring permitting authorities to review RMPs will encumber an already overtaxed system.

Although EPA disagrees that the proposal fails to adequately address states' concerns, EPA agreed that the air permitting authority requirements could be more sharply focused to minimize the burden. EPA believes that today's rule is the product of many hours of hard work with state and local air permitting authorities to recognize their concerns and to develop a rule that is effective, flexible and imposes the least economic burden possible.

*F. General Definitions*

1. Significant Accidental Release. In the NPRM, EPA proposed to define significant accidental release as "any release of a regulated substance that has caused or has the potential to cause offsite consequences such as death, injury, or adverse effects to human health or the environment or to cause the public to shelter in place or be evacuated to avoid such consequences." This definition was key to the applicability of a number of rule requirements, including hazard assessment, accident history, and accident investigation. Only four of more than 115 commenters supported this proposal arguing that the definition should be protective of the public and should consider inconvenience to the public and precautionary measures taken. Other commenters argued that Congress intended for the section 112(r) rules to address catastrophic releases, not those with minor impacts, and that this definition overly broadens the scope of the rule diverting resources and increasing cost for little additional benefit. Many commenters stated that "injury" and "adverse effects" are undefined and could mean any health impact from irreversible effects to minor irritation requiring no medical treatment. "Potential to cause" was also considered too vague. As discussed in Section III.C, many commenters objected to consideration of environmental impacts. Commenters also opposed sheltering-in-place and evacuation as criteria because these actions are often precautionary and, in many cases, are later viewed as unnecessary and may discourage owners or operators from making recommendations to evacuate or shelter in-place. Several commenters submitted alternative definitions where injuries were limited to those that require hospitalization, adverse effects were limited to serious effects, and environmental effects were limited to those that generate human deaths or hospitalizations. Some suggested that all environmental effects be dropped.

EPA agrees that the definition as proposed was too vague and subject to a wide variety of interpretations. In addition, EPA decided that a single definition does not adequately address

the criteria needed for all affected sections of the rule. For example, the five-year accident history requirement depends on the offsite impacts generated by the accident while endpoint criteria are used for the worst-case and alternate scenario offsite consequence assessments. Consequently, EPA has decided to drop the definition and instead identify the criteria for the types of releases or impacts that should be addressed by the appropriate requirement. EPA has considered the suggestions offered by commenters and added definitions of the terms "environmental receptor," "injury," "medical treatment," and "public receptor" and adopted (with modifications as described above) the OSHA definition of catastrophic release. EPA notes that sources should be aware that within the definition of Injury, direct consequences include effects caused by shrapnel and debris set in motion by a vapor cloud explosion. EPA adopted its Medical Treatment definition from one OSHA uses for logging occupational injuries and illness. Finally, under the environmental and public receptor definitions, sources should note that certain parks and recreational areas may be both if the public could be exposed as a result of an accidental release.

2. Stationary Source. Commenters requested that EPA state whether the term stationary source covers the entire "facility" or simply a single process and provide guidance on which requirements apply source-wide and which are process-specific. EPA also received comments regarding the relationship or overlap between the stationary source definition and DOT regulations. These are discussed in section III.P.2 below.

In the List and Thresholds rule, EPA defined stationary source to include an entire "facility." Sources will be required to submit one RMP and one registration as part of that RMP for all processes at the source with more than a threshold quantity of a regulated substance. Although the management system applies to all Program 2 and 3 processes, the prevention program elements are process-specific. The hazard assessment requirements apply to the regulated substances, but only in covered processes. As a practical matter, the emergency response program will probably apply to the entire source although technically it applies only to covered processes.

3. Process. Several commenters argued that the definition of process was susceptible to overly expansive interpretations and asked that certain activities such as storage at sources or distribution terminals be excluded. Many commenters sought clarification of "close proximity" and "interconnected vessel." Commenters also wanted the definition to be consistent with OSHA.

EPA adopted OSHA's definition of process in the original proposal and for the final rule. This definition specifically covers storage (as well as handling and processing) of regulated substances. EPA disagrees that storage-only sources are adequately covered by SPCC regulations since the regulations under SPCC and OPA–90 cover oil terminals and releases to water. This rule is directed at accidental releases of regulated substances (not including oil) to the ambient air. Generally, OSHA PSM also covers these chemical terminals; consequently, the only additional steps these sources will need to take will be to conduct the hazard assessment and submit the RMP, as existing emergency response plans may meet the emergency response program requirements.

Since EPA's definition is identical to OSHA's, EPA will coordinate interpretations of the definition of process with OSHA to ensure that the rule is applied consistently. OSHA has stated that processes are in "close proximity" if a release from one could lead to a release from the other. Owners or operators must be able to demonstrate that an "effective barrier" exists to prevent a release from one process from affecting another. OSHA has interpreted "interconnected vessel" to mean vessels connected by any means, such as piping, valves or hoses, even if these are occasionally disconnected. EPA will also adhere to these interpretations.

4. Offsite. One commenter stated that EPA's proposed definition of offsite should be expanded to include the air above and below the point of release to cover exposure to the upper atmosphere and groundwater. Another asked EPA to limit the definition to areas frequented by the public. Two commenters opposed including areas on site where the public has access because OSHA already covers these areas.

In the final rule, EPA has retained a definition of offsite as "areas beyond the property boundary of the stationary source or areas within the property boundary to which the public has routine and unrestricted access during or outside business hours." OSHA's jurisdiction includes visitors that may be on the property of a facility who are conducting business as employees of other companies but does not necessarily extend to casual visitors or to areas within a facility boundary to which the public has routine and unrestricted access at any time.

5. Other Definitions. Commenters raised questions about several other definitions. Three commenters suggested changes or clarifications to the definition of accidental release. EPA's definition is the statutory definition. Commenters also proposed modifications to the definition of "analysis of offsite consequence." As noted above, EPA has determined that this definition is not needed and has deleted it from the final rule.

Commenters sought clarification of the definition of mitigation systems and whether personnel should be considered an active mitigation system. Others asked for a list of passive mitigation systems and provided proposals. These commenters also objected to limiting passive systems to those that capture or control released substances; they suggested that systems that are designed to prevent releases or control the volume or rate of a release, such as vent/catch tanks, quench tanks, blowdown tanks, elevated stacks and high velocity stacks, adsorbents including carbon beds, neutralization tanks, double-walled vessels or pipelines, chemical sewers, closed drain header systems for flammables, vapor liquid separators, fire barriers, explosion-resistant walls, isolation distances, barriers to prevent free access of air flow after a release, containment buildings, pre-charged water spray systems, closed vent systems, and filters should also be considered passive mitigation. One commenter suggested that active mitigation systems should be defined as those that require manual activation or an energy source (other than gravitational attraction) to perform their intended function.

For the final rule, EPA has decided to define passive mitigation systems as those systems that operate without human, mechanical, or other energy input and would include building enclosures, dikes, and containment walls but excludes active mitigation systems such as excess flow valves, fail-safe systems, scrubbers, flares, deluge systems, and water curtains. In addition to the requirements outlined in §§ 68.25 and 68.28, EPA provides further guidance on the consideration of the effect of passive mitigation in its RMP Offsite Consequence Analysis Guidance. EPA does not believe that all systems designed to prevent releases or control the volume or rate of a release should be considered passive mitigation, consistent with its intent to reflect the potential for failure of any system that requires human, mechanical, or other energy inputs.

*C. Risk Management Plan (RMP)*

In the NPRM, EPA proposed that owners or operators of stationary sources covered by the requirements submit an RMP summarizing the key elements of its risk management program. In the NPRM preamble, EPA indicated that summaries of the information requested (e.g., hazard assessment and emergency response program) would provide the most useful information to the public and local agencies without overburdening them with unneeded detailed information. EPA further stated that the RMP should serve to provide local and state agencies and the public with sufficient information to determine if additional details are needed. These details would be available, if needed, to implementing agency officials conducting audits or compliance inspections.

1. Level of Detail. Most commenters agreed with EPA's proposal noting that the public should be able to identify key hazard and risk management information from the RMP without being overwhelmed by extraneous documentation that is more appropriately maintained on site. A detailed submission would not be cost-effective and could threaten plant security; these commenters expressed fears of terrorism, thieves, and saboteurs.

Other commenters disagreed and argued that summaries would not provide enough information while "full disclosure" would support an informed public. Some commenters argued that the public could be misled by a summary derived from a "full" RMP withheld from the public by the source. Further, several commenters made the general argument that right-to-know provisions should be strengthened and that the public should be given full access to all risk management program information including PHAs and actual operating procedures. Individual commenters also requested public access to specific information regarding such details as worst-case scenarios and descriptions of chemical accidents. Some commenters argued that an informed public and public scrutiny, in general, can act as a powerful force in reducing risk and preventing accidents at stationary sources.

EPA agrees that an informed public is a key element of sound chemical emergency prevention, preparedness, and response. However, EPA also believes that it is essential for the public to focus on the information essential at the local level for prevention, preparedness, and response and has decided to maintain its proposed requirement that the RMP provide certain information about the risk management programs at a source. EPA notes that its previous use of the word summary was not intended to imply that the source prepares a "full" RMP document from which a source extracts summary information that is shared with the public. Rather, the source is obligated to develop certain information about the hazards, prevention, and emergency response programs from the array of documentation at the source to prepare an RMP. EPA believes it would be impractical to require sources to share all documentation used for the safe operation of the processes at a source. Not only is much of this information likely to be confidential, but significant technical expertise and time are necessary to extract, understand, and to make meaningful judgments about the adequacy of the information. The RMP will consist of an executive summary and required data elements addressing all elements of the risk management program as described below. Detailed supporting documentation will be maintained on site available to the implementing agency for review.

2. RMP Contents. Most commenters requested that EPA generally limit the level of detail required, the number of scenarios, or the number of pages in the RMP. Other commenters recommended EPA require submission of only information specified in the CAA and incorporate other detailed information by reference. Commenters also noted that documenting each action taken to address a hazard, the date on which the action started (or is scheduled to start), and the actual or scheduled completion date would prove impractical. EPA received many comments stating that the requirement that exact dates on which training, emergency exercises, or rescue drills, are conducted would be impractical and unnecessary.

Commenters seeking more comprehensive RMPs argued in favor of requiring an index or bibliography of detailed information or a catalog of all available documents, an investigation and analysis of all other credible release scenarios, and submission of assumptions, methodology, and modeling methods used to determine worst-case accidents.

As described above, EPA is considering development of a reporting mechanism and form to collect key data elements. As discussed below, this approach will foster electronic submission and immediate availability to Federal, state and local entities, and the public. To make such submission possible, EPA wants to collect data that generally can be reported by numerical information, yes/no answers, and check boxes. For the offsite consequence analyses, owners or operators will be asked to provide distance to the endpoint, populations and environments affected, and enough of the data used to determine these distances so that local entities and the public can check the distance against the distance derived from EPA's reference tables or a model identified in the RMP. If EPA's guidance was not used, sources will need to indicate which models were used. Many of the parameters for modeling are set in the rule and do not need to be respecified in the RMP. The rule requires only one alternative release scenario per toxic substance and one for all flammables; owners or operators may submit additional scenarios.

For prevention programs, owners or operators must provide information (primarily dates) that will allow the implementing agency to assess whether the source is in compliance with the rule elements. For the PHA, owners or operators must state which technique was used for each covered process, the general hazards associated with the chemicals and process, the process controls in use, mitigation and monitoring or detection systems in use, and changes instituted since the last PHA (Program 3) or hazard review (Program 2) update. Through lists and checkoff boxes, EPA can collect a significant amount of information on current safety practices without requiring sources to develop lengthy documentation that would have proved a burden to both the source and any government or public data user and reduced the potential for electronic submission. EPA believes this approach provides the Agency and others with a mechanism for identifying industry practices and controls from almost 70,000 sources that would not be feasible otherwise. EPA notes that some of the largest chemical sources and refineries may be providing data on 30 or more processes. In the format proposed in the NPRM, these sources might have submitted several thousand pages each; analyzing such submissions would have been a daunting task for the implementing agencies and probably would have made it impossible for public interest groups to review an industry as a whole. With electronic submission, such reviews will be easier. The implementing agency or EPA can seek additional details from individual sources, as needed. EPA has eliminated the requirement to provide dates of training and emergency exercises or

drills because the Agency agrees that this amount of detail is unnecessary and impractical.

3. Submission. In the NPRM preamble, EPA proposed that computer software be developed that would provide sources with a standard format for completing the information required in the RMP; that local authorities be allowed to designate the state as the receiving entity; or that RMPs be submitted only on request from the state, or local entity.

Many commenters, particularly those in the potentially regulated community, supported submission of the RMP upon request or mandatory submission to the implementing agency with submission by request to other organizations. Others recommended submission to the LEPC and public with submission by request to the implementing agency, and SERC. Most commenters favored reducing the paperwork burden and electronic submission because it would reduce time and errors, provide more consistency, and make information more useful for the LEPC and regulatory agencies. Only two commenters opposed electronic filing because all sources may not have the computer capability.

Commenters also supported the development of a standard RMP format regardless of whether the RMP is submitted electronically because standardization would ensure submissions were manageable and useful and would ease burdens on both regulated and reviewing entities.

EPA has decided to work toward electronic submission of RMPs. The Agency believes this will meet numerous objectives of the program and will address several issues. First, electronic submission would reduce the burden on regulated and receiving entities. The Agency has noted that information management of regulatory documents is not a cost-free requirement, and that duplication of effort, including system development, personnel resources, and storage and maintenance efforts could be significant. Electronic submissions would reduce the paperwork burden on sources and state and local governments and would further serve to comply with the Paperwork Reduction Act of 1995, which supports the maximum feasible use of electronic submission. Second, EPA wishes to limit the information management burden on local entities so they can focus on the chemical safety issues raised by this rule.

Third, electronic submissions would benefit affected communities and the general public. Besides having the RMP provide the statutorily required information on compliance with the regulations to the implementing agency, EPA believes the specific value of RMP information is for the local community to understand its community's risk from chemical accidents and to help them work with sources using these chemicals to reduce such risks. The Agency believes this objective would not be served well with a centralized paper information source and that using an electronic medium would support better access to information. With electronic submission of RMPs to a central point, states, local entities, and the public will have access to all RMPs electronically. RMP information may also be made available on-line via libraries and other institutions. Electronic submissions further address the issue of standardized RMPs. The RMP data elements included in the submission will be checkoff boxes, yes/no answers, or numerical entries to ease the burden of submission and reception and will promote consistency and uniformity. The Agency intends to develop technical guidance for the submission of the RMPs, which will provide for submission and receipt of an electronic formatted document containing the data elements outlined in §§ 68.160 through 68.180.

4. Other Issues. In the NPRM, EPA proposed that RMPs be resubmitted within six months of an information change. Several commenters argued it would generate a continual flow of paperwork and recommended an update frequency requirement of once a year.

EPA has retained the requirement that the RMP be resubmitted within six months of the elimination of a substance in a process or at the source, a change in Program status for a process, or if a process change at the source requires a revised hazard assessment or hazard review/PHA. To be consistent with the statutory requirements for compliance, the RMP would also have to be updated on the date an already regulated substance becomes present in a process above the threshold or within three years of the date when EPA lists a new substance. EPA believes that with a standardized format and electronic filing, updates can be rapidly and easily made, and this information should be promptly shared. EPA changed the update schedule for hazard assessments to make them consistent with the RMP update. EPA also specified when offsite consequence analyses require update; the rule states that these analyses need to be reviewed and changed if on-site changes may be reasonably expected to change the distance to an endpoint by a factor of two or more. EPA notes that this change is likely to reduce the number of updates required. For PHAs, only major changes to a process or installation of new processes is likely to trigger a revised PHA. EPA expects that relatively few sources will need to update either their offsite consequence analyses or PHAs/hazard reviews more frequently than once every five years because the majority of sources have simple processes that do not change frequently. Chemical industry sources may need to submit more updates if processes are changing significantly. The RMP should reflect such significant changes.

EPA proposed that RMPs be submitted to implementing agencies, SERCs, and LEPCs, and be made available to the public. Several commenters recommended that additional parties, local fire officials in particular, also receive RMPs. One commenter stated that EPCRA requires various reports go to local fire departments, and another commenter noted that RMP information may be better used by emergency management agencies, fire departments, and hazardous materials teams. Because EPA plans to have RMPs submitted to and available from a central point in electronic format, any agency that wants the information will be able to access it directly on-line. The RMP will be immediately available to local responders and the state. Thus, this manner of submission fulfills the requirements of CAA section 112(r)(7)(B)(iii). Additional submission requirements are, therefore, unnecessary.

The Department of Defense (DOD) commented concerning the lack of a rule provision explicitly declaring that information that is classified under applicable laws and Executive Orders (E.O.s) is not to be included in the RMP. EPA is clarifying that such classified information is protected from disclosure by including a specific regulatory exemption for such information. Furthermore, EPA is clarifying that no provision of part 68 requires the disclosure of classified information in violation of Federal law, regulations, or E.O.s. Finally, EPA is also promulgating a definition of "classified information" that adopts the definition under the Classified Information Procedures Act.

EPA has found no relevant statutory language superseding or impliedly repealing the Classified Information Procedures Act or applicable E.O.s regarding disclosure of classified information, nor has EPA found any legislative history indicating that Congress intended to supersede or repeal these provisions when it established the requirement to prepare

publicly-available RMPs. The provision for exemptions from standards and limitations established under CAA section 112 narrowly addresses the procedures for an exemption when "the President determines that the technology to implement such standard is not available and * * * it is in the national security interests of the United States to do so." CAA § 112(i)(4). The focus of section 112(i)(4) is on the technical capability to meet a limitation; for example, the provision would apply when an emission standard requires a control device that precludes national security-related equipment from functioning. Section 112(i)(4) does not consider or address the availability or distribution of classified information to the public, nor does the legislative history demonstrate that such disclosure was contemplated.

The requirement of section 112(r)(7)(B)(iii) to make RMPs publicly available must read in congruence with the provisions prohibiting disclosure of classified information. "Classified information," as defined by the Classified Information Procedures Act, 18 U.S.C. App. 3, section 1(a), is "any information or material that has been determined by the United States Government pursuant to an Executive order, statute, or regulation, to require protection against unauthorized disclosure for reasons of national security. * * *" "National security * * * means the national defense and foreign relations of the United States" 18 U.S.C. App. 3, section 1(b). Criminal penalties exist for unauthorized disclosure of classified information that has been designated by the Department of Defense or defense agencies for limited or restricted dissemination or distribution. 18 U.S.C. 793. It is not reasonable to interpret the CAA to require the disclosure of classified information in violation of criminal law. It has been EPA's long-standing policy to interpret information disclosure provisions in its statutes as being consistent with national security law to the maximum extent possible and to require such information to be maintained in accordance with the originating agency's requirements. *Federal Facilities Compliance Strategy* (November 1988), at page V-6. Therefore, EPA is promulgating language in § 68.150(d) to clarify its intent with respect to the disclosure of classified information in RMPs by specifically exempting classified information from the RMP except by means of a classified annex submitted to appropriately cleared Federal or state representatives with proper security clearances. Furthermore, EPA is promulgating § 68.210(b) to clarify that disclosure of classified information is controlled by the Classified Information Procedures Act, E.O.s 12958 and 12968, and other laws, regulations, and E.O.s applicable to classified information. Finally, in § 68.3, EPA is defining classified information by promulgating the definition under the Classified Information Procedures Act.

*H. Prevention Program*

In the NPRM preamble, EPA noted that the CAA requires the risk management program to include a prevention program that covers safety precautions and maintenance, monitoring, and employee training measures. Because OSHA PSM covers this same set of elements, EPA proposed a prevention program that adopted and built on OSHA PSM. The proposed requirements for EPA's prevention program included a management system requirement and sections covering nine elements: process hazard analysis, process safety information, operating procedures (SOPs), training, maintenance, pre-startup review, management of change, safety audits, and accident investigation.

To assist in describing its prevention program, EPA included a section in its preamble comparing its prevention program to OSHA PSM standard. EPA noted that with the exception of the management system requirement, the proposed prevention program covered the same elements as OSHA's PSM and generally used identical language except where the statutory mandates of the two agencies dictated differences. EPA added introductory paragraphs to most sections to provide additional information. Further, in some of the sections, EPA proposed additional requirements and established different deadlines. The majority of comments EPA received concerned conflicts and differences between EPA's proposed requirements and OSHA PSM standard.

In the final rule, the Program 3 prevention program is the OSHA PSM standard for parallel elements, with minor wording changes to address statutory differences. For elements that are in both the EPA and OSHA rules, EPA has used OSHA's language verbatim, changing only certain regulatory terms (e.g., highly hazardous chemical to regulated substance and employer to owner/operator) and dates. The sections of the OSHA PSM standard were not cross-referenced for the reasons discussed in section III.D of this preamble. Key issues under PSM are discussed below; the remainder are addressed in the Response to Comments Document.

Management. In the NPRM preamble, EPA stated the purpose of its proposed management system is to ensure integration of all prevention program elements. EPA proposed that owners or operators identify a single person or position that has the overall responsibility for the development, implementation, and integration of the risk management program requirements. When responsibility for implementing individual requirements of the risk management program is assigned to persons other than the person designated, the names or positions of these people shall be documented and the lines of authority defined through an organization chart or similar document.

Several commenters agreed with this approach because it serves a useful purpose and many PSM sources already implement management systems. Many commenters opposed the requirement for submission of an organization chart of their source because it would be of no value to EPA and that continual updating would waste company resources.

EPA has decided to maintain its management system requirements in the final rule for sources with processes in Program 2 and 3, but has moved it to general requirements (§ 68.15) because it is the entire risk management program that should be managed, not just the prevention program. EPA has also revised the requirement to provide flexibility in indicating lines of authority; an organization chart is not absolutely required and is not included in the RMP.

Management of Change. Some commenters objected to EPA's definition of replacement in kind, asking that EPA adopt the OSHA PSM definition. Other commenters stated that management of change procedures should only be implemented when the changes had the potential to increase the risk (e.g., an increase in inventory, an introduction of a new substance).

As part of its efforts to strengthen coordination between the two programs, EPA will use the OSHA definition for "replacements in kind": "a replacement which satisfies the design specification." OSHA defined this term to address a concern expressed by commenters on its standard that failing to define "replacements in kind" could result in misunderstandings such as employers believing that only a replacement with the same brand and model number could be characterized as a "replacement in kind." OSHA promulgated a definition in recognition of these comments, and EPA

understands it to reflect a concept understood in industry.

Further, EPA does not agree that management of change requirements should exclude changes that reduce the risk of an accidental release. The Agency does not believe that only changes to "critical systems" should be subject to management of change procedures. As EPA stated in the NPRM preamble, most process changes improve process safety or efficiency. However, even these changes may result in unintended effects when source owners and operators fail to evaluate the consequences of the change. Therefore, the Agency continues to believe that a change that reduces the risk of an accidental chemical release may, nonetheless, be an appropriate subject for a management of change procedure. Failure to subject such changes to a management of change process could inadvertently result in a change that was believed to lower risk when such a change, in fact, increases risk. Regarding the comment about critical systems, EPA notes that chemical processes are integrated systems, and that a change in one part of the process can have unintended effects in other parts of the system—irrespective of whether the system is "critical." Consequently, EPA agrees with OSHA that source owners and operators must establish and implement written management of change procedures for any change to a regulated substance, process technology, or equipment and any change to a source that affects the covered process.

Other Provisions. Several commenters stated that EPA should include in its risk management program the OSHA PSM provisions on contractors, employee participation, and hot work permits that EPA had not proposed in its prevention program. The NPRM solicited comment on whether to include these provisions (58 FR 54205; October 20, 1993). Commenters argued that contractors have been responsible for a number of accidents that have affected the public and the environment. Commenters presented the same argument to support inclusion of the hot work permit requirements. A substantial number of commenters also argued that employee participation is a key factor in successful implementation of PSM. A few commenters supported EPA's initial position that these requirements were more properly OSHA concerns.

In response to the former commenters' arguments and to ensure consistency between the elements of the two rules, EPA has decided to add these sections to its Program 3 prevention program. EPA believes that each of these elements is important to the implementation of an effective prevention program. Worker participation in PHAs and other elements is critical to the success of process safety because workers are intimately familiar with the process and equipment operation, possible failure modes and consequences of deviations. It also serves as a mechanism for greater communication and understanding of specific process hazards (as opposed to the general chemical hazards) and the importance of developing and following proper procedures. Similarly, contract employees have been involved in a number of major accidents in recent years; for example, the explosion in Pasadena, Texas, in 1989, which killed 23 workers, has been attributed to improper maintenance practices by contractor employees. Oversight of contractors, therefore, can be critical for accident prevention. Finally, hot work permits ensure that use of flame or spark-producing equipment is carefully controlled. Not only are many of the listed substances highly flammable, but fires in the vicinity of vessels or pipes containing the toxic substances can lead to releases of these substances.

*I. Accident History*

In the NPRM, EPA required sources to document a five-year history of releases that caused or had the potential to cause offsite consequences for each regulated substance handled at the source. EPA specified that the accident history should include the nature of any offsite consequences, such as deaths, injuries, hospitalizations, medical treatments, evacuations, sheltering-in-place, and major offsite environmental impacts such as soil, groundwater, or drinking water contamination, fish kills, and vegetation damage.

A few commenters argued that releases with only the potential for offsite consequences should not be included, while other commenters were evenly divided on whether near-miss events should be included in the accident history. A number of commenters indicated that releases with on-site consequences should be added to the accident history. Several commenters requested that EPA clarify that the accident history applies only to covered processes.

In recognition of these comments, in the final rule, only those accidents 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 need to be included in the five-year accident history. Near-miss accidents or accidents with only the potential for offsite consequences (that did not meet any of the previous criteria) would not need to be included. Because the accident history is, by statute, an aspect of the hazard assessment, and the hazard assessment provisions apply only to covered processes, EPA believes that requiring the accident history to address accidental releases from processes not covered by this rule would be inconsistent with the structure of part 68. EPA notes that such releases may be subject to reporting under other statutes; the Agency may investigate such releases to determine the need for a response action under CERCLA and to determine whether CAA section 112(r)(1) has been violated.

*J. Emergency Response Program*

In the proposed rule, EPA required sources to develop an emergency response plan that defines the steps the source and each employee should take during an accidental release of a regulated substance. EPA noted that most sources are already required to have at least part of the emergency response plan in place as a result of other EPA (Spill Prevention, Control, and Countermeasures and Resource Conservation and Recovery Act) and OSHA (emergency action plans and HAZWOPER) regulations and requested comment on how the proposed requirements could best be integrated with these existing programs to minimize duplication. Many of the commenters were particularly concerned with the potential for increased duplication of emergency planning requirements at the state and Federal levels that would require expenditure of additional resources without improving source emergency response capabilities. Most of these commenters suggested that EPA allow compliance with other Federal regulatory programs to meet the mandate of the Clean Air Act for an emergency response program, while other commenters recommended that EPA work with other agencies to develop a format for a single, comprehensive response plan for the source. Some commenters addressed related concerns with respect to state program or voluntary initiatives.

EPA has decided to adopt the emergency response requirements found in the statute, without additional specific planning requirements. This action is consistent with the Agency's effort to develop a single Federal approach for emergency response planning. The Review of Federal Authorities for Hazardous Materials Accident Safety, (required under section

112(r)(10) of the Clean Air Act) reported little harmony in the required formats or elements of response plans prepared to meet various Federal regulations. Accordingly, EPA has committed not to specify new plan elements or a specific plan format in today's rule. EPA believes that plans developed to comply with other EPA contingency planning requirements and the OSHA Hazardous Waste and Emergency Operations (HAZWOPER) rule (29 CFR 1910.120) will meet the requirements for the emergency response program provided that they address the elements in section 68.95(a). EPA believes that coordination of the emergency response plan with the community emergency response plan will help ensure that offsite response issues are addressed. In addition, EPA and other National Response Team agencies have prepared Integrated Contingency Plan Guidance ("one plan") (NRT, May 1996). An emergency response plan that includes the elements specified in this guidance can be used to meet the requirements in today's rule. 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 appropriate responses to their hazards have been discussed 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.

*K. Registration*

In the NPRM, EPA proposed that sources register with the EPA Administrator by three years after the publication date of the final rule, or within three years of the date on which a source becomes subject to the risk management program requirements as mandated by the CAA. While a number of commenters agreed with this proposal, a greater number requested that EPA accelerate the registration to between six months and two years of promulgation of the rule so that implementing agencies could better determine resource allocation and conduct more extensive outreach and technical assistance to sources developing risk management programs and preparing RMPs.

EPA agrees that earlier registration could aid outreach efforts and help implementing agencies focus resources. However, since the first RMP need not be submitted until June 21, 1999, an earlier, pre-registration would impose an additional burden on sources. Some sources may reduce inventories, make process modifications or switch chemicals prior to the first RMP due date and, consequently, will not be subject to the rule. If EPA required a pre-registration, these sources would have to deregister at that time. Further, states and local agencies already have information gathered under EPCRA section 312 that could be used for early identification and outreach to sources covered by this rule. EPA is also working with trade associations and other representatives of affected industries to ensure that sources are aware of the rule. Instead, in today's rule, the registration is included as part of the RMP to limit the number of filings made by sources.

EPA also proposed that sources submit written registration information. A number of commenters advocated either the modification of existing forms (e.g., the EPCRA Tier II form) or an electronic filing system for the submission of this information. Since the RMP and the registration are consolidated into one submission, this issue is addressed generally in Section III.G.

Under the proposed rule sources would need to submit an amended notice to the Administrator and the implementing agency within 60 days if information in the registration is no longer accurate. Many commenters argued that six months or a year is needed to ensure compliance with the certification requirements. EPA agrees with commenters and in the final rule has lengthened the time for submission of an amended registration to six months which should be enough time to modify the information and to electronically resubmit the registration and RMP.

*L. Model Risk Management Programs*

Commenters supported the development of model risk management programs and RMPs, stating that the models were needed by smaller businesses and public systems that lack the expertise to implement process safety management. Commenters specifically supported development of models for industries with well-understood processes and practices, such as chlorination systems, propane and ammonia retailers, and refrigeration systems. A few commenters asked that the models be made available for public review. Others said the models should be published as guidance, not regulations.

EPA is working with industry groups to develop model programs for ammonia refrigeration, propane handling, and water treatment. After having provided the public with an opportunity to review a draft of the ammonia model program, EPA today is issuing a guidance on a model program for this industry (see Model Risk Management Program for Ammonia Refrigeration). EPA encourages other industry groups to work with the Agency to develop models for their sectors. EPA notes that the models are particularly relevant to sources with Program 2 processes. Because EPA has adopted the OSHA PSM standard, EPA has not provided an EPA guidance on PSM compliance. EPA will also publish general technical guidance to help sources understand and comply with the rule which will include Program 2 prevention program guidance. The RMP Offsite Consequence Analysis Guidance contains reference tables for the offsite consequence analysis, which can be used instead of site-specific modeling. EPA emphasizes that the models are guidance, not regulations; sources are not required to use them.

*M. Implementing Agency Audits*

EPA originally proposed in § 68.60 seven criteria an implementing agency could use to determine whether to audit a source's RMP. EPA also proposed that the implementing agency have the authority to determine whether an RMP should be revised and to direct the owner or operator to make revisions. Many commenters suggested that the Agency lacked statutory authority to specify measures to correct risk management program elements through the RMP, and that RMP changes based on implementing agency directives will be costly.

EPA or other implementing agencies have general inspection and enforcement authority under CAA sections 112(r)(7)(E), 113, and 114 to compel source owners and operators to correct deficiencies in the risk management program. EPA intends to use the audit process as a way to verify the quality of the program summarized in the RMP. When it is reasonable, EPA will require modifications to the RMP that may lead to quality improvements in the underlying program.

EPA notes that many commenters were uncertain of the distinction among audits conducted under § 68.220, reviews by the permitting authority under § 68.215, and inspections. CAA section 112(r)(7)(B)(iii) requires EPA to develop, by regulation, a system for auditing RMPs. These audits will review the information submitted by sources to determine whether the source is in compliance with the rule elements. For example, the implementing agency will consider whether the dates for reviews and revisions of various elements are consistent with the steps sources are

required to take. If a source reported a major change on a date later than the last date on which safety information and operating procedures were reviewed, the implementing agency could seek further information about why such reviews had not been conducted and require updates if the agency determined that the source should have reviewed the documents. Audits may be detailed paper reviews or may be done at a source to confirm that on-site documentation is consistent with reported information.

In contrast, the air permitting authority or its designated agency may be reviewing the RMP for completeness, rather that the quality of the RMP contents. Inspections are generally more extensive in scope than audits although they may include a review of the accuracy of the RMP information. Inspections will consider whether the source is in compliance with part 68 as a whole, not just with the RMP requirements, and may review both the documentation kept at the source and operating practices.

Regarding comments that making changes to the RMP would be too costly, EPA has endeavored to ameliorate the cost burden of this rule by using a tiering approach to make the risk management program elements on which the RMP rests appropriate for sources of various sizes and complexity. In addition, EPA is considering development of a standard RMP reporting format and data elements, which should significantly reduce the time and effort necessary to revise the RMP. Any source owner or operator can further limit the costs associated with revising its RMP by submitting a timely, complete, and valid plan in the first instance.

*N. Public Participation*

In the SNPRM, EPA requested comments on how public participation in the risk management program process might be encouraged. EPA's preferred approach was to encourage the public and sources to use existing groups, primarily the LEPC, as a conduit for communications between the source and the public throughout the RMP development process. A substantial number of commenters supported this approach, stating that the LEPC was well placed to interpret the RMP information for the public. Commenters said that LEPCs and their member organizations have considerable experience and have established rapport in dealing with the community. Others stated that this role is a logical extension of current LEPC responsibilities under EPCRA, although funding for LEPCs was a concern.

A number of commenters opposed this approach because some LEPCs are not functional and that LEPCs are not a substitute for public participation. A few LEPCs also objected to assuming any additional role. Commenters suggested that EPA should require public participation in the development of the RMP and require all major sources to have a public participation strategy. Industry commenters generally opposed any mandated public participation requirements because direct involvement in risk management program development would delay the process and would represent an unwarranted and inappropriate interference in management and site control responsibilities. A few commenters supported the SNPRM suggestion that public participation be limited to sources with Program 3 processes because these sources represent the greatest risk. Other commenters opposed this idea, preferring the decision to be left to local authorities.

EPA has not adopted any specific public participation requirements. EPA plans to make the RMP immediately available to any member of the public. LEPCs and others will be able to compare their sources with similar sources in other areas to determine whether quantities on sites, process controls, mitigation systems, and monitoring systems are significantly different. This information will give the public an opportunity to gain a better understanding of local industries and carry on a more informed dialogue with sources on their prevention practices. EPA continues to encourage sources to work with the LEPCs and other community groups to provide information to the public and ensure an on-going dialogue during and after RMP development and submission. The public is a valuable resource and a key stakeholder in chemical accident prevention, preparedness, and response at the local level.

A number of commenters said that EPA should prohibit the public from triggering an audit through petitions because this approach would open the process to litigation; a petition process would be expensive, time-consuming, and increase the time needed to complete the RMP. Some commenters said it would impose an excessive burden on the implementing agency. Two commenters favored public petitions to trigger audits. One said that the audits should be conducted by qualified third parties, subject to community selection and supervision.

EPA has not included public petitions as a mechanism for periodic audits of sources under § 68.220. States, however, are able to adopt more stringent requirements.

*O. Inherently Safer Technologies*

In response to the NPRM, a number of commenters stated that EPA should require sources to conduct "technology options analyses" to identify inherently safer technologies. In the SNPRM, EPA solicited comments on this issue, but did not propose a requirement for such analyses.

A number of commenters stated that EPA should require analyses of inherently safer technologies, at least for sources with Program 3 processes or new processes. Some commenters argued that inherent safety is primary prevention (directed at the source of the hazard), while EPA's proposed requirements are secondary prevention (control of the hazard). One commenter asked that sources be required to provide full economic and technical analyses of options. Commenters argued that without a technology options analysis requirement, industry will not conduct these analyses because, unlike its pollution prevention efforts, EPA has provided no incentive for safer plants.

Other commenters strongly opposed any requirement for these analyses because PHA teams regularly suggest viable, effective (and inherently safer) alternatives for risk reduction, which may include features such as inventory reduction, material substitution, and process control changes. These changes are made as opportunities arise, without regulation or adopting of completely new and unproven process technologies. Commenters said that similar analyses are frequently conducted during the design phase of a process or source where there are sufficient economic incentives to design a process with as few costly additional safety features as possible without new EPA requirements. Commenters also said that a requirement would prove costly, without providing commensurate benefits.

EPA has decided not to mandate inherently safer technology analyses. EPA does not believe that a requirement that sources conduct searches or analyses of alternative processing technologies for new or existing processes will produce additional benefits beyond those accruing to the rule already. As many commenters, including those that support such analyses, pointed out, an assessment of inherently safer design alternatives has the most benefit in the development of new processes. Industry generally

examines new process alternatives to avoid the addition of more costly administrative or engineering controls to mitigate a design that may be more hazardous in nature. Although some existing processes may be superficially judged to be inherently less safe than other processes, EPA believes these processes can be safely operated through management and control of the hazards without spending resources searching for unavailable or unaffordable new process technologies. Good PHA techniques often reveal opportunities for continuous improvement of existing processes and operations. EPA 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 included questions related to process modifications in the RMP so that sources can demonstrate, and users of the RMP information can observe, progress toward safer processes and operations.

*P. Coverage by Other Regulations*

A large number of commenters expressed concerns about duplication between the risk management program rule and other Federal and state regulations. Issues related to overlap between this rule and OSHA PSM are discussed in Section III.D of this preamble; issues related to overlap between this rule and other emergency response planning regulations are discussed in Section III.J of this preamble.

1. General Issues. A substantial number of commenters stated that EPA had failed to consider other regulations to which sources are subject that cover some of the same requirements as this rule. They noted that many sources are covered by DOT rules, other EPA rules, OSHA rules, and, in some cases, other agency or state rules. Some commenters argued that these other regulations essentially prevent accidents and, therefore, this rule is not needed. Commenters stated that EPA should define jurisdictional and enforcement boundaries so that sources subject to multiple regulations are not subjected to multiple enforcement actions for the same violation. Other commenters said that EPA should clearly identify which similar requirements imposed by other programs satisfy this rule and what additional steps are needed. Some commenters said that any source covered by another, similar rule should be excluded from this rule. Others suggested that EPA explicitly cross-reference other applicable rules. A few commenters stated that EPCRA reporting requirements provide ample information to local entities and no further reporting is needed.

EPA disagrees with some of these comments. Except for the OSHA PSM rule, no other rule cited by the commenters addresses accidental releases of regulated substances to the extent that today's rule does. Some Federal and state rules for certain industries provide design standards; compliance with these rules will satisfy parts of today's rule. For example, sources in compliance with 29 CFR 1910.111 for handling of anhydrous ammonia may not need to take additional steps to ensure the safe design of the process. These other standards generally do not cover training, maintenance, hazards analysis, and accident investigation, which are all key elements in process safety management. In addition, none of the Federal rules require offsite consequence analyses or reporting to the public on the results of these analyses and on prevention steps. Information submitted under EPCRA, which consists primarily of annual inventories, is not equivalent to the RMP information.

Nevertheless, EPA agrees with commenters that duplication should be minimized, which is why the emergency response and Program 2 prevention program steps recognize that meeting other requirements will satisfy elements of this rule. The model risk management programs that EPA is developing with industry will explicitly cite other regulations, as well as codes and standards, that satisfy specific elements of this rule.

2. DOT Transportation Regulations. Commenters concerned with overlap with DOT regulations focused on two issues: pipeline regulations, and loading/unloading and storage regulations. Commenters asked EPA to exclude pipelines and transportation containers connected for loading or unloading since these are adequately covered by DOT regulations. Some commenters disagreed and wanted loading and unloading of transportation containers to be included because many accidents occur during these procedures.

In the final List Rule, EPA defined stationary source to include "transportation containers that are no longer under active shipping orders and transportation containers that are connected to equipment at the stationary source for the purposes of temporary storage, loading, or unloading." One commenter stated that the 1993 oleum release in Richmond, California, demonstrated that DOT regulations do not adequately address risk management of loading and unloading. The other commenters, however, said that loading and unloading were covered by DOT regulations and should not be subject to this rule. They noted that DOT has adopted regulations requiring training for anyone who loads or unloads hazardous materials. They further said that at distribution centers, regulated substances are not used or processed, and, if in packages, the containers are not opened.

Several commenters were concerned that EPA regulation in this area could create problems with DOT's preemption of state rules. Under U.S. law, states may not adopt regulations in certain specified areas that are not substantively the same as DOT rules or in other areas that pose an obstacle to DOT goals under Federal Hazardous Materials Transportation Law. If state laws are authorized by Federal law, however, states could develop different requirements than DOT imposes. In this case, the commenter said, if EPA were to regulate loading and unloading under the CAA, the states would have the authority under the CAA to impose more stringent requirements on this activity.

EPA disagrees with the commenters concerning the scope of the Hazardous Materials Transportation Act preemption authority in this area. EPA's definition of stationary source clearly covers transportation containers only when they are no longer in transportation in commerce and was addressed in the List Rule. EPA believes commenters have overstated the extent of any preemption problem. EPA's interpretation today is consistent with DOT's, as explained in "California and Los Angeles County Requirements Applicable to the On-Site Handling and Transportation of Hazardous Materials—Preemption Determination" (60 FR 8774, 8776–78, February 15, 1995). EPA notes that in many cases warehouses and wholesalers take delivery of materials and resell them; EPA considers this storage to be covered by today's rule. EPA believes that DOT standards for container integrity satisfy process safety information requirements. The same applies to DOT standards for training requirements for loading and unloading; that training satisfies the training requirements of this rule for loading and unloading. Requirements for the PHA only apply to connections to transportation containers and for storage of containers.

3. Other EPA Regulations. Many commenters stated that other EPA regulations cover the same activities and

should be deferred to or referenced to prevent duplicative requirements and enforcement. A number of commenters said that regulations under the Clean Water Act, specifically the Spill Prevention, Control, and Countermeasure (SPCC) and Oil Pollution Act of 1990 (OPA–90) rules, duplicate many of the provisions of this rule. Other commenters argued the Underground Storage Tank (UST) rules require sources to comply with requirements equivalent to many of the notification, prevention, and emergency response provisions. A few commenters stated that EPCRA already covers the right-to-know provisions; others stated that the risk management program regulations should support existing EPCRA rules. Three commenters said that EPA should exempt any source covered by the Resource Conservation and Recovery Act (RCRA) because the rules under that act already impose comprehensive risk management requirements.

As discussed in Section III.J, emergency response plans developed under SPCC, OPA–90, or RCRA can be used to meet the emergency response requirements of this rule. EPA notes, however, that SPCC, OPA–90, and UST rules do not address storage, handling, and release prevention for regulated substances. SPCC and OPA–90 rules apply to oil; UST rules apply to oil and gasoline. The processes addressed by these rules, therefore, do not overlap with the processes covered by today's rule.

RCRA requirements apply only to certain activities undertaken at sources that may be subject to the requirements of today's final rule. As noted above, EPA anticipates that emergency response plans developed under RCRA can be used to meet the emergency response requirements of this rule. In addition, certain training and other release prevention activities required under RCRA may satisfy certain of the prevention program requirements for Program 2 processes.

4. Other Federal Regulations. A number of commenters stated that EPA should not cover outer continental shelf (OCS) sources because they are adequately regulated under the Marine Mineral Service, Pipeline Safety Act, and OPA–90. The mining industry said that they should not be covered because their handling of explosives is regulated in great detail by the Mine Safety and Health Administration and the Bureau of Alcohol, Tobacco, and Firearms. In its proposed rule (61 FR 16598, April 15, 1996), EPA has proposed to delist explosives and proposed a stay of the affected list provisions; elsewhere in today's Federal Register, EPA has stayed implementation of the affected provisions until these changes are finalized. OCS sources are not subject to part 68 because the connection between this part and protection of ambient air quality is too remote; therefore, CAA section 328 proscribes EPA's jurisdiction.

5. State and Local Regulations. Commenters sought clarification of how risk management programs implemented under state laws in Delaware, New Jersey, California, and Nevada would be treated. Some commenters said sources complying with these state rules should be grandfathered into EPA's rule for at least five years. California commenters asked that risk management prevention programs (RMPPs) developed and submitted under California's rule be considered in lieu of the required RMP. Some commenters asked that documentation created to meet the state requirements be considered adequate to meet EPA's program so that additional documentation need not be created just to meet slightly different rules. A few commenters suggested that EPA should explicitly preempt any state risk management program regulations that are not submitted to and approved by EPA. Other states said that EPA should defer to state rules on hydrogen sulfide and propane.

None of the four state risk management program rules is identical to EPA's or each other. The Delaware, New Jersey, and Nevada programs closely parallel the OSHA PSM rule; the California program is less specific. EPA expects that sources in compliance with these state programs will have completed most of the steps required under EPA's rule. EPA notes that these sources are generally also covered by OSHA PSM and, therefore, should be in compliance with a significant portion of EPA's rule.

In relation to the request for grandfathering, EPA does not have the authority to grandfather compliance with programs that the Agency has not reviewed and approved. EPA expects that these four states will seek delegation of the 112(r) program under CAA section 112(l). At that time, EPA will review the state programs and approve them if they are as stringent as EPA's rule and meet other section 112(l) requirements. If states are granted delegation, they will have the authority to grandfather previous compliance. Because the CAA specifically grants states the right to impose more stringent regulations, EPA cannot preempt state programs as one commenter requested.

EPA believes that substitution of the RMPP for the RMP for California sources is not feasible. The California RMPPs are voluminous documents, submitted per process, not per source. These documents could not be submitted electronically. Because EPA is concentrating on submission of data elements, EPA believes that its RMP requirements can be met quickly by any source that has completed an RMPP. Completion of the RMP will not impose a large burden on sources. If the RMPP has summary sections, these may be directly transferable for use as the executive summary.

In regard to other state laws, states may include them as part of their CAA section 112(l) submission for EPA's review and approval. These laws, however, must be as stringent as EPA's; that is, they must cover all elements of the rule with requirements that at least match EPA's. EPA notes that state propane laws are generally based on NFPA–58, which EPA is using to help develop its model risk management program for propane distributors and users. Therefore, sources in compliance with NFPA–58 requirements may meet many of the requirements of Program 2, as defined in the model.

*Q. Industry-Specific Issues*

A number of industries submitted comments on issues that were particular to them, in many cases seeking exemption from the rule.

1. Oil and Gas Facilities. Industry commenters argued that components of the oil and gas industries should be excluded from EPA's risk management program; in particular, that EPA should exempt the following operations and facilities from RMP requirements:

- Atmospheric storage and transfer of flammable liquids;
- Retail facilities;
- Marketing terminals and bulk plants;
- Remote, low-risk petroleum operations;
- Oil and gas exploration, production and processing facilities;
- Crude oil separation, handling, and storage operations;
- Subsurface hydrocarbon reservoirs;
- All transportation and facilities incident to transportation; and
- Outer continental shelf facilities.

Commenters noted that these industries and facilities pose a low risk to the public for a number of reasons. Significant accidental releases are highly unlikely because these facilities handle materials which, given site conditions, have limited potential for release to the air or offsite impacts. Existing regulations reduce the potential

for significant accidental releases. Additionally, commenters argued that the RMP provisions extend beyond EPA's statutory authority and run counter to the Domestic Natural Gas and Oil Initiative established by President Clinton.

Commenters stated that most of the exploration and production facilities are remotely located and argued that even the tiering approach that EPA proposed in the SNPRM did not provide adequate relief for these sources, which pose minimal risks. They noted that OSHA specifically excludes remotely located sources, retail facilities, DOT-regulated sources, and atmospheric storage tanks. A number of commenters said that EPA had never included most of these sources in its economic analysis, implying that EPA did not intend to cover them in these regulations; they requested an explicit statement to that effect. One commenter opposed an exemption for oil and gas sources and pipeline and other transportation companies, arguing that these sources have some of the most common or worst accidents.

EPA does not agree that marketing terminals or bulk plants should be excluded if there are regulated substances present above their threshold quantities. Although EPA did not specifically exempt gasoline and naturally occurring hydrocarbons (e.g., crude oil), it did not intend to cover regulated flammables in these mixtures. In its proposed rule (61 FR 16598, April 15, 1996), EPA has proposed to revise the criteria for flammable mixtures and to exclude naturally occurring hydrocarbons prior to processing at a gas processing plant or refinery. Flammable mixtures would be covered only if they met all of the NFPA-4 criteria. Gasoline and crude oil are listed with NFPA 3 flammability ratings in NFPA 325 M, Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids, 1991. Elsewhere in today's Federal Register, EPA has stayed implementation of the risk management program rule for substances and processes that would be affected by the proposed changes. As EPA explained in the preamble to the final list rule, the Agency has not adopted OSHA's exemption for atmospheric storage of flammables because, unlike OSHA, EPA has listed only flammable gases and highly volatile flammable liquids. EPA considers these substances to be intrinsically hazardous, regardless of storage conditions and, therefore, does not believe it is appropriate to provide an exemption for such tanks.

2. Retail Facilities. The rule is expected to cover a substantial number of retail facilities, specifically those handling propane and ammonia as a fertilizer. Approximately 100 commenters requested that EPA exempt propane retailers from coverage under the risk management program, primarily due to the effectiveness of the existing regulatory structure for the industry (in particular, NFPA Standard 58). At the same time, more than 50 commenters requested that EPA exempt agricultural chemical retailers (with inventories of ammonia fertilizer) from coverage under the risk management program because of the existing state and Federal regulation of these operations.

a. Propane Retailers. Commenters argued that the primary thrust of the proposed regulations is to preclude unwarranted risk to the surrounding community from an accidental failure of a storage tank. They stated that the basic purpose of NFPA 58, the Storage and Handling of Liquefied Petroleum Gases, is to prevent such releases through design and engineering. This standard requires fire safety analyses, distance separation between the storage tank and surrounding exposures, and approval of plans for new or existing facilities by local authorities. They noted that NFPA 58 has been adopted as state law in 48 of the 50 states and that the two remaining states (California and Texas) have similar rules. They said that propane storage containers are manufactured strictly to the specifications of the American Society of Mechanical Engineers. According to commenters, emergency response planning is already covered by NFPA-58, OSHA, and DOT. Because of compliance with this standard and state law, commenters argued that the rule would not provide any improvement in safety. A number of commenters argued that propane was a heating fuel, not a chemical, and did not pose the same level of risk as larger quantities of propane held and used as a chemical feedstock. One commenter noted that OSHA had exempted retailers and propane when used as a fuel.

In contrast, one state, which also regulates propane under its state risk management program law, argued that propane is not sufficiently regulated. It stated:

Fire authorities inspect each new facility before propane is introduced. They concentrate on adequate fire water supply, electrical code compliance, and distance separation requirements. Some fire authorities are not technically capable of determining if the facility piping system complies with NFPA 58. There are no follow-up inspections to assure continuing compliance and no requirements under NFPA 58 for training distribution plant operators or mechanics, written maintenance programs, or procedures to control change. During our inspections, we have identified some facilities that were not in conformance with NFPA 58.

EPA does not agree with commenters who are seeking exemption of propane retailers and users. In a supplemental notice, EPA sought comment on whether flammable substances, when used as a fuel, posed a lesser intrinsic hazard than the same substances handled otherwise; no data were submitted to EPA to justify this position. Further, EPA has considerable accident data for propane that illustrates its potential to affect the public located nearby. As a result, EPA continues to believe that the hazard posed by propane is inherent and does not vary with its use. Because of a lack of data justifying a different level of hazard for flammables used as fuel, the Agency will not adopt a fuel use exemption similar to that provided by OSHA.

Furthermore, EPA notes that many propane retailers are relatively close to other commercial buildings and the community. Should a fire or explosion occur, the community could be substantially impacted. EPA believes the community and sources need to be aware of the potential risk and understand the steps the source is taking to limit the potential for a release. Because EPA recognizes that the full PSM standard is not appropriate for propane retailers, EPA has assigned propane retailers and users to Program 2. Compliance with most aspects of Program 2 should be simple. For example, use of tanks that meet relevant ASME standards and retention of the material safety data sheets required by OSHA will satisfy the safety information requirements of § 68.48. Furthermore, EPA is developing a model risk management program to help sources comply. This model is being based on NFPA-58 standards, where they apply, so that sources already in compliance with NFPA-58 will be in substantial compliance with Program 2. The model will help sources comply with other elements in a cost-effective manner.

b. Ammonia Retailers. Ammonia is sold as a fertilizer from agricultural retailers, primarily in the Middle West, Great Plains, and West. Commenters stated that the retail fertilizer industry is already governed by OSHA's Health and Safety Standards, which are specifically applicable to the storage and handling of anhydrous ammonia. They noted that this standard (29 CFR 1910.111) is based on ANSI K61.1 and sets forth extensive

requirements applicable to the design, construction, location, installation, and operation of anhydrous ammonia facilities. Measures designed to adequately provide for the prevention of and response to accidental releases are an integral part of this standard. Some commenters said that if EPA did not exempt retail sources, ammonia retailers should be deemed to be in compliance with the prevention program. In addition, commenters said they are regulated under state laws and are subject to EPCRA reporting requirements. Many commenters argued that retail fertilizer sources have an excellent safety record. They stated that retail fertilizer facilities are limited in size, do not involve complex processing and manufacturing operations, and are located in rural areas; consequently, they present a low risk to the surrounding communities. Commenters objected to the regulations because they would impose a substantial burden on what are small operations. Some commenters argued that, because Congress had granted EPA the authority to exempt ammonia when held by a farmer for use as a fertilizer, EPA could grant retail ammonia sources the same exemption.

Although EPA recognizes that other regulatory programs address safety for agricultural retailers and that such operations do not involve complex processing or manufacturing, EPA disagrees with the conclusions of these commenters. According to the industry, the typical ammonia retailer has 200 tons of ammonia on site at times. Even in rural areas, release of even a fraction of this quantity could affect the community. Sources constructed and operated consistent with the relevant ANSI standard will meet the EPA rule for subjects addressed by both. EPA recognizes the OSHA standard for anhydrous ammonia handling and hopes to work with the ammonia industry to develop a model risk management program for ammonia retailers. This model would be based on the OSHA standard, where applicable. The standard, however, does not include some elements mandated by the CAA as part of the prevention program, specifically training and maintenance programs. In addition, EPA believes that there is a further need to convey information on hazards and risk management practices of these operations to the public and local entities. The model will provide guidance to help sources comply with these elements in a cost-effective manner. Finally, EPA does not agree that the Congressionally allowed exemption of farmers can be extended to non-farmers. See 136 Cong. Rec. S2284 (March 7, 1990) (colloquy between Sens. Kerrey and Chafee).

3. Refrigeration Systems. A number of commenters stated that ammonia used in a refrigeration system should be exempted from this rule because these systems pose little risk to the public. One commenter said that EPA should exempt roof-mounted air handlers, pipes, and components. Some commenters said that the industry was already overregulated and the imposition of this rule would be a burden.

The CAA requires EPA to impose this rule on any source with more than a threshold quantity of a regulated substance. Therefore, EPA cannot exempt ammonia refrigeration systems that contain more than 10,000 pounds of ammonia. In addition, ammonia refrigeration plants have had a substantial number of accidents where the ammonia has migrated offsite, indicating that these systems do pose a risk to the public. At the same time, it should be noted that all of these refrigeration systems are already covered by the OSHA PSM standard. Consequently, the only additional steps sources will have to take are to conduct the hazard assessment, comply with the emergency response requirements, and file the RMP. EPA worked with the International Institute of Ammonia Refrigeration to develop a model risk management program that will facilitate compliance and reduce the burden on sources (Model Risk Management Program for Ammonia Refrigeration). For most of these sources, which have only one chemical, the RMP will be a very brief document.

4. Other Operations. Comments were submitted on a range of other industries.

The warehouse industry said that it should be exempted where material is received and shipped in packages that are not opened; commenters noted that they are covered by DOT packaging regulations. EPA believes that warehouses must be covered if they have more than a threshold quantity of a regulated substance. Under the OSHA definition of process, which EPA has adopted, packages of a substance stored in the same room may be counted toward the threshold quantity if the packages could release their contents in the same event. EPA notes that warehouse fires have created major incidents in the past 10 years, and the Agency believes that warehouses should take the steps necessary to prevent and mitigate such incidents. EPA is interested in working with the industry to create a model risk management program that would help sources develop a hazard assessment process that can account for potentially changing contents of a warehouse.

Batch processors face related problems with changing chemicals on site. EPA is willing to work with industry to develop a generic approach to risk management programs. EPA believes, however, that most batch processors will already be covered by OSHA PSM. The RMP Offsite Consequence Analyses Guidance will reduce the burden of developing multiple release scenario analyses. To minimize the need for continual revision of their worst-case scenario to accommodate periodic inventory changes, sources such as warehouses and batch processors may want to analyze their expected chemical inventory in developing a scenario that represents the worst case for the foreseeable future, even if the substance is not currently in use at the source.

A number of commenters raised questions about coverage of POTWs. A specific concern was EPA's statement in the NPRM that substances in waste streams would not be covered by the rule. This statement is based on the belief that the regulated toxic substances will not constitute more than one percent of any waste stream received by a POTW. Consequently, they will not be considered in calculations of threshold quantities. No waste stream is likely to meet EPA's flammability criteria. POTWs are likely, however, to be covered because of regulated substances they use to treat wastes.

*R. Implementing Agency Delegation*

EPA received a number of comments to the NPRM regarding the role and potential burden on LEPCs, SERCs, and other local agencies that may result from implementation of the risk management program. In the SNPRM preamble, EPA indicated that EPA and the states share the responsibility for protecting public health and the environment and encouraged state and local agencies to seek delegation for this program because their participation is essential to successful chemical accident prevention, preparedness and response and recognized by the legislative history and the CAA section 112(r) requirements by requiring that RMPs be submitted to states and local planning entities. States are already involved in chemical emergency preparedness and planning through the requirements of EPCRA.

Commenters on the SNPRM requested that the final rule clearly state that EPA is the implementing agency unless a state or local agency is granted a

delegation of authority under section 112(l). Several commenters indicated that EPA should allow states the flexibility to designate the most appropriate implementing agency, such as OSHA or the state agency that administers and enforces the OSHA PSM standard, rather than mandating the air permitting authority or a SERC agency in the final rule. A number of commenters on the SNPRM and NPRM suggested that existing local emergency planning agencies (e.g., LEPCs, fire departments) would be best suited to serve as implementing agencies, in part because they are closest to the communities at risk. However, many commenters (including LEPCs that commented) argued that LEPCs would be unprepared to take on such a burden and that even a minimal role in implementing section 112(r), including mere storage of RMPs, would overwhelm their limited resources and technical expertise. In addition, commenters indicated that LEPCs, as mostly volunteer agencies, would not and could not have the authority necessary to implement and enforce the RMP rule.

The implementing agency is the state or local agency that obtains delegation of the section 112(r) program under section 112(l). As stated in the definition of Implementing Agency in today's rule, until a state or local agency is granted delegation of the risk management program under CAA section 112(l), EPA will serve as the implementing agency. States may select any state or local agency to implement this program, including an air permitting authority or a state OSHA program, provided the agency has the expertise, legal authority and resources to implement the program; the state must also have the authority to enforce the program. EPA realizes that, in most cases, LEPCs will not have the authority to be implementing agencies, but they should be involved as much as possible in the program.

Commenters on the SNPRM suggested that EPA should avoid adding specific implementation details to the final rule so that states would have the flexibility to develop or continue programs that meet local needs. Other commenters, however, suggested that EPA should issue delegation guidance and to define the elements of an adequate state program to avoid inconsistent interpretations and implementation of the rule. Commenters representing companies that operate in several states were particularly concerned about maintaining uniform implementation.

EPA has not added specific state or local implementation requirements to today's rule because the Agency already promulgated sufficient provisions for delegation of accident prevention programs under section 112(r) to states and local authorities under 40 CFR part 63, subpart E, which implements CAA § 112(l). As EPA discussed in the SNPRM, implementing agencies will be responsible for such tasks as reviewing RMP information, auditing and inspecting a percentage of sources annually, requiring revisions to the RMP as necessary, and assisting the permitting authority in ensuring compliance. States have the flexibility to implement their own programs, however the CAA requires that state or local program requirements must be as stringent as EPA's and must include EPA regulated substances and processes. This means that California, Delaware, Nevada, and New Jersey will need to revise their existing program requirements, substance lists, and in some cases, thresholds, to meet EPA's requirements and to obtain section 112(r) delegation. EPA intends to issue additional guidance that will help state and local agencies obtain program delegation. EPA must review delegation requests submitted under 40 CFR part 63, subpart E to ensure that state and local programs requirements are as stringent as EPA's. With respect to nationwide uniform implementation, EPA notes that the CAA specifically grants states the right to develop more stringent requirements; consequently, there may be state-to-state variations. Many states, however, are prohibited under their state laws from adopting regulations that are more stringent than Federal rules.

One commenter on the NPRM indicated that EPA's estimation of the costs of implementing the section 112(r) program is extremely low, representing demands that are 65 to 75 percent lower than those experienced by states implementing similar programs. LEPCs and state governments were concerned about the imposition of section 112(r) requirements on state and local governments as an unfunded mandate. Several state agencies indicated that the considerable financial burden imposed by section 112(r) implementation would prohibit them from seeking section 112(l) delegation. Commenters encouraged EPA to develop guidance on potential funding mechanisms, including descriptions of the fee systems used by existing state programs for accidental release prevention. Several commenters indicated that the political climate at the state and local level would make it impossible to levy new, or raise existing, fees.

Since states are not required to seek delegation of this program, it does not constitute an unfunded mandate (see also section V.C). Before EPA grants delegation, state or local agencies must show that they have the resources to implement and enforce the risk management program rules. EPA recognizes that there is no Federal funding associated with implementation of section 112(r) but believes that the tiered program levels and centralized electronic submission of RMPs in today's rule substantially reduces the cost and resource demand for state and local entities seeking delegation. State and local agencies that fully implement section 112(r) will be able to develop and operate a program that best fits their individual needs, resources, and structures. As part of consideration of the costs to implement section 112(r), state and local agencies should also weigh the benefits of integrating accident prevention with pollution prevention, environmental protection, and worker and public health and safety at the state level, and the benefits to local industry associated with state, rather than Federal, implementation of this program. Many states and local agencies have established a close working relationship with the sources in their jurisdiction. In addition, a number of state and local publicly owned sources are covered by this rule; state implementation can serve to enhance compliance that may otherwise require increased coordination with EPA. Although other states have successfully "self-funded" their accident prevention programs with various state authorized fees, EPA recognizes that it may be difficult for state or local agencies to generate the resources necessary to fund full section 112(r) implementation.

Several commenters on the SNPRM requested guidance and training for sources, local entities, and implementing agencies on understanding hazard assessments, and conducting program inspections, reviews, and audits. EPA recognizes the need for guidance and training for implementing agencies and sources. EPA plans to modify and to continue offering its four-day Chemical Safety Audit workshop to other federal agency representatives, state and local government officials, and industry representatives as an introduction to chemical process safety, current industry chemical accident prevention practices and understanding the elements of the risk management program. EPA is ready to assist state and local agencies through its regional offices to coordinate state and local

programs and to help in obtaining program delegation and development of resources to fund state or local programs. Region 4 in Atlanta, Georgia, for example, has developed an integrated section 112(r) work group of state and local air pollution control, SERC, and LEPC representatives who participate in workshops, seminars, and pilot studies designed to foster local program implementation and to build a support network. EPA also continues to work with NOAA to enhance modeling and information management tools contained in the Computer Aided Management of Emergency Operations (CAMEO) and Areal Locations of Hazardous Atmospheres (ALOHA) software for local emergency planners and responders.

Two commenters on the NPRM requested that EPA address the issue of tort liability in the event that an accidental release occurs after an RMP has been submitted to the implementing agency. One other commenter believed that the implementing agency must be held accountable for RMP content while another believed that EPA must ensure that adequate limits to implementing agency liability exist.

The primary responsibility for accident prevention rests with the owners or operators of sources. Section 112(r) does not create a basis for implementing agency tort liability under federal law. CAA § 112(r)(1). When EPA is the implementing agency, it is immune from tort liability under state law. States that are implementing agencies generally will have protection from liability under their state laws. If a state has waived its sovereign immunity, EPA cannot take steps to alter that situation. EPA encourages states concerned about this issue to discuss the matter with their attorneys general to determine whether state law protects them from liability.

*S. Accident Information Reporting*

In the SNPRM, EPA discussed the possibility of additional accident reporting to support a variety of future accident prevention activities. EPA proposed that sources either submit an OSHA PSM or Program 3 investigation report for certain accidental releases or a survey form that collects certain accident data. Otherwise EPA could use existing authorities to collect additional accident data from existing information, as needed.

Most commenters opposed EPA's proposal for additional accident reporting requirements, especially the collection of accident investigations prepared under Program 3 or OSHA PSM, because it increases costs, it would have no benefit, it generates significant liability issues, and it would divert limited resources away from activities with greater public health benefit. Commenters supported the use of existing reports since this approach should not generate an additional burden, such reports are available through EPA and OSHA under other regulations and they should be adequate for the objectives outlined by EPA.

EPA agrees with commenters and has decided not to adopt any additional accident reporting requirements. EPA will rely on the five-year accident history for the immediate future and, based on that information, determine whether additional information and requirements are needed. EPA has the authority under CAA section 114 to investigate releases and seek additional information as needed.

*T. Other Issues*

1. OSHA VPP. In the SNPRM, EPA asked whether the OSHA Voluntary Protection Program (VPP) protects public health and the environment and suggested that one approach to third party review (discussed below) would be to assign sources that participate in VPP to Program 2. Many commenters supported VPP participation as a criterion for assigning a source to Program 2. Several of these commenters noted, however, that because VPP sources are probably already covered by OSHA PSM, assigning them to Program 2 would provide no reduction in burden or regulatory relief. One commenter suggested that EPA could allow VPP sources the flexibility to determine, with the LEPC, what the offsite consequence analysis would cover. Seven commenters opposed VPP participation as a Program 2 criterion because VPP does not address offsite consequences, no evidence was presented that PSM is being carried out adequately at VPP sources, and this approach would discriminate against other voluntary programs.

After consideration of the comments, EPA has decided not to use VPP participation as a Program 2 criterion, but has adopted language in the final rule to exempt sources with a Star or Merit ranking under OSHA's VPP from selection for audits based on the criteria in § 68.220 (b)(2) and (b)(7); such a source may be audited if it has an accidental release that requires an accident investigation under these regulations. This decision recognizes that such sources have active accident prevention programs and should not be regarded in the same way as other sources within the same industry or as other sources in general. In addition, it thus provides a similar degree of benefit with respect to EPA auditing as it does with respect to OSHA auditing. EPA agrees that VPP sources would gain no benefit by assignment to Program 2. EPA does not believe it is appropriate to adjust the hazard assessment requirements for VPP sources; this information is essential to local emergency preparedness and response and for public dialogue.

2. Qualified Third Party. In the SNPRM, EPA sought comments on whether sources should be allowed to have qualified third parties assist them in achieving and maintaining compliance. Eight commenters supported third party reviews as a way to reduce implementing agency efforts. One commenter stated that sources should be required to hire a qualified third party to assess their activities. Most commenters, however, expressed some reservations including greater cost if sources were required to hire third parties, when many sources already have staff qualified to implement the risk management program. Commenters said that a third party review would be particularly costly for retailers who will have model programs and stated that use of third parties would add another layer of bureaucracy to the process. A number of commenters said that EPA should fund third parties. Commenters also stated that use of third parties might confuse the issue of who was responsible for safety and for enforcement; they said that EPA must make it clear that the owner or operator of the source remains responsible for accidents and that the implementing agency retains enforcement authority. Finally, several commenters asked who would determine the qualifications of a qualified third party.

EPA is not requiring use of qualified third parties in this rule. EPA, however, endorses the concept of offering sources the option of using third parties to assist owner/operators in meeting their obligations under the rule. Based on the comments, EPA recognizes that any third party proposal must:

- Not weaken the compliance responsibilities of source owner/operators;
- Offer cost savings and benefits to the industry, community, and implementing agencies that significantly exceed the cost of implementing the qualified third party approach;
- Lead to a net increase in process safety, particularly for smaller, less technically sophisticated sources; and
- Promote cost-effective agency prioritization of implementing agency oversight resources.

Several key issues need further discussion before the use of a qualified third party may be offered as an option. These include qualification criteria, certification procedures, liability, and other critical issues associated with the use of a qualified third party. Therefore, following promulgation of this rule, EPA proposes to call a meeting to solicit input from trade associations, professional and technical societies, states, and other interested parties to address these issues and investigate the need for developing a process and a national exam to qualify third parties.

3. Documentation. Commenters expressed a number of concerns about the level of recordkeeping and the availability of information. Some commenters stated that records need to be maintained for longer than five years; commenters suggested 10 years, 20 years, and the life of the source. One commenter suggested that records should be kept for the life of the process and then seven years thereafter to ensure that records would be available if a lawsuit was initiated. Industry commenters said that only current documents and data should be maintained to prevent confusion from having multiple versions of the same document. One commenter stated that policies and procedures should be kept until they are superseded, then they should be destroyed; retaining old, superseded information is unsafe and unacceptable and can result in accidents.

One commenter said that sources should be required to develop and maintain a master index or catalogue of documents relevant to the proposed rule to support public access. Another commenter stated that, in addition to maintaining records supporting the implementation of the risk management program, the owner or operator should submit the records to the implementing agency. A third commenter said that the rule should require that all records supporting compliance with the rule be organized and readily available through the designated contact person at the source to the implementing agency for inspection.

Other commenters said the proposed recordkeeping was excessive. One stated that EPA is forcing industries towards "defensive universal recordkeeping," retaining mountains of documents because EPA has not specified what records need to be kept. Another commenter said that an examination of the proposal indicated that no fewer than about 22 separate written documents are required to be maintained on site or submitted to the responsible regulatory agency and other parties. One commenter noted that more resources will be spent on filling out paperwork than on actual spill prevention.

In the final rule, EPA has adopted the OSHA PSM language for Program 3 processes; therefore, documentation for PSM elements is dictated by that rule. For other elements of the risk management program and for processes in other tiers, EPA has set a period of five years for the maintenance of supporting documentation. EPA agrees with commenters that only current versions of documents and procedures should be retained. On the issue of records submitted to the implementing agency, EPA believes that the provisions outlined in the final rule (as described in Subpart G to part 68) will limit the volume of such documentation. The implementing agency and EPA will have access to all on-site documentation when needed. Much of the on-site documentation will be confidential and protected under Section 114(c) of the CAA. The burden on the implementing agency will be substantially reduced because it will not have to establish protected trade secret files and procedures.

Finally, EPA agrees with commenters that level of recordkeeping should be kept as low as possible consistent with EPA's statutory mandate. EPA has reduced the documentation requirements for Program 2 processes (particularly with respect to the prevention program) because it believes that for these sources, the benefit of the records does not offset the cost of creating and maintaining files.

## IV. Section-by-Section Analysis of the Rule

This section discusses specific changes to the rule that are not otherwise described in this preamble. The rule has been renumbered to include new sections and subparts. The hazard assessment requirements have been divided into separate sections in subpart B. The Program 2 prevention program requirements are in subpart C; Program 3 prevention program elements are in Subpart D. Emergency response requirements are in subpart E, RMP requirements in subpart G. The registration requirement, proposed § 68.12, has been moved to the RMP subpart. Tables 3 and 4 present the distribution of NPRM and SNPRM sections and derivation of final rule sections.

TABLE 3.—DISTRIBUTION TABLE

| NPRM and SNPRM citations | Final rule citations |
|---|---|
| 68.3 Definitions | 68.3 Definitions. |
| 68.10 Applicability | 68.10 Applicability. |
| 68.12 Registration | 68.160 Registration. |
| 68.13 No Impact Sources (Tier 1) | 68.10(b) Applicability. |
| | 68.12(b) General Requirements. |
| 68.14 Streamlined Risk Management Program (Tier 2) | Subpart C Program 2 Prevention Program (68.48–68.60). |
| 68.15 Hazard Assessment | Subpart B Hazard Assessment (68.20–68.42). |
| 68.20 Prevention Program—Purpose | Deleted. |
| 68.22 Prevention Program—Management System | 68.15 Management. |
| 68.24 Prevention Program—Process Hazard Analysis | 68.67 Process Hazard Analysis. |
| 68.26 Prevention Program—Process Safety | 68.65 Process Safety Information. |
| 68.28 Prevention Program—Standard Operating Procedures | 68.69 Operating Procedures. |
| 68.30 Prevention Program—Training | 68.71 Training. |
| 68.32 Prevention Program—Maintenance (mechanical integrity) | 68.73 Mechanical Integrity. |
| 68.34 Prevention Program—Pre-Startup Review | 68.77 Pre-Startup Review. |
| 68.36 Prevention Program—Management of Change | 68.75 Management of Change. |
| 68.38 Prevention Program—Safety Audits | 68.58 Compliance Audits. |
| | 68.79 Compliance Audits. |
| 68.40 Prevention Program—Accident Investigation | 68.60 Incident Investigation. |
| | 68.81 Incident Investigation. |
| 68.45 Emergency Response Program | 68.95 Emergency Response Program. |

TABLE 3.—DISTRIBUTION TABLE—Continued

| NPRM and SNPRM citations | Final rule citations |
|---|---|
| 68.50 Risk Management Plan | Subpart G Risk Management Plan (68.150–68.190). |
| 68.55 Recordkeeping Requirements | 68.200 Recordkeeping. |
| 68.58 Permit Content and Air Permitting Authority Requirements | 68.215 Permit Content and Air Permitting Authority or Designated Agency Requirements. |
| 68.60 Audits | 68.220 Audits. |

TABLE 4.—DERIVATION TABLE

| Final rule citations | NPRM and SNPRM citations |
|---|---|
| 68.3 Definitions | 68.3 Definitions. |
| 68.10 Applicability | 68.10 Applicability, SNPRM 68.13. |
| 68.12 General Requirements | SNPRM 68.13, 68.14. |
| 68.15 Management | 68.22 Prevention Program—Management. |
| 68.20 Applicability (Hazard Assessment) | 68.10 Applicability. |
| 68.22 Offsite Consequence Analysis Parameters (Hazard Assessment). | 68.15(e) Hazard Assessment. |
| 68.25 Worst-Case Release Analysis (Hazard Assessment) | 68.15(c) Hazard Assessment. |
| 68.28 Alternative Release Analysis (Hazard Assessment) | 68.15(d) Hazard Assessment. |
| 68.30 Defining Offsite Impacts—Population (Hazard Assessment) | 68.15(e)(3) Hazard Assessment. |
| 68.33 Defining Offsite Impacts—Environment (Hazard Assessment) | 68.15(e)(4) Hazard Assessment. |
| 68.36 Review and Update (Hazard Assessment) | 68.15(g) Hazard Assessment. |
| 68.39 Documentation (Hazard Assessment) | 68.15(h) Hazard Assessment. |
| 68.42 Five-year Accident History (Hazard Assessment) | 68.15(f) Hazard Assessment. |
| 68.48 Safety Information (Program 2) | 68.14(b) Streamlined Risk Management Program (Tier 2); 68.26 Process Safety Information. |
| 68.50 Hazard Review (Program 2) | 68.14(b) Streamlined Risk Management Program (Tier 2); 68.24 PHA. |
| 68.52 Operating Procedures (Program 2) | 68.14(b) Streamlined Risk Management Program (Tier 2); 68.28 SOPs. |
| 68.54 Training (Program 2) | 68.14(b) Streamlined Risk Management Program (Tier 2); 68.30 Training. |
| 68.56 Maintenance (Program 2) | 68.14(b) Streamlined Risk Management Program (Tier 2); 68.32 Maintenance. |
| 68.58 Compliance Audits (Program 2) | 68.38 Prevention Program—Safety Audits. |
| 68.60 Incident Investigation (Program 2) | 68.40 Prevention Program—Incident Investigation. |
| 68.65 Process Safety Information (Program 3) | 68.26 Prevention Program—Process Safety. |
| 68.67 Process Hazard Analysis (Program 3) | 68.24 Prevention Program—Process Hazard Analysis. |
| 68.69 Operating Procedures (Program 3) | 68.28 Prevention Program—Standard Operating Procedures. |
| 68.71 Training (Program 3) | 68.30 Prevention Program—Training. |
| 68.73 Mechanical Integrity (Program 3) | 68.32 Prevention Program—Maintenance (mechanical integrity). |
| 68.75 Management of Change (Program 3) | 68.36 Prevention Program—Management of Change. |
| 68.77 Pre-Startup Review (Program 3) | 68.34 Prevention Program—Pre-Startup Review. |
| 68.79 Compliance Audits (Program 3) | 68.38 Prevention Program—Safety Audits. |
| 68.81 Accident Investigation (Program 3) | 68.40 Prevention Program—Accident Investigation. |
| 68.83 Employee Participation (Program 3) | 68.24(f) Process Hazard Analysis. |
| 68.85 Hot Work Permit (Program 3) | NPRM Preamble (58 FR 54205). |
| 68.87 Contractors (Program 3) | NPRM Preamble (58 FR 54205). |
| 68.90 Applicability (Emergency Response) | 68.45(a) Emergency Response Program. |
| 68.95 Emergency Response Program | 68.45(b)–(f) Emergency Response Program. |
| 68.150 Submission (Risk Management Plan) | 68.50(a) Risk Management Plan. |
| 68.155 Executive Summary (Risk Management Plan) | 68.50(a) Risk Management Plan. |
| 68.160 Registration (Risk Management Plan) | 68.12 Registration. |
| 68.165 Offsite Consequence Analysis (Risk Management Plan) | 68.50(c) Risk Management Plan. |
| 68.168 Five-Year Accident History (Risk Management Plan) | 68.15(f) Hazard Assessment. |
| 68.170 Prevention Program/Program 2 (Risk Management Plan) | 68.14(b) Streamlined Risk Management Program (Tier 2); 68.50(g). |
| 68.175 Prevention Program/Program 3 (Risk Management Plan) | 68.50(g) Risk Management Plan. |
| 68.180 Emergency Response Program (Risk Management Plan) | 68.50(e) Risk Management Plan. |
| 68.185 Certification (Risk Management Plan) | 68.50(g) Risk Management Plan. |
| | 68.13(a) No Impact Sources. |
| 68.190 Updates (Risk Management Plan) | 68.50(h) Risk Management Plan. |
| 68.200 Recordkeeping | 68.55 Recordkeeping Requirements. |
| 68.210 Availability of Information to the Public | 42 U.S.C. 7412. |
| 68.215 Permit Content and Air Permitting Authority or Designated Agency Requirements. | 68.58 Permit Content and Air Permitting Authority Requirements. |
| 68.220 Audits | 68.60 Audits. |
| Appendix A—Table of Toxic Endpoints | 68.15(h)(3)(iii) Hazard Assessment. |

Section 68.3, Definitions, has been revised to add or delete a number of definitions. A definition of administrative controls has been added that is derived from the definition used

by the Center for Chemical Process Safety (CCPS).

The definition of analysis of offsite consequences has been deleted.

A definition of catastrophic release has been added that is adapted from OSHA's definition of catastrophic release (29 CFR 1910.119); OSHA's language on danger to employees in the workplace has been changed to imminent and substantial endangerment to public health and the environment.

A definition of classified information has been added. The definition is adopted from the Classified Information Procedures Act.

The proposed definition of covered process is unchanged.

The proposed definition of designated agency has been revised to indicate that the state, not the state air permitting authority, shall select an agency to conduct activities required by § 68.215.

As discussed above, a definition of environmental receptor has been added to list the receptors of concern.

The definition of full-time employee has been deleted.

A definition of hot work has been adopted verbatim from the OSHA PSM standard.

The definition of implementing agency is adopted as proposed in the SNPRM.

A definition of injury has been added.

A definition of major change has been added to clarify the types of changes that necessitate actions to manage change. The definition will help sources understand when they are required to take steps to review their activities for new hazards.

A definition of mechanical integrity has been added to clarify the requirements of maintenance sections.

A definition of medical treatment has been added to clarify what constitutes an injury. The definition is adapted from an OSHA definition used by sources in logging occupational injuries and illnesses.

The proposed definition of mitigation has been changed by adding a definition of active mitigation.

A definition of offsite has been changed to clarify that areas within the source would be considered offsite if the public has routine and unrestricted access during or outside of business hours. Areas within a source's boundaries that may be considered offsite are public roads that pass through sections of the site and natural areas owned by the source to which the public has unrestricted access. For some sites, parking lots within the boundary may be offsite if the source cannot restrict access.

A definition of population has been added. Population is defined as the public.

A definition of public has been added to state that all persons except employees and contractors at the stationary source are members of the public. A number of commenters stated that employees at other facilities should not be considered part of the public. EPA disagrees because these employees may not be trained in protective actions or have protective equipment appropriate for releases from covered processes.

A definition of public receptor has been added. Some commenters stated that EPA should include public roads within this definition. EPA decided that inclusion of public roads was unwarranted. EPA recognizes that people on public roads may be exposed during a release. In most cases, however, vehicles on public roads will be able to leave the area quickly and further access can be blocked, especially in isolated areas. If public roads were included, almost no sources would be eligible for Program 1 because there will be public roads leading to the source. In those cases where public roads are heavily traveled, there will be other public receptors near the source and, therefore, the source's processes will not qualify for Program 1.

OSHA's definition of replacement in kind has been adopted.

The definition of significant accidental release has been deleted.

A definition of typical meteorological conditions has been added which means the temperature, wind speed, cloud cover, and atmospheric stability class prevailing at the source. Data on the first three of these are available from local meteorological stations (e.g., airports). Atmospheric stability class can be derived from cloud cover data.

The definition of worst-case release has been revised to clarify that the release is the one that leads to the greatest distance to the applicable endpoint.

Section 68.10, Applicability, has been revised to change the term "tier" to "Program." The section now details the eligibility criteria for all three programs. Paragraph (a) has been revised to be consistent with statutory language on compliance dates. Sources must comply with the requirements by June 21, 1999, three years after EPA first lists a substance, or the date on which a source first becomes subject to this part, whichever is latest. After June 21, 1999, sources that begin using a regulated substance that has been listed for at least three years must be in compliance with the requirements of part 68 on the day they bring the substance on site above a threshold quantity.

The Program 1 eligibility requirements have been revised to clarify that the criteria are applied to a process, not the source as a whole, as discussed above. EPA has deleted requirements for explosives because the Agency is proposing to delist explosives. The types of accidents that will disqualify a process from Program 1 are now specified in the rule as those accidental releases of a regulated substance that led to offsite exposure to the substance, its reaction products, overpressure generated by an explosion involving the substance, or radiant heat generated by a fire involving the substance which resulted in offsite death or injury (as defined by the rule), or response or restoration activities at an environmental receptor. These accidental release criteria eliminate the need for a definition of significant accidental release, which has been deleted. Offsite environmental response or restoration would include such activities as collection, treatment and disposal of soil, shutoff of drinking water, replacement of damaged vegetation, or isolation of a natural areas due to contamination associated with an accidental release. The distance calculation equation for flammables has been dropped, and the worst-case release endpoint for flammables is specified which allows the source to use the reference tables or their own methodology to determine the distance to the endpoint. The requirement that the community have an EPCRA emergency response plan has been replaced by a requirement that the source coordinate emergency response procedures with local community responders.

As discussed above, the eligibility criteria for Program 2 and 3 have been changed. Both apply to processes, not sources.

Paragraph (e) states that if a process no longer meets the eligibility criteria of its Program level, the source must comply with the requirements of the new Program level and the update the RMP according to § 68.190. This paragraph clarifies the responsibility of the source when a process becomes ineligible for a Program level (e.g., public receptors move within the distance to an endpoint for a Program 1 process or OSHA changes the applicability of its PSM standard).

Proposed § 68.12, Registration, has been dropped. Registration requirements are now part of the RMP requirements in subpart G, § 68.160.

New § 68.12, General Requirements, has been added to provide a roadmap

for sources to use to identify the requirements that apply to processes in each of the three tiers. The Program 1 requirements, in proposed § 68.13, have been included in this section. Owners or operators of Program 1 processes are required to analyze and document in the RMP the worst-case release to ensure that they meet the eligibility criteria of no public receptors within the distance to the endpoint. As discussed above, the requirement to post signs has been dropped. The certification statement has been revised to be consistent with the eligibility requirements. If a source has more than one Program 1 process, a single certification may be submitted to cover all such processes.

The Program 2 requirements specify the sections of the rule that apply to these processes.

The Program 3 requirements specify the sections of the rule that apply to these processes.

Proposed § 68.22, Management, has been moved from the prevention program to § 68.15 in subpart A-General. The section has been adopted as proposed except that the purpose sentence in paragraph (a) has been dropped and a phrase at the beginning of paragraph (b) has been deleted as unnecessary.

A new subpart B has been created to cover the hazard assessment requirements. The proposed § 68.15 has been divided into separate sections to cover the parameters, the different types of analyses, the identification of offsite populations and environments, documentation and updates, and the five-year accident history. EPA believes that limiting each section to a single topic will make the rule easier to understand.

Section 68.20 has been added to specify which hazard assessment requirements apply to Program 1, 2, and 3 processes. All sources are required to complete a worst-case release analysis for regulated substances in covered processes, based on the requirements of § 68.25. Program 2 and 3 processes must also perform alternative release analyses required by § 68.28. All sources must complete the five-year accident history for all covered processes.

A new § 68.22 has been added to list the parameters to be used in the offsite consequence analyses. Owners or operators who choose to use their own air dispersion modeling tools must use the parameters specified in paragraphs (a), (e), (f), and (g) of this section; they must use the meteorological parameters specified in paragraph (b) of this section unless they can demonstrate that the conditions do not exist at their site. Paragraph (c) specifies the ambient temperature and humidity for worst case (highest daily maximum over the previous three years and average humidity); if a source uses the guidance, it may use average temperature and humidity (25° C and 50 percent) as default values. EPA recognizes that these values are less conservative than the worst-case meteorological conditions, but determined that they represent a reasonable average to be used for developing tables. Providing tables for a variety of temperatures and humidity would have made the guidance much more voluminous and difficult to use. EPA is requiring sources that use dispersion models instead of the guidance to use actual temperature and humidity data applicable to the site. EPA believes this approach represents a reasonable tradeoff. The guidance generates conservative results even with the less conservative assumptions about temperature and humidity; air dispersion modeling will generally produce less conservative results and, therefore, should be based on actual data for these variables. Average data applicable to the source may be used for alternative scenarios. Paragraph (d) requires that the release height for worst-case be at ground level (zero feet). Paragraph (e) specifies that urban or rural topography be used as appropriate in modeling. Paragraph (f) requires sources to use models or tables appropriate for the density of the substance being released (e.g., dense gases must be modeled using tables or models that account for the behavior of dense gases). Dense gases are typically those that are heavier than air as well as those that form aerosols and behave as if they are heavier than air upon release. For worst-case releases, liquids (other than gases liquefied by refrigeration only) shall be considered to be released at the highest daily maximum temperature or at process temperature, whichever is higher. For alternative scenarios, substances may be considered to be released at ambient or process temperatures as appropriate. Owners or operators may choose to use EPA's RMP Offsite Consequence Analysis Guidance for their offsite consequence analyses. All of the parameters specified here are reflected in this guidance.

A new § 68.25 has been added on the worst-case release analysis. As discussed above, the section requires one worst-case release for toxics and one for flammables. If additional scenarios, for either class of substances, would potentially expose receptors not exposed by the worst-case release, the additional scenario shall be analyzed and reported. This provision is to take into account the possibility that at large sources, vessels at opposite ends of the source may expose different populations.

The section specifies how maximum quantity in a vessel or pipe is to be determined, the scenarios to be considered for toxic gases, toxic gases liquefied by refrigeration only, toxic liquids, and flammables, the parameters to be used, consideration of passive mitigation, and factors to be considered in selecting the worst-case scenario. The section also specifies that sources may use proprietary models if the source provides the implementing agency access to the model and explains differences between the model and publicly available models, if requested. This approach will allow sources to use the most appropriate models available, while preserving the transparency of the results.

A new § 68.28 has been added on alternative release scenario analysis. As discussed above, the section requires one alternative release analysis for all flammables held above the threshold in processes at the source and one alternative release analysis for each toxic held above the threshold in processes. For each scenario, the owner or operator shall select a scenario that is more likely to occur than the worst case; and that will reach an endpoint offsite, unless no such scenario exists. The section includes a list of scenarios that owners/operators may want to consider, but does not dictate a particular scenario. EPA has provided additional direction and suggestions for defining these scenarios in the RMP Offsite Consequence Analysis Guidance. As noted above, the section references the parameters to be used and allows consideration of both passive and active mitigation systems. The section specifies factors to be considered in selecting alternative scenarios; specifically, sources shall consider releases that have been documented in the five-year accident history; or failure scenarios identified through the PHA or hazard review.

A new § 68.30 has been added on defining offsite impacts—population. The section specifies that populations are to be defined for a circle with a radius that is the distance to the endpoint. Owners or operators are required only to estimate the residential population within the circle to two significant digits and may use Census data to make these estimates. Owners or operators are also required to note, in the RMP, the presence of any major institutions, such as schools, hospitals, prisons, public recreational areas, arenas, and major commercial and

industrial developments, but they are not required to estimate the number of people present at such sites. These additional locations are those that would normally be shown on area street maps.

A new § 68.33 has been added on defining offsite impacts to the environment. As discussed above, the owners or operators are required only to identify any environmental receptors within the circle with a radius determined by the distance to the endpoint. The owners or operators are not required to assess the potential types or degree of damage that might occur from a release of the substance. The environmental receptors are those that can be identified on U.S. Geological Survey local topographical maps or maps based on U.S.G.S. data.

A new § 68.36 has been added to list the requirements for reviewing and updating the offsite consequence analysis. As proposed, if no changes occur at the site, the analyses must be reviewed and updated at least once every five years. If changes at the site occur that would reasonably be expected either to increase or decrease the distance to the endpoint by a factor of two or more, owners/operators are required to update the offsite consequence analysis within six months. The time for the reanalysis has been changed to six months to make it consistent with the update requirements for the RMP. The proposed requirement for reviewing the analyses based on offsite changes has been deleted. A number of commenters objected to the requirement because it would have compelled them to track changes over very large areas. Because the distance to the endpoints, especially for toxics, may be as much as 40 km, the area affected could easily exceed 1,000 square miles. EPA agreed with commenters that there was little benefit from requiring sources to track offsite changes and redo analyses because the public is aware of the changes.

A new § 68.39 has been added to list the documentation related to the offsite consequence analyses that must be retained on site. For both types of scenarios, the documentation shall include a description of the scenarios identified, assumptions and parameters used, the rationale for the selection of specific scenarios; assumptions shall include use of mitigation and any administrative controls that were assumed to limit the quantity that could be released. Documentation shall include the effect of the mitigation and controls on the release quantity. The documentation shall also include the estimated quantities released, release rates, and durations of release. The owners or operators shall also identify the methodology used to determine distance to endpoints (i.e., EPA's guidance or an air dispersion model) and the data used to estimate population and environmental receptors potentially affected. EPA has deleted the proposed requirement for documentation of endpoints because these are now dictated by the rule. EPA has also dropped the requirement for documentation of distance calculations; distances will either be determined from EPA's reference tables or by an air dispersion model.

A new § 68.42 has been added to detail the requirements for the five-year accident history. As discussed above, the accident history is limited to accidental releases of listed substances from covered processes only. The only accidental releases that must be included in the history are those 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. Although language related to the types of environmental damage listed in the proposed rule has been dropped, EPA intends that environmental damage not be limited to environmental receptors; events where any known environmental impact of any kind (e.g., fish or animal kills, lawn, shrub, or crop damage), should be included in the history.

The data required on each accident include date, time, and approximate duration of the release; chemical(s) released; estimated quantity in pounds; the type of release event and its source; weather conditions (if known); on-site impacts and known offsite impacts; the initiating event and contributing factors (if known); whether offsite responders were notified (if known); and operational or process changes that resulted from the release. Estimates may be provided to two significant digits. EPA expects that for accidents that occur after the publication of this rule, sources will be able to document weather conditions, initiating events and contributing factors, and notification of offsite responders as these items would be part of the incident investigation. The Agency recognizes, however, that for incidents that occur before the rule is final, sources may not have this information unless OSHA PSM already would require the source to gather such information (e.g., initiating event and contributing factors). EPA has dropped the requirement that the concentration of the released substance be reported. Concentration at the point of release is assumed to be 100 percent except for substances in solution, where the concentration at the point of release is assumed to be the percentage of the solution as held or processed. The data provided will allow the source or the public to estimate the concentration offsite.

Because the five-year accident history will initially cover releases that occurred before this rule is promulgated, EPA is requiring reports on weather conditions only if the source has a record. For future releases, EPA encourages the owners or operators keep a record of wind speed and temperature if possible as these conditions have a significant impact on the migration of a release offsite. The rule specifies that the source must document known offsite impacts. The source is not required to conduct research on this subject, but must report impacts of which it is aware through direct reporting to the source or claims filed, or reasonably should have been aware of from publicly available information. The source is not required to verify the accuracy of public or media reports.

A new subpart C has been created to include the requirements of the prevention program for Program 2 processes.

New § 68.48 details the safety information that sources will be required to develop. The information is a subset of the information required under the OSHA rule and is limited to those items that are likely to apply to Program 2 processes: MSDSs, maximum intended inventory, safe upper and lower process parameters, equipment specifications, and the codes and standards used to design, build, and operate the process. Because Program 2 processes are generally simple, EPA determined that items such as process chemistry, process flow diagrams, detailed drawings on equipment, and material and energy balances are not necessary for these processes. Evaluation of consequences of deviations will be handled under the process review and the offsite consequence analysis.

Paragraph (b) of § 68.48 requires owners or operators to ensure that the process is designed in compliance with good engineering practices. The paragraph states that compliance with Federal or state regulations that address industry-specific safe design or with industry-specific design codes may be used to demonstrate compliance. NFPA–58 for propane handlers and OSHA's rule for ammonia handling (29 CFR 1910.111) are examples of such design codes.

The final paragraph of § 68.48 requires owners or operators to update the safety information if a major change makes it inaccurate.

New § 68.50 sets the requirements for a hazard review. The section lists the hazards and safeguards that the owners or operators must identify and review. The section states that owners or operators may use checklists, such as those provided in model risk management programs, to conduct the review. For processes that are designed to industry standards (e.g., NFPA–58) or Federal/state design rules, owners or operators need only check their equipment closely to ensure that it has been fabricated and installed according to the standards or rules and is being operated appropriately. In this case, the standard or rule-setting body has, in essence, conducted the hazard review and designed the equipment to reduce hazards. Like the PHA required under PSM, the hazard review must be documented and the findings resolved. The review must be updated at least once every five years or when a major change occurs. A streamlined version of the PHA requirement, the review recognizes that for simple processes some of the OSHA requirements, such as the requirement for a team and a person trained in the technique, may not be necessary. Most Program 2 processes will have model risk management programs that will assist owners or operators in conducting the review.

New § 68.52 covers operating procedures. The section allows owners or operators to use standardized procedures developed by industry groups or provided in model risk management programs as a basis for the SOPs. Owners or operators will need to review standardized SOPs to ensure that they are appropriate for their operations; some may need to be tailored. The steps covered in the SOP are adapted from the OSHA PSM standard. Certain elements of the PSM requirement (e.g., safety and health consideration) were dropped because they are generally covered in training provided under the OSHA hazard communication standard. Other elements were not included because they are covered by other OSHA rules or may not apply to the kinds of sources in Program 2. The section requires that the SOPs be updated whenever necessary.

New § 68.54 covers training and is a streamlined version of the OSHA PSM requirement. The primary difference with the OSHA PSM training element is that the documentation requirements have been dropped. EPA believes that for Program 2 sources, which generally will have simple processes and few employees involved in the process, the level of documentation required by OSHA PSM is not needed. The section specifically states that training conducted to comply with other Federal or state rules or industry codes may be used to demonstrate compliance with the section if the training covers the SOPs for the process. Workers must be retrained when SOPs change as a result of a major change.

New § 68.56 covers maintenance and requires owners or operators to prepare and implement procedures for maintenance and train workers in these procedures. The owners or operators are also required to inspect and test process equipment consistent with good engineering practices. The OSHA list of equipment has been dropped because it seemed too detailed for the simpler Program 2 processes. Similarly, the OSHA PSM requirements for documentation, equipment deficiencies, and quality assurance seem too burdensome given the type of processes in Program 2. EPA emphasizes that sources should address equipment deficiencies when they arise.

New §§ 68.58 and 68.60 on compliance audits and accident investigation are adopted directly from the OSHA PSM standard. EPA believes that these two elements are critical to good prevention practices and that no changes are needed from the OSHA requirements. EPA has added a provision to clearly indicate that audit reports more than five-years old need not be retained.

The Program 3 prevention program is codified in new subpart D. As explained above, the subpart adopts the OSHA PSM standard with only minor editorial changes necessitated by the different statutory authorities of the two agencies. Throughout the subpart, "employer" has been changed to "owner or operator," "facility" to "stationary source," and "highly hazardous chemical" to "regulated substance." EPA has reordered the elements somewhat so that the order reflects the progression in which sources will generally implement the program. For example, process safety information, which is needed for the PHA, now precedes that section. Pre-startup review, which is the last step of management of change procedures, now follows management of change. The reordering does not reflect any change in the content.

Section 68.65, process safety information, is adopted directly from OSHA. The only changes are the following: references to other requirements have been changed to reflect the appropriate EPA section numbers; the phrase "highly hazardous chemical" has been changed to "regulated substance"; the word "standard" has been changed to "rule" in paragraph (a); and the date when material and energy balances are needed for new processes has been changed to June 21, 1999. The words "including those affecting the safety and health of employees" has been deleted from the requirement for the evaluation of the consequences of deviations (paragraph (c)(1)(v)) because EPA has no authority to regulate the workplace. Further, EPA believes this change reflects EPA's desire that sources implement one prevention program that protects the safety and health of workers, the public and the environment and should have no effect on sources already complying with the OSHA PSM rule.

Section 68.67, process hazard analysis, has been adopted from the OSHA rule with a few changes. The OSHA schedule for completion of PHAs has been replaced with the compliance date of this rule; a new sentence has been added to state that PHAs conducted to comply with OSHA PSM are acceptable as the initial PHA under this rule. These PHAs shall be updated and revalidated based on their OSHA completion date. This provision will ensure that sources do not need to duplicate PHAs already completed or change their update schedule.

In paragraph (c)(2), the phrase "in the workplace" has been deleted from the requirement to identify previous incidents with the potential for catastrophic consequences because EPA does not have the authority to regulate the work place. EPA believes that this change will have no effect on the rule; any incident with the potential for catastrophic consequences in the workplace will also have had the potential for catastrophic consequences offsite. Similarly, the phrase "on employees in the workplace" has been deleted from paragraph (c)(7), which requires a qualitative evaluation of a range of the possible safety and health effects of failure of controls. By deleting the language, rather than changing it, EPA is consistent with its authority without imposing any new requirements on sources. A new sentence has been added to paragraph (f) to state that PHAs updated and revalidated under the OSHA rule are acceptable for EPA's purposes. Throughout this section, internal references have been changed.

To maintain consistency with OSHA PSM, proposed paragraph (j), which would have required the evaluation of mitigation and detection systems, has been dropped, as have proposed

references to offsite consequences and public health and the environment. Evaluation of mitigation and detection systems is normally part of the PHA process and of management's decisions on implementing recommendations and, therefore, EPA decided that a separate requirement was not needed. EPA will collect information on monitoring, detection, and mitigation systems used in each Program 2 and 3 process as part of the RMP. Proposed paragraph (a), which was advisory, has been dropped.

Section 68.69, Operating Procedures, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator." Proposed paragraph (a) has been deleted to ensure consistency with OSHA.

Section 68.71, Training, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator" and changes in referenced sections. Proposed paragraph (a) has been deleted to ensure consistency with OSHA, as has proposed paragraph (e).

Section 68.73, Mechanical Integrity proposed as Maintenance, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator." Proposed paragraph (a) has been deleted to ensure consistency with OSHA. The proposed requirements to develop a critical equipment list, document training, and "maintain" as well as inspect and test under paragraph (d) have been dropped to ensure consistency with OSHA.

Section 68.75, Management of Change, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator" and changes to referenced sections. Proposed paragraph (a) has been deleted to ensure consistency with OSHA. EPA's proposed paragraph (b), which defined changes not covered by the section, has also been dropped in favor of OSHA's definition of "replacement in kind."

Section 68.77, Pre-Startup Review, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator" and changes to referenced sections. Proposed paragraph (a) and the reference to emergency response training in proposed paragraph (c)(4) have been deleted to ensure consistency with OSHA.

Section 68.79, Compliance Audits, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator" and changes to referenced sections. Proposed paragraph (a) has been deleted to ensure consistency with OSHA.

Section 68.81, Accident Investigation, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator" and "highly hazardous chemical" to "regulated substance" and changes to referenced sections. Proposed paragraphs (a) and (b), the latter of which would have required written procedures, have been deleted to ensure consistency with OSHA. References to significant accidental release have been dropped because the phrase is no longer used. Although EPA has adopted OSHA's language, EPA has changed the definition of catastrophic release. Consequently, this section requires owners or operators to investigate accidents that resulted in or could reasonably have resulted in a release that presented serious danger to public health or the environment. EPA does not believe that, except in isolated cases, the modification to this provision will require sources to investigate accidents that they would not investigate under the OSHA rule.

Section 68.83, Employee Participation, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator." Although EPA did not propose adopting this section, the Agency solicited comments on this issue, and commenters convinced the Agency that employee participation is an important component of a complete prevention program.

Section 68.85, Hot Work Permit, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator." Although EPA did not propose adopting this section, the Agency solicited comments on this provision and decided that it was valuable to maintain consistency with the OSHA PSM elements and that the hot work permit was important to good prevention practices.

Section 68.87, Contractors, has been adopted verbatim from OSHA except for changing "employer" to "owner or operator," changing to referenced sections, and deleting OSHA's paragraph 29 CFR 1910.119(h)(2)(vi). Although EPA did not propose adopting this section, the Agency solicited comments on this issue. Commenters argued that contractor practices are an important component of a complete prevention program. A number of major accidents have resulted from contractor mistakes. EPA agrees with the commenters and has included the provision in the final rule. EPA has, however, deleted the requirement that employers maintain an occupational injury and illness log for contract employees because the Agency does not have the authority to impose this requirement.

EPA has placed the emergency response requirements in a new Subpart E and divided the proposed emergency response section into two separate sections, an applicability section and a section to cover the emergency response program.

A new § 68.90, Applicability, has been added. 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.

Section 68.95, Emergency Response Program, is adopted from § 68.45 of the proposed rule. The program has four components: an emergency response plan, procedures for use of response equipment and its maintenance, training for employees, and procedures to update the plan after changes to the source. The required elements of the plan are those specified in CAA section 112(r)(7)(B)(ii): procedures for informing the public and local response agencies; documentation of emergency medical treatment; and procedures and measures for emergency response. As explained above, EPA decided that, to avoid inconsistency with other emergency response planning regulations, the rule would be limited to the statutory requirements. Consequently, EPA has deleted the following proposed requirements: documentation of evacuation routes (which should be covered under the emergency action plans required by OSHA under 29 CFR 1910.38); descriptions of all response and mitigation technologies available at the source; documentation of the maintenance and training programs; emergency response drills and exercises; revision of the plan based on the findings of the drills and exercises; and documentation of management's response to findings and a schedule for completion. EPA believes that these requirements are addressed in other Federal regulations and, therefore, sources are already doing them. By not including them, EPA, however, avoids the possibility that slightly different wording could lead to unnecessary additional effort on the part of sources.

EPA has added a paragraph (b) to this section to state that compliance with other Federal contingency plan regulations or use of the National Response Team's Integrated Contingency Plan Guidance ("One Plan") that results in a written plan that addresses the elements in paragraph (a) shall satisfy the requirements of the rule, provided that the owner or operator also complies with paragraph (c) of this section.

Paragraph (c) is adopted from proposed paragraph § 68.45(g) and requires coordination of the plan with the local community emergency response plan. References to the local emergency planning committee (LEPC) have been changed to 'local emergency response officials' to recognize and include other local groups that may be in charge of coordinating emergency planning. LEPCs would be included in this category.

A new Subpart G has been created to cover the Risk Management Plan. The Risk Management Plan includes three main sections, an executive summary, the registration, and data elements that provide information on the offsite consequence analyses, the five-year accident history, the prevention program, and the emergency response program. The subpart includes separate section to address each of these, plus sections on submission, certifications, and updates.

New § 68.150, Submission, has been added. As discussed above, an owner or operator shall submit a single RMP for the source, regardless of the number of covered processes or the tiers for which they are eligible. All RMPs will be submitted in a manner and method EPA will specify by the compliance date to a point designated by EPA; no other submission will be required because other agencies and the public will have access to the submissions on-line. As required by the CAA, the first RMP must be submitted by June 21, 1999, three years after EPA first lists a substance, or the date on which a source first becomes subject to this part, whichever is latest. As discussed above under applicability, after June 21, 1999, sources that begin using a substance that has been listed for at least three years will be required to submit their RMPs on the date the substance is first on site above the threshold quantity. Sources that begin using such a regulated substance prior to June 21, 1999 will need to be in compliance with the rule on June 21, 1999. The final paragraph states that, except for a classified annex that would not be publicly available, the RMP shall exclude classified information.

New § 68.155 details the requirements for the executive summary. The summary shall include brief descriptions of the following items: the source's prevention and emergency response approach; the stationary source and regulated substances; worst-case release scenario(s) and alternative release scenario(s), including any administrative controls applied to limit the release quantity; the general prevention program and chemical-specific prevention steps; the five-year accident history; the emergency response program; and planned changes to improve safety. EPA anticipates that none of these items should require more than a half page of text. Because this information may be filed electronically, EPA is not asking sources to submit maps of the worst-case or alternative release scenario circles. The data submitted under each of these sections will allow state or local agencies and the public to map the circles.

Section 68.160, Registration, replaces proposed § 68.12. The registration shall include the following data: stationary source name, street, city, county, state, zip code, latitude, and longitude; the stationary source and corporate Dun and Bradstreet numbers; the name, telephone number, and mailing address of the owner/operator; the name and title of the person responsible for implementation of the risk management program; the name, title, telephone number, and 24-hour telephone number of the emergency contact; the stationary source EPA identifier; the number of full-time employees at the stationary source; whether the stationary source is subject to 29 CFR 1910.119; whether the stationary source is subject to 40 CFR part 355; and the date on which the stationary source last had a safety inspection by a Federal, state, or local government agency.

For each covered process, the source must list the regulated substances present above a threshold quantity (name and CAS number), the maximum quantity of each substance in the process, the SIC code of the process, and the Program level that applies to the process. This process information provides a simple method for describing covered processes and identifying Program levels.

The reporting of the quantity has been changed; rather than have sources report in ranges, the rule requires that the quantity be reported to two significant digits. EPA has found that the reporting ranges are so broad (generally an order of magnitude) that data analysis is extremely difficult. By limiting the reporting to two significant digits, EPA will allow sources to estimate quantities, but still provide more precise data than are currently available. EPA has added a requirement for reporting full-time employees. These data are easy for sources to provide and will enhance the Agency's ability to assess the impact of its rule on businesses of various sizes. The EPA identifier will be the unique number EPA will assign to each source and will allow EPA to cross reference other reporting to the Agency. Use of the identifier also means that EPA may not need to collect certain data on this form because they will be available from the identifier database; EPA may revise the requirements when the identifier rule is promulgated.

EPA has deleted the certification statement proposed for the registration because the RMP as a whole will have a certification statement that will cover all elements, including registration. Corrections to the registration will be treated as corrections to the RMP and must be filed within six months of the change, rather than the 60 days proposed for registration changes.

The registration now requires the owners or operators to check off the agency that last conducted a safety inspection at the source and provide the date. The inspection does not need to have been related to prevention practices as defined in this rule, but may instead cover fire safety, workplace safety, etc.

New § 68.165 covers the requirements for reporting on the offsite consequence analysis. As discussed in Section III.B, the RMP shall include data on one worst case release scenario for each Program 1 process; and, for Program 2 and 3 processes, one worst case release scenario for toxics and one for flammables (for sources with substances in both hazard classes). If additional worst-case release scenarios are required under § 68.25 for either class, data on that scenario must also be reported. Sources with Program 2 and 3 processes will also provide data on one alternative release scenario to cover all flammables in covered processes and an alternative release scenario for each toxic substance held in covered processes.

For each reported scenario, the owners or operators shall provide the following data: chemical name; physical state (toxics only); basis of results and model (if used); scenario; quantity released in pounds; release rate; duration; wind speed and stability (toxics only); topography (toxics only); distance to endpoint; public and environmental receptors within the distance; passive mitigation considered; and active mitigation (alternative releases only) considered. A number of the data elements are not relevant to all

flammable releases; for example, in the worst-case release flammables are assumed to be released and explode almost instantly so that release rate, duration, wind speed and stability, and topography are not factors in determining distances.

The purpose of requiring these data elements, rather than the proposed summary of the assessment, is to provide the public with the essential estimates of distance to the endpoints and provide enough data on the release scenario to allow agencies or the public to confirm the distance estimate. With the data provided, a public agency will be able to use EPA's guidance to determine the distance for a particular chemical release and compare that distance with the one reported by the source. This ability will be particularly important when a source has chosen to use an air dispersion model rather than the reference table. The proposed rule approach, which required a summary of the assessment, would have resulted in considerable variation in the information submitted, as happened in the Kanawha Valley exercise. In that case, each source decided on the level of information to provide; although each provided maps, it was not possible, in many cases, to determine how the distances were estimated because much of the underlying data was not reported. EPA believes that these requirements will impose a minimal burden on sources, because they will already have the data from completing the analyses, will ensure that the same data are reported by all sources, and will provide enough data to evaluate the results using publicly available documents and models.

New § 68.168 on the five-year accident history simply references the data elements listed in § 68.42(a). The data elements will be reported for each accidental release covered by the accident history requirement.

New § 68.170, Prevention Program/ Program 2, requires owners or operators with Program 2 processes to list the name of chemical(s) in, and SIC code for, the Program 2 process; to provide the dates of the most recent revisions or reviews of the prevention program elements; to provide, based on the hazard review, information on the major hazards, process controls, mitigation systems, monitoring or detection systems, and changes since the last hazard review; to list any state or federal regulations of industry-specific design codes or standards being used to demonstrate compliance with prevention program elements; to list the type of training and competency testing used; to provide the date of the most recent change that triggered a review or revision of prevention elements; and to provide the date of the completion of any changes resulting from hazard reviews, audits, or incident investigations. EPA recognizes that not all recommendations resulting from hazard reviews, audits, or incident investigations result in changes; some or all may be resolved without changes. However, if any changes are made, the owners or operators shall report in the RMP the date when such changes are complete or expected to be complete.

New § 68.175, Prevention Program/ Program 3, requires owners or operators with Program 3 processes to list the name of chemical(s) in, and SIC code for, the Program 3 process; to provide the dates of the most recent revisions or reviews of the prevention program elements; to provide, based on the PHA, information on the major hazards, process controls, mitigation systems, monitoring or detection systems, and changes since the last PHA; to list the type of training and competency testing used; to provide the date of the most recent change that triggered a review or revision of prevention elements; and to provide the date of the completion of any changes resulting from PHAs, audits, or incident investigations. As above, EPA recognizes that not all recommendations resulting from PHAs, audits, or incident investigations result in changes; some or all may be resolved without changes. However, if any changes are made, the owners or operators shall report in the RMP the date when such changes are complete or expected to be complete.

New § 68.180, Emergency Response Program, requires owners or operators to answer questions about the required content of the emergency response plan, providing the date of the most recent training of employees update of the plan, indicate whether the source emergency response plan has been coordinated with the LEPC plan, provide the name and telephone number of the local agency with which the plan has been coordinated, and list other Federal or state emergency planning requirements to which the source is subject.

New § 68.185, Certification, specifies the certification requirements that owners or operators must complete when the RMP is submitted.

New § 68.190 details the requirements for updating the RMP. The plan must be updated at least once every five years. If a new substance is added to an already covered process or a new covered process is added, the RMP must be updated on the date on which the regulated substance is first present above a threshold quantity. If EPA lists a new substance that the source has above a threshold quantity, the RMP must be updated within three years of the date of listing. If a change at the source leads to a revised offsite consequence analysis, process hazard analysis or review, or a process changes Program level, the RMP must be revised and resubmitted within six months of the change. Subsequent updates will be required within five years of the update.

A new Subpart H, Other Requirements, has been added.

New § 68.200, Recordkeeping, simply states that records will be maintained for five years unless otherwise specified in the Program 3 prevention program.

New § 68.210, Availability of information to the public, has been added and a paragraph included to provide that classified information is protected under applicable laws, regulations, and executive orders.

New § 68.215, Permit content and air permitting authority or designated agency requirements, has been added to define the requirements for including part 68 in Part 70 and 71 permits, as discussed above.

Section 68.220, Audits, has been revised to change references in paragraph (a). A new paragraph (c) has been added to specify the sources that have achieved a star or merit rating under OSHA's VPP program will be exempt from audits if the audit program is based on industry accident history or on neutral random oversight and if the source has not had an accidental release that requires investigation under the rule. Paragraph (h) has been revised to clarify that the source must revise the RMP 30 days after completion of the actions detailed in the implementation plan, not 30 days after the issuance of the final determination.

Appendix A has been added to provide the toxic endpoints.

## V. Required Analyses

### *A. E.O. 12866*

Under Executive Order (E.O.) 12866 (58 FR 51735; October 4, 1993), EPA must determine whether a regulatory action is "significant" and, therefore, subject to OMB review and the requirements of the E.O. The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal government or communities.

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the E.O.

Under terms of E.O. 12866, EPA has determined that today's final rulemaking is a "significant regulatory action." EPA, therefore, has developed an economic impact analysis for the final rule, (Economic Analysis in Support of Final Rule on Risk Management Program Regulations for Chemical Accidental Release Prevention), which is available in the docket.

In developing the final rule, EPA notes that it has taken actions to streamline requirements whenever possible and has tailored the requirements through the use of Programs. This approach differed from the proposed rule, which imposed what are now Program 3 requirements on all sources and processes. EPA has also changed substantially the requirements for two elements of the rule, the offsite consequence analysis and the RMP. For the offsite consequence analysis, EPA decided to develop methodologies and look-up tables so sources would not need to spend resources obtaining air dispersion models; EPA also reduced the requirements to define offsite populations by allowing sources to use Census data and to identify only those institutions and developments that appear on local maps (as opposed to identifying day care centers and nursing homes). For the RMP, EPA has limited the requirements for information to that which can be reported as data elements. In contrast, the rule as proposed would have required sources to document for each process all major hazards, the consequences of each of these hazards, the risk reduction steps taken to address each hazard, and the consequences of each risk reduction step. The result would have been, for large, complex sources, documents of a 1,000 pages or more.

To analyze the cost impacts of the various approaches, EPA considered three possible options in the final EIA: the final rule, an option that imposed final rule Program 3 requirements on all sources, and an option that imposed proposed rule requirements on all sources. The last of these options was considered to evaluate the impact of changing the requirements for the offsite consequence analysis and RMP.

Based on the final list and thresholds, EPA estimates that approximately 66,100 sources will be affected by the rule. EPA expects that about 360 sources and approximately 410 processes will be eligible for Program 1. These sources are primarily gas processors that, because they are remote and unstaffed, are not covered by OSHA PSM. EPA also estimated that approximately 50 processes using toluene di-isocyanate (TDI) may qualify for Program 1 based on the relatively low volatility of TDI. Program 2 is expected to include 40,200 sources and 47,700 processes; these sources include all retailers, propane users, public drinking water and wastewater systems and public electric utilities not subject to OSHA PSM, wholesalers, processes at Federal facility processes, and non-chemical manufacturers. Program 3 is expected to cover 25,500 sources and 43,800 processes. These sources include manufacturers, electric utilities, POTWs and drinking water sites covered by OSHA PSM, wholesalers, ammonia refrigeration systems, gas utilities, gas processors, and Federal facilities. All of these sources are already covered by OSHA PSM for at least one regulated substance; EPA estimates that about 370 non-OSHA Program 3 processes in the specified SIC codes will be covered.

Sources that already have a high quality PSM program would not need to take any additional actions to satisfy EPA's Program 3 prevention program, but the analysis assumed that many sources may still be in the process of improving their PSM programs after achieving initial compliance. The public scrutiny expected to follow submission of the RMP is likely to encourage sources to ensure that their prevention efforts are fully implemented and effective. To account for these efforts, the analysis assumed that sources covered by OSHA would improve training, maintenance, and management oversight and, in some cases, institute additional capital improvements.

The rule provides sources three years to come into compliance with the rule. The rule, however, will impose continuing costs as sources implement their risk management programs. Initial compliance, therefore, covers the cost of meeting the requirements of the rule by the three-year compliance date. These costs are presented as a single figure, but are assumed to be incurred over a three-year period. Total costs to industry were estimated by multiplying the estimated unit costs of compliance with the risk management program elements by the estimated number of affected sources. Because many sources already implement some of the risk management requirements (e.g., training), cost estimates were adjusted to account for the expected likelihood that a source is already human health (death or injury), responses to these threats (evacuations, sheltering in place) threats to the environment, and economic damages (lost production, property damages, and litigation). Additional benefits may be provided by making information available to the public in the RMP. These benefits, however, cannot be quantified.

*B. Regulatory Flexibility Act*

In accordance with the Regulatory Flexibility Act of 1980, Federal agencies must evaluate the impacts of rules on small entities and consider less burdensome regulatory alternatives. As originally proposed in 1993, EPA believes that the rule would have created a severe, adverse impact on small manufacturers. In February 1995, EPA published a supplemenatal proposal which introduced a tiering approach for this regulation. By using the tiering approach and streamlining the Program 2 requirements, this final rule significantly reduces the impact on small businesses. The tiering approach also significantly reduces the impact on small communities.

EPA has developed a Regulatory Flexibility Analysis for this final rule evaluating the effects on small entities, which is presented in Chapter 7 of the EIA. The number of small manufacturers was estimated to be 960 sources with fewer than 20 FTEs, and 2,000 sources with between 20 and 99 FTEs. The number of small non-manufacturers is more difficult to determine. Virtually all retailer and wholesalers have fewer than 100 FTEs. Industry estimates, however, indicate that about 80 percent of the affected retailers may be owned by larger companies; the analysis assumed that 3,700 retailers were small businesses. No information was available to estimate the percentage of wholesalers that might be owned by large corporations. The analysis assumed that all wholesalers were small. The total number of small businesses, therefore, was estimated to be 8,160.

Public drinking water and waste water systems affected by the rule generally serve a minimum of 10,000 people. Approximately 980 water systems are estimated to serve between 10,000 and 25,000 people. Approximately 500 water systems are estimated to serve between 25,000 and 50,000 people. Consequently, 1,480 drinking water systems would be considered small governmental entities. The number of small POTWs was

estimated to include all systems treating less than 10 mgd and 59 percent of those treating between 10 and 25 mgd (based on the ratio of drinking water systems in this category that serve populations below 50,000). Approximately 2,600 POTWs were estimated to serve between 10,000 and 25,000 people and 180 to serve between 25,000 and 50,000, for a total of 2,800 POTWs. A total of approximately 4,300 small governmental entities would be affected by this rule.

The total number of small entities affected by this rule was estimated to be 12,500 or 19 percent of the affected universe. No detailed analysis of the impact on small entities was performed because of the relatively low cost of the rule for small entities. Initial costs are considerably less than one percent of sales for all small manufacturers. Subsequent year costs will be even lower. Costs for non-manufacturers are very low (less than $1,000 per year for initial compliance). These sums do not impose a serious adverse burden on these sources. Only chemical manufacturers with complex processes and 20 to 99 FTEs have initial costs that exceed $6,000 per year. The costs for these sources, $28,000 to $30,000 per year for the first three years, represent less than 0.5 percent of sales. It should be noted that all of the costs for small manufacturers assume that the sources will take additional efforts, above their actions to comply with the OSHA rule, to improve the quality of the risk management programs. If they do not take additional actions, their costs would be substantially lower.

*C. Unfunded Mandates Reform Act*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on state, local, and tribal governments and the private sector. Under section 202 of UMRA, EPA must generally prepare a written statement, including a cost-benefit analysis for proposed and final rules with "Federal mandates" that may result in expenditures to state, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternatives that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation of why the alternative was not adopted. Before EPA establishes any regulatory requirements that significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of UMRA, a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input into the development of the regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

EPA has determined that this rule contains a Federal mandate that may result in expenditures of $100 million or more for state, local, and tribal governments, in the aggregate, or to the private sector, in any one year. Accordingly, EPA has prepared, under section 202 of the UMRA, a written statement which is summarized below.

EPA is required to promulgate this rule under CAA section 112(r). In the first and third year of initial compliance, the cost of the rule to the regulated community will exceed $100 million; in all subsequent years the costs will be below $100 million. EPA has developed an economic impact analysis, discussed above, that evaluates several regulatory alternatives. EPA has adopted the least costly of these alternatives. EPA estimates that annualized costs for state and local governments will be $13 million; annualized costs for the private sector are estimated to be $72 million.

Consistent with the intergovernmental consultation provisions of section 204 of the UMRA and Executive Order 12875 "Enhancing the Intergovernmental Partnership," EPA has involved state, local and business representatives in focus groups to develop the rule. EPA included representatives of state government in the rulemaking workgroup process, available to the public under CAA section 114(c) and 40 CFR part 2; EPA does not believe that any of the requested information will be considered confidential.

The public reporting burden will depend on the regulatory program into which the 66,100 sources are placed. The public reporting burden for rule familiarization is estimated to range from 4 to 68 hours per source for all three program tiers. The public reporting burden to prepare and submit the registration and other RMP elements is estimated to be 0.5 hours for sources with only Program 1 processes, between 6.0 and 11.25 hours for Program 2 sources, and between 6.25 and 30.5 hours for Program 3 sources. The RMP is submitted once, at the end of the three year compliance period. The public recordkeeping burden to maintain on-site documentation is estimated to range from 10 to 180 hours for Program 2 sources and from 52 to 1,200 hours for Program 3 sources. On-site documentation must be developed and maintained on an ongoing basis, which varies by rule element; based on the statute of limitation for this rule, documentation must generally be maintained for five years. The total annual public reporting burden for rule familiarization, to complete the RMP, and to maintain on-site documentation is estimated to be about 3.36 million hours over three years, or an annual burden of 1.119 million hours. No capital costs are expected to be incurred to maintain or submit this documentation.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and use technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

*E. Submission to Congress and the General Accounting Office*

Under section 801(a)(1)(A) of the Administrative Procedures Act (APA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996, EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives and the Comptroller General of the General Accounting Office prior to publication of the rule in today's Federal Register. This rule is a "major rule" as defined by section 804(2) of the APA as amended.

List of Subjects in 40 CFR Part 68

Environmental protection, Chemicals, Hazardous substances, Intergovernmental relations.

Dated: May 24, 1996.

Carol M. Browner,

*Administrator.*

For the reasons set out in the preamble, 40 CFR Part 68 is amended as follows:

## PART 68—[AMENDED]

1. The authority citation for part 68 is revised to read as follows:

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

2. Part 68 is amended by redesignating Subpart C (§§ 68.100—68.130) as Subpart F.

## Subpart A—[Amended]

4. Section 68.3 is amended to add the following definitions:

**§ 68.3 Definitions.**

*Act* means the Clean Air Act as amended (42 U.S.C. 7401 et seq.)

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*Administrative controls* mean written procedural mechanisms used for hazard control.

*AIChE/CCPS* means the American Institute of Chemical Engineers/Center for Chemical Process Safety.

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*API* means the American Petroleum Institute.

*ASME* means the American Society of Mechanical Engineers.

*Catastrophic release* means a major uncontrolled emission, fire, or explosion, involving one or more regulated substances that presents imminent and substantial endangerment to public health and the environment.

*Classified information* means "classified information" as defined in the Classified Information Procedures Act, 18 U.S.C. App. 3, section 1(a) as "any information or material that has been determined by the United States Government pursuant to an executive order, statute, or regulation, to require protection against unauthorized disclosure for reasons of national security."

*Covered process* means a process that has a regulated substance present in more than a threshold quantity as determined under § 68.115.

*Designated agency* means the state, local, or Federal agency designated by the state under the provisions of § 68.215(d) .

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*Environmental receptor* means natural areas such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas, that could be exposed at any time to toxic concentrations, radiant heat, or overpressure greater than or equal to the endpoints provided in § 68.22(a) , as a result of an accidental release and that can be identified on local U. S. Geological Survey maps.

*Hot work* means work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations.

*Implementing agency* means the state or local agency that obtains delegation for an accidental release prevention program under subpart E, 40 CFR part 63. The implementing agency may, but is not required to, be the state or local air permitting agency. If no state or local agency is granted delegation, EPA will be the implementing agency for that state.

*Injury* means any effect on a human that results either from direct exposure to toxic concentrations; radiant heat; or overpressures from accidental releases or from the direct consequences of a vapor cloud explosion (such as flying glass, debris, and other projectiles) from an accidental release and that requires medical treatment or hospitalization.

*Major change* means introduction of a new process, process equipment, or regulated substance, an alteration of process chemistry that results in any change to safe operating limits, or other alteration that introduces a new hazard.

*Mechanical integrity* means the process of ensuring that process equipment is fabricated from the proper materials of construction and is properly installed, maintained, and replaced to prevent failures and accidental releases.

*Medical treatment* means treatment, other than first aid, administered by a physician or registered professional personnel under standing orders from a physician.

*Mitigation or mitigation system* means specific activities, technologies, or equipment designed or deployed to capture or control substances upon loss of containment to minimize exposure of the public or the environment. Passive mitigation means equipment, devices, or technologies that function without human, mechanical, or other energy input. Active mitigation means equipment, devices, or technologies that need human, mechanical, or other energy input to function.

*NFPA* means the National Fire Protection Association.

*Offsite* means areas beyond the property boundary of the stationary source, and areas within the property boundary to which the public has routine and unrestricted access during or outside business hours.

*OSHA* means the U.S. Occupational Safety and Health Administration.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source.

*Population* means the public.

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*Public* means any person except employees or contractors at the stationary source.

*Public receptor* means offsite residences, institutions (e.g., schools, hospitals), industrial, commercial, and office buildings, parks, or recreational areas inhabited or occupied by the public at any time without restriction by the stationary source where members of the public could be exposed to toxic concentrations, radiant heat, or overpressure, as a result of an accidental release.

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*Replacement in kind* means a replacement that satisfies the design specifications.

*RMP* means the risk management plan required under subpart G of this part.

*SIC* means Standard Industrial Classification.

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*Typical meteorological conditions* means the temperature, wind speed, cloud cover, and atmospheric stability class, prevailing at the site based on data gathered at or near the site or from a local meteorological station.

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*Worst-case release* means the release of the largest quantity of a regulated substance from a vessel or process line failure that results in the greatest distance to an endpoint defined in § 68.22(a).

5. Section 68.10 is added to subpart A to read as follows:

**§ 68.10 Applicability.**

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

(1) June 21, 1999;

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

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

(b) Program 1 eligibility requirements. A covered process is eligible for

Program 1 requirements as provided in § 68.12(b) if it meets all of the following requirements:

(1) For the five years prior to the submission of an RMP, the process has not had an accidental release of a regulated substance where exposure to the substance, its reaction products, overpressure generated by an explosion involving the substance, or radiant heat generated by a fire involving the substance led to any of the following offsite:

(i) Death;

(ii) Injury; or

(iii) Response or restoration activities for an exposure of an environmental receptor;

(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 § 68.30; and

(3) Emergency response procedures have been coordinated between the stationary source and local emergency planning and response organizations.

(c) Program 2 eligibility requirements. A covered process is subject to Program 2 requirements if it does not meet the eligibility requirements of either paragraph (b) or paragraph (d) of this section.

(d) Program 3 eligibility requirements. A covered process is subject to Program 3 if the process does not meet the requirements of paragraph (b) of this section, and if either of the following conditions is met:

(1) The process is in SIC code 2611, 2812, 2819, 2821, 2865, 2869, 2873, 2879, or 2911; or

(2) The process is subject to the OSHA process safety management standard, 29 CFR 1910.119.

(e) If at any time a covered process no longer meets the eligibility criteria of its Program level, the owner or operator shall comply with the requirements of the new Program level that applies to the process and update the RMP as provided in § 68.190.

6. Section 68.12 is added to subpart A to read as follows:

**§ 68.12 General requirements.**

(a) General requirements. The owner or operator of a stationary source subject to this part shall submit a single RMP, as provided in §§ 68.150 to 68.185. The RMP shall include a registration that reflects all covered processes.

(b) Program 1 requirements. In addition to meeting the requirements of paragraph (a) of this section, the owner or operator of a stationary source with a process eligible for Program 1, as provided in § 68.10(b), shall:

(1) Analyze the worst-case release scenario for the process(es), as provided in § 68.25; document that the nearest public receptor is beyond the distance to a toxic or flammable endpoint defined in § 68.22(a); and submit in the RMP the worst-case release scenario as provided in § 68.165;

(2) Complete the five-year accident history for the process as provided in § 68.42 of this part and submit it in the RMP as provided in § 68.168;

(3) Ensure that response actions have been coordinated with local emergency planning and response agencies; and

(4) Certify in the RMP the following: "Based on the criteria in 40 CFR 68.10, the distance to the specified endpoint for the worst-case accidental release scenario for the following process(es) is less than the distance to the nearest public receptor: [list process(es)]. Within the past five years, the process(es) has (have) had no accidental release that caused offsite impacts provided in the risk management program rule (40 CFR 68.10(b)(1)). No additional measures are necessary to prevent offsite impacts from accidental releases. In the event of fire, explosion, or a release of a regulated substance from the process(es), entry within the distance to the specified endpoints may pose a danger to public emergency responders. Therefore, public emergency responders should not enter this area except as arranged with the emergency contact indicated in the RMP. The undersigned certifies that, to the best of my knowledge, information, and belief, formed after reasonable inquiry, the information submitted is true, accurate, and complete. [Signature, title, date signed]."

(c) Program 2 requirements. In addition to meeting the requirements of paragraph (a) of this section, the owner or operator of a stationary source with a process subject to Program 2, as provided in § 68.10(c), shall:

(1) Develop and implement a management system as provided in § 68.15;

(2) Conduct a hazard assessment as provided in §§ 68.20 through 68.42;

(3) Implement the Program 2 prevention steps provided in §§ 68.48 through 68.60 or implement the Program 3 prevention steps provided in §§ 68.65 through 68.87;

(4) Develop and implement an emergency response program as provided in §§ 68.90 to 68.95; and

(5) Submit as part of the RMP the data on prevention program elements for Program 2 processes as provided in § 68.170.

(d) Program 3 requirements. In addition to meeting the requirements of paragraph (a) of this section, the owner or operator of a stationary source with a process subject to Program 3, as provided in § 68.10(d) shall:

(1) Develop and implement a management system as provided in § 68.15;

(2) Conduct a hazard assessment as provided in §§ 68.20 through 68.42;

(3) Implement the prevention requirements of §§ 68.65 through 68.87;

(4) Develop and implement an emergency response program as provided in §§ 68.90 to 68.95 of this part; and

(5) Submit as part of the RMP the data on prevention program elements for Program 3 processes as provided in § 68.175.

7. Section 68.15 is added to subpart A to read as follows:

**§ 68.15 Management.**

(a) The owner or operator of a stationary source with processes subject to Program 2 or Program 3 shall develop a management system to oversee the implementation of the risk management program elements.

(b) The owner or operator shall assign a qualified person or position that has the overall responsibility for the development, implementation, and integration of the risk management program elements.

(c) When responsibility for implementing individual requirements of this part is assigned to persons other than the person identified under paragraph (b) of this section, the names or positions of these people shall be documented and the lines of authority defined through an organization chart or similar document.

8. Subpart B—is added to read as follows:

**Subpart B—Hazard Assessment**

Sec.
68.20 Applicability.
68.22 Offsite consequence analysis parameters.
68.25 Worst-case release scenario analysis.
68.28 Alternative release scenario analysis.
68.30 Defining offsite impacts — population.
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68.42 Five-year accident history.

## Subpart B—Hazard Assessment

**§ 68.20 Applicability.**

The owner or operator of a stationary source subject to this part shall prepare a worst-case release scenario analysis as provided in § 68.25 of this part and complete the five-year accident history as provided in § 68.42. The owner or

operator of a Program 2 and 3 process must comply with all sections in this subpart for these processes.

**§ 68.22 Offsite consequence analysis parameters.**

(a) Endpoints. For analyses of offsite consequences, the following endpoints shall be used:

(1) Toxics. The toxic endpoints provided in Appendix A of this part.

(2) Flammables. The endpoints for flammables vary according to the scenarios studied:

(i) Explosion. An overpressure of 1 psi.

(ii) Radiant heat/exposure time. A radiant heat of 5 kw/m$^2$ for 40 seconds.

(iii) Lower flammability limit. A lower flammability limit as provided in NFPA documents or other generally recognized sources.

(b) Wind speed/atmospheric stability class. For the worst-case release analysis, the owner or operator shall use a wind speed of 1.5 meters per second and F atmospheric stability class. If the owner or operator can demonstrate that local meteorological data applicable to the stationary source show a higher minimum wind speed or less stable atmosphere at all times during the previous three years, these minimums may be used. For analysis of alternative scenarios, the owner or operator may use the typical meteorological conditions for the stationary source.

(c) Ambient temperature/humidity. For worst-case release analysis of a regulated toxic substance, the owner or operator shall use the highest daily maximum temperature in the previous three years and average humidity for the site, based on temperature/humidity data gathered at the stationary source or at a local meteorological station; an owner or operator using the RMP Offsite Consequence Analysis Guidance may use 25°C and 50 percent humidity as values for these variables. For analysis of alternative scenarios, the owner or operator may use typical temperature/humidity data gathered at the stationary source or at a local meteorological station.

(d) Height of release. The worst-case release of a regulated toxic substance shall be analyzed assuming a ground level (0 feet) release. For an alternative scenario analysis of a regulated toxic substance, release height may be determined by the release scenario.

(e) Surface roughness. The owner or operator shall use either urban or rural topography, as appropriate. Urban means that there are many obstacles in the immediate area; obstacles include buildings or trees. Rural means there are no buildings in the immediate area and the terrain is generally flat and unobstructed.

(f) Dense or neutrally buoyant gases. The owner or operator shall ensure that tables or models used for dispersion analysis of regulated toxic substances appropriately account for gas density.

(g) Temperature of released substance. For worst case, liquids other than gases liquified by refrigeration only shall be considered to be released at the highest daily maximum temperature, based on data for the previous three years appropriate for the stationary source, or at process temperature, whichever is higher. For alternative scenarios, substances may be considered to be released at a process or ambient temperature that is appropriate for the scenario.

**§ 68.25 Worst-case release scenario analysis.**

(a) The owner or operator shall analyze and report in the RMP:

(1) For Program 1 processes, one worst-case release scenario for each Program 1 process;

(2) For Program 2 and 3 processes:

(i) One worst-case release scenario that is estimated to create the greatest distance in any direction to an endpoint provided in Appendix A of this part resulting from an accidental release of regulated toxic substances from covered processes under worst-case conditions defined in § 68.22;

(ii) One worst-case release scenario that is estimated to create the greatest distance in any direction to an endpoint defined in § 68.22(a) resulting from an accidental release of regulated flammable substances from covered processes under worst-case conditions defined in § 68.22; and

(iii) Additional worst-case release scenarios for a hazard class if a worst-case release from another covered process at the stationary source potentially affects public receptors different from those potentially affected by the worst-case release scenario developed under paragraphs (a)(2)(i) or (a)(2)(ii) of this section.

(b) Determination of worst-case release quantity. The worst-case release quantity shall be the greater of the following:

(1) For substances in a vessel, the greatest amount held in a single vessel, taking into account administrative controls that limit the maximum quantity; or

(2) For substances in pipes, the greatest amount in a pipe, taking into account administrative controls that limit the maximum quantity.

(c) Worst-case release scenario—toxic gases.

(1) For regulated toxic substances that are normally gases at ambient temperature and handled as a gas or as a liquid under pressure, the owner or operator shall assume that the quantity in the vessel or pipe, as determined under paragraph (b) of this section, is released as a gas over 10 minutes. The release rate shall be assumed to be the total quantity divided by 10 unless passive mitigation systems are in place.

(2) For gases handled as refrigerated liquids at ambient pressure:

(i) If the released substance is not contained by passive mitigation systems or if the contained pool would have a depth of 1 cm or less, the owner or operator shall assume that the substance is released as a gas in 10 minutes;

(ii) If the released substance is contained by passive mitigation systems in a pool with a depth greater than 1 cm, the owner or operator may assume that the quantity in the vessel or pipe, as determined under paragraph (b) of this section, is spilled instantaneously to form a liquid pool. The volatilization rate (release rate) shall be calculated at the boiling point of the substance and at the conditions specified in paragraph (d) of this section.

(d) Worst-case release scenario—toxic liquids.

(1) For regulated toxic substances that are normally liquids at ambient temperature, the owner or operator shall assume that the quantity in the vessel or pipe, as determined under paragraph (b) of this section, is spilled instantaneously to form a liquid pool.

(i) The surface area of the pool shall be determined by assuming that the liquid spreads to 1 centimeter deep unless passive mitigation systems are in place that serve to contain the spill and limit the surface area. Where passive mitigation is in place, the surface area of the contained liquid shall be used to calculate the volatilization rate.

(ii) If the release would occur onto a surface that is not paved or smooth, the owner or operator may take into account the actual surface characteristics.

(2) The volatilization rate shall account for the highest daily maximum temperature occurring in the past three years, the temperature of the substance in the vessel, and the concentration of the substance if the liquid spilled is a mixture or solution.

(3) The rate of release to air shall be determined from the volatilization rate of the liquid pool. The owner or operator may use the methodology in the RMP Offsite Consequence Analysis Guidance or any other publicly available techniques that account for the modeling conditions and are recognized by industry as applicable as part of

current practices. Proprietary models that account for the modeling conditions may be used provided the owner or operator allows the implementing agency access to the model and describes model features and differences from publicly available models to local emergency planners upon request.

(e) Worst-case release scenario—flammables. The owner or operator shall assume that the quantity of the substance, as determined under paragraph (b) of this section, vaporizes resulting in a vapor cloud explosion. A yield factor of 10 percent of the available energy released in the explosion shall be used to determine the distance to the explosion endpoint if the model used is based on TNT-equivalent methods.

(f) Parameters to be applied. The owner or operator shall use the parameters defined in § 68.22 to determine distance to the endpoints. The owner or operator may use the methodology provided in the RMP Offsite Consequence Analysis Guidance or any commercially or publicly available air dispersion modeling techniques, provided the techniques account for the modeling conditions and are recognized by industry as applicable as part of current practices. Proprietary models that account for the modeling conditions may be used provided the owner or operator allows the implementing agency access to the model and describes model features and differences from publicly available models to local emergency planners upon request.

(g) Consideration of passive mitigation. Passive mitigation systems may be considered for the analysis of worst case provided that the mitigation system is capable of withstanding the release event triggering the scenario and would still function as intended.

(h) Factors in selecting a worst-case scenario. Notwithstanding the provisions of paragraph (b) of this section, the owner or operator shall select as the worst case for flammable regulated substances or the worst case for regulated toxic substances, a scenario based on the following factors if such a scenario would result in a greater distance to an endpoint defined in § 68.22(a) beyond the stationary source boundary than the scenario provided under paragraph (b) of this section:

(1) Smaller quantities handled at higher process temperature or pressure; and

(2) Proximity to the boundary of the stationary source.

**§ 68.28 Alternative release scenario analysis.**

(a) The number of scenarios. The owner or operator shall identify and analyze at least one alternative release scenario for each regulated toxic substance held in a covered process(es) and at least one alternative release scenario to represent all flammable substances held in covered processes.

(b) Scenarios to consider. (1) For each scenario required under paragraph (a) of this section, the owner or operator shall select a scenario:

(i) That is more likely to occur than the worst-case release scenario under § 68.25; and

(ii) That will reach an endpoint offsite, unless no such scenario exists.

(2) Release scenarios considered should include, but are not limited to, the following, where applicable:

(i) Transfer hose releases due to splits or sudden hose uncoupling;

(ii) Process piping releases from failures at flanges, joints, welds, valves and valve seals, and drains or bleeds;

(iii) Process vessel or pump releases due to cracks, seal failure, or drain, bleed, or plug failure;

(iv) Vessel overfilling and spill, or overpressurization and venting through relief valves or rupture disks; and

(v) Shipping container mishandling and breakage or puncturing leading to a spill.

(c) Parameters to be applied. The owner or operator shall use the appropriate parameters defined in § 68.22 to determine distance to the endpoints. The owner or operator may use either the methodology provided in the RMP Offsite Consequence Analysis Guidance or any commercially or publicly available air dispersion modeling techniques, provided the techniques account for the specified modeling conditions and are recognized by industry as applicable as part of current practices. Proprietary models that account for the modeling conditions may be used provided the owner or operator allows the implementing agency access to the model and describes model features and differences from publicly available models to local emergency planners upon request.

(d) Consideration of mitigation. Active and passive mitigation systems may be considered provided they are capable of withstanding the event that triggered the release and would still be functional.

(e) Factors in selecting scenarios. The owner or operator shall consider the following in selecting alternative release scenarios:

(1) The five-year accident history provided in § 68.42; and

(2) Failure scenarios identified under §§ 68.50 or 68.67.

**§ 68.30 Defining offsite impacts—population.**

(a) The owner or operator shall estimate in the RMP the population within a circle with its center at the point of the release and a radius determined by the distance to the endpoint defined in § 68.22(a).

(b) Population to be defined. Population shall include residential population. The presence of institutions (schools, hospitals, prisons), parks and recreational areas, and major commercial, office, and industrial buildings shall be noted in the RMP.

(c) Data sources acceptable. The owner or operator may use the most recent Census data, or other updated information, to estimate the population potentially affected.

(d) Level of accuracy. Population shall be estimated to two significant digits.

**§ 68.33 Defining offsite impacts—environment.**

(a) The owner or operator shall list in the RMP environmental receptors within a circle with its center at the point of the release and a radius determined by the distance to the endpoint defined in § 68.22(a) of this part.

(b) Data sources acceptable. The owner or operator may rely on information provided on local U.S. Geological Survey maps or on any data source containing U.S.G.S. data to identify environmental receptors.

**68.36 Review and update.**

(a) The owner or operator shall review and update the offsite consequence analyses at least once every five years.

(b) If changes in processes, quantities stored or handled, or any other aspect of the stationary source might reasonably be expected to increase or decrease the distance to the endpoint by a factor of two or more, the owner or operator shall complete a revised analysis within six months of the change and submit a revised risk management plan as provided in § 68.190.

**§ 68.39 Documentation**

The owner or operator shall maintain the following records on the offsite consequence analyses:

(a) For worst-case scenarios, a description of the vessel or pipeline and substance selected as worst case, assumptions and parameters used, and the rationale for selection; assumptions shall include use of any administrative

controls and any passive mitigation that were assumed to limit the quantity that could be released. Documentation shall include the anticipated effect of the controls and mitigation on the release quantity and rate.

(b) For alternative release scenarios, a description of the scenarios identified, assumptions and parameters used, and the rationale for the selection of specific scenarios; assumptions shall include use of any administrative controls and any mitigation that were assumed to limit the quantity that could be released. Documentation shall include the effect of the controls and mitigation on the release quantity and rate.

(c) Documentation of estimated quantity released, release rate, and duration of release.

(d) Methodology used to determine distance to endpoints.

(e) Data used to estimate population and environmental receptors potentially affected.

**§ 68.42 Five-year accident history.**

(a) The owner or operator shall include in the five-year accident history 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.

(b) Data required. For each accidental release included, the owner or operator shall report the following information:

(1) Date, time, and approximate duration of the release;

(2) Chemical(s) released;

(3) Estimated quantity released in pounds;

(4) The type of release event and its source;

(5) Weather conditions, if known;

(6) On-site impacts;

(7) Known offsite impacts;

(8) Initiating event and contributing factors if known;

(9) Whether offsite responders were notified if known; and

(10) Operational or process changes that resulted from investigation of the release.

(c) Level of accuracy. Numerical estimates may be provided to two significant digits.

9. Subpart C is added to read as follows:

**Subpart C—Program 2 Prevention Program**

Secs.
68.48 Safety information.
68.50 Hazard review.
68.52 Operating procedures.
68.54 Training.
68.56 Maintenance.
68.58 Compliance audits.
68.60 Incident investigation.

## Subpart C—Program 2 Prevention Program

**§ 68.48 Safety information.**

(a) The owner or operator shall compile and maintain the following up-to-date safety information related to the regulated substances, processes, and equipment:

(1) Material Safety Data Sheets that meet the requirements of 29 CFR 1910.1200(g);

(2) Maximum intended inventory of equipment in which the regulated substances are stored or processed;

(3) Safe upper and lower temperatures, pressures, flows, and compositions;

(4) Equipment specifications; and

(5) Codes and standards used to design, build, and operate the process.

(b) The owner or operator shall ensure that the process is designed in compliance with recognized and generally accepted good engineering practices. Compliance with Federal or state regulations that address industry-specific safe design or with industry-specific design codes and standards may be used to demonstrate compliance with this paragraph.

(c) The owner or operator shall update the safety information if a major change occurs that makes the information inaccurate.

**§ 68.50 Hazard review.**

(a) The owner or operator shall conduct a review of the hazards associated with the regulated substances, process, and procedures. The review shall identify the following:

(1) The hazards associated with the process and regulated substances;

(2) Opportunities for equipment malfunctions or human errors that could cause an accidental release;

(3) The safeguards used or needed to control the hazards or prevent equipment malfunction or human error; and

(4) Any steps used or needed to detect or monitor releases.

(b) The owner or operator may use checklists developed by persons or organizations knowledgeable about the process and equipment as a guide to conducting the review. For processes designed to meet industry standards or Federal or state design rules, the hazard review shall, by inspecting all equipment, determine whether the process is designed, fabricated, and operated in accordance with the applicable standards or rules.

(c) The owner or operator shall document the results of the review and ensure that problems identified are resolved in a timely manner.

(d) The review shall be updated at least once every five years. The owner or operator shall also conduct reviews whenever a major change in the process occurs; all issues identified in the review shall be resolved before startup of the changed process.

**§ 68.52 Operating procedures.**

(a) The owner or operator shall prepare written operating procedures that provide clear instructions or steps for safely conducting activities associated with each covered process consistent with the safety information for that process. Operating procedures or instructions provided by equipment manufacturers or developed by persons or organizations knowledgeable about the process and equipment may be used as a basis for a stationary source's operating procedures.

(b) The procedures shall address the following:

(1) Initial startup;

(2) Normal operations;

(3) Temporary operations;

(4) Emergency shutdown and operations;

(5) Normal shutdown;

(6) Startup following a normal or emergency shutdown or a major change that requires a hazard review;

(7) Consequences of deviations and steps required to correct or avoid deviations; and

(8) Equipment inspections.

(c) The owner or operator shall ensure that the operating procedures are updated, if necessary, whenever a major change occurs and prior to startup of the changed process.

**§ 68.54 Training.**

(a) The owner or operator shall ensure that each employee presently 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 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.

(c) The owner or operator may use training conducted under Federal or state regulations or under industry-specific standards or codes or training conducted by covered process equipment vendors to demonstrate compliance with this section to the extent that the training meets the requirements of this section.

(d) The owner or operator shall ensure that operators are trained in any updated or new procedures prior to startup of a process after a major change.

**§ 68.56 Maintenance.**

(a) The owner or operator shall prepare and implement procedures to maintain the on-going mechanical integrity of the process equipment. The owner or operator may use procedures or instructions provided by covered process equipment vendors or procedures in Federal or state regulations or industry codes as the basis for stationary source maintenance procedures.

(b) The owner or operator shall train or cause to be trained each employee involved in maintaining the on-going mechanical integrity of the process. To ensure that the employee can perform the job tasks in a safe manner, each such employee shall be trained in the hazards of the process, in how to avoid or correct unsafe conditions, and in the procedures applicable to the employee's job tasks.

(c) Any maintenance contractor shall ensure that each contract maintenance employee is trained to perform the maintenance procedures developed under paragraph (a) of this section.

(d) The owner or operator shall perform or cause to be performed inspections and tests on process equipment. Inspection and testing procedures shall follow recognized and generally accepted good engineering practices. The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations, industry standards or codes, good engineering practices, and prior operating experience.

**§ 68.58 Compliance audits.**

(a) The owner or operator shall certify that they have evaluated compliance with the provisions of this subpart at least every three years to verify that the procedures and practices developed under the rule are adequate and are being followed.

(b) The compliance audit shall be conducted by at least one person knowledgeable in the process.

(c) The owner or operator shall develop a report of the audit findings.

(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit and document that deficiencies have been corrected.

(e) The owner or operator shall retain the two (2) most recent compliance audit reports. This requirement does not apply to any compliance audit report that is more than five years old.

**§ 68.60 Incident investigation.**

(a) The owner or operator shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release.

(b) An incident investigation shall be initiated as promptly as possible, but not later than 48 hours following the incident.

(c) A summary shall be prepared at the conclusion of the investigation which includes at a minimum:

(1) Date of incident;

(2) Date investigation began;

(3) A description of the incident;

(4) The factors that contributed to the incident; and,

(5) Any recommendations resulting from the investigation.

(d) The owner or operator shall promptly address and resolve the investigation findings and recommendations. Resolutions and corrective actions shall be documented.

(e) The findings shall be reviewed with all affected personnel whose job tasks are affected by the findings.

(f) Investigation summaries shall be retained for five years.

10. Subpart D is added to read as follows:

**Subpart D—Program 3 Prevention Program**

Sec.
68.65 Process safety information.
68.67 Process hazard analysis.
68.69 Operating procedures.
68.71 Training.
68.73 Mechanical integrity.
68.75 Management of change.
68.77 Pre-startup review.
68.79 Compliance audits.
68.81 Incident investigation.
68.83 Employee participation.
68.85 Hot work permit.
68.87 Contractors.

## Subpart D—Program 3 Prevention Program

**§ 68.65 Process safety information.**

(a) In accordance with the schedule set forth in § 68.67, the owner or operator shall complete a compilation of written process safety information before conducting any process hazard analysis required by the rule. The compilation of written process safety information is to enable the owner or operator and the employees involved in operating the process to identify and understand the hazards posed by those processes involving regulated substances. This process safety information shall include information pertaining to the hazards of the regulated substances used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process.

(b) Information pertaining to the hazards of the regulated substances in the process. This information shall consist of at least the following:

(1) Toxicity information;

(2) Permissible exposure limits;

(3) Physical data;

(4) Reactivity data:

(5) Corrosivity data;

(6) Thermal and chemical stability data; and

(7) Hazardous effects of inadvertent mixing of different materials that could foreseeably occur.

Note to paragraph (b): Material Safety Data Sheets 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.

(c) Information pertaining to the technology of the process.

(1) Information concerning the technology of the process shall include at least the following:

(i) A block flow diagram or simplified process flow diagram;

(ii) Process chemistry;

(iii) Maximum intended inventory;

(iv) Safe upper and lower limits for such items as temperatures, pressures, flows or compositions; and,

(v) An evaluation of the consequences of deviations.

(2) Where the original technical information no longer exists, such information may be developed in conjunction with the process hazard analysis in sufficient detail to support the analysis.

(d) Information pertaining to the equipment in the process.

(1) Information pertaining to the equipment in the process shall include:

(i) Materials of construction:

(ii) Piping and instrument diagrams (P&ID's);

(iii) Electrical classification;

(iv) Relief system design and design basis;

(v) Ventilation system design;

(vi) Design codes and standards employed;

(vii) Material and energy balances for processes built after June 21, 1999; and

(viii) Safety systems (e.g. interlocks, detection or suppression systems).

(2) The owner or operator shall document that equipment complies with recognized and generally accepted good engineering practices.

(3) For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the owner or operator shall determine and document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

**§ 68.67 Process hazard analysis.**

(a) The owner or operator shall perform an initial process hazard analysis (hazard evaluation) on processes covered by this part. The process hazard analysis shall be appropriate to the complexity of the process and shall identify, evaluate, and control the hazards involved in the process. The owner or operator shall determine and document the priority order for conducting process hazard analyses based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. The process hazard analysis shall be conducted as soon as possible, but not later than June 21, 1999. Process hazards analyses completed to comply with 29 CFR 1910.119(e) are acceptable as initial process hazards analyses. These process hazard analyses shall be updated and revalidated, based on their completion date.

(b) The owner or operator shall use one or more of the following methodologies that are appropriate to determine and evaluate the hazards of the process being analyzed.

(1) What-If;

(2) Checklist;

(3) What-If/Checklist;

(4) Hazard and Operability Study (HAZOP);

(5) Failure Mode and Effects Analysis (FMEA);

(6) Fault Tree Analysis; or

(7) An appropriate equivalent methodology.

(c) The process hazard analysis shall address:

(1) The hazards of the process;

(2) The identification of any previous incident which had a likely potential for catastrophic consequences.

(3) Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors.);

(4) Consequences of failure of engineering and administrative controls;

(5) Stationary source siting;

(6) Human factors; and

(7) A qualitative evaluation of a range of the possible safety and health effects of failure of controls.

(d) The process hazard analysis shall be performed by a team with expertise in engineering and process operations, and the team shall include at least one employee who has experience and knowledge specific to the process being evaluated. Also, one member of the team must be knowledgeable in the specific process hazard analysis methodology being used.

(e) The owner or operator shall establish a system to promptly address the team's findings and recommendations; assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; develop a written schedule of when these actions are to be completed; communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.

(f) At least every five (5) years after the completion of the initial process hazard analysis, the process hazard analysis shall be updated and revalidated by a team meeting the requirements in paragraph (d) of this section, to assure that the process hazard analysis is consistent with the current process. Updated and revalidated process hazard analyses completed to comply with 29 CFR 1910.119(e) are acceptable to meet the requirements of this paragraph.

(g) The owner or operator shall retain process hazards analyses and updates or revalidations for each process covered by this section, as well as the documented resolution of recommendations described in paragraph (e) of this section for the life of the process.

**§ 68.69 Operating procedures.**

(a) The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements.

(1) Steps for each operating phase:

(i) Initial startup;

(ii) Normal operations;

(iii) Temporary operations;

(iv) Emergency shutdown including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner.

(v) Emergency operations;

(vi) Normal shutdown; and,

(vii) Startup following a turnaround, or after an emergency shutdown.

(2) Operating limits:

(i) Consequences of deviation; and

(ii) Steps required to correct or avoid deviation.

(3) Safety and health considerations:

(i) Properties of, and hazards presented by, the chemicals used in the process;

(ii) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment;

(iii) Control measures to be taken if physical contact or airborne exposure occurs;

(iv) Quality control for raw materials and control of hazardous chemical inventory levels; and,

(v) Any special or unique hazards.

(4) Safety systems and their functions.

(b) Operating procedures shall be readily accessible to employees who work in or maintain a process.

(c) The operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, and equipment, and changes to stationary sources. The owner or operator shall certify annually that these operating procedures are current and accurate.

(d) The owner or operator shall develop and implement safe work practices to provide for the control of hazards during operations such as lockout/tagout; confined space entry; opening process equipment or piping; and control over entrance into a stationary source by maintenance, contractor, laboratory, or other support personnel. These safe work practices shall apply to employees and contractor employees.

**§ 68.71 Training.**

(a) Initial training. (1) Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in § 68.69. The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks.

(2) In lieu of initial training for those employees already involved in operating a process on June 21, 1999 an 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 specified 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 assure that the employee understands and adheres to the current operating procedures of the process. The owner or operator, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

(c) Training documentation. The owner or operator shall ascertain that each employee involved in operating a process has received and understood the training required by this paragraph. The owner or operator shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

**§ 68.73 Mechanical integrity.**

(a) Application. Paragraphs (b) through (f) of this section apply to the following process equipment:

(1) Pressure vessels and storage tanks;

(2) Piping systems (including piping components such as valves);

(3) Relief and vent systems and devices;

(4) Emergency shutdown systems;

(5) Controls (including monitoring devices and sensors, alarms, and interlocks) and,

(6) Pumps.

(b) Written procedures. The owner or operator shall establish and implement written procedures to maintain the on-going integrity of process equipment.

(c) Training for process maintenance activities. The owner or operator shall train each employee involved in maintaining the on-going integrity of process equipment in an overview of that process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.

(d) Inspection and testing. (1) Inspections and tests shall be performed on process equipment.

(2) Inspection and testing procedures shall follow recognized and generally accepted good engineering practices.

(3) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience.

(4) The owner or operator shall document each inspection and test that has been performed on process equipment. The documentation shall identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

(e) Equipment deficiencies. The owner or operator shall correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information in § 68.65) before further use or in a safe and timely manner when necessary means are taken to assure safe operation.

(f) Quality assurance. (1) In the construction of new plants and equipment, the owner or operator shall assure that equipment as it is fabricated is suitable for the process application for which they will be used.

(2) Appropriate checks and inspections shall be performed to assure that equipment is installed properly and consistent with design specifications and the manufacturer's instructions.

(3) The owner or operator shall assure that maintenance materials, spare parts and equipment are suitable for the process application for which they will be used.

**§ 68.75 Management of change.**

(a) The owner or operator shall establish and implement written procedures to manage changes (except for "replacements in kind") to process chemicals, technology, equipment, and procedures; and, changes to stationary sources that affect a covered process.

(b) The procedures shall assure that the following considerations are addressed prior to any change:

(1) The technical basis for the proposed change;

(2) Impact of change on safety and health;

(3) Modifications to operating procedures;

(4) Necessary time period for the change; and,

(5) Authorization requirements for the proposed change.

(c) Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

(d) If a change covered by this paragraph results in a change in the process safety information required by § 68.65 of this part, such information shall be updated accordingly.

(e) If a change covered by this paragraph results in a change in the operating procedures or practices required by § 68.69, such procedures or practices shall be updated accordingly.

**§ 68.77 Pre-startup review.**

(a) The owner or operator shall perform a pre-startup safety review for new stationary sources and for modified stationary sources when the modification is significant enough to require a change in the process safety information.

(b) The pre-startup safety review shall confirm that prior to the introduction of regulated substances to a process:

(1) Construction and equipment is in accordance with design specifications;

(2) Safety, operating, maintenance, and emergency procedures are in place and are adequate;

(3) For new stationary sources, a process hazard analysis has been performed and recommendations have been resolved or implemented before startup; and modified stationary sources meet the requirements contained in management of change, § 68.75.

(4) Training of each employee involved in operating a process has been completed.

**§ 68.79 Compliance audits.**

(a) The owner or operator shall certify that they have evaluated compliance with the provisions of this section at least every three years to verify that the procedures and practices developed under the standard are adequate and are being followed.

(b) The compliance audit shall be conducted by at least one person knowledgeable in the process.

(c) A report of the findings of the audit shall be developed.

(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.

(e) The owner or operator shall retain the two (2) most recent compliance audit reports.

**§ 68.81 Incident investigation.**

(a) The owner or operator shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release of a regulated substance.

(b) An incident investigation shall be initiated as promptly as possible, but not later than 48 hours following the incident.

(c) An incident investigation team shall be established and consist of at least one person knowledgeable in the

process involved, including a contract employee if the incident involved work of the contractor, 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 which includes at a minimum:

(1) Date of incident;

(2) Date investigation began;

(3) A description of the incident;

(4) The factors that contributed to the incident; and,

(5) Any recommendations resulting from the investigation.

(e) The owner or operator shall establish a system to promptly address and resolve the incident report findings and recommendations. Resolutions and corrective actions shall be documented.

(f) The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable.

(g) Incident investigation reports shall be retained for five years.

**§ 68.83 Employee participation.**

(a) The owner or operator shall develop a written plan of action regarding the implementation of the employee participation required by this section.

(b) The owner or operator shall consult with employees and their representatives on the conduct and development of process hazards analyses and on the development of the other elements of process safety management in this rule.

(c) The owner or operator shall provide to employees and their representatives access to process hazard analyses and to all other information required to be developed under this rule.

**§ 68.85 Hot work permit.**

(a) The owner or operator shall issue a hot work permit for hot work operations conducted on or near a covered process.

(b) The permit shall document that the fire prevention and protection requirements in 29 CFR 1910.252(a) have been implemented prior to beginning the hot work operations; it shall indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed. The permit shall be kept on file until completion of the hot work operations.

**§ 68.87 Contractors.**

(a) Application. This section applies to contractors performing maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to a covered process. It does not apply to contractors providing incidental services which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery or other supply services.

(b) Owner or operator responsibilities. (1) The owner or operator, when selecting a contractor, shall obtain and evaluate information regarding the contract owner or operator's safety performance and programs.

(2) The owner or operator shall inform contract owner or operator of the known potential fire, explosion, or toxic release hazards related to the contractor's work and the process.

(3) The owner or operator shall explain to the contract owner or operator the applicable provisions of subpart E of this part.

(4) The owner or operator shall develop and implement safe work practices consistent with § 68.69(d), to control the entrance, presence, and exit of the contract owner or operator and contract employees in covered process areas.

(5) The owner or operator shall periodically evaluate the performance of the contract owner or operator in fulfilling their obligations as specified in paragraph (c) of this section.

(c) Contract owner or operator responsibilities. (1) The contract owner or operator shall assure that each contract employee is trained in the work practices necessary to safely perform his/her job.

(2) The contract owner or operator shall assure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan.

(3) The contract owner or operator shall document that each contract employee has received and understood the training required by this section. The contract owner or operator shall prepare a record which contains the identity of the contract employee, the date of training, and the means used to verify that the employee understood the training.

(4) The contract owner or operator shall assure that each contract employee follows the safety rules of the stationary source including the safe work practices required by § 68.69(d).

(5) The contract owner or operator shall advise the owner or operator of any unique hazards presented by the contract owner or operator's work, or of any hazards found by the contract owner or operator's work.

11. Subpart E is added to read as follows:

**Subpart E—Emergency Response**

Sec.
68.90 Applicability.
68.95 Emergency Response Program.

## Subpart E—Emergency Response

**§ 68.90 Applicability.**

(a) Except as provided in paragraph (b) of this section, the owner or operator of a stationary source with Program 2 and Program 3 processes shall comply with the requirements of § 68.95.

(b) The owner or operator of stationary source whose employees will not respond to accidental releases of regulated substances need not comply with § 68.95 of this part provided that they meet the following:

(1) For stationary sources with any regulated toxic substance held in a process above the threshold quantity, the stationary source is included in the community emergency response plan developed under 42 U.S.C. 11003;

(2) For stationary sources with only regulated flammable substances held in a process above the threshold quantity, the owner or operator has coordinated response actions with the local fire department; and

(3) Appropriate mechanisms are in place to notify emergency responders when there is a need for a response.

**§ 68.95 Emergency response program.**

(a) The owner or operator shall develop and implement an emergency response program for the purpose of protecting public health and the environment. Such program shall include the following elements:

(1) An emergency response plan, which shall be maintained at the stationary source and contain at least the following elements:

(i) Procedures for informing the public and local emergency response agencies about accidental releases;

(ii) Documentation of proper first-aid and emergency medical treatment necessary to treat accidental human exposures; and

(iii) Procedures and measures for emergency response after an accidental release of a regulated substance;

(2) Procedures for the use of emergency response equipment and for its inspection, testing, and maintenance;

(3) Training for all employees in relevant procedures; and

(4) Procedures to review and update, as appropriate, the emergency response plan to reflect changes at the stationary source and ensure that employees are informed of changes.

(b) A written plan that complies with other Federal contingency plan

regulations or is consistent with the approach in the National Response Team's Integrated Contingency Plan Guidance ("One Plan") and that, among other matters, includes the elements provided in paragraph (a) of this section, shall satisfy the requirements of this section if the owner or operator also complies with paragraph (c) of this section.

(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 local emergency planning committee 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.

12. Subpart G is added to read as follows:

**Subpart G—Risk Management Plan**

Sec.
68.150 Submission.
68.155 Executive summary.
68.160 Registration.
68.165 Offsite consequence analysis.
68.168 Five-year accident history.
68.170 Prevention program/Program 2.
68.175 Prevention program/Program 3.
68.180 Emergency response program.
68.185 Certification.
68.190 Updates.

## Subpart G—Risk Management Plan

### § 68.150 Submission.

(a) The owner or operator shall submit a single RMP that includes the information required by §§ 68.155 through 68.185 for all covered processes. The RMP shall be submitted in a method and format to a central point as specified by EPA prior to June 21, 1999.

(b) The owner or operator shall submit the first RMP no later than the latest of the following dates:

(1) June 21, 1999;

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

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

(c) Subsequent submissions of RMPs shall be in accordance with § 68.190.

(d) Notwithstanding the provisions of §§ 68.155 to 68.190, the RMP shall exclude classified information. Subject to appropriate procedures to protect such information from public disclosure, classified data or information excluded from the RMP may be made available in a classified annex to the RMP for review by Federal and state representatives who have received the appropriate security clearances.

### § 68.155 Executive summary.

The owner or operator shall provide in the RMP an executive summary that includes a brief description of the following elements:

(a) The accidental release prevention and emergency response policies at the stationary source;

(b) The stationary source and regulated substances handled;

(c) The worst-case release scenario(s) and the alternative release scenario(s), including administrative controls and mitigation measures to limit the distances for each reported scenario;

(d) The general accidental release prevention program and chemical-specific prevention steps;

(e) The five-year accident history;

(f) The emergency response program; and

(g) Planned changes to improve safety.

### § 68.160 Registration.

(a) The owner or operator shall complete a single registration form and include it in the RMP. The form shall cover all regulated substances handled in covered processes.

(b) The registration shall include the following data:

(1) Stationary source name, street, city, county, state, zip code, latitude, and longitude;

(2) The stationary source Dun and Bradstreet number;

(3) Name and Dun and Bradstreet number of the corporate parent company;

(4) The name, telephone number, and mailing address of the owner or operator;

(5) The name and title of the person or position with overall responsibility for RMP elements and implementation;

(6) The name, title, telephone number, and 24-hour telephone number of the emergency contact;

(7) For each covered process, the name and CAS number of each regulated substance held above the threshold quantity in the process, the maximum quantity of each regulated substance or mixture in the process (in pounds) to two significant digits, the SIC code, and the Program level of the process;

(8) The stationary source EPA identifier;

(9) The number of full-time employees at the stationary source;

(10) Whether the stationary source is subject to 29 CFR 1910.119;

(11) Whether the stationary source is subject to 40 CFR part 355;

(12) Whether the stationary source has a CAA Title V operating permit; and

(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 entity.

### § 68.165 Offsite consequence analysis.

(a) The owner or operator shall submit in the RMP information:

(1) One worst-case release scenario for each Program 1 process; and

(2) For Program 2 and 3 processes, one worst-case release scenario to represent all regulated toxic substances held above the threshold quantity and one worst-case release scenario to represent all regulated flammable substances held above the threshold quantity. If additional worst-case scenarios for toxics or flammables are required by § 68.25(a)(2)(iii), the owner or operator shall submit the same information on the additional scenario(s). The owner or operator of Program 2 and 3 processes shall also submit information on one alternative release scenario for each regulated toxic substance held above the threshold quantity and one alternative release scenario to represent all regulated flammable substances held above the threshold quantity.

(b) The owner or operator shall submit the following data:

(1) Chemical name;

(2) Physical state (toxics only);

(3) Basis of results (give model name if used);

(4) Scenario (explosion, fire, toxic gas release, or liquid spill and vaporization);

(5) Quantity released in pounds;

(6) Release rate;

(7) Release duration;

(8) Wind speed and atmospheric stability class (toxics only);

(9) Topography (toxics only);

(10) Distance to endpoint;

(11) Public and environmental receptors within the distance;

(12) Passive mitigation considered; and

(13) Active mitigation considered (alternative releases only);

### § 68.168 Five-year accident history.

The owner or operator shall submit in the RMP the information provided in § 68.42(b) on each accident covered by § 68.42(a).

### § 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 (k) 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.

(b) The SIC code for the process.

(c) The name(s) of the chemical(s) covered.

(d) The date of the most recent review or revision of the safety information and a list of Federal or state regulations or industry-specific design codes and standards used to demonstrate compliance with the safety information requirement.

(e) The date of completion of the most recent hazard review or update.

(1) The expected date of completion of any changes resulting from the hazard review;

(2) Major hazards identified;

(3) Process controls in use;

(4) Mitigation systems in use;

(5) Monitoring and detection systems in use; and

(6) Changes since the last hazard review.

(f) The date of the most recent review or revision of operating procedures.

(g) The date of the most recent review or revision of training programs;

(1) The type of training provided—classroom, classroom plus on the job, on the job; and

(2) The type of competency testing used.

(h) 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.

(i) The date of the most recent compliance audit and the expected date of completion of any changes resulting from the compliance audit.

(j) The date of the most recent incident investigation and the expected date of completion of any changes resulting from the investigation.

(k) 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.

**§ 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 (p) 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.

(b) The SIC code for the process.

(c) The name(s) of the substance(s) covered.

(d) The date on which the safety information was last reviewed or revised.

(e) The date of completion of the most recent PHA or update and the technique used.

(1) The expected date of completion of any changes resulting from the PHA;

(2) Major hazards identified;

(3) Process controls in use;

(4) Mitigation systems in use;

(5) Monitoring and detection systems in use; and

(6) Changes since the last PHA.

(f) The date of the most recent review or revision of operating procedures.

(g) The date of the most recent review or revision of training programs;

(1) The type of training provided—classroom, classroom plus on the job, on the job; and

(2) The type of competency testing used.

(h) 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.

(i) The date of the most recent change that triggered management of change procedures and the date of the most recent review or revision of management of change procedures.

(j) The date of the most recent pre-startup review.

(k) The date of the most recent compliance audit and the expected date of completion of any changes resulting from the compliance audit;

(l) The date of the most recent incident investigation and the expected date of completion of any changes resulting from the investigation;

(m) The date of the most recent review or revision of employee participation plans;

(n) The date of the most recent review or revision of hot work permit procedures;

(o) The date of the most recent review or revision of contractor safety procedures; and

(p) The date of the most recent evaluation of contractor safety performance.

**§ 68.180 Emergency response program.**

(a) The owner or operator shall provide in the RMP the following information:

(1) Do you have a written emergency response plan?

(2) Does the plan include specific actions to be taken in response to an accidental releases of a regulated substance?

(3) Does the plan include procedures for informing the public and local agencies responsible for responding to accidental releases?

(4) Does the plan include information on emergency health care?

(5) The date of the most recent review or update of the emergency response plan;

(6) The date of the most recent emergency response training for employees.

(b) The owner or operator shall provide the name and telephone number of the local agency with which the plan is coordinated.

(c) The owner or operator shall list other Federal or state emergency plan requirements to which the stationary source is subject.

**§ 68.185 Certification.**

(a) For Program 1 processes, the owner or operator shall submit in the RMP the certification statement provided in § 68.12(b)(4).

(b) For all other covered processes, the owner or operator shall submit in the RMP a single certification that, to the best of the signer's knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.

**§ 68.190 Updates.**

(a) The owner or operator shall review and update the RMP as specified in paragraph (b) of this section and submit it in a method and format to a central point specified by EPA prior to June 21, 1999.

(b) The owner or operator of a stationary source shall revise and update the RMP submitted under § 68.150 as follows:

(1) Within five years of its initial submission or most recent update required by paragraphs (b)(2) through (b)(7) of this section, whichever is later.

(2) No later than three years after a newly regulated substance is first listed by EPA;

(3) No later than the date on which a new regulated substance is first present in an already covered process above a threshold quantity;

(4) No later than the date on which a regulated substance is first present above a threshold quantity in a new process;

(5) Within six months of a change that requires a revised PHA or hazard review;

(6) Within six months of a change that requires a revised offsite consequence analysis as provided in § 68.36; and

(7) Within six months of a change that alters the Program level that applied to any covered process.

(c) If a stationary source is no longer subject to this part, the owner or operator shall submit a revised

registration to EPA within six months indicating that the stationary source is no longer covered.

13. Subpart H is added to read as follows:

**Subpart H—Other Requirements**

Sec.
§68.200 Recordkeeping.
§68.210 Availability of information to the public.
68.215 Permit content and air permitting authority or designated agency requirements.
68.220 Audits.

## Subpart H—Other Requirements

**§68.200 Recordkeeping.**

The owner or operator shall maintain records supporting the implementation of this part for five years unless otherwise provided in Subpart D of this part.

**§68.210 Availability of information to the public.**

(a) The RMP required under subpart G of this part shall be available to the public under 42 U.S.C. 7414(c).

(b) The disclosure of classified information 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.

**§68.215 Permit content and air permitting authority or designated agency requirements.**

(a) These requirements apply to any stationary source subject to this part 68 and parts 70 or 71 of this Chapter. The 40 CFR part 70 or part 71 permit for the stationary source shall contain:

(1) A statement listing this part as an applicable requirement;

(2) Conditions that require the source owner or operator to submit:

(i) A compliance schedule for meeting the requirements of this part by the date provided in §68.10(a) or;

(ii) As part of the compliance certification submitted under 40 CFR 70.6(c)(5), a certification statement that the source is in compliance with all requirements of this part, including the registration and submission of the RMP.

(b) The owner or operator shall submit any additional relevant information requested by the air permitting authority or designated agency.

(c) For 40 CFR part 70 or part 71 permits issued prior to the deadline for registering and submitting the RMP and which do not contain permit conditions described in paragraph (a) of this section, the owner or operator or air permitting authority shall initiate permit revision or reopening according to the procedures of 40 CFR 70.7 or 71.7 to incorporate the terms and conditions consistent with paragraph (a) of this section.

(d) The state may delegate the authority to implement and enforce the requirements of paragraph (e) of this section to a state or local agency or agencies other than the air permitting authority. An up-to-date copy of any delegation instrument shall be maintained by the air permitting authority. The state may enter a written agreement with the Administrator under which EPA will implement and enforce the requirements of paragraph (e) of this section.

(e) The air permitting authority or the agency designated by delegation or agreement under paragraph (d) of this section shall, at a minimum:

(1) Verify that the source owner or operator has registered and submitted an RMP or a revised plan when required by this part;

(2) Verify that the source owner or operator has submitted a source certification or in its absence has submitted a compliance schedule consistent with paragraph (a)(2) of this section;

(3) For some or all of the sources subject to this section, use one or more mechanisms such as, but not limited to, a completeness check, source audits, record reviews, or facility inspections to ensure that permitted sources are in compliance with the requirements of this part; and

(4) Initiate enforcement action based on paragraphs (e)(1) and (e)(2) of this section as appropriate.

**§68.220 Audits.**

(a) In addition to inspections for the purpose of regulatory development and enforcement of the Act, the implementing agency shall periodically audit RMPs submitted under subpart G of this part to review the adequacy of such RMPs and require revisions of RMPs when necessary to ensure compliance with subpart G of this part.

(b) The implementing agency shall select stationary sources for audits based on any of the following criteria:

(1) Accident history of the stationary source;

(2) Accident history of other stationary sources in the same industry;

(3) Quantity of regulated substances present at the stationary source;

(4) Location of the stationary source and its proximity to the public and environmental receptors;

(5) The presence of specific regulated substances;

(6) The hazards identified in the RMP; and

(7) A plan providing for neutral, random oversight.

(c) Exemption from audits. A stationary source with a Star or Merit ranking under OSHA's voluntary protection program shall be exempt from audits under paragraph (b)(2) and (b)(7) of this section.

(d) The implementing agency shall have access to the stationary source, supporting documentation, and any area where an accidental release could occur.

(e) Based on the audit, the implementing agency may issue the owner or operator of a stationary source a written preliminary determination of necessary revisions to the stationary source's RMP to ensure that the RMP meets the criteria of subpart G of this part. The preliminary determination shall include an explanation for the basis for the revisions, reflecting industry standards and guidelines (such as AIChE/CCPS guidelines and ASME and API standards) to the extent that such standards and guidelines are applicable, and shall include a timetable for their implementation.

(f) Written response to a preliminary determination.

(1) The owner or operator shall respond in writing to a preliminary determination made in accordance with paragraph (e) of this section. The response shall state the owner or operator will implement the revisions contained in the preliminary determination in accordance with the timetable included in the preliminary determination or shall state that the owner or operator rejects the revisions in whole or in part. For each rejected revision, the owner or operator shall explain the basis for rejecting such revision. Such explanation may include substitute revisions.

(2) The written response under paragraph (f)(1) of this section shall be received by the implementing agency within 90 days of the issue of the preliminary determination or a shorter period of time as the implementing agency specifies in the preliminary determination as necessary to protect public health and the environment. Prior to the written response being due and upon written request from the owner or operator, the implementing agency may provide in writing additional time for the response to be received.

(g) After providing the owner or operator an opportunity to respond under paragraph (f) of this section, the implementing agency may issue the owner or operator a written final determination of necessary revisions to

the stationary source's RMP. The final determination may adopt or modify the revisions contained in the preliminary determination under paragraph (e) of this section or may adopt or modify the substitute revisions provided in the response under paragraph (f) of this section. A final determination that adopts a revision rejected by the owner or operator shall include an explanation of the basis for the revision. A final determination that fails to adopt a substitute revision provided under paragraph (f) of this section shall include an explanation of the basis for finding such substitute revision unreasonable.

(h) Thirty days after completion of the actions detailed in the implementation schedule set in the final determination under paragraph (g) of this section, the owner or operator shall be in violation of subpart G of this part and this section unless the owner or operator revises the RMP prepared under subpart G of this part as required by the final determination, and submits the revised RMP as required under § 68.150.

(i) The public shall have access to the preliminary determinations, responses, and final determinations under this section in a manner consistent with § 68.210.

(j) Nothing in this section shall preclude, limit, or interfere in any way with the authority of EPA or the state to exercise its enforcement, investigatory, and information gathering authorities concerning this part under the Act.

14. Part 68 Appendix A is added to read as follows:

## APPENDIX A TO PART 68—TABLE OF TOXIC ENDPOINTS

[As defined in § 68.22 of this part]

| CAS No. | Chemical name | Toxic endpoint (mg/L) |
|---|---|---|
| 107-02-8 | Acrolein [2-Propenal] | 0.0011 |
| 107-13-1 | Acrylonitrile [2-Propenenitrile] | 0.076 |
| 814-68-6 | Acrylyl chloride [2-Propenoyl chloride] | 0.00090 |
| 107-18-6 | Allyl alcohol [2-Propen-1-ol] | 0.036 |
| 107-11-9 | Allylamine [2-Propen-1-amine] | 0.0032 |
| 7664-41-7 | Ammonia (anhydrous) | 0.14 |
| 7664-41-7 | Ammonia (conc 20% or greater) | 0.14 |
| 7784-34-1 | Arsenous trichloride | 0.010 |
| 7784-42-1 | Arsine | 0.0019 |
| 10294-34-5 | Boron trichloride [Borane, trichloro-] | 0.010 |
| 7637-07-2 | Boron trifluoride [Borane, trifluoro-] | 0.028 |
| 353-42-4 | Boron trifluoride compound with methyl ether (1:1) [Boron, trifluoro[oxybis[methane]]-, T-4 | 0.023 |
| 7726-95-6 | Bromine | 0.0065 |
| 75-15-0 | Carbon disulfide | 0.16 |
| 7782-50-5 | Chlorine | 0.0087 |
| 10049-04-4 | Chlorine dioxide [Chlorine oxide (ClO2)] | 0.0028 |
| 67-66-3 | Chloroform [Methane, trichloro-] | 0.49 |
| 542-88-1 | Chloromethyl ether [Methane, oxybis[chloro-] | 0.00025 |
| 107-30-2 | Chloromethyl methyl ether [Methane, chloromethoxy-] | 0.0018 |
| 4170-30-3 | Crotonaldehyde [2-Butenal] | 0.029 |
| 123-73-9 | Crotonaldehyde, (E)-, [2-Butenal, (E)-] | 0.029 |
| 506-77-4 | Cyanogen chloride | 0.030 |
| 108-91-8 | Cyclohexylamine [Cyclohexanamine] | 0.16 |
| 19287-45-7 | Diborane | 0.0011 |
| 75-78-5 | Dimethyldichlorosilane [Silane, dichlorodimethyl-] | 0.026 |
| 57-14-7 | 1,1-Dimethylhydrazine [Hydrazine, 1,1-dimethyl-] | 0.012 |
| 106-89-8 | Epichlorohydrin [Oxirane, (chloromethyl)-] | 0.076 |
| 107-15-3 | Ethylenediamine [1,2-Ethanediamine] | 0.49 |
| 151-56-4 | Ethyleneimine [Aziridine] | 0.018 |
| 75-21-8 | Ethylene oxide [Oxirane] | 0.090 |
| 7782-41-4 | Fluorine | 0.0039 |
| 50-00-0 | Formaldehyde (solution) | 0.012 |
| 110-00-9 | Furan | 0.0012 |
| 302-01-2 | Hydrazine | 0.011 |
| 7647-01-0 | Hydrochloric acid (conc 30% or greater) | 0.030 |
| 74-90-8 | Hydrocyanic acid | 0.011 |
| 7647-01-0 | Hydrogen chloride (anhydrous) [Hydrochloric acid] | 0.030 |
| 7664-39-3 | Hydrogen fluoride/Hydrofluoric acid (conc 50% or greater) [Hydrofluoric acid] | 0.016 |
| 7783-07-5 | Hydrogen selenide | 0.00066 |
| 7783-06-4 | Hydrogen sulfide | 0.042 |
| 13463-40-6 | Iron, pentacarbonyl- [Iron carbonyl (Fe(CO)5), (TB-5-11)-] | 0.00044 |
| 78-82-0 | Isobutyronitrile [Propanenitrile, 2-methyl-] | 0.14 |
| 108-23-6 | Isopropyl chloroformate [Carbonochloride acid, 1-methylethyl ester] | 0.10 |
| 126-98-7 | Methacrylonitrile [2-Propenenitrile, 2-methyl-] | 0.0027 |
| 74-87-3 | Methyl chloride [Methane, chloro-] | 0.82 |
| 79-22-1 | Methyl chloroformate [Carbonochloridic acid, methylester] | 0.0019 |
| 60-34-4 | Methyl hydrazine [Hydrazine, methyl-] | 0.0094 |
| 624-83-9 | Methyl isocyanate [Methane, isocyanato-] | 0.0012 |
| 74-93-1 | Methyl mercaptan [Methanethiol] | 0.049 |
| 556-64-9 | Methyl thiocyanate [Thiocyanic acid, methyl ester] | 0.085 |
| 75-79-6 | Methyltrichlorosilane [Silane, trichloromethyl-] | 0.018 |
| 13463-39-3 | Nickel carbonyl | 0.00067 |
| 7697-37-2 | Nitric acid (conc 80% or greater) | 0.026 |

APPENDIX A TO PART 68—TABLE OF TOXIC ENDPOINTS—Continued

[As defined in § 68.22 of this part]

| CAS No. | Chemical name | Toxic endpoint (mg/L) |
|---|---|---|
| 10102-43-9 | Nitric oxide [Nitrogen oxide (NO)] | 0.031 |
| 8014-95-7 | Oleum (Fuming Sulfuric acid) [Sulfuric acid, mixture with sulfur trioxide] | 0.010 |
| 79-21-0 | Peracetic acid [Ethaneperoxoic acid] | 0.0045 |
| 594-42-3 | Perchloromethylmercaptan [Methanesulfenyl chloride, trichloro-] | 0.0076 |
| 75-44-5 | Phosgene [Carbonic dichloride] | 0.00081 |
| 7803-51-2 | Phosphine | 0.0035 |
| 10025-87-3 | Phosphorus oxychloride [Phosphoryl chloride] | 0.0030 |
| 7719-12-2 | Phosphorus trichloride [Phosphorous trichloride] | 0.028 |
| 110-89-4 | Piperidine | 0.022 |
| 107-12-0 | Propionitrile [Propanenitrile] | 0.0037 |
| 109-61-5 | Propyl chloroformate [Carbonochloridic acid, propylester] | 0.010 |
| 75-55-8 | Propyleneimine [Aziridine, 2-methyl-] | 0.12 |
| 75-56-9 | Propylene oxide [Oxirane, methyl-] | 0.59 |
| 7446-09-5 | Sulfur dioxide (anhydrous) | 0.0078 |
| 7783-60-0 | Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-] | 0.0092 |
| 7446-11-9 | Sulfur trioxide | 0.010 |
| 75-74-1 | Tetramethyllead [Plumbane, tetramethyl-] | 0.0040 |
| 509-14-8 | Tetranitromethane [Methane, tetranitro-] | 0.0040 |
| 7750-45-0 | Titanium tetrachloride [Titanium chloride (TiCl4) (T-4)-] | 0.020 |
| 584-84-9 | Toluene 2,4-diisocyanate [Benzene, 2,4-diisocyanato-1-methyl-] | 0.0070 |
| 91-08-7 | Toluene 2,6-diisocyanate [Benzene, 1,3-diisocyanato-2-methyl-] | 0.0070 |
| 26471-62-5 | Toluene diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-] | 0.0070 |
| 75-77-4 | Trimethylchlorosilane [Silane, chlorotrimethyl-] | 0.050 |
| 108-05-4 | Vinyl acetate monomer [Acetic acid ethenyl ester] | 0.26 |

[FR Doc. 96-14597 Filed 6-19-96; 8:45 am]
BILLING CODE 6560-50-M

## 40 CFR Part 68

[FRL-5516-6]

## List of Regulated Substances and Thresholds for Accidental Release Prevention; Final Rule—Stay of Effectiveness

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** On April 15, 1996, the Environmental Protection Agency (EPA) proposed several modifications to provisions of the rule listing regulated substances and establishing threshold quantities under section 112(r) of the Clean Air Act as amended (List Rule Amendments). The proposed List Rule Amendments, if promulgated in a final rule, would clarify or establish that part 68 does not apply to several types of processes and sources. In addition, EPA proposed, pursuant to Clean Air Act section 301(a)(1), 42 U.S.C. 7601(a)(1), to stay the effectiveness of provisions that would be affected by the proposed List Rule Amendments, for so long as necessary to take final action on the proposed List Rule Amendments. EPA received no adverse public comment on the short-term stay. Today EPA is amending part 68 to promulgate the stay, under which owners and operators of processes and sources that EPA has proposed not be subject to part 68 would not become subject to part 68 until EPA has determined whether to proceed with the List Rule Amendments. The effect of today's action will be to give owners and operators of sources affected by the proposed List Rule Amendments the same amount of time to achieve compliance with the requirements of part 68 as owners and operators of other sources in the event that EPA does not proceed with the List Rule Amendments as proposed.

**EFFECTIVE DATE:** June 20, 1996.

**FOR FURTHER INFORMATION CONTACT:** Vanessa Rodriguez, Chemical Engineer, Chemical Emergency Preparedness and Prevention Office, Environmental Protection Agency (5101), 401 M St. SW., Washington, DC 20460, (202) 260-7913.

**SUPPLEMENTARY INFORMATION:**

### I. Background and Discussion

On April 15, 1996, EPA proposed amendments to regulations in 40 CFR part 68 that, inter alia, list regulated substances and establish threshold quantities for the accident prevention provisions under Clean Air Act section 112(r). 61 FR 16598. Readers should refer to that document for a complete discussion of the background of the rule affected. The amendments proposed in that document ("List Rule Amendments") would, if promulgated, delete explosives from the list of regulated substances, modify threshold provisions to exclude flammable substances in gasoline and in naturally occurring hydrocarbon mixtures prior to entry into a processing unit or plant, modify the threshold provisions for other flammable mixtures, and clarify the definition of stationary source with respect to transportation, storage incident to transportation, and naturally occurring hydrocarbon reservoirs.

On the same date, EPA proposed to stay provisions of part 68 that were affected by the proposed List Rule Amendments until such time as EPA takes final action on the proposed List Rule Amendments. 61 FR 16606. EPA proposed a stay of 18 months because it believed such a period would be sufficient to take final action on the List Rule Amendments and believed that owners and operators affected by the List Rule Amendments should have the same certainty about whether they are subject to part 68 as owners and operators of other sources have when they begin their regulatory compliance planning. In general, owners and operators of sources subject to the "Risk Management Program" final rule promulgated elsewhere in today's Federal Register, have three years from today to achieve compliance with part 68.

EPA received seven comment letters on the proposed stay; all generally supported EPA's action. The Agency's response to comments is contained below. Three commenters suggested that EPA should promulgate a stay for so long as it takes the Agency to take final action on the List Rule Amendments rather than for a certain (18 month) time period. The 18 month time period was selected to be consistent with the time period provided for final action on amendments discussed in the settlement of litigation concerning the List Rule. EPA believes this time will be sufficient to take any necessary action. Another commenter expressed concern that the stay would not affect statutory deadlines for seeking judicial review of the final Risk Management Program rule. EPA has not taken final action on the Risk Management Program rule's applicability to stationary sources, mixtures containing regulated flammable substances, and regulated explosive substances that are subject to today's stay. In the event that the Agency does not promulgate the List Rule Amendments, the Agency intends to take final action on applying the Risk Management Program to the sources, mixtures, and substances to be regulated. In the absence of final action on the Risk Management Program rule as it applies to these sources, mixtures, and substances, a petition seeking review of that rule would be premature.

Under the provisions of section 307(b)(1) of the Clean Air Act, a petition for judicial review of this stay may only be filed in the United States Court of Appeals for District of Columbia Circuit within 60 days of today's publication of this action.

II. Required Analyses

*A. E.O. 12866*

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must judge whether the regulatory action is "significant," and therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Order defines a "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or state, local, or tribal government or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined this final rule is not a "significant regulatory action" under the terms of Executive Order 12866 and therefore is not subject to OMB review.

*B. Regulatory Flexibility Act*

In accordance with the Regulatory Flexibility Act of 1980, Federal agencies must evaluate the effects of this final rule on small entities and examine alternatives that may reduce these effects. EPA has examined this final rule's potential effects on small entities as required by the Regulatory Flexibility Act. It has determined that this rule will have no adverse effect on small entities because it defers the need for stationary sources to comply with current rule provisions that EPA has proposed to amend; the amendments, if adopted, likely would reduce the number of stationary sources subject to the accidental release prevention requirements. Therefore, I certify that today's final stay of effectiveness rule will not have a significant economic effect on a substantial number of small entities.

*C. Paperwork Reduction Act*

This final rule does not include any information collection requirements for OMB to review under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*

*D. Unfunded Mandates*

Under section 202 of the Unfunded Mandates Reform Act of 1995, signed into law on March 22, 1995, EPA must prepare a statement to accompany any rule where the estimated costs to State, local, or tribal governments in the aggregate, or to the private sector, will be $100 million or more in any one year. Under section 205, EPA must select the most cost-effective and least burdensome alternative that achieves the objective of the rule and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly impacted by the rule.

EPA has estimated that this rule does not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector.

*E. Submission to Congress and the General Accounting Office*

Under section 801(a)(1)(A) of the Administrative Procedures Act (APA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996, EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives and the Comptroller General of the General Accounting Office prior to publication of the rule in today's Federal Register. This rule is not a "major rule" as defined by section 804(2) of the APA as amended.

List of Subjects in 40 CFR Part 68

Environmental protection, Chemicals, Chemical accident prevention, Clean Air Act, Extremely hazardous substances, Intergovernmental relations, Hazardous substances, Reporting and recordkeeping requirements.

Dated: May 24, 1996.

Carol M. Browner,

*Administrator.*

For the reasons set out in the preamble, Title 40, Chapter I, Subchapter C, Part 68 of the Code of Federal Regulations is amended to read as follows:

## PART 68—ACCIDENTAL RELEASE PREVENTION PROVISIONS

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

Authority: 42 U.S.C. 7412(r), 7601.

2. In Subpart A, Sec. 68.2 is added to read as follows:

**§ 68.2 Stayed Provisions.**

(a) Notwithstanding any other provision of this part, the effectiveness of the following provisions is stayed from March 2, 1994 to December 22, 1997.

(1) In Sec. 68.3, the definition of "stationary source," to the extent that such definition includes naturally occurring hydrocarbon reservoirs or transportation subject to oversight or regulation under a state natural gas or hazardous liquid program for which the state has in effect a certification to DOT under 49 U.S.C. 60105;

(2) Section 68.115(b)(2) of this part, to the extent that such provision requires an owner or operator to treat as a regulated flammable substance:

(i) Gasoline, when in distribution or related storage for use as fuel for internal combustion engines;

(ii) Naturally occurring hydrocarbon mixtures prior to entry into a petroleum refining process unit or a natural gas processing plant. Naturally occurring hydrocarbon mixtures include any of

the following: condensate, crude oil, field gas, and produced water, each as defined in paragraph (b) of this section;

(iii) Other mixtures that contain a regulated flammable substance and that do not have a National Fire Protection Association flammability hazard rating of 4, the definition of which is in the NFPA 704, Standard System for the Identification of the Fire Hazards of Materials, National Fire Protection Association, Quincy, MA, 1990, available from the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269-9101; and

(3) Section 68.130(a).

(b) From March 2, 1994 to December 22, 1997, the following definitions shall apply to the stayed provisions described in paragraph (a) of this section:

Condensate means hydrocarbon liquid separated from natural gas that condenses because of changes in temperature, pressure, or both, and remains liquid at standard conditions.

Crude oil means any naturally occurring, unrefined petroleum liquid.

Field gas means gas extracted from a production well before the gas enters a natural gas processing plant.

Natural gas processing plant means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of natural gas liquids to natural gas products, or both. A separator, dehydration unit, heater treater, sweetening unit, compressor, or similar equipment shall not be considered a "processing site" unless such equipment is physically located within a natural gas processing plant (gas plant) site.

Petroleum refining process unit means a process unit used in an establishment primarily engaged in petroleum refining as defined in the Standard Industrial Classification code for petroleum refining (2911) and used for the following: Producing transportation fuels (such as gasoline, diesel fuels, and jet fuels), heating fuels (such as kerosene, fuel gas distillate, and fuel oils), or lubricants; separating petroleum; or separating, cracking, reacting, or reforming intermediate petroleum streams. Examples of such units include, but are not limited to, petroleum based solvent units, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, lube oil processing, hydrogen production, isomerization, polymerization, thermal processes, and blending, sweetening, and treating processes. Petroleum refining process units include sulfur plants.

Produced water means water extracted from the earth from an oil or natural gas production well, or that is separated from oil or natural gas after extraction.

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## ENVIRONMENTAL PROTECTION AGENCY

[FRL-5517-1]

## Accidental Release Prevention Requirements: Risk Management Programs Under Section 112(r)(7) of the Clean Air Act as Amended; Guidances

**AGENCY:** Environmental Protection Agency.

**ACTION:** Notice of availability.

**SUMMARY:** Section 112(r)(7) of the Clean Air Act (CAA), as amended, requires the Environmental Protection Agency (EPA) to develop guidance documents, including model risk management plans, to assist stationary sources in the development of risk management programs. EPA is issuing three guidance documents that are available for review in Docket No. A-91-73 Category VIII-A: "RMP Offsite Consequence Analysis Guidance"; "Model Risk Management Program and Plan for Ammonia Refrigeration" and "Risk Management Plan Data Elements." The Agency views the Guidances issued today as "evergreen" documents and is interested in continued dialogue on the Guidances with interested members of the public. The Agency anticipates it will revise and update these Guidances from time to time as stakeholders and the Agency proceed in implementing the Risk Management Program regulations.

**ADDRESSES:**

*Docket.* These documents are in Docket A-91-73 Category VIII-A and available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday, including all non-Governmental holidays, at EPA's Air and Radiation Docket and Information Center, room M1500, U.S. Environmental Protection Agency (6102), 401 M Street S.W., Washington, D.C. 20460.

*Electronic Access.* These documents can be accessed in electronic format through the Internet system and through EPA's Technology Transfer Network (TTN), a network of electronic bulletin boards operated by the Office of Air Quality Planning and Standards. The Internet address of EPA's gopher server is GOPHER.EPA.GOV. This information is also available using File Transfer Protocol (FTP) on FTP.EPA.GOV or using World Wide Web (WWW) (http:/ /www.epa.gov/swercepp/). The TTN service is free, except for the cost of a phone call. To access the TTN, dial (919) 541-5742 for up to a 14,400 bits per second (bps) modem. If more information on TTN is needed, contact the systems operator at (919) 541-5382.

**FOR FURTHER INFORMATION CONTACT:** For technical information on the "Model Risk Management Program and Plan for Ammonia Refrigeration" and "Risk Management Plan Data Elements," contact Dr. Lyse Helsing, at (202) 260-6128. For technical information on the —"MP Offsite Consequence Analysis Guidance," contact Craig Matthiessen, at (202) 260-9781. To obtain copies of these documents, please FAX requests to the Emergency Planning and Community Right-to-Know Information Hotline (Hotline) at (703) 412-3333. The Hotline is also available to answer questions at (800) 535-0202 or (703) 412-9877 when calling from local Washington, D.C. area.

**SUPPLEMENTARY INFORMATION:** EPA announces the availability of Guidances that will assist stationary sources in complying with the provisions of the regulations implementing CAA section 112(r)(7)(B), part 68, including the requirement to prepare risk management plans. The documents made available today are guidances and do not create any obligations on the part of entities subject to part 68. These Guidances do not substitute for EPA's regulations, nor are they regulations themselves. The Guidances do not impose legally binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA may change these Guidances in the future, as appropriate.

Elsewhere in today's Federal Register, EPA has promulgated Risk Management Program regulations under part 68 in order to implement CAA section 112(r)(7). For information on these regulations, please see the above-referenced notice. Furthermore, for information on chemicals, sources, and processes subject to part 68, please see 40 CFR part 68 and the notice establishing these provisions (59 FR 4478, January 31, 1994). Finally, readers should note that, elsewhere in today's Federal Register, EPA has promulgated a stay of certain provisions of part 68 promulgated in the January 1994 rulemaking.

The "RMP Offsite Consequence Analysis Guidance" contains all the methodologies and reference tables that will be necessary to develop and analyze the consequences of worst case and alternative case scenarios for part 68. This Guidance is designed to help those sources subject to part 68 comply with the offsite consequence requirements without specific expertise or access to computer-based and more sophisticated modeling tools. Sources will be able to use the modeling results contained in this Guidance or other appropriate modeling results in complying with part 68.

The "Model Risk Management Program and Plan for Ammonia Refrigeration" is a model program and plan that will help owners and operators of ammonia refrigeration facilities comply with part 68. The Guidance includes a section on hazard assessment and on emergency response, and four appendices: (A) selection of scenarios; (B) background information on ammonia modeling; (C) effect of ammonia releases on structures; and (D) information about accidental ammonia releases.

EPA views both of the above-mentioned Guidances to be "evergreen." That is, while EPA is issuing these Guidances today, EPA will continue to seek public input and revise these documents as appropriate.

Part 68 requires the submission of risk management plans in a form and manner to be specified by EPA. The Risk Management Data Elements maps out the kinds of information that would be submitted by each source as its risk management plan. The draft includes an executive summary, registration, data on worst case and alternative releases for toxics and for flammables, five-year accident history, prevention program, and emergency response program. Like the other Guidances today, EPA intends to continue to seek public input on the format of submittal of the data required by part 68. In particular, EPA will study new methods for information submittal and public access to such information when it develops the information collection.

Dated: May 31, 1996.

Jim Makris,

*Director, Chemical Emergency Preparedness and Prevention Office.*

[FR Doc. 96-14627 Filed 6-19-96; 8:45 am]

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