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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA–HQ–OAR–2021–0619; FRL-8602-02-OAR]

RIN 2060–AV43

New Source Performance Standards Review for Lead Acid Battery Manufacturing Plants and National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources Technology Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the results of the Environmental Protection Agency's (EPA's) review of the New Source Performance Standards (NSPS) for Lead Acid Battery Manufacturing Plants and the technology review for the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Lead Acid Battery Manufacturing Area Sources as required under the Clean Air Act (CAA). The EPA is finalizing revised lead emission limits for grid casting, paste mixing, and lead reclamation operations for both the area source NESHAP and under a new NSPS subpart (for lead acid battery manufacturing facilities that begin construction, reconstruction, or modification after February 23, 2022). In addition, the EPA is finalizing the following amendments for both the area source NESHAP and under the new NSPS subpart: performance testing once every 5 years to demonstrate compliance; work practices to

minimize emissions of fugitive lead dust; increased inspection frequency of fabric filters; clarification of activities that are considered to be lead reclamation activities; electronic reporting of performance test results and semiannual compliance reports; and the removal of exemptions for periods of startup, shutdown, and malfunctions (SSM). The EPA is also finalizing a revision to the applicability provisions in the area source NESHAP such that facilities which make lead-bearing battery parts or process input material, including but not limited to grid casting facilities and lead oxide manufacturing facilities, will be subject to the area source NESHAP. In addition, the EPA is finalizing a requirement in the new NSPS for new facilities to operate bag leak detection systems for emission points controlled by a fabric filter that do not include a secondary fabric filter.

DATES: This final rule is effective on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The incorporation by reference (IBR) of certain publications listed in the rule is approved by the Director of the Federal Register as of **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: The U.S. Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA-HQ-OAR-2021-0619. All documents in the docket are listed on the *https://www.regulations.gov/* website. Although listed, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) 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 form. Publicly available docket materials are available either electronically through *https://www.regulations.gov/*, or in hard copy at the EPA Docket Center, WJC West Building, Room Number 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room hours of operation are 8:30

a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. 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.

FOR FURTHER INFORMATION CONTACT: For questions about this action, contact Amanda Hansen, Sector Policies and Programs Division (D243-02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-3165; and email address: *hansen.amanda@epa.gov*.

SUPPLEMENTARY INFORMATION:

Preamble acronyms and abbreviations. Throughout this preamble the use of "we," "us," or "our" is intended to refer to the EPA. 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:

ANSI	American National Standards Institute
BCI	Battery Council International
BSER	best system of emissions reduction
CAA	Clean Air Act
DCOT	digital camera opacity technique
EJ	Environmental Justice
EPA	Environmental Protection Agency
ERT	Electronic Reporting Tool
FR	*Federal Register*
GACT	generally available control technology
HAP	hazardous air pollutant(s)
HEPA	high efficiency particulate air
µm	microns
mg/dscm	milligrams per dry standard cubic meters
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NEI	National Emissions Inventory
NESHAP	national emission standards for hazardous air pollutants
NSPS	new source performance standards

NTTAA	National Technology Transfer and Advancement Act
OMB	Office of Management and Budget
Pb	lead
RACT	reasonably available control technology
SIC	Standard Industrial Classification
SSM	startup, shutdown, and malfunction
the court	the United States Court of Appeals for the District of Columbia Circuit
tpd	tons per day
tpy	tons per year
TR	technology review
TRI	Toxics Release Inventory
$\mu g/m^3$	microgram per cubic meter
UPL	upper prediction limit
VCS	voluntary consensus standards

Background information. On February 23, 2022 (87 FR 10134), the EPA proposed revisions to the Lead Acid Battery Manufacturing Area Source NESHAP based on our technology review (TR) and proposed a new NSPS subpart based on the best systems of emission reduction (BSER) review. In this action, we are finalizing decisions and revisions for the rules. We summarize some of the more significant comments we timely received regarding the proposed rules and provide our responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in the *New Source Performance Standards for Lead Acid Battery Manufacturing Plants and National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources Summary of Public Comments and Responses on Proposed Rules* (hereafter referred to as the "Comment Summary and Response Document") in the docket for this action, Docket ID No. EPA-HQ-OAR-2021-0619. A "track changes" version of the regulatory language that incorporates the changes in this action is also available in the docket.

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

I. General Information

A. Does this action apply to me?

The source category that is the subject of this final action is lead acid battery manufacturing regulated under CAA section 111 New Source Performance Standards (NSPS) and under CAA section 112 National Emission Standards for Hazardous Air Pollutants (NESHAP). The North American Industry Classification System (NAICS) code for the lead acid battery manufacturing industry is 335911. The NAICS code serves as a guide for readers outlining the type of entities that this final action is likely to affect. 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 Lead Acid Battery Manufacturing source category for purposes of CAA section 112 includes any facility engaged in producing lead acid or lead acid storage batteries, including, but not limited to, starting-lighting-ignition batteries and industrial storage batteries. The category includes, but is not limited to, the following lead acid battery manufacturing steps: lead oxide production, grid casting, paste mixing, and three-process operation (plate stacking, burning, and assembly). Lead acid battery manufacturing was identified as a source category under CAA section 111 in the *Priorities for New Source Performance Standards Under the Clean Air Act Amendments of 1977* (see EPA–

450/3–78–019, April 1978), and added to the priority list in the *Revised Prioritized List of Source Categories for NSPS Promulgation* (see EPA–450/3–79–023, March 1979). Federal, state, local and tribal government entities would not be affected by this action. If you have any questions regarding the applicability of this action to a particular entity, you should carefully examine the applicability criteria found in 40 CFR part 60, subpart KKa and 40 CFR part 63, subpart PPPPPP, or consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section of this preamble, your state air pollution control agency with delegated authority for NSPS and NESHAP, or your EPA Regional Office.

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 final action will also be available on the Internet. Following signature by the EPA Administrator, the EPA will post a copy of this final action at: *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-new-source-performance-standards* and *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-area-sources-national-emission*. Following publication in the *Federal Register* (FR), the EPA will post the *Federal Register* version and key technical documents at this same website.

C. Judicial Review and Administrative Reconsideration

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit (the court) by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].** Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review." This section also provides a mechanism for the EPA to convene a proceeding for reconsideration, "[i]f the person raising an objection can demonstrate to the EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment, (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule." Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. Environmental Protection Agency, Room 3000, WJC West Building, 1200 Pennsylvania Ave. NW, Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460.

II. Background

A. What is the statutory authority for this final action?

1. NSPS

The EPA's authority for this final NSPS rule is CAA section 111, which governs the establishment of standards of performance for stationary sources. Section 111(b)(1)(A) of the CAA requires the EPA Administrator to list categories of stationary sources that in the Administrator's judgment cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare. The EPA must then issue performance standards for new (and modified or reconstructed) sources in each source category pursuant to

CAA section 111(b)(1)(B). These standards are referred to as new source performance standards, or NSPS. The EPA has the authority to define the scope of the source categories, determine the pollutants for which standards should be developed, set the emission level of the standards, and distinguish among classes, types, and sizes within categories in establishing the standards.

CAA section 111(b)(1)(B) requires the EPA to "at least every 8 years review and, if appropriate, revise" NSPS. However, the Administrator need not review any such standard if the "Administrator determines that such review is not appropriate in light of readily available information on the efficacy" of the standard. When conducting a review of an existing performance standard, the EPA has the discretion and authority to add emission limits for pollutants or emission sources not currently regulated for that source category.

In setting or revising a performance standard, CAA section 111(a)(1) provides that performance standards are to reflect "the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated." The term "standard of performance" in CAA section 111(a)(1) makes clear that the EPA is to determine both the best system of emission reduction (BSER) for the regulated sources in the source category and the degree of emission limitation achievable through application of the BSER. The EPA must then, under CAA section 111(b)(1)(B), promulgate standards of performance for new sources that reflect that level of stringency. CAA section 111(h)(1) authorizes the Administrator to promulgate "a design, equipment, work practice, or operational standard, or combination thereof" if in his or her judgment, "it is not feasible to prescribe or enforce a standard of performance." CAA section 111(h)(2) provides the circumstances under which prescribing or

enforcing a standard of performance is "not feasible," such as, when the pollutant cannot be emitted through a conveyance designed to emit or capture the pollutant, or when there is no practicable measurement methodology for the particular class of sources.

CAA section 111(b)(5) precludes the EPA from prescribing a particular technological system that must be used to comply with a standard of performance. Rather, sources can select any measure or combination of measures that will achieve the standard.

Pursuant to the definition of new source in CAA section 111(a)(2), standards of performance apply to facilities that begin construction, reconstruction, or modification after the date of publication of the proposed standards in the *Federal Register*. Under CAA section 111(a)(4), "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted. Changes to an existing facility that do not result in an increase in emissions are not considered modifications. Under the provisions in 40 CFR 60.15, reconstruction means the replacement of components of an existing facility such that: (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility; and (2) it is technologically and economically feasible to meet the applicable standards. Pursuant to CAA section 111(b)(1)(B), the standards of performance or revisions thereof shall become effective upon promulgation.

2. NESHAP

The statutory authority for this NESHAP action is provided by sections 112 and 301 of the CAA, as amended (42 U.S.C. 7401 *et seq.*). Section 112(d)(6) requires the EPA to review standards promulgated under CAA section 112(d) and revise them "as necessary (taking into

account developments in practices, processes, and control technologies)" no less often than every 8 years following promulgation of those standards. This is referred to as a "technology review" and is required for all standards established under CAA section 112(d) including generally available control technology (GACT) standards that apply to area sources.[1] This action finalizes the 112(d)(6) technology review for the Lead Acid Battery Manufacturing Area Source NESHAP.

Several additional CAA sections are relevant to this action as they specifically address regulation of hazardous air pollutant emissions from area sources. Collectively, CAA sections 112(c)(3), (d)(5), and (k)(3) are the basis of the Area Source Program under the Urban Air Toxics Strategy, which provides the framework for regulation of area sources under CAA section 112.

Section 112(k)(3)(B) of the CAA requires the EPA to identify at least 30 HAP that pose the greatest potential health threat in urban areas with a primary goal of achieving a 75 percent reduction in cancer incidence attributable to HAP emitted from stationary sources. As discussed in the Integrated Urban Air Toxics Strategy (64 FR 38706, 38715; July 19, 1999), the EPA identified 30 HAP emitted from area sources that pose the greatest potential health threat in urban areas, and these HAP are commonly referred to as the "30 urban HAP."

Section 112(c)(3), in turn, requires the EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. The EPA implemented these requirements through the

[1] For categories of area sources subject to GACT standards, CAA sections 112(d)(5) and (f)(5) provide that the EPA is not required to conduct a residual risk review under CAA section 112(f)(2). However, the EPA is required to conduct periodic technology reviews under CAA section 112(d)(6).

Integrated Urban Air Toxics Strategy by identifying and setting standards for categories of area sources including the lead acid battery manufacturing source category that is addressed in this action.

CAA section 112(d)(5) provides that for area source categories, in lieu of setting maximum achievable control technology (MACT) standards (which are generally required for major source categories), the EPA may elect to promulgate standards or requirements for area sources "which provide for the use of generally available control technology or management practices [GACT] by such sources to reduce emissions of hazardous air pollutants." In developing such standards, the EPA evaluates the control technologies and management practices that reduce HAP emissions that are generally available for each area source category. Consistent with the legislative history, we can consider costs and economic impacts in determining what constitutes GACT.

GACT standards were set for the lead acid battery manufacturing source category on July 16, 2007 (72 FR 38864). As noted above, this action finalizes the required CAA 112(d)(6) technology review for that source category.

B. How does the EPA perform the NSPS and NESHAP reviews?

1. NSPS

As noted in section II.A, CAA section 111 requires the EPA, at least every 8 years to review and, if appropriate revise the standards of performance applicable to new, modified, and reconstructed sources. If the EPA revises the standards of performance, they must reflect the degree of emission limitation achievable through the application of the BSER taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements (see CAA section 111(a)(1)).

In reviewing an NSPS to determine whether it is "appropriate" to revise the standards of performance, the EPA evaluates the statutory factors, which may include consideration of the following information:

- Expected growth for the source category, including how many new facilities, reconstructions, and modifications may trigger NSPS in the future.
- Pollution control measures, including advances in control technologies, process operations, design or efficiency improvements, or other systems of emission reduction, that are "adequately demonstrated" in the regulated industry.
- Available information from the implementation and enforcement of current requirements indicates that emission limitations and percent reductions beyond those required by the current standards are achieved in practice.
- Costs (including capital and annual costs) associated with implementation of the available pollution control measures.
- The amount of emission reductions achievable through application of such pollution control measures.
- Any nonair quality health and environmental impact and energy requirements associated with those control measures.

In evaluating whether the cost of a particular system of emission reduction is reasonable, the EPA considers various costs associated with the air pollution control measure or level of control, including capital costs and operating costs, and the emission reductions that the control measure or level of control can achieve. The Agency considers these costs in the context of the industry's overall capital expenditures and revenues. The Agency also considers cost effectiveness analysis as a useful metric, and a means of evaluating whether a given control

achieves emission reduction at a reasonable cost. A cost effectiveness analysis allows comparisons of relative costs and outcomes (effects) of two or more options. In general, cost effectiveness is a measure of the outcomes produced by resources spent. In the context of air pollution control options, cost effectiveness typically refers to the annualized cost of implementing an air pollution control option divided by the amount of pollutant reductions realized annually.

After the EPA evaluates the statutory factors, the EPA compares the various systems of emission reductions and determines which system is "best," and therefore represents the BSER. The EPA then establishes a standard of performance that reflects the degree of emission limitation achievable through the implementation of the BSER. In doing this analysis, the EPA can determine whether subcategorization is appropriate based on classes, types, and sizes of sources, and may identify a different BSER and establish different performance standards for each subcategory. The result of the analysis and BSER determination leads to standards of performance that apply to facilities that begin construction, reconstruction, or modification after the date of publication of the proposed standards in the *Federal Register.* Because the new source performance standards reflect the best system of emission reduction under conditions of proper operation and maintenance, in doing its review, the EPA also evaluates and determines the proper testing, monitoring, recordkeeping and reporting requirements needed to ensure compliance with the emission standards.

2. NESHAP

For the NESHAP area source GACT standards, we perform a technology review that primarily focuses on the identification and evaluation of developments in practices, processes, and control technologies that have occurred since the 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 GACT standards;
- Any improvements in add-on control technology or other equipment (that were identified and considered during development of the original GACT 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 GACT 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 GACT 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 GACT standards).

In addition to reviewing the practices, processes, and control technologies that were considered at the time we originally developed the NESHAP, we review a variety of data sources in our investigation of potential practices, processes, or controls to consider.

C. What is the source category regulated in this final action?

The lead acid battery manufacturing source category consists of facilities engaged in producing lead acid batteries. The EPA first promulgated new source performance standards for lead acid battery manufacturing on April 16, 1982. These standards of performance are codified in 40 CFR part 60, subpart KK and are applicable to sources that commence construction, modification, or reconstruction after January 14, 1980 (47 FR 16564). The EPA also set GACT standards for the lead acid battery manufacturing source category on July 16, 2007. These standards are codified in 40 CFR part 63, subpart PPPPPP and are applicable to existing and new affected facilities.

Under 40 CFR 60, subpart KK and 40 CFR 63, subpart PPPPPP, a lead acid battery manufacturing plant is defined as any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte. The batteries manufactured at these facilities include starting, lighting, and ignition batteries primarily used in automobiles as well as industrial and traction batteries. Industrial batteries include those used for uninterruptible power supplies and other backup power applications, and traction batteries are used to power electric vehicles such as forklifts.

The lead acid battery manufacturing process begins with grid casting operations, which entails stamping or casting lead into grids. Next, in paste mixing operations, lead oxide powder is mixed with water and sulfuric acid to form a stiff paste, which is then pressed onto the lead grids, creating plates. Lead oxide may be produced by the battery manufacturer, as is the case for many larger battery manufacturing plants or may be purchased from a supplier. The plates are cured, stacked, and connected into groups that form the individual elements of a lead acid battery. This stacking, connecting, and assembly of the plates into battery cases is generally performed in one operation termed the “three-process operation.” At some facilities, lead reclamation may be

performed, in which relatively clean lead scrap from these processes is collected and remelted into blocks, called ingots, for reuse in the process.

The NSPS applies to all lead acid battery manufacturing plants constructed, reconstructed, or modified since January 14, 1980, if they produce or have the design capacity to produce batteries containing 5.9 megagrams (6.5 tons) or more of lead in one day. The NSPS contains emission limits for lead and opacity limits for grid casting, paste mixing, three-process operations, lead oxide manufacturing, other lead emitting sources, and lead reclamation at lead acid battery manufacturing plants. The NESHAP applies to all lead acid battery manufacturing facilities that are area sources regardless of production capacity. The GACT standards include the same emissions and opacity limits as those in the NSPS as well as some additional monitoring requirements.

The EPA estimates that, of the 40 existing lead acid battery manufacturing facilities in the U.S., all are subject to the NSPS, and 39 facilities are subject to the NESHAP. One facility is a major source as defined under CAA section 112 and is therefore not subject to the area source GACT standards. In addition to these 40 facilities, we estimate that there are four facilities that perform one or more processes (*e.g.,* grid casting or lead oxide production) involved in the production of lead acid batteries but that do not manufacture the final product (*i.e.,* lead acid batteries). These four facilities have not previously been subject to either the NSPS or the area source NESHAP. The EPA does not expect any new lead acid battery manufacturing facilities nor any facilities that conduct a lead acid battery manufacturing process without producing the final lead acid battery product to be constructed in the foreseeable future. However, we do expect that some existing facilities of both types could undergo modifications or reconstruction.

D. What changes did we propose for the lead acid battery manufacturing source category in our February 23, 2022, proposal?

On February 23, 2022, the EPA published proposed rules in the *Federal Register* (87 FR 10134) for the NSPS for Lead Acid Battery Manufacturing Plants (40 CFR part 60, subpart KKa) and the NESHAP for Lead Acid Battery Manufacturing Area Sources (40 CFR part 63, subpart PPPPPP) that were based on the BSER review for the NSPS and the technology review for the NESHAP. The EPA proposed revised lead emission limits for grid casting, paste mixing, and lead reclamation operations for both the area source NESHAP (for new and existing sources) and under a new NSPS subpart (for lead acid battery manufacturing facilities that begin construction, reconstruction, or modification after February 23, 2022). In addition, the Agency proposed the following amendments for both the area source NESHAP (for new and existing sources) and under the new NSPS subpart: performance testing once every 5 years to demonstrate compliance; work practices to minimize emissions of fugitive lead dust; increased inspection frequency of fabric filters; bag leak detection systems for facilities above a certain size (*i.e.,* facilities with capacity to process greater than 150 tons per day (tpd) of lead); clarification of activities that are considered to be lead reclamation activities; electronic reporting of performance test results and semiannual compliance reports; and the removal of exemptions for periods of SSM. The EPA also proposed a revision to the applicability provisions in the area source NESHAP such that facilities which make lead-bearing battery parts or process input material, including but not limited to grid casting facilities and lead oxide manufacturing facilities, will be subject to the area source NESHAP. For additional information regarding the proposed rule, please see the February 23, 2022, proposal (87 FR 10134).

E. What outreach and engagement did the EPA conduct with environmental justice communities?

As part of this rulemaking and pursuant to multiple Executive Orders addressing environmental justice (EJ), the EPA engaged and consulted with the public, including populations of people of color and low-income populations, by sending out listserv notifications to EJ representatives regarding the publication of the proposed rule and providing the opportunity for members of the public to speak at a public hearing regarding the proposed rule amendments. While no one requested to speak at a public hearing, these opportunities gave the EPA a chance to hear directly from the public, especially communities potentially impacted by this final action. To identify pertinent stakeholders for engaging discussions of the rule, we used information available to the Agency, such as lists of EJ community representatives and activists, and information from the EJ analysis conducted for this rule and summarized in section IV.F. of this preamble.

Although most of the comments received following the proposal were technical in nature, some commenters remarked on issues regarding the rule's effectiveness in protecting health and welfare in EJ communities, such as the need to close rule loopholes and the need for the EPA to conduct health risk assessments. Responses to several of the technical related comments are summarized, and responded to, in this preamble. All other comments and the EPA's responses are provided in the Comment Summary and Response Document, available in the docket for this action, and section III of the preamble provides a description of how the Agency considered these comments in the context of regulatory development.

III. What actions are we finalizing and what is our rationale for such decisions?

The EPA proposed the current review of the lead acid battery manufacturing NSPS (40 CFR part 60, subpart KK) and NESHAP (40 CFR part 63, subpart PPPPPP) on February 23, 2022. We proposed to create a new NSPS subpart at 40 CFR part 60, subpart KKa to include the proposed revisions to the NSPS for affected sources that are new, modified, or reconstructed following the date of the proposal, and we proposed revisions to the NESHAP within 40 CFR part 63, subpart PPPPPP. We received eight comments from industry, environmental groups, and private individuals during the comment period. A summary of the more significant comments we timely received regarding the proposed rule and our responses are provided in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in the Comment Summary and Response Document in the docket for this action, (Docket ID No. EPA-HQ-OAR-2021-0619). In this action, the EPA is finalizing decisions and revisions pursuant to CAA section 111(b)(1)(B) and CAA section 112(d)(6) review for lead acid battery manufacturing after our considerations of all the comments received.

A. *NSPS*

As mentioned above, the EPA is finalizing revisions to the NSPS for lead acid battery manufacturing pursuant to the CAA section 111(b)(1)(B) review. The EPA is promulgating the NSPS revisions in a new subpart, 40 CFR part 60, subpart KKa. The new NSPS subpart is applicable to affected sources constructed, modified, or reconstructed after February 23, 2022.

This action finalizes standards of performance in 40 CFR part 60, subpart KKa for paste mixing operations, grid casting, and lead reclamation, as well as work practice standards to reduce fugitive dust emissions in the lead oxide unloading and storage area. The standards of performance and work practice standards finalized in 40 CFR part 60, subpart KKa will apply at all times, including during periods of SSM. The EPA is also finalizing in the new 40 CFR part

60, subpart KKa the requirements for electronic reporting, monitoring, and other compliance assurance measures such as performance testing every 5 years, quarterly fabric filter inspections, and recording pressure drop or visible emissions readings twice a day for fabric filter systems without a secondary filter or bag leak detection system requirements.

The EPA notes that we are not amending 40 CFR part 60, subpart KK to add electronic reporting requirements in this action. While it is generally the EPA's practice to implement electronic reporting requirements in each prior NSPS as we conduct reviews and promulgate each new NSPS, 40 CFR part 60, subpart KK does not impose any regular, ongoing reporting requirements. However, facilities are expected to comply with the applicable electronic reporting requirements that the EPA is finalizing under the new NSPS, 40 CFR part 60, subpart KKa, and the NESHAP.

1. Revised NSPS for Grid Casting Facilities

The standards in 40 CFR part 60, subpart KK for grid casting, which were established in 1982, are 0.4 milligrams per dry standard cubic meters (mg/dscm) and 0 percent opacity which were based on what was then determined to be the BSER of impingement scrubbers with an estimated 90 percent lead emissions control efficiency. Through the BSER review conducted for the source category, which is documented in the memorandum, *Technology Review and NSPS Review for Lead Acid Battery Manufacturing* (hereafter referred to as the "Technology Review Memorandum") available in the docket for this action, we found that since the promulgation of the NSPS in 1982, it has become feasible and common for lead acid battery manufacturing plants to control lead emissions from grid casting processes with fabric filters. Through this review, we discovered that at least 30 of the 40 facilities currently subject to 40 CFR part 60, subpart KK are now using fabric filters and these are also sometimes combined with other controls, such as high

efficiency particulate air (HEPA) filters or a scrubber to control emissions from grid casting. Furthermore, we did not identify any facilities using only a wet scrubber. Therefore, we concluded at proposal that fabric filters are clearly feasible and well demonstrated as an appropriate control technology for grid casting operations. With regard to control efficiency of a fabric filter, for the February 2022 proposed rule, we assumed control efficiency would be 99 percent, which was based on estimates presented in the background document for the proposed rule in 1980 (45 FR 2790) and in the 1989 EPA technical document titled *Review of New Source Performance Standards for Lead-Acid Battery Manufacture, Preliminary Draft*, October 1989, which is available in the docket for this rulemaking.

At proposal, to assess whether fabric filters are the BSER for controlling lead emissions from grid casting, we examined the costs and emission reductions from installing and operating fabric filters with assumed 99 percent control efficiency at new large facilities (*i.e.*, facilities with capacity to process 150 tons or more of lead per day) and new small facilities (*i.e.*, facilities with capacity to process less than 150 tons of lead per day).[2] We estimated that the cost effectiveness of achieving a 99 percent reduction of lead through the use of fabric filters, as compared to the costs of maintaining the 40 CFR part 60, subpart KK requirement of a 90 percent reduction of lead through the use of wet scrubbers, would be $333,000 per ton of lead reduced for a new large facility and $524,000 per ton of lead reduced for a new small facility. We found that both of these values are within the range of what the EPA has considered in other rulemakings to be cost-effective for control of lead emissions. Based on this information, we proposed that fabric filters (with an assumed 99 percent control efficiency) represent the new

[2] At proposal, we split the analysis into two size categories that would better represent the source category because of the range in facility size.

BSER for grid casting, and we proposed to revise the lead emissions limit for grid casting from 0.4 milligrams of lead per dry standard cubic meter of process exhaust (mg/dscm) to 0.04 mg of lead per dscm of process exhaust to reflect the degree of emission limitation achievable through the application of the proposed BSER (*i.e.*, a fabric filter, with assumed improved efficiency of 99 percent versus 90 percent). We also proposed to retain the opacity standard of 0 percent for grid casting.

The EPA received one comment regarding this proposed BSER determination and proposed standard of performance. There were no comments regarding our proposal to retain the opacity standard of 0 percent. The commenter (Battery Council International [BCI]) claimed that the EPA's calculations of the benefits of moving from scrubbers to fabric filters for grid casting and for adding secondary HEPA filters to paste mixing operations (discussed later in this preamble) are flawed because the EPA incorrectly models these filters as control devices with constant, rather than variable, efficiency. The commenter relates that when the amount of lead emissions entering these devices is low, the removal efficiency is far lower than their nominal removal efficiency and that only at the extreme high end of inlet loading concentrations is the nominal removal efficiency obtained. Due to this factor, the commenter states that the EPA's assumed removal efficiency from these devices is unrealistically high. The commenter also states that the removal efficiency can fall below 90 percent compared to the nominal removal efficiency of 99 percent for fabric filters.

The commenter also claimed that the EPA's costs for a new baghouse (also referred to as fabric filter system or fabric filters in other parts of this preamble) were underestimated and provided both a cost analysis for a new baghouse in which they assumed the same 99 percent removal efficiency as the EPA did in its analysis of cost effectiveness but used increased

equipment costs, and another analysis in which the commenter assumed a removal efficiency of 95 percent along with the increased equipment costs. The claimed results of BCI's analyses showed higher costs per ton of lead emissions removed compared with the results of the EPA analyses.

Considering the available data at the time of proposal, we proposed a limit of 0.04 mg/dscm, which represented the emissions reduction thought possible with the proposed BSER technology (*i.e.*, a fabric filter, assumed to achieve an estimated 99 percent emissions removal efficiency instead of the estimated 90 percent efficiency of the wet scrubber). Based on the commenter's suggestion that emissions removal efficiencies are lower than what the EPA estimated at proposal, we obtained additional stack test data for several facilities to determine what emissions levels are currently achieved by fabric filters. From this data gathering effort, we examined stack test data for eight facilities using fabric filters to control emissions from grid casting, with data for four facilities having stacks that service only grid casting and the other four stacks that service multiple processes. The stack test results show that the four facilities with primary fabric filter systems controlling just grid casting emissions have emissions ranging from 0.011 mg/dscm to 0.1 mg/dscm. More information on the data used in our analysis is detailed in the memorandum, *Revised Emission Limits for the Lead Acid Battery Manufacturing Final Rule-Grid Casting and Paste Mixing Operations,* available in the docket for this action. Using these data, we calculated the 99 percent upper prediction limit (UPL) of 0.08 mg/dscm.

The UPL value is the result of the statistical methodology the EPA uses to account for the variability and uncertainty in emissions that occurs over time and over expected varying operating conditions. The EPA has used the UPL to address the variability of emission data in in other rulemakings (*e.g.*, setting MACT standards). The UPL is a value, calculated from a dataset,

that identifies the average emissions level that a source or group of sources is meeting and would be expected to meet a specified percent of the time that the source is operating. That percent of time is based on the confidence level used in the UPL equation. The 99 percent UPL is the emissions level that the sources would be predicted to emit below during 99 out of 100 performance tests, including emissions tests conducted in the past, present and future, based on the short-term stack test data available for that source. For more information about this analysis, see the *Upper Prediction Limit for Grid Casting and Paste Mixing Operations at Lead Acid Battery Facilities (*hereafter referred to as "UPL Memorandum") available in the rulemaking docket for this action.

The intent of the EPA at proposal was to set the emissions standard at the level that would reflect the application of the BSER (*i.e.*, a fabric filter). At proposal, we assumed an improved efficiency of the standard of performance reflected the application of fabric filters with 99 percent efficiency to control emissions. We used the control efficiency of 99 percent based on the analysis conducted in the background document for the proposed rule in 1980 (45 FR 2790) to derive the proposed limit of 0.04 mg/dscm. However, based on the comments received and the results of the UPL analysis, we are now analyzing the use of a fabric filter that would achieve an emissions level of 0.08 mg/dscm for our final BSER determination.

We updated our cost analysis for a new source to install a fabric filter system versus a wet scrubber based on comments received from BCI. We agree with the cost estimates provided by the commenter and have used those in an updated cost effectiveness analysis. We estimate that the updated incremental annualized costs of using a fabric filter system are $52,000 for a small plant and $88,000 for a large plant.

We do not agree that a fabric filter system would achieve only 95 percent efficiency for grid casting emissions. Based on the available stack test data, the calculated UPL which accounts for variability, and the calculations described above, the emission limit of 0.08 mg/dscm reflects the use of fabric filters controlling grid casting emissions. To estimate the incremental emissions reductions that would be achieved, we estimated the current limit of 0.4 mg/dscm reflects a 90 percent reduction compared to baseline (uncontrolled) based on the background document for the 1980 proposed rule (45 FR 2790) and in the 1989 EPA technical document cited above, and therefore we estimate that the revised limit (of 0.08 mg/dscm) based on the UPL would represent a 98 percent reduction. As we described in the proposed rule preamble, we estimate lead emissions for a small and large uncontrolled grid casting facility are 0.5 tons per year (tpy) and 1.3 tpy, respectively. We estimate lead emissions for a small and large baseline grid casting facility which is complying with 40 CFR part 60, subpart KK emission limit of 0.4 mg/dscm which is based on a wet scrubber (with assumed 90 percent efficiency) would be 0.05 tpy and 0.13 tpy, respectively. We estimate lead emissions for a small and large model facility that will comply with an emission limit of 0.08 mg/dscm based on the application of a fabric filter (using the derived 98 percent efficiency described above) are 0.01 tpy and 0.026 tpy, respectively. The incremental lead reduction (from 90 percent to 98 percent) is 0.04 tpy for small facilities and 0.104 tpy for large facilities. We estimate that for a hypothetical new small plant, cost effectiveness is approximately $1.23M/ton of lead reduced and for a hypothetical new large plant, cost effectiveness is $846,000/ton of lead reduced. These cost effectiveness values are within the range of what we have historically accepted in the past for lead. Details regarding our cost estimates are in the *Estimated Cost Impacts of Best System of Emission Reduction Review of 40 CFR Part 60, Subpart KK and 40 CFR Part 63, Subpart PPPPPP Technology Review-Final*

Rule, hereafter referred to as *"*Cost Impacts Memorandum" available in the docket for this action. We conclude that the application of fabric filters to control grid casting emissions is cost-effective and has been adequately demonstrated at existing sources. We have also learned, there may be additional advantages for facilities to use fabric filters instead of wet scrubbers to control grid casting emissions. Some advantages of using fabric filters include: the potential for higher collection efficiency; less sensitivity to gas stream fluctuations; availability in large number of configurations, and that collected material is recovered dry and can be sent to a secondary lead facility for recycling, lowering the hazardous waste disposal costs for facilities. Therefore, based on our analysis and the information above, we have determined that the BSER for grid casting operations is fabric filter systems with an estimated 98 percent control efficiency.

Based on the UPL analysis presented we find that the emission level that appropriately reflects the BSER is 0.08 mg/dscm. In addition, we find that the proposed emissions limit of 0.04 mg/dscm (that reflected an estimated control efficiency of 99 percent efficiency) would go beyond the level of emission limitation generally achievable through the application of BSER. Based on our analyses, we conclude that additional controls beyond BSER would be needed to meet the proposed limit of 0.04 mg/dscm. Additional controls, such as a secondary HEPA filter, to meet the proposed limit of 0.04 mg/dscm were determined to not be cost-effective at proposal. Based on the revised UPL analysis that considers the data available to the EPA regarding grid casting emissions and accounts for variability within the data, we have determined that the final standard of performance which reflects the BSER (use of a fabric filter system) is a lead emission limit of 0.08 mg/dscm. We are also retaining the 0 percent opacity standard from 40 CFR part 60, subpart KK for grid casting as proposed.

2. Revised NSPS for Lead Reclamation Facilities

Similar to the standards for grid casting, the standards in 40 CFR part 60, subpart KK for lead reclamation, which were established in 1982, are 4.5 mg/dscm for lead and 5 percent opacity and were based on impingement scrubbers with an estimated 90 percent lead emissions control efficiency. Through the BSER review conducted for the source category, we found that since the promulgation of the NSPS in 1982, it has become feasible and common for lead acid battery manufacturing plants to control lead emissions from several processes with fabric filters. Through this review, we discovered that no lead acid battery manufacturing facilities currently conduct lead reclamation as the process is defined in 40 CFR part 60, subpart KK. However, there was mention of lead reclamation equipment in the operating permits for two facilities, and that equipment is controlled with fabric filters. In the proposal, we estimated that fabric filters were capable of achieving lead emissions control efficiencies of at least 99 percent. Therefore, we concluded at proposal that fabric filters are feasible and an appropriate control technology for lead reclamation. Like in the analysis for grid casting, to assess whether fabric filters are the BSER for controlling lead emissions from lead reclamation, we examined the costs and emission reductions from installing and operating fabric filters at large and small facilities. In the proposal, we determined that the cost effectiveness of achieving a 99 percent reduction of lead through the use of fabric filters, as compared to the costs of achieving 90 percent reduction of lead through the use of wet scrubbers, would be $130,000 per ton of lead reduced for a large facility and $236,000 per ton of lead reduced for a small facility. We found that both of these values are within the range of what the EPA has considered in other rulemakings to be cost-effective for control of lead emissions. Based on this information, we proposed that fabric filters (with an estimated 99 percent control efficiency) represent the new BSER for lead reclamation, and we proposed to revise the lead emissions limit for lead reclamation to 0.45 mg/dscm to reflect the

degree of emission limitation achievable through the application of the proposed BSER. We also proposed to retain in 40 CFR part 60, subpart KKa the opacity standard of 5 percent.

In addition, under 40 CFR part 60, subpart KK, a lead reclamation facility is defined as a facility that remelts lead scrap and casts it into ingots for use in the battery manufacturing process, and which is not an affected secondary lead smelting furnace under 40 CFR part 60, subpart L. To ensure that emissions are controlled from any lead that is recycled or reused, without being remelted and cast into ingots, the EPA proposed to revise the definition of "lead reclamation facility" in 40 CFR part 60, subpart KKa to clarify that the lead reclamation facility subject to 40 CFR part 60, subpart KKa does not include recycling of any type of finished battery or recycling lead-bearing scrap that is obtained from non-category sources or from any offsite operation. Any facility recycling these materials through a melting process would be subject to another NSPS (*i.e.*, Secondary Lead Smelting NSPS, 40 CFR part 60 subpart L, or the recently proposed new 40 CFR part 60, subpart La, once finalized).

For the Lead Acid Battery Manufacturing NSPS, 40 CFR part 60, subpart KKa, we also proposed that the remelting of lead metal scrap is considered part of the process where the lead is remelted and used (*e.g.*, grid casting). We also proposed to clarify that recycling of any type of finished battery or recycling lead-bearing scrap that is obtained from non-category sources or from any offsite operations are prohibited at any lead acid battery manufacturing affected facility.

We did not receive any comments on the proposed BSER or lead emission limit for lead reclamation and therefore are promulgating in 40 CFR part 60, subpart KKa a final standard of performance of 0.45 mg/dscm, which reflects the final BSER for lead reclamation. We are also finalizing in 40 CFR part 60, subpart KKa, as proposed, the opacity standard of 5 percent and the

requirement that a facility must use EPA Method 9 to demonstrate compliance with the daily and weekly visible emission observations for lead reclamation as well as during the performance tests required every 5 years.

3. Revised NSPS for Paste Mixing Facilities

The standards in 40 CFR part 60, subpart KK for paste mixing, which were established in 1982, are 1 mg/dscm for lead and 0 percent opacity and were based on fabric filters with an estimated 99 percent lead emissions control efficiency. Through the current BSER review conducted for the source category, we found that since the promulgation of the NSPS in 1982, high efficiency particulate air (HEPA) filters capable of removing at least 99.97 percent of particles with a size of 0.3 microns (μm) have become readily available. Through this review, we also discovered that at least 16 of the 40 facilities currently subject to 40 CFR part 60, subpart KK are now using fabric filters with a HEPA filter as a secondary device to control lead emissions from paste mixing processes. Therefore, we concluded at proposal that fabric filters with secondary HEPA filters are clearly feasible and well demonstrated as an appropriate control technology for paste mixing operations. To assess whether fabric filters with secondary HEPA filters are the BSER for controlling lead emissions from paste mixing, we examined the estimated costs and emission reductions that would be achieved by installing and operating HEPA filters as secondary control devices to fabric filters at large facilities and small facilities. We estimated that the cost effectiveness of secondary HEPA filters achieving an additional 99.97 percent reduction of lead, as compared to the costs of a primary fabric filter system able to maintain the current limit of 1 mg/dscm (based on an estimated 99 percent reduction of lead), would be $888,000 per ton of lead reduced for a large facility and $1.68 million per ton of lead reduced for a small facility. At proposal, we determined that the cost effectiveness estimate for

large facilities is within the range of what the EPA has considered in other rulemakings to be cost-effective for control of lead emissions, while the estimate for small facilities is not within this range. Based on this information, we proposed that fabric filters with secondary HEPA filters with 99.97 percent control efficiency represent the new BSER for paste mixing at large facilities, and we proposed to revise the lead emissions limit for paste mixing at large facilities to 0.1 mg/dscm to reflect the degree of emission limitation achievable through the application of the proposed BSER. For small facilities we proposed to retain in 40 CFR part 60, subpart KKa, the standard of performance of 1 mg/dscm based on the application of fabric filters (with estimated 99 percent control efficiency). We also proposed to retain the 0 percent opacity standard from 40 CFR part 60, subpart KK for paste mixing facilities in 40 CFR part 60, subpart KKa.

We received three comments regarding the proposed revised emission limit of 0.1 mg/dscm for large facilities and the proposal to retain the lead standard of 1.0 mg/dscm from 40 CFR part 60, subpart KK for small facilities. We did not receive any comments on the proposal to retain the opacity standard of 0 percent. The three commentors, including environmental groups, Clarios, and BCI, asked that the EPA reconsider allowing smaller pasting lines to emit significantly more lead than large pasting lines and asked that the EPA require all pasting lines to achieve the same stringent level of control.

One commenter (Clarios) stated that the EPA did not evaluate the use of modern fabric filter materials in existing primary filter systems when it performed its analysis of control technologies, and asserted that, since all pasting lines already have primary fabric filter systems in place, there would essentially be no capital costs other than the cost for higher quality bags for both large and small existing facilities to meet the 0.1 mg/dscm (0.0000437 gr/dscf) limit for

paste mixing that was proposed for large facilities. The commenter stated that modern filtration materials used in baghouses today, especially those coupled with engineered membranes, provide warranted removal efficiencies of 99.995% of lead at 1 micron. The commenter provided test results reported by one filter manufacturer to demonstrate this removal rate. The commenter also stated that it has found that modern primary filter substrates, such as expanded polytetrafluoroethylene (ePTFE) lined polyester bags, achieve emission reductions equal to or greater than that of secondary filters, including those designated as high efficiency particulate air (HEPA) filters. The commenter provided the results of 23 stack tests performed over 21 years for its one pasting line in the U.S., which is controlled by a primary dust collector using the ePTFE filters. The stack test results show that lead emissions are consistently below the proposed limit of 0.1 mg/dscm using this emission control configuration. The commenter stated that secondary systems, such as HEPA, are not needed to meet the proposed limit and will come at a much higher cost, but they may provide additional benefit as a control redundancy for facilities where multiple levels of protection are appropriate. The commenter provided example prices from a vendor of different types of filter bags, showing a range in price from $14.60 to $29.64 per bag. The commenter requested that the EPA consider the cost of facilities using primary systems alone, with modern fabric filters, as an effective method of controlling emissions at both small and large facilities.

BCI stated that the proposal to distinguish between small and large facilities is problematic for several reasons. First, the commenter claims, there is insufficient guidance about how to calculate the plant capacity to process lead, which will lead to different interpretations by state enforcement agencies. The commenter adds that there is no rationale presented as to why the capacity of the plant, rather than the paste mixing operation, is the driver for varying

emission limits for the paste mixing facility. According to the commenter, another problem is that plants near the capacity limit would be disincentivized to make capital improvements or consolidate operations if it would put them over the limit. The commenter also states that paste mixing sources have the highest moisture among the facility processes and often must be blended with other sources if they are to be controlled by a fabric filter. They stated that there are facilities that use wet scrubbers to control paste mixing that the EPA has not considered. The commenter says that a revised limit of 0.1 mg/dscm will also complicate testing and require more implementation of the rule provision that allows for the calculation of an equivalent standard for the total exhaust from commonly controlled affected facilities when two or more facilities at the same plant (except the lead oxide manufacturing facility) are ducted to a common control device). The commenter asserts that in view of these considerations, the EPA should abandon the two-tier approach, and if it is intent on altering the emissions standards for paste mixing, the EPA should have a single standard that applies to all facilities that reasonably reflects the actual emissions reductions achieved using secondary HEPA.

In reference to the proposed standard for small facilities, the environmental group commenters asserted that the EPA must eliminate what they refer to as emission control exemptions for small facilities and require all facilities to add secondary HEPA filters on the paste mixing process. Their comment states that the EPA's reliance on outdated information from the 1989 draft NSPS review to exempt facilities from pollution control is arbitrary and capricious. The comment adds that, because the EPA did not engage in new data collection efforts for this rulemaking, it is unclear whether the data used to determine whether a facility is "small" or "large" and the following control technology examples are outdated. The commenters remarked that the EPA's decision to aggregate the "small" and "medium" sized facility

categories included in the 1989 draft NSPS review into a single "small" facility category for this action without providing an explanation of the basis for this decision is arbitrary and capricious. The commenters also assert that, by combining small and medium facilities in one group, the EPA artificially reduced the incremental cost effectiveness of requiring this group of facilities to adopt secondary HEPA filter on the paste mixing process, thus arbitrarily exempting certain medium facilities from this requirement. The commenter adds that due to the harmfulness of lead at low exposure levels, the EPA should not use cost as the sole justification for not requiring additional health protections.

We agree that modern filter media are capable of achieving emissions levels achieved by more traditional filter media with the addition of HEPA filters. Considering these comments, the EPA has re-evaluated the BSER and the emissions limit for paste mixing. As discussed above, at proposal, we determined that many facilities are controlling emissions from paste mixing using HEPA filters, which reduce emissions much beyond the requirements of the current standards. However, at proposal we found that it was not cost-effective for all facilities to add HEPA filters, depending on their existing emissions and emissions controls in place. In an attempt to distinguish which facilities could apply this technology in a cost-effective manner, at proposal we divided the facilities into classes determined by the amount of lead processed daily at the facility. We then proposed that the use of HEPA filters represented the BSER for large facilities, while continuing to determine that the application of primary fabric filter systems represented BSER for small facilities. We did not propose any exemptions for small facilities as the commenter claimed.

Based on the comments received, we have updated our analysis and our cost estimates to reflect the use of expanded polytetrafluoroethylene (ePTFE) bags in a primary fabric filter

system (*i.e.,* baghouse) without the addition of a secondary filter. Details regarding the assumptions made in our cost estimates are in the Cost Impacts Memorandum available in the docket for this action. We estimate that the incremental initial (*e.g.*, capital) costs for typical small facilities (those that process less than 150 tpd of lead) to replace their current standard polyester bags with ePTFE bags would be $18,000 per facility and the incremental annualized costs would be $9,000 per facility. For a large facility, the estimated incremental initial costs are $60,000 per facility and the incremental annualized costs are estimated to be $30,000 per facility. The estimated lead reductions are the same as those we found for the use of a secondary HEPA filter at proposal, at 0.1 tpy for a large source and 0.03 tpy for a small source, and therefore cost effectiveness for both a typical small and large facilities is $300,000 per ton of lead reduced. This cost effectiveness is well within what the EPA had historically accepted in past rules addressing lead. As a commenter noted, a few facilities use wet scrubbers to control paste mixing emissions or they mix gas streams with the paste mixing emissions to control them with fabric filtration. If a new facility would choose to install a wet scrubber to control their paste mixing operation, there are models of wet scrubbers capable of achieving 99.9 percent removal efficiency, and it has been shown to be feasible to add a secondary HEPA filter on a primary wet scrubber. In addition, wet scrubber technology to control paste mixing emissions has been adequately demonstrated to be capable of achieving the 0.1 mg/dscm emission limit, as discussed in section III.B.3.

As discussed above, high efficiency filters such as ePTFE filters have been demonstrated and are a feasible control technology for paste mixing. In addition, the estimated cost effectiveness for both large and small facilities is within the range of values accepted previously by the EPA addressing lead. Furthermore, we have not identified any significant non-air

environmental impacts and energy requirements. Therefore, the EPA has determined that ePTFE filters (or other effective control devices) that are capable of meeting a limit of 0.1 mg/dscm represent the new BSER for most paste mixing facilities. One exception is for very small facilities with very low flow rates, which is described in more detail below.

We used the UPL to assist in informing the appropriate lead emission limit for the paste mixing process based on the updated BSER of high efficiency bags (or other effective control devices) that are capable of meeting a limit of 0.1 mg/dscm (with estimated 99.995% efficiency). We calculated a 99 percent UPL using stack test data for units with only a fabric filter (*i.e.*, no secondary filter) controlling emissions from paste mixing processes. We excluded stack tests for fabric filters controlling emissions from multiple processes. The EPA's methodology of the UPL for establishing the limits is reasonable and represents the average emissions achieved by sources with consideration of the variability in the emissions of those sources. The resulting UPL is 0.095 mg/dscm, which is very close to the proposed limit of 0.1 mg/dscm and therefore provides further support that an emissions limit of 0.1 mg/dscm is appropriate for most facilities. Details on the methodology used in determining the UPL for this process are found in the UPL Memorandum available in the docket for this action. Based on the limited stack test data and taking comments into consideration, we are promulgating in 40 CFR part 60, subpart KKa an emission limit of 0.1 mg/dscm for paste mixing at all facilities (both large and small). In consideration of the comments provided on the proposed rule, as well as the information provided by the commenters and further investigation by the EPA, we have determined that secondary HEPA filters, although could be used to meet the proposed emission limit, are not necessary to meet an emission limit of 0.1 mg/dscm for paste mixing for all facilities (both large and small). As required by CAA section 111, the EPA prescribes requisite emission limitations

that apply to the affected facilities rather than specific technologies that must be used. Facilities will have the option to meet the limit in any manner they choose, including the use of modern primary filter media in a primary filter system or application of a secondary filter. Given that our analyses indicate that the proposed emission level can be achieved at lower costs than we estimated at proposal for all paste mixing facilities, we are promulgating a requirement that paste mixing operations, regardless of daily lead throughput, comply with a limit of 0.1 mg/dscm.

However, in our analysis of existing facilities (as discussed in section III.B.3 below), we found that it may be particularly costly for very small facilities with very low flow rates and already low lead emissions to comply with the revised concentration-based emission limit of 0.1 mg/dscm. For example, we know of one very small facility that, based on its most recent stack tests, emits an estimated 4 lbs/year (0.002 tpy) of lead from its paste mixing operations using standard fabric filters. However, based on the available data, that facility had one test result (0.11 mg/dscm) indicating it may not be able to comply with a 0.1 mg/dscm limit without improving the control device (a fabric filter). In our assessment, we assume this facility would have to replace its current filters with high efficiency filters in order to meet the 0.1 mg/dscm limit. We estimate annualized costs would be approximately $9,000 and would achieve 0.0019 tpy (3.7 lbs) of lead reductions, for a cost effectiveness of $4.7M/ton. This is considerably higher than cost effectiveness values we have historically accepted for lead. Similarly, as discussed at proposal, the use of secondary filters is also not cost-effective for these very small facilities. Accordingly, the EPA has determined that the BSER for these facilities continues to be the use of a standard fabric filter.

Based on available information, these very small facilities with already low lead emissions typically have very low flow rates, and therefore meeting a concentration-based limit

of 0.1 mg/dscm is not cost-effective even though their emissions rate of lead (*e.g.,* in lbs/hr) is quite low. Therefore, the EPA is also promulgating an alternative, mass-per-time based lead emissions limit of 0.002 lbs/hr, which is the rate that the EPA has determined is achievable from the use of a standard fabric filter at these types of very small facilities, for total paste mixing operations. By total paste mixing operations, we mean that in order to meet this alternative limit a facility must show compliance by summing emissions from each stack that emits lead from paste mixing operations. More information on the data used in our analysis is detailed in the memorandum, *Revised Emission Limits for the Lead Acid Battery Manufacturing Final Rule-Grid Casting and Paste Mixing Operations,* available in the docket for this action. This alternative lead emission limit only applies to devices controlling paste mixing emissions and may not apply to a control device with multiple gas streams from other processes. Therefore, lead acid battery manufacturing facilities can demonstrate compliance with the paste mixing standards by either meeting a concentration-based limit of 0.1 mg/dscm from all paste mixing emissions sources at that facility, or demonstrate that the total lead emissions from all paste mixing operations at that facility are less than 0.002 lbs/hr. This alternative mass-rate-based emission limit of 0.002 lb/hour will provide additional compliance flexibility for very small facilities with low emissions and low flow rates to comply with the paste mixing emissions standards.

We anticipate that the vast majority of facilities will choose to comply with the 0.1 mg/dscm emission limit because the alternative limit is a paste mixing facility-wide emission limit and would likely be difficult to meet for stacks with higher flow rates. We further anticipate that only very small facilities with very low-flow rates (and already low emissions) will choose to comply by demonstrating compliance with the alternative emission limit because larger

facilities with higher flow rates would likely need additional controls to comply with this alternative limit. We determined that the alternative limit of 0.002 lbs/hr is cost-effective for these very small facilities with low flow rates. Therefore, for very small facilities with very low flow rates and already low emissions we have determined that the BSER is a standard fabric filter, and 0.002 lbs/hour is the emission level achievable for these types of facilities reflecting the BSER. We are also finalizing, as proposed, the opacity limit of 0 percent for paste mixing operations.

4. Revised NSPS for Fugitive Dust Emissions

The standards in 40 CFR part 60, subpart KK do not include requirements to reduce or minimize fugitive lead dust emissions. These fugitive dust emissions would include particulate lead that becomes airborne and is deposited to outdoor surfaces at or near the facilities and that may become airborne again via wind or surface disturbance activities, such as vehicle traffic. Through the BSER review conducted for the source category, we found that since the promulgation of the NSPS in 1982, other rules, including the NESHAPs for primary lead smelting and secondary lead smelting, have required new and existing sources to minimize fugitive dust emissions at regulated facilities through the paving of roadways, cleaning roadways, storing lead oxide and other lead bearing materials in enclosed spaces or containers, and other measures. Through this review, we also discovered that several facilities currently subject to 40 CFR part 60, subpart KK have requirements to reduce fugitive dust emissions through similar, specific work practices in their operating permits. Because these fugitive lead dust emissions from the lead acid battery manufacturing source category emissions are not "emitted through a conveyance designed to emit or capture the pollutant," pursuant to CAA section 111(h), we considered whether a work practice requirement to develop and implement a

fugitive dust minimization plan, including certain elements, would be appropriate for the lead acid battery manufacturing source category. Such elements could include the following:

i. Clean or treat surfaces used for vehicular material transfer activity at least monthly;

ii. Store dust-forming material in enclosures; and

iii. Inspect process areas daily for accumulating lead-containing dusts and wash and/or vacuum the surfaces accumulating such dust with a HEPA vacuum device/system.

We estimated at proposal that the cost burden associated with a requirement to develop and implement a fugitive dust plan, including the elements described above, would be $13,000 per facility per year and would prevent significant releases of fugitive dust emissions. Based on our review of permit requirements, the requirements of other regulations for lead emissions, and the estimated costs of a fugitive dust minimization program, we proposed to include a new requirement for lead acid battery manufacturing facilities to develop and implement a fugitive dust minimization plan that included, at a minimum, the elements listed above.

We received three comments regarding the proposed fugitive dust minimization work practice standard. Environmental groups generally supported the proposal, but they commented that the EPA must require the use of fenceline monitoring and corrective action tied to that monitoring as well as full enclosure negative pressure requirements. We disagree that the use of fenceline monitoring and corrective action tied to that monitoring is an appropriate work practice standard for this source category. The EPA's response to these comments is in the Comment Summary and Response Document, available in the docket for this rulemaking.

One commenter (Clarios) stated that the EPA included several undefined terms and concepts for its proposed fugitive dust minimization plan that introduce uncertainty and the potential for misinterpretation. The commenter recommends that the EPA adopt definitions and

parameters similar in approach to those included in the fugitive dust plan requirements for the Secondary Lead Smelting NESHAP. The commenter notes that such definitions and parameters should be designed to address the configuration of battery manufacturing facilities, which may have multiple process lines with different controls and control systems. The commenter mentions that there are areas of the plants that are lead-free production zones, where lead is not used or handled, and these areas should not be included in the scope of a fugitive dust minimization plan. The commenter adds that including lead-free areas in a fugitive dust minimization plan would add to the costs of implementing the plan, such that costs are likely to exceed $200,000 per plant in the first year alone. The commenter remarks that in plants where negative air pressure is used as an emissions control, the air systems are designed and balanced to protect lead-free areas and isolate areas where negative pressure is used. The commenter also cautions that adding negative pressure or fugitive dust control in lead-free areas may thwart the design and operation of existing process emission control equipment by changing air balances and flows. The commenter suggests that lead-free process areas (*i.e.*, areas where fugitive lead dust is controlled to concentrations less than the controlled emission limits in Table 1 of the proposed revisions to 40 CFR part 63, subpart PPPPPP) should be excluded from the requirements of the fugitive emission work practices requirements in the NSPS and NESHAP.

BCI also commented on the EPA's proposed cost estimates stating that they cannot be fully estimated because the EPA is proposing minimum requirements that must be reviewed and approved by "the Administrator or delegated authority." They provided estimates for the basic requirements and claim that costs for developing the fugitive dust plan would be between $25,000 and $35,000 per facility and estimate $250,000 per facility to implement the plan. They also claim the EPA's proposal is arbitrary and capricious because the proposal did not estimate

expected emissions reductions that will result from the fugitive emissions work practices it is proposing.

We do not agree with the commenter (BCI) that our proposal to require fugitive dust minimization work practices is arbitrary and capricious. For this rule, we learned through discussions with states, regions, and industry that there is a potential for fugitive dust emissions from this source category. In addition, during the technology review it was found that nine states have fugitive dust minimization requirements in the permits for 15 different lead acid battery facilities. Furthermore, based on the modeling screening analysis completed and described in the proposal, in comparing modeled concentrations at monitor locations to ambient lead measurements at monitors, emissions from a subset of facilities were underestimated. The memorandum, *Assessment of Potential Health Impacts of Lead Emissions in Support of the 2022 Lead Acid Battery Manufacturing Technology Review of Area Sources Proposed Rule,* available in the docket for this action, discusses that un-reported fugitive emissions and re-entrainment of historical lead dust are two factors, among others, at lead acid battery facilities that may cause the model to underpredict when compared to the ambient lead measurement. Generally, it is difficult to quantify emissions from fugitive dust emission sources because they are not released at a common point, such as a stack and therefore they cannot easily be measured. However, for the reasons discussed above, we have determined work practice standards to minimize fugitive dust emissions at lead acid battery manufacturing facilities are appropriate to address an important source of lead pollution.

In consideration of the other comments, we have reviewed the regulatory language and agree with the commenters (BCI and Clarios) that further explanation should be provided to clarify the areas that are required to be included in the fugitive dust minimization plan. As it was

our intent at proposal to include only the areas of the facilities that were most likely to have fugitive dust that would contribute to lead emissions from the facility, we reviewed information on the facilities, their processes, and facility configurations to determine the likely areas where such fugitive dust emissions would occur. Processes such as grid casting, paste mixing operations, and three-process operations (as described above in section II.C) are enclosed. In order to maintain Occupational Safety and Health Administration (OSHA) requirements for ambient lead concentrations inside a facility and worker safety, fugitive emissions are already controlled at lead acid battery manufacturing facilities in these process areas. In addition, we are finalizing in 40 CFR part 60, subpart KKa an opacity limit of 0 percent which minimizes fugitive emissions from the primary processes (grid casting, paste mixing, three-process operations and other-lead emitting sources) as proposed. Available information, including information provided by Clarios, indicates that the area at a lead acid battery manufacturing facility with the highest potential for fugitive lead dust emissions is the lead oxide unloading and storage operations area. When lead oxide is purchased from a third party, it is transported by truck and conveyed by pipe directly into storage silos. As stated in the memorandum, *Estimating and Controlling Fugitive Lead Emissions from Industrial Sources* (EPA-452/R-96-006), on rare occasions, these pipe connections may fail which results in a release of lead oxide. From this review and from discussion of the matter with the commenter, we determined that lead oxide loading and unloading areas (including lead oxide storage operations) are the areas at a facility where such fugitive dust emissions would most likely occur. Therefore, we have revised the regulatory language to specify that facilities must develop and operate according to a fugitive dust minimization plan that applies to lead oxide unloading areas and the storage of dust-forming materials containing lead.

We agree with the commenters regarding the costs to develop and implement a fugitive dust minimization plan for all process areas. Thus, taking the comments into consideration and appropriately narrowing the areas where fugitive dust minimization work practices are required, we re-evaluated the costs of developing and implementing a fugitive dust minimization plan in the lead oxide unloading and storage areas only. We estimate the initial costs to develop a fugitive dust minimization plan are $7,900 per facility. We estimate that the costs to implement the fugitive dust plan in the lead oxide unloading area includes the purchase of a ride-on HEPA vacuum and a portable HEPA vacuum, as well as the labor costs for performing the required cleaning tasks. We estimate the total costs for new sources to develop and implement a fugitive dust plan for the lead oxide unloading and storage area will be $22,000 during the year the facility develops the plan. Then, once the plan has been developed, the estimated annualized cost to implement the plan is approximately $14,000 per facility per year. The total costs are slightly higher than at proposal because, based on discussions with the commenter, we added additional costs for managerial oversight of the fugitive dust minimization plan and its implementation. But the costs of fugitive dust minimization work practices are less than 1 percent of each facility's annual revenues and are considered to be reasonable.

The final BSER for minimizing fugitive dust emissions is lead dust minimizing work practices in the lead oxide unloading and storage area. The work practices include cleaning or treating surfaces traversed during vehicular lead oxide transfer activity at least monthly; storing dust-forming material in enclosures; and examining process areas daily for accumulating lead-containing dusts and wash and/or vacuum the surfaces accumulating such dust with a HEPA vacuum device/system. The work practices also include a requirement that if an accidental leak, spill or breakage occurs during the unloading process, the area needs to be washed and/or

vacuumed immediately to collect all the spilled or leaked material. As stated above, pursuant to CAA section 111(h), these fugitive lead dust emissions from the lead acid battery manufacturing source category emissions are not "emitted through a conveyance designed to emit or capture the pollutant." Therefore, since it is not possible to set a numerical emission limit, we are finalizing a work practice standard to develop and implement a fugitive dust minimization plan.

5. NSPS 40 CFR Part 60, Subpart KKa without Startup, Shutdown, and Malfunctions Exemptions

Consistent with *Sierra Club v. EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the EPA has established standards in this rule that apply at all times. We are finalizing in 40 CFR part 60, subpart KKa specific requirements at 40 CFR 60.372a(a) that override the 40 CFR part 60 general provisions for SSM requirements. In finalizing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, has not finalized alternate standards for those periods. The main control devices used in this industry are fabric filters. We have determined that these control devices are effective in controlling emissions during startup and shutdown events. Prior to proposal, we discussed this issue with industry representatives and asked them if they expect any problems with meeting the standards at all times, including periods of startup and shutdown. The lead acid battery manufacturing industry did not identify (and there are no data or public comments indicating) any specific problems with meeting the standards at all times including periods of startup or shutdown.

In addition, this final action requires compliance with the standards at all times including periods of malfunction. Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead, they are, by definition, sudden, infrequent, and not reasonably preventable

failures of emissions control, process, or monitoring equipment. (40 CFR 60.2). The EPA interprets CAA section 111 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 111 standards. Nothing in CAA section 111 or in case law requires that the EPA consider malfunctions when determining what standards of performance reflect the degree of emission limitation achievable through "the application of the best system of emission reduction" that the EPA determines is adequately demonstrated. While the EPA accounts for variability in setting emissions standards, nothing in CAA section 111 requires the Agency to consider malfunctions as part of that analysis. The EPA is not required to treat a malfunction 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 CAA section 111 standards of performance. The EPA's approach to malfunctions in the analogous circumstances (setting "achievable" standards under CAA section 112) has been upheld as reasonable by the court in *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 606-610 (2016).

6. Testing and Monitoring Requirements

a. *Performance tests*

40 CFR part 60, subpart KK only includes a requirement to conduct an initial performance test to demonstrate compliance with the emissions standards for each type of equipment at lead acid battery manufacturing plants. Through the BSER review conducted for the source category, we found that since the promulgation of the NSPS in 1982, the EPA has proposed and promulgated periodic performance testing in other recent rulemakings. Through this review, we also discovered that almost half of the 40-lead acid battery manufacturing facilities currently subject to 40 CFR part 60, subpart KK are required by state and local agencies

to conduct periodic performance tests on a schedule that varies from annually to once every 5 years. Therefore, we determined at proposal that periodic performance testing is a development in operational procedures that will help ensure continued compliance with the requirements in 40 CFR part 60, subpart KKa. At proposal, we determined that the incremental costs of requiring performance tests of lead emissions on this 5-year schedule would be approximately $23,000 to test one stack and an additional $5,500 for each additional stack testing during the same testing event. We also determined that to minimize these costs, it would be possible, as allowed for in some other EPA NESHAP regulations with periodic testing requirements, that in some instances where a facility has more than one stack that exhausts emissions from similar equipment and with similar control devices, one representative stack could be tested to demonstrate compliance with the similar stacks. For this, a stack testing plan demonstrating stack representativeness and a testing schedule would be required for approval by the EPA or the delegated authority. Based on the costs and the importance of periodic testing to ensure continuous compliance, we proposed to require periodic testing for each emissions source once every 5 years, with the ability for facilities to test representative stacks if a stack testing plan and schedule is approved by the EPA or delegated authority.

We received three comments on this proposal, which did not cause the Agency to change course from what was proposed. We respond fully to these comments in the Comment Summary and Response Document, available in the docket for this rulemaking.

As explained in the Comment Summary and Response Document, after considering these comments, the Agency is finalizing the additional performance testing as proposed. Facilities subject to 40 CFR part 60, subpart KKa, will be required to test stacks and/or representative stacks every 5 years.

b. Fabric filter and Scrubber monitoring, reporting, and recordkeeping requirements that are consistent with the requirements in 40 CFR part 63, subpart PPPPPP

We proposed to add monitoring, reporting, and recordkeeping requirements associated with the use of fabric filters to the new NSPS, 40 CFR part 60, subpart KKa consistent with the area source GACT requirements in the Lead Acid Battery Manufacturing NESHAP at 40 CFR part 63, subpart PPPPPP. This was proposed because many of the lead acid battery manufacturing facilities use fabric filter controls, and the 1982 NSPS 40 CFR part 60, subpart KK does not include compliance requirements for these devices. We also proposed to add an additional requirement to monitor and record liquid flow rate across each scrubbing system at least once every 15 minutes. 40 CFR part 60, subpart KK only requires monitoring and recording pressure drop across the scrubber system every 15 minutes. We received no comments on this issue. Therefore, we are promulgating what was proposed as the final compliance assurance measures.

We expect that there would be no costs associated with the requirement for new, modified, and reconstructed sources to monitor and record liquid flow rate across each scrubbing system at least once every 15 minutes because this is standard monitoring equipment in scrubbing systems.

In addition, to reduce the likelihood of malfunctions that result in excess lead emissions, the EPA also proposed to increase the frequency of fabric filter inspections and maintenance operations to monthly for units that do not have a secondary filter, and to retain the requirement for semi-annual inspections for units that do have a secondary filter. We received one public comment from environmental groups in support of additional inspections and one comment from Clarios against monthly inspections. More details on these comments and our responses are in

the Comment Summary and Response Document available in the docket for this action. After consideration of public comments on this issue, we are finalizing increased fabric filter inspections to quarterly for all fabric filter systems (both primary and secondary). We expect that there would be no additional costs to add fabric filter monitoring, reporting and recordkeeping requirements that are consistent with the NESHAP beyond what is discussed in section III.A.6.c for bag leak detection requirements and section III.B.6.b for additional fabric filter inspections.

c. Bag leak detection systems

The standards in 40 CFR part 60, subpart KK do not include requirements to install or operate bag leak detection systems. These systems typically include an instrument that is capable of monitoring particulate matter loadings in the exhaust of a baghouse to detect bag failures (*e.g.*, tears) and an alarm to alert an operator of the failure. These bag leak detection systems help ensure continuous compliance and detect problems early on so that damaged fabric filters can be quickly inspected and repaired as needed to minimize or prevent the release of noncompliant emissions. Through the BSER review conducted for the source category, we found that since the promulgation of the NSPS in 1982, other rules, including the 40 CFR part 60, subpart Y, Coal Preparation and Processing Plants NSPS (74 FR 51950) and 40 CFR part 60, subparts LLLL and MMMM, New Sewage Sludge Incinerator Units NSPS (81 FR 26039), have required new sources to have bag leak detection systems for fabric filter-controlled units. Through this review, we also discovered that at least eight facilities currently subject to 40 CFR part 60, subpart KK have bag leak detection systems. Therefore, we determined at proposal that the use of bag leak detection systems is a development in operational procedures that will help ensure continued compliance with the NSPS by identifying and allowing for correction of bag leak failures earlier than would occur through daily visual emissions inspections or pressure drop monitoring. We

considered whether a requirement to install and operate a bag leak detection system would be appropriate for the lead acid battery manufacturing source category. We examined the costs of installing and operating bag leak detection systems at large and small facilities and estimated that the capital costs of a system at a new facility would be approximately $400,000 for a large facility and $200,000 for a small facility, with annual costs of approximately $84,000 for a large facility and $42,000 for a small facility. We found that the costs for small facilities could impose significant negative economic impacts to those companies. Based on this information, to help ensure continuous compliance with the emission limits without imposing significant economic impacts on small facilities, we proposed to require bag leak detection systems only for large facilities.

We received comments from environmental groups on this proposed requirement. They are generally supportive of requiring bag leak detection systems but ask that we also require small facilities to install bag leak detection systems. The commenter asserted that the EPA arbitrarily exempted small facilities from the bag leak detection system requirements because an analysis of cost effectiveness was not performed, and the EPA's finding that bag leak detection systems are not cost efficient for "small" facilities is unsupported by facts in the record. The commenter adds that due to the harmfulness of lead at low exposure levels, the EPA should not use cost as the sole justification for not requiring additional health protections. We also received a comment from BCI regarding the cost estimates used in the proposal claiming that they are outdated and underestimated, but BCI did not provide any data to support this claim. We conducted additional research on the costs of bag leak detection, and we did not find evidence that our estimates at proposal are outside the range of expected values. We therefore have not revised our estimated costs for bag leak detection except to update the value of inflation. We

have, however, as discussed below, reconsidered the proposal to require bag leak detection at only large new, modified and reconstructed sources.

Based on consideration of comments, we are finalizing a requirement that new sources of all sizes under 40 CFR part 60, subpart KKa that do not have a secondary filter must install and operate bag leak detection systems on baghouses. While the cost of bag leak detection systems can be substantial for existing facilities, it is easier and less expensive for a new facility to incorporate bag leak detection in their construction design than it is for a facility to retrofit their current devices. Therefore, for new sources, we consider the cost of bag leak detection reasonable. For modified and reconstructed sources, we are adding the use of bag leak detection systems as an option and provide operating limits and monitoring parameters as well as recordkeeping and reporting requirements for facilities that choose to install bag leak detection, but we are not requiring these systems for modified or reconstructed facilities. As discussed in the proposal, the costs of retrofitting an existing facility with bag leak detection on baghouses with no secondary filter could be especially burdensome for smaller facilities and could impose significant economic impacts (greater than 1 percent of their annual revenues) on some of those companies. We estimate the capital costs for a facility with four fabric filter systems are $281,000 and annual costs are $56,000 per year. We estimate that capital costs for a facility with 12 fabric filter systems are $842,000 and annual costs are $169,000 per year. While considering the number of fabric filter systems at existing facilities subject to 40 CFR part 60, subpart KK, are as high as 100 fabric filter systems, and after further consideration of the costs and taking comments into consideration, we conclude that the cost to retrofit existing lead acid battery manufacturing sources, both large and small facilities, with bag leak detection would be

burdensome. Therefore, we are not requiring bag leak detection systems for existing sources that modify or reconstruct.

After consideration of comments on bag leak detection, because we have determined not to require existing sources that may modify or reconstruct to install bag leak detection, we have also examined the other fabric filter monitoring requirements. As proposed, new, modified and reconstructed sources under 40 CFR part 60, subpart KKa must follow the other fabric filter monitoring requirements which include pressure drop recording, visible emission observations and inspections. We are finalizing an increased frequency of fabric filter inspections as discussed in section III.A.6.b. In addition, as an outgrowth of comments, we are finalizing an increase in fabric filter monitoring requirements (*i.e.*, pressure drop and visible emissions readings) from once per day to twice per day for fabric filters without a secondary filter. Specifically, we are promulgating a requirement that for fabric filters without a secondary filter, facility operators must do one of the following measurements daily if the results of the most recent performance test is greater than 50 percent of the applicable lead emission limit: (1) record pressure drop two times per day with a minimum of 8 hours between the recordings; or (2) conduct visible emission observations two times per day with a minimum of 6 hours between observations. For fabric filters without a secondary filter that have performance test results less than 50 percent of the applicable emissions limit, we are maintaining the requirement that facilities must do one of the following: (1) record pressure drop at least one time per day; or (2) conduct visible emission observations at least one time per day. We are also retaining as proposed the requirement for fabric filter systems with a secondary filter to record pressure drop weekly and conduct weekly visible emission observations. The costs for the additional pressure drop recording requirement

for new, modified and reconstructed sources under the new NSPS subpart are the same as estimates for the NESHAP and are discussed in section III.B.6.c.

7. Other Actions

a. Clarification of Lead Oxide Manufacturing Emission Limit

We proposed to retain the lead oxide manufacturing emission limit. However, we received two comments asking the EPA to address apparent issues with the emission limit. As discussed below, we are modifying the proposal after taking the comments summarized here into consideration. One commenter (Clarios) noted that the lead oxide production process emission limits in both the NSPS and NESHAP are production based, while all the other lead acid battery production process emission limits are concentration based. The commenter opined that the EPA set the production-based limit for lead oxide production because only one production-based data point was available when the NSPS was developed in 1982. The commenter suggested that the limit be changed to a concentration-based limit to match the format of the other battery production process limits. The commenter stated that this would allow facilities more flexibility to apply control strategies in a cost-effective manner by being better able to plan and coordinate their operations, especially in multi-process facilities; simplify the environmental management process; and allow for better operational options. The commenter provided summaries of emissions testing data for three of its facilities, which the commenter says demonstrate that dramatically lower emissions levels than the current production-based emission limit are achievable with commonly available filter technologies. The commenter noted that each facility for which data were provided controls emissions by way of a process dust collector equipped with primary filters and a secondary bank of filters to provide system redundancy. The commenter hopes that by providing this information, the EPA can consider the level of control

that is available today with modern lead oxide production facilities and use this information to evaluate an appropriate emission limit for lead oxide production processes and transition to a concentration-based limit.

Another commenter (BCI) requests that the EPA clarify that the lead oxide production facility 5.0 mg/kg production-based standard should be applied only to the direct product collector baghouses and that any other local exhaust ventilation or building ventilation exhausts serving lead oxide production areas should be considered "other lead-emitting operations" subject to the 1.0 mg/dscm concentration-based standards. The commenter suggests the EPA could clarify this in the preamble to the final rule or revise the definition of "lead oxide manufacturing facility" to apply only to the direct process baghouse exhausts. The commenter explained that at the time of the original promulgation of the NSPS in the 1980s, it was typical that the only ventilation and emission points from lead oxide production operations was the exhaust from the lead oxide production baghouses. The commenter further explained that these baghouses are integral to the process, in that the lead oxide captured in these baghouses is the intended product of that operation and are part of the production process rather than being systems intended to reduce indoor lead exposures and minimize exterior emissions. The commenter adds that as such, it was reasonable that the performance limitation on the direct process baghouse exhausts in lead oxide production areas were expressed in units of mg/kg or lb/ton. However, the commenter notes that since the 1980's, it has become increasingly common for facilities to have installed local exhaust ventilation hooding on some material transfer points and other sources in the lead oxide production areas and may also now direct room air from lead oxide production areas to baghouses for exhaust control. The commenter states that these

emission sources should not be assessed with or against the 5.0 mg/kg standard for the direct process baghouse exhausts.

We agree with the commenter that the lead oxide manufacturing emissions limit was intended to apply only to the primary emissions sources and their emission control devices (*i.e.*, lead oxide production fabric filter baghouses). In the final rule, we are clarifying that the lead oxide manufacturing facility limit only applies to the primary emissions sources, and that other sources associated with the lead oxide production sources, such as building ventilation, would be "other lead emitting operations" subject to the 1.0 mg/dscm emission limit. We also agree with the comment that the lead oxide production process emissions limit was developed as a production-based limit because only one production-based data point was available when the NSPS was developed. However, a new limit was not proposed and the process-based emission standard accounts for variability with production rate and flow rate. It is difficult to establish an equivalent concentration-based limit, due to the variability in process conditions, such as production volume and flow rate, that must be considered on an individual unit basis. Therefore, as facilities are already familiar with how to comply with the production-based limit, we are retaining the current production-based limit.

b. Electronic Reporting

To increase the ease and efficiency of data submittal and data accessibility, the EPA is finalizing, as proposed, that owners and operators of lead acid battery manufacturing subject to the new NSPS at 40 CFR part 60, subpart KKa submit electronic copies of required performance test reports and the semiannual excess emissions and continuous monitoring system performance and summary reports, through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). We did not receive any comments regarding

these requirements. 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 the docket for this action. The final 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[3] at the time of the test be submitted in the format generated through the use of the ERT or an electronic file consistent with the xml schema on the ERT website and that other performance test results be submitted in portable document format using the attachment module in the ERT. For the semiannual excess emissions and continuous monitoring system performance and summary reports, the final rule requires that owners and operators use the appropriate spreadsheet template to submit information to CEDRI. The final version of the template for these reports will be located on the CEDRI website[4].

Furthermore, the EPA is finalizing, as proposed, provisions that allow owners and operators the ability to seek extensions for submitting electronic reports for circumstances beyond the control of the facility, *i.e.*, for a possible outage in CDX or CEDRI or for a *force majeure* event, in the time just prior to a report's due date, as well as the process to assert such a claim.

B. *NESHAP*

For each issue, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA's rationale for the final decisions and amendments, and a summary of key comments and responses. For all comments not discussed in this preamble,

[3] *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*
[4] *https://www.epa.gov/electronic-reporting-air-emissions/cedri*

comment summaries and the EPA's responses can be found in the Comment Summary and Response Document available in the docket.

1. Technology Review for Grid Casting Facilities

As discussed in section III.A.1 above, the emission limit promulgated in the 1982 NSPS was 0.4 mg/dscm and the opacity standard finalized was 0 percent and these standards were based on an impingement scrubber (with an estimated 90 percent control efficiency). In the 2007 NESHAP final rule, the EPA adopted that same limit (0.4 mg/dscm based on impingent scrubbers) as the limit for grid casting in the NESHAP, and also adopted the 0 percent opacity standard. Based on our technology review, the majority of existing area source facilities (at least 29 of the 39 facilities subject to the NESHAP) use fabric filters. At the time of proposal, we were missing permits for three facilities; one in California, one in Indiana, and one in Tennessee, and did not have enough information for the other seven facilities. Some facilities are also using secondary control devices such as a wet scrubber or HEPA filter in addition to the primary fabric filters to achieve further emissions control. Furthermore, we did not identify any facilities using only a wet scrubber. Based on our review of permits and other information, we assumed all existing facilities use fabric filters to control their grid casting emissions. Therefore, we concluded that fabric filters are clearly feasible and well demonstrated as an appropriate control technology for grid casting operations. Based on our technology review pursuant to CAA section 112 (d)(6), we proposed a lead emission limit of 0.04 mg/dscm that was thought to reflect the use of a fabric filter system with an estimated 99 percent efficiency.

We received one comment against the proposed amendment to the grid casting emission limit, which is summarized above in section III.A.1. The commenters did not comment on the EPA's assumption that no existing facilities are using only a wet scrubber to control grid casting

emissions. Based on the comment regarding fabric filter efficiencies, we analyzed stack test data and calculated a UPL as described in section III.A.1 above. Based on this additional analysis, we are promulgating a revised lead emission limit of 0.08 mg/dscm for grid casting which reflects the use of a fabric filter to control emissions. Based on our technology review and information obtained since the proposal, we can now state that 36 of 39 facilities currently subject to the NESHAP use fabric filters to control their grid casting emissions. Although, we are missing three permits, since we did not receive comment on our assumption that all existing facilities use fabric filters for grid casting, we estimate that all existing sources are currently using fabric filters to control their grid casting emissions. Therefore, there will be no additional costs to existing sources to comply with the revised limit. We are retaining the 0 percent opacity standard for grid casting as proposed.

2. Technology Review for Lead Reclamation Facilities

We did not find any facilities currently conducting lead reclamation operations as they are defined in the NESHAP during our technology review. In the NESHAP, lead reclamation facilities are defined as facilities that remelt lead and reform it into ingots, and as discussed above in section III.A.2, we identified two facilities with lead reclamation equipment in their permit, and that equipment is controlled by fabric filters. Although, it is unclear from the permit if the two facilities are using this equipment to remelt lead and form it into ingots as the definition in the NESHAP specifies. We concluded in the technology review that fabric filters represented a development in technology since the 2007 NESHAP and therefore, we proposed to revise the lead emission limit of 4.5 mg/dscm (which was developed in 1980 based on a scrubber with estimated 90 percent efficiency and adopted by the NESHAP in 2007) to 0.45 mg/dscm (based on application of fabric filters) for lead reclamation operations at lead acid battery

manufacturing facilities. We also proposed to retain the 5 percent opacity standard. The EPA received no comments on the proposed emission limit or opacity standard for lead reclamation process in this rulemaking. For these reasons, the EPA is promulgating a revised lead emission limit of 0.45 mg/dscm for the lead reclamation process in the NESHAP. We are also retaining the opacity standard of 5 percent and we retain that a facility must use EPA Method 9 to demonstrate compliance with the daily and weekly visible emission observations as well as during the performance tests required every 5 years as proposed.

As discussed above in section III.A.7.a, we are also finalizing, as proposed, to revise the definition of lead reclamation facility to clarify that the lead reclamation facility does not include recycling of any type of finished battery or recycling lead-bearing scrap that is obtained from non-category sources or from any offsite operations, and these activities are prohibited. We are also finalizing, as proposed, to clarify that lead reclamation facilities also do not include the remelting of lead metal scrap (such as unused grids or scraps from creating grids) from on-site lead acid battery manufacturing processes and that any such remelting is considered part of the process where the lead is remelted and used (*i.e.*, grid casting).

3. Technology Review for Paste Mixing Facilities

During the technology review, we identified 15 paste mixing facilities subject to the NESHAP (38 percent of the total) that currently have secondary filters to achieve much higher control efficiency on their paste mixing operations. As discussed in section III.A.3 above, the results of the cost analyses at proposal for existing large facilities indicated that the estimated cost effectiveness of adding a secondary HEPA filter on the paste mixing process was within the range of what the EPA has considered to be a cost-effective level of control for lead emissions, but it was not cost-effective for existing small facilities to add secondary HEPA filters to their

paste mixing processes. Therefore, we proposed that large sources would need to comply with a revised paste mixing emission limit of 0.1 mg/dscm, and we proposed to retain the standard of 1 mg/dscm for small sources.

Based on the comments we received after proposal regarding the use of high efficiency filters, as discussed in section III.A.3 above, we have conducted further analysis for existing facilities, and we agree with the commenter that ePTFE (high efficiency) filters can be used to achieve the revised paste mixing emission limit of 0.1 mg/dscm. We estimate that 24 (out of 39 existing facilities that have paste mixing operations) can comply with the proposed 0.1 mg/dscm emission limit because they already use secondary HEPA filters or have stack tests/permit limits that indicate they could comply with the emission limit of 0.1 mg/dscm. Further, as the available information shows that paste mixing operations are already controlled by fabric filters at most facilities, it is possible that instead of adding HEPA filters, most facilities could switch from traditional filter materials to more modern higher efficiency filter materials and achieve the same emissions levels as those achieved by a secondary filter at a lower cost. However, as a commenter noted, as discussed in section III.A.3, some facilities use wet scrubbers to control paste mixing emissions. We are aware of five existing facilities that use wet scrubbers to control their paste mixing operations. Three of these facilities currently have secondary HEPA filters following their scrubbers. Based on the data available to the EPA at the time of this rulemaking, four of the five facilities using scrubbers to control paste mixing operations can comply with the revised emission limit of 0.1 mg/dscm. One of these five facilities has three wet scrubbers to control paste mixing. Based on stack test data we obtained from the state agency, we estimate that this facility might need to add a secondary HEPA filter on one of these devices, which will result in slightly higher costs for this one facility. We conservatively estimate that the remaining

14 facilities will need to upgrade their bags to comply with the revised emission limit. The incremental initial costs to replace current bags at these facilities with the high efficiency PTFE bags ranges from $6,000 to $36,000 per facility, and the incremental annualized costs range from $3,000 to $18,000 per facility per year. We estimate that a typical large facility would have annual costs of about $30,000 per year and achieve about 0.1 tpy reduction of lead emissions with estimated cost effectiveness of $300,000 per ton and that a typical small facility would have annual costs of about $18,000 per year and achieve about 0.03 tpy reduction of lead emissions, with estimated cost effectiveness of $300,000 per ton, which is well within the range of cost effectiveness that the EPA has historically accepted. Therefore, we conclude that for most facilities, this limit of 0.1 mg/dscm is cost-effective.

However, based on available information, for at least one very small facility with already very low paste mixing emissions, replacing current bags with ePTFE bags would not be cost-effective. We estimate that to meet the 0.1 mg/dscm lead emission limit, its initial costs would be $18,000 and its incremental annualized costs would be $9,000, and would achieve a 0.002 tpy lead reduction with estimated cost effectiveness of $4.7M/ton. This estimated cost effectiveness (for a very small facility with very low emissions) of $4.7M/ton is higher than what the EPA has historically accepted as cost-effective. Therefore, because we estimate it is cost-effective for all other existing facilities except for one, in order to ensure that emission reductions can be achieved in a cost-effective manner for the source category, we are also promulgating an alternative lead emission limit of 0.002 lb/hour as described in section III.A.3. This alternative emission limit of 0.002 lbs/hr is more stringent than the 0.1 mg/dscm for most facilities, and is significantly more stringent than the proposed emission limit of 1 mg/dscm for very small facilities with very low flow rates and will ensure emissions are limited to low levels in the

future. With the alternative lead limit, we estimate that one of 14 facilities noted above would be able to comply with the alternative limit with no additional control costs. Therefore, we estimate that with the revised limit of 0.1 mg/dscm along with the option to comply with the alternative limit (0.002 lbs/hr) that 13 existing facilities could be affected by these rule requirements and that total estimated costs to the source category are estimated to be $384,000 in incremental initial costs and $96,000 incremental annual costs. We estimate a total lead reduction for the source category of 0.64 tpy. More details on the costs are available in the Costs Impacts Memorandum, in the docket for this rulemaking.

Based on this analysis, for new and existing sources under the NESHAP, we are promulgating the revised emission limit of 0.1 mg/dscm, which we conclude reflects developments in technology under section 112(d)(6) for most facilities and the alternative lead emission limit of 0.002 lbs/hr, which we conclude reflects developments under section 112(d)(6) for very small facilities with fabric filter systems with very low flow rates, applicable to all facilities regardless of production capacity. We are also retaining the opacity limit of 0 percent but are promulgating an option to use EPA Method 22 to demonstrate compliance with the daily and/or weekly visible emissions as discussed above in section III.A.6.c.

4. Technology Review for Fugitive Dust Emissions

The same requirements proposed for 40 CFR part 60, subpart KKa, as described in section III.A.4 above, were proposed as amendments to the NESHAP. During the technology review, we discovered that several facilities currently subject to the NESHAP already had requirements to reduce fugitive dust emissions through similar work practices in their operating permits including in the lead oxide unloading and storage areas. Other rules, including the NESHAPs for primary lead smelting and secondary lead smelting, have required new and

existing sources to minimize fugitive dust emissions at the facilities, such as through the paving of roadways, cleaning roadways, storing lead bearing materials in enclosed spaces or containers, and other measures.

As discussed under section III.A.4, we received three comments regarding the proposed fugitive dust minimization work practices. In consideration of these comments and after additional research, described in section III.A.4 above, under the NESHAP, we are finalizing the same requirements as discussed in section III.A.4 above for 40 CFR part 60, subpart KKa. As a change to the proposal, we are promulgating a requirement that existing sources must develop and implement a fugitive dust minimization plan for the lead oxide unloading and storage area, which represents GACT. Based on the comments, we revised our cost estimates and estimate that the cost burden will be mostly labor to develop and implement the dust plan, and that most facilities would already own the equipment necessary, such as a HEPA vacuum, to carry out these work practices. Total estimated costs range from $0 (for facilities that already have a fugitive dust plan and are implementing it) to $22,000 per facility per year. As discussed under section III.A.4, we have not quantified emission reductions as a result of implementing the work practices. It is difficult to quantify fugitive dust emissions since they are not released through a point, such as a stack, and cannot easily be measured. Therefore, for the reason discussed in section III.A.4, we have determined these costs are reasonable and are finalizing work practices to minimize fugitive dust in the lead oxide unloading and storage areas. The costs are discussed in more detail in the Cost Impacts Memorandum, available in the docket for this rulemaking.

5. Expanded Facility Applicability

The original definition of the lead acid battery manufacturing source category stated that lead acid battery manufacturing facilities include any facility engaged in producing lead acid

batteries and explained that the category includes, but is not limited to, facilities engaged in the manufacturing steps of lead oxide production, grid casting, paste mixing, and three-process operations (plate stacking, burning, and assembly). The EPA is aware of some facilities that conduct one or more of these lead acid battery manufacturing processes but do not produce the final product of a battery. Thus, these facilities were not previously considered to be in the lead acid battery source category, and those processes were not subject to the lead acid battery NESHAP. To ensure these processes that are producing certain battery parts or input materials (such as grids or lead oxide) are regulated to the same extent as those that are located at facilities where the final battery products are produced, the EPA proposed to revise the applicability provisions in the NESHAP such that facilities that process lead to manufacture battery parts or input material would be subject to the NESHAP even if they do not produce batteries. Information from the technology review indicates that lead emissions from the processes at such facilities are controlled and can meet the emissions limits in the Lead Acid Battery Manufacturing Area Source NESHAP. However, the facilities would also need to comply with the compliance assurance measures and work practices of the proposed NESHAP, including the proposed fugitive dust mitigation plan requirements, improved monitoring of emission points with fabric filters, performance testing, reporting, and recordkeeping. We estimated the costs for compliance testing would be $23,000 to $34,000 per facility once every 5 years; and annual costs for the fugitive dust work practices would be $0 to $13,000 per facility.

We received two comments on this proposed action. Hammond Group, a lead oxide manufacturer, and BCI commented that the EPA did not consider that some of these facilities could be subject to other NESHAP. BCI also commented that this amendment would bring in "*de minimus*" sources such as those that manufacturer cable and wires not necessarily used for

lead acid batteries. A summary of these comments and the Agency's response is found in the Comment Summary and Response Document, available in the docket for this action.

The EPA's intent with the proposed applicability amendment was to ensure that facilities involved in the primary lead acid battery manufacturing processes (grid casting, paste mixing, lead oxide manufacturing and three-process operations) but that do not make the end-product of a lead acid battery are subject to Federal regulations that limit their lead emissions. After consideration of the comments, we are finalizing the applicability provisions such that battery component facilities that are involved in the primary processes (grid casting, paste mixing, lead oxide manufacturing and three-process operations) and manufacturing battery parts or input material (*i.e.,* grids and lead oxide) used in the manufacturing of lead acid batteries will be subject to the NESHAP. However, we are also finalizing a provision that if a facility is already subject to another NESHAP that controls relevant lead emissions, it is exempt from complying with the Lead Acid Battery Manufacturing Area Source NESHAP, 40 CFR part 63, subpart PPPPPP.

After proposal, we became aware that the existing Clarios facilities in Florence, Kentucky and West Union, South Carolina do not make battery grids or any lead-bearing battery parts. These facilities are involved in making the plastic battery cases. Therefore, we have removed them from our facilities list. There are four facilities that we are aware of (and included in the proposal analysis) that will become subject to 40 CFR part 63, subpart PPPPPP due to this applicability expansion: a battery grid producing facility, Clarios in Red Oak, Iowa; and three lead oxide manufacturers, Doe Run Fabricated Metals in Vancouver, Washington; and Powerlab, Inc in Terrell, Texas and Savanna, Illinois. The estimated costs for these facilities to comply with the Lead Acid Battery Manufacturing Area Source NESHAP range between $23,000 and

$47,000 per facility once every 5 years for performance testing, and between $20,000 and $24,000 per year for all other requirements above what these facilities are already doing to comply with their state regulations.

6. Testing and Monitoring Requirements

a. Performance Tests

We proposed a requirement to conduct performance testing at least once every 5 years for all existing and new area sources. To reduce some of the cost burden, the EPA proposed to allow facilities that have two or more processes and stacks that are very similar, and have the same type of control devices, to test just one stack as representative of the others as approved by the delegated authority. We proposed that the NESHAP would include the same testing requirements that the EPA proposed under the new NSPS, as discussed above in section III.A.6.a. As explained in the proposed rule, the EPA has been adding requirements to NESHAP when other amendments are being made to the rules to include periodic performance tests to help ensure continuous compliance.

As explained in section III.A.6.a., we received comments on testing from three stakeholders. More details regarding these comments, and the EPA's responses are provided in the Comment Summary and Response Document, available in the docket for this rulemaking.

We are promulgating the performance testing requirements as proposed. Costs for existing facilities are estimated to range from $23,000 to $181,000 per facility every 5 years, depending on the total number of stacks to be tested. We conclude performance testing costs are reasonable and necessary to ensure the emission standards in 40 CFR part 63, subpart PPPPPP are continuously met and enforceable.

b. Improved Monitoring of Emission Points Controlled by Fabric Filters and Scrubbers

The 2007 area source NESHAP required facilities to conduct semiannual inspections and maintenance for emission points controlled by a fabric filter to ensure proper performance of the fabric filter. In addition, pressure drop or visible emission observations had to be conducted for the fabric filter daily (or weekly if the fabric filter has a secondary HEPA filter) to ensure the fabric filter was functioning properly. To reduce the likelihood of malfunctions that result in excess lead emissions, the EPA proposed to increase the frequency of fabric filter inspections and maintenance operations to monthly for units that do not have a secondary filter and retain the requirement for semi-annual inspections for units that do have a secondary filter. After consideration of the public comments, summarized in the Comment Summary and Response Document available in the docket for this action, we are finalizing quarterly inspections for all fabric filter systems (both primary and secondary). The estimated costs for the additional inspections range from $0 (for facilities already doing at least quarterly inspections) to $6,300 per facility per year which we have determined is reasonable.

As discussed above in section III.A.6.b., standard monitoring of scrubbing systems includes measuring liquid flow rate across the scrubbing system. We proposed to add a requirement to measure and record the liquid flow rate across each scrubbing system (that is not followed by a fabric filter) at least once every 15 minutes in the NESHAP, in addition to monitoring pressure drop across each scrubbing system.

We received no comments on this issue, and therefore we are finalizing a requirement to measure and record the liquid flow rate across each scrubbing system that is not followed by a fabric filter at least once every 15 minutes. Based on our review, we only identified three facilities that have a scrubber system that is not followed by a fabric filter, and at least one of these facilities already has this requirement in their permit. We expect the other two facilities

likely already have the capability to measure liquid flow rate since it is a standard requirement to ensure a scrubbing system is operating properly. Therefore, we estimate these facilities will not have any capital costs to comply with this requirement but may have a small unquantified increase in annual costs due to recordkeeping requirements.

c. *Bag Leak Detection Systems*

As discussed above in section III.A.6.c, the EPA found several lead acid battery manufacturing facilities that have bag leak detection systems during the technology review, and we proposed the use of bag leak detection systems for new and existing large lead acid battery manufacturing facilities as a development in operational procedures that would assure compliance with the area source NESHAP by identifying and correcting fabric filter failures. Taking the comments we received into consideration as well as the substantial costs to the industry for this requirement, we are not requiring existing facilities to install and operate bag leak detection systems. However, we are promulgating bag leak detection as an option and are finalizing operating limits and monitoring parameters for bag leak detection systems if they are used at a facility. The same operating limits and monitoring parameters that were proposed are being finalized. The rationale for this decision is the same as described above in section III.A.6.c.

Considering comments received on the proposed provisions for fabric filter monitoring and inspections, and to reduce the likelihood of malfunctions that result in excess lead emissions, we are also finalizing an increase in fabric filter monitoring requirements (*i.e.*, pressure drop and visible emissions readings) from once per day to twice per day for fabric filters without a secondary filter. Specifically, we are promulgating a requirement that for fabric filters without a secondary filter, facility operators must do one of the following measurements daily if the results of the most recent performance test is greater than 50 percent of the applicable lead emission

limit: (1) record pressure drop two times per day with a minimum of 8 hours between the recordings; or (2) conduct visible emission observations two times per day with a minimum of 6 hours between observations. For fabric filters without a secondary filter that have performance test results less than 50 percent of the applicable emissions limit, we are retaining the requirement that facilities must do one of the following: (1) record pressure drop at least one time per day; or (2) conduct visible emission observations at least one time per day. We are also retaining as proposed the requirement for fabric filter systems with a secondary filter to record pressure drop weekly or conduct weekly visible emission observations.

The estimated cost of the additional recording varies depending on whether or not a facility has the capability for automated data recordings or if they do manual recordings. The estimated cost ranges from approximately $8,000 to $80,000 per year per facility for manual data recording, and an estimated $200 to update software for automated data recording. For smaller facilities with multiple fabric filter baghouses that may record the pressure drop reading by hand, this requirement could be burdensome in addition to the other new requirements in the amended rules. To offset the potential additional costs for additional visible emission recordings, we are also promulgating an amendment to the method for conducting visible emission observations for fabric filters. The 2007 NESHAP required that EPA Method 9 be used for the daily and/or weekly visible emission observations. EPA Method 9 is a test that quantifies opacity, while EPA Method 22 is a qualitative test to determine the absence of visual emissions (*i.e.*, 0 percent opacity). We are revising the regulations to allow for the use of EPA Method 22 as an alternative to EPA Method 9 for the daily and weekly visible emission observations of the processes with 0 percent opacity standards. We are retaining the opacity standards in the rule of 0 percent for grid casting, paste mixing, three-process operations, lead oxide manufacturing and other lead emitting

operations and we are retaining the opacity standard of 5 percent for lead reclamation. Because we have retained the opacity standards of 0 percent for the applicable processes in the final rule, EPA Method 22, in the case of lead acid battery manufacturing processes, will be sufficient to demonstrate compliance with the 0 percent opacity standard during the daily/weekly visible emissions observations. EPA Method 9 must still be used for daily and/or weekly visible emission observations for the lead reclamation process if a facility conducts these operations, and EPA Method 9 must still be used to determine compliance with the opacity standards in the rule during performance tests.

We estimate that there are 19 facilities that may be required to record pressure drop twice a day or record observations of visible emissions twice a day. For facilities that record pressure drop daily to comply with the NESHAP, we estimate that the total cost to the industry for one additional pressure drop recording is approximately $71,000 per year with facility costs ranging from $0 to $12,100 per year, which we conclude is reasonable. The costs and assumptions are discussed in more detail in the Cost Impacts Memorandum available in the docket.

For facilities that conduct visible emission observations daily to comply with the NESHAP, we have estimated costs for one additional observation and recording of each fabric filter system with no secondary filter or bag leak detection system. We estimate that providing EPA Method 22 as an option for the daily and/or weekly visible emission observations, as discussed above, will be a cost savings for facilities. It is estimated that the net costs for an additional visible emission observation and recording using EPA Method 22 are $95,300 for the entire industry and an average net cost of $2,400 per year per facility, which we conclude is reasonable. The costs and assumptions are discussed in more detail in the Cost Impacts Memorandum available in the docket.

7. Other Actions

a. *Lead Oxide Manufacturing Emission Limit*

As discussed above in section III.A.7.a, we proposed to retain the lead oxide manufacturing emission limit. Based on public comments (described above) we are finalizing a clarification that this emission limit applies to the primary emissions sources and their emission control devices (*i.e.*, lead oxide production fabric filter baghouses), and that other sources associated with the lead oxide production source, such as building ventilation, would be "other lead-emitting operations" subject to the 1.0 mg/dscm emission limit.

b. Electronic Reporting Requirements

The EPA is finalizing, as proposed, that owners and operators of lead acid battery manufacturing facilities subject to the NESHAP at 40 CFR part 63, subpart PPPPPP submit electronic copies of required performance test reports and the semiannual excess emissions and continuous monitoring system performance and summary reports, through the EPA's CDX using the 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 the docket for this action. The final rule requires that performance test results collected using test methods that are supported by the EPA's Electronic Reporting Tool (ERT) is listed on the ERT website[5] at the time of the test be submitted in the format generated through the use of the ERT or an electronic file consistent with the xml schema on the ERT website and other performance test results be submitted in portable document format (PDF) using the attachment module in the ERT. For semiannual excess emissions and continuous monitoring

[5] *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*.

system performance and summary reports, the final rule requires that owners and operators use the appropriate spreadsheet template to submit information to CEDRI. The final version of the template for these reports will be located on the CEDRI website.[6]

8. Startup, Shutdown, and Malfunction Requirement

We have eliminated the SSM exemption in this rule. Consistent with *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008), the EPA has established standards in this rule that apply at all times. We have also revised Table 3 (the General Provisions Applicability Table) in several respects as is explained in more detail below. For example, we have eliminated the incorporation of the General Provisions' requirement that the source develops an SSM plan. We have also eliminated and revised certain recordkeeping and reporting that is related to the SSM exemption as described in detail in the proposed rule and summarized again here.

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

We discussed this issue with industry representatives and asked them if they expect any problems with the removal of the SSM exemptions. The lead acid battery manufacturing industry did not identify (and there are no data indicating) any specific problems with removing the SSM provisions. The main control devices used in this industry are fabric filters. We expect that these control devices are effective in controlling emissions during startup and shutdown events.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead, they are by definition, sudden, infrequent, and not reasonably preventable failures of

[6] *https://www.epa.gov/electronic-reporting-air-emissions/cedri*

emissions control, process, or monitoring equipment. (40 CFR 63.2) (Definition of malfunction). The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards. This reading has been upheld as reasonable by the court in *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 606-610 (2016).

As noted in the proposal for the amendments to the Lead Acid Battery Manufacturing Area Source NESHAP, under this decision, the court 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 proposed and are finalizing revisions to the NESHAP at 40 CFR 63.11421 through 40 CFR 63.11427 that remove the SSM exemption under the Lead Acid Battery Manufacturing Area Source NESHAP and any references to SSM-related requirements.

C. What are the effective and compliance dates of the standards?

1. NSPS

Pursuant to CAA section 111(b)(1)(B), the effective date of the final rule requirements in 40 CFR part 60, subpart KKa will be the promulgation date. Affected sources that commence construction, or reconstruction, or modification after February 23, 2022, must comply with all requirements of 40 CFR part 60, subpart KKa, no later than the effective date of the final rule or upon startup, whichever is later.

2. NESHAP

Pursuant to CAA section 112(d)(10) the effective date of the final rule requirements in 40 CFR part 63, subpart PPPPPP is the promulgation date.

For existing affected lead acid battery manufacturing facilities (*i.e.*, facilities that commenced construction or reconstruction on or before February 23, 2022), there are specific

compliance dates for each amended standard, as specified below. For the removal of the SSM exemptions, we are finalizing that facilities must comply by the effective date of the final rule. For the following final revisions, we are promulgating a compliance date of no later than 180 days after the effective date of the final rule: Clarifications to the definition of lead reclamation; requirements for electronic reporting of performance test results and semiannual excess emissions and continuous monitoring system performance and summary reports; increased fabric filter inspection frequency; additional pressure drop recording; revisions to the applicability provisions to include battery production processes at facilities that do not produce the final end product (*i.e.*, batteries); and bag leak detection provisions.

For the removal of the SSM exemptions, we proposed a compliance date of no later than 180 days after the effective date of the final rule, including for the proposed changes to the NESHAP being made to ensure that the regulations are consistent with the decision in *Sierra Club v. EPA,* 551 F.3d 1019 (D.C. Cir. 2008) in which the court vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of hazardous air pollutants during periods of SSM. Specifically, the court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and (h)(1). The EPA removed these SSM exemptions from the CFR in March 2021 to reflect the court's decision (86 FR 13819). In this action, we are changing the cross-reference to those General Provisions for the applicability of these two requirements from a "yes" to "no" and adding rule-specific language at 40 CFR 63.11423(a)(3) to ensure the rule applies as all times, and 40 CFR 63.11423(a)(3) will be effective upon promulgation of this action. In addition, we do not expect additional time is necessary generally for facilities to comply with changes to SSM provisions because we have concluded that the sources can meet the otherwise applicable standards that are in effect at all times, as described in section III.B.7.

We are therefore finalizing that facilities must comply with this requirement no later than the effective date of this final rule, with the exception of recordkeeping provisions. For recordkeeping under the SSM provisions, we are finalizing that facilities must comply with this requirement 90 days after the effective date of the final rule. Recordkeeping provisions associated with malfunction events (40 CFR 63.11424(a)(7)(ii) and (iii)) shall be effective no later than 90 days after the effective date of this action. The EPA is requiring additional information under 40 CFR 63.11424 for recordkeeping of malfunction events, so the additional time is necessary to permit sources to read and understand the new requirements and adjust record keeping systems to comply. Reporting provisions are in accordance with the reporting requirements during normal operations and the semi-annual report of excess emissions.

For the following final revisions, we are finalizing a compliance date of 3 years after the publication date of the final rule: Revised emission limits for paste mixing, grid casting, and lead reclamation; requirements to develop and follow a fugitive dust mitigation plan; and requirements that performance testing be conducted at least once every 5 years.

After the effective date of the final rule and until the applicable compliance date of the amended standards, affected existing lead acid battery manufacturing facilities must comply with either the current requirements of 40 CFR part 63, subpart PPPPPP or the amended standards.

For existing affected lead acid battery component manufacturing facilities that become subject to 40 CFR part 63, subpart PPPPPP, the compliance date for all applicable requirements is 3 years after the publication date of the final rule. Newly affected lead acid battery manufacturing facilities and newly affected lead acid battery component manufacturing facilities (*i.e.*, facilities that commence construction or reconstruction after February 23, 2022) must

comply with all requirements of 40 CFR part 63, subpart PPPPPP, including the final amendments, by the effective date of the final rule, or upon startup, whichever is later.

IV. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected facilities?

1. NSPS

The EPA has found through the BSER review for this source category that there are 40 existing lead acid battery manufacturing facilities subject to the NSPS for Lead-Acid Battery Manufacturing Plants at 40 CFR part 60, subpart KK. We are not currently aware of any planned or potential new lead acid battery manufacturing facilities, but it is possible that some existing facilities could be modified or reconstructed in the future. At this time, and over the next 3 years, the EPA anticipates that no facilities will become subject to the new NSPS for Lead Acid Battery Manufacturing Plant at 40 CFR part 60, subpart KKa.

2. NESHAP

Through the technology review for the source category, the EPA found that there are 39 existing facilities subject to the NESHAP for Lead Acid Battery Manufacturing Area Sources at 40 CFR part 63, subpart PPPPPP. These facilities will be affected by the amendments to the NESHAP and four additional facilities will become subject to the NESHAP upon promulgation of the amendments.

B. What are the air quality impacts?

1. NSPS

We are not expecting any new facilities to be built in the foreseeable future, but if any new facilities are built or any existing facility is modified or reconstructed in the future, the requirements in the new NSPS, 40 CFR part 60, subpart KKa, would achieve an estimated 0.03

tpy to 0.1 tpy reduction of allowable lead emissions for each new facility from the source category compared to that of the current NSPS 40 CFR part 60, subpart KK. We are also promulgating additional compliance assurance measures and work practices to minimize fugitive dust emissions, which will reduce the likelihood of excess emissions of lead. The reductions of lead from these compliance assurance measures are unquantified.

2. NESHAP

The revised lead emission standard for paste mixing operations will achieve an estimated 0.6 tpy reduction of lead emissions. The revised lead emission standards for grid casting and lead reclamation facilities are not expected to result in additional lead emission reductions, as it is estimated that all facilities in the source category are already meeting the revised emissions limits. However, the new standards will reduce the allowable emissions from those sources and ensure that the emissions remain controlled and minimized moving forward. In addition, the Agency is finalizing work practices to minimize fugitive lead dust emissions and expects these will achieve some unquantified lead emission reductions. We are also finalizing several compliance assurance requirements which will help ensure continuous compliance with the NESHAP and help prevent noncompliant emissions of lead. The final amendments also include removal of the SSM exemptions. While we are unable to quantify the emissions that occur during periods of SSM or the specific emissions reductions that would occur due to this action, eliminating the SSM exemption has the potential to reduce emissions by requiring facilities to meet the applicable standard during SSM periods.

C. What are the cost impacts?

1. NSPS

The costs for a new, reconstructed, or modified affected facility to comply with the final regulatory requirements discussed above are described in detail in section III.A and are summarized below. As mentioned previously in this action, we do not expect any brand-new affected facilities in the foreseeable future. However, we do expect that some existing facilities could undergo modifications or reconstruction, and these facilities would incur the costs summarized below.

Revised Emission Limit for Grid Casting: Estimated incremental capital costs for a new, reconstructed, or modified source to install and operate a fabric filter (BSER) compared to an impingement scrubber (baseline) on grid casting operations are $230,500, with estimated incremental annual costs of $52,000 for a small facility, and are $374,000, with estimated incremental annual costs of $88,000 for a large facility.

Revised Emission Limit for Lead Reclamation: Estimated incremental capital costs for a new, reconstructed, or modified source to install and operate a fabric filter (BSER) compared to an impingement scrubber (baseline) on lead reclamation operations are $17,000 for both small and large facilities, with estimated incremental annual costs of $8,500 for small facilities and $13,000 for large facilities.

Revised Emission Limit for Paste Mixing Operations: Estimated incremental capital costs for a new, reconstructed, or modified source to meet the revised emission limit through the use of higher efficiency bags (BSER) or inclusion of secondary filters (BSER) in the facility design compared to only including traditional primary fabric filters (baseline) are $18,000, with estimated incremental annual costs of $9,000 for a small facility, and are $60,000 capital, with estimated incremental annual costs of $30,000 for a large facility.

Work Practices to Minimize Fugitive Lead Dust: Estimated incremental costs for a new, reconstructed, or modified source to develop and implement a fugitive dust minimization plan (BSER) compared to no fugitive dust minimization requirements (baseline) is $7,900 in initial costs to develop the plan, with estimated annual costs to implement the plan of approximately $14,000 per facility.

Bag Leak Detection Requirements: Estimated incremental capital costs for a new facility to install and operate bag leak detection systems on emissions control systems that do not have secondary filters (BSER) compared to no bag leak detection requirements (baseline) are $802,000, with estimated incremental annual costs of $161,000 per facility.

Performance Testing Requirements: Estimated incremental costs for a new, reconstructed, or modified source to meet the revised testing frequency of once every 5 years (BSER) compared to only once for initial compliance (baseline) are $23,000 for the first stack and $5,500 for each additional stack tested at a facility during the same testing event. The costs per facility are estimated to be $0 to $181,000 once every 5 years, or an annual average cost of $0 to $36,000, depending on number of stacks and the current frequency of testing.

Fabric Filter Inspection Requirements: Estimated incremental costs for a new, reconstructed, or modified source to meet the revised fabric filter inspection frequency of once per quarter (BSER) compared to once every 6 months (baseline) are $6,300 annually per facility.

The total estimated incremental capital costs per new facility are approximately $898,000 for a small facility and $973,000 for a large facility, with estimated incremental annual costs of $251,000 per small facility and $300,000 per large facility. The total estimated incremental capital costs per modified or reconstructed facility (which would not have bag leak detection requirements) are approximately $96,000 for a small facility and $171,000 for a large facility,

with estimated incremental annual costs of $90,000 per small facility and $140,000 per large facility.

2. NESHAP

The estimated costs for an affected source to comply with the amended NESHAP are the same as the costs described above (in section IV.C.1) for modified or reconstructed facilities under the NSPS, 40 CFR part 60, subpart KKa. Costs for performance testing are estimated to be $0 to $180,000 per facility once every 5 years depending on number of stacks (equates to an average annual cost of about $0 to $36,000 per facility). Total costs for all other amendments for the entire source category (43 facilities) are an estimated $740,000 capital costs and annual costs of $570,000 (equates to an average cost per facility of $17,000 capital and $13,000 annualized). More detailed information on cost impacts on existing sources is available in the Cost Impacts Memorandum available in the docket for this action.

D. What are the economic impacts?

The EPA conducted economic impact analyses for these final rules, as detailed in the memorandum, *Economic Impact and Small Business Analysis for the Lead Acid Battery Manufacturing NSPS Review and NESHAP Area Source Technology Review: Final Report*, which is available in the docket for this action. The economic impacts of the final rules are calculated as the percentage of total annualized costs incurred by affected ultimate parent owners to their revenues. This ratio provides a measure of the direct economic impact to ultimate parent owners of facilities while presuming no impact on consumers. We estimate that none of the ultimate parent owners affected by these final rules will incur total annualized costs of 0.7 percent or greater of their revenues. Thus, these economic impacts are low for affected companies and the industries impacted by these final rules, and there will not be substantial

impacts on the markets for affected products. The costs of the final rules 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?

1. NSPS

The new standards for grid casting, lead reclamation and paste mixing will reduce the allowable emissions of lead from new, reconstructed, or modified sources and ensure emissions remain controlled and minimized moving forward.

2. NESHAP

As described above, the final amendments are expected to result in a reduction of lead emissions of 0.6 tpy for the industry. We are also finalizing several compliance assurance requirements which help prevent noncompliant emissions of lead, and the final amendments also revise the standards such that they apply at all times, which includes SSM periods. In addition, the final requirements to submit reports and test results electronically will improve monitoring, compliance, and implementation of the rule. While we did not perform a quantitative analysis of the health impacts expected due to the final rule amendments, we qualitatively characterize the health impacts in the memorandum, *Economic Impact and Small Business Analysis for the Lead Acid Battery Manufacturing NSPS Review and NESHAP Area Source Technology Review: Final Report*, which is available in the docket for this action.

F. What analysis of environmental justice did we conduct?

Consistent with the EPA's commitment to integrating EJ in the Agency's actions, and following the directives set forth in multiple Executive Orders, the Agency has conducted an analysis of the demographic groups living near existing facilities in the lead acid battery

manufacturing source category. For the new NSPS, we are not aware of any future new, modified, or reconstructed facilities that will be become subject to the NSPS in the foreseeable future. For the NESHAP, we anticipate a total of 43 facilities to be affected by this rule. For the demographic proximity analysis, we analyzed populations living near existing facilities to serve as a proxy of potential populations living near future facilities that may be impacted by the NSPS. We have also updated the analysis conducted at proposal by including one additional existing facility. The results of this addition do not change the findings that some communities around existing sources are above the national average in the demographic categories of Hispanic/Latino, linguistically isolated, and 25 years of age and over without a high school diploma. Executive Order 12898 directs the EPA to identify the populations of concern who are most likely to experience unequal burdens from environmental harms; specifically, minority populations (*i.e.,* people of color), low-income populations, and indigenous peoples (59 FR 7629; February 16, 1994). Additionally, Executive Order 13985 is intended to advance racial equity and support underserved communities through Federal government actions (86 FR 7009; January 20, 2021). The EPA defines EJ as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." The EPA further defines the term fair treatment to mean that "no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies." In recognizing that people of color and low-income populations often bear an unequal burden of environmental harms and risks, the EPA continues to consider ways of protecting them from adverse public health and environmental effects of air pollution.

This action finalizes the NSPS for new, modified, and reconstructed sources that commence construction after February 23, 2022, and the NESHAP for existing and new sources. Since the locations of the construction of any new lead acid battery manufacturing facilities are not known, and it is not known which of the existing facilities will be modified or reconstructed in the future, the demographic analysis was conducted for existing facilities as a characterization of the demographics in areas where these facilities are located. The demographic analysis includes an assessment of individual demographic groups of the populations living within 5 km and within 50 km of the facilities. We then compared the data from the analysis to the national average for each of the demographic groups.

1. NSPS

For the NSPS, we have updated the analysis presented in the proposed rulemaking to include one additional existing source. However, the conclusions presented at proposal and in this final rule remain the same. For the NESHAP, we have updated the analysis presented in the proposed rulemaking to include this additional existing facility and three other facilities that will become subject to the NESHAP upon promulgation of the amendments to the rule.

The results of the demographics analysis for the NSPS (see Table 1) indicate that for populations within 5 km of the 40 existing facilities, the percent of the population that is Hispanic/Latino is above the national average (43 percent versus 19 percent) and the percent of people living in linguistic isolation is above the national average (9 percent versus 5 percent). The category average for these populations is primarily driven by five facilities with Hispanic/Latino populations within 5 km that were at least 3 times the national average. The percent of the population over 25 without a high school diploma is above the national average (19 percent versus 12 percent). While on average across all 40 facilities, the African American

population living within 5 km is below the national average (10 percent versus 12 percent), four facilities did have African American populations within 5 km that were at least three times the national average.

The results of the demographic analysis (see Table 1) indicate that for populations within 50 km of the 40 existing facilities, the average percentages for most demographic groups are closer to the national averages. However, the average percent of the population that is Hispanic/Latino (25 percent) and in linguistic isolation (7 percent) are still above the national averages (19 percent and 5 percent, respectively). In addition, the average percent of the population within 50 km of the facilities that is Other/Multiracial is above the national average (11 percent versus 8 percent). The percent of the population over 25 without a high school diploma is above the national average (14 percent versus 12 percent).

TABLE 1. PROXIMITY DEMOGRAPHIC ASSESSMENT RESULTS FOR LEAD ACID BATTERY MANUFACTURING NSPS FACILITIES

Demographic Group	Nationwide	Population within 50 km of 40 Existing Facilities	Population within 5 km of 40 Existing Facilities
Total Population	328,016,242	47,911,142	2,245,359
	Race and Ethnicity by Percent		
White	60 percent	52 percent	37 percent
African American	12 percent	12 percent	10 percent
Native American	0.7 percent	0.3 percent	0.2 percent
Hispanic or Latino (includes white and nonwhite)	19 percent	25 percent	43 percent
Other and Multiracial	8 percent	11 percent	9 percent
	Income by Percent		
Below Poverty Level	13 percent	12 percent	14 percent
Above Poverty Level	87 percent	88 percent	86 percent
	Education by Percent		
Over 25 and without a High School Diploma	12 percent	14 percent	19 percent

Over 25 and with a High School Diploma	88 percent	86 percent	81 percent
	Linguistically Isolated by Percent		
Linguistically Isolated	5 percent	7 percent	9 percent

Notes:

- The nationwide population count and all demographic percentages are based on the Census' 2015-2019 American Community Survey 5-year block group averages and include Puerto Rico. Demographic percentages based on different averages may differ. The total population counts within 5 km and 50 km of all facilities are based on the 2010 Decennial Census block populations.
- To avoid double counting, the "Hispanic or Latino" category is treated as a distinct demographic category for these analyses. A person is identified as one of five racial/ethnic categories above: White, African American, Native American, Other and Multiracial, or Hispanic/Latino. A person who identifies as Hispanic or Latino is counted as Hispanic/Latino for this analysis, regardless of what race this person may have also identified as in the Census.

The EPA expects that the Lead Acid Battery Manufacturing NSPS and NESHAP will ensure compliance via their requirements for performance testing, inspections, monitoring, recordkeeping, and reporting and by complying with the standards at all times (including periods of SSM). The rule will also increase data transparency through electronic reporting. Therefore, effects of emissions on populations in proximity to any future affected sources, including in communities potentially overburdened by pollution, which are often people of color, low-income and indigenous communities, will be minimized at future new, modified, and reconstructed facilities through implementation of controls, work practices, and compliance assurance measures discussed in section III.A of this preamble to meet the NSPS.

The methodology and the results of the demographic analysis are presented in a technical report, "*Analysis of Demographic Factors for Populations Living Near Lead Acid Battery Manufacturing Facilities*," available in the docket for this action (Docket ID No. EPA-HQ-OAR-2021-0619).

2. NESHAP

For the NESHAP, we updated the analysis conducted at proposal by analyzing four additional facilities that will be subject to the rule (from 39 to 43 facilities total). The results of the demographics analysis for the NESHAP (see Table 2) indicate that for populations within 5 km of the 43 facilities subject to the NESHAP, the percent of the population that is Hispanic/Latino is above the national average (43 percent versus 19 percent) and the percent of people living in linguistic isolation is above the national average (9 percent versus 5 percent). The category average for these populations is primarily driven by five facilities that had percent Hispanic/Latino populations within 5 km that were at least 3 times the national average. The percent of the population over 25 years of age without a high school diploma is above the national average (18 percent versus 12 percent). Although the category average population within 5 km was below the national average for African American populations (10 percent versus 12 percent), four facilities did have African American populations within 5 km that were at least 3 times the national average.

The results of the demographic analysis (see Table 2) indicate that for populations within 50 km of the 43 facilities subject to the NESHAP, the category average percentages for most demographic groups are closer to the national averages. However, the average percent of the population that is Hispanic/Latino (25 percent) and in linguistic isolation (7 percent) are still above the national averages (19 percent and 5 percent, respectively). In addition, the average percent of the population within 50 km of the facilities that is Other/Multiracial is above the national average (11 percent versus 8 percent). The percent of the population over 25 without a high school diploma is above the national average (14 percent versus 12 percent).

The EPA expects that the Lead Acid Battery Manufacturing Area Source NESHAP will result in HAP emissions reductions at 14 of the 43 facilities. We examined the

demographics within 5 km and 50 km of these 14 facilities to determine if differences exist from the larger universe of 43 facilities subject to the NESHAP (see Table 2). In contrast to the broader set of NESHAP facilities, the population within 5 km and 50 km of the 14 facilities for which we expect emissions reductions, is above the national average for the percent African American population (20 and 22 percent versus 12 percent). This higher average percent African American population is largely driven by the populations surrounding three facilities, which range from 2 to 8 times the national average. The other 11 facilities are below the national average for the African American population. Also, the average percent Hispanic/Latino (13 and 21 percent versus 19 percent) and the average percent Linguistic Isolation (3 and 4 percent versus 5 percent) demographic category are near or below the national average for these 14 facilities.

TABLE 2. PROXIMITY DEMOGRAPHIC ASSESSMENT RESULTS FOR LEAD ACID BATTERY MANUFACTURING AREA SOURCE NESHAP FACILITIES

Demographic Group	Nationwide	All Existing NESHAP Facilities (43 Facilities)		NESHAP Facilities for which Emissions Reductions are Expected (14 Facilities)	
		Population within 50 km	Population within 5 km	Population within 50 km	Population within 5 km
Total Population	328,016,242	49,508,055	2,293,170	12,320,826	420,432
	Race and Ethnicity by Percent				
White	60 percent	52 percent	38 percent	51 percent	57 percent
African American	12 percent	12 percent	10 percent	20 percent	22 percent
Native American	0.7 percent	0.3 percent	0.3 percent	0.4 percent	0.4 percent
Hispanic or Latino (includes white and nonwhite)	19 percent	25 percent	43 percent	21 percent	13 percent
Other and Multiracial	8 percent	11 percent	9 percent	8 percent	8 percent
	Income by Percent				
Below Poverty Level	13 percent	12 percent	14 percent	14 percent	15 percent
Above Poverty Level	87 percent	88 percent	86 percent	86 percent	85 percent

	Education by Percent				
Over 25 and without a High School Diploma	12 percent	14 percent	18 percent	13 percent	11 percent
Over 25 and with a High School Diploma	88 percent	86 percent	82 percent	87 percent	89 percent
	Linguistically Isolated by Percent				
Linguistically Isolated	5 percent	7 percent	9 percent	4 percent	3 percent

Notes:

· The nationwide population count and all demographic percentages are based on the Census' 2015-2019 American Community Survey 5-year block group averages and include Puerto Rico. Demographic percentages based on different averages may differ. The total population counts within 5 km and 50 km of all facilities are based on the 2010 Decennial Census block populations.

· To avoid double counting, the "Hispanic or Latino" category is treated as a distinct demographic category for these analyses. A person is identified as one of five racial/ethnic categories above: White, African American, Native American, Other and Multiracial, or Hispanic/Latino. A person who identifies as Hispanic or Latino is counted as Hispanic/Latino for this analysis, regardless of what race this person may have also identified as in the Census.

The methodology and the results of the demographic analysis are presented in a technical report, *Analysis of Demographic Factors for Populations Living Near Lead Acid Battery Manufacturing Facilities*, available in the docket for this action (Docket ID No. EPA-HQ-OAR-2021-0619).

As explained in the proposal preamble (87 FR 10140), current ambient air quality monitoring data and modeling analyses indicate that ambient lead concentrations near the existing lead acid battery manufacturing facilities are all below the NAAQS for lead. The CAA identifies two types of NAAQS: primary and secondary standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. With ambient concentrations below the NAAQS prior to the finalization of these standards, we conclude that the emissions from lead acid battery manufacturing area source

facilities are not likely to pose significant risks or impacts to human health in the baseline prior to these regulations. The review and update of the NSPS and NESHAP in this action will further reduce lead exposures and HAP emissions to provide additional protection to human health and the environment. The EPA expects that the Lead Acid Battery Manufacturing NSPS and NESHAP will reduce future lead emissions due to the more stringent standards finalized for the grid casting, paste mixing, and lead reclamation processes. We expect lead emission reductions of 0.64 tpy from paste mixing facilities at existing lead acid battery manufacturing plants as discussed in sections III.A.3 and III.B.3. We also expect to provide additional protection to human health and the environment by finalizing compliance assurance measures such as requirements for performance testing, inspections, monitoring, recordkeeping, and reporting and by requiring compliance with the standards at all times (including periods of SSM), and by expanding the applicability provisions to certain battery component facilities. The rules will also increase data transparency through electronic reporting. Therefore, the level of HAP emissions to which populations in proximity to the affected sources are exposed will be reduced by the NESHAP requirements being finalized in this action and will be minimized at any future new, modified, or reconstructed source under the NSPS.

V. 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. Paperwork Reduction Act (PRA)

The information collection activities in the final rule have been submitted for approval to OMB under the PRA. The Information Collection Request (ICR) documents that the EPA prepared have been assigned EPA ICR number 2739.01 and OMB control number 2060-NEW for 40 CFR part 60, subpart KKa and EPA ICR number 2256.07 and OMB control number 2060-0598 for the NESHAP. You can find a copy of the ICRs in the docket for this rule, and they are briefly summarized here. The ICRs are specific to information collection associated with the lead acid battery manufacturing source category, through the new 40 CFR part 60, subpart KKa and amendments to 40 CFR part 63, subpart PPPPPP. We are finalizing changes to the testing, recordkeeping and reporting requirements associated with 40 CFR part 63, subpart PPPPPP, in the form of requiring performance tests every 5 years and including the requirement for electronic submittal of reports. In addition, the number of facilities subject to the standards changed. The number of respondents was revised from 41 to 43 for the NESHAP based on our review of operating permits and consultation with industry representatives and state/local agencies. We are finalizing recordkeeping and reporting requirements associated with the new NSPS, 40 CFR part 60, subpart KKa, including notifications of construction/reconstruction, initial startup, conduct of performance tests, and physical or operational changes; reports of opacity results, performance test results and semiannual reports if excess emissions occur or continuous emissions monitoring systems are used; and keeping records of performance test results and pressure drop monitoring.

Respondents/affected entities: The respondents to the recordkeeping and reporting requirements are owners or operators of lead acid battery manufacturing sources subject to 40 CFR part 60, subpart KKa and 40 CFR part 63, subpart PPPPPP.

Respondent's obligation to respond: Mandatory (40 CFR part 60, subpart KKa and 40 CFR part 63, subpart PPPPPP).

Estimated number of respondents: 43 facilities for 40 CFR part 63, subpart PPPPPP and 0 facilities for 40 CFR part 60, subpart KKa.

Frequency of response: The frequency of responses varies depending on the burden item. Responses include onetime review of rule amendments, reports of performance tests, and semiannual excess emissions and continuous monitoring system performance reports.

Total estimated burden: The annual recordkeeping and reporting burden for responding facilities to comply with all of the requirements in the new NSPS, 40 CFR part 60, subpart KKa, and the NESHAP, averaged over the 3 years of this ICR, is estimated to be 2,490 hours (per year). The average annual burden to the Agency over the 3 years after the amendments are final is estimated to be 60 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: The annual recordkeeping and reporting cost for responding facilities to comply with all of the requirements in the new NSPS and the NESHAP, averaged over the 3 years of this ICR, is estimated to be $168,000 (rounded, per year). There are no estimated capital and operation and maintenance costs. The total average annual Agency cost over the first 3 years after the amendments are final is estimated to be $3,070.

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. When OMB approves this ICR, the Agency will announce that approval in the *Federal Register* and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are small businesses that own lead acid battery manufacturing facilities or facilities that do not make lead acid batteries but have a lead acid battery grid casting process or a lead oxide production process. The Agency has determined that there are nine small businesses subject to the requirements of this action, and that eight of these small businesses are estimated to experience impacts of less than 1 percent of their revenues. The Agency estimates that one small business may experience an impact of approximately 1.6 percent of their annual revenues once every 5 years mainly due to the compliance testing requirements, with this one small business representing approximately 11 percent of the total number of affected small entities. The other 4 of the 5 years, we estimate the costs would be less than 1 percent of annual revenues for this one small business. Details of this analysis are presented in *Economic Impact and Small Business Analysis for the Lead Acid Battery Manufacturing NSPS Review and NESHAP Area Source Technology Review: Final Report,* which is available in the docket for this action.

D. 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 action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

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

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

This action does not have tribal implications as specified in Executive Order 13175. No tribal facilities are known to be engaged in the industries that would be affected by this action nor are there any adverse health or environmental effects from this action. Thus, Executive Order 13175 does not apply to this action.

G. 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. The EPA's assessment of the potential impacts to human health from emissions at existing sources were discussed at proposal (87 FR 10140). The newly required work practices to minimize fugitive dust containing lead and the revised emission limits described in sections III.A.4 and III.B.4 will reduce actual and/or allowable lead emissions, thereby reducing potential exposure to children, including the unborn.

H. 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.

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

This rulemaking involves technical standards. Therefore, the EPA conducted searches through the Enhanced NSSN Database managed by the American National Standards Institute (ANSI) to determine if there are voluntary consensus standards (VCS) that are relevant to this action. The Agency also contacted VCS organizations and accessed and searched their databases. Searches were conducted for the EPA Methods 9, 12, 22, and 29 of 40 CFR part 60, appendix A. No applicable VCS were identified for EPA Methods 12, 22, and 29 for lead.

During the search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures similar to the EPA's reference method, the EPA considered it as a potential equivalent method. All potential standards were reviewed to determine the practicality of the VCS for this rule. This review requires significant method validation data which meets the requirements of the EPA Method 301 for accepting alternative methods or scientific, engineering and policy equivalence to procedures in the EPA reference methods. The EPA may reconsider determinations of impracticality when additional information is available for particular VCS.

One VCS was identified as an acceptable alternative to an EPA test method for the purposes of this rule; ASTM D7520–16, "Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere". ASTM D7520—16 is a test method describing the procedures to determine the opacity of a plume using digital imagery and associated hardware and software. The opacity of a plume is determined by the application of a Digital Camera Opacity Technique (DCOT) that consists of a Digital Still Camera, Analysis Software, and the Output Function's content to obtain and interpret digital images to determine and report plume opacity. ASTM D7520–16 is an acceptable alternative to EPA Method 9 with the following conditions:

1. During the DCOT certification procedure outlined in section 9.2 of ASTM D7520-16, you or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).

2. You must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in section 8.1 of ASTM D7520-16.

3. You must follow the record keeping procedures outlined in 40 CFR 63.10(b)(1) for the DCOT certification, compliance report, data sheets, and all raw unaltered JPEGs used for opacity and certification determination.

4. You or the DCOT vendor must have a minimum of four independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity of anyone reading and the average error must not exceed 7.5 percent opacity.

5. This approval does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software and operator in accordance with ASTM D7520-16 and the VCS memorandum is on the facility, DCOT operator, and DCOT vendor.

The search identified one other VCS that was a potentially acceptable alternative to an EPA test method for the purposes of this rule. However, after reviewing the standards, the EPA determined that the candidate VCS ASTM D4358-94 (1999), "Standard Test Method for Lead and Chromium in Air Particulate Filter Samples of Lead Chromate Type Pigment Dusts by Atomic Absorption Spectroscopy" is not an acceptable alternative to EPA Method 12 due to lack

of equivalency, documentation, validation data, and other important technical and policy considerations. Additional information for the VCS search and determinations can be found in the memorandum, *Voluntary Consensus Standard Results for Review of Standards of Performance for Lead Acid Battery Manufacturing Plants and National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery,* which is available in the docket for this action.

The ASTM standards (methods) are reasonably available for purchase individually through ASTM, International (see 40 CFR 60.17 and 63.14) and through the American National Standards Institute (ANSI) Webstore, *https://webstore.ansi.org*. Telephone (212) 642-4980 for customer service.

We are also incorporating by reference the EPA guidance document "Fabric Filter Bag Leak Detection Guidance," (EPA-454/R-98-015). This document provides guidance on fabric filter and monitoring systems including monitor selection, installation, set up, adjustment, and operation. The guidance also discusses factors that may affect monitor performance as well as quality assurance procedures.

The EPA guidance document, "Fabric Filter Bag Leak Detection Guidance," (EPA-454/R-98-015) is reasonably available at *https://www3.epa.gov/ttnemc01/cem/tribo.pdf* or by contacting the National Technical Information Service (NTIS) at 1-800-553-6847.

Under 40 CFR 63.7(f) and 40 CFR 68.3(f) of subpart A of the General Provisions, a source may apply to the EPA to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in the final rule or any amendments.

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

Executive Order 12898 (59 FR 7629; February 16, 1994) directs Federal agencies, to the greatest extent practicable and permitted by law, to make EJ part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations (people of color and/or indigenous peoples) and low-income populations.

The EPA anticipates that the human health and environmental conditions that exist prior to this action have the potential to result in disproportionate and adverse human health or environmental effects on people of color, low-income populations, and/or indigenous peoples. However, as we explained in the proposed rule preamble, based on analyses of emissions and available ambient monitoring data (as described in section IV.A of the proposal preamble (87 FR 10140)), ambient lead concentrations near the facilities are all below the NAAQS for lead prior to these regulations. Therefore, we concluded that the emissions from lead acid battery area source facilities are not likely to pose significant risks or impacts to human health if facilities are complying with the NESHAP (see 87 FR 10134, page 10140).

The EPA anticipates that this action is likely to reduce the existing potential disproportionate and adverse effects on people of color, low-income populations and/or indigenous peoples. The documentation for this decision is contained in section IV.F of this preamble. As discussed in section IV.F of this preamble, the demographic analysis indicates that the following groups are above the national average within 5 km of the 43 existing facilities: Hispanics/Latino, people living below the poverty level, 25 years old or greater without a high school diploma, and people living in linguistic isolation. Populations within 5 km of the 14 facilities that the EPA expects that the Lead Acid Battery Manufacturing NESHAP will result in HAP emissions reductions are above the national average for African Americans and people

living below the poverty level. This action further reduces lead and other criteria and HAP emissions to provide additional protection to human health and the environment.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report for this action to each House of the Congress and to the Comptroller General of the United States. Neither the NSPS nor the NESHAP amended by this action constitute a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Parts 60 and 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Michael S. Regan,

Administrator.

For the reasons cited in the preamble, title 40, chapter I, parts 60 and 63 of the Code of Federal Regulations are amended as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 4701, *et seq*.

Subpart A—General Provisions

2. Section 60.17 is amended by:

a. Redesignating paragraphs (h)(196) through (h)(212) as paragraphs (h)(197) through (h)(213);

b. Adding new paragraph (h)(196); and

c. Revising paragraph (j)(1).

The addition and revision read as follows:

§ 60.17 Incorporations by reference.

* * * * *

(h) * * *

(196) ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016; IBR approved for §60.374a(d).

* * * * *

(j) * * *

(1) EPA-454/R-98-015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997,

(https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000D5T6.PDF); IBR approved for §§ 60.373a(b); 60.2145(r); 60.2710(r); 60.4905(b); 60.5225(b).

* * * * *

3. Part 60 is amended by revising the heading for Subpart KK to read as follows:

Subpart KK - Standards of Performance for Lead-Acid Battery Manufacturing Plants for which Construction, Reconstruction, or Modification Commenced After January 14, 1980, and on or Before February 23, 2022

4. Section 60.370 is amended by revising paragraph (c) to read as follows:

§ 60.370 Applicability and designation of affected facility.

* * * * *

(c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, and on or before February 23, 2022, is subject to the requirements of this subpart.

5. Add subpart KKa to part 60 to read as follows:

Subpart KKa – Standards of Performance for Lead Acid Battery Manufacturing Plants for which Construction, Modification or Reconstruction Commenced After February 23, 2022

Sec.

60.375a Recordkeeping and reporting requirements.

§60.370a Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the affected facilities listed in paragraph (b) of this section at any lead acid battery manufacturing plant that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons).

(b) The provisions of this subpart are applicable to the following affected facilities used in the manufacture of lead acid storage batteries:

(1) Grid casting facility.

(2) Paste mixing facility.

(3) Three-process operation facility.

(4) Lead oxide manufacturing facility.

(5) Lead reclamation facility.

(6) Other lead-emitting operations.

(c) Any facility under paragraph (b) of this section for which the construction, modification, or reconstruction is commenced after February 23, 2022, is subject to the requirements of this subpart.

§60.371a Definitions.

As used in this subpart, all terms not defined herein have the meaning given them in the Act and in subpart A of this part.

(a) *Bag leak detection system* means a system that is capable of continuously monitoring particulate matter (dust) loadings in the exhaust of a fabric filter (baghouse) in order to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to,

an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

(b) *Lead acid battery manufacturing plant* means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.

(c) *Grid casting facility* means the facility which includes all lead melting pots that remelt scrap from onsite lead acid battery manufacturing processes, and machines used for casting the grid used in lead acid batteries.

(d) *Lead oxide manufacturing facility* means a facility that produces lead oxide from lead for use in lead acid battery manufacturing, including lead oxide production and product recovery operations. Local exhaust ventilation or building ventilation exhausts serving lead oxide production areas are not part of the lead oxide manufacturing facility.

(e) *Lead reclamation facility* means the facility that casts remelted lead scrap generated by onsite lead acid battery manufacturing processes into lead ingots for use in the battery manufacturing process, and which is not a furnace affected under subpart L of this part. Lead scrap remelting processes that are used directly (not cast into an ingot first) in a grid casting facility or a three-process operation facility are parts of those facilities and are not part of a lead reclamation facility.

(f) *Other lead-emitting operation* means any lead acid battery manufacturing plant operation from which lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under subpart L of this part. These operations also include local exhaust ventilation or building ventilation exhausts serving lead oxide production areas.

(g) *Paste mixing facility* means the facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.

(h) *Three-process operation facility* means the facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.

(i) *Total enclosure* means a containment building that is completely enclosed with a floor, walls, and a roof to prevent exposure to the elements and that has limited openings to allow access and egress for people and vehicles.

§60.372a Standards for lead.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart may cause the emissions listed in paragraphs (a)(1) through (8) of this section to be discharged into the atmosphere. The emission limitations and opacity limitations listed in paragraphs (a)(1) through (8) of this section apply at all times, including periods of startup, shutdown and malfunction. As provided in 60.11(f), this provision supersedes the exemptions for periods of startup, shutdown, and malfunction in the general provisions in subpart A of this part. You must also comply with the requirements in paragraphs (b) and (c) of this section.

(1) From any grid casting facility, any gases that contain lead in excess of 0.08 milligram of lead per dry standard cubic meter of exhaust (0.000035 gr/dscf).

(2) From any paste mixing facility, any gases that contain in excess of 0.10 milligram of lead per dry standard cubic meter of exhaust (0.0000437 gr/dscf) or emit no more than 0.9 gram of lead per hour (0.002 lbs/hr) total from all paste mixing sources. If a facility is complying with the 0.9 gram of lead per hour, you must sum the emission rate from all the paste mixing sources.

(3) From any three-process operation facility, any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.000437 gr/dscf).

(4) From any lead oxide manufacturing facility, any gases that contain in excess of 5.0 milligrams of lead per kilogram of lead feed (0.010 lb/ton).

(5) From any lead reclamation facility, any gases that contain in excess of 0.45 milligrams of lead per dry standard cubic meter of exhaust (0.000197 gr/dscf).

(6) From any other lead-emitting operation, any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.000437 gr/dscf).

(7) From any affected facility other than a lead reclamation facility, any gases with greater than 0 percent opacity (measured according to EPA Method 9 of appendix A to this part and rounded to the nearest whole percentage or measured according to EPA Method 22 of appendix A to this part).

(8) From any lead reclamation facility, any gases with greater than 5 percent opacity (measured according to EPA Method 9 and rounded to the nearest whole percentage).

(b) When two or more facilities at the same plant (except the lead oxide manufacturing facility) are ducted to a common control device, an equivalent standard for the total exhaust from the commonly controlled facilities must be determined using equation 1 to paragraph (b) as follows:

$$\text{Equation 1 to paragraph (b):} \quad S_e = \sum_{a=1}^{N} S_a \left(\frac{Q_{sd_a}}{Q_{sd_T}} \right)$$

Where:

S_e = is the equivalent standard for the total exhaust stream, mg/dscm (gr/dscf).

S_a = is the actual standard for each exhaust stream ducted to the control device, mg/dscm (gr/dscf).

N = is the total number of exhaust streams ducted to the control device.

Q_{sda} = is the dry standard volumetric flow rate of the effluent gas stream from each facility ducted to the control device, dscm/hr (dscf/hr).

Q_{sdT} = is the total dry standard volumetric flow rate of all effluent gas streams ducted to the control device, dscm/hr (dscf/hr).

(c) The owner or operator must prepare, and at all times operate according to, a fugitive dust mitigation plan that describes in detail the measures that will be put in place and implemented to control fugitive dust emissions in the lead oxide unloading and storage areas. You must prepare a fugitive dust mitigation plan according to the requirements in paragraphs (c)(1) and (2) of this section.

(1) The owner or operator must submit the fugitive dust mitigation plan to the Administrator or delegated authority for review and approval when initially developed and any time changes are made.

(2) The fugitive dust mitigation plan must at a minimum include the requirements specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) *Lead oxide unloading and storage areas.* Surfaces used for vehicular material transfer activity must be cleaned at least once per month, by wet wash or a vacuum equipped with a filter rated by the manufacturer to achieve 99.97 percent capture efficiency for 0.3 micron particles in a manner that does not generate fugitive lead dust, except when sand or a similar material has been spread on the area to provide traction on ice or snow.

(ii) *Spills in lead oxide unloading and storage areas*. For any leak or spill that occurs during the unloading and storage process, complete washing or vacuuming the area to remove all spilled or leaked lead bearing material within 2 hours of the leak or spill occurrence.

(iii) *Materials storage*. Dust forming materials (that contain lead or lead compounds) must be stored in sealed, leak-proof containers or in a total enclosure.

(iv) *Records*. The fugitive dust mitigation plan must specify that records be maintained of all cleaning performed under paragraph (c)(2)(i) and (ii) of this section.

§60.373a Monitoring of emissions and operations.

(a) The owner or operator of any lead acid battery manufacturing facility subject to the provisions of this subpart and controlled by a scrubbing system(s) must install, calibrate, maintain, and operate a monitoring device(s) that measures and records the liquid flow rate and pressure drop across the scrubbing system(s) at least once every 15 minutes. The monitoring device must have an accuracy of ±5 percent over its operating range. The operating liquid flow rate must be maintained within ±10 percent of the average liquid flowrate during the most recent performance test. If a liquid flow rate or pressure drop is observed outside of the normal operational ranges as determined during the most recent performance test, you must record the incident and take immediate corrective actions. You must also record the corrective actions taken. You must submit an excess emissions and monitoring systems performance report and summary report required under §60.375a(c).

(b) Emissions points controlled by a fabric filter without a secondary filter must meet the requirements of paragraphs (b)(1) and (2) and either paragraph (b)(3) or (4) of this section. New lead acid battery plants with emission points controlled by a fabric filter without a secondary filter must meet the requirements of paragraph (b)(5) of this section. Fabric filters equipped with

a high efficiency particulate air (HEPA) filter or other secondary filter must comply with the requirements specified in paragraph (b)(1) and (6) of this section.

(1) You must perform quarterly inspections and maintenance to ensure proper performance of each fabric filter. This includes inspection of structural and filter integrity.

(2) If it is not possible for you to take the corrective actions specified in paragraphs (b)(3)(iii) or (iv) of this section for a process or fabric filter control device, you must keep at least one replacement fabric filter onsite at all times for that process or fabric filter control device. The characteristics of the replacement filters must be the same as the current fabric filters in use or have characteristics that would achieve equal or greater emission reductions.

(3) Install, maintain, and operate a pressure drop monitoring device to measure the differential pressure drop across the fabric filter during all times when the process is operating. The pressure drop must be recorded at least twice per day (at least 8 hours apart) if the results of the most recent performance test indicate that emissions from the facility are greater than 50 percent of the applicable lead emissions limit in §60.372a(a)(1) through (6). The pressure drop must be recorded at least once per day if the results of the most recent performance test indicate that emissions are less than or equal to 50 percent of the applicable lead emissions limit in §60.372a(a)(1) through (6). If a pressure drop is observed outside of the normal operational ranges as specified by the manufacturer, you must record the incident and take immediate corrective actions. You must submit an excess emissions and continuous monitoring system performance report and summary report required under §60.375a(c). You must also record the corrective actions taken and verify pressure drop is within normal operational range. These corrective actions may include but not be limited to those provided in paragraphs (b)(3)(i) through (iv) of this section.

(i) Inspecting the filter and filter housing for air leaks and torn or broken filters.

(ii) Replacing defective filter media, or otherwise repairing the control device.

(iii) Sealing off a defective control device by routing air to other control devices.

(iv) Shutting down the process producing the lead emissions.

(4) Conduct a visible emissions observation using EPA Method 9 (6 minutes) or EPA Method 22 (5 minutes) while the process is in operation to verify that no visible emissions are occurring at the discharge point to the atmosphere from any emissions source subject to the requirements of §60.372a(a) or (b). The visible emissions observation must be conducted at least twice daily (at least 6 hours apart) if the results of the most recent performance test indicate that emissions are greater than 50 percent of the applicable lead emissions limit in §60.372a(a)(1) through (6). The visible emissions observation must be conducted at least once per day if the results of the most recent performance test indicate that emissions are less than or equal to 50 percent of the applicable lead emissions limit in §60.372a(a)(1) through (6). If visible emissions are detected, you must record the incident and submit this information in an excess emissions and continuous monitoring system performance report and summary report required under §60.375a(c) and take immediate corrective action. You must also record the corrective actions taken. These corrective actions may include, but are not limited to, those provided in paragraphs (b)(3)(i) through (iv) of this section.

(5) If the lead acid battery manufacturing plant was constructed after February 23, 2022, and have emissions points controlled by a fabric filter, you must install and operate a bag leak detection system that meets the specifications and requirements in paragraphs (b)(5)(i) through (ix) of this section. For any other affected facility listed in §60.370a(b) that was constructed, modified, or reconstructed after February 23, 2022, that operates a bag leak detection system, the

bag leak detection system must meet the specifications and requirements in paragraphs (b)(5)(i) through (ix) of this section. Emission points controlled by a fabric filter that is equipped with, and monitored with, a bag leak detection system meeting the specifications and requirements in paragraphs (b)(5)(i) through (ix) of this section may have the inspections required in paragraph (b)(1) of this section performed semiannually.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter as lead emissions at concentrations at or below the values in §60.372a(a), as applicable to the process for which the fabric filter is used to control emissions. Where the fabric filter is used as a control device for more than one process, the lowest applicable value in §60.372a(a) must be used.

(ii) The bag leak detection system sensor must provide output of relative particulate matter loadings.

(iii) The bag leak detection system must be equipped with an alarm system that will alarm when an increase in relative particulate loadings is detected over a preset level.

(iv) You must install and operate the bag leak detection system in a manner consistent with the guidance provided in “Office of Air Quality Planning and Standards (OAQPS) Fabric Filter Bag Leak Detection Guidance” EPA-454/R-98-015 (incorporated by reference, see § 60.17) and the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system.

(v) The initial adjustment of the system must, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(vi) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the approved standard operating procedures manual required under paragraph (b)(2)(ix) of this section. You cannot increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection that demonstrates that the fabric filter is in good operating condition.

(vii) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, you must install the bag leak detector downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(ix) You must develop a standard operating procedures manual for the bag leak detection system that includes procedures for making system adjustments and a corrective action plan, which specifies the procedures to be followed in the case of a bag leak detection system alarm. The corrective action plan must include, at a minimum, the procedures that you will use to determine and record the time and cause of the alarm as well as the corrective actions taken to minimize emissions as specified in paragraphs (b)(5)(ix)(A) and (B) of this section.

(A) The procedures used to determine the cause of the alarm must be initiated within 30 minutes of the alarm.

(B) The cause of the alarm must be alleviated by taking the necessary corrective action(s) that may include, but not be limited to, those listed in paragraphs (b)(5)(ix)(B)(*1*) through (*6*).

(*1*) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions.

(*2*) Sealing off defective bags or filter media.

(*3*) Replacing defective bags or filter media, or otherwise repairing the control device.

(*4*) Sealing off defective baghouse compartment.

(*5*) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(*6*) Shutting down the process producing the lead emissions.

(6) Emissions points controlled by a fabric filter equipped with a secondary filter, such as a HEPA filter, are exempt from the requirement in paragraph (5) of this section to be equipped with a bag leak detection system. You must meet the requirements specified in paragraph (b)(6)(i) and either (ii) or (iii) of this section.

(i) If it is not possible for you to take the corrective actions specified in paragraphs (b)(3)(iii) or (iv) of this section for a process or fabric filter control device, you must keep at least one replacement primary fabric filter and one replacement secondary filter onsite at all times for that process or fabric filter control device. The characteristics of the replacement filters must be the same as the current fabric filters in use or have characteristics that would achieve equal or greater emission reductions.

(ii) You must perform the pressure drop monitoring requirements in paragraph (b)(3) of this section. You may perform these requirements once per week rather than once or twice daily.

(iii) You must perform the visible emissions observation requirements in paragraph (b)(4) of this section. You may perform these requirements once per week rather than once or twice daily.

§ 60.374a Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator must use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) After the initial performance test required in §60.8(a), you must conduct subsequent performance tests to demonstrate compliance with the lead and opacity standards in §60.372a. Performance testing must be conducted for each affected source subject to lead and opacity standards in §60.372a, that has not had a performance test within the last 5 years, except as described in paragraph (c) of this section. Thereafter, subsequent performance tests for each affected source must be completed no less frequently than every 5 years from the date the emissions source was last tested.

(c) In lieu of conducting subsequent performance tests for each affected source, you may elect to group similar affected sources together and conduct subsequent performance tests on one representative affected source within each group of similar affected sources. The determination of whether affected sources are similar must meet the criteria in paragraph (c)(1) of this section. If you decide to test representative affected sources, you must prepare and submit a testing plan as described in paragraph (c)(3) of this section.

(1) If you elect to test representative affected sources, the affected sources that are grouped together must be of the same process type (e.g., grid casting, paste mixing, three-process operations) and also have the same type of air pollution control device (e.g., fabric filters). You cannot group affected sources from different process types or with different air pollution control device types together for the purposes of this section.

(2) The results of the performance test conducted for the affected source selected as representative of a group of similar affected sources will represent the results for each affected

source within the group. In the performance test report, all affected sources in the group will need to be listed.

(3) If you plan to conduct subsequent performance tests on representative emission units, you must submit a test plan. This test plan must be submitted to the Administrator or delegated authority for review and approval no later than 90 days prior to the first scheduled performance test. The test plan must contain the information specified in paragraphs (c)(3)(i) through (iii) of this section.

(i) A list of all emission units. This list must clearly identify all emission units that have been grouped together as similar emission units. Within each group of emission units, you must identify the emission unit that will be the representative unit for that group and subject to performance testing.

(ii) A list of the process type and type of air pollution control device on each emission unit.

(iii) The date of last test for each emission unit and a schedule indicating when you will conduct performance tests for each emission unit within the representative groups.

(4) If you conduct subsequent performance tests on representative emission units, the unit with the oldest test must be tested first, and each subsequent performance test must be performed for a different unit until all units in the group have been tested. The order of testing for each subsequent test must proceed such that the unit in the group with the least recent performance test is the next unit to be tested.

(5) 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. You must make available to the Administrator in the test report, records as may be necessary to determine the conditions of performance tests.

(d) The owner or operator must determine compliance with the lead and opacity standards in §60.372a, as follows:

(1) EPA Method 12 of appendix A to this part or EPA Method 29 of appendix A to this part must be used to determine the lead concentration (CPb) and the volumetric flow rate (Qsda) of the effluent gas. The sampling time and sample volume for each run must be at least 60 minutes and 0.85 dscm (30 dscf).

(2) EPA Method 9 of appendix A to this part and the procedures in §60.11 must be used to determine opacity during the performance test. For EPA Method 9, the opacity numbers must be rounded off to the nearest whole percentage. ASTM D7520-16 (incorporated by reference, see § 60.17 is an acceptable alternative to EPA Method 9 with the specified conditions in paragraphs (d)(2)(i) through (v) of this section.

(i) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520-16, you or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).

(ii) You must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520-16.

(iii) You must follow the record keeping procedures outlined in §63.10(b)(1) for the DCOT certification, compliance report, data sheets, and all raw unaltered JPEGs used for opacity and certification determination.

(iv) You or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity of any one reading and the average error must not exceed 7.5 percent opacity.

(v) This approval does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software and operator in accordance with ASTM D7520-16 and this letter is on the facility, DCOT operator, and DCOT vendor.

(3) When different operations in a three-process operation facility are ducted to separate control devices, the lead emission concentration (C) from the facility must be determined using equation 1 to paragraph (d)(3) as follows:

$$\text{Equation 1 to paragraph (d)(3):} \quad C = \frac{\sum_{a=1}^{n}(C_a Q_{sda})}{\sum_{a=1}^{n} Q_{sda}}$$

Where:

C = concentration of lead emissions for the entire facility, mg/dscm (gr/dscf).

C_a = concentration of lead emissions from facility "a," mg/dscm (gr/dscf).

Q_{sda} = volumetric flow rate of effluent gas from facility "a," dscm/hr (dscf/hr).

n = total number of control devices to which separate operations in the facility are ducted.

(4) The owner or operator of lead oxide manufacturing facility must determine compliance with the lead standard in §60.372a(a)(5) as follows:

(i) The emission rate (E) from lead oxide manufacturing facility must be computed for each run using equation 2 to paragraph (d)(4)(i) as follows:

$$\text{Equation 2 to paragraph (d)(4)(i):} \quad E = \frac{\sum_{i=1}^{M} C_{Pbi} Q_{sdi}}{PK}$$

Where:

E = emission rate of lead, mg/kg (lb/ton) of lead charged.

C_{Pbi} = concentration of lead from emission point "i," mg/dscm (gr/dscf).

Q_{sdi} = volumetric flow rate of effluent gas from emission point "i," dscm/hr (dscf/hr).

M = number of emission points in the affected facility.

P = lead feed rate to the facility, kg/hr (ton/hr).

K = conversion factor, 1.0 mg/mg (7000 gr/lb).

(ii) The average lead feed rate (P) must be determined for each run using equation 3 to paragraph (d)(4)(ii) as follows:

$$\text{Equation 3 to paragraph (d)(4)(ii):} \quad P = N * \frac{W}{\Theta}$$

Where:

N = number of lead ingots charged.

W = average mass of the lead ingots, kg (ton).

Θ = duration of run, hr.

§60.375a Recordkeeping and reporting requirements.

(a) The owner or operator must keep the records specified in paragraphs (a)(1) through (7) of this section and maintain them in a format readily available for review onsite for a period of 5 years.

(1) Records of pressure drop values and liquid flow rate from the monitoring required in §60.373a(a) for scrubbing systems.

(2) Records of fabric filter inspections and maintenance activities required in §60.373a(b)(1).

(3) Records required under §60.373a(b)(3) or (b)(6)(ii) of fabric filter pressure drop, pressure drop observed outside of normal operating ranges as specified by the manufacturer, and corrective actions taken.

(4) Records of the required opacity measurements in §60.373a(b)(4) or (b)(6)(iii).

(5) If a bag leak detection system is used under §60.373a(b)(5), for a period of 5 years, keep the records specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) Electronic records of the bag leak detection system output.

(ii) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the corrective actions taken, and the date and time the cause of the alarm was corrected.

(iii) All records of inspections and maintenance activities required under §60.373a(b)(5).

(6) Records of all cleaning required as part of the practices described in the fugitive dust mitigation plan required under §60.372a(c) for the control of fugitive dust emissions.

(7) You must keep the records of failures to meet an applicable standard as specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time, the cause and duration of each failure.

(ii) For each failure to meet an applicable standard, record and retain a list of the affected sources 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.

(iii) Record actions taken to minimize emissions and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(b) Beginning on [**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**], within 60 days after the date of completing each performance test or demonstration of compliance required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs (b)(1) through (3) 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 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 using 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 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.

(3) Confidential business information (CBI).

(i) The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as

CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information submitted under paragraph (b)(1) or (2) of this section, you must submit a complete file, including information claimed to be CBI, to the EPA.

(ii) The file must be generated using the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website.

(iii) Clearly mark the part or all of the information that you claim to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

(iv) The preferred method for CBI submittal is for it to be transmitted electronically using email attachments, File Transfer Protocol (FTP), or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address oaqpscbi@epa.gov, and as described above, should include clear CBI markings and be flagged to the attention of the Group Leader, Measurement Policy Group. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email oaqpscbi@epa.gov to request a file transfer link.

(v) If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404-02), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention: Lead Acid Battery Sector Lead and Group Leader, Measurement Policy Group. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer wrapping.

(vi) All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available.

(vii) You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described in paragraphs (a)(1) and (2) of this section.

(c) You must submit a report of excess emissions and monitoring systems performance report and summary report according to §60.7(c) and (d) to the Administrator semiannually. Report the number of failures to meet an applicable standard. For each instance, report the date, time, cause, and duration of each failure. For each failure, the report must include a list of the affected sources 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. You must use the appropriate spreadsheet template on the CEDRI website (https://www.epa.gov/electronic-reporting-air-emissions/cedri) for this subpart. The date report templates become available will be listed on the CEDRI website. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. Submit all reports to the EPA via CEDRI, which can be accessed through the EPA's CDX (https://cdx.epa.gov/). The EPA will make all the information submitted through CEDRI available to the public without further notice to you. As stated in paragraph (b)(3) of this section, do not use CEDRI to submit information you claim as CBI. Anything submitted using CEDRI cannot later be claimed CBI. If you claim CBI, submit the report following description in

paragraph (b)(3) of this section. The same file with the CBI omitted must be submitted to CEDRI as described in this section.

(d) 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 that reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in paragraphs (d)(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) A description of 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.

(e) 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 that reporting requirement. To assert a claim of *force majeure*, you must meet the requirements outlined in paragraphs (e)(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) A description of 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.

(f) Any records required to be maintained by this subpart 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.

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

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

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

Subpart A—General Provisions

7. Section 63.14 is amended by:

a. Revising paragraph (h)(109);

b. Removing and reserving paragraph (h)(110);

c. Removing and reserving paragraph (n)(3); and

d. Revising paragraph (n)(4).

The revisions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(h) * * *

(109) ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016; IBR approved for §§ 63.1625(b); table 3 to subpart LLLLL; 63.7823(c) through (e), 63.7833(g); 63.11423(c).

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(n) * * *

(4) EPA-454/R-98-015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, (https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000D5T6.PDF); IBR approved for §§ 63.548(e); 63.864(e); 63.7525(j); 63.8450(e); 63.8600(e); 63.9632(a); 63.9804(f); 63.11224(f); 63.11423(e).

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Subpart PPPPP—National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources

8. Section 63.11421 is revised and republished to read as follows:

§ 63.11421 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a lead acid battery manufacturing plant or a lead acid battery component manufacturing plant that is an area source of hazardous air pollutants (HAP) emissions.

(b) This subpart applies to each new or existing affected source. The affected source is each plant that is either a lead acid battery manufacturing plant or a lead acid battery component manufacturing plant. For each lead acid battery manufacturing plant, the affected source includes all grid casting facilities, paste mixing facilities, three-process operation facilities, lead oxide manufacturing facilities, lead reclamation facilities, and any other lead-emitting operation that is associated with the lead acid battery manufacturing plant. For each lead acid battery component manufacturing plant, the affected source includes all grid casting facilities, paste mixing facilities, three-process operation facilities, and lead oxide manufacturing facilities.

(1) A lead acid battery manufacturing plant affected source is existing if you commenced construction or reconstruction of the affected source on or before April 4, 2007.

(2) A lead acid battery manufacturing plant affected source is new if you commenced construction or reconstruction of the affected source after April 4, 2007.

(3) A lead acid battery component manufacturing plant affected source is existing if you commenced construction or reconstruction of the affected source on or before February 23, 2022.

(4) A lead acid battery component manufacturing plant affected source is new if you commenced construction or reconstruction of the affected source after February 23, 2022.

(c) This subpart does not apply to research and development facilities, as defined in section 112(c)(7) of the Clean Air Act (CAA).

(d) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

(e) For lead acid battery component manufacturing plants, you are exempt from the requirements of §63.11422 through §63.11427 of this subpart if the conditions of paragraphs (e)(1) through (3) of this section are met.

(1) The grid casting facility, paste mixing facility, three-process operation facility, or lead oxide manufacturing facility is subject to another subpart under this part.

(2) You control lead emissions from the grid casting facility, paste mixing facility, three-process operation facility, or lead oxide manufacturing facility in compliance with the standards specified in the applicable subpart.

(3) The other applicable subpart under this part does not exempt the grid casting facility, paste mixing facility, three-process operation facility, or lead oxide manufacturing facility from the emission limitations or work practice requirements of that subpart. This means you comply with all applicable emissions limitations and work practice standards under the other subpart (*e.g.,* you install and operate the required air pollution controls or have implemented the required work practice to reduce lead emissions to levels specified by the applicable subpart).

9. Section 63.11422 is revised to read as follows:

§ 63.11422 What are my compliance dates?

(a) If you own or operate a lead acid battery manufacturing plant existing affected source, you must achieve compliance with the applicable provisions in this subpart by no later than July 16, 2008, except as specified in paragraphs (e) through (h) of this section.

(b) If you start up a new lead acid battery manufacturing plant affected source on or before July 16, 2007, you must achieve compliance with the applicable provisions in this subpart not later than July 16, 2007, except as specified in paragraphs (e) through (h) of this section.

(c) If you start up a new lead acid battery manufacturing plant affected source after July 16, 2007, but on or before February 23, 2022**,** you must achieve compliance with the applicable provisions in this subpart upon startup of your affected source, except as specified in paragraph (e) through (h) this section.

(d) If you start up a new lead acid battery manufacturing plant or lead acid battery component manufacturing plant affected source after February 23, 2022, you must achieve compliance with the applicable provisions in this subpart not later than **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, or upon initial startup of your affected source, whichever is later.

(e) Until **[INSERT DATE 3 YEARS AFTER PUBLICATION IN THE FEDERAL REGISTER],** lead acid battery manufacturing plant affected sources that commenced construction or reconstruction on or before **[DATE OF PUBLICATION IN THE FEDERAL REGISTER]** must meet all the standards for lead and opacity in 40 CFR 60.372 and the requirements of §63.11423(a)(1).

(f) Lead acid battery manufacturing plant affected sources that commenced construction or reconstruction on or before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** must comply with the requirements in §63.11423(a)(2) by **[INSERT DATE 3 YEARS AFTER PUBLICATION IN THE FEDERAL REGISTER]**. All affected sources that commence construction or reconstruction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** must comply with the requirements in §63.11423(a)(2) by initial

startup or **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, whichever is later.

(g) Lead acid battery manufacturing plant affected sources that commenced construction or reconstruction on or before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** must comply with the requirements of §63.11423(a)(3) by **[INSERT DATE 180 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]**. All affected sources that commence construction or reconstruction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** must comply with the requirements of §63.11423(a)(3) by initial startup or **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, whichever is later.

(h) After **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, lead acid battery manufacturing plant affected sources must comply with the startup, shutdown, and malfunction requirements specified in Table 3 except that you must comply with the recordkeeping requirements referred that Table 3 refers to in §63.11424(a)(5) by **[INSERT DATE 90 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]**.

(i) If you own or operate a lead acid battery component manufacturing plant existing affected source, you must achieve compliance with the applicable provisions in this subpart by no later than **[INSERT DATE 3 YEARS AFTER PUBLICATION IN THE FEDERAL REGISTER]**.

10. Section 63.11423 is revised and republished read as follows:

§ 63.11423 What are the standards and compliance requirements for new and existing sources?

(a) You must meet all the standards for lead and opacity as specified in paragraphs (a)(1) through (3) of this section.

(1) Until the compliance date specified in §63.11422(e), lead acid battery manufacturing plant affected sources must comply with paragraph (a)(1)(i) or (ii) of this section.

(i) You meet all the standards for lead and opacity in 40 CFR 60.372 and the requirements of paragraphs (a)(4) and (5), (b) and (c)(1) through (3) of this section.

(ii) You comply with paragraph (a)(2) of this section.

(2) Beginning no later than the applicable compliance date specified in §63.11422(f) or (i), you must meet each emission limit in Table 1 and each opacity standard in Table 2 to this subpart that applies to you; you must meet the requirements of paragraphs (a)(4) and (5), (c), and (d) of this section; and you must also comply with the recordkeeping and electronic reporting requirements in §63.11424(a)(6), (7) and (b).

(3) Beginning no later than the applicable compliance date specified in §63.11422(g) or (i), you must comply with the monitoring requirements in §63.11423(e), the recordkeeping and electronic reporting requirements in §63.11424(a)(1) through (5) and (c) through (f), and the definition of lead reclamation in §63.11426.

(4) At all times, you 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 you 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.

(5) When two or more facilities at the same plant (except the lead oxide manufacturing facility) are ducted to a common control device, an equivalent standard for the total exhaust from the commonly controlled facilities must be determined using equation 1 to paragraph (a)(5) as follows:

$$\text{Equation 1 to paragraph (a)(5):} \quad S_e = \sum_{a=1}^{N} S_a \left(\frac{Q_{sd_a}}{Q_{sd_T}} \right)$$

Where:

S_e = is the equivalent standard for the total exhaust stream, mg/dscm (gr/dscf).

S_a = is the actual standard for each exhaust stream ducted to the control device, mg/dscm (gr/dscf).

N = is the total number of exhaust streams ducted to the control device.

Q_{sda} = is the dry standard volumetric flow rate of the effluent gas stream from each facility ducted to the control device, dscm/hr (dscf/hr).

Q_{sdT} = is the total dry standard volumetric flow rate of all effluent gas streams ducted to the control device, dscm/hr (dscf/hr).

(b) As specified in paragraph (a) of this section, you must meet the monitoring requirements in paragraphs (b)(1) and (2) of this section.

(1) For any emissions point controlled by a scrubbing system, you must meet the requirements in 40 CFR 60.373.

(2) For any emissions point controlled by a fabric filter, you must meet the requirements of paragraph (b)(2)(i) of this section and either paragraph (b)(2)(ii) or (iii) of this section. Fabric

filters equipped with a high efficiency particulate air (HEPA) filter or other secondary filter are allowed to monitor less frequently, as specified in paragraph (b)(2)(iv) of this section.

(i) You must perform semiannual inspections and maintenance to ensure proper performance of each fabric filter. This includes inspection of structural and filter integrity. You must record the results of these inspections.

(ii) You must install, maintain, and operate a pressure drop monitoring device to measure the differential pressure drop across the fabric filter during all times when the process is operating. The pressure drop must be recorded at least once per day. If a pressure drop is observed outside of the normal operational ranges as specified by the manufacturer, you must record the incident and take immediate corrective actions. You must also record the corrective actions taken. You must submit a monitoring system performance report in accordance with § 63.10(e)(3).

(iii) You must conduct a visible emissions observation at least once per day while the process is in operation to verify that no visible emissions are occurring at the discharge point to the atmosphere from any emissions source subject to the requirements of paragraph (a) of this section. If visible emissions are detected, you must record the incident and conduct an opacity measurement in accordance with 40 CFR 60.374(b)(3). You must record the results of each opacity measurement. If the measurement exceeds the applicable opacity standard in 40 CFR 60.372(a)(7) or (8), you must submit this information in an excess emissions report required under § 63.10(e)(3).

(iv) Fabric filters equipped with a HEPA filter or other secondary filter are allowed to monitor less frequently, as specified in paragraph (b)(2)(iv)(A) or (B) of this section.

(A) If you are using a pressure drop monitoring device to measure the differential pressure drop across the fabric filter in accordance with paragraph (b)(2)(ii) of this section, you must record the pressure drop at least once per week. If a pressure drop is observed outside of the normal operational ranges as specified by the manufacturer, you must record the incident and take immediate corrective actions. You must also record the corrective actions taken. You must submit a monitoring system performance report in accordance with § 63.10(e)(3).

(B) If you are conducting visible emissions observations in accordance with paragraph (b)(2)(iii) of this section, you must conduct such observations at least once per week and record the results in accordance with paragraph (b)(2)(iii) of this section. If visible emissions are detected, you must record the incident and conduct an opacity measurement in accordance with 40 CFR 60.374(b)(3). You must record the results of each opacity measurement. If the measurement exceeds the applicable opacity standard in 40 CFR 60.372(a)(7) or (8), you must submit this information in an excess emissions report required under § 63.10(e)(3).

(c) As specified in paragraph (a) of this section, you must meet the performance testing requirements in paragraphs (c)(1) through (6) of this section.

(1) Existing sources are not required to conduct an initial performance test if a prior performance test was conducted using the same methods specified in this section and either no process changes have been made since the test, or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance with this subpart despite process changes.

(2) Sources without a prior performance test, as described in paragraph (c)(1) of this section, must conduct an initial performance test using the methods specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) EPA Method 12 of appendix A to 40 CFR part 60 or EPA Method 29 of appendix A to 40 CFR part 60 must be used to determine the lead concentration (CPb) and the volumetric flow rate (Qsda) of the effluent gas. The sampling time and the sample volume for each run must be at least 60 minutes and 0.85 dscm (30 dscf).

(ii) EPA Method 9 of appendix A to 40 CFR part 60 and the procedures in §63.6(h) must be used to determine opacity. The opacity numbers must be rounded off to the nearest whole percentage. Or, as an alternative to Method 9, you may use ASTM D7520-16 (incorporated by reference, see §63.14) with the caveats in paragraphs (c)(4)(ii)(A) through (E) of this section.

(A) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520-16, you or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).

(B) You must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520-16.

(C) You must follow the recordkeeping procedures outlined in §63.10(b)(1) for the DCOT certification, compliance report, data sheets, and all raw unaltered JPEGs used for opacity and certification determination.

(D) You or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity of any one reading and the average error must not exceed 7.5 percent opacity.

(E) This approval does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software, and operator in accordance with ASTM D7520-16 and this letter is on the facility, DCOT operator, and DCOT vendor.

(iii) When different operations in a three-process operation facility are ducted to separate control devices, the lead emission concentration (C) from the facility must be determined using equation 2 to paragraph (c)(2)(iii) as follows:

$$\text{Equation 2 to paragraph (c)(2)(iii):} \quad C = \frac{\sum_{a=1}^{n}(C_a Q_{sda})}{\sum_{a=1}^{n} Q_{sda}}$$

Where:

C = concentration of lead emissions for the entire facility, mg/dscm (gr/dscf).

Ca = concentration of lead emissions from facility "a," mg/dscm (gr/dscf).

Q_{sda} = volumetric flow rate of effluent gas from facility "a," dscm/hr (dscf/hr).

n = total number of control devices to which separate operations in the facility are ducted.

(iv) For a lead oxide manufacturing facility, the lead emission rate must be determined as specified in paragraphs (A) and (B).

(A) The emission rate (E) from lead oxide manufacturing facility must be computed for each run using equation 3 to paragraph (c)(2)(iv)(A) as follows:

$$\text{Equation 3 to paragraph (c)(2)(iv)(A):} \quad E = \frac{\sum_{i=1}^{M} C_{Pbi} Q_{sdi}}{PK}$$

Where:

E = emission rate of lead, mg/kg (lb/ton) of lead charged.

C_{Pbi} = concentration of lead from emission point "i," mg/dscm (gr/dscf).

Q_{sdi} = volumetric flow rate of effluent gas from emission point "i," dscm/hr (dscf/hr).

M = number of emission points in the affected facility.

P = lead feed rate to the facility, kg/hr (ton/hr).

K = conversion factor, 1.0 mg/mg (7000 gr/lb).

(B) The average lead feed rate (P) must be determined for each run using equation 4 to paragraph (c)(2)(iv)(B) as follows:

$$\text{Equation 4 to paragraph (c)(2)(iv)(B):} \quad P = N * \frac{W}{\Theta}$$

Where:

N = number of lead ingots charged.

W = average mass of the lead ingots, kg (ton).

Θ = duration of run, hr.

(3) In conducting the initial performance tests required in §63.7, you must use as reference methods and procedures the test methods in appendix A to 40 CFR part 60 or other methods and procedures as specified in this section, except as provided in §63.7(f).

(4) After the initial performance test described in paragraphs (c)(1) through (3) of this section, you must conduct subsequent performance tests every 5 years to demonstrate compliance with each applicable emissions limitations and opacity standards. Within three years of **[INSERT DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]**, performance testing must be conducted for each affected source subject to an applicable emissions limitation in tables 1 and 2 to this subpart that has not had a performance test within the last 5 years, except as described in paragraph (c)(6) of this section. Thereafter, subsequent performance tests for each affected source must be completed no less frequently than every 5 years from the date the emissions source was last tested.

(5) In lieu of conducting subsequent performance tests for each affected source, you may elect to group similar affected sources together and conduct subsequent performance tests on one representative affected source within each group of similar affected sources. The determination of whether affected sources are similar must meet the criteria in paragraph (c)(5)(i) of this section. If you decide to test representative affected sources, you must prepare and submit a testing plan as described in paragraph (c)(5)(iii) of this section.

(i) If you elect to test representative affected sources, the affected sources that are grouped together must be of the same process type (e.g., grid casting, paste mixing, three-process operations) and also have the same type of air pollution control device (e.g., fabric filters). You cannot group affected sources from different process types or with different air pollution control device types together for the purposes of this section.

(ii) The results of the performance test conducted for the affected source selected as representative of a group of similar affected sources will represent the results for each affected source within the group. In the performance test report, all affected sources in the group will need to be listed.

(iii) If you plan to conduct subsequent performance tests on representative emission units, you must submit a test plan. This test plan must be submitted to the Administrator or delegated authority for review and approval no later than 90 days prior to the first scheduled performance test. The test plan must contain the information specified in paragraphs (c)(5)(iii)(A) through (C) of this section.

(A) A list of all emission units. This list must clearly identify all emission units that have been grouped together as similar emission units. Within each group of emission units, you must

identify the emission unit that will be the representative unit for that group and subject to performance testing.

(B) A list of the process type and type of air pollution control device on each emission unit.

(C) A date of last test for each emission unit and a schedule indicating when you will conduct performance tests for each emission unit within the representative groups.

(iv) If you conduct subsequent performance tests on representative emission units, the unit with the oldest test must be tested first, and each subsequent performance test must be performed for a different unit until all units in the group have been tested. The order of testing for each subsequent test must proceed such that the unit in the group with the least recent performance test is the next unit to be tested.

(6) 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. You must make available to the Administrator in the test report, records as may be necessary to determine the conditions of performance tests.

(d) Beginning no later than the applicable compliance date specified in §63.11422(f) or (i), you must prepare and, at all times, operate according to a fugitive dust mitigation plan that describes in detail the measures that will be put in place and implemented to control fugitive dust emissions in the lead oxide unloading and storage areas. You must prepare a fugitive dust mitigation plan according to the requirements in paragraphs (d)(1) and (2) of this section.

(1) You must submit the fugitive dust mitigation plan to the Administrator or delegated authority for review and approval when initially developed and any time changes are made.

(2) The fugitive dust mitigation plan must at a minimum include the requirements specified in paragraphs (d)(2)(i) through (iv) of this section.

(i) *Cleaning lead oxide unloading and storage areas*. Surfaces traversed during vehicular material transfer activity in lead oxide unloading and storage areas must be cleaned at least once per month, by wet wash or a vacuum equipped with a filter rated by the manufacturer to achieve 99.97 percent capture efficiency for 0.3 micron particles in a manner that does not generate fugitive lead dust, except when sand or a similar material has been spread on the area to provide traction on ice or snow.

(ii) *Spills in lead oxide unloading and storage areas*. For any leak or spill that occurs during the unloading and storage process, complete washing or vacuuming the area to remove all spilled or leaked lead bearing material within 2 hours of the leak or spill occurrence.

(iii) *Materials storage.* Dust forming materials (that contain lead or lead compounds) must be stored in sealed, leak-proof containers or in a total enclosure.

(iv) *Records.* The fugitive dust mitigation plan must specify that records be maintained of all cleaning performed under paragraph (d)(2)(i) and (ii) of this section.

(e) Beginning no later than the applicable compliance date specified in §63.11422(g) or (i), you must meet the monitoring requirements in paragraphs (e)(1) through (5) of this section.

(1) For any emissions point controlled by a scrubbing system, you must install, calibrate, maintain, and operate a monitoring device(s) that measures and records the liquid flow rate and pressure drop across the scrubbing system(s) at least once every 15 minutes. The monitoring device must have an accuracy of ±5 percent over its operating range. The operating liquid flow rate must be maintained within ±10 percent of the average liquid flow rate during the most recent performance test. If a liquid flow rate or pressure drop is observed outside of the normal

operational ranges as you must record the incident and take immediate corrective actions. You must also record the corrective actions taken. You must submit an excess emissions and continuous monitoring system performance report and summary report required under §63.11424(c).

(2) Emissions points controlled by a fabric filter without a secondary filter must meet the requirements of paragraphs (e)(2)(i) and (ii) and either paragraph (e)(2)(iii) or (iv) of this section. (i) You must perform quarterly inspections and maintenance to ensure proper performance of each fabric filter. This includes inspection of structural and filter integrity.

(ii) If it is not possible for you to take the corrective actions specified in paragraphs (e)(2)(iii)(C) or (D) of this section for a process or fabric filter control device, you must keep at least one replacement fabric filter onsite at all times for that process or fabric filter control device. The characteristics of the replacement filters must be the same as the current fabric filters in use or have characteristics that would achieve equal or greater emission reductions.

(iii) Install, maintain, and operate a pressure drop monitoring device to measure the differential pressure drop across the fabric filter during all times when the process is operating. The pressure drop must be recorded at least twice per day (at least 8 hours apart) if the results of the most recent performance test indicate that emissions are greater than 50 percent of the lead emissions limit in table 1. The pressure drop must be recorded at least once per day if the results of the most recent performance test indicate that emissions are less than or equal to 50 percent of the lead emissions limit in table 1. If a pressure drop is observed outside of the normal operational ranges, you must record the incident and take immediate corrective actions. You must submit an excess emissions and continuous monitoring system performance report and summary report required under §63.11424(c). You must also record the corrective actions taken

and verify pressure drop is within normal operational range. These corrective actions may include but are not limited to those provided in paragraphs (e)(2)(iii)(A) through (D) of this section.

(A) Inspecting the filter and filter housing for air leaks and torn or broken filters.

(B) Replacing defective filter media, or otherwise repairing the control device.

(C) Sealing off a defective control device by routing air to other control devices.

(D) Shutting down the process producing the lead emissions.

(iv) Conduct a visible emissions observation using EPA Method 9 of appendix A to 40 CFR part 60 or EPA Method 22 of appendix A to 40 CFR part 60 while the process is in operation to verify that no visible emissions are occurring at the discharge point to the atmosphere from any emissions source subject to the requirements of paragraph (a) of this section. The visible emissions observation must be conducted at least twice daily (at least 6 hours apart) if the results of the most recent performance test indicate that emissions are greater than 50 percent of the lead emissions limit in table 1. The visible emissions observation must be conducted at least once per day if the results of the most recent performance test indicate that emissions are less than or equal to 50 percent of the lead emissions limit in table 1. If visible emissions are detected, you must record the incident and submit this information in an excess emissions and continuous monitoring system performance report and summary report required under §63.11424(c) and take immediate corrective action. You must also record the corrective actions taken. These corrective actions may include but are not limited to those provided in paragraphs (e)(2)(iii)(A) through (D) of this section.

(3) Emissions points controlled by a fabric filter equipped with a secondary filter, such as a HEPA filter, must meet the requirements of paragraphs (e)(3)(i) and (ii) and either (iii) or (iv) of this section.

(i) You must perform the inspections required in paragraph (e)(2)(i) of this section quarterly.

(ii) If it is not possible for you to take the corrective actions specified in paragraphs (e)(2)(iii)(C) or (D) of this section for a process or fabric filter control device, you must keep at least one replacement primary fabric filter and one replacement secondary filter onsite at all times for that process or fabric filter control device. The characteristics of the replacement filters must be the same as the current fabric filters in use or have characteristics that would achieve equal or greater emission reductions.

(iii) You must perform the pressure drop monitoring requirements in paragraph (e)(2)(iii) of this section. You may perform these requirements once weekly rather than once or twice daily.

(iv) You must perform the visible emissions observation requirements in paragraph (e)(2)(iv) of this section. You may perform these requirements weekly rather than once or twice daily.

(4) Beginning no later than the applicable compliance date specified in §63.11422(g) or (i), if you operate a bag leak detection system, that system must meet the specifications and requirements in paragraphs (e)(4)(i) through (ix) of this section. Emission points controlled by a fabric filter equipped that are monitored with a bag leak detection system meeting the specifications and requirements in paragraphs (e)(4)(i) through (ix) of this section may have the inspections required in paragraph (e)(2)(i) of this section performed semiannually.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter as lead emissions at concentrations at or below the values in Table 1 to this subpart, as applicable to the process for which the fabric filter is used to control emissions. Where the fabric filter is used as a control device for more than one process, the lowest applicable value in Table 1 to this subpart must be used.

(ii) The bag leak detection system sensor must provide output of relative particulate matter loadings.

(iii) The bag leak detection system must be equipped with an alarm system that will alarm when an increase in relative particulate loadings is detected over a preset level.

(iv) You must install and operate the bag leak detection system in a manner consistent with the guidance provided in "Office of Air Quality Planning and Standards (OAQPS) Fabric Filter Bag Leak Detection Guidance" EPA-454/R-98-015(incorporated by reference, see § 63.14) and the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system.

(v) The initial adjustment of the system must, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(vi) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the approved standard operating procedures manual required under paragraph (e)(4)(ix). You cannot increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection that demonstrates that the fabric filter is in good operating condition.

(vii) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, you must install the bag leak detector downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(ix) You must develop a standard operating procedures manual for the bag leak detection system that includes procedures for making system adjustments and a corrective action plan, which specifies the procedures to be followed in the case of a bag leak detection system alarm. The corrective action plan must include, at a minimum, the procedures that you will use to determine and record the time and cause of the alarm as well as the corrective actions taken to minimize emissions as specified in paragraphs (e)(4)(ix)(A) and (B) of this section.

(A) The procedures used to determine the cause of the alarm must be initiated within 30 minutes of the alarm.

(B) The cause of the alarm must be alleviated by taking the necessary corrective action(s) that may include, but not be limited to, those listed in paragraphs (e)(4)(ix)(B)(*1*) through (*6*).

(1) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions.

(2) Sealing off defective bags or filter media.

(3) Replacing defective bags or filter media, or otherwise repairing the control device.

(4) Sealing off defective baghouse compartment.

(5) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(6) Shutting down the process producing the lead emissions.

(5) For continuous monitoring subject to the requirements of §63.8(d)(2) to develop and implement a continuous monitoring system quality control program, you must keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under §63.8(d)(2).

11. Section 63.11424 is revised to read as follows:

§ 63.11424 What are the recordkeeping and reporting requirements for this subpart?

(a) You must keep the records specified in this section according to the applicable compliance date in **§**63.11422(f) and (g) or (i) and maintain them in a format readily available for review onsite for a period of 5 years.

(1) Records of pressure drop values and the liquid flow rate from the monitoring required in §63.11423(e)(1) for scrubbing systems.

(2) Records of fabric filter inspections and maintenance activities required in §63.11423(e)(2)(i) or (e)(3)(i).

(3) Records required under §63.11423(e)(2)(iii) or (e)(3)(iii) of fabric filter pressure drop, pressure drop observed outside of normal operating ranges as specified by the manufacturer, and corrective actions taken.

(4) Records of the required visible emissions observations in §63.11423(e)(2)(iv) or (e)(3)(iv).

(5) You must keep the records of failures to meet an applicable standard as specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time, cause, and duration of each failure.

(ii) For each failure to meet an applicable standard, record and retain a list of the affected sources 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.

(iii) Record actions taken to minimize emissions and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(6) If a bag leak detection system is used under §63.11423(e)(4), for a period of 5 years keep the records, specified in paragraphs (a)(6)(i) through (iii) of this section.

(i) Electronic records of the bag leak detection system output.

(ii) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the corrective actions taken, and the date and time the cause of the alarm was corrected.

(iii) All records of inspections and maintenance activities required under §63.11423(e)(4).

(7) Records of all cleaning required as part of the practices described in the fugitive dust mitigation plan required under §63.11423(d)(2)(iii) for the control of fugitive dust emissions.

(b) Beginning on **[INSERT DATE 60 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]**, within 60 days after the date of completing each performance test or demonstration of compliance required by this subpart, you must submit

the results of the performance test following the procedures specified in §63.9(k) and paragraphs (b)(1) through (3) 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 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 using 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 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. If a performance test consists only of opacity measurements, reporting using the ERT and CEDRI is not required.

(3) *Confidential business information (CBI)*. All CBI claims must be asserted at the time of submission. Do not use CEDRI to submit information you claim as CBI. Anything submitted using CEDRI cannot later be claimed CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information submitted under paragraph (b)(1) or (2) of this section, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be generated using the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. The preferred method to

submit CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol (FTP), or other online file sharing services (e.g., Dropbox, OneDrive, Google Drive). Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address oaqpscbi@epa.gov, and as described above, should include clear CBI markings and note the docket ID. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email oaqpscbi@epa.gov to request a file transfer link. If sending CBI information through the postal service, 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: Lead Acid Battery Manufacturing Sector Lead, 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 in paragraphs (b)(1) and (2) of this section. Under CAA section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available.

(c) Beginning on **[INSERT DATE 1 YEAR AFTER PUBLICATION IN THE FEDERAL REGISTER]** or once the report template for this subpart has been available on the CEDRI website for one year, whichever date is later, you must submit a report of excess emissions and monitoring systems performance report and summary report according to §63.9(k) and §63.10(e)(3) to the Administrator semiannually. Report the number of failures to meet an applicable standard. For each instance, report the date, time, cause, and duration of each failure. For each failure, the report must include a list of the affected sources 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. You must use the appropriate electronic report template on the CEDRI website (https://www.epa.gov/electronic-reporting-air-emissions/cedri) or an alternate electronic file consistent with the XML schema listed on the CEDRI website for this subpart. The date report templates become available will be listed on the CEDRI website. Unless the Administrator or delegated state agency or other authority has approved a different schedule for submission of reports, the report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. Submit all reports to the EPA via CEDRI, which can be accessed through the EPA's CDX (https://cdx.epa.gov/). The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI. Anything submitted using CEDRI cannot later be claimed CBI. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim, follow the requirements specified in paragraph (b)(3) of this section. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (c).

(d) Any records required to be maintained by this subpart 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.

12. Section 63.11425 is amended by revising paragraph (a) to read as follows:

§ 63.11425 What General Provisions apply to this subpart?

(a) The provisions in subpart A of this part, that are applicable to this subpart are specified in table 3 to this subpart.

* * * * *

13. Section 63.11426 is revised to read as follows:

§ 63.11426 What definitions apply to this subpart?

The terms used in this subpart are defined in the CAA, in § 63.2 for terms used in the applicable provisions of subpart A of this part, and in this section as follows:

Bag leak detection system means a system that is capable of continuously monitoring particulate matter (dust) loadings in the exhaust of a fabric filter (baghouse) in order to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Grid casting facility means a facility which includes all lead melting pots, pots that remelt scrap from onsite lead acid battery manufacturing processes, and machines used for casting the grid used in lead acid batteries.

Lead acid battery component manufacturing plant means any plant that does not produce a final lead acid battery product but at which one or more of the following processes is conducted to develop a product for use in lead acid batteries: grid casting, paste mixing, three-process operations, and lead oxide manufacturing.

Lead acid battery manufacturing plant means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.

Lead oxide manufacturing facility means a facility that produces lead oxide from lead for use in lead acid batteries, including lead oxide production and product recovery operations.

Local exhaust ventilation or building ventilation exhausts serving lead oxide production areas are not part of the lead oxide manufacturing facility.

Lead reclamation facility means a facility that casts remelted lead scrap generated by onsite lead acid battery manufacturing processes into lead ingots for use in the battery manufacturing process, and which is not a furnace affected under subpart X of this part. Lead scrap remelting processes that are used directly (not cast into an ingot first) in a grid casting facility or a three-process operations facility are parts of those facilities and are not part of a lead reclamation facility.

Other lead-emitting operation means any operation at a plant involved in the manufacture of lead acid batteries from which lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under subpart X of this part. These operations also include local exhaust ventilation or building ventilation exhausts serving lead oxide production areas.

Paste mixing facility means a facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.

Three-process operation facility means a facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.

Total enclosure means a containment building that is completely enclosed with a floor, walls, and a roof to prevent exposure to the elements and that has limited openings to allow access and egress for people and vehicles.

14. Section 63.11427 is amended by revising paragraph (b) introductory text and adding paragraph (b)(5).

§ 63.11427 Who implements and enforces this subpart?

* * * * *

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the approval authorities contained in paragraphs (b)(1) through (5) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

* * *

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

15. Table 1 to subpart PPPPPP of part 63 is revised to read as follows:

Table 1 to Subpart PPPPPP of Part 63—Emission Limits

As stated in §63.11423(a)(2), you must comply with the emission limits in the following table:

For ...	You must ...
1. Each new or existing grid casting facility	Emit no more than 0.08 milligram of lead per dry standard cubic meter of exhaust (0.000035 gr/dscf).
2. Each new or existing paste mixing facility	Emit no more than 0.1 milligram of lead per dry standard cubic meter of exhaust (0.0000437 gr/dscf); or emit no more than 0.9 gram of lead per hour (0.002 lbs/hr) total from all paste mixing operations.
3. Each new or existing three-process operation facility	Emit no more than 1.0 milligram of lead per dry standard cubic meter of exhaust (0.000437 gr/dscf).
4. Each new or existing lead oxide manufacturing facility	Emit no more than 5.0 milligram of lead per kilogram of lead feed (0.010 lb/ton).

5. Each new or existing lead reclamation facility	Emit no more than 0.45 milligram of lead per dry standard cubic meter of exhaust (0.000197 gr/dscf).
6. Each new or existing other lead-emitting operation	Emit no more than 1.0 milligram of lead per dry standard cubic meter of exhaust (0.000437 gr/dscf).

16. Table 2 to subpart PPPPPP of part 63 is added to read as follows:

Table 2 to Subpart PPPPPP of Part 63—Opacity Standards

As stated in §63.11423(a)(2), you must comply with the opacity standards in the following table:

For . . .	Any gases emitted must not exceed . . .
1. Each new or existing facility other than a lead reclamation facility	0 percent opacity (measured according to EPA Method 9 and rounded to the nearest whole percentage or measured according to EPA Method 22).
2. Each new or existing lead reclamation facility	5 percent opacity (measured according to EPA Method 9 and rounded to the nearest whole percentage).

17. Table 3 to subpart PPPPPP of part 63 is added to read as follows:

Table 3 to Subpart PPPPPP of Part 63 - Applicability of General Provisions to Subpart PPPPPP

As required in § 63.11425, you must comply with the requirements of the NESHAP General Provisions (subpart A of this part) as shown in the following table.

Citation	Subject	Applies to Subpart PPPPPP?	Explanation
63.1	Applicability	Yes	
63.2	Definitions	Yes	
63.3	Units and Abbreviations		
63.4	Prohibited Activities and Circumvention	Yes	
63.5	Preconstruction Review and Notification Requirements	No	

Citation	Subject	Applies to Subpart PPPPPP?	Explanation
63.6(a)-(d)	Compliance with Standards and Maintenance Requirements	Yes	
63.6(e)(1)(i)	General Duty to Minimize Emissions	No	63.11423(a)(3) specifies general duty requirements.
63.6(e)(1)(ii)	Requirement to correct malfunctions as soon as possible	No	
63.6(e)(1)(iii)	Enforceability of requirements independent of other regulations	Yes	
63.6(e)(3)	SSM Plans	No	Subpart PPPPPP does not require a startup, shutdown, and malfunction plan.
63.6(f)(1)	Compliance Except During SSM	No	
63.6(f)(2)-(3)	Methods for determining compliance	Yes	
63.6(g)	Use of an alternative nonopacity emission standard	Yes	
63.6(h)(1)	SSM Exemption	No	
63.6(h)(2)-(9), (i)-(j)	Compliance with opacity/visible emission standards, compliance extensions and exemptions	Yes	
63.7(a)-(d), (e)(2) and (3), (f)-(h)	Performance Testing Requirements	Yes	
63.7(e)(1)	Conditions for conducting performance tests	No	Requirements for performance test conditions are found in 63.11423(c)(7).
63.8(a), (b), (c)(1)(ii), (d)(1) and (2), (e)-(g)	Monitoring Requirements	Yes	

Citation	Subject	Applies to Subpart PPPPPP?	Explanation
63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No	63.11423(a)(3) specifies general duty requirements.
63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS	No	
63.8(d)(3)	Written procedures for CMS	No	
63.9	Notification Requirements	Yes	
63.10(a), (b)(1), (b)(2)(iii), (b)(2)(vi-ix), (b)(3), (c)(1)-(14), (d)(1)-(4), (e), (f)	Recordkeeping and Reporting Requirements	Yes	
63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups and shutdowns	No	
63.10(b)(2)(ii)	Recordkeeping of failures to meet a standard	No	63.11424(a)(5) specifies these requirements.
63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during SSM	No	
63.10(c)(15)	Use of SSM Plan	No	
63.10(d)(5)		No	Subpart PPPPPP does not require a startup, shutdown, and malfunction plan. See 63.11424(c) for excess emissions reporting requirements.
63.11	Control Device Requirements	No	Subpart PPPPPP does not require flares.
63.12	State Authorities and Delegations	Yes.	
63.13	Addresses	Yes	
63.14	Incorporations by Reference	Yes	
63.15	Availability of Information and Confidentiality	Yes	

Citation	Subject	Applies to Subpart PPPPPP?	Explanation
63.16	Performance Track Provisions	Yes	
63.1(a)(5), (a)(7)-(9), (b)(2), (c)(3), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(c)(4), (c)(9)	Reserved	No	