6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA-HQ-OAR-2018-0833; FRL-9998-13-OAR]

RIN 2060-AU19

National Emission Standards for Hazardous Air Pollutants: Site Remediation Residual Risk and Technology Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The U.S. Environmental Protection Agency (EPA) is proposing amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Site Remediation source category. This proposal presents the results of the residual risk and technology review (RTR) conducted as required under the Clean Air Act (CAA). Based on the results of the residual risk review, the EPA is proposing that risks due to emissions of air toxics are acceptable and that no revision to the standards is required to provide an ample margin of safety to protect public health. Based on the technology review, we are proposing to amend the requirements for leak detection and repair (LDAR). In addition, the EPA is proposing amendments to revise regulatory provisions pertaining to emissions during periods of startup, shutdown and malfunction (SSM), including adding requirements for pressure relief devices; to add requirements for electronic submittal of semiannual reports and performance test results; to clarify provisions pertaining to open-ended valves and lines; and to make minor clarifications and corrections. The proposed revisions to the rule would increase the level of emissions control and environmental protection provided by the Site Remediation NESHAP. We are also

requesting additional comment related to subcategorization of sources relating to certain exemption provisions of the original rule that were proposed for removal in 2016.

DATES: *Comments*. Comments must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Public hearing. If anyone contacts us requesting a public hearing on or before **[INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we will hold a hearing. Additional information about the hearing, if requested, will be published in a subsequent **Federal Register** document and posted at *https://www.epa.gov/stationary-sources-air-pollution/site-remediation-national-emission-standards-hazardous-air*. See **SUPPLEMENTARY INFORMATION** for information on requesting and registering for a public hearing.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2018-0833, by any of the following methods:

- Federal eRulemaking Portal: *https://www.regulations.gov/* (our preferred method). Follow the online instructions for submitting comments.
- Email: *a-and-r-docket@epa.gov*. Include Docket ID No. EPA-HQ-OAR-2018-0833 in the subject line of the message.
- Fax: (202) 566-9744. Attention Docket ID No. EPA-HQ-OAR-2018-0833.

- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Docket ID No. EPA-HQ-OAR-2018-0833, Mail Code 28221T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460.

- Hand/Courier Delivery: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operation are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to *https://www.regulations.gov/*, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Matthew Witosky, Sector Policies and Programs Division (E143-05), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-2865; fax number: (919) 541-0516; and email address: *witosky.matthew@epa.gov*. For specific information regarding the risk modeling methodology, contact Matthew Woody, Health and Environmental Impacts Division (C539-02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-1535; fax number: (919) 541-0840; and email address: *woody.matthew@epa.gov*. For questions about monitoring and testing requirements, contact Theresa Lowe, Sector Policies and Programs Division (D143-05), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number (919) 541-

4786; fax number: (919) 541-4991; and email address: *Lowe.Theresa@epa.gov*. For information about the applicability of the NESHAP to a particular entity, contact Marcia Mia, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, WJC South Building (Mail Code 2227A), 1200 Pennsylvania Avenue, NW, Washington DC 20460; telephone number: (202) 564-7042; and email address: *Mia.Marcia@epa.gov*.

SUPPLEMENTARY INFORMATION:

Public hearing. Please contact Virginia Hunt at (919) 541-0832 or by email at *hunt.virginia@epa.gov* to request a public hearing, to register to speak at the public hearing, or to inquire as to whether a public hearing will be held.

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2018-0833. All documents in the docket are listed in Regulations.gov. Although listed, some information is not publicly available, *e.g.*, CBI (Confidential Business Information) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in Regulations.gov or in hard copy at the EPA Docket Center, Room 3334, WJC West Building, 1301 Constitution Avenue, NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2018-0833. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *https://www.regulations.gov/*, including any personal

information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *https://www.regulations.gov/* or email. This type of information should be submitted by mail as discussed below.

The EPA may publish any comment received to its public docket. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the Web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www2.epa.gov/dockets/commenting-epa-dockets*.

The *https://www.regulations.gov/* website allows you to submit your comment anonymously, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *https://www.regulations.gov/*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any digital storage media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be

free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at *https://www.epa.gov/dockets*.

The EPA is soliciting comment on numerous aspects of the proposed rule. The EPA has indexed each comment solicitation with an alpha-numeric identifier (*e.g.*, "C-1," "C-2," "C-3") to provide a consistent framework for effective and efficient provision of comments. Accordingly, the EPA asks that commenters include the identifier in either a heading, or within the text of each comment (*e.g.*, "In response to solicitation of comment C-1, …") to make clear which comment solicitation is being addressed. The EPA emphasizes that the Agency is not limiting comment to these identified areas and encourages provision of any other comments on topics within the scope of this proposal.

Submitting CBI. Do not submit information containing CBI to the EPA through *https://www.regulations.gov/* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on any digital storage media that you mail to the EPA, mark the outside of the digital storage media as CBI and then identify electronically within the digital storage media the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI directly to the public docket through the procedures outlined in *Instructions* above. If you submit any digital storage media that does not contain CBI, mark the outside of the digital storage media clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 Code of Federal Regulations (CFR) part 2. Send or deliver information identified as CBI only to the following address: OAQPS Document

Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA-HQ-OAR-2018-0833.

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

AEGL	acute exposure guideline level
AERMOD	air dispersion model used by the HEM-3 model
BACT	best available control technology
CAA	Clean Air Act
CalEPA	California EPA
CBI	Confidential Business Information
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guideline
ERT	Electronic Reporting Tool
GACT	generally achievable control technology
HAP	hazardous air pollutant(s)
HCl	hydrochloric acid
HEM-3	Human Exposure Model
HF	hydrogen fluoride
HI	hazard index
HQ	hazard quotient
IRIS	Integrated Risk Information System
km	kilometer
LAER	lowest achievable emission rate
MACT	maximum achievable control technology
mg/kg-day	milligrams per kilogram per day
mg/m^3	milligrams per cubic meter
MIR	maximum individual risk
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NESHAP	national emission standards for hazardous air pollutants
NRC	National Research Council
NSR	New Source Review
NTTAA	National Technology Transfer and Advancement Act

OAQPS	Office of Air Quality Planning and Standards
OECA	Office of Enforcement and Compliance Assurance
OMB	Office of Management and Budget
PAH	polycyclic aromatic hydrocarbons
PB-HAP	hazardous air pollutants known to be persistent and bio-accumulative in the environment
PM	particulate matter
POM	polycyclic organic matter
ppm	parts per million
RACT	reasonably available control technology
RBLC	RACT/BACT/LAER clearinghouse
REL	reference exposure level
RFA	Regulatory Flexibility Act
RfC	reference concentration
RfD	reference dose
RTR	residual risk and technology review
SAB	Science Advisory Board
SBA	Small Business Administration
SIC	Standard Industrial Classification
SSM	startup, shutdown, and malfunction
TOSHI	target organ-specific hazard index
tpy	tons per year
TRIM.FaTE	Total Risk Integrated Methodology.Fate, Transport, and Ecological Exposure model
UF	uncertainty factor
$\mu g/m^3$	microgram per cubic meter
UMRA	Unfunded Mandates Reform Act
URE	unit risk estimate
VCS	voluntary consensus standards

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

I. General Information

A. Does this action apply to me?

Table 1 of this preamble lists the NESHAP and associated regulated industrial source category that is the subject of this proposal. Table 1 is not intended to be exhaustive, but rather provides a guide for readers regarding the entities that this proposed action is likely to affect. The proposed standards, once promulgated, will be directly applicable to the affected sources. Federal, state, local, and tribal government entities conducting site remediations subject to the Site Remediation NESHAP may be affected by this proposed action. As defined in the *Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990* (see 57 FR 31576, July 16, 1992) and *Documentation for Developing the Initial Source Category List, Final Report* (see EPA-450/3-91-030, July 1992), the Site Remediation source category is any facility engaged in the cleanup of sites that possess contaminated media. Sites undergoing remediation of contaminated media include, but are not limited to, any facility at which organic materials currently are or have been in the past stored, processed, treated, or otherwise managed at the facility. These facilities include organic liquid storage terminals, petroleum refineries, chemical manufacturing facilities, and other manufacturing facilities with collocated site remediation activities. Units requiring cleanup can include hazardous waste dumps, industrial surface impoundments, leaking tanks, and municipal, industrial, and combined landfills. Site remediation includes, but is not limited to, the following activities: contaminated soils cleaning; soil vapor extraction (SVE); groundwater cleanup; oil recovery from below ground; surface flow control; waste material removal from the site; treatment of waste material after removal; and cleansing of water mains, sewers, wetlands, and water bodies that have been contaminated by wastes. Site remediation does not include the installation of controls to municipal solid waste

landfills to comply with the new source performance standards or Clean Air Act (CAA) section 111(d) emission guidelines.

Table 1. NESHAP and Industrial Source Categories Affected By This Proposed Action

Source Category	NESHAP	NAICS code[1]
Industry	40 CFR part 63, subpart GGGGG	325211 325192 325188 32411 49311 49319 48611 42269 42271
Federal Government		Federal agency facilities that conduct site remediation activities.

[1] North American Industry Classification System.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at *https://www.epa.gov/stationary-sources-air-pollution/site-remediation-national-emission-standards-hazardous-air*. Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the proposal and key technical documents at this same website. Information on the overall RTR program is available at *https://www3.epa.gov/ttn/atw/rrisk/rtpg.html*.

A redline version of the regulatory language that incorporates the proposed changes in this action is available in the docket for this action (Docket ID No. EPA-HQ-OAR-**2018-0833).**

II. Background

A. What is the statutory authority for this action?

The statutory authority for this action is provided by sections 112 and 301 of the CAA, as amended (42 U.S.C. 7401 *et seq*.). Section 112 of the CAA establishes a two-stage regulatory process to develop standards for emissions of hazardous air pollutants (HAP) from stationary sources. Generally, the first stage involves establishing technology-based standards and the second stage involves evaluating those standards that are based on maximum achievable control technology (MACT) to determine whether additional standards are needed to address any remaining risk associated with HAP emissions. This second stage is commonly referred to as the "residual risk review." In addition to the residual risk review, the CAA also requires the EPA to review standards set under CAA section 112 every 8 years to determine if there are "developments in practices, processes, or control technologies" that may be appropriate to incorporate into the standards. This review is commonly referred to as the "technology review." When the two reviews are combined into a single rulemaking, it is commonly referred to as the "risk and technology review." The discussion that follows identifies the most relevant statutory sections and briefly explains the contours of the methodology used to implement these statutory requirements. A more comprehensive discussion appears in the document titled *CAA Section 112 Risk and Technology Reviews: Statutory Authority and Methodology*, in the docket for this rulemaking.

In the first stage of the CAA section 112 standard setting process, the EPA promulgates technology-based standards under CAA section 112(d) for categories of sources identified as emitting one or more of the HAP listed in CAA section 112(b). Sources of HAP emissions are either major sources or area sources, and CAA section 112 establishes different requirements for

major source standards and area source standards. "Major sources" are those that emit or have the potential to emit 10 tons per year (tpy) or more of a single HAP or 25 tpy or more of any combination of HAP. All other sources are "area sources." For major sources, CAA section 112(d)(2) provides that the technology-based NESHAP must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). These standards are commonly referred to as MACT standards. CAA section 112(d)(3) also establishes a minimum control level for MACT standards, known as the MACT "floor." The EPA must also consider control options that are more stringent than the floor. Standards more stringent than the floor are commonly referred to as beyond-the-floor standards. In certain instances, as provided in CAA section 112(h), the EPA may set work practice standards where it is not feasible to prescribe or enforce a numerical emission standard. For area sources, CAA section 112(d)(5) gives the EPA discretion to set standards based on generally available control technologies or management practices (GACT standards) in lieu of MACT standards.

The second stage in standard-setting focuses on identifying and addressing any remaining (*i.e.*, "residual") risk according to CAA section 112(f). For source categories subject to MACT standards, section 112(f)(2) of the CAA requires the EPA to determine whether promulgation of additional standards is needed to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect. Section 112(d)(5) of the CAA provides that this residual risk review is not required for categories of area sources subject to GACT standards. Section 112(f)(2)(B) of the CAA further expressly preserves the EPA's use of the two-step approach for developing standards to address any residual risk and the Agency's interpretation of "ample margin of safety" developed in the *National Emissions Standards for Hazardous Air*

Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants (Benzene NESHAP) (54 FR 38044, September 14, 1989). The EPA notified Congress in the Risk Report that the Agency intended to use the Benzene NESHAP approach in making CAA section 112(f) residual risk determinations (EPA–453/R–99–001, p. ES–11). The EPA subsequently adopted this approach in its residual risk determinations and the United States Court of Appeals for the District of Columbia Circuit (the Court) upheld the EPA's interpretation that CAA section 112(f)(2) incorporates the approach established in the Benzene NESHAP. See *Natural Resources Defense Council (NRDC) v. EPA*, 529 F.3d 1077, 1083 (D.C. Cir. 2008).

The approach incorporated into the CAA and used by the EPA to evaluate residual risk and to develop standards under CAA section 112(f)(2) is a two-step approach. In the first step, the EPA determines whether risks are acceptable. This determination "considers all health information, including risk estimation uncertainty, and includes a presumptive limit on maximum individual lifetime [cancer] risk (MIR)[1] of approximately 1 in 10 thousand." 54 FR 38045, September 14, 1989. If risks are unacceptable, the EPA must determine the emissions standards necessary to reduce risk to an acceptable level without considering costs. In the second step of the approach, the EPA considers whether the emissions standards provide an ample margin of safety to protect public health "in consideration of all health information, including the number of persons at risk levels higher than approximately 1 in 1 million, as well as other relevant factors, including costs and economic impacts, technological feasibility, and other factors relevant to each particular decision." *Id.* The EPA must promulgate emission standards

[1] Although defined as "maximum individual risk," MIR refers only to cancer risk. MIR, one metric for assessing cancer risk, is the estimated risk if an individual were exposed to the maximum level of a pollutant for a lifetime.

necessary to provide an ample margin of safety to protect public health. After conducting the ample margin of safety analysis, we consider whether a more stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.

CAA section 112(d)(6) separately requires the EPA to review standards promulgated under CAA section 112 and revise them "as necessary (taking into account developments in practices, processes, and control technologies)" no less often than every 8 years. In conducting this review, which we call the "technology review," the EPA is not required to recalculate the MACT floor. *NRDC v. EPA*, 529 F.3d 1077, 1084 (D.C. Cir. 2008). *Association of Battery Recyclers, Inc. v. EPA*, 716 F.3d 667 (D.C. Cir. 2013). The EPA may consider cost in deciding whether to revise the standards pursuant to CAA section 112(d)(6).

B. What is this source category?

The EPA promulgated the final Site Remediation NESHAP at 40 CFR part 63, subpart GGGGG on October 8, 2003. The NESHAP applies to "remediation material." Site remediation means one or more activities or processes used to remove, destroy, degrade, transform, immobilize, or otherwise manage remediation material. Monitoring or measuring of contamination levels in media, whether by using wells, sampling, or other means, is not considered to be a site remediation. The rule applies only to active remedial operations at sites that are major sources with affected facilities subject to another MACT standard. The Site Remediation NESHAP applies to various types of affected sources including process vents, remediation material management units, and equipment leaks. The affected source for process vents is the entire group of process vents associated with the in-situ and ex-situ remediation processes used at the site to remove, destroy, degrade, transform, or immobilize hazardous

substances in the remediation material. Examples of process vents for in-situ remediation processes include the discharge vents to the atmosphere used for SVE and underground bioremediation processes. Examples of process vents for ex-situ remediation processes include vents for thermal desorption, bioremediation, and stripping processes (air or steam stripping). The affected source for remediation material management units is the entire group of tanks, surface impoundments, containers, oil-water separators, and transfer systems used for the site remediation activities involving clean-up of remediation material. The affected source for equipment leaks is the entire group of remediation equipment components (pumps, valves, etc.) that is intended to operate for 300 hours or more during a calendar year in remediation material service and that contains or contacts remediation material having a concentration of regulated HAP equal to or greater than 10 percent by weight.

The Site Remediation MACT standards include a combination of equipment standards, work practice standards, operational standards, and performance standards for each of the affected emission sources noted above.

C. What data collection activities were conducted to support this action?

The primary sources of data for the risk assessment are EPA databases. These include the EPA's Enforcement and Compliance History Online (ECHO) database, which was queried to identify facilities potentially subject to the Site Remediation NESHAP. Information from this search was then used in a query of the EPA's National Emissions Inventory (NEI) to identify site remediation emission sources, quantities of emissions, and emissions release characteristics. The EPA also reviewed the Toxic Release Inventory to determine whether that data would be useful in supplementing the information extracted from the NEI.

We reviewed a variety of data sources in our investigation of potential practices, processes, or controls to consider in the technology review and to provide further information for the risk assessment. These included the Reasonably Available Control Technology (RACT)/Best Available Control Technology (BACT)/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC), NESHAP for various industries that were promulgated since the Site Remediation NESHAP was promulgated, major source operating permits, minor and synthetic minor source operating permits, and academic and trade literature.

The RBLC provides a central database of air pollution control technology information and can help identify appropriate technologies to mitigate most air pollutant emission streams: *https://www.epa.gov/catc/ractbactlaer-clearinghouse-rblc-basic-information*. As site remediation may include sources from any industrial activity, we searched the RBLC with a focus on control of off-gasses in disparate applications, including processes in three broad categories: Miscellaneous Combustion, Waste Combustion and Waste Disposal, and Other Waste Processing and Disposal. Each of these three categories was further searched more specifically. For Miscellaneous Combustion, the EPA searched emission control afterburners and incinerators, digester and landfill gas flares, and other miscellaneous combustion. For Waste Combustion and Waste Disposal categories, the search included mixed/other waste combustion/incineration. Finally, the search under Other Waste Processing and Disposal included contaminated soil treatment, hazardous waste treatment, storage, and disposal facilities, and other waste processing and disposal facilities.

The EPA also reviewed the NESHAP for various industries that were promulgated since the Site Remediation NESHAP was promulgated. We reviewed the regulatory requirements and/or technical analyses associated with these regulatory actions to identify any practices,

processes, and control technologies considered in these efforts that could be applied to emission sources in the Site Remediation source category, as well as the costs, non-air impacts, and energy implications associated with the use of these technologies.

The EPA searched available state databases for minor source permits and synthetic minor source permits of facilities performing remediation. The Technology Review memorandum in the docket lists the permits reviewed and summarizes key findings about the remediation projects and emissions controls in use. Other scientific literature was reviewed for new and novel control technologies in use at site remediation sources and similar sources to control volatile organic compounds (VOC) and HAP air emissions. Literature for controls in use for land farming applications and material extraction activities was also reviewed. For a list of material reviewed, see the memorandum, *CAA section 112(d)(6) Technology Review for the Site Remediation Source Category*, which is available in the docket for this action.

D. What other relevant background information and data are available?

Documents from previous rulemakings for the Site Remediation source category can be found in the docket under Docket ID No. EPA-HQ-OAR-2002-0021.

III. Analytical Procedures and Decision-Making

In this section, we describe the analyses performed to support the proposed decisions for the RTR and other issues addressed in this proposal.

A. How do we consider risk in our decision-making?

As discussed in section II.A of this preamble and in the Benzene NESHAP, in evaluating and developing standards under CAA section 112(f)(2), we apply a two-step approach to determine whether or not risks are acceptable and to determine if the standards provide an ample margin of safety to protect public health. As explained in the Benzene NESHAP, "the first step

judgment on acceptability cannot be reduced to any single factor" and, thus, "[t]he Administrator believes that the acceptability of risk under section 112 is best judged on the basis of a broad set of health risk measures and information." 54 FR 38046, September 14, 1989. Similarly, with regard to the ample margin of safety determination, "the Agency again considers all of the health risk and other health information considered in the first step. Beyond that information, additional factors relating to the appropriate level of control will also be considered, including cost and economic impacts of controls, technological feasibility, uncertainties, and any other relevant factors." *Id.*

The Benzene NESHAP approach provides flexibility regarding factors the EPA may consider in making determinations and how the EPA may weigh those factors for each source category. The EPA conducts a risk assessment that provides estimates of the MIR posed by the HAP emissions from each source in the source category, the hazard index (HI) for chronic exposures to HAP with the potential to cause noncancer health effects, and the hazard quotient (HQ) for acute exposures to HAP with the potential to cause noncancer health effects.[2] The assessment also provides estimates of the distribution of cancer risk within the exposed populations, cancer incidence, and an evaluation of the potential for an adverse environmental effect. The scope of the EPA's risk analysis is consistent with the EPA's response to comments on our policy under the Benzene NESHAP where the EPA explained that:

> "[t]he policy chosen by the Administrator permits consideration of multiple measures of health risk. Not only can the MIR figure be considered, but also incidence, the presence of noncancer health effects, and the uncertainties of the risk estimates. In this way, the effect on the most exposed individuals can be reviewed as well as the impact on the

[2] The MIR is defined as the cancer risk associated with a lifetime of exposure at the highest concentration of HAP where people are likely to live. The HQ is the ratio of the potential exposure concentration to the noncancer dose-response value; the HI is the sum of HQs for HAP that affect the same target organ or organ system.

> general public. These factors can then be weighed in each individual case. This approach complies with the *Vinyl Chloride* mandate that the Administrator ascertain an acceptable level of risk to the public by employing his expertise to assess available data. It also complies with the Congressional intent behind the CAA, which did not exclude the use of any particular measure of public health risk from the EPA's consideration with respect to CAA section 112 regulations, and thereby implicitly permits consideration of any and all measures of health risk which the Administrator, in his judgment, believes are appropriate to determining what will 'protect the public health'."

See 54 FR 38057, September 14, 1989. Thus, the level of the MIR is only one factor to be weighed in determining acceptability of risk. The Benzene NESHAP explained that "an MIR of approximately one in 10 thousand should ordinarily be the upper end of the range of acceptability. As risks increase above this benchmark, they become presumptively less acceptable under CAA section 112, and would be weighed with the other health risk measures and information in making an overall judgment on acceptability. Or, the Agency may find, in a particular case, that a risk that includes an MIR less than the presumptively acceptable level is unacceptable in the light of other health risk factors." *Id.* at 38045. Similarly, with regard to the ample margin of safety analysis, the EPA stated in the Benzene NESHAP that: "EPA believes the relative weight of the many factors that can be considered in selecting an ample margin of safety can only be determined for each specific source category. This occurs mainly because technological and economic factors (along with the health-related factors) vary from source category to source category." *Id.* at 38061. We also consider the uncertainties associated with the various risk analyses, as discussed earlier in this preamble, in our determinations of acceptability and ample margin of safety.

The EPA notes that it has not considered certain health information to date in making residual risk determinations. At this time, we do not attempt to quantify the HAP risk that may be associated with emissions from other facilities that do not include the source category under

review, mobile source emissions, natural source emissions, persistent environmental pollution, or atmospheric transformation in the vicinity of the sources in the category.

The EPA understands the potential importance of considering an individual's total exposure to HAP in addition to considering exposure to HAP emissions from the source category and facility. We recognize that such consideration may be particularly important when assessing noncancer risk, where pollutant-specific exposure health reference levels (*e.g.*, reference concentrations (RfCs)) are based on the assumption that thresholds exist for adverse health effects. For example, the EPA recognizes that, although exposures attributable to emissions from a source category or facility alone may not indicate the potential for increased risk of adverse noncancer health effects in a population, the exposures resulting from emissions from the facility in combination with emissions from all of the other sources (*e.g.*, other facilities) to which an individual is exposed may be sufficient to result in an increased risk of adverse noncancer health effects. In May 2010, the Science Advisory Board (SAB) advised the EPA "that RTR assessments will be most useful to decision makers and communities if results are presented in the broader context of aggregate and cumulative risks, including background concentrations and contributions from other sources in the area."[3]

In response to the SAB recommendations, the EPA incorporates cumulative risk analyses into its RTR risk assessments, including those reflected in this proposal. The Agency (1) conducts facility-wide assessments, which include source category emission points, as well as other emission points within the facilities; (2) combines exposures from multiple sources in the

[3] Recommendations of the SAB Risk and Technology Review Panel are provided in their report, which is available at: *https://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf*.

same category that could affect the same individuals; and (3) for some persistent and bioaccumulative pollutants, analyzes the ingestion route of exposure. In addition, the RTR risk assessments consider aggregate cancer risk from all carcinogens and aggregated noncancer HQs for all noncarcinogens affecting the same target organ or target organ system.

Although we are interested in placing source category and facility-wide HAP risk in the context of total HAP risk from all sources combined in the vicinity of each source, we are concerned about the uncertainties of doing so. Estimates of total HAP risk from emission sources other than those that we have studied in depth during this RTR review would have significantly greater associated uncertainties than the source category or facility-wide estimates. Such aggregate or cumulative assessments would compound those uncertainties, making the assessments too unreliable.

B. How do we perform the technology review?

Our technology review focuses on the identification and evaluation of developments in practices, processes, and control technologies that have occurred since the MACT standards were promulgated. Where we identify such developments, we analyze their technical feasibility, estimated costs, energy implications, and non-air environmental impacts. We also consider the emission reductions associated with applying each development. This analysis informs our decision of whether it is "necessary" to revise the emissions standards. In addition, we consider the appropriateness of applying controls to new sources versus retrofitting existing sources. For this exercise, we consider any of the following to be a "development":

- Any add-on control technology or other equipment that was not identified and considered during development of the original MACT standards;

- Any improvements in add-on control technology or other equipment (that were identified and considered during development of the original MACT standards) that could result in additional emissions reduction;
- Any work practice or operational procedure that was not identified or considered during development of the original MACT standards;
- Any process change or pollution prevention alternative that could be broadly applied to the industry and that was not identified or considered during development of the original MACT standards; and
- Any significant changes in the cost (including cost effectiveness) of applying controls (including controls the EPA considered during the development of the original MACT standards).

In addition to reviewing the practices, processes, and control technologies that were considered at the time we last updated the NESHAP, we review a variety of data sources in our investigation of potential practices, processes, or controls to consider. See sections II.C and II.D of this preamble for information on the specific data sources that were reviewed as part of the technology review.

C. How do we estimate post-MACT risk posed by the source category?

In this section, we provide a complete description of the types of analyses that we generally perform during the risk assessment process. In some cases, we do not perform a specific analysis because it is not relevant. For example, in the absence of emissions of HAP known to be persistent and bioaccumulative in the environment (PB-HAP), we would not perform a multipathway exposure assessment. Where we do not perform an analysis, we state that we do not and provide the reason. While we present all of our risk assessment methods, we

only present risk assessment results for the analyses actually conducted (see section IV.B of this preamble).

The EPA conducts a risk assessment that provides estimates of the MIR for cancer posed by the HAP emissions from each source in the source category, the HI for chronic exposures to HAP with the potential to cause noncancer health effects, and the HQ for acute exposures to HAP with the potential to cause noncancer health effects. The assessment also provides estimates of the distribution of cancer risk within the exposed populations, cancer incidence, and an evaluation of the potential for an adverse environmental effect. The eight sections that follow this paragraph describe how we estimated emissions and conducted the risk assessment. The docket for this rulemaking contains the following document which provides more information on the risk assessment inputs and models: *Residual Risk Assessment for the Site Remediation Source Category in Support of the 2019 Risk and Technology Review Proposed Rule*. The methods used to assess risk (as described in the eight primary steps below) are consistent with those described by the EPA in the document reviewed by a panel of the EPA's SAB in 2009;[4] and described in the SAB review report issued in 2010. They are also consistent with the key recommendations contained in that report.

1. How did we estimate actual emissions and identify the emissions release characteristics?

a. Sources subject to the Site Remediation NESHAP

The EPA began compiling the list of facilities for the risk review by searching for facilities identified as being subject to the Site Remediation NESHAP in the EPA's ECHO

[4] U.S. EPA. *Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies – MACT I Petroleum Refining Sources and Portland Cement Manufacturing*. (EPA-452/R-09-006; June 2009.) *https://www3.epa.gov/airtoxics/rrisk/rtrpg.html.*

database. There are currently 102 facilities identified as "subject to NESHAP GGGGG" in ECHO. This list of facilities was used as the basis for a query into the NEI to obtain facility and emissions data for the 2014 reporting year.

Of the 102 facilities with data retrieved from the 2014 NEI, six facilities reported emissions under the Source Classification Code (SCC) for site remediation, and 96 reported emissions only from their primary activity and did not report any emissions for remediation activities. We attribute the absence of site remediation data for these 96 facilities to either the facilities' completion of site remediation activities or reporting of site remediation emissions data under other SCCs in the NEI. The EPA chose to model all 102 facilities rather than only the six for which remediation data was reported, in order to take the broadest possible approach to the risk assessment. For example, while a remediation may not have been occuring in 2014 that would be reported in the 2014 inventory, the EPA assumed that a remediation would have taken place at some point at all 102 facilities since adoption of the Site Remediation NESHAP. By including all 102 facilities, the EPA attempted to estimate the risk of anyone who may have been exposed to risk from a remediation at an affected source, regardless of the current (as of 2014) status of a specific remediation action.

To address the lack of apparent site remediation emissions data for these 96 facilities, the EPA developed a profile of site remediation emissions for each facility based on the facility's primary processes. Since site remediation projects occur at many different types of industrial facilities, ranging from petroleum refineries to federal facilities, and the emissions from the site remediation are likely a subset of HAP emitted by the facility, this emissions profile approach was used to account for the disparate nature of sources with site remediation activities. To develop the emission profiles for each facility, the EPA used the six facilities that reported HAP

emissions both from their remediation activities and from their whole facility in the NEI and determined the proportion of remediation HAP emissions to facility-wide HAP emissions for each facility. Of the six facilities, the highest proportion of remediation to whole-facility HAP emissions was 0.79 percent. For the other 96 facilities, the EPA used this proportion to assign 0.79 percent of the total amount of each HAP reported in the NEI for the whole facility to the Site Remediation source category for each facility, arriving at a unique profile of site remediation emissions for each facility.

With respect to the risk analysis, the EPA considers this to be a conservative approach to addressing the lack of remediation emissions reported in the NEI. First, the data show that remediation emissions are generally small compared to major source emissions at affected facilities, and the highest proportion of remediation emissions from the six facilities was chosen for the remediation emissions profiles. Second, all process pollutants emitted by a facility were included as the universe of potential pollutants emitted during remediation. While site remediation projects likely emit only a subset of the HAP emitted by the facility, this assumption was made to ensure no specific pollutant was excluded that could represent risk from that facility. For several facilities, we found that the emissions profile approach had resulted in estimated site remediation emissions that included ethylene oxide. These ethylene oxide emissions were removed from the source category risk analysis because the EPA considered that ethylene oxide would be unlikely to persist in contaminated media long enough to be emitted during a site remediation. Additional details on this determination can be found in the *Residual Risk Assessment for the Site Remediation Source Category in Support of the 2019 Risk and Technology Proposed Rule,* which is available in the docket for this action. The EPA requests

comment on this model plant approach to address data gaps in the RTR, and HAP emissions from the Site Remediation source category. (C-1)

b. Sources exempt from the Site Remediation NESHAP

The Site Remediation NESHAP currently exempts site remediation activities conducted under federal oversight authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA) corrective action or other required RCRA order (see 40 CFR 63.7881(b)(3)). In 2016, in response to a petition for reconsideration regarding this exemption and other aspects of the NESHAP, the EPA proposed to revise the NESHAP to remove the exemption for site remediation activities conducted under the authority of CERCLA or RCRA (81 FR 29821, May 13, 2016). At proposal, the EPA developed a list of 125 facilities that could potentially become subject to the rule upon promulgation if the exemption for remediation projects subject to RCRA or CERCLA standards was removed.[5] Although exempt from the regulatory requirements of the Site Remediation NESHAP, these facilities are part of the Site Remediation source category. To understand both the risks from the facilities already subject to the Site Remediation NESHAP requirements and the risks from the facilities exempt from the Site Remediation NESHAP requirements, these groups of facilities were kept separate for the purposes of the risk assessment.

A process similar to that used to estimate emissions from affected facilities was used for the exempt facilities. The EPA began with the list of 125 facilities previously developed and

[5] Stobert, L. EC/R Inc. to Hirtz, J., EPA/OAQPS. *National Impacts Associated with the Proposed Amendments to Remove the Exemption for Facilities Performing Site Remediations under CERCLA or RCRA in the NESHAP for Site Remediation*. February 4, 2016. EPA Docket Item No. EPA-HQ-OAR-2002-0021-0055. The EPA estimated in 2016 that of the 125 facilities listed, only 69 would likely become subject to the rule. For the purpose of the risk review, the EPA modeled the 118 facilities that could be identified in the NEI.

queried the NEI to obtain facility and emissions data for the 2014 reporting-year. Information was available in the NEI for 118 of these facilities.[6] Of the 118 facilities with data retrieved from the NEI, 10 facilities reported emissions under the SCC for site remediation, and 108 reported emissions only from their production activity and did not report any emissions for remediation activities. For these 108 facilities, the EPA applied the same site remediation emissions ratio as that used for affected sources to the whole-facility HAP emissions to arrive at a unique site remediation emission profile for each facility. For these facilities, we used the same assumptions with respect to ethylene oxide emissions as were made in the affected facility modeling.

2. How did we estimate MACT-allowable emissions?

The available emissions data in the RTR emissions dataset include estimates of the mass of HAP emitted during a specified annual time period. These "actual" emission levels are often lower than the emission levels allowed under the requirements of the current MACT standards. The emissions allowed under the MACT standards are referred to as the "MACT-allowable" emissions. We discussed the consideration of both MACT-allowable and actual emissions in the final Coke Oven Batteries RTR (70 FR 19998–19999, April 15, 2005) and in the proposed and final Hazardous Organic NESHAP RTR (71 FR 34428, June 14, 2006, and 71 FR 76609, December 21, 2006, respectively). In those actions, we noted that assessing the risk at the MACT-allowable level is inherently reasonable since that risk reflects the maximum level facilities could emit and still comply with national emission standards. We also explained that it is reasonable to consider actual emissions, where such data are available, in both steps of the risk

[6] Seven of the 125 facilities were unable to be clearly identified in the NEI and were not modeled.

analysis, in accordance with the Benzene NESHAP approach. (54 FR 38044, September 14, 1989.)

For the Site Remediation source category, the EPA treated actual emissions as allowable emissions. Allowable emissions under typical MACT standards are the emissions that would occur under full-capacity potential operating conditions and as allowed under the applicable MACT standards. These are the conditions included in the title V permit for the facility. In the case of site remediation, most remediation projects do not appear in the title V permit or appear there for approximately the duration of the remediation and are then removed. Since most facilities performing remediation have the incentive to conclude remediation expeditiously, the EPA assumed that actual emissions would equal allowed emissions under a facility permit. Where no permit condition was available, the EPA assumed the remediation was being conducted at full capacity to complete the remediation as soon as possible. Based on the NEI data available and the relatively little information found in title V permits for remediation projects, the EPA modeled actual emissions as allowable emissions.

3. How do we conduct dispersion modeling, determine inhalation exposures, and estimate individual and population inhalation risk?

Both long-term and short-term inhalation exposure concentrations and health risk from the source category addressed in this proposal were estimated using the Human Exposure Model (HEM-3).[7] The HEM-3 performs three primary risk assessment activities: (1) conducting dispersion modeling to estimate the concentrations of HAP in ambient air, (2) estimating long-term and short-term inhalation exposures to individuals residing within 50 kilometers (km) of the

[7] For more information about HEM-3, go to *https://www.epa.gov/fera/risk-assessment-and-modeling-human-exposure-model-hem.*

modeled sources, and (3) estimating individual and population-level inhalation risk using the exposure estimates and quantitative dose-response information.

a. Dispersion Modeling

The air dispersion model AERMOD, used by the HEM-3 model, is one of the EPA's preferred models for assessing air pollutant concentrations from industrial facilities.[8] To perform the dispersion modeling and to develop the preliminary risk estimates, HEM-3 draws on three data libraries. The first is a library of meteorological data, which is used for dispersion calculations. This library includes 1 year (2016) of hourly surface and upper air observations from 824 meteorological stations, selected to provide coverage of the United States and Puerto Rico. A second library of United States Census Bureau census block[9] internal point locations and populations provides the basis of human exposure calculations (U.S. Census, 2010). In addition, for each census block, the census library includes the elevation and controlling hill height, which are also used in dispersion calculations. A third library of pollutant-specific dose-response values is used to estimate health risk. These are discussed below.

b. Risk from Chronic Exposure to HAP

In developing the risk assessment for chronic exposures, we use the estimated annual average ambient air concentrations of each HAP emitted by each source in the source category. The HAP air concentrations at each nearby census block centroid located within 50 km of the facility are a surrogate for the chronic inhalation exposure concentration for all the people who reside in that census block. A distance of 50 km is consistent with both the analysis supporting

[8] U.S. EPA. Revision to the *Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions* (70 FR 68218, November 9, 2005).

[9] A census block is the smallest geographic area for which census statistics are tabulated.

the 1989 Benzene NESHAP (54 FR 38044, September 14, 1989) and the limitations of Gaussian dispersion models, including AERMOD.

For each facility, we calculate the MIR as the cancer risk associated with a continuous lifetime (24 hours per day, 7 days per week, 52 weeks per year, 70 years) exposure to the maximum concentration at the centroid of each inhabited census block. We calculate individual cancer risk by multiplying the estimated lifetime exposure to the ambient concentration of each HAP (in micrograms per cubic meter ($\mu g/m^3$)) by its unit risk estimate (URE). The URE is an upper-bound estimate of an individual's incremental risk of contracting cancer over a lifetime of exposure to a concentration of 1 microgram of the pollutant per cubic meter of air. For residual risk assessments, we generally use UREs from the EPA's Integrated Risk Information System (IRIS). For carcinogenic pollutants without IRIS values, we look to other reputable sources of cancer dose-response values, often using California EPA (CalEPA) UREs, where available. In cases where new, scientifically credible dose-response values have been developed in a manner consistent with EPA guidelines and have undergone a peer review process similar to that used by the EPA, we may use such dose-response values in place of, or in addition to, other values, if appropriate. The pollutant-specific dose-response values used to estimate health risk are available at *https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposure-hazardous-air-pollutants*.

To estimate individual lifetime cancer risks associated with exposure to HAP emissions from each facility in the source category, we sum the risks for each of the carcinogenic HAP[10]

[10] The EPA's 2005 *Guidelines for Carcinogen Risk Assessment* classifies carcinogens as: "carcinogenic to humans," "likely to be carcinogenic to humans," and "suggestive evidence of carcinogenic potential." These classifications also coincide with the terms "known carcinogen, probable carcinogen, and possible carcinogen," respectively, which are the terms advocated in

emitted by the modeled facility. We estimate cancer risk at every census block within 50 km of every facility in the source category. The MIR is the highest individual lifetime cancer risk estimated for any of those census blocks. In addition to calculating the MIR, we estimate the distribution of individual cancer risks for the source category by summing the number of individuals within 50 km of the sources whose estimated risk falls within a specified risk range. We also estimate annual cancer incidence by multiplying the estimated lifetime cancer risk at each census block by the number of people residing in that block, summing results for all of the census blocks, and then dividing this result by a 70-year lifetime.

To assess the risk of noncancer health effects from chronic exposure to HAP, we calculate either an HQ or a target organ-specific hazard index (TOSHI). We calculate an HQ when a single noncancer HAP is emitted. Where more than one noncancer HAP is emitted, we sum the HQ for each of the HAP that affects a common target organ or target organ system to obtain a TOSHI. The HQ is the estimated exposure divided by the chronic noncancer dose-response value, which is a value selected from one of several sources. The preferred chronic noncancer dose-response value is the EPA RfC, defined as "an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of

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the EPA's *Guidelines for Carcinogen Risk Assessment*, published in 1986 (51 FR 33992, September 24, 1986). In August 2000, the document, *Supplemental Guidance for Conducting Health Risk Assessment of Chemical Mixtures* (EPA/630/R-00/002), was published as a supplement to the 1986 document. Copies of both documents can be obtained from *https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=20533&CFID=70315376&CFTOKEN=71597944*. Summing the risk of these individual compounds to obtain the cumulative cancer risk is an approach that was recommended by the EPA's SAB in their 2002 peer review of the EPA's National Air Toxics Assessment (NATA) titled, *NATA - Evaluating the National-scale Air Toxics Assessment 1996 Data -- an SAB Advisory*, available at *https://yosemite.epa.gov/sab/sabproduct.nsf/214C6E915BB04E14852570CA007A682C/$File/ecadv02001.pdf*.

deleterious effects during a lifetime" (*https://iaspub.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&vocabName=IRIS%20Glossary*). In cases where an RfC from the EPA's IRIS is not available or where the EPA determines that using a value other than the RfC is appropriate, the chronic noncancer dose-response value can be a value from the following prioritized sources, which define their dose-response values similarly to the EPA: (1) The Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Level (*https://www.atsdr.cdc.gov/mrls/index.asp*); (2) the CalEPA Chronic Reference Exposure Level (REL) (*https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0*); or (3), as noted above, a scientifically credible dose-response value that has been developed in a manner consistent with the EPA guidelines and has undergone a peer review process similar to that used by the EPA. The pollutant-specific dose-response values used to estimate health risks are available at *https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposure-hazardous-air-pollutants*.

c. Risk from Acute Exposure to HAP that May Cause Health Effects Other Than Cancer

For each HAP for which appropriate acute inhalation dose-response values are available, the EPA also assesses the potential health risks due to acute exposure. For these assessments, the EPA makes conservative assumptions about emission rates, meteorology, and exposure location. In this proposed rulemaking, as part of our efforts to continually improve our methodologies to evaluate the risks that HAP emitted from categories of industrial sources pose to human health

and the environment,[11] we are revising our treatment of meteorological data to use reasonable worst-case air dispersion conditions in our acute risk screening assessments instead of worst-case air dispersion conditions. This revised treatment of meteorological data and the supporting rationale are described in more detail in *Residual Risk Assessment for the Site Remediation Source Category in Support of the 2019 Risk and Technology Review Proposed Rule* and in Appendix 5 of the report: *Technical Support Document for Acute Risk Screening Assessment.* We will be applying this revision in RTR rulemakings proposed on or after June 3, 2019.

To assess the potential acute risk to the maximally exposed individual, we use the peak hourly emission rate for each emission point,[12] reasonable worst-case air dispersion conditions (*i.e.*, 99th percentile), and the point of highest off-site exposure. Specifically, we assume that peak emissions from the source category and reasonable worst-case air dispersion conditions co-occur and that a person is present at the point of maximum exposure.

To characterize the potential health risks associated with estimated acute inhalation exposures to a HAP, we generally use multiple acute dose-response values, including acute RELs, acute exposure guideline levels (AEGLs), and emergency response planning guidelines (ERPG) for 1-hour exposure durations), if available, to calculate acute HQs. The acute HQ is calculated by dividing the estimated acute exposure concentration by the acute dose-response

[11] U.S. EPA. *Screening Methodologies to Support Risk and Technology Reviews (RTR): A Case Study Analysis* (Draft Report, May 2017. *https://www3.epa.gov/ttn/atw/rrisk/rtrpg.html*).

[12] In the absence of hourly emission data, we develop estimates of maximum hourly emission rates by multiplying the average actual annual emissions rates by a factor (either a category-specific factor or a default factor of 10) to account for variability. This is documented in *Residual Risk Assessment for Site Remediation Source Category in Support of the 2019 Risk and Technology Review Proposed Rule* and in Appendix 5 of the report: *Technical Support Document for Acute Risk Screening Assessment*. Both are available in the docket for this rulemaking.

value. For each HAP for which acute dose-response values are available, the EPA calculates acute HQs.

An acute REL is defined as "the concentration level at or below which no adverse health effects are anticipated for a specified exposure duration."[13] Acute RELs are based on the most sensitive, relevant, adverse health effect reported in the peer-reviewed medical and toxicological literature. They are designed to protect the most sensitive individuals in the population through the inclusion of margins of safety. Because margins of safety are incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact. AEGLs represent threshold exposure limits for the general public and are applicable to emergency exposures ranging from 10 minutes to 8 hours.[14] They are guideline levels for "once-in-a-lifetime, short-term exposures to airborne concentrations of acutely toxic, high-priority chemicals." *Id.* at 21. The AEGL–1 is specifically defined as "the airborne concentration (expressed as ppm (parts per million) or mg/m^3 (milligrams per cubic meter)) of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure." The

[13] CalEPA issues acute RELs as part of its Air Toxics Hot Spots Program, and the 1-hour and 8-hour values are documented in *Air Toxics Hot Spots Program Risk Assessment Guidelines, Part I, The Determination of Acute Reference Exposure Levels for Airborne Toxicants*, which is available at *https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary*.

[14] National Academy of Sciences, 2001. *Standing Operating Procedures for Developing Acute Exposure Levels for Hazardous Chemicals*, page 2. Available at *https://www.epa.gov/sites/production/files/2015-09/documents/sop_final_standing_operating_procedures_2001*.pdf. Note that the National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances ended in October 2011, but the AEGL program continues to operate at the EPA and works with the National Academies to publish final AEGLs, (*https://www.epa.gov/aegl*).

document also notes that "Airborne concentrations below AEGL–1 represent exposure levels that can produce mild and progressively increasing but transient and nondisabling odor, taste, and sensory irritation or certain asymptomatic, nonsensory effects." *Id.* AEGL–2 are defined as "the airborne concentration (expressed as parts per million or milligrams per cubic meter) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape." *Id.*

ERPGs are "developed for emergency planning and are intended as health-based guideline concentrations for single exposures to chemicals."[15] *Id.* at 1. The ERPG–1 is defined as "the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hour without experiencing other than mild transient adverse health effects or without perceiving a clearly defined, objectionable odor." *Id.* at 2. Similarly, the ERPG–2 is defined as "the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action." *Id.* at 1.

An acute REL for 1-hour exposure durations is typically lower than its corresponding AEGL–1 and ERPG–1. Even though their definitions are slightly different, AEGL–1s are often the same as the corresponding ERPG–1s, and AEGL–2s are often equal to ERPG–2s. The maximum HQs from our acute inhalation screening risk assessment typically result when we use

[15] American Industrial Hygiene Association. *ERPGS Procedures and Responsibilities*. March 2014. Available at: *https://www.aiha.org/get-involved/AIHAGuidelineFoundation/EmergencyResponsePlanningGuidelines/Documents/ERPG%20Committee%20Standard%20Operating%20Procedures%20%20-%20March%202014%20Revision%20%28Updated%2010-2-2014%29.pdf.*

the acute REL for a HAP. In cases where the maximum acute HQ exceeds 1, we also report the HQ based on the next highest acute dose-response value (usually the AEGL–1 and/or the ERPG–1).

For this source category, we used a default acute emissions multiplier of 10 as hourly emissions data from site remediation activities were generally not available.

In our acute inhalation screening risk assessment, acute impacts are deemed negligible for HAP for which acute HQs are less than or equal to 1, and no further analysis is performed for these HAP. In cases where an acute HQ from the screening step is greater than 1, we assess the site-specific data to ensure the acute HQ is an off-site location.

4. How do we conduct the multipathway exposure and risk screening assessment?

The EPA conducts a tiered screening assessment examining the potential for significant human health risks due to exposures via routes other than inhalation (*i.e.*, ingestion). We first determine whether any sources in the source category emit any PB-HAP, as identified in the EPA's Air Toxics Risk Assessment Library (see Volume 1, Appendix D, at *https://www.epa.gov/sites/production/files/2013-08/documents/volume_1_reflibrary.pdf).*

For the Site Remediation source category, we identified PB-HAP emissions of arsenic compounds, cadmium compounds, mercury compounds, polycyclic organic matter (POM), and lead compounds, so we proceeded to the next step of the evaluation. In this step, we determine whether the facility-specific emission rates of the emitted PB–HAP are large enough to create the potential for significant human health risk through ingestion exposure under reasonable worst-case conditions. To facilitate this step, we use previously developed screening threshold emission rates for several PB-HAP that are based on a hypothetical upper-end screening exposure scenario developed for use in conjunction with the EPA's Total Risk Integrated Methodology.Fate,

Transport, and Ecological Exposure (TRIM.FaTE) model. The PB-HAP with screening threshold emission rates are arsenic compounds, cadmium compounds, chlorinated dibenzodioxins and furans, mercury compounds, and POM. Based on the EPA estimates of toxicity and bioaccumulation potential, the pollutants above represent a conservative list for inclusion in multipathway risk assessments for RTR rules. (See Volume 1, Appendix D at *https://www.epa.gov/sites/production/files/201308/documents/volume_1_reflibrary.pdf*.) In this assessment, we compare the facility-specific emission rates of these PB-HAP to the screening threshold emission rates for each PB-HAP to assess the potential for significant human health risks via the ingestion pathway (combined ingestion rates for a fisher and farmer scenario). We call this application of the TRIM.FaTE model the Tier 1 screening assessment. The ratio of a facility's actual emission rate to the Tier 1 screening threshold emission rate is a "screening value."

We derive the Tier 1 screening threshold emission rates for these PB-HAP (other than lead compounds) to correspond to a maximum excess lifetime cancer risk of 1-in-1 million (*i.e.*, for arsenic compounds, polychlorinated dibenzodioxins and furans and POM) or, for HAP that cause noncancer health effects (*i.e.*, cadmium compounds and mercury compounds), a maximum HQ of 1. If the emission rate of any one PB-HAP or combination of carcinogenic PB-HAP in the Tier 1 screening assessment exceeds the Tier 1 screening threshold emission rate for any facility (*i.e.*, the screening value is greater than 1), we conduct a second screening assessment, which we call the Tier 2 screening assessment (ingestion rates are decoupled into separate upper-bound ingestion rates for the fisher, farmer, and gardener scenarios).

In the Tier 2 screening assessment, the location of each facility that exceeds a Tier 1 screening threshold emission rate is used to refine the assumptions associated with the Tier 1

fisher and farmer exposure scenarios at that facility. A key assumption in the Tier 1 screening assessment is that a lake and/or farm is located near the facility. As part of the Tier 2 screening assessment for the fisher scenario, we use a U.S. Geological Survey (USGS) database to identify actual waterbodies within 50 km of each facility and assume the fisher only consumes fish from lakes within that 50 km zone. For the Tier 2 farmer scenario, we assume the farmer consumes meat, eggs, vegetables, and fruit grown near the facility. If further Tier 2 screening is necessary for the farmer scenario, we may also assess the gardener scenario. For the gardener scenario, we assume the gardener only grows and consumes eggs, vegetables, and fruit at the same ingestion rate as the farmer. For Tier 2, we replace the meteorology used in the Tier 1 screening assessment with the local meteorology near each facility. We then adjust the previously-developed Tier 1 screening threshold emission rates for each PB-HAP for each facility based on an understanding of how exposure concentrations estimated for the screening scenario change with the use of local meteorology and USGS waterbody data. If the PB-HAP emission rates for a facility exceed the Tier 2 screening threshold emission rates and data are available, we may conduct a Tier 3 screening assessment, or if the screening values are excessively high, go straight to a site-specific assessment utilizing TRIM FaTE. If PB-HAP emission rates do not exceed a Tier 2 screening value of 1, we consider those PB-HAP emissions to pose risks below a level of concern.

There are several analyses that can be included in a Tier 3 screening assessment, depending upon the extent of refinement warranted, including validating that the lakes are fishable, considering plume-rise to estimate emissions lost above the mixing layer, and considering hourly effects of meteorology and plume rise on chemical fate and transport. If the

Tier 3 screening assessment indicates that risks above levels of concern cannot be ruled out, the EPA may further refine the screening assessment through a site-specific assessment.

For further information on the multipathway assessment approach, see the *Residual Risk Assessment for the Site Remediation Source Category in Support of the Risk and Technology Review 2019 Proposed Rule*, which is available in the docket for this action.

5. How do we assess risks considering emissions control options?

In addition to assessing baseline inhalation risks and screening for potential multipathway risks, we also estimate risks considering the potential emission reductions that would be achieved by the control options under consideration. In these cases, the expected emission reductions are applied to the specific HAP and emission points in the RTR emissions dataset to develop corresponding estimates of risk and incremental risk reductions.

6. How do we conduct the environmental risk screening assessment?

a. Adverse Environmental Effect, Environmental HAP, and Ecological Benchmarks

The EPA conducts a screening assessment to examine the potential for an adverse environmental effect as required under section 112(f)(2)(A) of the CAA. Section 112(a)(7) of the CAA defines "adverse environmental effect" as "any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas."

The EPA focuses on eight HAP, which are referred to as "environmental HAP," in its screening assessment: six PB-HAP and two acid gases. The PB-HAP included in the screening assessment are arsenic compounds, cadmium compounds, dioxins/furans, POM, mercury (both

inorganic mercury and methyl mercury), and lead compounds. The acid gases included in the screening assessment are hydrochloric acid (HCl) and hydrogen fluoride (HF).

HAP that persist and bioaccumulate are of particular environmental concern because they accumulate in the soil, sediment, and water. The acid gases, HCl and HF, are included due to their well-documented potential to cause direct damage to terrestrial plants. In the environmental risk screening assessment, we evaluate the following four exposure media: terrestrial soils, surface water bodies (includes water-column and benthic sediments), fish consumed by wildlife, and air. Within these four exposure media, we evaluate nine ecological assessment endpoints, which are defined by the ecological entity and its attributes. For PB-HAP (other than lead), both community-level and population-level endpoints are included. For acid gases, the ecological assessment evaluated is terrestrial plant communities.

An ecological benchmark represents a concentration of HAP that has been linked to a particular environmental effect level. For each environmental HAP, we identified the available ecological benchmarks for each assessment endpoint. We identified, where possible, ecological benchmarks at the following effect levels: probable effect levels, lowest-observed-adverse-effect level, and no-observed-adverse-effect level. In cases where multiple effect levels were available for a particular PB-HAP and assessment endpoint, we use all of the available effect levels to help us to determine whether ecological risks exist and, if so, whether the risks could be considered significant and widespread.

For further information on how the environmental risk screening assessment was conducted, including a discussion of the risk metrics used, how the environmental HAP were identified, and how the ecological benchmarks were selected, see Appendix 9 of the *Residual*

Risk Assessment for the Site Remediation Source Category in Support of the Risk and Technology Review 2019 Proposed Rule, which is available in the docket for this action.

b. Environmental Risk Screening Methodology

For the environmental risk screening assessment, the EPA first determined whether any facilities in the Site Remediation source category emitted any of the environmental HAP. For the Site Remediation source category, we identified emissions of arsenic compounds, cadmium compounds, mercury compounds, POM, HCl, and hydrofluoric acid. Because one or more of the environmental HAP evaluated (arsenic compounds, cadmium compounds, mercury compounds, POM, lead compounds, and HCl, and hydrofluoric acid) are emitted by at least one facility in the source category, we proceeded to the second step of the evaluation.[16]

c. PB-HAP Methodology

The environmental screening assessment includes six PB-HAP, arsenic compounds, cadmium compounds, dioxins/furans, POM, mercury (both inorganic mercury and methyl mercury), and lead compounds. With the exception of lead, the environmental risk screening assessment for PB-HAP consists of three tiers. The first tier of the environmental risk screening assessment uses the same health-protective conceptual model that is used for the Tier 1 human health screening assessment. TRIM.FaTE model simulations were used to back-calculate Tier 1 screening threshold emission rates. The screening threshold emission rates represent the emission rate in tons of pollutant per year that results in media concentrations at the facility that equal the relevant ecological benchmark. To assess emissions from each facility in the category, the

[16] The environmental HAP emitted by facilities modeled were not attributed to Site Remediation source category emissions, but rather were emitted from other emission points at the facility. These pollutants were profiled as part of model plant emissions because the facility otherwise emits environmental HAP.

reported emission rate for each PB-HAP was compared to the Tier 1 screening threshold emission rate for that PB-HAP for each assessment endpoint and effect level. If emissions from a facility do not exceed the Tier 1 screening threshold emission rate, the facility "passes" the screening assessment, and, therefore, is not evaluated further under the screening approach. If emissions from a facility exceed the Tier 1 screening threshold emission rate, we evaluate the facility further in Tier 2.

In Tier 2 of the environmental screening assessment, the screening threshold emission rates are adjusted to account for local meteorology and the actual location of lakes in the vicinity of facilities that did not pass the Tier 1 screening assessment. For soils, we evaluate the average soil concentration for all soil parcels within a 7.5-km radius for each facility and PB-HAP. For the water, sediment, and fish tissue concentrations, the highest value for each facility for each pollutant is used. If emission concentrations from a facility do not exceed the Tier 2 screening threshold emission rate, the facility "passes" the screening assessment and typically is not evaluated further. If emissions from a facility exceed the Tier 2 screening threshold emission rate, we evaluate the facility further in Tier 3.

As in the multipathway human health risk assessment, in Tier 3 of the environmental screening assessment, we examine the suitability of the lakes around the facilities to support life and remove those that are not suitable (*e.g.*, lakes that have been filled in or are industrial ponds), adjust emissions for plume-rise, and conduct hour-by-hour time-series assessments. If these Tier 3 adjustments to the screening threshold emission rates still indicate the potential for an adverse environmental effect (*i.e.*, facility emission rate exceeds the screening threshold emission rate), we may elect to conduct a more refined assessment using more site-specific information. If, after

additional refinement, the facility emission rate still exceeds the screening threshold emission rate, the facility may have the potential to cause an adverse environmental effect.

To evaluate the potential for an adverse environmental effect from lead, we compared the average modeled air concentrations (from HEM-3) of lead around each facility in the source category to the level of the secondary National Ambient Air Quality Standards (NAAQS) for lead. The secondary lead NAAQS is a reasonable means of evaluating environmental risk because it is set to provide substantial protection against adverse welfare effects which can include "effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being."

d. Acid Gas Environmental Risk Methodology

The environmental screening assessment for acid gases evaluates the potential phytotoxicity and reduced productivity of plants due to chronic exposure to HF and HCl. The environmental risk screening methodology for acid gases is a single-tier screening assessment that compares modeled ambient air concentrations (from AERMOD) to the ecological benchmarks for each acid gas. To identify a potential adverse environmental effect (as defined in section 112(a)(7) of the CAA) from emissions of HF and HCl, we evaluate the following metrics: the size of the modeled area around each facility that exceeds the ecological benchmark for each acid gas, in acres and km^2; the percentage of the modeled area around each facility that exceeds the ecological benchmark for each acid gas; and the area-weighted average screening value around each facility (Calculated by dividing the area-weighted average concentration over the 50-km modeling domain by the ecological benchmark for each acid gas). For further information on the environmental screening assessment approach, see Appendix 9 of the

Residual Risk Assessment for the Site Remediation Source Category in Support of the Risk and Technology Review 2019 Proposed Rule, which is available in the docket for this action.

7. How do we conduct facility-wide assessments?

To put the source category risks in context, we typically examine the risks from the entire "facility," where the facility includes all HAP-emitting operations within a contiguous area and under common control. In other words, we examine the HAP emissions not only from the source category emission points of interest, but also emissions of HAP from all other emission sources at the facility for which we have data.

For this source category, we conducted the facility-wide assessment using a dataset that the EPA compiled from the 2014 NEI. We used the NEI data for the facility and did not adjust any category or "non-category" data. Therefore, there could be differences in the dataset from that used for the source category assessments described in this preamble. We analyzed risks due to the inhalation of HAP that are emitted "facility-wide" for the populations residing within 50 km of each facility, consistent with the methods used for the source category analysis described above. For these facility-wide risk analyses, we made a reasonable attempt to identify the source category risks, and these risks were compared to the facility-wide risks to determine the portion of facility-wide risks that could be attributed to the source category addressed in this proposal. We also specifically examined the facility that was associated with the highest estimate of risk and determined the percentage of that risk attributable to the source category of interest. The *Residual Risk Assessment for the Site Remediation Source Category in Support of the Risk and Technology Review 2019 Proposed Rule*, available through the docket for this action, provides the methodology and results of the facility-wide analyses, including all facility-wide risks and the percentage of source category contribution to facility-wide risks.

8. How do we consider uncertainties in risk assessment?

Uncertainty and the potential for bias are inherent in all risk assessments, including those performed for this proposal. Although uncertainty exists, we believe that our approach, which used conservative tools and assumptions, ensures that our decisions are health and environmentally protective. A brief discussion of the uncertainties in the RTR emissions dataset, dispersion modeling, inhalation exposure estimates, and dose-response relationships follows below. Also included are those uncertainties specific to our acute screening assessments, multipathway screening assessments, and our environmental risk screening assessments. A more thorough discussion of these uncertainties is included in the *Residual Risk Assessment for the Site Remediation Source Category in Support of the Risk and Technology Review 2019 Proposed Rule*, which is available in the docket for this action. If a multipathway site-specific assessment was performed for this source category, a full discussion of the uncertainties associated with that assessment can be found in Appendix 11 of that document, *Site-Specific Human Health Multipathway Residual Risk Assessment Report*.

a. Uncertainties in the RTR Emissions Dataset

Although the development of the RTR emissions dataset involved quality assurance/quality control processes, the accuracy of emissions values will vary depending on the source of the data, the degree to which data are incomplete or missing, the degree to which assumptions made to complete the datasets are accurate, errors in emission estimates, and other factors. The emission estimates considered in this analysis generally are annual totals for certain years, and they do not reflect short-term fluctuations during the course of a year or variations from year to year. The estimates of peak hourly emission rates for the acute effects screening assessment were based on an emission adjustment factor applied to the average annual hourly

emission rates, which are intended to account for emission fluctuations due to normal facility operations.

b. Uncertainties in Dispersion Modeling

We recognize there is uncertainty in ambient concentration estimates associated with any model, including the EPA's recommended regulatory dispersion model, AERMOD. In using a model to estimate ambient pollutant concentrations, the user chooses certain options to apply. For RTR assessments, we select some model options that have the potential to overestimate ambient air concentrations (*e.g.*, not including plume depletion or pollutant transformation). We select other model options that have the potential to underestimate ambient impacts (*e.g.*, not including building downwash). Other options that we select have the potential to either under- or overestimate ambient levels (*e.g.*, meteorology and receptor locations). On balance, considering the directional nature of the uncertainties commonly present in ambient concentrations estimated by dispersion models, the approach we apply in the RTR assessments should yield unbiased estimates of ambient HAP concentrations. We also note that the selection of meteorology dataset location could have an impact on the risk estimates. As we continue to update and expand our library of meteorological station data used in our risk assessments, we expect to reduce this variability.

c. Uncertainties in Inhalation Exposure Assessment

Although every effort is made to identify all of the relevant facilities and emission points, as well as to develop accurate estimates of the annual emission rates for all relevant HAP, the uncertainties in our emission inventory likely dominate the uncertainties in the exposure assessment. Some uncertainties in our exposure assessment include human mobility, using the centroid of each census block, assuming lifetime exposure, and assuming only outdoor

exposures. For most of these factors, there is neither an under nor overestimate when looking at the maximum individual risk or the incidence, but the shape of the distribution of risks may be affected. With respect to outdoor exposures, actual exposures may not be as high if people spend time indoors, especially for very reactive pollutants or larger particles. For all factors, we reduce uncertainty when possible. For example, with respect to census-block centroids, we analyze large blocks using aerial imagery and adjust locations of the block centroids to better represent the population in the blocks. We also add additional receptor locations where the population of a block is not well represented by a single location.

d. Uncertainties in Dose-Response Relationships

There are uncertainties inherent in the development of the dose-response values used in our risk assessments for cancer effects from chronic exposures and noncancer effects from both chronic and acute exposures. Some uncertainties are generally expressed quantitatively, and others are generally expressed in qualitative terms. We note, as a preface to this discussion, a point on dose-response uncertainty that is stated in the EPA's *2005 Guidelines for Carcinogen Risk Assessment*; namely, that "the primary goal of EPA actions is protection of human health; accordingly, as an Agency policy, risk assessment procedures, including default options that are used in the absence of scientific data to the contrary, should be health protective" (the EPA's *2005 Guidelines for Carcinogen Risk Assessment*, page 1-7). This is the approach followed here as summarized in the next paragraphs.

Cancer UREs used in our risk assessments are those that have been developed to generally provide an upper bound estimate of risk.[17] That is, they represent a "plausible upper limit to the true value of a quantity" (although this is usually not a true statistical confidence limit). In some circumstances, the true risk could be as low as zero; however, in other circumstances the risk could be greater.[18] Chronic noncancer RfC and reference dose (RfD) values represent chronic exposure levels that are intended to be health-protective levels. To derive dose-response values that are intended to be "without appreciable risk," the methodology relies upon an uncertainty factor (UF) approach,[19] which considers uncertainty, variability, and gaps in the available data. The UFs are applied to derive dose-response values that are intended to protect against appreciable risk of deleterious effects.

Many of the UFs used to account for variability and uncertainty in the development of acute dose-response values are quite similar to those developed for chronic durations. Additional adjustments are often applied to account for uncertainty in extrapolation from observations at one exposure duration (*e.g.*, 4 hours) to derive an acute dose-response value at another exposure duration (*e.g.*, 1 hour). Not all acute dose-response values are developed for the same purpose, and care must be taken when interpreting the results of an acute assessment of human health effects relative to the dose-response value or values being exceeded. Where relevant to the

[17] IRIS glossary (*https://ofmpub.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&glossaryName=IRIS%20Glossary*).

[18] An exception to this is the URE for benzene, which is considered to cover a range of values, each end of which is considered to be equally plausible, and which is based on maximum likelihood estimates.

[19] See *A Review of the Reference Dose and Reference Concentration Processes, U.S. EPA, December 2002, and Methods for Derivation of Inhalation Reference Concentrations and Application of Inhalation Dosimetry*, U.S. EPA, 1994.

estimated exposures, the lack of acute dose-response values at different levels of severity should be factored into the risk characterization as potential uncertainties.

Uncertainty also exists in the selection of ecological benchmarks for the environmental risk screening assessment. We established a hierarchy of preferred benchmark sources to allow selection of benchmarks for each environmental HAP at each ecological assessment endpoint. We searched for benchmarks for three effect levels (*i.e.*, no-effects level, threshold-effect level, and probable effect level), but not all combinations of ecological assessment/environmental HAP had benchmarks for all three effect levels. Where multiple effect levels were available for a particular HAP and assessment endpoint, we used all of the available effect levels to help us determine whether risk exists and whether the risk could be considered significant and widespread.

Although we make every effort to identify appropriate human health effect dose-response values for all pollutants emitted by the sources in this risk assessment, some HAP emitted by this source category are lacking dose-response assessments. Accordingly, these pollutants cannot be included in the quantitative risk assessment, which could result in quantitative estimates understating HAP risk. To help to alleviate this potential underestimate, where we conclude similarity with a HAP for which a dose-response value is available, we use that value as a surrogate for the assessment of the HAP for which no value is available. To the extent use of surrogates indicates appreciable risk, we may identify a need to increase priority for an IRIS assessment for that substance. We additionally note that, generally speaking, HAP of greatest concern due to environmental exposures and hazard are those for which dose-response assessments have been performed, reducing the likelihood of understating risk. Further, HAP not included in the quantitative assessment are assessed qualitatively and considered in the risk

characterization that informs the risk management decisions, including consideration of HAP reductions achieved by various control options.

For a group of compounds that are unspeciated (*e.g.*, glycol ethers), we conservatively use the most protective dose-response value of an individual compound in that group to estimate risk. Similarly, for an individual compound in a group (*e.g.*, ethylene glycol diethyl ether) that does not have a specified dose-response value, we also apply the most protective dose-response value from the other compounds in the group to estimate risk.

e. Uncertainties in Acute Inhalation Screening Assessments

In addition to the uncertainties highlighted above, there are several factors specific to the acute exposure assessment that the EPA conducts as part of the risk review under section 112 of the CAA. The accuracy of an acute inhalation exposure assessment depends on the simultaneous occurrence of independent factors that may vary greatly, such as hourly emissions rates, meteorology, and the presence of a person. In the acute screening assessment that we conduct under the RTR program, we assume that peak emissions from the source category and reasonable worst-case air dispersion conditions (*i.e.*, 99^{th} percentile) co-occur. We then include the additional assumption that a person is located at this point at the same time. For this source category, together, these assumptions represent a reasonable worst-case exposure scenario. In most cases, it is unlikely that a person would be located at the point of maximum exposure during the time when peak emissions and reasonable worst-case air dispersion conditions occur simultaneously.

f. Uncertainties in the Multipathway and Environmental Risk Screening Assessments

For each source category, we generally rely on site-specific levels of PB-HAP or environmental HAP emissions to determine whether a refined assessment of the impacts from

multipathway exposures is necessary or whether it is necessary to perform an environmental screening assessment. This determination is based on the results of a three-tiered screening assessment that relies on the outputs from models – TRIM.FaTE and AERMOD - that estimate environmental pollutant concentrations and human exposures for five PB-HAP (dioxins, POM, mercury, cadmium, and arsenic) and two acid gases (HF and hydrogen chloride). For lead, we use AERMOD to determine ambient air concentrations, which are then compared to the secondary NAAQS standard for lead. Two important types of uncertainty associated with the use of these models in RTR risk assessments and inherent to any assessment that relies on environmental modeling are model uncertainty and input uncertainty.[20]

Model uncertainty concerns whether the model adequately represents the actual processes (*e.g.*, movement and accumulation) that might occur in the environment. For example, does the model adequately describe the movement of a pollutant through the soil? This type of uncertainty is difficult to quantify. However, based on feedback received from previous EPA SAB reviews and other reviews, we are confident that the models used in the screening assessments are appropriate and state-of-the-art for the multipathway and environmental screening risk assessments conducted in support of RTR.

Input uncertainty is concerned with how accurately the models have been configured and parameterized for the assessment at hand. For Tier 1 of the multipathway and environmental screening assessments, we configured the models to avoid underestimating exposure and risk. This was accomplished by selecting upper-end values from nationally representative datasets for

[20] In the context of this discussion, the term "uncertainty" as it pertains to exposure and risk encompasses both ***variability*** in the range of expected inputs and screening results due to existing spatial, temporal, and other factors, as well as ***uncertainty*** in being able to accurately estimate the true result.

the more influential parameters in the environmental model, including selection and spatial configuration of the area of interest, lake location and size, meteorology, surface water, soil characteristics, and structure of the aquatic food web. We also assume an ingestion exposure scenario and values for human exposure factors that represent reasonable maximum exposures.

In Tier 2 of the multipathway and environmental screening assessments, we refine the model inputs to account for meteorological patterns in the vicinity of the facility versus using upper-end national values, and we identify the actual location of lakes near the facility rather than the default lake location that we apply in Tier 1. By refining the screening approach in Tier 2 to account for local geographical and meteorological data, we decrease the likelihood that concentrations in environmental media are overestimated, thereby increasing the usefulness of the screening assessment. In Tier 3 of the screening assessments, we refine the model inputs again to account for hour-by-hour plume rise and the height of the mixing layer. We can also use those hour-by-hour meteorological data in a TRIM.FaTE run using the screening configuration corresponding to the lake location. These refinements produce a more accurate estimate of chemical concentrations in the media of interest, thereby reducing the uncertainty with those estimates. The assumptions and the associated uncertainties regarding the selected ingestion exposure scenario are the same for all three tiers.

For the environmental screening assessment for acid gases, we employ a single-tiered approach. We use the modeled air concentrations and compare those with ecological benchmarks.

For all tiers of the multipathway and environmental screening assessments, our approach to addressing model input uncertainty is generally cautious. We choose model inputs from the upper end of the range of possible values for the influential parameters used in the models, and

we assume that the exposed individual exhibits ingestion behavior that would lead to a high total exposure. This approach reduces the likelihood of not identifying high risks for adverse impacts.

Despite the uncertainties, when individual pollutants or facilities do not exceed screening threshold emission rates (*i.e.*, screen out), we are confident that the potential for adverse multipathway impacts on human health is very low. On the other hand, when individual pollutants or facilities do exceed screening threshold emission rates, it does not mean that impacts are significant, only that we cannot rule out that possibility and that a refined assessment for the site might be necessary to obtain a more accurate risk characterization for the source category.

The EPA evaluates the following HAP in the multipathway and/or environmental risk screening assessments, where applicable: arsenic, cadmium, dioxins/furans, lead, mercury (both inorganic and methyl mercury), POM, HCl, and HF. These HAP represent pollutants that can cause adverse impacts either through direct exposure to HAP in the air or through exposure to HAP that are deposited from the air onto soils and surface waters and then through the environment into the food web. These HAP represent those HAP for which we can conduct a meaningful multipathway or environmental screening risk assessment. For other HAP not included in our screening assessments, the model has not been parameterized such that it can be used for that purpose. In some cases, depending on the HAP, we may not have appropriate multipathway models that allow us to predict the concentration of that pollutant. The EPA acknowledges that other HAP beyond these that we are evaluating may have the potential to cause adverse effects and, therefore, the EPA may evaluate other relevant HAP in the future, as modeling science and resources allow.

IV. Analytical Results and Proposed Decisions

A. What actions are we taking pursuant to CAA sections 112(d)(2) and 112(d)(3)?

To ensure that CAA section 112 standards apply at all times, the EPA is proposing to add provisions for pressure relief device (PRD) releases and for bypass lines on closed vent systems. The results and proposed decisions based on the analyses performed pursuant to CAA section 112(d)(2) and (3) are presented below.

The acronym "PRD" means pressure relief device and is common vernacular to describe the variety of devices regulated as PRDs or valves (see the end of this section for our proposed addition of the definition for "pressure relief device" or "valve," to provide clarity). PRDs are designed to remain closed during normal operation, but they may "actuate" *(e.g.* the valve seat opens or a rupture disk ruptures) in the event of an overpressure in the system caused by operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that results in immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage. For the Site Remediation source category, emissions vented directly to the atmosphere from a PRD actuation in remediation material service may contain HAP that would have been subject to control under the Site Remediation NESHAP, if the PRD actuation had not occurred (*e.g.*, through a process vent standard). However, the EPA recognizes that the characteristics of a release from a PRD may be different from HAP emission generated from remediation processes under typical operating conditions (*i.e.*, non malfunction) and which are routed through a process vent.

The Site Remediation NESHAP currently regulates fugitive emissions from PRDs, when they are seated, through the equipment leak provisions. The equipment leak provisions also require that the PRD be returned to a condition of no detectable emissions, after a pressure release; however, these equipment leak provisions do not establish a standard for emissions

releases from a PRD when the PRD actuates. In addition, the current Site Remediation NESHAP follows the EPA's previous practice of exempting SSM events from otherwise applicable emission standards. Consequently, with emissions releases from a PRD release actuation event treated as a type of malfunction, the Site Remediation NESHAP did not restrict emissions releases from a PRD actuation event to the atmosphere (*i.e.*, they were exempt from the otherwise applicable emission standards). In *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), the Court determined SSM exemptions in section 112 standards violate the CAA. Section IV.E.2 of this preamble contains additional discussions on the removal of the SSM exemptions for this source category.

We evaluated the Site Remediation NESHAP provisions for PRDs to ensure a standard continuously applies during malfunctions that result in an emissions release from a PRD actuation event, consistent with the *Sierra Club v. EPA* decision. First, we determined that emissions releases from PRD actuation events that vent to a closed vent system and control device are appropriately regulated. We are proposing at 40 CFR 63.7923 that emissions releases from a PRD actuation event routed through a closed vent system to a control device or to a process, fuel gas system, or drain system must meet the requirements at 40 CFR 63.7925 to 40 CFR 63.7928 for the applicable control system.

Second, the EPA determined that emissions from PRD actuation events that vent directly to the atmosphere as the result of a malfunction may not meet an applicable emission standard for this source category. Therefore, we examined whether it would be feasible to establish a numeric emission standard for emissions releases from PRD actuation events that vent directly to the atmosphere.

As detailed here, we determined it is not feasible to regulate emissions from PRD actuation events through a numeric emission standard, and, therefore, it is more appropriate to regulate emissions releases from PRD events that vent to the atmosphere through work practice standards under CAA section 112(h), established consistent with CAA section 112(d)(2) and (3). The EPA is proposing work practice standards at 40 CFR 63.7923 that are intended to reduce the number of emissions releases from PRD actuation events and will incentivize owners or operators to eliminate the causes of emissions releases from PRD actuation events that vent directly to the atmosphere.

When the EPA initially promulgated the Site Remediation NESHAP, it did not consider malfunction events when establishing emissions standards for the various emissions sources at site remediation facilities. In undertaking that consideration now, we propose that it is not feasible to regulate emissions releases from PRD actuation events that vent to the atmosphere using numeric emission limits due to technological and economic limitations that make it impracticable to measure emissions from PRDs which have actuated. CAA section 112(h)(1) states that the EPA may prescribe a work practice standard or other requirement, consistent with the provisions of CAA sections 112(d) or (f), in those cases where, in the judgment of the Administrator, it is not feasible to enforce an emission standard. CAA section 112(h)(2)(B) further defines the term "not feasible" in this context as meaning that "the application of measurement technology to a particular class of sources is not practicable due to technological and economic limitations." We consider it appropriate to establish a work practice standard for emissions releases from PRD actuation events that vent to the atmosphere as provided in CAA section 112(h), because the application of a measurement methodology for emissions releases from PRD actuation events that vent directly to the atmosphere is not practicable due to

technological and economic limitations. As discussed previously, PRDs are designed to remain closed during normal operations and release emissions only during nonroutine and unplanned events, and the venting time can be very short and may vary widely in emissions composition and flow rate.

Additionally, it would be economically prohibitive to construct an appropriate conveyance and install and operate continuous monitoring systems for each individual PRD that vents directly to the atmosphere in order to attempt to quantitatively measure an actuation release event that may occur infrequently. See *U.S. v. Sugar Corp*., 830 F.3d 579, 664-67 (D.C. Cir. 2016). Further, we have not identified any available, technically feasible continuous emission monitoring system that can accurately determine a mass release quantity of HAP given the flow, composition, and compositional variability of potential PRD releases that vent directly to the atmosphere from remediation units. Rather, we have identified only monitoring systems capable of alerting an owner or operator when an emissions release from a PRD actuation event occurs. Consequently, we propose that it is appropriate to establish a work practice standard for emissions releases from PRD actuation event that vent directly to the atmosphere as provided in CAA section 112(h).

We next reviewed information about site remediation facilities to determine how the best performers are minimizing emissions releases from PRD actuation events that vent directly to the atmosphere. A review of the title V operating permits for facilities subject to the Site Remediation NESHAP indicated that many facilities are subject to the Chemical Accident Prevention Provisions (CAP) rule (40 CFR 68.215 requires permits to list 40 CFR part 68 as an applicable requirement, if subject) for at least some portion of the facility. As a result, we further reviewed this rule for consideration in developing a PRD work practice standard.

The CAP rule requires facilities to develop a Risk Management Plan that includes a hazard assessment, an accident prevention program and an emergency response program. The CAP rule includes three program levels which dictate the requirements for the hazard assessment, accident prevention program and emergency response program based on the types of chemicals and processes used at a facility. If the applicability of the CAP rule extends to site remediation affected facilities, the facilities would fall under either prevention program level 1 or 3 (depending on a facility's NAICS code). We evaluated program 3, which is more stringent, because based on a review of the rule's applicability requirements and preamble rationale, it is our understanding that site remediation facilities may not be subject to the program 1 criteria. We also chose to evaluate program 3 because if any facility is subject to program 3 and the Site Remediation NESHAP, those sources would be the best performers in the source category, requisite for a MACT determination. The program 3 prevention program includes: documentation of process safety information, conducting a hazard analysis, documentation of operating procedures, employee training, on-going maintenance, and incident investigations. The process safety information documented must include information pertaining to the hazards of the regulated substances in the process, the technology of the process, and the process equipment (including relief valves). When conducting the hazard analysis, facilities must identify, evaluate, and control the hazards in the process. Facilities that use controls may consider the application of detection methodologies (*e.g.*, process monitoring and control instrumentation) to provide early warning of releases. The operating procedures must address multiple operating scenarios (*e.g.*, normal operations, startup, emergency shutdown) and provide instructions for safely conducting process activities. The acts of conducting the hazard analysis and documenting operating procedures are similar to prevention measures, discussed below, though we note a specific

number of measures or controls is not specified for the program 3 prevention program. Incident investigations must document the factors that contributed to an incident and any resolutions and corrective actions (incident investigations are consistent with analysis of the cause of the release and corrective measures, discussed below). Facilities are also required to document this information in a Risk Management Plan that must be updated at least every 5 years.

Next, we considered that some companies operating site remediation facilities also own and operate petroleum refineries or chemical production facilities and may have established company-wide best practices as a result of specific state and Federal requirements. For example, petroleum refineries located in certain counties in California are subject to and complying with specific requirements for PRDs such as the Bay Area Air Quality Management District (BAAQMD) Rule 8-28-304 and South Coast Air Quality Management District (SCAQMD) Rule 1173. These rules also formed the basis of the work practice standards promulgated for emissions releases from PRD actuation events at petroleum refineries in the recent Petroleum Refinery Sector RTR performed by the EPA (80 FR 75178, December 1, 2015).

Considering our review of the EPA's Chemical Accident Prevention Provisions and company-wide best practices that site remediation facilities may have implemented, we expect that the best performing site remediation facilities have implemented a program for emissions releases from PRD actuation events that vent directly to the atmosphere that consists of conducting an analysis of the cause of the PRD actuation event and the implementation of corrective measures. We used this information as the basis of the work practice standards that we are proposing at 40 CFR 63.7923.

Specifically, we are proposing a limit on the number of emissions releases from PRD actuation events that if exceeded, would result in a violation to the work practice standard for

emissions releases for PRD actuation events that vent directly to the atmosphere. We believe setting criteria to determine a deviation is necessary for the work practice to be effective. We considered limits on the number of emissions releases from PRD actuation events over a 3-year period. Based on a Monte Carlo analysis of random rare events (conducted for the Petroleum Refinery Sector MACT), we note that a facility is likely to have two or three events in an average 5-year period when a long time-horizon (*e.g.*, 20 years) is considered. Therefore, we are proposing to limit the number of emissions releases from a PRD actuation event from a single PRD to either two or three (depending on the PRD release actuation event cause) in a 3-year period as the basis of a deviation of the work practice standard. We considered it reasonable to use a 3-year period rather than a 5-year period given that company-wide best practices forming the basis of the work practice standards promulgated for emissions releases from PRD actuation events at petroleum refineries are also our underlying basis for the proposed work practice standards at site remediation facilities. We are proposing that it is a deviation of the work practice standard if a single PRD that vents emissions from an actuation event directly to the atmosphere has two releases within a 3-year period due to the same cause. We believe this provision will help ensure that analyses and corrective actions are conducted effectively. Otherwise, we are proposing that it is a deviation of the work practice standard if a single PRD that vents emissions from an actuation event directly to the atmosphere has three releases within a 3-year period for any reason. In addition, we are proposing that any emissions release directly to the atmosphere from a PRD actuation event for which the cause was determined to be operator error or poor maintenance is a violation of the work practice standard. We are proposing that "force majeure" events would not be included when counting the number of releases. We are proposing to define "Force majeure" as including events resulting from natural disasters, acts of

war or terrorism, or external power curtailment beyond the facility's control. These types of events are beyond the control of the owner or operator. We are providing that these events should not be included in the event count, but that they would be subject to the PRD actuation event cause analysis in order to confirm or determine whether the release was due to a force majeure event.

In addition, consistent with our treatment of site remediation process vents (in general, an open PRD is essentially the same as a site remediation process vent that is vented directly to the atmosphere), we believe it is appropriate to exclude certain types of PRDs that have very low potential to emit based on their type of service, size, and/or pressure from the proposed work practice standard for PRD releases that vent directly to the atmosphere. Both the CAP and the California petroleum refinery PRD rules also exempt or impose simpler requirements for certain PRDs. We are proposing at 40 CFR 63.7923 that the following types of PRDs would not be subject to the work practice standard for PRDs that vent directly to the atmosphere: (1) PRDs in heavy liquid service; (2) PRDs that are designed solely to release due to liquid thermal expansion; and (3) pilot-operated and balanced bellows PRDs if the primary release valve associated with the PRD is vented through a control system. With regard to PRDs in heavy liquid service and thermal relief valves, any release of HAP to the atmosphere from a PRD in heavy liquid service would be expected to be small. We are also proposing that pilot-operated PRDs (where emissions from actuation events can be released to the atmosphere through a pilot discharge vent) and balanced bellow PRDs (where emissions can be released to the atmosphere through a bonnet vent) are not subject to the work practice standard, if the primary release valve associated with the PRD is vented through a control system. Due to its design, which includes a bellows to shield the pressure relief stem and top portion of the valve seat from the discharge

vent pressure, a balanced bellows PRD will not discharge gas to the atmosphere during a pressure release actuation event, except for potential leaks through the bonnet vent due to bellows failure or fatigue which are not considered PRD actuation. Pilot-operated PRDs use a small pilot safety valve that discharges to the atmosphere to actuate the primary valve or piston, which then discharges to a control system. The EPA considers balanced bellows and pilot operated PRDs to be equipment that safely controls the primary PRD release and reduces HAP emissions to the atmosphere.

The PRDs subject to the Site Remediation NESHAP that vent to a control device are exempt from LDAR. The PRDs that vent to the atmosphere are subject to the LDAR provisions of either 40 CFR part 63, subpart TT or UU. Similar to the current provisions, the proposed LDAR provisions for PRDs require all PRDs that vent to the atmosphere be tested using EPA Method 21 to ensure the PRD is not leaking above the detection threshold during normal operation and to ensure it properly reseats if a release does occur. Those PRDs that vent to control systems would still be exempt from LDAR requirements given that if a release were to occur from this specific class of PRDs, it would vent to a closed vent system and control device.

Finally, to ensure compliance with the proposed work practice standard for emissions released from PRD actuation events that vent directly to the atmosphere, we are also proposing to require that sources monitor these PRDs using a system that is capable of identifying and recording the time and duration of each pressure release and of notifying operators that a pressure release is occurring. Pressure release actuation events from PRDs that vent directly to the atmosphere have the potential to emit large quantities of HAP. When a pressure release occurs, it is important to identify and mitigate it as quickly as possible. We are proposing to allow owners and operators to use a range of methods to satisfy the PRD actuation detection

requirements, including the use of a parameter monitoring system (that may already be in place) on the process that is sufficient to indicate that a pressure release has occurred as well as record the time and duration of that pressure release. For the purposes of estimating the costs of this requirement, we assume that all PRDs that would become subject to the proposed standards already have a process or parameter monitoring system that will indicate the time that a pressure release has occurred and the duration of the release.

As part of these proposed provisions, we are proposing to add definitions for "pressure release actuation event" and "pressure relief device or valve," to 40 CFR part 63, subpart GGGGG. We are also proposing to remove the definition of "safety device" and the provisions related to safety devices from 40 CFR part 63, subpart GGGGG, which would overlap and be redundant with parts of the proposed definition of "pressure relief device or valve" and the provisions related to these devices. To our knowledge, pressure relief devices or valves are the only relevant safety devices used in site remediation processes.

The Agency recognizes that the treatment of PRDs should be appropriate to the characteristics of the relevant source category and need not be uniform across all source categories. In developing this proposal, the EPA was mindful of the limited information it has with respect to PRDs in site remediation and the diversity of site characteristics. The EPA seeks comment on whether there are PRDs associated with affected facility process vents, tanks, containers, separators, or closed vent systems, and whether PRDs associated with those affected facilities are routed to a control device through a closed vent system or vent to the atmosphere. The EPA seeks comment on whether facilities that are subject to the Site Remediation NESHAP are also subject to EPA's CAP at 40 CFR part 68, OSHA's Process Safety Management rule at 29 CFR 1910.119, BAAQMD Rule 8-28-304, or SCAQMD Rule

1173, and if the latter set of rules extend to cover PRDs associated with site remediation. The EPA has proposed MACT work practice standards for PRDs that vent to the atmosphere based on the best performing sources that are subject to the other similar NESHAP (40 CFR part 63, subpart CC-Petroleum Refineries, and 40 CFR part 63, subpart DD-Offsite Waste and Recovery Operations). The EPA seeks comment on whether these MACT work practice standards for PRDs are appropriate for site remediation.

For the purposes of estimating the costs of this requirement, we have assumed that operators have existing systems that are capable of identifying a pressure release to the atmosphere and recording the time and duration of the event. The EPA has further assumed there is one PRD per site remediation facility, and one pressure event every 3 years that would cause the PRD to actuate, triggering an analysis of the cause of the pressure release actuation event and the need for corrective measures. The EPA seeks comment on these assumptions. (Comment C-2) Whether or not data and comments substantiate that there are currently PRDs at site remediation facilities, the EPA may adopt provisions addressing PRDs if we conclude that future site-remediation affected facilities may use these devices.

For further details on the assumptions and methodologies used in this analysis, see the technical memorandum titled *Review of Regulatory Alternatives for Certain Vent Streams in the Site Remediation Source Category*, which is in Docket ID No. EPA-HQ-OAR-2018-0833.

B. What are the results of the risk assessment and analyses for affected sources?

As described above, for the Site Remediation source category, we conducted an inhalation risk assessment for all HAP emitted, a multipathway screening assessment for the PB-HAP emitted, and an environmental risk screening assessment for the PB-HAP and acid gases (*e.g.*, HCl) emitted from affected sources. We present results of the risk assessment briefly below

and in more detail in the *Residual Risk Assessment for the Site Remediation Source Category in Support of the 2019 Risk and Technology Review Proposed Rule*, which is available in the docket for this action.

1. Chronic Inhalation Risk Assessment Results

The results of the chronic baseline inhalation cancer risk assessment indicate that, based on estimates of current actual and allowable emissions, the MIR posed by the Site Remediation source category is 1-in-1 million driven by site remediation model plant emissions of arsenic compounds and chromium (VI) compounds. The total estimated cancer incidence based on actual and allowable emission levels is 0.001 excess cancer cases per year, or 1 case every 1,000 years. The population exposed to cancer risks greater than or equal to 1-in-1 million considering actual and allowable emissions is 400 (see Table 2 of this preamble). In addition, the maximum chronic noncancer HI (TOSHI) is less than 1.

Table 2. Site Remediation Inhalation Risk Assessment Results for Affected Sources

Number of Facilities[1]	Maximum Individual Cancer Risk (in 1 million)	Estimated Population at Increased Risk of Cancer ≥ 1-in-1 Million	Estimated Annual Cancer Incidence (cases per year)	Maximum Chronic Noncancer TOSHI	Maximum Screening Acute Noncancer HQ
102	**Based on Actual Emissions Level[2,3]**				
	1	400	0.001	0.1	$HQ_{REL} = 1$ (arsenic compounds)
	Based on Whole Facility Emissions				
	1,000	2,300,000	0.5	5	---

[1] Number of facilities evaluated in the risk analysis.

[2] Maximum individual excess lifetime cancer risk due to HAP emissions from the source category.

[3] Actual emissions equal allowable emissions; therefore, actual risks equal allowable risks.

2. Screening Level Acute Risk Assessment Results

As presented in Table 2 of this preamble, acute exposure to emissions from affected sources in the Site Remediation source category result in a maximum HQ of 1 based on the REL for arsenic compounds. For more detailed acute risk results refer to the *Residual Risk Assessment*

for the Site Remediation Source Category in Support of the 2019 Risk and Technology Review Proposed Rule, which is available in the docket for this action.

3. Multipathway Risk Screening Results

The results of the multipathway risk screening assessment indicate all Tier 2 screening values for PB-HAP emitted from the source category (arsenic compounds, cadmium compounds, mercury compounds, and POM) are less than 1. Based on these results, we are confident that the cancer risks due to multipathway exposures to these chemicals are lower than 1-in-1 million and the noncancer HIs are less than 1.

In the case of lead, the multipathway risks were assessed by comparing modeled ambient lead concentrations against the primary NAAQS for lead. The results of this analysis indicate that, based on actual and allowable emissions, the maximum annual off-site ambient lead concentration is 0.0001 $\mu g/m^3$, well below the primary NAAQS of 0.15 $\mu g/m^3$.

4. Environmental Risk Screening Results

The ecological risk screening assessment indicated all modeled points were below the Tier 1 screening thresholds based on actual and allowable emissions of PB-HAP (arsenic compounds, cadmium compounds, mercury compounds, and POM) and acid gases (HCl and HF) emitted by the source category.

In the case of lead, the environmental risks were assessed by comparing modeled ambient lead concentrations against the secondary NAAQS for lead. The results of this analysis indicate that, based on actual and allowable emissions, the maximum annual off-site ambient lead concentrations were below the secondary NAAQS.

Based on the results of the environmental risk screening assessment, we would not expect environmental risks due to emissions from this source category.

5. Facility-Wide Risk Results

An assessment of whole-facility (or "facility-wide) risks was performed as described above to characterize the source category risk in the context of facility-wide risks.[21] Facility-wide risks were estimated using the NEI-based data. The maximum lifetime individual cancer risk posed by the 102 facilities, based on facility-wide emissions, is 1,000-in-1 million, with ethylene oxide emissions from facility-wide flares, transfer racks, vents, and fugitive emissions driving the risk. The total estimated cancer incidence based on whole facility emissions is 0.5 excess cancer cases per year, or one excess case in every 2 years. Approximately 2,300,000 people are estimated to have cancer risks above 1-in-1 million from facility-wide HAP emissions. Facility-wide lifetime individual cancer risks are estimated to be greater than or equal to 100-in-1 million at three facilities and 55,000 people would be exposed at or above this risk level. Additional details on this determination can be found in the *Residual Risk Assessment for the Site Remediation Source Category in Support of the 2019 Risk and Technology Proposed Rule*, which is available in the docket for this action.

Regarding the facility-wide risks due to ethylene oxide (described above), which are due to emission sources that are not part of the Site Remediation source category, we intend to evaluate those facility-wide estimated emissions and risks further and may address these in a separate future action, as appropriate. In particular, the EPA is addressing ethylene oxide based on the results of the latest NATA released in August 2018, which identified the chemical as a potential concern in several areas across the country. (NATA is the Agency's nationwide air toxics screening tool, designed to help the EPA and state, local, and tribal air agencies identify

[21] The facility-wide risk assessment includes all emission points within the Site Remediation source category (including those for which there are no standards) as well as other emission points covered by other NESHAP.

areas, pollutants, or types of sources for further examination.) The latest NATA estimates that ethylene oxide significantly contributes to potential elevated cancer risks in some census tracts across the U.S. (less than 1 percent of the total number of tracts). These elevated risks are largely driven by an EPA risk value that was updated in late 2016. The EPA will work with industry and state, local, and tribal air agencies as the EPA takes a two-pronged approach to address ethylene oxide emissions: (1) Reviewing and, as appropriate, revising CAA regulations for facilities that emit ethylene oxide—starting with air toxics emissions standards for miscellaneous organic chemical manufacturing facilities and commercial sterilizers; and (2) conducting site-specific risk assessments and, as necessary, implementing emission control strategies for targeted high-risk facilities. The EPA will post updates on its work to address ethylene oxide on its website at: *https://www.epa.gov/ethylene-oxide*.

Regarding the noncancer risk assessment, the maximum chronic noncancer HI associated with facility-wide emissions is estimated to be 5 due to natural gas external combustion boiler emissions of chlorine. A total of three facilities had a facility-wide chronic noncancer HI greater than 1; two due to emissions of chlorine and one due to emissions of trichloroethylene.

6. What demographic groups might benefit from this regulation?

To examine the potential for any environmental justice issues that might be associated with the source category, we performed a demographic analysis, which is an assessment of risk to individual demographic groups of the populations living within 5 km and within 50 km of the facilities. In the analysis, we evaluated the distribution of HAP-related cancer and noncancer risk

from the Site Remediation source category across different demographic groups within the populations living near facilities.[22]

The results of the demographic analysis are summarized in Table 3 below. These results, for various demographic groups, are based on the estimated risk from actual emissions levels for the population living within 50 km of the facilities.

TABLE 3. Site Remediation: Demographic Assessment Results - 50 km Study Area Radius

	Nationwide	**Population with Cancer Risk at or Above 1-in-1 Million Due to Site Remediation**	**Population with Chronic HI Above 1 Due to Site Remediation**
Total Population	317,746,049	374	0
Race by Percent			
White	62%	83%	0%
Minority	38%	17%	0%
Minority by Percent			
African American	12%	14%	0%
Native American	0.8%	0.4%	0%
Hispanic or Latino (includes white and nonwhite)	18%	0%	0%
Other and Multiracial	7%	2%	0%
Income by Percent			
Below Poverty Level	14%	13%	0%
Above Poverty Level	86%	87%	0%
Education by Percent			
Over 25 and without High School Diploma	14%	11%	0%
Over 25 and with a High School Diploma	86%	89%	0%
Linguistically Isolated by Percent			
Linguistically Isolated	6%	0%	0%

[22] Demographic groups included in the analysis are: White, African American, Native American, Hispanic or Latino, other races and multiracial, people living below the poverty level, people living above the poverty level, adults without a high school diploma, adults with a high school diploma, and linguistically isolated people.

The results of the Site Remediation source category demographic analysis indicate that emissions from the source category expose approximately 400 people to a cancer risk at or above 1-in-1 million and no people to a chronic noncancer TOSHI greater than 1. The percentages of the at-risk population in each demographic group (except for White) are similar to or lower than their respective nationwide percentages with the exception of the African American, Above Poverty Level, and Over 25 and with a High School Diploma demographic groups, which are slightly higher than their respective nationwide percentages.

The methodology and the results of the demographic analysis are presented in a technical report, *Risk and Technology Review – Analysis of Demographic Factors for Populations Living Near Site Remediation Source Category Operations,* available in the docket for this action.

C. What are our proposed decisions regarding risk acceptability, ample margin of safety, and adverse environmental effect?

1. Risk Acceptability

We weigh all health risk factors in our risk acceptability determination, including the cancer MIR, the number of persons in various cancer and noncancer risk ranges, cancer incidence, the maximum noncancer TOSHI, the maximum acute noncancer HQ, the extent of noncancer risk, the distribution of cancer and noncancer risks in the exposed population, and risk estimation uncertainties (54 FR 38044, September 14, 1989).

For the Site Remediation source category, the risk analysis indicates that for affected sources, the cancer risk to the individual most exposed is 1-in-1 million from both actual and allowable emissions. These risks are considerably less than 100-in-1 million, which is the presumptive upper limit of acceptable risk. The risk analysis for affected sources also estimated a cancer incidence of 0.001 excess cancer cases per year, or 1 case every 1,000 years. Exposures to

HAP with noncancer health effects are estimated to result in a maximum chronic noncancer TOSHI below 1 (0.1), as well as a maximum acute HQ value of 1. Multipathway screening values for affected sources are below a level of concern for both carcinogenic and non-carcinogenic PB-HAP as well as emissions of lead compounds. Considering all the health risk information and factors discussed above, including the uncertainties, we propose to find that risk from the affected facilities in the Site Remediation source category subject to the Site Remediation NESHAP is acceptable.

2. Ample Margin of Safety Analysis

Under the ample margin of safety analysis, we evaluated the cost and feasibility of available control technologies and other measures (including the controls, measures, and costs reviewed under the technology review) that could be applied in this source category to further reduce the risks (or potential risks) due to emissions of HAP.

As discussed above, we are proposing that the risks from this source category are acceptable. For affected sources, the maximum cancer risk to the individual most exposed is 1-in-1 million from both actual and allowable emissions from site remediation processes and activities. Of the affected sources, two facilities had cancer risks equal to 1-in-1 million. Neither of these facilities had site remediation emissions reported to the NEI, and instead risks for both were based on estimated emissions.

In our ample margin of safety analysis, we identified three control options that could further reduce HAP emissions from the source category. We evaluated those options to determine whether any of the three options is required to provide an ample margin of safety to protect public health. For process vents at affected sources, as discussed in section IV.D of this preamble, we identified an emissions control option requiring compliance with a 98-percent

reduction rather than a 95-percent reduction in HAP emissions. To assess the maximum potential for risk reduction that could result from this process vent control option, we assumed that the maximum risks for the site remediation source category are due to emissions from a process vent with emissions controlled at 95-percent. In this scenario, we estimate that compliance with a requirement that process vents be 98-percent controlled could result in reducing source category HAP emissions by between 0.09 and 0.18 tpy from current emissions levels, with an incremental cost effectiveness ranging between $1 million to $2 million/ton HAP reduction (section IV.D of this preamble provides further discussion of the EPA's cost analysis). We estimate this option would reduce the MIR at the MACT-allowable emissions level for the source category from 1-in-1 million to 0.4-in-1 million, thus, would reduce the number of people with cancer risks greater than or equal to 1-in-1 million from 400 to 0. Although the maximum chronic noncancer TOSHI was less than 1, this option would further reduce it from 0.1 to 0.04. We are proposing that the considerable cost of this option is not reasonable in light of the minimal risk reduction achieved. Considering all of the health risks and other health information considered in our determination of risk acceptability, the minimal risk reductions associated with this option, the uncertainty associated with the estimated potential risk reductions, and the costs associated with this option, we are proposing that additional HAP emissions controls for site remediation process vents are not necessary to provide an ample margin of safety to protect public health.

For equipment leaks at affected sources, as discussed in section IV.D of this preamble, we identified two emission control options: Option 1 would require the use of the leak detection thresholds of 40 CFR part 63, subpart UU for valves and pumps, rather than the thresholds of 40 CFR part 63, subpart TT; Option 2 would require the same as Option 1 but would also include the connector LDAR requirements of 40 CFR part 63, subpart UU. Since actual and MACT-

allowable emissions from equipment leaks are estimated to be the same, the risk due to equipment leaks at the MACT-allowable level are estimated to be the same as risk due to equipment leaks at actual emissions levels. In addition, based on our analysis of estimated baseline equipment leak emissions,[23] we assumed that half of the equipment leak emissions are from non-connector components (*i.e*. pumps and valves), and the other half are from connectors. Under Option 1, we estimate the HAP reduction would be 4.7 tpy from the baseline actual emissions level, with a cost effectiveness of $2,000/ton HAP reduction. However, baseline risks associated with equipment leaks are low, and there would be little change in any of the risk metrics under Option 1. This option would reduce the MIR from 1-in-1 million to 0.8-in-1 million, and reduce the maximum chronic noncancer TOSHI from 0.1 to 0.08. In the context of our ample margin of safety analysis, we are proposing that imposing this option is not reasonable in light of the minimal risk reduction achieved. Although this option is not required to provide an ample margin of safety to protect public health, we are proposing this option as a cost-effective development under our technology review. Under Option 2 for equipment leaks, we estimate the incremental HAP reduction would be 5 tpy more than Option 1, with an overall cost effectiveness of $19,000/ton HAP reduction and a cost effectiveness incremental to Option 1 of $35,000/ton HAP reduction. Similar to option 1, we found that the control measure would provide little change to the estimated risks, but at even higher cost. Therefore, we are proposing that the cost of the Option 2 standards is not reasonable when weighed against the minimal risk reduction achieved.

[23] See *Technology Review and Cost Impacts for the Proposed Amendments to the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

In accordance with the approach established in the Benzene NESHAP, the EPA weighed all health risk measures and information considered in the risk acceptability determination, along with the costs of emissions controls and technological feasibility, in making our ample margin of safety determination. Considering the health risk information and the little potential for risk reduction from control options identified for this source category, as well as the high relative cost of that risk reduction, we propose that the standards for the Site Remediation source category provide an ample margin of safety to protect public health. We request comments on the ample margin of safety analysis for this source category.

3. Adverse Environmental Effect

Considering the results of our environmental risk screening, we do not expect an adverse environmental effect as a result of HAP emissions from this source category, and we are proposing that it is not necessary to set a more stringent standard to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.

D. Additional Modeling for Site Remediation

In addition to assessing risk from affected facilities, we also conducted an inhalation risk assessment for all HAP emitted, a multipathway screening assessment for the PB-HAP emitted, and an environmental risk screening assessment for the PB-HAP and acid gases (*e.g.*, HCl) emitted from the CERCLA/RCRA exempt sources. Although exempt from the regulatory requirements of the Site Remediation NESHAP, these facilities are part of the Site Remediation source category. To understand the risks from the facilities exempt from the Site Remediation NESHAP requirements, these facilities were analyzed separately for the purposes of the risk assessment. We present results of the risk assessment briefly below and in more detail in the *Residual Risk Assessment for Exempt Sources in the Site Remediation Source Category in*

Support of the 2019 Risk and Technology Review Proposed Rule, which is available in the docket for this action.

1. Chronic Inhalation Risk Assessment Results

The results of the chronic baseline inhalation cancer risk assessment indicate that, based on estimates of current actual and allowable emissions, the MIR posed by exempt sources in the Site Remediation source category is 4-in-1 million driven by site remediation model plant emissions of chromium (VI) compounds. The total estimated cancer incidence based on actual and allowable emission levels is 0.001 excess cancer cases per year, or 1 case every 1,000 years. The population exposed to cancer risks greater than or equal to 1-in-1 million considering actual and allowable emissions is 1,100 (see Table 4 of this preamble). In addition, the maximum chronic noncancer HI (TOSHI) is less than 1.

Table 4. Site Remediation Sources Inhalation Risk Assessment Results for Exempt Sources

Number of Facilities[1]	Maximum Individual Cancer Risk (in 1 million)	Estimated Population at Increased Risk of Cancer ≥ 1-in-1 Million	Estimated Annual Cancer Incidence (cases per year)	Maximum Chronic Noncancer TOSHI	Maximum Screening Acute Noncancer HQ
118	**Based on Actual Emissions Level[2,3]**				
	4	1,100	0.001	0.3	< 1
	Based on Whole Facility Emissions				
	2,000	9,000,000	1	7	---

[1] Number of facilities evaluated in the risk analysis.

[2] Maximum individual excess lifetime cancer risk due to HAP emissions from exempt sources in the source category.

[3] Actual emissions equal allowable emissions; therefore, actual risks equal allowable risks.

2. Screening Level Acute Risk Assessment Results

As presented in Table 4 of this preamble, acute exposure to emissions from exempt sources in the Site Remediation source category result in a maximum HQ less than 1. For more detailed acute risk results refer to the *Residual Risk Assessment for Exempt Sources in the Site*

Remediation Source Category in Support of the 2019 Risk and Technology Review Proposed Rule, which is available in the docket for this action.

3. Multipathway Risk Screening Results

The results of the multipathway risk screening assessment indicate all Tier 2 screening values for PB-HAP emitted from exempt sources in the source category (arsenic compounds, cadmium compounds, mercury compounds, and POM) are less than 1. Based on these results, we are confident that the cancer risks due to multipathway exposures to these chemicals are lower than 1-in-1 million and the noncancer HIs are less than 1.

In the case of lead, the multipathway risks were assessed by comparing modeled ambient lead concentrations against the primary NAAQS for lead. The results of this analysis indicate that, based on actual and allowable emissions, the maximum annual off-site ambient lead concentration is 0.004 $\mu g/m^3$, well below the primary NAAQS of 0.15 $\mu g/m^3$.

4. Environmental Risk Screening Results

The ecological risk screening assessment indicated all modeled points were below the Tier 1 screening thresholds based on actual and allowable emissions of PB-HAP (arsenic compounds, cadmium compounds, mercury compounds, and POM) and acid gases (HCl and HF) emitted by exempt sources in the source category.

In the case of lead, the environmental risks were assessed by comparing modeled ambient lead concentrations against the secondary NAAQS for lead. The results of this analysis indicate that, based on actual and allowable emissions, the maximum annual off-site ambient lead concentrations were below the secondary NAAQS.

Based on the results of the environmental risk screening assessment, we would not expect environmental risks due to emissions from these sources.

5. Facility-Wide Risk Results

An assessment of whole-facility (or "facility-wide") risks was performed as described above to characterize the exempt source risk in the context of facility-wide risks.[24] Facility-wide risks were estimated using the NEI-based data. The maximum lifetime individual cancer risk posed by the 118 facilities, based on facility-wide emissions, is 2,000-in-1 million with ethylene oxide from facility-wide flare emissions driving the risk. The total estimated cancer incidence from the whole facility is one excess cancer case per year. Approximately 9,000,000 people are estimated to have cancer risks above 1-in-1 million from facility-wide HAP emissions. Eleven facilities and 98,000 people have facility-wide lifetime individual cancer risk greater than or equal to 100-in-1 million. Additional details on this determination can be found in the *Residual Risk Assessment for Facilities Exempt from the Site Remediation Source Category in Support of the 2019 Risk and Technology Proposed Rule,* which is available in the docket for this action.

Regarding the facility-wide risks from exempt facilities due to ethylene oxide (described above), which are due to emission sources that are not part of the Site Remediation source category, we intend to evaluate those facility-wide estimated emissions and risks further and may address these in a separate future action, as appropriate. In particular, the EPA is addressing ethylene oxide based on the results of the latest NATA released in August 2018, which identified the chemical as a potential concern in several areas across the country. (NATA is the Agency's nationwide air toxics screening tool, designed to help the EPA and state, local, and tribal air agencies identify areas, pollutants, or types of sources for further examination.) The latest NATA estimates that ethylene oxide significantly contributes to potential elevated cancer risks in some

[24] The facility-wide risk assessment includes all emission points from exempt facilities within the Site Remediation source category (including those for which there are no standards) as well as other emission points covered by other NESHAP.

census tracts across the U.S. (less than 1 percent of the total number of tracts). These elevated risks are largely driven by an EPA risk value that was updated in late 2016. The EPA will work with industry and state, local, and tribal air agencies as the EPA takes a two-pronged approach to address ethylene oxide emissions: (1) Reviewing and, as appropriate, revising CAA regulations for facilities that emit ethylene oxide—starting with air toxics emissions standards for miscellaneous organic chemical manufacturing facilities and commercial sterilizers; and (2) conducting site-specific risk assessments and, as necessary, implementing emission control strategies for targeted high-risk facilities. The EPA will post updates on its work to address ethylene oxide on its website at: *https://www.epa.gov/ethylene-oxide*.

Regarding the noncancer risk assessment, the maximum chronic noncancer HI associated with facility-wide emissions is estimated to be 7 due to chemical manufacturing wastewater treatment emissions of chlorine. A total of eight facilities had a facility-wide chronic noncancer HI greater than 1 due to emissions of one or more of the following HAP: chlorine; 2,4-toluene diisocyanate; hexamethylene-1,6-diisocyanate; acrolein; propionaldehyde; acetaldehyde; and benzo[a]pyrene.

As discussed in section VI.A.1 of this preamble, we are not proposing requirements for facilities exempt from the emissions control requirements of the Site Remediation NESHAP in this action.

E. What are the results and proposed decisions based on our technology review?

As described in section III.B of this preamble, our technology review focused on identifying developments in practices, processes, and control technologies for the emission sources in the Site Remediation source category. To identify such developments since the MACT standards were promulgated, we consulted the EPA's RBLC, reviewed subsequent regulatory

development efforts, reviewed major source operating permits and minor and synthetic minor source operating permits, and reviewed academic and trade literature for control technologies used in the industry.

For the Site Remediation source category, we did not identify any developments in practices, processes, or control technologies for storage tanks, containers, surface impoundments, oil-water separators, organic-water separators, transfer systems, land treatment, or material extraction activities beyond what is currently required in the rule. For process vents and equipment leaks, we identified additional control options, and the following sections summarize the results of our technology review for these emissions sources.

To perform the technology review, we needed information that was not included in the RTR emissions dataset used for modeling site remediation risks. Specifically, to evaluate the costs and cost effectiveness of various control options, we used a model plant approach for development of estimates for leaking components. This model plant analysis is not comparable to the model plant approach used in the risk analysis. The model plant for the technology review created the basis for evaluating the options of revising the LDAR standards. We model the number of potential leaking components, the leak rates applicable to such plants, and the level of emissions from leaking components under different standards. The component count and leak rates are the basis for evaluating the relative costs and benefits of changes that were considered for the LDAR program. Therefore, the model plant approach we used resulted in baseline emission estimates different from those included in the risk modeling dataset, which included its own inventory of emissions due to leaks. Additional information about our technology review and model plant approach can be found in the memorandum titled *CAA section 112(d)(6)*

Technology Review for the Site Remediation Source Category, which is available in the docket for this action.

1. Process Vents

The current Site Remediation MACT standards at 40 CFR 63.7890 require emissions from process vents at existing and new affected sources to be routed through a closed vent system to a control device achieving at least 95-percent control. While some control devices, such as carbon adsorption, are assumed to have a control efficiency of 95-percent, other technologies are capable of achieving greater emissions control, such as thermal oxidizers. Several of these devices have been demonstrated to achieve a control efficiency of 98-percent or greater. Based on the combination of reported control efficiencies for these devices and known application to low concentration organic vapor gas streams, we investigated the use of a catalytic thermal oxidizer with a control efficiency of 98-percent as a potential control option.

Table 5 presents the emission reductions and costs of the 98-percent control option considered for process vents at existing affected sources in the Site Remediation source category under the technology review. Data collected through our search of title V permits indicate that only some facilities have process vents, and based on these data, we estimate that approximately six site remediation facilities have process vents that would require additional control to reduce emissions by 98 percent. As site remediations vary in the amount and type of contamination that is being abated, we used two example remediations to estimate the amount of HAP that could be removed through the emissions controls. We estimated the capital and annual costs of complying with an increase from 95- to 98-percent HAP control for process vents to be the same for either example, with total capital costs estimated at approximately $400,000 and the total annualized costs estimated to be approximately $185,000. Based on the two example facilities, the HAP

emissions reduction beyond the current control requirements could range between 0.09 and 0.18 tpy for the source category, and the cost effectiveness could range from approximately $31,000 to $66,000. The incremental cost effectiveness in going to 98-percent control from 95-percent control could range from approximately $1 million to $2 million per ton HAP removed.

Table 5. Site Remediation Process Vent Option Emission Reductions and Costs

Regulatory Alternative	Example Facility	HAP Emissions Reduction (tpy)	Capital Cost ($)	Annual Cost ($/yr)	Cost Effectiveness ($/ton HAP removed)	Incremental Cost Effectiveness ($/ton HAP removed)
98-percent control	1	0.09	400,000	185,000	65,000	2,145,000
	2	0.18	400,000	185,000	30,000	1,000,000

Based on our estimate of costs and HAP reduction, we do not consider increasing the emission reduction to 98-percent to be reasonable, and we are not proposing to revise the Site Remediation MACT standards for process vents pursuant to CAA section 112(d)(6) to require this level of emissions control. We solicit comment on our analysis and conclusion regarding all aspects of this control option (Comment C-3).

2. Equipment Leaks

The Site Remediation MACT standards at 40 CFR 63.7920 currently require compliance with either 40 CFR part 63, subpart TT, or 40 CFR part 63, subpart UU, to control emissions from equipment leaks at existing and new affected sources. While many provisions of these two standards are the same or similar, 40 CFR part 63, subpart UU, requires the use of a more stringent leak definition for valves in gas and vapor service and in light liquid service, pumps in light liquid service, and connectors. Specifically, 40 CFR part 63, subpart UU, lowers the leak definition for valves from 10,000 ppm (in 40 CFR part 63, subpart TT) to 500 ppm, lowers the

leak definition for pump seals from 10,000 ppm (in 40 CFR part 63, subpart TT) to 1,000 ppm, and requires periodic instrument monitoring of connectors with a leak definition of 500 ppm, as opposed to instrument monitoring only being required if a potential leak is detected by visual, audible, olfactory, or other detection method (in 40 CFR part 63, subpart TT). We identified the more stringent leak definitions of 40 CFR part 63, subpart UU as a development in practices, processes, or control technologies. The more stringent definitions have, in the years since original promulgation of the Site Remediation NESHAP in 2003, become widely adopted and are frequently already required for sources in the Site Remediation source category under the other applicable NESHAP requirements at these sources. Making the more stringent level of leak detection more uniform across a facility will also enhance regulatory consistency, clarity, and certainty and enhance compliance.

Assuming conservatively that each of the site remediation facilities currently complies with 40 CFR part 63, subpart TT and does not already comply with 40 CFR part 63, subpart UU, we analyzed the costs and emission reductions of two options: Option 1—requiring the use of the leak detection thresholds of 40 CFR part 63, subpart UU for valves and pumps; Option 2—requiring the use of the leak detection thresholds of 40 CFR part 63, subpart UU for valves and pumps and, in addition, requiring connector monitoring under 40 CFR part 63, subpart UU. The estimated costs and emissions reductions associated with these two options for the site remediation source category are shown in Table 6. For Option 1 (40 CFR part 63, subpart UU valve and pump leak detection thresholds), we estimated the capital costs to be approximately $26,000 and the total annualized costs to be approximately $10,000. The estimated HAP emissions reduction is approximately 4.7 tpy, and the cost effectiveness is approximately $2,000/ton. For Option 2 (40 CFR part 63, subpart UU valve and pump leak detection thresholds

and connector monitoring), we estimated the capital costs to be approximately $95,000 and the total annualized costs to be approximately $188,000. The estimated HAP emissions reduction is approximately 9.7 tpy, and the cost effectiveness is approximately $19,000/ton. The incremental cost effectiveness between Option 1 and Option 2 is approximately $35,000.

Table 6. Site Remediation Equipment Leak Options Emission Reductions and Costs

Regulatory Alternatives	HAP Emissions Reduction (tpy)	Capital Cost ($)	Annual Cost ($/yr)	Cost Effectiveness ($/ton HAP removed)	Incremental Cost Effectiveness ($/ton HAP removed)
Option 1: 40 CFR part 63, subpart UU valve and pump leak thresholds only	4.7	26,000	10,000	2,000	--
Option 2: 40 CFR part 63, subpart UU valve and pump leak detection thresholds and connector monitoring	9.7	95,000	188,000	19,000	35,000

Based on our analysis, the costs of Option 1 are reasonable, given the level of HAP emissions reduction that would be achieved with this control option. We do not believe the costs of Option 2 are reasonable, given the level of HAP emissions reduction it would achieve relative to a much higher incremental cost per ton above Option 1. Therefore, we are proposing to revise the Site Remediation MACT standards in accordance with Option 1 for equipment leaks. We solicit comment on our assessment and conclusions regarding all aspects of both options (Comment C-4).

F. What other actions are we proposing?

In addition to the proposed actions described above, we are proposing additional revisions to the NESHAP, and requesting information on two issues for which the EPA has been petitioned for reconsideration. We are proposing revisions to the SSM provisions of the MACT rule in order to ensure that they are consistent with the Court decision in *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008), which vacated two provisions that exempted sources from the requirement to comply with otherwise applicable CAA section 112(d) emission standards during periods of SSM. We also are proposing various other changes to require electronic reporting of emissions test results and to make several minor technical corrections to the regulation text of 40 CFR part 63, subpart GGGGG. Our analyses and proposed changes related to these issues are discussed below.

1. Standards for Inorganic HAP and Metal Emissions

In the May 13, 2016, proposal on reconsideration, the EPA stated that it would consider the issue of regulating metals and inorganic HAP emissions during the risk review. 81 FR 29824. The EPA is proposing to not set standards for metals and inorganic HAP from site remediation sources subject to the Site Remediation NESHAP because we do not have data indicating that remediation sources subject to the rule emit these pollutants. In the EPA's development of the risk modeling emissions data, we found six facilities with emissions data in the NEI that were labeled under the SCC as being from a site remediation. None of these facilities reported inorganic HAP emissions or metal emissions. The EPA is, therefore, proposing no action at this time to set standards for inorganic HAP and metals in the absence of data indicating such emissions occur at affected facilities. The EPA is requesting data demonstrating whether or not any affected site remediation sources emit inorganic HAP or metals (Comment C-5).

2. SSM

a. Background

In its 2008 decision in *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), the Court vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1) holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that a section 112 standard apply at all times.

We are proposing to eliminate the SSM exemption in the Site Remediation NESHAP. Consistent with *Sierra Club v. EPA*, we are proposing standards in this rule that apply at all times. We are also proposing several revisions to Table 3 (the General Provisions Applicability Table) as is explained in more detail below. For example, we are proposing to eliminate the incorporation of the General Provisions' requirement that the source develop an SSM plan. We also are proposing to eliminate and revise certain recordkeeping and reporting requirements related to the SSM exemption as further described below.

The EPA has attempted to eliminate provisions that are inappropriate, unnecessary, or redundant in the absence of the SSM exemption in this proposal. We are specifically seeking comment on whether we have successfully done so (Comment C-6).

In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, has not proposed alternate standards for those periods.

Based on the types of site remediation processes and equipment for this source category, the EPA has assumed that emissions during periods of startup and shutdown are the same as or lower than during normal operations. As it is possible to stop processing remediation material

until any control devices are fully operating and able to effectively control emissions, the EPA has determined that separate standards for periods of startup and shutdown are not necessary and are not being proposed. We solicit comment on this conclusion regarding periods of startup and shutdown at site remediation facilities (Comment C-7).

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. However, by contrast, malfunction is defined as a "sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner…" (40 CFR 63.2). The EPA has determined that CAA section 112 does not require that emissions that occur during periods of malfunction be factored into development of CAA section 112 standards. Under CAA section 112, emissions standards for new sources must be no less stringent than the level "achieved" by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation "achieved" by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the EPA to consider malfunctions in determining the level "achieved" by the best performing sources when setting emission standards. As the Court has recognized, the phrase "average emissions limitation achieved by the best performing 12 percent of sources" says nothing about how the performance of the best units is to be calculated. *Nat'l Ass'n of Clean Water Agencies v. EPA*, 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in CAA section 112 requires the EPA to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a

failure of the source to perform in a "normal or usual manner" and no statutory language compels the EPA to consider such events in setting standards based on "best performers."

Further, accounting for malfunctions in setting emissions standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not "reasonably" foreseeable. See, *e.g.*, *Sierra Club v. EPA*, 167 F.3d 658, 662 (D.C. Cir. 1999) ("EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to "invest the resources to conduct the perfect study.'") (internal quotation omitted). See also *Weyerhaeuser v. Costle*, 590 F.2d 1011, 1058 (D.C. Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation."). In addition, the goal of a **"**best controlled or best performing source" is to operate in such a way as to avoid malfunctions of the source and accounting for malfunctions could lead to standards that are significantly less stringent than levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret CAA section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, "sudden, infrequent, not reasonably preventable" and was not instead "caused in part by poor maintenance or careless operation." 40 CFR 63.2 (definition of malfunction). Further, to the extent the EPA files an enforcement action against a source for violation of an emission standard, the source can raise any and all defenses in that enforcement action, and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In several prior rules, the EPA had included an affirmative defense to civil penalties for violations caused by malfunctions in an effort to create a system that incorporates some flexibility, recognizing that there is a tension, inherent in many types of air regulations, to ensure adequate compliance, while simultaneously recognizing that despite the most diligent of efforts, emission standards may be violated under circumstances entirely beyond the control of the source. Although the EPA recognized that its case-by-case enforcement discretion provides sufficient flexibility in these circumstances, it included the affirmative defense to provide a more formalized approach and more regulatory clarity. *Compare Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1057-58 (D.C. Cir. 1978) (holding that an informal case-by-case enforcement discretion approach is adequate) *with Marathon Oil Co. v. EPA*, 564 F.2d 1253, 1272-73 (9th

Cir. 1977) (requiring a more formalized approach to consideration of "upsets beyond the control of the permit holder."). Under the EPA's regulatory affirmative defense provisions, if a source could demonstrate in a judicial or administrative proceeding that it had met the requirements of the affirmative defense in the regulation, civil penalties would not be assessed. In 2014, the Court vacated such an affirmative defense in one of the EPA's CAA section 112(d) regulations. *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014) (vacating affirmative defense provisions in a CAA section 112(d) rule establishing emission standards for Portland cement kilns). The Court found that the EPA lacked authority to establish an affirmative defense for private civil suits and held that under the CAA, the authority to determine civil penalty amounts lies exclusively with the courts, not the EPA. Specifically, the Court found, "As the language of the statute makes clear, the courts determine, on a case-by-case basis, whether civil penalties are 'appropriate.'" 749 F.3d at 1063; see also *Id.* ("[U]nder this statute, deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not EPA."). In light of *NRDC*, the EPA is not including a regulatory affirmative defense provision in this proposed rule. As explained above, if a source is unable to comply with emissions standards as a result of a malfunction, the EPA may use its case-by-case enforcement discretion to provide flexibility, as appropriate. Further, as the Court recognized, in an EPA or citizen enforcement action, the court has the discretion to consider any defense raised and determine whether penalties are appropriate. See *Id.* at 1064 (noting arguments that violation were caused by unavoidable technology failure can be made to the courts in future civil cases when the issue arises). The same logic applies to EPA administrative enforcement actions.

b. Specific SSM-related proposed changes

To address the United States Court of Appeals for the District of Columbia Circuit vacatur of portions of the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM, we are proposing revisions and additions to certain provisions of the Site Remediation NESHAP. As described in detail below, we are proposing to revise the General Provisions applicability table (Table 3 to 40 CFR part 63, subpart GGGGG) in several of the references related to requirements that apply during periods of SSM. We are also proposing revisions related to the following provisions of the Site Remediation NESHAP: (1) the general duty to minimize emissions at all times; (2) the requirement for sources to comply with the emission limits in the rule at all times; (3) performance testing conditions requirements; (4) excused monitoring excursions provisions; and (5) malfunction recordkeeping and reporting requirements.

(1.) General Duty

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.6(e) by adding rows specifically for 40 CFR 63.6(e)(1)(i), 63.6(e)(1)(ii), and 63.6(e)(1)(iii), and to include a "no" in the applicability column for the 40 CFR 63.6(e)(1)(i) entry. Section 63.6(e)(1)(i) describes the general duty to minimize emissions. Some of the language in that section is no longer necessary or appropriate in light of the elimination of the SSM exemption. We are proposing instead to add general duty regulatory text at 40 CFR 63.7935(b) that reflects the general duty to minimize emissions while eliminating the reference to periods covered by an SSM exemption. The current language in 40 CFR 63.6(e)(1)(i) characterizes what the general duty entails during periods of SSM. With the elimination of the SSM exemption, there is no need to differentiate between normal operations, startup and shutdown, and malfunction events in

describing the general duty. Therefore, the language the EPA is proposing for 40 CFR 63.7935(b) does not include that language from 40 CFR 63.6(e)(1).

We are also proposing to include a "no" in the applicability column for the newly added entry for 40 CFR 63.6(e)(1)(ii). Section 63.6(e)(1)(ii) imposes requirements that are not necessary with the elimination of the SSM exemption or are redundant with the general duty requirement being added at 40 CFR 63.7935(b).

The provisions of 40 CFR 63.6(e)(1)(iii) still apply, and we are keeping the "yes" in the applicability column for that section. For 40 CFR 63.6(e)(2), we are proposing to include a "no" in the applicability column for that section because it is a reserved section in the General Provisions.

(2.) SSM Plan

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.6(e)(3) by changing the "yes" to "no" in the applicability column. Generally, this paragraph requires development of an SSM plan and specifies SSM recordkeeping and reporting requirements related to the SSM plan. As previously noted, the EPA is proposing to remove the SSM exemptions. Therefore, affected units will be subject to an emission standard during such events. The applicability of a standard during such events will ensure that sources have ample incentive to plan for and achieve compliance and, thus, the SSM plan requirements are no longer necessary.

(3.) Compliance with Standards

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.6(f)(1) by changing the "yes" in the applicability column to a "no." The current language of 40 CFR 63.6(f)(1) exempts sources from non-opacity standards during periods of SSM. As

discussed above, the Court in *Sierra Club* vacated the exemptions contained in this provision and held that the CAA requires that some CAA section 112 standard apply at all times. Consistent with *Sierra Club*, the EPA is proposing to revise standards in this rule to apply at all times.

(4.) Performance Testing

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.7(e)(1) by changing the "yes" in the applicability column to a "no." Section 63.7(e)(1) describes performance testing requirements. The EPA is instead proposing to add a performance testing requirement at 40 CFR 63.7941(b)(2). The performance testing requirements we are proposing to add differ from the General Provisions performance testing provisions in several respects. The regulatory text does not include the language in 40 CFR 63.7(e)(1) that restated the SSM exemption. However, consistent with 40 CFR 63.7(e)(1), performance tests conducted under this subpart should be based on representative performance (*i.e.*, performance based on normal operating conditions) of the affected source. The EPA is proposing to add language that requires the owner or operator to record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Section 63.7(e) requires that the owner or operator make available to the Administrator such records "as may be necessary to determine the condition of the performance test" upon request but does not specifically require the information to be recorded. The regulatory text the EPA is proposing to add to this provision builds on that requirement and makes explicit the requirement to record and report the information.

(5.) Monitoring

We are proposing to revise the General Provisions table (Table 3) entries for 40 CFR 63.8(c)(1)(i) and (iii) by changing the "yes" in the applicability column to a "no." The cross-

references to the general duty and SSM plan requirements in those subparagraphs are not necessary in light of other requirements of 40 CFR 63.8 that require good air pollution control practices (40 CFR 63.8(c)(1)) and that set out the requirements of a quality control program for monitoring equipment (40 CFR 63.8(d)).

(6.) Recordkeeping

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.10(b)(2)(i)-(iv) by adding separate entries for 40 CFR 63.10(b)(2)(i)-(ii), 63.10(b)(2)(iii) and 63.10(b)(2)(iv)-(v) and changing the "yes" in the applicability column to a "no" for 40 CFR 63.10(b)(2)(i)-(ii) and 63.10(b)(2)(iv)-(v). Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. These recording provisions are no longer necessary because the EPA is proposing that recordkeeping and reporting applicable to normal operations will apply to startup and shutdown. In the absence of special provisions applicable to startup and shutdown, such as a startup and shutdown plan, there is no reason to retain additional recordkeeping for startup and shutdown periods. Section 63.10(b)(2)(ii) describes the recordkeeping requirements during a malfunction. The EPA is proposing to add such requirements to 40 CFR 63.7952(a)(2). The regulatory text we are proposing to add differs from the General Provisions it is replacing in that the General Provisions require the creation and retention of a record of the occurrence and duration of each malfunction of process, air pollution control, and monitoring equipment. The EPA is proposing that this requirement apply to any failure to meet an applicable standard and is requiring that the source record the date, time, and duration of the failure rather than the "occurrence." The EPA is also proposing to add to 40 CFR 63.7952(a)(2) a requirement that sources keep records that include a list of the affected source or equipment and actions taken to minimize emissions, an estimate of the volume of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a

description of the method used to estimate the emissions. Examples of such methods would include mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is proposing to require that sources keep records of this information to ensure that there is adequate information to allow the EPA to determine the severity of any failure to meet a standard, and to provide data that may document how the source met the general duty to minimize emissions when the source has failed to meet an applicable standard. Section 63.10(b)(2)(iv) requires sources to record actions taken during SSM events when actions were inconsistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required. The requirement previously applicable under 40 CFR 63.10(b)(2)(iv)(B) to record actions to minimize emissions and record corrective actions is now applicable by reference to 40 CFR 63.7952(a)(2). Section 63.10(b)(2)(v) requires sources to record actions taken during SSM events to show that actions taken were consistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required.

(7.) Reporting

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.10(d)(5) by changing the "yes" in the applicability column to "no." Section 63.10(d)(5)(i) describes the reporting requirements for startups, shutdowns, and malfunctions. To replace the General Provisions reporting requirements, the EPA is proposing to add electronic reporting requirements to 40 CFR 63.7951(c). The replacement language differs from the General Provisions requirement in that it eliminates periodic SSM reports as a stand-alone report. We are proposing language that requires sources that fail to meet an applicable standard at any time to report the information concerning such events in the semi-annual summary report already

required under this rule. We are proposing that the report must contain the number, date, time, duration, and the cause of such events (including unknown cause, if applicable), a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

Examples of such methods would include mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is proposing this requirement to ensure that there is adequate information to determine compliance, to allow the EPA to determine the severity of the failure to meet an applicable standard, and to provide data that may document how the source met the general duty to minimize emissions during a failure to meet an applicable standard.

We will no longer require owners or operators to determine whether actions taken to correct a malfunction are consistent with an SSM plan, because plans would no longer be required. The proposed amendments, therefore, eliminate the cross-reference to 40 CFR 63.10(d)(5)(i) that contains the description of the previously required SSM report format and submittal schedule from this section. These specifications are no longer necessary because the events will be reported in otherwise required reports with similar format and submittal requirements.

Section 63.10(d)(5)(ii) describes an immediate report for startups, shutdowns, and malfunctions when a source failed to meet an applicable standard but did not follow the SSM plan. We will no longer require owners and operators to report when actions taken during a startup, shutdown, or malfunction were not consistent with an SSM plan, because plans would no longer be required.

3. Electronic Reporting

Through this proposal, the EPA is proposing that owners and operators of site remediation facilities submit electronic copies of required performance test reports, performance evaluation reports, and semi-annual compliance reports through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). A description of the electronic data submission process is provided in the memorandum, *Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules*, available in Docket ID No. EPA-HQ-OAR-2018-0833. The proposed rule requires that performance test results collected using test methods that are supported by the EPA's Electronic Reporting Tool (ERT) as listed on the ERT website[25] at the time of the test be submitted in the format generated through the use of the ERT and that other performance test results be submitted in portable document format (PDF) using the attachment module of the ERT. Similarly, performance evaluation results of CMS measuring relative accuracy test audit pollutants that are supported by the ERT at the time of the test must be submitted in the format generated through the use of the ERT and other performance evaluation results be submitted in PDF using the attachment module of the ERT.

For semi-annual summary compliance reports, the proposed rule requires that owners and operators use the appropriate spreadsheet template to submit information to CEDRI. A draft version of the proposed template for this report is included in the docket for this rulemaking.[26] The EPA specifically requests comment on the content, layout, and overall design of the template.

[25] *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert.*
[26] See *40_CFR_Part_63_Subpart_GGGGG_Site_Remediation_Spreadsheet_Template_Draft.xlsm*, available at Docket ID No. EPA-HQ-OAR-2018-0833.

Additionally, the EPA has identified two broad circumstances in which electronic reporting extensions may be provided. In both circumstances, the decision to accept the claim of needing additional time to report is within the discretion of the Administrator, and reporting should occur as soon as possible. The EPA is providing these potential extensions to protect owners and operators from noncompliance in cases where they cannot successfully submit a report by the reporting deadline for reasons outside of their control. The situation where an extension may be warranted due to outages of the EPA's CDX or CEDRI which precludes an owner or operator from accessing the system and submitting required reports is addressed in 40 CFR 63.7951(e). The situation where an extension may be warranted due to a force majeure event, which is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents an owner or operator from complying with the requirement to submit a report electronically as required by this rule is addressed in 40 CFR63.7951(e). Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazards beyond the control of the facility.

The electronic submittal of the reports addressed in this proposed rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability and transparency, will further assist in the protection of public health and the environment, will improve compliance by facilitating the ability of regulated facilities to demonstrate compliance with requirements, and by facilitating the ability of delegated state, local, tribal, and territorial air agencies and the EPA to assess and determine compliance, and will ultimately reduce burden on regulated facilities, delegated air agencies, and the EPA. Electronic reporting also eliminates paper-based, manual processes, thereby saving time and

resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors, and providing data quickly and accurately to the affected facilities, air agencies, the EPA, and the public. Moreover, electronic reporting is consistent with the EPA's plan[27] to implement Executive Order 13563 and is in keeping with the EPA's Agency-wide policy[28] developed in response to the White House's Digital Government Strategy.[29] For more information on the benefits of electronic reporting, see the memorandum, *Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules*, available in Docket ID No. EPA-HQ-OAR-2018-0833.

4. Open-Ended Valves and Lines

The Site Remediation NESHAP in 40 CFR 63.7920(b) requires an owner or operator to control emissions from equipment leaks according to the requirements of either 40 CFR part 63, subpart TT, or 40 CFR part 63, subpart UU. For open-ended valves and lines, both subpart TT in 40 CFR 63.1014(b)(1) and subpart UU in 40 CFR 63.1033(b)(1) require that the open end be equipped with a cap, blind flange, plug, or second valve that shall "seal the open end." However, "seal" is not defined in either subpart, leading to uncertainty for the owner or operator as to whether compliance is being achieved. Inspections under the EPA's Air Toxics LDAR initiative have provided evidence that while certain open-ended lines may be equipped with a cap, blind

[27] EPA's *Final Plan for Periodic Retrospective Reviews*, August 2011. Available at: *https://www.regulations.gov/document?D=EPA-HQ-OA-2011-0156-0154*.
[28] *E-Reporting Policy Statement for EPA Regulations*, September 2013. Available at: *https://www.epa.gov/sites/production/files/2016-03/documents/epa-ereporting-policy-statement-2013-09-30.pdf*.
[29] *Digital Government: Building a 21st Century Platform to Better Serve the American People*, May 2012. Available at: *https://obamawhitehouse.archives.gov/sites/default/files/omb/egov/digital-government/digital-government.html*.

flange, plug, or second valve, these are not providing a "seal" as the EPA interprets the term.[30] In response to this uncertainty, we are proposing to amend 40 CFR 63.7920(b) to clarify what "seal the open end" means for open-ended valves and lines. This proposed clarification explains that for the purpose of complying with the requirements of 40 CFR 63.1014(b)(1) (subpart TT), and 40 CFR 63.1033(b)(1) (subpart UU), open-ended valves and lines are "sealed" by the cap, blind flange, plug, or second valve if instrument monitoring of the open-ended valve or line conducted according to EPA Method 21 of 40 CFR part 60, appendix A indicates no readings of 500 ppm or greater.

In addition, 40 CFR 63.1014(c) of subpart TT and 40 CFR 63.1033(c) of subpart UU exempt open-ended valves and lines that are in an emergency shutdown system, and which are designed to open automatically, from the requirements to be equipped with a cap, blind flange, plug, or second valve that seals the open end. We are proposing that these open-ended valves and lines follow the requirements of 40 CFR 63.7920(b)(3)(ii) for bypass devices that could be used to divert a vent stream from the closed-vent system to the atmosphere, which would require that each such open-ended line be equipped with either a flow indicator or a seal or locking device. We are also proposing recordkeeping and reporting requirements in 40 CFR 63.7951(g)(3) and 40 CFR 63.7952(a)(2)(v)(B) for these open-ended values and lines.

We solicit comments on our proposed approach to reducing the compliance uncertainty associated with "sealed" open-ended valves and lines and our proposed requirements for open-ended valves and lines that are in an emergency shutdown system and are designed to open automatically (Comment C-8).

[30] See *Region V OEL Data for VV Rulemaking*, available in the docket for this action, available at Docket ID No. EPA-HQ-OAR-2018-0833.

5. Technical Corrections

In this rulemaking, we are proposing four technical corrections to improve the clarity of the Site Remediation NESHAP requirements.

First, the original Site Remediation NESHAP, promulgated in October 2003 (68 FR 58172), incorporated two voluntary consensus standards (VCS) by reference, as specified in 40 CFR 63.14. However, while the paragraphs in 40 CFR 63.14 for these three VCS include references to the NESHAP for which they are approved to be used, these references omit citations to 40 CFR 63, subpart GGGGG. In 40 CFR 63.14, we are adding citations to 40 CFR 63.7944 for the two following consensus standards: American Petroleum Institute (API) Publication 2517, Evaporative Loss From External Floating-Roof Tanks, and American Society for Testing and Materials (ASTM) Method D2879–83.

Second, we are correcting a citation reference to 40 CFR 63.7(3) in 40 CFR 63.7942. The correct citation is to 40 CFR 63.7(a)(3).

Third, we are correcting a citation reference to 40 CFR 63.7890(a)(1)(i) in 40 CFR 63.7941. The correct citation is to 40 CFR 63.7890(b).

Fourth, we are correcting several citation references to 40 CFR 63.7990 in 40 CFR 63.7901(a), 40 CFR 63.7901(b)(1), and 40 CFR 63.7903(a) and (b). The correct citations are to 40 CFR 63.7900.

G. What compliance dates are we proposing?

Under CAA section 112(d), the proposed compliance date for new and existing affected sources for the revised SSM requirements, electronic reporting requirements, the operating and pressure release management requirements for PRDs, and the revised requirements regarding bypasses and closure devices on pressure tanks is the effective date of the final amendments. We

are proposing this compliance date because available information indicates these new and revised requirements should be immediately implementable by the facilities.

We are proposing that for existing affected sources subject to the Site Remediation MACT standards, the compliance date for the PRD pressure release actuation event reporting requirements is 1 year from the effective date of the final amendments. This time is needed regardless of whether an owner or operator of a facility chooses to comply with the PRD pressure release actuation event reporting provisions by installing PRD release indicator systems, employing parameter monitoring, routing releases to a control device, or choosing another compliance option as permitted under the proposed provisions. This time period will allow site remediation facility owners and operators to research equipment and vendors, and to purchase, install, test, and properly operate any necessary equipment by the compliance date. For new affected sources, the proposed compliance date for PRD pressure release actuation event reporting requirements is the effective date of the final amendments.

Finally, we are proposing revised requirements for equipment leaks under CAA section 112(d)(6). The EPA generally understands the steps needed for site remediation facilities to comply with the proposed standards for equipment leaks, and believes 1 year represents a reasonable amount of time it will take these facilities to take these steps. Therefore, we are proposing that a one-year compliance period from the date of promulgation is necessary for the revised equipment leak requirements to allow existing affected sources that are currently complying with 40 CFR part 63, subpart TT, adequate time to modify their existing LDAR programs to comply with the revised standards for pumps and valves. For new affected sources, the proposed compliance date for the equipment leak standards is the effective date of the final amendments.

V. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

We estimate that there are approximately 63 major source site remediation facilities. Based on available permit information, 33 facilities are expected to be subject to a limited set of the rule requirements under 40 CFR 63.7881(c)(1) due to the low annual quantity of HAP contained in the remediation material excavated, extracted, pumped, or otherwise removed during the site remediations conducted at the facilities. These facilities are only required to prepare and maintain written documentation to support the determination that the total annual quantity of the HAP contained in the remediation material excavated, extracted, pumped, or otherwise removed at the facility is less than 1 megagram per year. They are not subject to any other emissions limits, work practices, monitoring, reporting, or recordkeeping requirements. While new site remediations are likely to be conducted in the future, we are currently not aware of any specific new site remediation facilities that are expected to be constructed.

B. What are the air quality impacts?

For equipment leaks, we are proposing to revise the equipment leak thresholds for pumps and valves for facilities complying with 40 CFR part 63, subpart TT. We estimate the HAP emission reduction for this change to be approximately 4.7 tpy. We do not anticipate any HAP emission reduction from our proposed clarification of the rule provision "seal the open end" (in the context of open-ended valves and lines) or the requirement to electronically report the results of emissions testing. For the proposed revisions to the MACT standards regarding SSM, including monitoring of PRDs in remediation material service, we were not able to quantify the possible emission reductions, so none are included in our assessment of air quality impacts.

Therefore, the estimated total HAP emission reductions for the proposed rule revisions for the Site Remediation source category are estimated to be 4.7 tpy.

C. What are the cost impacts?

For equipment leaks, we are proposing to revise the equipment leak thresholds for pumps and valves for facilities complying with 40 CFR part 63, subpart TT. We estimate the nationwide capital costs to be $26,000 and the annual costs to be $10,000.

We do not anticipate any quantifiable capital or annual costs for our proposed requirements to electronically report the results of emissions testing, or the requirements to monitor PRDs. For PRDs, we are also proposing to require facilities to conduct analyses of the causes of PRD pressure release actuation events and to implement of corrective measures. We estimate the nationwide annualized costs for the analysis of actuation events to be $13,000. This cost represents the estimated labor hours we anticipate would be required to determine the cause of a typical actuation event and to implement any corrective measure suggested by the analysis of the cause. We estimate an increase in reporting and recordkeeping associated with the proposed requirements for equipment leaks and PRDs of approximately $7,000 per year nationwide. Therefore, the total capital costs for the proposed standards for the Site Remediation source category are approximately $26,000, and the total annualized costs are approximately $30,000.

D. What are the economic impacts?

Economic impact analyses focus on changes in market prices and output levels. If changes in market prices and output levels in the primary markets are significant enough, impacts on other markets may also be examined. Both the magnitude of costs needed to comply with a proposed rule and the distribution of these costs among affected facilities can have a role

in determining how the market will change in response to a proposed rule. The total capital costs associated with this proposed rule are estimated to be approximately $26,000, and the estimated annualized cost is approximately $30,000. We expect these costs to be borne by 30 facilities, with an estimated annualized cost of approximately $1,000 per facility per year. These costs are not expected to result in a significant market impact, regardless of whether they are passed on to the purchaser or absorbed by the firms.

E. What are the benefits?

We have estimated that this action will achieve HAP emissions reductions of 4.7 tpy. The proposed standards will result in reductions in the actual and MACT-allowable emissions of HAP and may reduce the actual and potential cancer risks and noncancer health effects due to emissions of HAP from this source category, as discussed in section IV.B.2 of this preamble. We have not quantified the monetary benefits associated with these reductions; however, these avoided emissions will result in improvements in air quality and reduced negative health effects associated with exposure to air pollution of these emissions.

VI. Request for Comment

A. Request for Comment Regarding CERCLA/RCRA Exempt Sources

1. Introduction

The EPA is using this RTR proposal separately to solicit comment on ways in which the Site Remediation NESHAP could be amended with respect to facilities currently exempt under 40 CFR 63.7881(b)(2) and (3), under a scenario where the EPA removes the exemption. The exemption applies to facilities subject to federally-enforceable oversight under the CERCLA or the RCRA. In particular, in light of comments received on our 2016 proposal to remove the exemption, the Agency seeks additional comment regarding subcategorization or other methods

of distinguishing among appropriate requirements for such sources, as well as whether the issues raised by commenters may be applicable more generally for all affected facilities in this source category. The EPA is seeking comment on how, if the exemption was removed, these formerly exempt sources would be able to implement the Site Remediation NESHAP effectively and efficiently while meeting the requirements of RCRA, CERCLA, and the CAA. We seek comment on how this could be reflected in the applicability, monitoring, recordkeeping, reporting, and compliance demonstration requirements. The EPA seeks comment on how to efficiently implement the rule for cleanups conducted under CERCLA or RCRA authority. For example, this could include look-up tables for commonly used remediation alternatives and associated BACT and LAER compliant technologies that would minimize emissions to be consistent with the rule. We are seeking ideas on what tools or metrics could be developed that would aid to streamline the implementation of the regulation on a site-specific basis.

It is not the EPA's intention to take final action with respect to the exemption in this action, but to use this opportunity to gather additional information in anticipation of addressing these issues through a separate action (Comment C-9).

2. Background

Section 112(c)(1) of the CAA requires EPA to publish and regularly update (at least every 8 years) "a list of all categories and subcategories of major sources and area sources (listed under paragraph (3)) of the air pollutants listed pursuant to subsection (b)." In 1992, the EPA included site remediation on the initial CAA 112(c)(1) source category list and defined the source category to include the cleanup of sites that possess contaminated media, including National Priorities List sites and Corrective Action sites. See the EPA, July 1992 Final Report. The listing assumed that remediation cleanups conducted under specific cleanup authorities

could be major sources. Section 112(c)(2) of the CAA states that the EPA "shall establish emissions standards under [section 112(d)]" for the categories and subcategories the Administrator lists. The D.C. Circuit has described this as a mandatory obligation. See, *e.g.*, *NRDC v. EPA*, 489 F.3d. 1364, 1368 (2007).

3. Promulgation of Rule and Petition for Reconsideration

In 2003, the EPA promulgated a final rule under CAA section 112 which established MACT standards for HAP emissions at major sources where remediation technologies and practices are used to clean up contaminated media (*e.g.*, soils, groundwater, or surface water) or certain stored or disposed materials (68 FR 58172, October 8, 2003). The rule exempted from the MACT standard remediations performed under federal oversight pursuant to CERCLA or the RCRA corrective action program, on the basis that such regulated cleanups provided the "functional equivalent" of the MACT standards. *Id.* at 58176.

The EPA stated that CERCLA Superfund and RCRA corrective action programs provide an "appropriate and effective regulatory approach" to address air emissions, because these statutes require consideration of the same HAP emissions and include a public input process. *Id.* at 58183. EPA noted the RCRA corrective action and CERCLA Superfund assessment and clean-up processes are already subject to federal regulatory oversight; further, remediation actions are designed and managed based on site-specific conditions; and, they include public participation mechanisms. *Id.* Note that the EPA did not extend the RCRA and CERCLA exemption to sites handled under state and voluntary cleanup programs, brownfields cleanups, and other types of site remediation that are not subject to the oversight provided for RCRA corrective action or CERCLA Superfund actions, see *Id.* at 58183-84. The EPA concluded that imposing the NESHAP requirements on remediations already overseen pursuant to CERCLA or

RCRA would have limited impact and could add administrative burden to the remediation process under those programs for little or no environmental benefit. *Id.*

The Sierra Club filed a petition for judicial review of the rule in the Court as well as an administrative petition for reconsideration under the CAA on two issues in the final rule, one of which was the exemption for CERCLA and RCRA sites. The other issue raised by petitioners concerned control of heavy metals and other inorganic HAP from this source category. This issue is addressed in section IV.E.1 of this preamble. The petition for reconsideration stated that the public did not have an opportunity to comment specifically on the EPA's "functional equivalent" argument because the EPA raised it for the first time in the final rule preamble. Petitioners further stated that there is no CAA authority to exempt these sources, and CAA section 112(c) and (d) require that the EPA establish MACT standards for them. Petitioners asserted that CERCLA and RCRA applicable requirements are not the functional equivalent of the MACT standards for this source category, and that the EPA had not demonstrated that they are.

In January 2004, the Court granted a joint motion to hold the case in abeyance so the parties could discuss possible settlement. Settlement discussions were ultimately unsuccessful. In October 2014, the Court ordered the parties to show cause why the case should not be administratively terminated. The EPA and Sierra Club filed a joint response stating that the parties were exploring a new approach to settlement. In March 2015, the EPA granted reconsideration on the issues raised in the petition via letter.

In May 2016, the EPA proposed to remove the exemption from the Site Remediation MACT rule for CERCLA Superfund and RCRA corrective action sites (81 FR 29821 May 13,

2016). The EPA has not taken final action on the proposed rule, and the EPA now is seeking further comment and information relating to this issue.

4. 2016 Proposal on Reconsideration

On May 13, 2016, the EPA proposed to amend the Site Remediation NESHAP by removing exemptions from the rule for site remediation activities performed under federally-enforceable oversight authority of CERCLA or RCRA. 81 FR 29821.The EPA also proposed removing the applicability requirement that site remediations be co-located with at least one other stationary source regulated by another NESHAP. The EPA has not taken final action on that proposal and is not proposing to do so in this notice. However, in conjunction with this proposal for the RTR, the EPA is seeking additional comment and information related to the EPA's previous proposal to remove the exemptions for remediations under RCRA and CERCLA programs. The EPA is not seeking further comment on the proposal to remove the applicability requirement that site remediations be co-located with at least one other stationary source regulated by another NESHAP.

In response to our 2016 proposal, the EPA received comments both in support of and in opposition to our proposal to remove the exemption provisions. The EPA has reviewed the comments received in response to our 2016 proposal and does not believe it has sufficient information to proceed with a final rule at this time. The comments received in opposition to the proposal to remove the exemptions suggested that the proposal to remove the RCRA and CERCLA exemptions alone, without further consideration of modification of other provisions, may apply the NESHAP to sources that we did not intend to regulate, or apply the NESHAP in a way that compliance is impractical given the nature of the remediation effort facing the source.

These comments, briefly summarized below (and available in the proposal docket at EPA-HQ-OAR-2002-0021), have led the EPA to determine that additional information and comment are appropriate before taking further action. The EPA is not proposing any regulatory action on removing the RCRA and CERCLA exemptions in this RTR proposal. Rather, the EPA is using this proposal as an opportune time to solicit further information and data in response to the comments on our prior proposal. The comments and information we receive with respect to the exemptions will be added to the information available for a subsequent rulemaking after the EPA has finalized the RTR.

5. Discussion and Request for Comment

The 2016 proposal to eliminate the exemption included no other changes to the rule, although the proposal would have the effect of applying the rule to approximately 125 facilities at which a site remediation is conducted, an inclusion that would, in turn, cover an even greater number of operable units. The EPA received comments from facilities from across the spectrum of exempt sources likely to be subject to the rule after removing the exemptions. This broad range of sources and their diversity indicate that the EPA should consider sub-categorization or other methods of differentiating among sources under the Site Remediation NESHAP.

Under CAA section 112(c), the EPA may establish subcategories based on size, type, or class of affected source, such that standards applicable to each subcategory achieve reductions required by the CAA, but in a manner appropriate to that subgroup of sources. In general, the EPA has established subcategories based on the material inputs or the nature of the products being produced which in turn inform the nature of the requirements that apply. In other cases, the EPA created subcategories for different process equipment that required air pollution control of

fundamentally different operating parameters and mechanisms, and which, in turn, required monitoring or testing of different types to demonstrate compliance.

The EPA understands the comments on the May 2016 proposal to indicate that the EPA should consider subcategorizing or differentiating among remediations in some way. While the Site Remediation NESHAP already reflects certain differences in remedial actions, in commenters' view, there are other considerations that warrant further consideration of how the rule is structured.

Commenters described the site remediation in ways that suggested that applying the Site Remediation NESHAP is unlike applying other NESHAP. For example, when a typical major source is constructed, the owner-operator is fully aware of the processes they will perform, the equipment that will be needed, and the techniques and practices that will be employed to comply with applicable standards. If a source is not able to determine applicability based on their own comparison of potentially applicable standards and their industrial processes, the facility can request an applicability determination from the EPA.

In contrast, an entity that is initiating a site remediation must contend with a level of uncertainty and incomplete information about the remediation that eventually will occur. These differences have a material impact on the way sources determine applicability and implement specific provisions of the Site Remediation NESHAP. For example, 40 CFR 63.7886(c)(1) has provisions that require that a source conduct a site investigation to substantiate specific subsurface quantities of pollutants to be remediated, to determine whether a given remediation will be subject to the rule.

To make this determination, the extent of contamination must be estimated, but these quantities may not be known until a future (and often extended) period for a single operable unit.

This is further complicated when a facility consists of many individual operable units dispersed over hundreds of acres. A facility with a series of operable units that will be in remediation in sequence is not required to know the pollutant quantities at all operable units at the outset of the first remediation, unless the facility is compelled to make an applicability determination under the Site Remediation NESHAP. When remediating a series of operable units, the remediation activity across units may not be active at the same time or may be intermittent or discontinued after a couple of months or years. This makes an applicability determination for a potentially affected source a greater hurdle than the EPA may have considered.

The EPA recognizes that the diversity of sites already subject to the NESHAP is a characteristic of the Site Remediation source category as a whole. However, we understand commenters' view to be that the size of the cleanup, and the typically greater scale, complexity, and diversity of remediation issues at sites that fall under the current RCRA and CERCLA exemption render the considerations discussed above particularly significant in establishing appropriate NESHAP requirements for such sites.

Another consideration highlighted by commenters for these typically large and complex remediation sites is that remediation is driven by the requirements of the RCRA and CERCLA programs, not by compliance with a NESHAP. For some affected sources, according to commenters, compliance with certain requirements of the rule may have a negative impact on the execution of remediation conducted in compliance with RCRA and CERCLA. For example, RCRA and CERCLA cleanups may be ongoing at the time that the remediation becomes subject to the Site Remediation NESHAP. While the EPA has some flexibility in the applicability date of the NESHAP, commenters pointed out that the EPA provided no regulatory language to guide a facility to show whether or how the facility's adherence to corrective action requirements and

approved remediation plans under RCRA and CERCLA demonstrate initial or continuing compliance with the Site Remediation NESHAP standards to allow a remediation to proceed.

The EPA will take these comments under advisement, to be acted upon at a later date. The EPA will proceed with the RTR notice and comment rulemaking to complete this requirement under CAA section 112 by the deadline. Please see sections IV.B and IV.D of this preamble, and technical support documents supplied in the docket, for how the EPA has evaluated exempt sources with respect to both the risk and technology reviews.

B. Request for Comment on all aspects of the risk and technology review

We solicit comments on all aspects of this proposed action. In addition to general comments on this proposed action, we are also interested in additional data that may improve the risk assessments and other analyses. We are specifically interested in receiving any improvements to the data used in the site-specific emissions profiles used for risk modeling. Such data should include supporting documentation in sufficient detail to allow characterization of the quality and representativeness of the data or information. Section VII of this preamble provides more information on submitting data.

VII. Submitting Data Corrections

The site-specific emissions profiles used in the source category risk and demographic analyses and instructions are available for download on the RTR website at *https://www3.epa.gov/ttn/atw/rrisk/rtrpg.html*. The data files include detailed information for each HAP emissions release point for the facilities in the source category.

If you believe that the data are not representative or are inaccurate, please identify the data in question, provide your reason for concern, and provide any "improved" data that you have, if available. When you submit data, we request that you provide documentation of the basis

for the revised values to support your suggested changes. To submit comments on the data downloaded from the RTR website, complete the following steps:

1. Within this downloaded file, enter suggested revisions to the data fields appropriate for that information.

2. Fill in the commenter information fields for each suggested revision (*i.e.*, commenter name, commenter organization, commenter email address, commenter phone number, and revision comments).

3. Gather documentation for any suggested emissions revisions (*e.g.*, performance test reports, material balance calculations).

4. Send the entire downloaded file with suggested revisions in Microsoft® Access format and all accompanying documentation to Docket ID No. EPA-HQ-OAR-2018-0833 (through the method described in the **ADDRESSES** section of this preamble).

5. If you are providing comments on a single facility or multiple facilities, you need only submit one file for all facilities. The file should contain all suggested changes for all sources at that facility (or facilities). We request that all data revision comments be submitted in the form of updated Microsoft® Excel files that are generated by the Microsoft® Access file. These files are provided on the RTR website at *https://www3.epa.gov/ttn/atw/rrisk/rtrpg.html*.

VIII. Statutory and Executive Order Reviews

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

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

This action is not a significant regulatory action and was, therefore, not submitted to OMB for review.

B. Executive Order 13771: Reducing Regulation and Controlling Regulatory Costs

This action is not expected to be an Executive Order 13771 regulatory action because this action is not significant under Executive Order 12866.

C. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to OMB under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2062.07. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

The information requirements in this rulemaking are based on the notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These notifications, reports, and records are essential in determining compliance, and are specifically authorized by CAA section 114 (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to agency policies set forth in 40 CFR part 2, subpart B.

Respondents/affected entities: Unlike a specific industry sector or type of business, the respondents potentially affected by this ICR cannot be easily or definitively identified. Potentially, the Site Remediation rule may be applicable to any type of business or facility at which a site remediation is conducted to clean up media contaminated with organic HAP when the remediation activities are performed, the authority under which the remediation activities are performed, and the magnitude of the HAP in the remediation material meets the applicability

criteria specified in the rule. A site remediation that is subject to this rule potentially may be conducted at any type of privately-owned or government-owned facility at which contamination has occurred due to past events or current activities at the facility. For site remediation performed at sites where the facility has been abandoned and there is no owner, a government agency takes responsibility for the cleanup.

Respondent's obligation to respond: Mandatory (42 U.S.C. 7414).

Estimated number of respondents: 30 total for the source category. These facilities are already respondents and no facilities are expected to become respondents as a result of this proposed action.

Frequency of response: Semiannual.

Total estimated burden: 19,700 total hours (per year) for the source category, of which 310 hours are estimated as a result of this proposed action. Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: The total estimated cost of the rule is $1.39 million (per year) for the source category. This includes $126,000 total annualized capital or operation and maintenance costs. We estimate that $36,000 of the $126,000 in total annualized capital or operation and maintenance costs is a result of this proposed action. Recordkeeping and reporting costs of approximately $7,000 estimated as a result of this action are included in the $1.39 million in total costs.

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

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to OIRA_submissions@omb.eop.gov, Attention: Desk Officer for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].** The EPA will respond to any ICR-related comments in the final rule.

D. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are chemical and refining companies. The Agency has determined that two small entities, representing approximately 7 percent of the total number of entities subject to the proposal, may experience an impact of less than 0.1 percent of revenues. Details of this analysis are presented in the docket for this action (Docket ID No. EPA-HQ-OAR-2018-0833).

E. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This proposed rule imposes no enforceable duty on any state, local, or tribal governments, or the private sector.

F. Executive Oder 13132: Federalism

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

G. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). There are no site remediation facilities that are owned or operated by tribal governments. Thus, Executive Order 13175 does not apply to this action. The EPA specifically solicits comment on this proposed action from tribal officials.

H. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. Because the proposed rule amendments would result in reduced emissions of HAP and reduced risk to anyone exposed, the EPA believes that the proposed rule amendments would provide additional protection to children. More information on the source category's risk can be found in section IV of this preamble. The complete risk analysis results and the details concerning its development are presented in the memorandum entitled *Residual Risk Assessment for the Site Remediation Source Category in Support of the 2019 Risk and Technology Review Proposed Rule*, available in the docket for this action (Docket ID No. EPA-HQ-OAR-2018-0833).

The public is invited to submit comments or identify peer-reviewed studies and data that assess effects of early life exposure to HAP emitted by site remediation facilities.

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

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

J. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR part 51

This action involves technical standards. The EPA is formalizing the incorporation of two technical standards that were included in the October 2003 rule for which the EPA had previously not formally requested the Office of the Federal Register to include in 40 CFR 63.14 with a reference back to the sections in 40 CFR 63, subpart GGGGG. These two standards were already incorporated in 40 CFR 63.14 and were formally requested for other rules. These standards are API Publication 2517, "Evaporative Loss from External Floating-Roof Tanks," Third Edition, February 1989, and ASTM D2879-83, "Standard Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope." The API Publication 2517 is used to determine the maximum true vapor pressure of HAP in liquids stored at ambient temperature and is available to the public for free viewing online in the Read Online Documents section on API's website at *https://publications.api.org*. In addition to this free online viewing availability on API's website, hard copies and printable versions are available for purchase from API. The ASTM D2879-83 method is also used to determine the maximum true vapor pressure of HAP in liquids stored at ambient temperature, and it is available to the public for free viewing online in the Reading Room section on ASTM's website at *https://www.astm.org/READINGLIBRARY/*. Hardcopies and printable versions are also available for purchase from ASTM. Additional information can be found at *http:// www.api.org/*and *https://www.astm.org/Standard/standards-and publications.html*.

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

The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994) because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority, low income, or indigenous populations.

To gain a better understanding of the source category and near source populations, the EPA conducted a demographic analysis for site remediation facilities to identify any overrepresentation of minority, low income, or indigenous populations with cancer risks above 1-in-1 million. This analysis only gives some indication of the prevalence of sub-populations that may be exposed to air pollution from the sources; it does not identify the demographic characteristics of the most highly affected individuals or communities, nor does it quantify the level of risk faced by those individuals or communities. More information on the source category's risk can be found in section IV of this preamble. The complete demographic analysis results and the details concerning its development are presented in the memorandum titled *Risk and Technology Review – Analysis of Demographic Factors for Populations Living Near Site Remediation Source Category Operations*, available in the docket for this action (Docket ID No. EPA-HQ-OAR-2018-0833).

For the Site Remediation source category, the demographic analysis revealed that for some demographic categories, the percentage of people with cancer risks greater than or equal to 1-in-1 million is above their corresponding national averages of the amount of people in that

demographic category. These demographic categories are “African American,” “Above Poverty Level,” and “Over 25 and With a High School Diploma.” The ratio of African Americans with a cancer risk greater than or equal to 1-in-1 million due to site remediation is 17 percent higher than the national average percentage of people in that demographic category (14 percent versus 12 percent); the ratio of people living above the poverty line with a cancer risk greater than or equal to 1-in-1 million due to site remediation is 1 percent higher than the national average percentage of people in that demographic category (87 percent versus 86 percent); and the ratio of people over age 25 with a high school diploma with a cancer risk greater than or equal to 1-in-1 million due to site remediation is 3 percent higher than the national average percentage of people in that demographic category (89 percent versus 86 percent). However, as noted previously, risks from this source category were found to be acceptable for all populations.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: August 5, 2019.

Andrew R. Wheeler,

Administrator.

For the reasons set forth in the preamble, the EPA proposes to amend 40 CFR part 63 as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

1. The authority citation for part 63continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

2. Section 63.14 is amended by revising paragraphs (c)(1) and (h)(31) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(c) * * *

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for §§63.111, 63.1402, 63.2406 and 63.7944.

* * * * *

(h) * * *

(31) ASTM D2879-83, Standard Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for §§63.111, 63.1402, 63.2406, 63.7944, and 63.12005.

* * * * *

Subpart GGGGG—National Emission Standards for Hazardous Air Pollutants: Site Remediation

3. Section 63.7883 is amended by revising paragraphs (a), (b) introductory text, (c) introductory text, and (d) introductory text, and adding paragraph (f) to read as follows:

§63.7883 When do I have to comply with this subpart?

(a) If you have an existing affected source, you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you no later than October 9, 2006, except as provided in paragraph (f) of this section.

(b) If you have a new affected source that manages remediation material other than a radioactive mixed waste as defined in §63.7957, then you must meet the compliance date specified in paragraph (b)(1) or (2) of this section, as applicable to your affected source, except as provided in paragraph (f) of this section.

* * * * *

(c) If you have a new affected source that manages remediation material that is a radioactive mixed waste as defined in §63.7957, then you must meet the compliance date specified in paragraph (c)(1) or (2) of this section, as applicable to your affected source, except as provided in paragraph (f) of this section.

* * * * *

(d) If your facility is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP as defined in §63.2, then you must meet the compliance dates specified in paragraphs (d)(1) and (2) of this section, except as provided in paragraph (f) of this section.

* * * * *

(f) Sources must comply with the equipment leak requirements of §63.7920(b)(3) and (4) and the pressure relief device requirements of §63.7920(d) and (e) as specified in paragraphs (f)(1) and (2) of this section.

(1) If the affected source's initial startup date is before **[DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]**, you must comply with the equipment leak requirements of §63.7920(b)(3) and (4) and the pressure relief device requirements of §63.7920(d) and (e) of this subpart on or before **[DATE ONE YEAR AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]**.

(2) If the affected source's initial startup date is on or after **[DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]**, you must comply with the equipment leak requirements of §63.7920(b)(3) and (4) and the pressure relief device requirements of §63.7920(d) and (e) of this subpart upon initial startup.

4. Section 63.7895 is amended by revising paragraph (c) to read as follows:

§63.7895 What emissions limitations and work practice standards must I meet for tanks?

* * * * *

(c) If you use Tank Level 1 controls, you must install and operate a fixed roof according to the requirements in §63.902, with the exceptions specified in paragraphs (c)(1) and (2) of this section. As an alternative to using this fixed roof, you may choose to use one of Tank Level 2 controls in paragraph (d) of this section.

(1) Where §63.902(c)(2) provides an exception for a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere, only a conservation vent is eligible for the exception for the purposes of this subpart.

(2) The provisions of §63.902(c)(3) do not apply for the purposes of this subpart.

* * * * *

5. Section 63.7896 is amended by revising paragraphs (c)(1) and (3) and (f)(1) to read as follows:

§63.7896 How do I demonstrate initial compliance with the emissions limitations and work practice standards for tanks?

* * * * *

(c) * * *

(1) Each tank using Tank Level 1 controls is equipped with a fixed roof and closure devices according to the requirements in §63.902(b) and (c), with the exceptions specified in §63.7895(c)(1) and (2), and you have records documenting the design.

* * * * *

(3) You will operate the fixed roof and closure devices according to the requirements in §63.902, with the exceptions specified in §63.7895(c)(1) and (2).

* * * * *

(f) * * *

(1) Each tank is equipped with a fixed roof and closure devices according to the requirements in §63.685(g), with the exceptions specified in §63.7895(c)(1) and (2), and you have records documenting the design.

* * * * *

6. Section 63.7898 is amended by revising paragraph (c)(1) to read as follows:

§63.7898 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for tanks?

* * * * *

(c) * * *

(1) Operating and maintaining the fixed roof and closure devices according to the requirements in §63.902(c), with the exceptions specified in §63.7895(c)(1) and (2).

* * * * *

7. Section 63.7900 is amended by revising paragraphs (b)(1) through (3) introductory text, (c), and (d) to read as follows:

§63.7900 What emissions limitations and work practice standards must I meet for containers?

* * * * *

(b) * * *

(1) If the design capacity of your container is less than or equal to 0.46 m^3, then you must use controls according to the standards for Container Level 1 controls as specified in §63.922, except that §63.922(d)(4) and (5) do not apply for the purposes of this subpart. As an alternative, you may choose to use controls according to either of the standards for Container Level 2 controls as specified in §63.923.

(2) If the design capacity of your container is greater than 0.46 m^3, then you must use controls according to the standards for Container Level 2 controls as specified in §63.923, except that §63.923(d)(4) and (5) do not apply for the purposes of this subpart and except as provided for in paragraph (b)(3) of this section.

(3) As an alternative to meeting the standards in paragraph (b)(2) of this section for containers with a capacity greater than 0.46 m^3, if you determine that either of the conditions in paragraphs (b)(3)(i) or (ii) apply to the remediation material placed in your container, then you may use controls according to the standards for Container Level 1 controls as specified in §63.922, except that §63.922(d)(4) and (5) do not apply for the purposes of this subpart.

* * * * *

(c) At times when a container having a design capacity greater than 0.1 m^3 is used for treatment of a remediation material by a waste stabilization process as defined in §63.7957, you must control air emissions from the container during the process whenever the remediation material in the container is exposed to the atmosphere according to the standards for Container Level 3 controls as specified in §63.924, except that §63.924(d) does not apply for the purposes of this subpart. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(d) As an alternative to meeting the requirements in paragraph (b) of this section, you may choose to use controls on your container according to the standards for Container Level 3 controls as specified in §63.924, except that §63.924(d) does not apply for the purposes of this subpart. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

* * * * *

8. Section 63.7901 is amended by revising paragraphs (a), (b)(1), (c)(2), and (d)(3) to read as follows:

§63.7901 How do I demonstrate initial compliance with the emissions limitations and work practice standards for containers?

(a) You must demonstrate initial compliance with the emissions limitations and work practice standards in §63.7900 that apply to your affected containers by meeting the requirements in paragraphs (b) through (e) of this section, as applicable to your containers.

(b) * * *

(1) You have determined the applicable container control levels specified in §63.7900 for the containers to be used for your site remediation.

* * * * *

(c) * * *

(2) You will operate each container cover and closure device according to the requirements in §63.922(d), except that §63.922(d)(4) and (5) do not apply for the purposes of this subpart.

(d) * * *

(3) You will operate and maintain the container covers and closure devices according to the requirements in §63.923(d), except that §63.923(d)(4) and (5) do not apply for the purposes of this subpart.

* * * * *

9. Section 63.7903 is amended by revising paragraphs (a), (b) introductory text, (c)(1), and (d)(2) to read as follows:

§63.7903 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for containers?

(a) You must demonstrate continuous compliance with the emissions limitations and work practice standards in §63.7900 applicable to your affected containers by meeting the requirements in paragraphs (b) through (e) of this section.

(b) You must demonstrate continuous compliance with the requirement to determine the applicable container control level specified in §63.7900(b) for each affected tank by meeting the requirements in paragraphs (b)(1) through (3) of this section.

* * * * *

(c) * * *

(1) Operating and maintaining covers for each container according to the requirements in §63.922(d), except that §63.922(d)(4) and (5) do not apply for the purposes of this subpart.

* * * * *

(d) * * *

(2) Operating and maintaining container covers according to the requirements in §63.923(d), except that §63.923(d)(4) and (5) do not apply for the purposes of this subpart.

* * * * *

10. Section 63.7905 is amended by revising paragraphs (b)(1) and (2) to read as follows:

§63.7905 What emissions limitations or work practice standards must I meet for surface impoundments?

* * * * *

(b) * * *

(1) Install and operate a floating membrane cover according to the requirements in §63.942, except that §63.942(c)(2) and (3) do not apply for the purposes of this subpart; or

(2) Install and operate a cover vented through a closed vent system to a control device according to the requirements in §63.943, except that §63.943(c)(2) does not apply for the purposes of this subpart. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

* * * * *

11. Section 63.7906 is amended by revising paragraphs (b)(2) and (c)(2) to read as follows:

§63.7906 How do I demonstrate initial compliance with the emissions limitations or work practice standards for surface impoundments?

* * * * *

(b) * * *

(2) You will operate the cover and closure devices according to the requirements in §63.942(c), except that §63.942(c)(2) and (3) do not apply for the purposes of this subpart.

* * * * *

(c) * * *

(2) You will operate the cover and closure devices according to the requirements in §63.943(c), except that §63.943(c)(2) does not apply for the purposes of this subpart.

* * * * *

12. Section 63.7908 is amended by revising paragraphs (b)(1) and (c)(1) to read as follows:

§63.7908 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for surface impoundments?

* * * * *

(b) * * *

(1) Operating and maintaining the floating membrane cover and closure devices according to the requirements in §63.942(c), except that §63.942(c)(2) and (3) do not apply for the purposes of this subpart.

* * * * *

(c) * * *

(1) Operating and maintaining the cover and its closure devices according to the requirements in §63.943(c), except that §63.943(c)(2) does not apply for the purposes of this subpart.

* * * * *

13. Section 63.7910 is amended by revising paragraphs (b)(1) through (3) to read as follows:

§63.7910 What emissions limitations and work practice standards must I meet for separators?

* * * * *

(b) * * *

(1) Install and operate a floating roof according to the requirements in §63.1043, except that §63.1043(c)(2) does not apply for the purposes of this subpart. For portions of the separator where it is infeasible to install and operate a floating roof, such as over a weir mechanism, you must comply with the requirements specified in paragraph (b)(2) of this section.

(2) Install and operate a fixed roof vented through a closed vent system to a control device according to the requirements in §63.1044, except that §63.1044(c)(2) does not apply for the purposes of this subpart. You must meet the emissions limitations and work practice standards in §63.7925 that apply to your closed vent system and control device.

(3) Install and operate a pressurized separator according to the requirements in §63.1045 except that §63.1045(b)(3)(i) does not apply for the purposes of this subpart.

* * * * *

14. Section 63.7911 is amended by revising paragraphs (b)(2), (c)(2), and (d)(2) to read as follows:

§63.7911 How do I demonstrate initial compliance with the emissions limitations and work practice standards for separators?

* * * * *

(b) * * *

(2) You will operate the floating roof and closure devices according to the requirements in §63.1043(c), except that §63.1043(c)(2) does not apply for the purposes of this subpart.

* * * * *

(c) * * *

(2) You will operate the fixed roof and its closure devices according to the requirements in §63.1042(c), except that §63.1042(c)(2) does not apply for the purposes of this subpart.

* * * * *

(d) * * *

(2) You will operate the pressurized separator as a closed system according to the requirements in §63.1045(b)(3), except that §63.1045(b)(3)(i) does not apply for the purposes of this subpart.

15. Section 63.7912 is amended by revising paragraph (c) to read as follows:

§63.7912 What are my inspection and monitoring requirements for separators?

* * * * *

(c) If you use a pressurized separator that operates as a closed system according to §63.7910(b)(3), you must visually inspect each pressurized separator and closure devices for defects at least annually to ensure they are operating according to the design requirements in §63.1045(b), except that §63.1045(b)(3)(i) does not apply for the purposes of this subpart.

16. Section 63.7913 is amended by revising paragraphs (c)(1) and (d)(1) to read as follows:

§63.7913 How do I demonstrate continuous compliance with the emissions limitations and work practice standards for separators?

* * * * *

(c) * * *

(1) Operating and maintaining the fixed roof and its closure devices according to the requirements in §63.1042, except that §63.1042(c)(2) does not apply for the purposes of this subpart.

* * * * *

(d) * * *

(1) Operating the pressurized separator at all times according to the requirements in §63.1045, except that §63.1045(b)(3)(i) does not apply for the purposes of this subpart.

* * * * *

17. Revise the undesignated center heading for §§63.7920 through 63.7922 to read as follows:

EQUIPMENT LEAKS AND PRESSURE RELIEF DEVICES

18. Section 63.7920 is amended by:

a. Revising paragraphs (b)(1) and (2);

b. Adding paragraphs (b)(3) and (4);

c. Redesignating paragraph (d) as paragraph (f); and

d. Adding new paragraph (d) and paragraph (e) to read as follows:

§63.7920 What emissions limitations and work practice standards must I meet for equipment leaks?

*** * * * ***

(b) * * *

(1) Control equipment leaks according to all applicable requirements under 40 CFR part 63, subpart TT—National Emission Standards for Equipment Leaks—Control Level 1, with the differences noted in paragraphs (b)(3) and (4) of this section for the purposes of this subpart; or

(2) Control equipment leaks according to all applicable requirements under 40 CFR part 63, subpart UU—National Emission Standards for Equipment Leaks—Control Level 2, with the differences noted in paragraphs (b)(3) of this section for the purposes of this subpart

(3)(i) For the purpose of complying with the requirements of §63.1014(b)(1) or §63.1033(b)(1), the open end is sealed when instrument monitoring of the open-ended valve or

line conducted according to Method 21 of 40 CFR part 60, appendix A indicates no readings of 500 ppm or greater.

(ii) For the purpose of complying with the requirements of §63.1014(c) or §63.1033(c), open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset and that are exempt from the requirements in §63.1014(b) or §63.1033(b) must comply with the requirements in §63.693(c)(2).

(4)(i) For the purpose of complying with the requirements of §63.1006(b)(2), the instrument reading that defines a leak is 500 parts per million or greater.

(ii) For the purpose of complying with the requirements of §63.1007(b)(2), the instrument reading that defines a leak is 5,000 parts per million or greater for pumps handling polymerizing monomers; 2,000 parts per million or greater for pumps in food/medical service; and 1,000 parts per million or greater for all other pumps.

* * * * *

(d) For the purposes of this subpart, the requirements of §63.7920(e) of this subpart apply rather than those of §63.1030 or of §63.1011, as applicable, for pressure relief devices in gas and vapor service. The requirements of §63.7920(e) of this subpart apply rather than those of §63.1029 or of §63.1010, as applicable, for pressure relief devices in liquid service.

(e) Operate each pressure relief device under normal operating conditions, as indicated by an instrument reading of less than 500 ppm above the background level as detected by the method specified in §63.1004(b) or §63.1023(b), as applicable.

* * * * *

19. Section 63.7923 is added before the center heading "Closed Vent Systems and Control Devices" to read as follows:

§63.7923 What emissions limitations must I meet for pressure relief devices?

(a) For each pressure relief device in remediation material service, you must comply with either paragraph (a)(1) or (2) of this section following a pressure release actuation event, as applicable.

(1) If the pressure relief device does not consist of or include a rupture disk, return the pressure relief device to the normal operating conditions specified in §63.7920(e) as soon as practicable and conduct instrument monitoring by the method specified in §63.1004(b) or §63.1023(b), as applicable, no later than 5 calendar days after the pressure release device returns to remediation material service following a pressure release actuation event, except as provided in §63.1024(d) or of §63.1005(c), as applicable.

(2) If the pressure relief device consists of or includes a rupture disk, except as provided in §63.1024(d) or of §63.1005(c), as applicable, install a replacement disk as soon as practicable but no later than 5 calendar days after the pressure release actuation event.

(b) You must equip each pressure relief device in remediation material service with a device(s) or use a monitoring system sufficient to indicate a pressure release to the atmosphere. The device or monitoring system may be either specific to the pressure release device itself or may be associated with the process system or piping. Examples of these types of devices or

monitoring systems include, but are not limited to, a rupture disk indicator, magnetic sensor, motion detector on the pressure relief valve stem, flow monitor, pressure monitor, or parametric monitoring system. The device(s) or monitoring systems must be capable of meeting the requirements specified in paragraphs (b)(1) through (3) of this section.

(1) Identifying the pressure release;

(2) Recording the time and duration of each pressure release; and

(3) Notifying operators immediately that a pressure release is occurring.

(c) If any pressure relief device in remediation material service releases directly to the atmosphere as a result of a pressure release actuation event, follow the requirements of paragraphs (c)(1) through (6) of this section.

(1) You must calculate the quantity of HAP listed in Table 1 of this subpart released during each pressure release actuation event. Calculations may be based on data from the pressure relief device monitoring alone or in combination with process parameter monitoring data and process knowledge.

(2) You must determine the total number of pressure release actuation events that occurred during the calendar year for each pressure relief device.

(3) You must determine the total number of pressure release actuation events for each pressure relief device for which the analysis conducted as required by paragraph (c)(4) of this section concluded that the pressure release was due to a force majeure event, as defined in §63.7957.

(4) You must complete an analysis to determine the source, nature and cause of each pressure release actuation event as soon as practicable, but no later than 45 days after a pressure release actuation event.

(5) You must identify corrective measures to prevent future such pressure release actuation event s as soon as practicable, but no later than 45 days after a pressure release actuation event.

(6) You must implement the corrective measure(s) identified as required by paragraph (c)(5) of this section within 45 days of the pressure release actuation event or as soon thereafter as practicable. For corrective measures that cannot be fully implemented within 45 days following the pressure release actuation event, you must record the corrective measure(s) completed to date, and, for measure(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, no later than 45 days following the pressure release actuation event.

(d) The pressure relief devices listed in paragraphs (d)(1) through (5) are not subject to the requirements in paragraphs (a) through (c) of this section.

(1) Pressure relief devices designed and operated to route all pressure releases through a closed vent system to a drain system meeting the requirements of §§63.7915-63.7918, or to a fuel gas system, process or control device meeting the requirements of §§63.7925-63.7928.

(2) Pressure relief devices in heavy liquid service, as defined in §63.1001 or §63.1020, as applicable.

(3) Thermal expansion relief valves.

(4) Pilot-operated pressure relief devices where the primary release valve is routed through a closed vent system to a control device or back into the process, to the fuel gas system, or to a drain system.

(5) Balanced bellows pressure relief devices where the primary release valve is routed through a closed vent system to a control device or back into the process, to the fuel gas system, or to a drain system.

(e) Except for the pressure relief devices described in paragraph (d) of this section, it is a violation of the requirements of paragraphs (b) and (c) of this section for any pressure relief device in remediation material service to release directly to the atmosphere as a result of a pressure release actuation event(s) described in paragraphs (e)(1) through (3) of this section.

(1) Any pressure release actuation event for which the cause of the event determined as required by paragraph (c)(4) of this section was determined to be operator error or poor maintenance.

(2) A second pressure release actuation event, not including force majeure events, from a single pressure relief device in a 3 calendar-year period for the same cause for the same equipment.

(3) A third pressure release actuation event, not including force majeure events, from a single pressure relief device in a 3 calendar-year period for any reason.

20. Section 63.7925 is amended by revising paragraph (b) to read as follows:

§63.7925 What emissions limitations and work practice standards must I meet for closed vent systems and control devices?

* * * * *

(b) Whenever gases or vapors containing HAP are vented through the closed-vent system to the control device, the control device must be operating.

* * * * *

21. Section 63.7935 is amended by:

a. Revising paragraphs (a) and (b);

b. Removing and reserving paragraph (c);

c. Revising paragraph (e);

d. Removing and reserving paragraph (f); and

e. Adding paragraphs (g)(4) and (5) to read as follows:

§63.7935 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emissions limitations (including operating limits) and the work practice standards in this subpart at all times. The owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

(b) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

* * * * *

(e) You must report each instance in which you did not meet each emissions limitation and each operating limit that applies to you. You must also report each instance in which you did not meet the requirements for work practice standards that apply to you. These instances are deviations from the emissions limitations and work practice standards in this subpart. These deviations must be reported according to the requirements in §63.7951.

* * * * *

(g) * * *

(4) Continuous monitoring system (CMS) operation and maintenance requirements in accordance with §63.7945.

(5) CMS data collection in accordance with §63.7946.

* * * * *

22. Section 63.7941 is amended by revising paragraph (b)(2) and paragraph (b)(4) introductory text to read as follows:

§63.7941 How do I conduct a performance test, design evaluation, or other type of initial compliance demonstration?

* * * * *

(b) * * *

(2) You must conduct performance tests under such conditions as the Administrator specifies based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by the General Provisions. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.”

* * * * *

(4) Follow the procedures in paragraphs (b)(4)(i) through (iii) of this section to determine compliance with the facility-wide total organic mass emissions rate in §63.7890(b).

* * * * *

23. Section 63.7942 is revised to read as follows:

§63.7942 When must I conduct subsequent performance tests?

For non-flare control devices, you must conduct performance tests at any time the EPA requires you to according to §63.7(a)(3).

24. Section 63.7943 is amended by revising paragraph (d) to read as follows:

§63.7943 How do I determine the average VOHAP concentration of my remediation material?

* * * * *

(d) In the event that you and we disagree on a determination using knowledge of the average total VOHAP concentration for a remediation material, then the results from a determination of VOHAP concentration using direct measurement by Method 305 in 40 CFR part 60 appendix A, as specified in paragraph (b) of this section, will be used to determine compliance with the applicable requirements of this subpart. We may perform or require that you perform this determination using direct measurement.

25. Section 63.7944 is amended by revising paragraph (d) to read as follows:

§63.7944 How do I determine the maximum HAP vapor pressure of my remediation material?

* * * * *

(d) In the event that you and us disagree on a determination using knowledge of the maximum HAP vapor pressure of the remediation material, then the results from a determination of maximum HAP vapor pressure using direct measurement by Method 25E in 40 CFR part 60 appendix A, as specified in paragraph (b) of this section, will be used to determine compliance with the applicable requirements of this subpart. We may perform or require that you perform this determination using direct measurement.

26. Section 63.7945 is amended by adding paragraph (d) to read as follows:

* * * * *

(d) Failure to meet the requirements of (a)(1) through (4) of this section is a deviation and must be reported according to the requirements in §63.7951(b)(7).

27. Section 63.7951 is amended by:

a. Adding paragraphs (a)(2)(i) and (ii);

b. Removing and reserving paragraph (b)(4);

c. Revising paragraphs (b)(7) introductory text, (b)(7)(ii), (b)(8) introductory text, and (b)(8)(i), (iv), and (vi),

d. Adding paragraphs (b)(10) and (11);

e. Removing and reserving paragraph (c); and

f. Adding paragraphs (e) through (h) to read as follows:

§63.7951 What reports must I submit and when?

(a) * * *

(2) * * *

(i) For pressure relief devices in remediation material service subject to the requirements of §63.7923 of this subpart, you must submit the information listed in paragraph (a)(1)(ii) and (iii) of this section in the notification of compliance status required under §63.9(h) of this part within 150 days after the first applicable compliance date for pressure relief device monitoring.

(ii) A description of the device or monitoring system to be implemented, including the pressure relief devices and process parameters to be monitored, and a description of the alarms or other methods by which operators will be notified of a pressure release.

* * * * *

(b) * * *

* * * * *

(7) For each deviation from an emissions limitation (including an operating limit) that occurs at an affected source for which you are not using a continuous monitoring system (including a CPMS or CEMS) to comply with an emissions limitation or work practice standard required in this subpart, the compliance report must contain the information specified in paragraphs (b)(1) through (4) and (b)(7)(i) and (ii) of this section..

* * * * *

(ii) Information on the number of deviations. For each deviation, include the date, time, and duration, a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit, a description of the method used to estimate the emissions, the actions taken to minimize emissions, the cause of the deviation (including unknown cause), as applicable, and the corrective actions taken to return the affected unit to its normal or usual manner of operation.

(8) For each deviation from an emissions limitation (including an operating limit) or work practice standard occurring at an affected source where you are using a continuous monitoring system (including a CPMS or CEMS) to comply with the emissions limitations or work practice standard in this subpart, you must include the information specified in paragraphs (b)(1) through (4) and (b)(8)(i) through (xi) of this section.

(i) Information on the number of deviations. For each deviation, include the date, time, and duration, a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit, a description of the method used to estimate the emissions, the actions taken to minimize emissions, the cause of the deviation (including unknown cause), as applicable, and the corrective actions taken to return the affected unit to its normal or usual manner of operation.

* * * * *

(iv) For each deviation caused when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit), the report must include the daily average values of the

monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the deviation occurred. For each deviation caused by lack of monitoring data, the report must include the date and duration of period when the monitoring data were not collected and the reason why the data were not collected.

* * * * *

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and unknown causes.

* * * * *

(10) For pressure relief devices in remediation material service, compliance reports must include the information specified in paragraphs (b)(10)(i) through (iii) of this section.

(i) For pressure relief devices in remediation material service subject to §63.7920(e) of this subpart, report any instrument reading of 500 ppm above the background level or greater, if detected more than 5 days after a pressure release.

(ii) For pressure relief devices in remediation service subject to §63.7923(a), report confirmation that any monitoring required to be done during the reporting period to show compliance was conducted.

(iii) For pressure relief devices in remediation material service subject to §63.7923(c) of this subpart, report each pressure release to the atmosphere, including the following information:

(A) The date, time, and duration of the pressure release actuation event.

(B) An estimate of the mass quantity of each HAP listed in Table 1 of this subpart emitted during the pressure release actuation event and the method used for determining this quantity.

(C) The source, nature and cause of the pressure release actuation event.

(D) The actions taken to prevent this pressure release actuation event.

(E) The measures implemented during the reporting period to prevent future such pressure release actuation event s, and, if applicable, the implementation schedule for planned corrective actions to be implemented subsequent to the reporting period.

(11) Pressure tank closure device or bypass deviation information. Compliance reports must include the information specified in paragraph (b)(11)(iv) of this section when any of the conditions in paragraphs (b)(11)(i) through (iii) of this section are met.

(i) Any pressure tank closure device, as specified in specified in §63.7895(d)(4) of this subpart and §63.685(h)(2) of this subpart, has released to the atmosphere.

(ii) Any closed vent system that includes bypass devices that could divert a vent a stream away from the control device and into the atmosphere, as specified in §63.7927(a)(2) of this subpart, has released directly to the atmosphere.

(iii) Any open-ended valve or line in an emergency shutdown system which is designed to open automatically in the event of a process upset, as specified in §63.1014(c) or §63.1033(c), has released directly to the atmosphere.

(iv) The compliance report must include the information specified in paragraphs (b)(11)(iv)(A) through (E) of this section.

(A) The source, nature and cause of the release.

(B) The date, time and duration of the discharge.

(C) An estimate of the quantity of HAP listed in Table 1 of this subpart emitted during the release and the method used for determining this quantity.

(D) The actions taken to prevent this release.

(E) The measures adopted to prevent future such releases.

* * * * *

(e) *Performance test and CMS performance evaluation reports.* Within 60 days after the date of completing each performance test or continuous monitoring system (CMS) performance evaluation (as defined in §63.2) required by this subpart, the owner or operator must submit the results of the performance test or performance evaluation according to the manner specified by either paragraph (e)(1) or (2) of this section.

(1) *Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (https://www.epa.gov/electronic-reporting-air-*

emissions/electronic-reporting-tool-ert) at the time of the test. Submit the results of the performance test or the performance evaluation of CMS measuring relative accuracy test audit (RATA) pollutants to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.

(2) *Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test.* The results of the performance test or the performance evaluation of CMS measuring relative accuracy test audit (RATA) pollutants by methods that are not supported by the ERT must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(f) *Submitting reports electronically*. If you are required to submit reports following the procedure specified in this paragraph, you must submit reports to the EPA via CEDRI, which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). You must use the appropriate electronic report template on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*) for this subpart. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. If you claim some of the information required to be submitted via CEDRI is confidential business information (CBI), submit a complete report, including information claimed to be CBI, to the EPA. The

report must be generated using the appropriate form on the CEDRI website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(g) *Claims of EPA system outage*. If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with the reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in paragraphs (g)(1) through (7) of this section.

(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning five business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(5) You must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(h*) Claims of force majeure*. If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with the reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in paragraphs (h)(1) through (5) of this section.

(1) You may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning five business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that

prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.*, hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.*, large scale power outage).

(2) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(3) You must provide to the Administrator:

(i) A written description of the force majeure event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(4) The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

28. Section 63.7952 is amended by revising paragraph (a)(2) and adding paragraph (e) to read as follows:

§63.7952 What records must I keep?

(a) * * *

(2) The records in §63.6(e)(3)(iii) through (v) related to startups, shutdowns, and malfunctions.

(i) For each deviation from an emissions limitation (including an operating limit) or work practice standard occurring at an affected source, you must record information on the number of deviations. For each deviation, include the date, time, and duration, a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit, a description of the method used to estimate the emissions, the actions taken to minimize emissions, the cause of the deviation (including unknown cause), as applicable, and the corrective actions taken to return the affected unit to its normal or usual manner of operation.

(ii) For pressure relief devices in remediation material service, keep records of the information specified in paragraphs (a)(2)(ii)(A) through (C) of this section, as applicable.

(A) A list of identification numbers for pressure relief devices that are not subject to the requirements of §63.7923(a) through (c) under the provisions of §63.7923(d).

(B) A list of identification numbers for pressure relief devices subject to the requirements of §63.7923(a) through (c) that do not consist of or include a rupture disk.

(C) A list of identification numbers for pressure relief devices subject to the requirements of §63.7923(a) through (c) equipped with rupture disks.

(iii) For pressure relief devices in remediation material service subject to §63.7923(c) of this subpart, keep records of each pressure release event to the atmosphere as specified in paragraphs (a)(2)(iii)(A) through (I) of this section.

(A) The date, time, and duration of the pressure release event.

(B) The dates and results of the EPA Method 21 of 40 CFR part 60, appendix A, monitoring following a pressure release event, if applicable. The results of each monitoring event shall include the measured background level and the maximum instrument reading measured at each pressure relief device.

(C) The dates replacement rupture disks were installed following a pressure release event, if applicable.

(D) An estimate of the mass quantity of each HAP listed in Table 1 of this subpart emitted during the pressure release event and the method used for determining this quantity.

(E) The source, nature and cause of the pressure release event, including an identification of the affected pressure relief device(s) and a statement noting whether the event resulted from the same cause(s) identified following a previous pressure release event.

(F) The corrective measures identified to prevent future such pressure release events, or an explanation of why corrective measures are not necessary.

(G) The actions taken to prevent this pressure release event.

(H) Records of the corrective measures implemented, including a description of the corrective measure(s) completed within the first 45 days following a pressure release event, and, if applicable, the implementation schedule for planned corrective measures to be implemented subsequent to the first 45 days following the pressure release event, including proposed commencement and completion dates.

(I) Records of the number of pressure release events during each calendar year and the number of those events for which the cause was determined to be a force majeure event. Keep these records for the current calendar year and the past five calendar years.

(iv) (A) For pressure tank closure devices, as specified in §63.7895(d)(4) and §63.685(h)(2), keep records of each release to the atmosphere, including the information specified in paragraphs (C)(*1*) though (*7*) of this section.

(B) For each closed vent system that includes bypass devices that could divert a stream away from the control device and into the atmosphere, as specified in §63.7927(a)(2), and each open-ended valve or line in an emergency shutdown system which is designed to open automatically in the event of a process upset, as specified in §63.1014(c) or §63.1033(c), keep records of each release to the atmosphere, including the information specified in paragraphs (C)(*1*) though (*7*) of this section.

(C)(*1*) The source, nature, and cause of the release.

(*2*) The date, time, and duration of the release.

(*3*) An estimate of the quantity of HAP listed in Table 1 of this subpart emitted during the release and the calculations used for determining this quantity.

(*4)* The actions taken to prevent this release.

(*5*) The measures adopted to prevent future such release.

(*6*) Hourly records of whether the bypass flow indicator specified under §63.7927(a)(2)(i) was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(*7)* Where a seal mechanism is used to comply with §63.7927(a)(2)(ii), hourly records of flow are not required. In such cases, you must record that the monthly visual inspection of the seals or closure mechanism has been done and record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

* * * * *

(e) Any records required to be maintained by this part that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

29. Section 63.7957 is amended by:

a. Adding, in alphabetical order, a definition for “Bypass;”

b. Revising the definition of “Deviation;”

c. Adding, in alphabetical order, definitions for "Force majeure," “Pressure release,” and “Pressure relief device or valve;”

d. Revising the definition of "Process vent;" and

e. Removing the definition of “Safety device.”

The additions and revisions read as follows:

§63.7957 What definitions apply to this subpart?

* * * * *

Bypass means diverting a process vent or closed vent system stream to the atmosphere such that it does not first pass through an emission control device.

* * * * *

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emissions limitation (including any operating limit), or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emissions limitation, (including any operating limit), or work practice standard in this subpart regardless of whether or not such failure is permitted by this subpart.

* * * * *

Force majeure event means a release of HAP directly to the atmosphere from a pressure relief device that is demonstrated to the satisfaction of the Administrator to result from an event beyond the owner or operator's control, such as natural disasters; acts of war or terrorism; loss of a utility external to the ethylene production unit (*e.g.*, external power curtailment), excluding power curtailment due to an interruptible service agreement; and fire or explosion originating at a near or adjoining facility outside of the site remediation affected source that impacts the site remediation affected source's ability to operate.

* * * * *

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by

a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

* * * * *

Process vent means any open-ended pipe, stack, duct, or other opening intended to allow the passage of gases, vapors, or fumes to the atmosphere and this passage is caused by mechanical means (such as compressors, vacuum-producing systems or fans) or by process-related means (such as volatilization produced by heating). For the purposes of this subpart, a process vent is neither a pressure relief device (as defined in this section) nor a stack, duct or other opening used to exhaust combustion products from a boiler, furnace, heater, incinerator, or other combustion device.

* * * * *

30. Table 3 to subpart GGGGG of part 63 is revised to read as follows:

Table 3 to Subpart GGGGG of Part 63—Applicability of General Provisions to Subpart GGGGG

As stated in §63.7940, you must comply with the applicable General Provisions requirements according to the following table:

Citation	Subject	Brief description	Applies to subpart GGGGG
§63.1	Applicability	Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions, Notifications	Yes.

§63.2	Definitions	Definitions for part 63 standards	Yes.
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities	Prohibited Activities; Compliance date; Circumvention, Severability	Yes.
§63.5	Construction/Reconstruction	Applicability; applications; approvals	Yes.
§63.6(a)	Applicability	General Provisions (GP) apply unless compliance extension GP apply to area sources that become major	Yes.
§63.6(b)(1)-(4)	Compliance Dates for New and Reconstructed sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for 112(f)	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes.
§63.6(c)(1)-(2)	Compliance Dates for Existing Sources	Comply according to date in subpart, which must be no later than 3 years after effective date. For 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes.
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That	Area sources that become major must comply with	Yes.

	Become Major	major source standards by date indicated in subpart or by equivalent time period (for example, 3 years)	
§63.6(d)	[Reserved]		
§63.6(e)(1)-(2)	Operation & Maintenance		No, see §63.7935(b).
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP)		No.
§63.6(f)(1)	Compliance Except During SSM		No, see §63.7935(b)
§63.6(f)(2)-(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)-(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)	Opacity/Visible Emissions (VE) Standards	Requirements for opacity and visible emissions limits	No. No opacity standards.
§63.6(i)(1)-(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt source category from requirement to comply with final rule	Yes.
§63.7(a)(1)-(2)	Performance Test Dates	Dates for Conducting Initial Performance Testing and Other Compliance Demonstrations. Must conduct 180 days after first subject to final rule	Yes.
§63.7(a)(3)	CAA Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of	If rescheduling a	Yes.

	Rescheduling	performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date	
§63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with: Test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§63.7(e)(1)	Conditions for Conducting Performance Tests	Performance tests must be conducted under representative conditions. Cannot conduct performance tests during SSM. Not a violation to exceed standard during SSM	No. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to rule and EPA test methods unless Administrator	Yes.

		approves alternative	
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least one hour each. Compliance is based on arithmetic mean of three runs. Conditions when data from an additional test run can be used	Yes.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report. Must submit performance test data 60 days after end of test with the Notification of Compliance Status. Keep data for 5 years	Yes.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of part 60 apply	Yes.
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring with Flares	Unless your rule says otherwise, the requirements for flares in 63.11 apply	Yes.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems. Must install on each effluent before it is combined and before it is	Yes.

		released to the atmosphere unless Administrator approves otherwise. If more than one monitoring system on an emissions point, must report all monitoring system results, unless one monitoring system is a backup	
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	Yes.
§63.8(c)(1)(i)	Monitoring System Operation	Operate and maintain system as specified in §63.6(e)(1)	No.
§63.8(c)(1)(ii)	Monitoring System Repair	Keep part for routine repairs available	Yes.
§63.8(c)(1)(iii)	Monitoring System SSM Plan	Develop an SSM Plan for the monitoring system	No.
§63.8(c)(2)-(3)	Monitoring System Installation	Must install to get representative emissions and parameter measurements. Must verify operational status before or at performance test	Yes.
§63.8(c)(4)	Continuous Monitoring System (CMS) Requirements	CMS must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts	No.
§63.8(c)(4)(i)-(ii)	Continuous Monitoring System (CMS) Requirements	COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period. CEMS must have a minimum of one cycle of	Yes. However, COMS are not applicable. Requirements for CPMS are listed in §§63.7900 and 63.7913.

		operation for each successive 15-minute period	
§63.8(c)(5)	COMS Minimum Procedures	COMS minimum procedures	No.
§63.8(c)(6)	CMS Requirements	Zero and High level calibration check requirements	Yes. However requirements for CPMS are addressed in §63.7927.
§63.8(c)(7)-(8)	CMS Requirements	Out-of-control periods, including reporting	Yes.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc. Must keep quality control plan on record for 5 years. Keep old versions for 5 years after revisions	Yes.
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes.
§63.8(f)(1)-(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	No.
§63.8(g)(1)-(4)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points. CEMS 1-hour averages computed over at least four equally spaced data points	Yes. However, COMS are not applicable. Requirements for CPMS are addressed in §§63.7900 and 63.7913.
§63.8(g)(5)	Data Reduction	Data that cannot be used in computing averages for CEMS and COMS	No.
§63.9(a)	Notification Requirements	Applicability and State Delegation	Yes.
§63.9(b)(1)-(5)	Initial Notifications.	Submit notification 120	Yes.

		days after effective date. Notification of intent to construct/reconstruct; Notification of commencement of construct/reconstruct; Notification of startup. Contents of each	
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed BACT/LAER	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Source	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation. Notification using COMS data. Notification that exceeded criterion for relative accuracy	Yes. However, there are no opacity standards.
§63.9(h)(1)-(6)	Notification of Compliance Status	Contents. Due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after. When to submit to Federal vs. State authority	Yes.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes.
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless	Yes.

		compliance extension. When to submit to Federal vs. State authority. Procedures for owners of more than 1 source	
§63.10(b)(1)	Recordkeeping/Reporting	General Requirements. Keep all records readily available. Keep for 5 years	Yes.
§63.10(b)(2)(i) and (ii)	Records related to SSM	Exceedance of emission limit during startup, shutdown or malfunction	No.
§63.10(b)(2)(iii)	Maintenance Records	Maintenance on air pollution control equipment.	Yes.
§63.10(b)(2)(iv) and (v)	Records related to SSM	Actions during SSM.	No.
§63.10(b)(2)(vi) and (x-xi)	CMS Records	Malfunctions, inoperative, out-of-control. Calibration checks. Adjustments, maintenance	Yes.
§63.10(b)(2)(vii)-(ix)	Records	Measurements to demonstrate compliance with emissions limitations. Performance test, performance evaluation, and visible emissions observation results. Measurements to determine conditions of performance tests and performance evaluations	Yes.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	No.
§63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status	Yes.
§63.10(b)(3)	Records	Applicability	Yes.

		Determinations	
§63.10(c)	Records	Additional Records for CMS	No.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	No.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Contents and submission	No.
§63.10(e)(1)-(2)	Additional CMS Reports	Must report results for each CEM on a unit Written copy of performance evaluation Three copies of COMS performance evaluation	Yes. However, COMS are not applicable.
§63.10(e)(3)	Reports	Excess Emissions Reports	No.
§63.10(e)(3)(i-iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations)	No.
§63.10(e)(3)(iv-v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedance (now defined as deviations). Provision to request semiannual reporting after compliance for one year. Submit report by 30th day following end of quarter or calendar half. If there has not been an exceedance or excess emissions (now defined as deviations), report contents	No.

		is a statement that there have been no deviations	
§63.10(e)(3)(iv-v)	Excess Emissions Reports	Must submit report containing all of the information in §§63.10(c)(5-13) and 63.8(c)(7-8)	No.
§63.10(e)(3)(vi-viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMSs (now called deviations). Requires all of the information in §§63.10(c)(5-13) and 63.8(c)(7-8)	No.
§63.10(e)(4)	Reporting COMS data	Must submit COMS data with performance test data	No.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11	Control and work practice requirements	Requirements for flares and alternative work practice for equipment leaks	Yes.
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes.
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes

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