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Part III

## Environmental Protection Agency

40 CFR Part 63
NESHAP Risk and Technology Review for the Mineral Wool and Wool Fiberglass Industries; NESHAP for Wool Fiberglass Area Sources; Proposed Rule

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 63**

**[EPA–HQ–OAR–2010–1041 and EPA–HQ–OAR–2010–1042; FRL–9918–22–OAR]**

**RIN 2060–AQ90**

## NESHAP Risk and Technology Review for the Mineral Wool and Wool Fiberglass Industries; NESHAP for Wool Fiberglass Area Sources

**AGENCY:** Environmental Protection Agency.

**ACTION:** Supplemental notice of proposed rulemaking; Notice of public hearing.

**SUMMARY:** This action proposes amendments in addition to those proposed on November 25, 2011, and April 15, 2013, for the Mineral Wool Production and Wool Fiberglass Manufacturing source categories. This action addresses comments received on previous proposals, explains changes to previously proposed limits for sources in these industries and clarifies our use of the upper prediction limit (UPL) in setting MACT floors. The Environmental Protection Agency (EPA) is taking comments on only aspects of the proposed rules that are discussed in this document. When finalized, these proposed standards would increase the level of environmental protection.

**DATES:** *Comments.* Comments must be received on or before December 15, 2014. Under the Paperwork Reduction Act, comments on the information collection provisions are best assured of having full effect if the Office of Management and Budget (OMB) receives a copy of your comments on or before December 15, 2014.

*Public Hearing.* If anyone contacts the EPA requesting a public hearing by November 18, 2014, we will hold a public hearing on November 28, 2014 at 109 T.W. Alexander Drive, Research Triangle Park, NC.

**ADDRESSES:** Submit your comments on the proposed Mineral Wool risk and technology review (RTR) amendments, identified by EPA–HQ–OAR–2010–1041; or the wool fiberglass area source rule and the major source Wool Fiberglass RTR amendments, identified by Docket ID Number EPA–HQ–OAR–2010–1042; by one of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *E-Mail: A-and-R-Docket@epa.gov.* Include Attention Docket ID No. EPA–HQ–OAR–2010–1041 or EPA–HQ–OAR–2010–1042 in the subject line of the message.
- *Fax:* (202) 566–9744, Attention Docket ID No. EPA–HQ–OAR–2010–1041 or EPA–HQ–OAR–2010–1042.
- *Mail:* Environmental Protection Agency, EPA Docket Center (EPA/DC), Mail Code 28221T, Attention Docket ID No. EPA–HQ–OAR–2010–1041 or EPA–HQ–OAR–2010–1042, 1200 Pennsylvania Avenue NW., Washington, DC 20460. Please include a total of two copies. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget, Attn: Desk Officer for EPA, 725 17th Street NW., Washington, DC 20503.
- *Hand/Courier Delivery:* EPA Docket Center, Room 3334, EPA WJC West Building, 1301 Constitution Avenue NW., Washington, DC 20004, Attention Docket ID No. EPA–HQ–OAR–2010–1041 or EPA–HQ–OAR–2010–1042. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

*Instructions:* Direct your comments on the Mineral Wool RTR to Docket ID Number EPA–HQ–OAR–2010–1041 and direct your comments on the Wool Fiberglass RTR and proposed area source rule to Docket ID Number EPA–HQ–OAR–2010–1042. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or email. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *http://www.regulations.gov,* your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at: *http://www.epa.gov/dockets.*

*Docket:* The EPA has established dockets for these rulemakings under Docket ID Number EPA–HQ–OAR–2010–1041 (Mineral Wool Production) and EPA–HQ–OAR–2010–1042 (Wool Fiberglass Manufacturing). All documents in the docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the EPA Docket Center, EPA/DC, EPA WJC West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

*Public Hearing.* If anyone contacts the EPA requesting a public hearing by November 18, 2014, the public hearing will be held on November 28, 2014 at the EPA's campus at 109 T.W. Alexander Drive, Research Triangle Park, North Carolina. The hearing will begin at 1:00 p.m. (Eastern Standard Time) and conclude at 5:00 p.m. (Eastern Standard Time). Please contact Ms. Pamela Garrett at (919) 541–7966 or at *garrett.pamela@epa.gov* to register to speak at the hearing or to inquire as to whether or not a hearing will be held. The last day to pre-register in advance to speak at the hearings will be November 25, 2014. Additionally, requests to speak will be taken the day of the hearings at the hearing registration desk, although preferences on speaking times may not be able to be fulfilled. If you require the service of a translator or special accommodations such as audio description, please pre-register for the hearing, as we may not be able to arrange such accommodations without advance notice. The hearings will provide interested parties the opportunity to present data, views or arguments concerning the proposed action. The EPA will make every effort

to accommodate all speakers who arrive and register. Because these hearings are being held at U.S. government facilities, individuals planning to attend the hearing should be prepared to show valid picture identification to the security staff in order to gain access to the meeting room. Please note that the REAL ID Act, passed by Congress in 2005, established new requirements for entering federal facilities. If your driver's license is issued by Alaska, American Samoa, Arizona, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Montana, New York, Oklahoma or the state of Washington, you must present an additional form of identification to enter the federal building. Acceptable alternative forms of identification include: Federal employee badges, passports, enhanced driver's licenses and military identification cards. In addition, you will need to obtain a property pass for any personal belongings you bring with you. Upon leaving the building, you will be required to return this property pass to the security desk. No large signs will be allowed in the building, cameras may only be used outside of the building and demonstrations will not be allowed on federal property for security reasons. The EPA may ask clarifying questions during the oral presentations, but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral comments and supporting information presented at the public hearing. Commenters should notify Ms. Garrett if they will need specific equipment, or if there are other special needs related to providing comments at the hearings. Verbatim transcripts of the hearings and written statements will be included in the docket for the rulemaking. The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearings to run either ahead of schedule or behind schedule. Again a hearing will only be held if requested by November 18, 2014. Please contact Ms. Pamela Garrett at 919–541–7966 or at *garrett.pamela@epa.gov* or visit *http://www.epa.gov/ttn/atw/woolfib/woolfipg.html* to determine if a hearing will be held. If the EPA holds a public hearing, the EPA will keep the record of the hearing open for 30 days after completion of the hearing to provide an opportunity for submission of rebuttal and supplementary information.

**FOR FURTHER INFORMATION CONTACT:** For questions about these proposed actions, contact Ms. Susan Fairchild, Sector Policies and Programs Division (D243–04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5167; fax number: (919) 541–5450; and email address: *fairchild.susan@epa.gov*. For information about the applicability of the National Emission Standards for Hazardous Air Pollutants (NESHAP) to a particular entity, contact Scott Throwe, Office of Enforcement and Compliance Assurance, EPA WJC West Building, 1200 Pennsylvania Avenue NW., Mail Code: 2227A, Washington, DC 20460; telephone number: (202) 564–7013; fax number: (202) 564–0050; email address: *throwe.scott@epa.gov*.

**SUPPLEMENTARY INFORMATION:**

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

AEGL acute exposure guideline levels
BDL below the detection level
CAA Clean Air Act
CBI Confidential Business Information
CFR Code of Federal Regulations
COS Carbonyl sulfide
CRT cathode-ray tubes
DESP dry electrostatic precipitator
EPA Environmental Protection Agency
ESP electrostatic precipitators
FA flame attenuation
GACT generally available control technology
HAP hazardous air pollutants
HCl Hydrogen chloride
HF Hydrogen fluoride
HQ Hazard Quotient
ICR Information Collection Request
lb/ton pounds per ton
lb/year pounds per year
MACT maximum achievable control technology
MIR maximum individual risk
NAICS North American Industry Classification System
NaOH Sodium hydroxide
NESHAP National Emissions Standards for Hazardous Air Pollutants
NPV net present value
NTTAA National Technology Transfer and Advancement Act
OAQPS Office of Air Quality Planning and Standards
OMB Office of Management and Budget
PM Particulate matter
RCRA Resource Conservation and Recovery Act
RDL representative detection level
REL reference exposure level
RFA Regulatory Flexibility Act
RS rotary spin
RTO regenerative thermal oxidizers
RTR residual risk and technology review
SBA Small Business Administration
SSM startup, shutdown, and malfunction
tpy tons per year
TTN Technology Transfer Network
UMRA Unfunded Mandates Reform Act
UPL Upper Prediction Limit
VCS voluntary consensus standards

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

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

## I. General Information

### *A. Does this action apply to me?*

Table 1 of this preamble lists the NESHAP and associated regulated industrial source categories that are the subject of this proposal. Table 1 is not intended to be exhaustive but rather to provide a guide for readers regarding the entities that this proposed action is likely to affect. These proposed standards, once promulgated, will be directly applicable to the affected sources. Federal, state, local and tribal government entities would not be affected by this proposed action. As defined in the ''Initial List of Categories of Sources Under Section 112(c)(1) of the CAA Amendments of 1990'' (see 57 FR 31576, July 16, 1992), the Mineral Wool Production source category is any facility engaged in producing mineral wool fiber from slag, rock or other materials, excluding sand or glass. The Wool Fiberglass Manufacturing source category is any facility engaged in the manufacture of wool fiberglass on a rotary spin manufacturing line or on a flame attenuation manufacturing line.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS PROPOSED ACTION

| Source category | NESHAP | NAICS Code [a] |
|---|---|---|
| Mineral Wool Production | Mineral Wool Production | 327993 |
| Wool Fiberglass Manufacturing | Wool Fiberglass Manufacturing | 327993 |

[a] North American Industry Classification System.

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

In addition to being available in the dockets, an electronic copy of this action is available on the Internet through the EPA's Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at: *http://www.epa.gov/ttn/atw/minwool.minwopg.html* and *http://www.epa.gov/ttn/atw/woolfib.woolfipg.html*. Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the proposal and key technical documents at this same Web site. Information on the overall residual risk and technology review program is available at the following Web site: *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html*.

### *C. What should I consider as I prepare my comments for the EPA?*

*Submitting CBI.* Do not submit information containing CBI to the EPA through *http://www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on a disk or CD ROM that you mail to the EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, you must submit a copy of the comment that does not contain the information claimed as CBI for inclusion in the public docket. If you submit a CD ROM or disk that does not contain CBI, mark the outside of the disk or CD ROM clearly indicating that it does not contain CBI. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. Send or deliver information identified as CBI only to the following address: Susan Fairchild, c/o OAQPS Document Control Officer (C404–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID Number EPA–HQ–OAR–2010–1041 (Mineral Wool) or EPA–HQ–OAR–2010–1042 (Wool Fiberglass).

## II. Background

### *A. Summary of the November 25, 2011, Proposal*

On November 25, 2011, (76 FR 72770), the EPA proposed revisions to the Mineral Wool Production and the Wool Fiberglass Manufacturing NESHAP, 40 CFR part 63, subparts DDD and NNN, respectively, to address the results of the RTR that the EPA is required to conduct under sections 112(d)(6) and 112(f)(2) (76 FR 72770). In the November 25, 2011, document, we proposed several amendments to both NESHAP and announced our intention to list and regulate area sources in the wool fiberglass area source category pending the collection of new test data.

### *B. Summary of the April 15, 2013, Supplemental Proposal*

On April 15, 2013, (78 FR 22369), the EPA published a supplemental proposal that made corrections to the November 2011 proposal for the Mineral Wool Production and Wool Fiberglass Manufacturing source categories, addressed certain comments received on the earlier November 25, 2011 proposal, added gas-fired glass-melting furnaces at area sources in the Wool Fiberglass Manufacturing source category to the category list, under CAA sections 112(c)(3) and 112(k)(3)(B), and proposed first time standards for these sources under CAA section 112(d)(5).

### *C. What is the purpose of this supplemental proposal?*

This document also proposes revisions and clarifications to the previous proposals, including, but not limited to:

- Additional explanation of the upper prediction limit (UPL) approach;
- an explanation of our approach to limited datasets;
- an explanation of why we are withdrawing the proposed provisions establishing an affirmative defense to civil penalties for violations caused by malfunctions;
- proposed basis for our determination on ecological effects of pollutants emitted from major sources in these source categories;
- work practice requirements at startup and shutdown for Mineral Wool Production and Wool Fiberglass Manufacturing source categories under CAA section 112(h)(2);
- changes to previously proposed emission limits for the Mineral Wool Production source category;
- changes to previously proposed standards for both major and area sources in the Wool Fiberglass Manufacturing source category.

We are requesting comments on only these aspects of the previously proposed requirements for the Mineral Wool Production RTR, the Wool Fiberglass Manufacturing RTR, and the Wool Fiberglass Manufacturing generally

available control technology (GACT) rule that are presented in this supplemental proposal.

**III. What are the proposed changes and rationale for these rules?**

*A. What are the proposed changes that affect all rules in this action and what is our rationale?*

1. Startup, Shutdown, Malfunction

In the 2011 proposal, we proposed to eliminate two provisions that exempt sources from the requirement to comply with the otherwise applicable CAA section 112(d) emission standards during periods of SSM. We also included provisions for affirmative defense to civil penalties for violations of emission standards caused by malfunctions. 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. As explained in the 2011 proposal, 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. Under section 112, emissions standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in section 112 that directs the Agency to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the D.C. Circuit has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of'' sources ''says nothing about how the performance of the best units is to be calculated.'' *Nat'l Ass'n of Clean Water Agencies* v. *EPA,* 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in section 112 requires the Agency to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner'' and no statutory language compels the EPA to consider such events in setting section 112 standards.

Further, accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. See, *e.g., Sierra Club v. EPA,* 167 F.3d 658, 662 (D.C. Cir. 1999) (''The EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct the perfect study.' '') See also, *Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) (''In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.''). In addition, emissions during a malfunction event can be significantly higher than emissions at any other time of source operation. For example, if an air pollution control device with 99 percent removal goes off-line as a result of a malfunction (as might happen if, for example, the bags in a baghouse catch fire) and the emission unit is a steady state type unit that would take days to shut down, the source would go from 99 percent control to zero control until the control device was repaired. The source's emissions during the malfunction would be 100 times higher than during normal operations. As such, the emissions over a 4-day malfunction period would exceed the annual emissions of the source during normal operations. As this example illustrates, accounting for malfunctions could lead to standards that are not reflective of (and significantly less stringent than) levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112 standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112 standard was, in fact, ''sudden, infrequent, not reasonably preventable'' and was not instead ''caused in part by poor maintenance or careless operation.'' 40 CFR 63.2 (definition of malfunction).

If the EPA determines in a particular case that enforcement action against a source for violation of an emission standard is warranted, the source can raise any and all defenses in that enforcement action and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In summary, the EPA interpretation of the CAA and, in particular, section 112 is reasonable and encourages practices that will avoid malfunctions. Administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations.

As noted above, the 2011 proposal included an affirmative defense to civil penalties for violations caused by malfunctions. EPA included the affirmative defense in the 2011 proposal as it had in several prior rules in an effort to create a system that incorporates some flexibility, recognizing that there is a tension, inherent in many types of air regulation, to ensure adequate compliance while simultaneously recognizing that despite the most diligent of efforts, emission standards may be violated under circumstances entirely beyond the control of the source. Although the EPA recognized that its case-by-case enforcement discretion provides sufficient flexibility in these circumstances, it included the affirmative defense in the 2011 proposal and in several prior rules to provide a more formalized approach and more regulatory clarity. See *Weyerhaeuser Co. v. Costle,* 590 F.2d 1011, 1057–58 (D.C.

Cir. 1978) (holding that an informal case-by-case enforcement discretion approach is adequate); but see *Marathon Oil Co. v. EPA,* 564 F.2d 1253, 1272–73 (9th Cir. 1977) (requiring a more formalized approach to consideration of ''upsets beyond the control of the permit holder.''). Under the EPA's regulatory affirmative defense provisions, if a source could demonstrate in a judicial or administrative proceeding that it had met the requirements of the affirmative defense in the regulation, civil penalties would not be assessed. The United States Court of Appeals for the District of Columbia Circuit vacated an affirmative defense in one of the EPA's Section 112 regulations. *NRDC v. EPA,* 749 F.3d 1055 (D.C. Cir., 2014) (vacating affirmative defense provisions in Section 112 rule establishing emission standards for Portland cement kilns). The court found that the EPA lacked authority to establish an affirmative defense for private civil suits and held that under the CAA, the authority to determine civil penalty amounts in such cases lies exclusively with the courts, not the EPA. Specifically, the Court found: ''As the language of the statute makes clear, the courts determine, on a case-by-case basis, whether civil penalties are 'appropriate.' '' See NRDC at 1063 *21 (''[U]nder this statute, deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not EPA.'').

In light of NRDC, the EPA is withdrawing its proposal to include a regulatory affirmative defense provision in this rulemaking and in this proposal has eliminated the provisions related to affirmative defense contained in §§ 63.1180 and 63.1386 (the affirmative defense provisions in the proposed rule published in the **Federal Register** on November 25, 2011 (76 FR 72770). As explained above, if a source is unable to comply with emissions standards as a result of a malfunction, the EPA may use its case-by-case enforcement discretion to provide flexibility, as appropriate. Further, as the D.C. Circuit recognized, in an EPA or citizen enforcement action, the court has the discretion to consider any defense raised and determine whether penalties are appropriate. Cf. *NRDC* v. *EPA,* 749 F.3d 1055, 1064 (D.C. Cir. 2014) (arguments that violation were caused by unavoidable technology failure can be made to the courts in future civil cases when the issue arises). The same logic applies to EPA administrative enforcement actions.

2. Work Practice Standards for Periods of Startup and Shutdown

In our April 2013 proposal, we proposed an alternative compliance provision that would allow sources subject to the Mineral Wool Production NESHAP, the Wool Fiberglass Manufacturing NESHAP and the Wool Fiberglass Manufacturing GACT standard to demonstrate compliance with applicable standards during startup and shutdown. (78 FR 22378 and 22388). Specifically, we proposed that sources would keep records showing that emissions were routed to the air pollution control devices and that these control devices were operated at the parameters established during the most recent performance test that showed compliance with the emission limit. For electric cold-top furnaces in the Wool Fiberglass Manufacturing source category, we also proposed limiting raw material content at startup and shutdown to only cullet because using cullet reduces hazardous air pollutant (HAP) emissions, and this particular furnace design does not allow the control device to be operated continuously during startup. For all other glass melting furnaces, we also added a requirement for preheating the empty furnace using only natural gas as a means of demonstrating compliance with the emission limits at startup. (78 FR 22388). However, we did not specifically propose these requirements under CAA section 112(h)(2).

After our April 2013 document, we received and reviewed information from the mineral wool and wool fiberglass industries regarding the work practices used during periods of startup and shutdown.[1] [2] The best performers in the wool fiberglass and mineral wool industries identified a variety of practices used by mineral wool and wool fiberglass manufacturers to minimize emissions during periods of startup and shutdown. We analyzed and characterized their practices according to the expected effectiveness of the industries' measures and according to the best performers in these industries.

At this time, we are proposing under CAA section 112(h)(2) that mineral wool production and wool fiberglass manufacturing facilities comply with work practice standards that are used by the best performers during periods of startup and shutdown (as described in Section III.D.6. of this preamble. (Work practice standards for previously unregulated HCl and HF emissions from glass-melting furnaces at major sources.)

The work practice standards for startup and shutdown are also being incorporated into the GACT standards for wool fiberglass manufacturing area sources.

In order to promulgate a work practice standard in lieu of an emission standard, the EPA must demonstrate that measurement of the emissions is not practicable due to technological and economic limitations. In the case of these source categories, emissions are not at steady state during startup and shutdown (a necessary factor for accurate emissions testing), and the varying stack conditions, gas compositions, and flow rates make accurate emission measurements impracticable. In addition, startup period for mineral wool cupolas, typically 2 hours, is too short a time to conduct source testing.

3. Environmental Risk Screening Results

In the November 25, 2011 proposal we stated that we did not believe there was a potential for adverse environmental effects because ''all chronic non-cancer HQ values considering actual emissions are less than 1 using human health reference values.'' Since that time we conducted an environmental risk screening assessment for both source categories in this rulemaking. Additional information on this analysis is available in the risk assessment document titled ''Draft Residual Risk Assessment for the Mineral Wool Production and Wool Fiberglass Manufacturing Source Categories'' dated October 2014 and available in the docket.

Of the seven pollutants included in the environmental risk screen, the source categories in this rulemaking emit lead, mercury (elemental and divalent), cadmium, hydrogen fluoride and hydrogen chloride. In the Tier I screening analysis for PB–HAP other than lead (which was evaluated differently, as noted in the reference above), none of the individual modeled concentrations for any facility in the source categories exceed any of the ecological benchmarks (either the LOAEL or NOAEL) for mercury or cadmium. Therefore, we did not conduct a Tier II screening assessment. For lead, we did not estimate any exceedances of the secondary lead NAAQS. For HCL and HF, the average

[1] Letter from Angus E. Crane, NAIMA Executive Vice President General Counsel to Susan Fairchild, U.S. Environmental Protection Agency. August 6, 2014. Regarding *NAIMA's Responses To EPA's Questions—Work Practices For Startup and Shutdown of Mineral Wool Cupolas.*

[2] Letter from Angus E. Crane, NAIMA Executive Vice President General Counsel to Susan Fairchild, U.S. Environmental Protection Agency. August 6, 2014. Regarding *NAIMA's Responses To EPA's Questions—Work Practices For Startup and Shutdown of Wool Fiberglass Furnaces.*

modeled concentration around each facility (i.e., the average concentration of all off-site data points in the modeling domain) did not exceed any ecological benchmarks (either the LOAEL or NOAEL). In addition, each individual modeled concentration of hydrogen fluoride and hydrogen chloride (i.e., each off-site data point in the modeling domain) was below the ecological benchmarks for all facilities.

*B. What are the proposed changes in this action that affect both the Mineral Wool Production and the Wool Fiberglass Manufacturing RTR rules, and what is our rationale?*

1. How does the EPA use the UPL in setting maximum achievable control technology (MACT) standards?

The UPL is the statistical methodology the EPA uses as the primary tool to account for emissions variability when setting emissions standards under CAA section 112. The UPL is used to calculate the average emissions limitation achieved over time by the best performing source or sources.

There are several key points that underlie the EPA's methodology for calculating MACT floor standards through the use of the UPL. First, the floor standards reasonably account for variability in the emissions of the sources used to calculate the standards. This variability occurs due to a number of factors, including operation of control technologies, variation in combustion materials and combustion conditions, variation in operation of the unit itself and variation associated with the emission measurement techniques. Second, because the emissions data available to the EPA are in the form of short-term stack tests and the standards must be complied with at all times, the agency uses the UPL to estimate the average emissions performance of the units used to establish the MACT floor standards at times other than when the stack tests were conducted. Thus, the UPL results in a limit that represents the average emissions limitation achieved by the best performing sources over time, accounting for variability in emissions performance.

In establishing MACT floors, we use the available information to determine the average performance of the best performing sources (for existing source floors) and the average performance of the best-controlled similar source (for new source floors). Each MACT standard is based on data from sources whose emissions are expected to vary over their long term performance. For this reason, and because sources must comply with the MACT standards at all times, consideration of variability is a key factor in establishing these standards. In order to account for variability that is reflected in the available data that we use to calculate MACT floors, we use the UPL. For more information regarding the general use of the UPL and why it is appropriate for calculating MACT floors, see the memorandum titled, *Use of the Upper Prediction Limit for Calculating MACT Floors* (UPL Memo), which is available in the docket for this action.

Furthermore, with regard to calculation of MACT Floor limits based on limited datasets, we considered additional factors as summarized below and described in more details in the memorandum titled, *Approach for Applying the Upper Prediction Limit to Limited Datasets* (Limited Datasets Memo), which is available in the docket for this action.

2. What is our approach for applying the upper prediction limit to limited datasets?

In previous (November 2011 and April 2013) proposals we first ranked the test data by the arithmetic average of each source's emissions test results and we then performed a UPL calculation for the MACT floor population for new and existing sources, using the average emissions data from the best performing source or sources. We have recently further evaluated the way we apply the UPL where we have limited data sets.

The UPL approach addresses variability of emissions data from the best performing source or sources in setting MACT standards. The UPL also accounts for uncertainty associated with emission values in a dataset, which can be influenced by components such as the number of samples available for developing MACT standards and the number of samples that will be collected to assess compliance with the emission limit. The UPL approach has been used in many environmental science applications.[3] [4] [5] [6] [7] [8] As explained in more detail in the UPL Memo, the EPA used the UPL approach to reasonably estimate the emissions performance of the best performing source or sources to establish MACT floor standards.

With regard to the derivation of MACT limits using limited datasets, the D.C. Circuit Court of Appeals raised questions regarding the application of the UPL to limited datasets in its recent decision in *National Association of Clean Water Agencies v. EPA (NACWA),* which involved challenges to the EPA's MACT standards for sewage sludge incinerators. Since the NACWA decision, we have further evaluated this issue in the Limited Datasets Memo, which is available in the docket for this action. We followed the proposed approach documented in the Limited Datasets Memo for each of the proposed MACT floor calculations that is based on a limited dataset. We seek comments on the approach described in the Limited Dataset Memo and whether there are other approaches we should consider for such datasets. We also seek comments on the application of this approach for the derivation of MACT limits based on limited datasets in this supplemental proposal, which are described in the following section of today's document and in the Limited Dataset Memo.

For further explanation on the approach we used to calculate MACT floors based on limited datasets, including the specific MACT floor calculations for the proposed mineral wool and wool fiberglass emission limits, please see the Limited Datasets Memo and the MACT Floor Memo in the dockets for these rules. We are requesting comment on this proposed approach.

3. How did we apply the approach for limited datasets to limited datasets in the Mineral Wool Production and Wool Fiberglass Manufacturing source categories?

The standards where we had limited datasets are listed in sections III C and D below. For the Mineral Wool Production source category, we have

[3] Gibbons, R. D. (1987), *Statistical Prediction Intervals for the Evaluation of Ground-Water Quality.* Groundwater, 25: 455–465 and Hart, Barbara F. and Janet Chaseling, *Optimizing Landfill Ground Water Analytes*—New South Wales, Australia, Groundwater Monitoring & Remediation, 2003, 23, 2.

[4] Wan, Can; Xu, Zhao; Pinson, Pierre; Dong, Zhao Yang; Wong, Kit Po. Optimal Prediction Intervals of Wind Power Generation. 2014. IEEE Transactions on Power Systems, ISSN 0885–8950, 29(3): pp. 1166–1174.

[5] Khosravi, Abbas; Mazloumi, Ehsan; Nahavandi, Saeid; Creighton, Doug; van Lint, J. W. C. Prediction Intervals to Account for Uncertainties in Travel Time Prediction. 2011. IEEE Transactions on Intelligent Transportation Systems, ISSN 1524–9050, 12(2):537–547.

[6] Ashkan Zarnani; Petr Musilek; Jana Heckenbergerova. 2014. Clustering numerical weather forecasts to obtain statistical prediction intervals. Meteorological Applications, ISSN 1350–4827. 21(3): 605.

[7] Rayer, Stefan; Smith, Stanley K; Tayman, Jeff. 2009. Empirical Prediction Intervals for County Population Forecasts. Population Research and Policy Review, 28(6): 773–793.

[8] Nicholas A Som; Nicolas P Zegre; Lisa M Ganio; Arne E Skaugset. 2012. Corrected prediction intervals for change detection in paired watershed studies. Hydrological Sciences Journal, ISSN 0262–6667, 57(1): 134–143.

limited datasets for six pollutants and 11 subcategories. For the wool fiberglass category, we have limited datasets for three pollutants and two subcategories. We evaluated these specific datasets to determine whether it is appropriate to make any modifications to the approach used to calculate MACT floors for each of these datasets. For each dataset, we performed the steps outlined in the Limited Dataset Memo, including: Ensuring that we selected the data distribution that best represents each dataset; ensuring that the correct equation for the distribution was then applied to the data; and comparing individual components of each limited dataset to determine if the standards based on limited datasets reasonably represent the performance of the units included in the dataset. The details of each analysis are described and presented below in the applicable sections for both the Mineral Wool Production source category and for the Wool Fiberglass Manufacturing source category, and in the applicable MACT Floor Memos. We seek comments regarding the specific application of the limited dataset approach used to derive the proposed emissions limits for the pollutants described in the MACT Floor Memos.

*C. What are the proposed rule amendments that affect only the Mineral Wool Production source category and what is our rationale?*

We are proposing revised emission limits for cupolas and for bonded lines as a result of new representative detection limit (RDL) values, new source test data and our approach for calculating MACT floors based on limited data sets, as introduced in section III.B of this preamble.

1. How are the baseline risks different from the risks presented in previous documents for the RTR?

The updated draft risk assessment for the Mineral Wool Production source category, located in the docket for this rulemaking, contains updated estimates of risk based on actual emissions currently emitted by the industry. The risk estimates for actual emissions were updated to incorporate the following model and model reference library updates:

- AERMOD version 11103 was updated to version 14134.
- HEM version 1.3.0 was updated to version 1.3.1.
- Census input files were updated from the 2000 census to the 2010 census.
- Meteorological input files were updated from 1991 data to 2011 data. The number of meteorological stations contained in the input files increased from approximately 200 to more than 800.
- The dose response input library was revised to include the latest updates.
- The target organ endpoint input library was revised to include the latest updates.

The revisions listed above did not change our estimate of risk from actual emissions when compared to the risk assessment conducted for the April 15, 2013, supplemental proposal. The risk from mineral wool production is driven by formaldehyde and continues to be well within a level we consider to be acceptable (that is, a maximum individual risk (MIR) less than 100-in-1 million). The MIR for cancer for actual baseline emissions remains 10-in-1 million, with the acute noncancer hazard quotient (HQ) remaining at 20 for the reference exposure level (REL) and at 1 for the AEGL–1. The MIR from mineral wool production emissions under the original MACT standard is estimated to be 30-in-1 million (formaldehyde). The MIR for emissions after implementation of this proposal is estimated to be 10-in-1 million. Therefore, the MIR based on allowable emissions (what sources are permitted to emit) after implementation of the RTR decreases by a factor of 3 from MACT allowable levels.

2. What are the reasons for changing the carbonyl sulfide (COS) emission limits for closed-top cupolas?

The April 15, 2013 proposal contained a revised emissions limit for new and reconstructed closed-top mineral wool cupolas of 0.025 pounds (lb)/ton of melt. However, this proposed emission limit is very close to the test method detection limit of approximately 0.02 lb/ton melt.[9] The expected measurement imprecision for an emissions value occurring at or near the method detection level is about 40 to 50 percent. This large measure of analytic uncertainty decreases as measured values increase: Pollutant measurement imprecision decreases to a consistent relative 10 to 15 percent for values measured at a level about 3 times the method detection level. See American Society of Mechanical Engineers, *Reference Method Accuracy and Precision (ReMAP): Phase 1, Precision of Manual Stack Emission Measurements,* CRTD Vol. 60, February 2001. Thus, if the value equal to three times the representative method detection level were greater than the calculated floor emissions limit, we would conclude that the calculated floor emissions limit does not account entirely for measurement variability.

That is the case here with the carbonyl sulfide (COS) limit for new and reconstructed closed-top cupolas. The calculated standard (not accounting for the inherent analytical variability in the measurements) is approximately 0.02 lb/ton melt. In order to account for measurement variability, we multiplied the highest reported minimum detection level for the analytic method by a factor of three which results in a level of 0.061 lb/ton melt. This represents the lowest level that can be reliably measured using this test method, and we therefore believe that it is the lowest level we can set as the MACT limit taking the appropriate measurement variability into account.

3. Changes to previously proposed emission limits for horizontal combined collection and curing bonded lines?

In addition to our updated approach for determining the new source limits based on a limited dataset as discussed in section III. B of this preamble, we are proposing to change the proposed limits for formaldehyde, phenol and methanol emissions from horizontal collection/curing lines from previously proposed limits (November 25, 2011 (76 FR 72770 at 72789), and April 15, 2013 (78 FR 22370 at 22386)) due to new test data we received subsequent to our April 2013 proposal. We have since conducted a thorough review of both the first test, upon which the November 2011 proposed limits were based, and the second test, which supported industry's comments on the level of the standard.

In our review of the new test data, we found that emissions were measured at very different production rates than during the first test. We held discussions during several teleconferences with the company managers, environmental managers and the hired testing contractors to obtain additional information that would explain the widely divergent results from the first and second tests. We questioned the contracting company that conducted the source testing to explain under what situation the process tested using the same test method would yield such widely divergent results (which varied up to an order of magnitude).

Each of the source tests included three test runs measuring pollutant concentrations at a single stack to which emissions from both the collection process and the curing oven are vented. Of the three test runs conducted in the

[9] Determination of RDL and ''3 × RDL'' Values for Carbonyl Sulfide.

first test, the samples collected were all sent to a laboratory for analysis. The laboratory reported they received half of what was reportedly sent to them for the first and second runs, and reported receiving 10 times the amount reportedly sent to them for the third run. These errors alone should result in an invalid test. However, we were initially unwilling to abandon the first test if corrections could be made by the laboratory or the field tester to produce valid calculations. We found that environmental managers could not account for the apparent sample and collection errors in the first test.

In our review of the second test, we found that all three runs yielded similar results and that the laboratory reported to have received the same amount of sample that the tester reported was collected for analysis; these were important factors in our quality review of the test data.

For these reasons we concluded that the proper action would be to abandon the first test in its entirety due to the sample collection and reporting errors, and use the second test in its place because those samples were collected and reported correctly. The replacement of the first erroneous test with the second correct test changes the emission limits for the horizontal collection/curing subcategory. The revised emission limits being proposed are summarized in Table 2 of this preamble.

Setting aside the issue of whether the source adhered to proper sampling and analysis methods, we considered whether using data from all six test runs from both the first and second tests would have resulted in a significantly different emission limit, even though the first test was invalid. We found that while the correct action is to accept only the valid emission testing, emission limits using all the test data would not have yielded appreciably different emission limits than the limits we are proposing in today's rule. We are requesting comment on the emission limits for horizontal combined collection and curing lines.

4. What previously proposed emission limits are changing as a result of our updated approach to limited datasets?

As a result of our updated approach to evaluate limited datasets (as discussed in Section III.B of this preamble), we are proposing the following for mineral wool cupolas:

- Hydrogen fluoride (HF) and hydrochloric acid (HCl) emissions limits for two subcategories of new cupolas (those processing slag and those not processing slag),
- HCl emission limits for existing cupolas processing slag, and
- COS emission limits for new and existing open top cupolas.

The MACT floor dataset for each pollutant from cupola subcategory (e.g., open-top, processing slag and not processing slag) includes less than seven test runs from multiple cupolas. For each subcategory of cupola, we also identified the best performing unit based on average emissions performance. After determining the dataset distribution for each pollutant and ensuring that we used the correct equation for each distribution, we calculated the MACT floor emission limit for both existing and new sources.

Also based on our updated approach to limited datasets, we are proposing phenol, formaldehyde and methanol emission limits for three subcategories of new and existing bonded lines. Because one source exists in each of the three subcategories of combined collection and curing lines, existing and new source limits are equal. However, as a result of using our updated approach for limited datasets, the emission limits for phenol, formaldehyde and methanol we are proposing at this time for three subcategories of new and existing bonded lines are lower than those previously proposed. The MACT floor dataset for each pollutant from each new combined collection and curing line subcategory (e.g., vertical, horizontal and drum) includes less than seven test runs from a single line that we identified as the best performing unit based on average emissions performance. After determining the dataset distribution for each pollutant and ensuring that we used the correct equation for the distribution, we calculated the MACT floor emission limit for both existing and new sources. Table 2 indicates where changes to previously proposed emission limits are being newly proposed.

For each of the limited datasets (for both new and existing source floors), we evaluated the reasonableness of the calculated limit based on two factors. First, we reviewed the range of the test runs for each pollutant and process (i.e., an evaluation of the variance of the data). In general, we found the variance was determined to be acceptable because all measurements were within the expected range. Second, we compared the calculated UPL to the arithmetic average and found that the calculated limit was always within approximately 2.5 times the arithmetic average, a range we find when evaluating larger datasets.

Additionally, for new source emission limits, we compared the UPL equation components for the individual unit with those of the units in the existing source floor to determine if our identification of the best unit was reasonable.

The analyses and evaluations we performed for the proposed emissions limits are discussed in detail in the ''MACT Floor Memo for the Mineral Wool Production Source Category'' and in the ''Limited Datasets Memo for the Mineral Wool Production Source Category,'' available in the docket for this rule.

5. Proposed Emission Limits for the Mineral Wool Production Source Category

In Table 2 below we present all the emission limits for new and existing major sources in the Mineral Wool Production Source Category as proposed in the 2011 proposal, the 2013 supplemental proposal and in this supplemental proposal. We request comments on the proposed limits that have changed from what we previously proposed.

TABLE 2—EMISSION LIMITS FOR MINERAL WOOL PRODUCTION

[lb pollutant/ton melt]

| Process | Subcategory | HAP | 2011 Proposal | 2013 Proposal | 2014 Proposal |
|---|---|---|---|---|---|
| Cupolas | Existing Open-top | COS | 3.3 | 6.8 | No change. |
| | New Open top | COS | 0.017 | 4.3 | 3.2. |
| | Existing Closed Top | COS | 3.3 | 3.4 | No change. |
| | New Closed Top | COS | 0.017 | 0.025 | 0.062. |
| | Existing Processing Slag | HF | 0.014 | 0.16 | No change |
| | | HCl | 0.0096 | 0.21 | 0.44. |

TABLE 2—EMISSION LIMITS FOR MINERAL WOOL PRODUCTION—Continued

[lb pollutant/ton melt]

| Process | Subcategory | HAP | 2011 Proposal | 2013 Proposal | 2014 Proposal |
|---|---|---|---|---|---|
| | New Processing Slag | HF | 0.014 | 0.16 | 0.015 |
| | | HCl | 0.0096 | 0.21 | 0.012. |
| | Existing Not Processing Slag | HF | 0.014 | 0.13 | No change |
| | | HCl | 0.0096 | 0.43 | No change. |
| | New Not Processing Slag | HF | 0.014 | 0.13 | 0.018 |
| | | HCl | 0.0096 | 0.43 | 0.015. |
| Bonded Lines | Vertical (Existing and New) | Formaldehyde | 0.46 | 2.7 | 2.4 |
| | | Phenol | 0.52 | 0.74 | 0.71 |
| | | Methanol | 0.63 | 1.0 | 0.92. |
| | Horizontal (Existing and New) | Formaldehyde | 0.054 | No change | 0.63 |
| | | Phenol | 0.15 | No change | 0.12 |
| | | Methanol | 0.022 | No change | 0.049. |
| | Drum (Existing and New) | Formaldehyde | 0.067 | 0.18 | 0.17 |
| | | Phenol | 0.0023 | 1.3 | 0.85 |
| | | Methanol | 0.00077 | 0.48 | 0.28. |

*D. What are the proposed rule amendments for major sources in the Wool Fiberglass Manufacturing source category and what is our rationale?*

We are proposing several changes based on comments we received to our April 15, 2013, proposed rules for glass-melting furnaces and bonded lines. These changes include requirements for annual performance tests, extended compliance deadlines and changes to previously proposed emission limits based on our updated approach for calculating MACT standards where there are limited data sets.

We also are proposing work practice standards for HF and HCl emissions from all furnaces subject to 40 CFR part 63, subpart NNN, under CAA section 112(h)(2). We are seeking comments on only these issues or aspects of requirements that are being presented in this document.

1. How are the baseline risks different from the risks presented in previous documents for the RTR?

The updated draft risk assessment for wool fiberglass manufacturing, located in the docket for this rulemaking, contains updated estimates of risk based on actual emissions currently emitted by the industry. The risk estimates for actual emissions were updated to incorporate the following emissions data, model and model reference library updates:

- Changes were made to the actual emissions data to reflect 2012 facility testing data.
- AERMOD version 11103 was updated to version 14134.
- HEM version 1.3.0 was updated to version 1.3.1.
- Census input files were updated from the 2000 census to the 2010 census.
- Meteorological input files were updated from 1991 data to 2011 data. The number of meteorological stations contained in the input files increased from approximately 200 to more than 800.
- The dose response input library was revised to include the latest updates.
- The target organ endpoint input library was revised to include the latest updates.

The revisions listed above did not change our estimate of risk from actual emissions when compared to the risk assessment conducted for the April 15, 2013 supplemental proposal. The risk from wool fiberglass manufacturing is driven by formaldehyde and hexavalent chromium and continues to be well within a level we consider to be acceptable (that is, a MIR less than 100-in-1 million). The MIR cancer for actual baseline emissions remains 20-in-1 million (formaldehyde), with the acute noncancer HQ remaining at 30 for the REL and at 2 for the AEGL–1 (formaldehyde). The MIR from wool fiberglass manufacturing emissions allowed under the original MACT standard is estimated to be 60-in-1 million (formaldehyde).

2. The Risks After Implementation of the Emission Limits in the Rule as Proposed

After implementation of the emission limits, emissions of formaldehyde and chromium will be reduced. As a result, the MIR from wool fiberglass manufacturing emissions after implementation of this proposal is estimated to be 5-in-1 million, with the acute noncancer HQ at 7 for the REL and at 0.3 for the acute exposure guideline levels (AEGL)-1 (formaldehyde). In addition, the number of individuals exposed to cancer risks above 10-in-1 million will be reduced from 6,900 for actual emissions to zero for this proposal, and the number of individuals exposed to cancer risks above 1-in-1 million will be reduced from 1.2 million for actual emissions to 21,000 for this proposal.

3. Options and Costs to Achieve Chromium Emission Reductions

Based on information provided by industry, we evaluated eight different approaches to reducing chromium from gas-fired wool fiberglass furnaces. This included seven new options, and a re-evaluation of the costs associated with a sodium hydroxide scrubber control option discussed in the previous proposal. These air pollution control technologies or practices were identified by industry as potential compliance options to meet the standard. These options are as follows:

- Raw material substitution—discontinued use of green glass cullet in the raw material furnace charge; this is also a pollution prevention option;
- Furnace rebuild, when chromium emissions approach the limit, and before the end of the furnace's useful life;
- Installation of high efficiency particulate air (HEPA) filters at the outlet of the dry electrostatic precipitator (DESP);
- Installation of Venturi scrubber technology at the outlet of the DESP;
- Installation of a 3-stage filter at the outlet of the DESP;
- Installation of a 3-stage filter with water cleaning at the outlet of the DESP;
- Installation of a membrane baghouse at the outlet of the DESP;
- Installation of a caustic scrubber at the outlet of the DESP, as previously proposed, but with new cost analyses.

According to the results of our analyses, rebuilding the furnace when chromium emissions approach the limit is the most cost-effective approach, and the remaining cost discussion in this section concerns that control option. Our full analysis of the cost effectiveness of the various chromium emission reduction approaches is available in the technology review memo located in the docket to this proposed rule.

As a result, we are revising our analyses regarding how a wool fiberglass manufacturer would choose to meet the limits of this proposed rule. We are not revising the proposed limits or their applicability to all gas-fired glass-melting furnaces.

Based on information from industry (voluntary information collection request (ICR), CAA section 114 responses, emissions test data), there are currently 16 gas-fired glass-melting furnaces among both major and area sources in this source category, 14 of which were tested for chromium emissions. We estimate that there are six gas-fired furnaces located at four facilities that currently do not meet the proposed chromium compounds emission limit.

We first proposed that a wool fiberglass facility could choose to rebuild the furnace as a way to comply with the chromium emission limits in November 25, 2011, document, at 76 FR 72804. We stated that ''both NaOH scrubbers and a furnace rebuild are considered cost effective when hexavalent chromium levels are high.'' At that time, we surmised that a wool fiberglass manufacturer would choose non-chromium refractories with which to rebuild the furnace. In that document, we expected that the highest chromium emitting wool fiberglass furnace emitting 550 lb chromium per year would choose to rebuild the furnace to meet the proposed chromium compounds limit. We since learned from industry that the high chromium refractory is needed to withstand the high internal temperature, reactivity, corrosivity and erosivity of the furnace environment, but that some wool fiberglass furnaces are structurally and/or functionally designed to emit chromium at very low levels. As shown by the test data, 10 of the existing 16 gas-fired glass-melting furnaces meet the chromium limit without additional control beyond the DESP.

We now estimate the cost impact for impacted furnaces based on the example from industry practice that high-emitting furnaces may be rebuilt (or replaced) earlier than they might have been otherwise. The associated costing of this scenario is referred to as the net present value (NPV) approach which is described in the EPA Air Pollution Control Cost Manual (EPA/452/B–02–001), January 2002.

As part of the data collection effort associated with this rulemaking, we collected source test data [10] on 14 furnaces with information on furnace age, last rebricking or repair dates, current furnace age, and anticipated or planned future furnace replacement. We also obtained repeat testing for three rebuilt gas-fired glass-melting furnaces.

Of the 14 tested furnaces, all 4 furnaces over 12 years old exceeded the proposed chromium limit. Of the 10 furnaces under 12 years old, three exceeded the limit (one only marginally), and seven tested in compliance with (i.e., below) the proposed chromium limit.

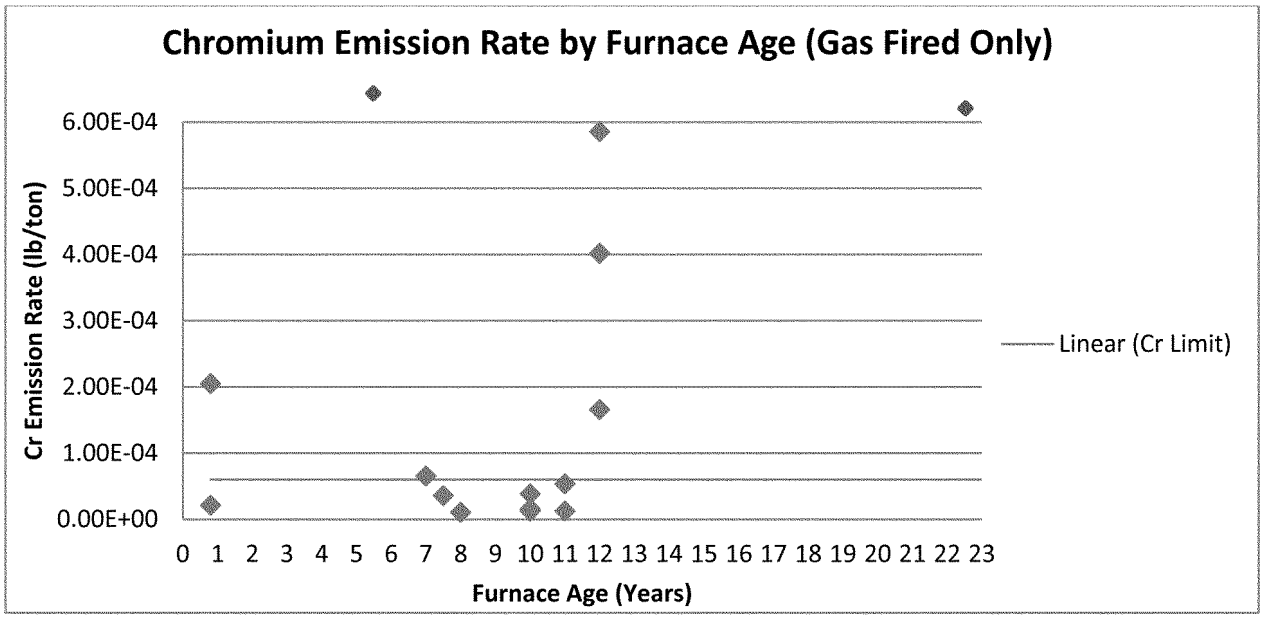


**Figure 1. Chromium emissions by furnace age.**

We considered two early furnace replacement scenarios based on information we received. In the first, based solely on CAA section 114 responses and test data, the expected furnace life is 12 years and is reduced to 10 years for compliance with the chromium limit. In the second, based on statements from industry stakeholders, industry press releases and technical literature, the expected furnace life of 10 years is reduced to 7 years for compliance with the chromium limit.

We decided to use the second (i.e., the 10/7 NPV) scenario as the basis for this industry's NPV approach in an effort to

[10] Of the 16 gas-fired furnaces in this source category, 14 were in operation at the time of testing. As a result, the EPA obtained source test data only on the 14 operating furnaces.

conservatively show (i.e., more likely to overstate costs than to understate costs) the maximum potential control cost.

Consequently, for this cost analyses, the NPV approach uses the following assumptions: (1) Furnace rebuild cost = $10 million; (2) normal furnace life cycle = 10 years; (3) chromium compliant furnace life cycle = 7 years; and (4) industry interest rate = 7 percent. As an overview summary, the capital recovery cost is calculated by multiplying the NPV incremental cost by the capital recovery factor. Using the 7-year furnace life and a 7 percent interest (discount) rate, the annualized capital recovery cost was calculated to be $212,000 per furnace. A more detailed example calculation of the NPV approach is provided in the Cost Impacts memo located in the docket to this proposed rulemaking.

We found evidence from the industry that several companies chose to rebuild high-chromium emitting furnaces that were more than 6 years old. Data show that three furnaces initially tested in 2010 were rebuilt and re-tested in 2012 and the results submitted to the EPA. While we do not have a complete set of data showing total chromium emission reductions as a result of all furnace rebuilds, we found that of the available test data for furnaces that were rebuilt, retested and reported, all three achieved chromium emission reductions as a result of the rebuild. In total, chromium emissions were reduced by 47 pounds per year, as shown in Table 3 below.

TABLE 3—REPEATED CHROMIUM TESTING FOR REBUILT FURNACES

| Furnace | 2010 Emissions rate (lb/ton) | 2012 Emission rate (lb/ton) | Comments | 2010 Testing emissions (lb/yr) | 2012 Testing emissions (lb/yr) |
|---|---|---|---|---|---|
| Oxy-Fuel 1 ..... | 0.000016 | 0.0000020 | Below proposed limit ..... | 1.6 | 0.20 |
| Oxy-Fuel 2 ..... | 0.00040 | 0.000021 | Below proposed limit ..... | 25 | 1.3 |
| Oxy-Fuel 3 ..... | 0.00059 | 0.00021 | Neither is below proposed limit ..... | 35 | 12 |

The results of this new cost analysis were total annualized costs of approximately $716,000 per year and chromium emissions reductions of 567 lb/year. The cost per lb of emission reduction is approximately $1,300 per pound. We consider this cost per pound reasonable considering the high toxicity of hexavalent chromium and this cost is consistent with the costs per pound in other recent rulemakings. Because the chromium limit previously proposed under section 112(d)(6) is still cost effective, we are not changing the limit in this proposal. See section V.B for more detailed information on cost impacts.

4. Performance Test Frequency

In our April 2013 proposal, we also proposed reduced testing requirements for sources with emissions that are 75 percent or less of the proposed chromium limit. Specifically, we proposed chromium testing once every three years for sources testing no higher than 75 percent of the proposed chromium limit, i.e., at least 25 percent below the proposed chromium limit (78 FR 22387). Subsequent to our proposal, we conducted an additional review of existing test data and found that source tests show a sudden ramp-up of chromium emissions (at an exponential rate) with furnace age. Therefore, a potential testing period of three years could allow significant emissions of hexavalent chromium to occur before the source realized emissions were increasing. For this reason, we no longer believe that reduced testing frequency is appropriate and, therefore, we are proposing that all gas-fired glass-melting furnaces at both major and area sources would be required to conduct annual emissions performance testing for chromium compounds using EPA Method 29.

5. Two-Year Compliance Deadline for Gas-Fired Glass-Melting Furnaces at Both Major and Area Sources

We previously proposed (on November 25, 2011, at 76 FR 72793, and on April 15, 2013, at 78 FR 22383–84), a 1-year compliance deadline for affected sources to meet the chromium emission limits of the rule. We received several comments requesting additional time to install new controls that would be effective in removing chromium compounds. In response to these comments, we are proposing up to 2 years from the effective date of this proposed rule for affected sources to comply with the chromium emission limits.

Standards promulgated under CAA section 112(f)(2) shall not apply until 90 days after the effective date of the final action amending this rule and sources may have up to 2 years after the effective date of the standard to comply if the EPA finds that such period is necessary for the installation of controls. (CAA section 112(f)(2)(B).) Under CAA section 112(i)(3), we must require sources to comply as expeditiously as practicable, but no later than 3 years after promulgation of the standard. (Ass'n of Battery Recyclers v. EPA, 716 F.3d 667, 405 U.S. App. DC 100, 2013 U.S. App. LEXIS 10637, 76 ERC (BNA) 1609, 43 ELR 20113, 2013 WL 2302713 (D.C. Cir. 2013).

We consulted our records from voluntary ICR responses, CAA section 114 responses regarding furnace ages and rebuilds, and statements by industry regarding furnace replacements. These sources of information regarding the time period required to replace furnace refractory range from a few weeks (in the case of a ''hot repair,'' done while the furnace is operating), to 20 months for a complete furnace deconstruction and reconstruction.[11]

While we no longer believe based on available information that add-on controls would necessarily be used to reduce chromium, we agree that more than 1 year may be needed for sources to decommission the old furnace and install a new furnace (particularly if the new furnace is of a different design than the one it is replacing, and emits chromium at lower rates as it ages).

We also see no reason to allow area sources a longer period of time to install, because we found no difference between furnaces at major and those at area source facilities and companies have demonstrated that ''expeditiously as possible'' is a period less than 2 years. Further, we are proposing that area and major sources be subject to similar requirements and unnecessary delays reducing the levels of chromium compound emissions to the atmosphere should be avoided for protection of human health. Therefore, we are making no distinction between major and area sources for the chromium compounds emission limit compliance deadline, and instead proposing that affected

[11] Three furnaces were rebuilt in the period between the 2010 testing and the 2012 testing. The furnaces were rebuilt according to a different design, and went through shutdown, deconstruction, design, construction, and startup phases during a (slightly less than) 2 year period.

sources comply with the chromium limits within 2 years of the effective date of the final rule.

6. Work Practice Standards for Previously Unregulated HCl and HF Emissions From Glass-Melting Furnaces at Major Sources

In our November 2011 proposal, consistent with the Brick MACT decision, we proposed MACT limits for HF and HCl (at 76 FR 72791) that reflected the average of the best performing 12 percent of existing sources, considering variability. We received comments that these pollutants were emitted at such low levels as to not be measurable and hence may not be emitted by most furnaces. When we reviewed the test data we also found that testing for these HAP indicated levels that were generally well below the detection limit of the test method used. Specifically, over 80 percent of all tests for HCl and 85 percent of all tests for HF were below the detection level of the method. In light of this information, we proposed to require work practice standards for the acid gases HF and HCl from furnaces at major sources in our April 15, 2013, supplemental proposal, under CAA section 112(h)(2). (78 FR 22387.) We did not however, specify the applicable work practice standards at that time.

We note that in response to our April 2013 proposal, wool fiberglass manufacturing owner/operators explained to us that emissions of the acid gases HF and HCl originate from the chloride- and fluoride-bearing constituents of the raw materials used to manufacture fiberglass. Refined raw mineral sands may contain trace amounts of fluorides and chlorides, and certain sources of external glass cullet typically contain significant concentrations of chlorides and fluorides, which undergo chemical transformation in the furnace environment to form the acid gases HCl and HF. These acid gases are undesirable in the wool fiberglass furnace environment because they cause damage to the furnace instruments (thermal sensors, cameras, flow rate sensors, etc.). Due to their location within the continuous high-temperature process, the replacement or repair of furnace components (and problems occurring as a result of compromised furnace components) is very costly. In order to protect furnace components, wool fiberglass facilities identify, isolate and screen out fluoride- and chloride-bearing materials.

According to these facilities, chlorides, fluorides and fluorine are components of glass from industrial (also known as continuous strand, or textile) fiberglass, cathode ray tubes (CRT), computer monitors that include CRT, glass from microwave ovens and glass from televisions. HF and HCl emissions occur when recycled glass from these types of materials enters the external cullet stream from the recycling center. We have used this information to develop and propose the work practice standard for wool fiberglass manufacturers in this action.

Wool fiberglass facilities ensure their feedstock does not contain chloride-, fluoride-, or fluorine-bearing cullet by one of two approaches. First, the facility may require the providers of external cullet to verify that the cullet does not include waste glass from the chloride-, fluoride- or fluorine-bearing sources mentioned above. Alternatively, facilities may sample their raw materials to show the cullet entering the furnace does not contain glass from these types of sources. The furnace emissions testing shows this is an effective work practice to reduce emissions of these acid gases.

In this document, we are, therefore, proposing work practice standards for the Wool Fiberglass Manufacturing source category that would require wool fiberglass facilities to maintain records from either cullet suppliers or their internal inspections showing that the external cullet is free of components that would form HF or HCl in the furnace exhaust (i.e., chlorides, fluorides and fluorine). Facilities would maintain quality assurance records for raw materials and/or records of glass formulations indicating the facility does not process fluoride-, fluorine-, or chloride-bearing materials in their furnaces, and that they thereby maintain low HF and HCl emissions. Major source facilities would be required to make these records available for inspection by the permitting authority upon demand. Failure to maintain such records would constitute a violation from the requirement.

7. What previously proposed emission limits are changing as a result of our updated approach to limited datasets and what is our rationale?

Only the new source MACT limits are changing as a result of our updated approach to limited datasets. For each of the limited datasets, we evaluated the reasonableness of the calculated limit based on three factors. First, we reviewed the range of the test runs for each pollutant and process (i.e., an evaluation of the variance of the data). In general, we found the variance was determined to be acceptable because all measurements were within the expected range. Second, we compared the calculated UPL to the arithmetic average, and found that the calculated limit was always within approximately 2.5 times the arithmetic average, a range we find when evaluating larger datasets. Third, we compared the UPL equation components for the individual unit with those of the units in the existing source floor to determine if our identification of the best unit was reasonable.

We are proposing phenol, formaldehyde and methanol emission limits for new sources in both rotary spin (RS) and flame attenuation (FA) subcategories as a result of our updated approach to evaluate limited datasets.

Additionally, we found that one new source limit, the methanol limit for the FA subcategory, was previously proposed equal to the limit for existing sources (0.5 lb/ton of glass pulled). The new source MACT floor dataset for methanol from FA lines includes three test runs from a single line (Johns Manville, Defiance) that we identified as the best performing unit based on average emissions performance.

After determining that the dataset is best represented by a lognormal distribution and ensuring that we used the correct equation for that distribution, we compared the performance of the best controlled similar source to the performance of each of the units in the existing source floor to determine whether our identification of the best controlled similar source was reasonable. Based on our evaluation of the available data, we are now proposing that the MACT floor is 0.35 lb/ton glass pulled for methanol from new FA lines.

For further explanation on the updated approach we are proposing to use for limited datasets, including for the MACT floor calculation for methanol emissions from FA lines please see the ''Limited Datasets Memo for the Wool Fiberglass Manufacturing Source Category'' and the ''MACT Floor Memo for the Wool Fiberglass Manufacturing Source Category'' in the dockets for these rules. We are requesting comment on this proposed approach.

8. What are the proposed emission limits for major sources in the Wool Fiberglass Manufacturing Source Category?

Table 4 presents a summary of all the proposed emission limits for new and existing major sources in the Wool Fiberglass Manufacturing source category. We are taking comment only on the changes to previously proposed limits. However, to provide transparency and a complete set of

emission limits for this source category, we are including all the limits proposed up to and including this document in Table 4 below.

TABLE 4—SUMMARY OF WOOL FIBERGLASS NESHAP EMISSION LIMITS FOR MAJOR SOURCES

[lb/ton glass pulled]

| Process | HAP | 2011 Proposal | 2013 Proposal | 2014 Proposal |
|---|---|---|---|---|
| Existing Rotary Spin Lines | Formaldehyde | 0.17 | 0.19 | No change. |
| | Phenol | 0.19 | 0.26 | No change. |
| | Methanol | 0.48 | 0.83 | No change. |
| New Rotary Spin Lines | Formaldehyde | 0.020 | 0.087 | 0.066. |
| | Phenol | 0.0011 | 0.063 | 0.060. |
| | Methanol | 0.00067 | 0.61 | 0.29. |
| Existing Flame Attenuation Lines | Formaldehyde | 5.6 | No change | No change. |
| | Phenol | 1.4 | No change | No change. |
| | Methanol | 0.50 | No change | No change. |
| New Flame Attenuation Lines | Formaldehyde | 3.3 | No change | 2.6. |
| | Phenol | 0.46 | No change | 0.44. |
| | Methanol | 0.50 | No change | 0.35. |
| Existing and New Furnaces | PM | 0.14 | 0.33 | No change |
| | Chromium Compounds | 0.00006 | No change | No change |

*E. What are the changes to the previously proposed rule requirements for area sources in the Wool Fiberglass Manufacturing source category and what is our rationale?*

In a change from our April 15, 2013, proposal, we are no longer proposing to establish particulate matter (PM) limits, in addition to the chromium compound limits, for gas-fired glass-melting furnaces at wool fiberglass manufacturing area sources. In the April 15, 2013, document, we proposed both PM and chromium compounds emission limits under CAA section 112(d)(5) (GACT) for wool fiberglass manufacturing gas-fired glass-melting furnaces at area sources. We received comments objecting to the EPA requiring area sources to meet emission limits for both PM and chromium compounds. In one commenter's opinion, separate emission limits for PM and for chromium compounds are inappropriate because PM would no longer be a surrogate for non-mercury HAP metals, and limits for every metal HAP would have to be established. Similarly, another commenter stated that we should set emission limits for either PM or for chromium compounds, but not for both. This commenter further recommended the EPA establish only the PM limit for wool fiberglass manufacturing area sources.

After considering these comments, we are no longer proposing to establish PM limits, in addition to chromium compounds, limits for gas-fired glass-melting furnaces that are located at wool fiberglass manufacturing area sources. As explained in our April 2013 supplemental proposal, chromium compounds are a significant component of the refractory used above the glass melt line in gas-fired glass-melting furnaces.[12] (78 FR 22373–74).This results in gas-fired glass-melting furnaces emitting particulate that contains chromium in larger amounts than that of electric furnaces. Specifically, PM and chromium emissions test data collected from industry for development of the proposed rule indicates that chromium constitutes an average of 0.96 percent of PM emissions for gas-fired furnaces, which is 13 times higher than the average for electric furnaces (0.07 percent of PM emissions are chromium).[13] Thus, we believe that because chromium compounds are a significant component of the refractory used above the glass melt line, a greater potential for chromium emissions exists for gas-fired glass-melting furnaces. This is not the case for other HAP metals. The EPA may use a surrogate to regulate HAP if there is reasonable basis to do so and in several rulemakings, we have used PM as a surrogate ''for HAP metals because PM control technology traps HAP metal particles and other particulates indiscriminately.'' *National Lime* v. *EPA,* 233 F.3d at 639. But nothing compels the use of a surrogate and EPA must in fact ''assure'' that there is a ''correlation'' between PM and non-mercury HAP metal. *Id.,* at 640.

As explained in our April 15, 2013 supplemental proposal, chromium emissions can be still fairly significant after the emission stream passes through any existing PM air pollution control device. Setting emission limits for PM alone would not achieve the objective of the Urban Air Toxics Strategy[14] [15] (Strategy) because chromium compounds is the urban air toxic measured in the emissions from gas-fired glass-melting furnaces.[16] Conversely, setting emission limits for chromium alone achieves the objectives of the Strategy because controls needed to meet the chromium limit will reduce both total PM and its chromium component as the furnace emissions pass through operational PM controls. We also note that for gas-fired glass-melting furnaces, chromium and PM reductions are achieved due to the co-control characteristics of the existing controls (the DESP [17]). Because owners/operators must maintain PM controls in order to continue to meet the chromium limits in the rule, PM co-control benefits

[12] See the 114 responses from all wool fiberglass manufacturers on furnace design, construction, and refractory composition. Also, see product specification statements from St. Gobain, in references.

[13] See the Modeling File in the Docket for this rule.

[14] The Final Integrated Urban Air Toxics Strategy (Strategy) was published on July 19, 1999 (64 FR 38706).

[15] The Strategy is discussed at length in the April 15, 2013 proposed rule for this source category (78 FR 22370 at 22375–378).

[16] Source testing conducted in October 1995 at a Certainteed facility in Mountaintop, PA, shows emissions of PM, including chromium compounds, were emitted from two gas-fired glass-melting furnaces. Emissions of chromium from the outlets of furnaces M1 and M2 were measured at 534 and 964 lb/year, respectively (1,498 lb/year, combined). Both furnaces were ducted to the same DESP. Source testing at the outlet of the DESP measured chromium at 11.4 lb/year. Post-control PM emissions measured 1.63 tons per year.

[17] DESP are the predominant air pollution control devices in place at wool fiberglass gas-fired glass-melting furnaces. Baghouses (fabric filter control) may also be effective. Both of these controls remove PM, a component of which is chromium in the fine particulate form. In our earlier proposals, we had theorized that sources would likely use NaOH scrubbers following the primary PM control.

are realized from the reduction in chromium compounds. We also note that currently, existing PM controls (the DESP with no additional controls) are sufficient to meet the chromium compounds limit at 10 of the existing 16 gas-fired glass-melting furnaces. The chromium compound emission limits for gas-fired glass-melting furnaces at new and existing sources under CAA section 112 (d)(5) are unchanged from the previous proposal. Because it is unchanged, we are not taking comment on the proposed emissions level (note: the previously proposed chromium compounds limit was $6 \times 10^{-5}$ lb per ton of melt). As previously discussed, we have revised our cost analysis for compliance with the major source chromium limit. We also revised our cost analysis in the same manner for meeting the area source chromium limit. The cost per ton for area sources is $13,300 per pound. This cost per pound is higher than the cost for major sources, but is still reasonable given the high toxicity of hexavalent chromium and it is comparable to the cost of other recent rulemakings [18] that reduced emissions of hexavalent chromium.

## IV. Impacts of the Proposed Changes to Mineral Wool Production (Subpart DDD) and Wool Fiberglass Manufacturing (Subparts NNN and NN)

### *A. Subpart DDD—Mineral Wool Production MACT Rule*

For the proposed amendments to the Mineral Wool Production source category, the air quality, water quality, solid waste and energy impacts were determined based on the need for additional control technologies and actions required to meet the proposed emissions limits. These proposed amendments would maintain emissions of COS, formaldehyde, phenol and methanol emissions at their current low levels.

We do not anticipate any adverse water quality or solid waste impacts from the proposed amendments to the 1999 MACT rule because the proposed requirements would not change the existing requirements that impact water quality or solid waste.

In this supplemental proposal, we have revised the emission limits for horizontal collection and curing activities based on new test data and reevaluated the associated costs. The costs presented below in Table 5 replace those estimated in the April 2013 proposed rule.

As explained in our April 15, 2013, supplemental proposal (78 FR 22370, at 22385), all existing lines that use slag in the raw materials receive the slag from the iron and steel industry. Some slags contain residual amounts of chlorides and fluorides which vary by process and location.

All existing lines with closed-top cupolas are fitted with RTO which convert the high concentrations of COS in the cupola exhaust gas to energy that is returned to the cupola. This technology reduces the consumption of coke up to 30 percent and, because of the cost of coke, this technology pays for itself over a period of several years. Emissions of COS are below 0.02 lb COS per ton melt when a regenerative thermal oxidizer (RTO) is installed for energy recovery and new source MACT for closed-top cupolas is based upon the use of this technology. Open-top cupolas do not accommodate RTO. This proposed rule establishes a limit of 3.2 lbs COS per ton melt for new lines with open-top cupolas, and 6.8 lbs COS per ton melt for existing lines. All lines currently in operation can meet this limit without new control equipment or different input materials, and thus will not incur additional costs.

The total annualized costs for these proposed amendments are estimated at $48,800 (2013 dollars) for additional testing and monitoring. Table 6 below provides a summary of the estimated costs and emissions reductions associated with these proposed amendments to the Mineral Wool Production NESHAP.

TABLE 5—ESTIMATED COSTS AND REDUCTIONS FOR THE PROPOSED MINERAL WOOL PRODUCTION MACT STANDARDS (SUBPART DDD) IN THIS ACTION

| Proposed amendment | Estimated capital cost ($MM) | Estimated annual cost ($MM) | Total HAP emissions reductions (tons per year) | Cost effectiveness in $ per ton total HAP reduction |
|---|---|---|---|---|
| Additional testing and monitoring | 0 | 0.049 | N/A | N/A |

We performed an economic impact analysis for mineral wool consumers and producers nationally, using the annual compliance costs estimated for this proposed rule. The impacts to producers affected by this proposed rule are annualized costs of less than 0.01 percent of their revenues, using the most current year available for revenue data. Prices and output for mineral wool products should increase by no more than the impact on cost to revenues for producers; thus, mineral wool prices should increase by less than 0.01 percent. Hence, the overall economic impact of this proposed rule should be low on the affected industries and their consumers. For more information, please refer to the Economic Impact and Small Business Analysis for this proposed rulemaking that is in the docket (EPA–HQ–OAR–2010–1042).

### *B. Subpart NNN—Wool Fiberglass Manufacturing MACT Rule*

We evaluated the impacts to the affected sources based on all available information. Two significant sources of information were the 2010 and 2011/2012 emissions testing and subsequent conversations with the North American Insulation Manufacturers Association and individuals operating industry facilities. According to the 2010 and 2012 emissions test data, there are three glass-melting furnaces at two major source facilities that do not meet the proposed chromium compound emission limit.

Our assessment of impacts is based on the data from tested gas-fired glass-melting furnaces only, and may not be representative of untested furnaces. We anticipate that 10 of the 30 wool fiberglass manufacturing facilities currently operating in the United States are currently major sources and would be affected by these proposed

[18] In the Gold Mines Area Source Rule (76 FR 9450 at 9464) the EPA found that $13,800 per pound of mercury was cost effective; in the Chromium Electroplating RTR (77 FR 58220 at 58221), the EPA found that $14,424 per pound of chromium at small hard chromium electroplating plants was cost effective.

amendments. We estimate that two of the 10 wool fiberglass manufacturing facilities that are major sources would rebuild three furnaces before the end of their operational lifecycles.

We expect that these proposed RTR amendments would result in reductions of 558 lb of chromium compounds. Hexavalent chromium can be as much as 93 percent (or 547 lb) of the total chromium compounds emitted from wool fiberglass glass-melting furnaces.

Available information indicates that all affected facilities will be able to comply with this proposed work practice standards for HF and HCl without additional controls, and that there will be no measurable reduction in emissions of these gases. Also, we anticipate that there will be no reductions in PM emissions due to these proposed PM standards because all sources currently meet the previously proposed PM limit.

Indirect or secondary air quality impacts include impacts that will result from the increased electricity usage associated with the operation of control devices. We do not anticipate significant secondary impacts from the proposed amendments to the Wool Fiberglass MACT.

The capital costs for each facility were estimated based on the ability of each facility to meet the proposed emissions limits for PM, chromium compounds, formaldehyde, phenol and methanol. The memorandum, *Cost Impacts of the Proposed NESHAP RTR Amendments for the Wool Fiberglass Manufacturing Source Category,* includes a complete description of the cost estimate methods used for this analysis and is available in the docket.

Under these proposed amendments, eight of the 10 major source wool fiberglass facilities will not incur any capital costs to comply with the proposed emissions limits. Five facilities would be subject to new costs for compliance testing on gas-fired glass-melting furnaces, which will total $80,000 annually for the entire industry. At this time, there are two facilities with a total of three gas-fired glass-melting furnaces that do not meet the proposed emissions limit for chromium compounds. We anticipate that these facilities would opt to reduce the operational life cycle for each of the three gas-fired glass-melting furnaces. The estimated capital cost of reducing the operational furnace life from 10 years to 7 years is $1,144,000 per furnace with a total annualized cost of $212,000 per furnace. There are a total of eight gas-fired glass-melting furnaces located at five major source facilities. Annual performance testing costs would be $10,000 per glass-melting furnace, resulting in total glass-melting furnace testing costs of $80,000.

The 10 major source facilities would incur total annualized costs of $80,400 for additional compliance testing on their FA and RS manufacturing lines and two of those facilities would incur a total cost of $1,144,000 for reducing the operational life cycle of three gas-fired glass-melting furnaces due to the proposed rule emission limits. The total annualized costs for the proposed amendments are estimated at $1.49 million (2013 dollars).

Table 6 below summarizes the costs and emission reductions associated with the proposed amendments.

TABLE 6—ESTIMATED COSTS AND REDUCTIONS FOR THE PROPOSED WOOL FIBERGLASS MANUFACTURING MACT STANDARDS (SUBPART NNN) IN THIS ACTION

| Proposed amendment | Est. capital cost ($mm) | Est. total annualized cost ($MM) | Total HAP emissions reductions | Cost effectiveness | Number facilities |
|---|---|---|---|---|---|
| Gas-Fired Glass-Melting Furnaces: | | | | | |
| Reduce furnace life cycle | 1.144 × 3 | 0.212 × 3 | 567 pounds chromium compounds per year. | 1,300 ($ per pound) | 2 |
| Additional testing and monitoring for gas-fired glass-melting furnaces. | 0 | 0.01 × 8 | N/A | | 5 |
| RS and FA Manufacturing Lines: | | | | | |
| Operation and Maintenance of thermal oxidizer. | 0 | 0.75 | 123 tons organic HAP per year. | 6,300 ($ per ton) | 6 |
| Additional testing and monitoring for FA and RS lines. | 0 | 0.02 | N/A | | 10 |

*C. Subpart NN—Wool Fiberglass Manufacturing Area Source (GACT) Rule*

The impacts presented in this section include the air quality, cost, non-air quality and economic impacts of complying with the proposed GACT rule for wool fiberglass manufacturing located at area source facilities.

We have estimated the potential emission reductions from implementation of the proposed GACT emission standards to be 54 lb of chromium compounds per year.

We considered the costs and benefits of achieving the proposed emission limits and identified five facilities with a total of eight glass-melting furnaces that would be subject to the proposed requirements. All eight glass-melting furnaces would have to conduct annual testing to demonstrate compliance. Based on the emission testing conducted in 2011 and 2012, three of the eight glass-melting furnaces would need to reduce their emissions to meet the proposed chromium compound emission limits. We estimated that using a reduced life cycle approach for those furnaces would have a capital equipment cost of $1,144,000 for each furnace and the total annualized costs would be $212,000 per furnace.

Costs are also incurred for compliance testing, monitoring, recordkeeping, and reporting requirements of the proposed rule. The annual performance testing costs are $10,000 per gas-fired glass-melting furnace. Since there are a total of eight gas-fired glass-melting furnaces at the five facilities, the total annual testing cost is $80,000. The total annualized cost for the wool fiberglass manufacturing industry to comply with subpart NN requirements is $716,000. The estimated HAP reduction is 50 lb of chromium compounds.

While we do not anticipate the construction of any new wool fiberglass manufacturing facilities in the next 5 years, we do expect most, if not all, of the 10 major source facilities to convert to non-HAP binders and become area sources. However, we did not estimate new source cost impacts for any additional facilities to avoid double

counting the costs associated with the major source rule (subpart NNN) with similar gas-fired glass-melting furnace requirements. Table 7 below presents the costs to wool fiberglass area sources.

TABLE 7—ESTIMATED COSTS AND REDUCTIONS FOR THE PROPOSED WOOL FIBERGLASS MANUFACTURING AREA SOURCE GACT STANDARDS (SUBPART NN) IN THIS ACTION

| Proposed amendment | Est. capital cost ($MM) | Est. total annualized cost ($MM) | Total HAP emissions reductions | Cost effectiveness | Number facilities |
|---|---|---|---|---|---|
| Reduce furnace life cycle | 1.144 × 3 | 0.212 × 3 | 54 pounds per year | 13,300 ($ per pound) | 2 |
| Additional testing and monitoring for glass-melting furnaces. | 0 | 0.01 × 8 | N/A | | 5 |

The analysis is documented in the memorandum, *Costs and Emission Reductions for the Proposed Wool Fiberglass Manufacturing NESHAP—Area Sources,* and is available in the docket.

We performed an economic impact analysis for wool fiberglass consumers and producers nationally, using the annual compliance costs estimated for this proposed rule. The impacts to producers affected by this proposed rule are annualized costs of less than 0.02 percent of their revenues, using the most current year available for revenue data. Prices and output for wool fiberglass products should increase by no more than the impact on cost to revenues for producers; thus, wool fiberglass prices should increase by less than 0.02 percent. Hence, the overall economic impact of this proposed rule should be low on the affected industries and their consumers. For more information, please refer to the Economic Impact and Small Business Analysis for this proposed rulemaking that is in the docket (EPA–HQ–OAR–2010–1042).

## V. Statutory and Executive Order Reviews

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

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a ''significant regulatory action'' because it does not raise novel legal or policy issues. Accordingly, the EPA has not submitted this action to OMB for review under Executive Order 12866 and Executive Order 13563 (76 FR 3821, January 21, 2011).

In addition, the EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in *Costs and Emission Reductions for the Proposed Wool Fiberglass Manufacturing NESHAP—Area Source,* in Docket ID No. EPA–HQ–OAR–2010–1042. A copy of the analysis is available in the docket for this action and the analysis is briefly summarized in section IV.C of this preamble.

### *B. Paperwork Reduction Act*

The information collection requirements in this proposed rule have been submitted for approval to OMB under the *Paperwork Reduction Act,* 44 U.S.C. 3501, *et seq.* The ICR document prepared by the EPA has been assigned EPA ICR No. 2481.01.

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

This proposed rule would require maintenance inspections of the control devices, and some notifications or reports beyond those required by the General Provisions. The recordkeeping requirements require only the specific information needed to determine compliance. The information collection activities in this ICR include the following: Performance tests, operating parameter monitoring, preparation of a site-specific monitoring plan, monitoring and inspection, one-time and periodic reports and the maintenance of records. Some information collection activities included in the NESHAP may occur within the first 3 years, and are presented in this burden estimate, but may not occur until 4 or 5 years following promulgation of the proposed standards for some affected sources. To be conservative in our estimate, the burden for these items is included in this ICR. An initial notification is required to notify the Designated Administrator of the applicability of this subpart, and to identify gas-fired glass-melting furnaces subject to this subpart. A notification of performance test must be submitted, and a site-specific test plan written for the performance test, along with a monitoring plan. Following the initial performance test, the source must submit a notification of compliance status that documents the performance test and the values for the operating parameters. A periodic report submitted every 6 months documents the values for the operating parameters and deviations. Owners or operators of mineral wool production and wool fiberglass manufacturing facilities are required to keep records of certain parameters and information for a period of 5 years. We estimate 20 wool fiberglass facilities will be subject to 40 CFR part 63, subpart NN; 10 wool fiberglass facilities are currently subject to 40 CFR part 63, subpart NNN; and 8 mineral wool facilities are currently subject to 40 CFR part 63, subpart DDD. The annual testing, annual monitoring, reporting and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the standards) is summarized as follows:

| Subpart | Labor hours | Labor cost | Non-labor capital cost | Total average annual burden |
|---|---|---|---|---|
| DDD | 123 | $25,850 | $0 | $25,850 |
| NNN | 153 | 46,789 | 0 | 46,789 |

| Subpart | Labor hours | Labor cost | Non-labor capital cost | Total average annual burden |
|---|---|---|---|---|
| NN | 77 | 32,703 | 0 | 32,703 |

These estimates include initial and annual performance tests, conducting and documenting semiannual excess emission reports, maintenance inspections, developing a monitoring plan, notifications and recordkeeping. Monitoring and testing cost were also included in the cost estimates presented in the control costs impacts estimates in section IV of this preamble. The total burden (defined at 5 CFR 1320.3(b)) for the federal government (averaged over the first 3 years after the effective date of the standard) is estimated to be:

| Subpart | Federal Gov't labor hours | Federal Gov't labor cost |
|---|---|---|
| DDD | 25 | $1,085 |
| NNN | 30 | 1,366 |
| NN | 15 | 695 |

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.

To comment on the agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, the EPA has established public dockets for these rules, which include these ICRs, under Docket ID numbers EPA–HQ–OAR–2010–1042 (subpart DDD) and EPA–HQ–OAR–2010–1042 (subparts NNN and NN). Submit any comments related to the ICRs to the EPA and the OMB. See **ADDRESSES** section at the beginning of this document for where to submit comments to the EPA. Send comments to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW., Washington, DC 20503, Attention: Desk Office for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after November 13, 2014, a comment to OMB is best assured of having its full effect if OMB receives it by December 15, 2014. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

*C. Regulatory Flexibility Act*

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act, or any other statute, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations and small governmental jurisdictions.

For purposes of assessing the impacts of this proposed rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA's) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. For this source category, which has the general NAICS code 327993 (i.e., Mineral Wool Production and Wool Fiberglass Manufacturing), the SBA small business size standard is 750 employees according to the SBA small business standards definitions.

After considering the economic impacts of this proposed rule on small entities in the Mineral Wool Production and Wool Fiberglass Manufacturing source categories, I certify that this action will not have a significant economic impact on a substantial number of small entities. Five of the seven mineral wool production parent companies affected in this proposed rule are considered to be small entities per the definition provided in this section. There are no small businesses in the Wool Fiberglass Manufacturing source category. We estimate that this proposed rule will not have a significant economic impact on any of those companies.

While there are some costs imposed on affected small businesses as a result of this rulemaking, the costs associated with this action are less than the costs associated with the limits proposed on November 25, 2011. Specifically, the cost to small entities in the Mineral Wool Production source category due to the changes in COS, HF and HCl are lower as compared to the limits proposed on November 25, 2011, and April 15, 2013. None of the five small mineral wool parent companies are expected to have an annualized compliance cost of greater than one percent of its revenues. All other affected parent companies are not small businesses according to the SBA small business size standard for the affected NAICS code (NAICS 327993). Therefore, we have determined that the impacts for this proposed rule do not constitute a significant economic impact on a substantial number of small entities.

Although these proposed rules would not have a significant economic impact on a substantial number of small entities, the EPA nonetheless has tried to mitigate the impact that these rules would have on small entities. The actions we are proposing to take to mitigate impacts on small businesses include less frequent compliance testing for the entire mineral wool industry and subcategorizing the Mineral Wool Production source category in developing the proposed COS, HF and HCl emissions limits than originally required in the November 25, 2011, proposal. For more information, please refer to the economic impact and small business analysis that is in the docket. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

**D. Unfunded Mandates Reform Act**

This rule does not contain a federal mandate that may result in expenditures of $100 million or more for state, local and tribal governments, in the aggregate, or the private sector in any 1 year. The total annualized cost of these rules is estimated to be no more than $2.3 million (2013$) in any 1 year. Thus, these rules are not subject to the requirements of sections 202 or 205 of UMRA.

This proposed rule is also not subject to the requirements of section 203 of UMRA, because they contain no regulatory requirements that might significantly or uniquely affect small governments. These rules only impact mineral wool and wool fiberglass manufacturing facilities, and, thus, do not impact small governments uniquely or significantly.

*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, as specified in Executive Order 13132. These proposed rules impose requirements on owners and operators of specified major and area sources, and not on state or local governments. There are no wool fiberglass manufacturing facilities or mineral wool production facilities owned or operated by state or local governments. Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with the EPA policy to promote communications between the EPA and state and local governments, the EPA specifically solicits comment on this proposed action from state and local officials.

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

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). These proposed rules impose requirements on owners and operators of specified area and major sources, and not tribal governments. There are no wool fiberglass manufacturing facilities or mineral wool production facilities owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action. The EPA specifically solicits additional comment on this proposed action from tribal officials.

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

The EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045, because it is based solely on technology performance.

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

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

*I. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA), Public Law No. 104–113 12(d) (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards (VCS) in its regulatory activities, unless to do so would be inconsistent with applicable law or otherwise impractical. VCS are technical standards (*e.g.,* materials specifications, test methods, sampling procedures and business practices) that are developed or adopted by VCS bodies. The NTTAA directs the EPA to provide Congress, through OMB, explanations when the agency decides not to use available and applicable VCS.

This rulemaking involves technical standards. Therefore, the agency conducted searches for the Wool Fiberglass Manufacturing Area Source NESHAP through the Enhanced National Standards Systems Network (NSSN) Database managed by the American National Standards Institute (ANSI). We also contacted voluntary consensus standards (VCS) organizations and accessed and searched their databases.

Under 40 CFR part 63, subpart NN, searches were conducted for EPA Methods 5 and 29. The search did not identify any other VCS that were potentially applicable for this rule in lieu of EPA reference methods.

We proposed VCS under the NTTAA for Wool Fiberglass Manufacturing (NNN) and for Mineral Wool Production (DDD) in November 2011. Commenters asked to have the option to use other EPA methods to measure their emissions for compliance purposes. These are not VCS and as such are not subject to this requirement.

The EPA welcomes comments on this aspect of the proposed rulemaking, and, specifically, invites the public to identify potentially applicable VCS, and to explain why such standards should be used in this regulation.

*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) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations in the United States.

The EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations, because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population.

An analysis of demographic data shows that the average percentage of minorities, percentages of the population below the poverty level and the percentages of the population 17 years old and younger, in close proximity to the sources, are similar to the national averages, with percentage differences of 3, 1.8 and 1.7, respectively, at the 3-mile radius of concern. These differences in the absolute number of percentage points from the national average indicate a 9.4-percent, 14.4-percent and 6.6-percent over-representation of minority populations, populations below the poverty level and the percentages of the population 17 years old and younger, respectively.

In determining the aggregate demographic makeup of the communities near affected sources, the EPA used census data at the block group level to identify demographics of the populations considered to be living near affected sources, such that they have notable exposures to current emissions from these sources. In this approach, the EPA reviewed the distributions of different socio-demographic groups in the locations of the expected emission reductions from this proposed rule. The review identified those census block groups with centroids within a circular distance of a 0.5, 5, and 5 miles of affected sources, and determined the demographic and socio-economic composition (*e.g.,* race, income, education, etc.) of these census block groups. The radius of 3 miles (or approximately 5 kilometers) has been used in other demographic analyses focused on areas around potential sources.[19] [20] [21] [22] There was only one census block group with its centroids within 0.5 miles of any source affected by the proposed rule. The EPA's

[19] U.S. GAO (Government Accountability Office). *Demographics of People Living Near Waste Facilities*. Washington DC: Government Printing Office; 1995.

[20] Mohai P, Saha R. *Reassessing Racial and Socio-economic Disparities in Environmental Justice Research*. Demography. 2006;43(2): 383–399.

[21] Mennis J. *Using Geographic Information Systems to Create and Analyze Statistical Surfaces of Populations and Risk for Environmental Justice Analysis. Social Science Quarterly,* 2002;83(1):281–297.

[22] Bullard RD, Mohai P, Wright B, Saha R, *et al. Toxic Waste and Race at Twenty 1987–2007*. United Church of Christ. March, 2007.

demographic analysis has shown that these areas, in aggregate, have similar proportions of American Indians, African-Americans, Hispanics and ''Other and Multi-racial'' populations to the national average. The analysis also showed that these areas, in aggregate, had similar proportions of families with incomes below the poverty level as the national average, and similar populations of children 17 years of age and younger.[23]

The EPA defines Environmental Justice to include 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. To promote meaningful involvement, the EPA has developed a communication and outreach strategy to ensure that interested communities have access to this proposed rule, are aware of its content, and have an opportunity to comment during the comment period. During the comment period, the EPA will publicize the rulemaking via environmental justice newsletters, Tribal newsletters, environmental justice listservs and the Internet, including the EPA Office of Policy Rulemaking Gateway Web site (*http://yosemite.epa.gov/opei/RuleGate.nsf/*). The EPA will also conduct targeted outreach to environmental justice communities, as appropriate. Outreach activities may include providing general rulemaking fact sheets (e.g., why is this important for my community) for environmental justice community groups, and conducting conference calls with interested communities. In addition, state and Federal permitting requirements will provide state and local governments, and members of affected communities the opportunity to provide comments on the permit conditions associated with permitting the sources by this proposed rule.

**List of Subjects in 40 CFR Part 63**

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

Dated: October 15, 2014.

**Gina McCarthy,**

*Administrator.*

For the reasons stated in the preamble, part 63 of title 40, chapter I, of the Code of Federal Regulations is proposed to be amended as follows:

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

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

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

■ 2. Section 63.14 is amended by revising paragraphs (l)(8) and (9) to read as follows:

### § 63.14 Incorporations by reference.

* * * * *

(l) * * *

(8) SW–846–8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 2, December 1996, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, *http://www.epa.gov/osw/hazard/testmethods/sw846/,* IBR approved for §§ 63.1385, 63.11960, 63.11980, and table 10 to subpart HHHHHHH.

(9) SW–846–8270D, Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, *http://www.epa.gov/osw/hazard/testmethods/sw846/,* IBR approved for §§ 63.1385, 63.11960, 63.11980, and table 10 to subpart HHHHHHH.

* * * * *

■ 3. Subpart NN of part 63, consisting of §§ 63.880 through 63.899, is added to read as follows:

### Subpart NN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources

Sec.



### § 63.880 Applicability.

(a) Except as provided in paragraphs (b) and (c) of this section, the requirements of this subpart apply to the owner or operator of each wool fiberglass manufacturing facility that is an area source or is located at a facility that is an area source.

(b) The requirements of this subpart apply to emissions of particulate matter (PM) and chromium compounds, as measured according to the methods and procedures in this subpart, emitted from each new and existing gas-fired glass-melting furnace located at a wool fiberglass manufacturing facility that is an area source.

(c) The provisions of subpart A of this part that apply and those that do not apply to this subpart are specified in Table 1 of this subpart.

(d) Gas-fired glass-melting furnaces that are not subject to subpart NNN of this part are subject to this subpart.

(e) Gas-fired glass-melting furnaces using electricity as a supplemental energy source are subject to this subpart

### § 63.881 Definitions.

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, or in this section as follows:

*Bag leak detection system* means systems that include, but are not limited to, devices using triboelectric, light scattering, and other effects to monitor relative or absolute particulate matter (PM) emissions.

*Gas-fired glass-melting furnace* means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature using natural gas and other fuels, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming processes. The forming apparatus, including flow channels, is not considered part of the gas-fired glass-melting furnace. Cold-top electric glass-melting furnaces as defined in subpart NNN of this part are not gas-fired glass-melting furnaces.

*Glass pull rate* means the mass of molten glass that is produced by a single glass-melting furnace or that is used in the manufacture of wool fiberglass at a single manufacturing line in a specified time period.

*Manufacturing line* means the manufacturing equipment for the production of wool fiberglass that consists of a forming section where molten glass is fiberized and a fiberglass mat is formed and which may include a curing section where binder resin in the mat is thermally set and a cooling section where the mat is cooled.

[23] The results of the demographic analysis are presented in *Review of Environmental Justice Impacts: Polyvinyl Chloride,* September 2010, a copy of which is available in the docket.

*Wool fiberglass* means insulation materials composed of glass fibers made from glass produced or melted at the same facility where the manufacturing line is located.

*Wool fiberglass manufacturing facility* means any facility manufacturing wool fiberglass.

**§ 63.882 Emission standards.**

(a) *Emission limits.* (1) *Gas-fired glass-melting furnaces.* On and after the date the initial performance test is completed or required to be completed under § 63.7, whichever date is earlier:

(i) For each existing, new, or reconstructed gas-fired glass-melting furnace you must not discharge or cause to be discharged into the atmosphere in excess of 0.00006 lb of chromium (Cr) compounds per ton of glass pulled (60 lb per million tons glass pulled).

(ii) [Reserved]

(2) *Glass-melting furnaces.* On and after the date the initial performance test is completed or required to be completed under § 63.7, whichever date is earlier.

(b) *Operating limits.* On and after the date on which the performance test required to be conducted by §§ 63.7 and 63.1384 is completed, you must operate all affected control equipment and processes according to the following requirements.

(1)(i) You must initiate corrective action within one hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a Quality Improvement Plan (QIP) consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the bag leak detection system alarm is sounded for more than five percent of the total operating time in a 6-month block reporting period.

(2)(i) You must initiate corrective action within one hour when any 3-hour block average of the monitored electrostatic precipitator (ESP) parameter is outside the limit(s) established during the performance test as specified in § 63.884 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64 subpart D when the monitored ESP parameter is outside the limit(s) established during the performance test as specified in § 63.884 for more than five percent of the total operating time in a 6-month block reporting period.

(iii) You must operate the ESP such that the monitored ESP parameter is not outside the limit(s) established during the performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

(3)(i) You must initiate corrective action within one hour when any 3-hour block average value for the monitored parameter(s) for a gas-fired glass-melting furnace, which uses no add-on controls, is outside the limit(s) established during the performance test as specified in § 63.884 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the monitored parameter(s) is outside the limit(s) established during the performance test as specified in § 63.884 for more than five percent of the total operating time in a 6-month block reporting period.

(iii) You must operate a gas-fired glass-melting furnace, which uses no add-on technology, such that the monitored parameter(s) is not outside the limit(s) established during the performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

(4)(i) You must initiate corrective action within one hour when the average glass pull rate of any 4-hour block period for gas-fired glass-melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass-melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in § 63.884, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in § 63.884 for more than five percent of the total operating time in a 6-month block reporting period.

(iii) You must operate each gas-fired glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

(5)(i) You must initiate corrective action within one hour when the average pH (for a caustic scrubber) or pressure drop (for a venturi scrubber) for any 3-hour block period is outside the limits established during the performance tests as specified in § 63.884 for each wet scrubbing control device and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when any scrubber parameter is outside the limit(s) established during the performance test as specified in § 63.884 for more than five percent of the total operating time in a 6-month block reporting period.

(iii) You must operate each scrubber such that each monitored parameter is not outside the limit(s) established during the performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

**§ 63.883 Monitoring requirements.**

You must meet all applicable monitoring requirements contained in subpart NNN of this part.

**§ 63.884 Performance test requirements.**

(a) If you are subject to the provisions of this subpart you must conduct a performance test to demonstrate compliance with the applicable emission limits in § 63.882. Compliance is demonstrated when the emission rate of the pollutant is equal to or less than each of the applicable emission limits in § 63.882. You must conduct the performance test according to the procedures in subpart A of this part and in this section.

(b) You must meet all applicable performance test requirements contained in subpart NNN of this part.

**§ 63.885 Test methods and procedures.**

(a) You must use the following methods to determine compliance with the applicable emission limits:

(1) Method 1 (40 CFR part 60, appendix A–1) for the selection of the sampling port location and number of sampling ports;

(2) Method 2 (40 CFR part 60, appendix A–1) for volumetric flow rate;

(3) Method 3 or 3A (40 CFR part 60, appendix A–2) for $O_2$ and $CO_2$ for diluent measurements needed to correct the concentration measurements to a standard basis;

(4) Method 4 (40 CFR part 60, appendix A–4) for moisture content of the stack gas;

(5) Method 29 (40 CFR part 60, appendix A–8) for the concentration of chromium compounds. Each run must consist of a minimum run time of two hours and a minimum sample volume of two dscm.

(6) An alternative method, subject to approval by the Administrator.

(b) Each performance test shall consist of three runs. You must use the average of the three runs in the applicable equation for determining compliance.

**§ 63.886 Notification, recordkeeping, and reporting requirements.**

You must meet all applicable notification, recordkeeping and reporting requirements contained in subpart NNN of this part.

**§ 63.887 Compliance dates.**

(a) *Compliance dates.* The owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of this subpart by no later than:

(1) Except as noted in paragraph (a)(3) of this section, the compliance date for an owner or operator of an existing plant or source subject to the provisions in this subpart would be [2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE].

(2) Except as noted in paragraph (a)(3) of this section, the compliance date for new and reconstructed plants or sources is upon startup of a new gas-fired glass-melting furnace or on [EFFECTIVE DATE OF FINAL RULE].

(3) The compliance date for the provisions related to the electronic reporting provisions of § 63.886 is on [EFFECTIVE DATE OF FINAL RULE].

(b) *Compliance extension.* The owner or operator of an existing source subject to this subpart may request from the Administrator an extension of the compliance date for the emission standards for one additional year if such additional period is necessary for the installation of controls. You must submit a request for an extension according to the procedures in § 63.6(i)(3).

**§ 63.888 Startups and shutdowns.**

(a) The provisions set forth in this subpart apply at all times.

(b) You must not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart during times when emissions are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph (b) does not apply if you must shut down the equipment to avoid damage due to a contemporaneous startup or shutdown, of the affected source or a portion thereof.

(c) Startup begins when the wool fiberglass gas-fired glass-melting furnace has any raw materials added. Startup ends when molten glass begins to flow from the glass-melting furnace.

(d) Shutdown begins when the heat sources to the glass-melting furnace are reduced to begin the glass-melting furnace shut down process. Shutdown ends when the glass-melting furnace is empty or the contents are sufficiently viscous to preclude glass flow from the glass-melting furnace.

(e) For a new or existing affected source, to demonstrate compliance with the gas-fired glass-melting furnace emission limits in § 63.882 during periods of startups and shutdowns, demonstrate compliance in accordance with paragraph (f) of this section.

(f) During periods of startups you may demonstrate compliance with the emission limits in § 63.882 by keeping records showing that you used only natural gas or other clean fuels to heat your furnace. During both periods of startups and shutdowns you may demonstrate compliance with the emission limits in § 63.882 by keeping records showing that furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

**§§ 63.889–63.899 [Reserved]**

TABLE 1 TO SUBPART NN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NN

| General provisions citation | Requirement | Applies to subpart NN? | Explanation |
|---|---|---|---|
| § 63.1 | Applicability | Yes | |
| § 63.2 | Definitions | Yes | Additional definitions in § 63.881. |
| § 63.3 | Units and Abbreviations | Yes | |
| § 63.4 | Prohibited Activities | Yes | |
| § 63.5 | Construction/Reconstruction Applicability. | Yes | |
| § 63.5(a)–(c) | Existing, New, Reconstructed | Yes | |
| § 63.5(d) | Application for Approval of Construction/Reconstruction. | No | [Reserved]. |
| § 63.6(e)(1)(i) | | No | See § 63.882 for general duty requirements. |
| § 63.6(e)(1)(ii) | | No | |
| § 63.6(e)(1)(iii) | | Yes | |
| § 63.6(e)(2) | | No | |
| § 63.6(e)(3) | Startup, Shutdown, and Malfunction Plan. | No | |
| § 63.6(f)(1) | Compliance with Emission Standards. | No | |
| § 63.6(g) | Alternative Standard | Yes | |
| § 63.6(h) | Compliance with Opacity/VE Standards. | No | Subpart DDD-no COMS, VE or opacity standards. |
| § 63.6(i) | Extension of Compliance | Yes | |
| § 63.6(j) | Exemption from Compliance | Yes | |
| § 63.7(a)–(d) | Performance Test Requirements Applicability Notification Quality Assurance/Test Plan Testing Facilities. | Yes | § 63.884 has specific requirements. |
| § 63.7(e)(1) | Conduct of Tests | No | |
| § 63.7(e)(2)–(4) | | Yes | |

TABLE 1 TO SUBPART NN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NN—Continued

| General provisions citation | Requirement | Applies to subpart NN? | Explanation |
|---|---|---|---|
| § 63.7(f)–(h) | Alternative Test Method<br>Data Analysis<br>Waiver of Tests | Yes | |
| § 63.8(a)–(b) | Monitoring Requirements Applicability Conduct of Monitoring. | Yes | |
| § 63.8(c)(1)(i) | CMS Operation/Maintenance | No | See § 63.882(b) for general duty requirement. |
| § 63.8(c)(1)(ii) | | Yes | |
| § 63.8(c)(1)(iii) | | No | |
| § 63.8(c)(2)–(d)(2) | | Yes | |
| § 63.8(d)(3) | Quality Control | Yes, except for the last sentence. | |
| § 63.8(e)–(g) | CMS Performance Evaluation | Yes | |
| § 63.9(a) | Notification Requirements Applicability. | Yes | |
| § 63.9(b) | Initial Notifications | Yes | |
| § 63.9(c) | Request for Compliance Extension. | Yes | |
| § 63.9(d) | New Source Notification for Special Compliance Requirements. | Yes | |
| § 63.9(e) | Notification of Performance Test | Yes | |
| § 63.9(f) | Notification of VE/Opacity Test | No | Opacity/VE tests not required. |
| § 63.9(g) | Additional CMS Notifications | Yes | |
| § 63.9(h)(1)–(3) | Notification of Compliance Status | Yes | |
| § 63.9(h)(4) | | No | [Reserved] |
| § 63.9(i) | Adjustment of Deadlines | Yes | |
| § 63.9(j) | Change in Previous Information | Yes | |
| § 63.10(a) | Recordkeeping/Reporting-Applicability. | Yes | |
| § 63.10(b)(1) | General Recordkeeping Requirements. | Yes | |
| § 63.10(b)(2)(i) | | No | |
| § 63.10(b)(2)(ii) | | No | See § 63.886 for recordkeeping of occurrence and duration of malfunctions and recordkeeping of actions taken during malfunction. |
| § 63.10(b)(2)(iii) | | Yes | |
| § 63.10(b)(2)(iv)–(v) | | No | |
| § 63.10(b)(2)(vi)–(xiv) | | Yes | |
| § 63.10(b)(3) | | Yes | |
| § 63.10(c)(1)–(9) | Additional CMS Recordkeeping | Yes | |
| § 63.10(c)(10)–(11) | | No | See § 63.886 for recordkeeping of malfunctions. |
| § 63.10(c)(12)–(14) | | Yes | |
| § 63.10(c)(15) | | No | |
| § 63.10(d)(1)–(4) | General Reporting Requirements Performance Test Results Opacity or VE Observations. | Yes | |
| § 63.10(d)(5) | Progress Reports/Startup, Shutdown, and Malfunction Reports. | No | See § 63.886(c)(2) for reporting of malfunctions. |
| § 63.10(e)–(f) | Additional CMS Reports Excess Emission/CMS Performance Reports COMS Data Reports Recordkeeping/Reporting Waiver. | Yes | |
| § 63.11 | Control Device Requirements Applicability Flares. | No | Flares will not be used to comply with the emissions limits. |
| § 63.12 | State Authority and Delegations | Yes | |
| § 63.13 | Addresses | Yes | |
| § 63.14 | Incorporation by Reference | Yes | |
| § 63.15 | Information Availability/Confidentiality. | Yes | |

## Subpart DDD—National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production

■ 4. Section 63.1178 is amended by revising paragraph (a)(2) and adding paragraphs (a)(3) through (5) to read as follows:

### § 63.1178 For cupolas, what standards must I meet?

(a) * * *

(2) Limit emissions of carbonyl sulfide (COS) from each existing, new, or reconstructed closed-top cupola to the following:

(i) 3.4 lb of COS per ton melt or less for existing closed-top cupolas.

(ii) 0.062 lb of COS per ton melt or less for new or reconstructed closed-top cupolas.

(3) Limit emissions of COS from each existing, new, or reconstructed open-top cupola to the following:

(i) 6.8 lb of COS per ton melt or less for existing open-top cupolas.

(ii) 3.2 lb of COS per ton melt or less for new or reconstructed open-top cupolas.

(4) Limit emissions of hydrogen fluoride (HF) from each existing, new, or reconstructed cupola to the following:

(i) 0.16 lb of HF per ton of melt or less for existing cupolas using slag as a raw material.

(ii) 0.015 lb of HF per ton of melt or less for new or reconstructed cupolas using slag as a raw material.

(iii) 0.13 lb of HF per ton of melt or less for existing cupolas that do not use slag as a raw material.

(iv) 0.018 lb of HF per ton of melt or less for new or reconstructed cupolas that do not use slag as a raw material.

(5) Limit emissions of hydrogen chloride (HCl) from each existing, new, or reconstructed cupola to the following:

(i) 0.44 lb of HCl per ton of melt or less for existing cupolas using slag as a raw material.

(ii) 0.012 lb of HCl per ton of melt or less for new or reconstructed cupolas using slag as a raw material.

(iii) 0.43 lb of HCl per ton of melt or less for existing cupolas that do not use slag as a raw material.

(iv) 0.015 lb of HCl per ton of melt or less for new or reconstructed cupolas that do not use slag as a raw material.

* * * * *

■ 5. Section 63.1179 is amended by revising the section heading and paragraphs (a) and (b) introductory text to read as follows:

### § 63.1179 For combined collection/curing operations, what standards must I meet?

(a) You must control emissions from each existing and new combined collection/curing operations by limiting emissions of formaldehyde, phenol, and methanol to the following:

(1) For combined drum collection/curing operations:

(i) 0.17 lb of formaldehyde per ton melt or less,

(ii) 0.85 lb of phenol per ton melt or less, and

(iii) 0.28 lb of methanol per ton melt or less.

(2) For combined horizontal collection/curing operations:

(i) 0.63 lb of formaldehyde per ton melt or less,

(ii) 0.12 lb of phenol per ton melt or less, and

(iii) 0.049 lb of methanol per ton melt or less.

(3) For combined vertical collection/curing operations:

(i) 2.4 lb of formaldehyde per ton melt or less,

(ii) 0.71 lb of phenol per ton melt or less, and

(iii) 0.92 lb of methanol per ton melt or less.

(b) You must meet the following operating limits for each combined collection/curing operations subcategory:

* * * * *

■ 6. Section 63.1180 is amended by revising paragraph (d) to read as follows:

### § 63.1180 When must I meet these standards?

* * * * *

(d) 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. Determination of whether such operation and maintenance procedures are being used 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.

■ 7. Section 63.1196 is amended by adding definitions in alphabetical order for ''Closed-top cupola,'' ''Combined collection/curing operations,'' and ''Open-top cupola'' to read as follows:

### § 63.1196 What definitions should I be aware of?

* * * * *

*Closed-top cupola* means a cupola that operates as a closed (process) system and has a restricted air flow rate.

* * * * *

*Combined collection/curing operations* means the combination of fiber collection operations and curing ovens used to make bonded products.

* * * * *

*Open-top cupola* means a cupola that is open to the outside air and operates with an air flow rate that is unrestricted and at low pressure.

* * * * *

■ 8. Section 63.1197 is added to read as follows:

### § 63.1197 Startups and shutdowns.

(a) The provisions set forth in this subpart apply at all times.

(b) You must not shut down items of equipment that are utilized for compliance with this subpart.

(c) *Startup* begins when fuels are ignited in the cupola. Startup ends when the cupola produces molten material.

(d) *Shutdown* begins when the cupola has reached the end of the melting campaign and is empty. No mineral wool glass continues to flow from the cupola during shutdown.

(e) During periods of startups and shutdowns you may demonstrate compliance with the emission limits in § 63.1178 according to one of the following methods:

(1) You may keep records showing that you used only clean fuels during startup and shutdown; or

(2) You may keep records showing that your emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard; or

(3) You may keep records showing the oxygen level in the cupola exceeds 24 percent.

■ 9. Table 1 to subpart DDD of part 63 is revised to read as follows:

TABLE 1 TO SUBPART DDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART DDD

| General provisions citation | Requirement | Applies to subpart DDD? | Explanation |
|---|---|---|---|
| § 63.1(a)(1)–(6) | Applicability | Yes | |
| § 63.1(a)(7)(9) | | No | [Reserved]. |
| § 63.1(a)(10)–(12) | | Yes | |
| § 63.1(b)(1) | Initial Applicability Determination | Yes | |
| § 63.1(b)(2) | | No | [Reserved] |
| § 63.1(b)(3) | | Yes | |
| § 63.1(c)(1)–(2) | | Yes | |
| § 63.1(c)(3)–(4) | | No | [Reserved] |
| § 63.1(c)(5)–(e) | | Yes | |
| § 63.2 | Definitions | Yes | |
| § 63.3 | Units and Abbreviations | Yes | |
| § 63.4(a)(1)–(2) | Prohibited Activities | Yes | |
| § 63.4(a)(3)–(5) | | No | [Reserved] |
| § 63.4(b)–(c) | | Yes | |
| § 63.5(a)(1)–(b)(2) | Construction/Reconstruction Applicability. | Yes | |
| § 63.5(b)(3)–(4) | | Yes | |
| § 63.5(b)(5) | | No | [Reserved] |
| § 63.5(b)(6) | | Yes | |
| § 63.5(c) | | No | [Reserved] |
| § 63.5(d)–(j) | | Yes | |
| § 63.6(a)–(d) | | Yes | |
| § 63.6(e)(1)(i) | General Duty to minimize emissions. | No | See § 63.1180(d) for general duty requirement. |
| § 63.6(e)(1)(ii) | Requirement to correct malfunctions as soon as possible. | No | § 63.1187(b) specifies additional requirements. |
| § 63.6(e)(1)(iii) | | Yes | |
| § 63.6(e)(2) | | No | [Reserved] |
| § 63.6(e)(3) | Startup, Shutdown Malfunction (SSM) Plan. | No | Startups and shutdowns addressed in § 63.1197. |
| § 63.6(f)(1) | SSM exemption | No | |
| § 63.6(f)(2)–(g) | | Yes | |
| § 63.6(h)(1) | SSM exemption | No | |
| § 63.6(h)(2)–(j) | | Yes | |
| 6§ 3.7(a)–(d) | Performance testing requirements | Yes | |
| § 63.7(e)(1) | Conduct of performance tests | No | See § 63.1180. |
| § 63.7(e)(2)–(f) | | Yes | |
| § 63.7(g)(1) | Data analysis, recordkeeping and reporting. | Yes | |
| § 63.7(g)(2) | | No | [Reserved] |
| § 63.7(g)(3)–(h) | | Yes | |
| § 63.8(a)–(b) | Monitoring requirements | Yes | |
| § 63.8(c)(1)(i) | General duty to minimize emissions and CMS operation. | No | See § 63.1180(e) for general duty requirement. |
| § 63.8(c)(1)(ii) | | Yes | |
| § 63.8(c)(1)(iii) | Requirement to develop SSM Plan for CMS. | No | |
| § 63.8(c)(2)–(d)(2) | | Yes | |
| § 63.8(d)(3) | Written procedures for CMS | Yes, except for last sentence, which refers to SSM plan. SSM plans are not required. | |
| § 63.8(e)–(g) | | Yes | |
| § 63.9(b)(1)–(2) | Initial Notifications | Yes | |
| § 63.9(b)(3) | | No | [Reserved] |
| § 63.9(b)(4)–(5) | | Yes | |
| § 63.9(c)–(j) | | Yes | |
| § 63.10(a) | Recordkeeping and reporting requirements. | Yes | |
| § 63.10(b)(1) | General recordkeeping requirements. | Yes | |
| § 63.10(b)(2)(i) | Recordkeeping of occurrence and duration of startups and shutdowns. | No | |
| § 63.10(b)(2)(ii) | Recordkeeping of malfunctions | No | See § 63.1193(c) for recordkeeping of (ii) occurrence and duration and (iii) actions taken during malfunction. |
| § 63.10(b)(2)(iii) | Maintenance records | Yes | |
| § 63.10(b)(2)(iv)–(v) | Actions taken to minimize emissions during SSM. | No | |

TABLE 1 TO SUBPART DDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART DDD—Continued

| General provisions citation | Requirement | Applies to subpart DDD? | Explanation |
|---|---|---|---|
| § 63.10(b)(2)(vi) | Recordkeeping for CMS malfunctions. | Yes | |
| § 63.10(b)(2)(vii)–(xiv) | Other CMS requirements | Yes | |
| § 63.10(b)(3) | Recordkeeping requirement for applicability determinations. | Yes | |
| § 63.10(c)(1)–(6) | Additional recordkeeping requirements for sources with CMS. | Yes | |
| § 63.10(c)(7)–(8) | Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions. | Yes | |
| § 63.10(c)(9) | | No | [Reserved] |
| 63.10(c)(10)–(11) | | No | See § 63.1192 for recordkeeping of malfunctions. |
| § 63.10(c)(12)–(14) | | Yes | |
| § 63.10(c)(15) | Use of SSM Plan | No | |
| § 63.10(d)(1)–(4) | General reporting requirements | Yes | |
| § 63.10(d)(5) | SSM reports | No | See § 63.1193(f) for reporting of malfunctions. |
| § 63.10(e)–(f) | Additional CMS Reports<br>Excess Emission/CMS Performance Reports.<br>COMS Data Reports<br>Recordkeeping/Reporting Waiver | Yes | |
| § 63.11(a)–(b) | Control Device Requirements Applicability Flares. | No | Flares will not be used to comply with the emissions limits. |
| § 63.11(c) | Alternative Work Practice for Monitoring Equipment for Leaks. | Yes | |
| § 63.11(d) | Alternative Work Practice Standard. | Yes | |
| § 63.12 | State Authority and Delegations | No | Flares will not be used to comply with the emissions limits. |
| § 63.13 | Addresses | Yes | |
| § 63.14 | Incorporation by Reference | Yes | |
| § 63.15 | Information Availability/Confidentiality. | Yes | |

## Subpart NNN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing

■ 10. Section 63.1380 is amended by revising paragraph (b)(3) to read as follows:

### § 63.1380 Applicability.

* * * * *

(b) * * *

(3) Each new and existing flame attenuation wool fiberglass manufacturing line producing a bonded product.

* * * * *

■ 11. Section 63.1381 is amended by adding a definition in alphabetical order for ''Gas-fired glass-melting furnace'' to read as follows:

### § 63.1381 Definitions.

* * * * *

*Gas-fired glass-melting furnace* means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature using natural gas and other fuels, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming processes. The forming apparatus, including flow channels, is not considered part of the gas-fired glass-melting furnace. Cold-top electric glass-melting furnaces as defined in this subpart are not gas-fired glass-melting furnaces.

* * * * *

■ 12. Section 63.1382 is amended by revising paragraphs (a)(1) through (3) to read as follows:

### § 63.1382 Emission standards.

(a) * * *

(1) *Glass-melting furnaces.* On and after the date the initial performance test is completed or required to be completed under § 63.7, whichever date is earlier:

(i) For each existing, new, or reconstructed glass-melting furnace you must not discharge or cause to be discharged into the atmosphere in excess of 0.33 pound (lb) of particulate matter (PM) per ton glass pulled;

(ii) For each existing, new, or reconstructed gas-fired glass-melting furnace you must not discharge or cause to be discharged into the atmosphere in excess of 6.0E–5 lb of chromium (Cr) compounds per ton glass pulled (0.06 lb per thousand tons glass pulled).

(iii) For each existing, new, or reconstructed gas-fired glass-melting furnace you must either:

(A) Require cullet providers to provide records of their inspections showing that the cullet is free of chloride-, fluoride-, and fluorine-bearing constituents; or

(B) Sample your raw materials and maintain records of your sampling showing that the cullet is free of chloride-, fluoride-, and fluorine-bearing constituents.

(2) *Rotary spin manufacturing lines.* On and after the date the initial performance test is completed or required to be completed under § 63.7, whichever date is earlier, the owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of:

(i) For each existing rotary spin (RS) manufacturing line you must not discharge or cause to be discharged into the atmosphere in excess of:

(A) 0.19 lb of formaldehyde per ton glass pulled;

(B) 0.26 lb of phenol per ton glass pulled; and

(C) 0.83 lb of methanol per ton glass pulled.

(ii) For each new or reconstructed RS manufacturing line you must not discharge or cause to be discharged into the atmosphere in excess of:

(A) 0.066 lb of formaldehyde per ton glass pulled;

(B) 0.060 lb of phenol per ton glass pulled; and

(C) 0.29 lb of methanol per ton glass pulled.

(3) *Flame attenuation manufacturing lines.* On and after the date the initial performance test is completed or required to be completed under § 63.7, whichever date is earlier, the owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of:

(i) For each existing flame attenuation (FA) manufacturing line you must not discharge or cause to be discharged into the atmosphere in excess of:

(A) 5.6 lb of formaldehyde per ton glass pulled;

(B) 1.4 lb of phenol per ton glass pulled; and

(C) 0.50 lb of methanol per ton glass pulled.

(ii) For each new or reconstructed FA manufacturing line you must not discharge or cause to be discharged into the atmosphere in excess of:

(A) 2.6 lb of formaldehyde per ton glass pulled;

(B) 0.44 lb of phenol per ton glass pulled; and

(C) 0.35 lb of methanol per ton glass pulled.

* * * * *

■ 13. Section 63.1384 is amended by adding paragraphs (d) and (e) to read as follows:

**§ 63.1384 Performance test requirements.**

* * * * *

(d) Following the initial performance or compliance test to be conducted within 90 days of the promulgation date of this rule to demonstrate compliance with the chromium compounds emissions limit specified in § 63.1382(a)(i), you must conduct an annual performance test for chromium compounds emissions from each glass-melting furnace (no later than 12 calendar months following the previous compliance test).

(e) Following the initial performance or compliance test to demonstrate compliance with the PM, formaldehyde, phenol, and methanol emissions limits specified in § 63.1382, you must conduct a performance test to demonstrate compliance with each of the applicable PM, formaldehyde, phenol, and methanol emissions limits in § 63.1382 at least once every five years.

■ 14. Section 63.1385 is amended by:

■ a. Revising paragraphs (a)(5) and (6);

■ b. Removing the period at the end of paragraph (a)(10) and adding a semicolon in its place; and

■ c. Adding paragraphs (a)(11) through (15) to read as follows:

**§ 63.1385 Test methods and procedures.**

(a) * * *

(5) Method 5 (40 CFR part 60, appendix A–3) for the concentration of total PM. Each run must consist of a minimum run time of two hours and a minimum sample volume of two dry standard cubic meters (dscm). The probe and filter holder heating system may be set to provide a gas temperature no greater than 120±14°C (248±25°F);

(6) Method 318 (appendix A of this part) for the concentration of formaldehyde, phenol, and methanol. Each test run must consist of a minimum of 10 spectra;

* * * * *

(11) Method 316 (appendix A of this part) for the concentration of formaldehyde. Each test run must consist of a minimum of two hours and two dry standard cubic meters (dscm) of sample volume;

(12) Method SW–846 8260B (§ 63.14(l)(8)) for the concentration of phenol. Each test run must consist of a minimum of three hours;

(13) Method SW–846 8270D (§ 63.14(l)(9)) for the concentration of phenol. Each test run must consist of a minimum of three hours;

(14) Method 308 (appendix A of this part) for the concentration of methanol. Each test run must consist of a minimum of two hours;

(15) Method 29 (40 CFR part 60, appendix A–8) for the concentration of chromium compounds. Each test run must consist of a minimum of three hours and three dscm of sample volume.

■ 15. Section 63.1386 is amended by revising paragraph (c) and adding paragraph (d)(2)(x) to read as follows:

**§ 63.1386 Notification, recordkeeping, and reporting requirements.**

* * * * *

(c) *Records and reports for a failure to meet a standard.* (1) In the event that an affected unit fails to meet a standard, record the number of failures since the prior notification of compliance status. For each failure record the date, time and duration of each failure.

(2) For each failure to meet a standard record and retain a list of the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a description of the method used to estimate the emissions.

(3) Record actions taken to minimize emissions in accordance with § 63.1382, including corrective actions to restore process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(4) If an affected unit fails to meet a standard, report such events in the notification of compliance status required by § 63.1386(a)(7). Report the number of failures to meet a standard since the prior notification. For each instance, report the date, time and duration of each failure. For each failure the report must include a list of the affected units or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions.

(d) * * *

(2) * * *

(x) You must maintain records of your cullet sampling or records of inspections from cullet providers.

* * * * *

■ 16. Section 63.1387 is amended by revising paragraph (a)(2) to read as follows:

**§ 63.1387 Compliance dates.**

(a) * * *

(2) The compliance dates for existing plants and sources are:

(i) [DATE 2 YEARS AFTER PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] for gas-fired glass-melting furnaces.

(ii) [Reserved]

* * * * *

■ 17. Section 63.1388 is revised to read as follows:

**§ 63.1388 Startups and shutdowns.**

(a) The provisions set forth in this subpart apply at all times.

(b) You must not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart during times when emissions are being, or are otherwise

required to be, routed to such items of equipment.

(c) Startup begins when the wool fiberglass glass-melting furnace has any raw materials added and reaches 50 percent of its typical operating temperature. Startup ends when molten glass begins to flow from the wool fiberglass glass-melting furnace.

(d) Shutdown begins when the heat sources to the glass-melting furnace are reduced to begin the glass-melting furnace shut down process. Shutdown ends when the glass-melting furnace is empty or the contents are sufficiently viscous to preclude glass flow from the glass-melting furnace.

(e) During periods of startups you may demonstrate compliance with the emission limits in § 63.1382:

(1) by keeping records showing that you used only natural gas or other clean fuels to heat your furnace; or

(2) by keeping records showing that you used only cullet as a raw material in your cold-top furnace.

(f) During both periods of startups and shutdowns you may demonstrate compliance with the emission limits in § 63.1382 by keeping records showing that furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

■ 18. Table 1 to subpart NNN of part 63 is revised to read as follows:

TABLE 1 TO SUBPART NNN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NNN

| General provisions citation | Requirement | Applies to subpart NNN? | Explanation |
|---|---|---|---|
| § 63.1(a)(1)–(5) | Applicability | Yes | |
| § 63.1(a)(6) | | Yes | |
| § 63.1(a)(7)–(9) | | No | [Reserved]. |
| § 63.1(a)(10)–(12) | | Yes | |
| § 63.1(b)(1) | Initial Applicability Determination | Yes | |
| § 63.1(b)(2) | | No | [Reserved]. |
| § 63.1(b)(3) | | Yes | |
| § 63.1(c)(1)–(2) | | Yes | |
| § 63.1(c)(3)–(4) | | No | [Reserved]. |
| § 63.1(c)(5)–(e) | | Yes | |
| § 63.2 | Definitions | Yes | |
| § 63.3 | Units and Abbreviations | Yes | |
| § 63.4(a)(1)–(2) | Prohibited Activities | Yes | |
| § 63.4(a)(3)–(5) | | No | [Reserved]. |
| § 63.4(b)–(c) | | Yes | |
| § 63.5(a)–(b)(2) | Construction/Reconstruction Applicability. | Yes | |
| § 63.5(b)(3)–(4) | | Yes | |
| § 63.5(b)(5) | | No | [Reserved]. |
| § 63.5(b)(6) | | Yes | |
| § 63.6(a)–(d) | Compliance with Standards and Maintenance Requirements. | Yes | |
| § 63.6(e)(1)(i) | General Duty to minimize emissions. | No | See § 63.1382(b) for general duty requirement. |
| § 63.6(e)(1)(ii) | Requirement to correct malfunctions as soon as possible. | No | § 63.1382(b) specifies additional requirements. |
| § 63.6(e)(1)(iii) | | Yes | |
| § 63.6(e)(2) | | No | [Reserved]. |
| § 63.6(e)(3) | Startup, Shutdown Malfunction Plan. | No | Startups and shutdowns addressed in § 63.1388. |
| § 63.6(f)(1) | SSM exemption | 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)–(j) | | Yes | |
| § 63.7(a)–(d) | | Yes | |
| § 63.7(e)(1) | Performance testing | No | See § 63.1382(b). |
| § 63.7(f) | Alternate test method | Yes | |
| § 63.7(g)(1) | Data Analysis | Yes | |
| § 63.7(g)(2) | | No | [Reserved]. |
| § 63.7(g)(3) | | Yes | |
| § 63.7(h) | Waiver of performance tests | Yes | |
| § 63.8(a)–(b) | Monitoring requirements | Yes | |
| § 63.8(c)(1)(i) | General duty to minimize emissions and CMS operation. | No | See § 63.1382(c) for general duty requirement. |
| § 63.8(c)(1)(ii) | | Yes | |
| § 63.8(c)(1)(iii) | Requirement to develop SSM Plan for CMS. | No | |
| § 63.8(d)(1)–(2) | Quality control program | Yes | |
| § 63.8(d)(3) | Written procedures for CMS | Yes, except for last sentence, which refers to SSM plan. SSM plans are not required.. | |
| § 63.8(e)–(g) | | Yes | |
| § 63.9(a) | Notification requirements | Yes | |

TABLE 1 TO SUBPART NNN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NNN—Continued

| General provisions citation | Requirement | Applies to subpart NNN? | Explanation |
|---|---|---|---|
| § 63.9(b)(1)–(2) | Initial Notifications | Yes | |
| § 63.9(b)(3) | | No | [Reserved]. |
| § 63.9(b)(4)–(j) | | Yes | |
| § 63.10(a) | Recordkeeping and reporting requirements. | Yes | |
| § 63.10(b)(1) | General Recordkeeping Requirements. | Yes | |
| § 63.10(b)(2)(i) | Recordkeeping of occurrence and duration of startups and shutdowns. | No | |
| § 63.10(b)(2)(ii) | Recordkeeping of malfunctions | No | See § 63.1386(c)(1) through (3) for recordkeeping of occurrence and duration and actions taken during a failure to meet a standard. |
| § 63.10(b)(2)(iii) | Maintenance records | Yes | |
| § 63.10(b)(2)(iv)–(v) | Actions taken to minimize emissions during SSM. | No | |
| § 63.10(b)(2)(vi) | Recordkeeping for CMS malfunctions. | Yes | |
| § 63.10(b)(2)(vii)–(xiv) | Other CMS requirements | Yes | |
| § 63.10(b)(3) | Recordkeeping requirement for applicability determinations. | Yes | |
| § 63.10(c)(1)–(6) | Additional recordkeeping requirements for sources with CMS. | Yes | |
| § 63.10(c)(7)–(8) | Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions. | Yes | |
| § 63.10(c)(9) | | No | [Reserved]. |
| § 63.10(c)(10)–(11) | | No | See § 63.1386 for recordkeeping of malfunctions. |
| § 63.10(c)(12)–(14) | | Yes | |
| 63.10(c)(15) | Use of SSM Plan | No | |
| § 63.10(d)(1)–(4) | General reporting requirements | Yes | |
| § 63.10(d)(5) | SSM reports | No | See § 63.1386(c)(iii) for reporting of malfunctions. |
| § 63.10(e)–(f) | Additional CMS Reports Excess Emission/CMS Performance Reports COMS Data Reports Recordkeeping/Reporting Waiver. | Yes | |
| § 63.11(a)–(b) | Control Device Requirements Applicability Flares. | No | Flares will not be used to comply with the emissions limits. |
| § 63.11(c) | Alternative Work Practice for Monitoring Equipment for Leaks. | Yes | |
| § 63.11(d) | Alternative Work Practice Standard. | Yes | |
| § 63.12 | State Authority and Delegations | Yes | |
| § 63.13 | Addresses | Yes | |
| § 63.14 | Incorporation by Reference | Yes | |
| § 63.15 | Information Availability/Confidentiality. | Yes | |

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