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40 CFR Part 63
National Emissions Standards for Hazardous Air Pollutants: Mineral Wool Production and Wool Fiberglass Manufacturing; National Emission Standards for Hazardous Air Pollutants for Gas-Fired Melting Furnaces Located at Wool Fiberglass Manufacturing Area Sources; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2010–1041 and EPA–HQ–OAR–2010–1042; FRL–9682–8]

RIN 2060–AQ90

National Emissions Standards for Hazardous Air Pollutants: Mineral Wool Production and Wool Fiberglass Manufacturing; National Emission Standards for Hazardous Air Pollutants for Gas-Fired Melting Furnaces Located at Wool Fiberglass Manufacturing Area Sources

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule; notice of public hearing.

SUMMARY: This action proposes chromium and particulate matter (for metals) standards for wool fiberglass gas-fired glass-melting furnaces at area sources and adds these sources to the category list in the Urban Air Toxics Strategy. It also proposes amendments to the existing major source rules for Mineral Wool and Wool Fiberglass, supplementing the rule proposed on November 25, 2011. The proposed area source standards for the gas-fired glass-melting furnaces used to make wool fiberglass would increase the level of environmental protection.

DATES: Comments must be received on or before May 30, 2013. If anyone contacts the EPA requesting a public hearing by April 22, 2013, we will hold a public hearing on May 6, 2013. 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 receives a copy of your comments on or before May 15, 2013.

ADDRESSES: Submit your comments on the proposed wool fiberglass area source rule and the major source RTR amendments, identified by Docket ID Number EPA–HQ–OAR–2010–1042, or the mineral wool RTR amendments, identified by EPA–HQ–OAR–2010–1041, by one of the following methods:

- *http://www.regulations.gov.* Follow the instructions for submitting comments.
- *Email: a-and-r-docket@epa.gov.* Attention Docket ID Number EPA–HQ–OAR–2010–1041 or EPA–HQ–OAR–2010–1042.
- *Fax:* (202) 566–9744, Attention Docket ID Number EPA–HQ–OAR–2010–1041 or EPA–HQ–OAR–2010–1042.
- *Mail:* U.S. Postal Service, send comments to: EPA Docket Center, EPA West (Air Docket), Attention Docket ID Number EPA–HQ–OAR–2010–1041 or EPA–HQ–OAR–2010–1042, U.S. Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave. 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 Delivery/Courier:* U.S. Environmental Protection Agency, EPA West (Air Docket), Room 3334, 1301 Constitution Ave. NW., Washington, DC 20004, Attention Docket ID Number 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 to *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or email. The *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 *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 avoid the use of special characters, 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/epahome/dockets.htm.*

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 Air and Radiation Docket, EPA/DC, EPA West, Room B102, 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.

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 (919) 541–5167; fax number: (919) 541–3207; and email address: *fairchild.susan@epa.gov.* For information about the applicability of the NESHAP to a particular entity, contact Scott Throwe, Office of Enforcement and Compliance Assurance, U.S. EPA Headquarters Ariel Rios 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:

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

AEGL acute exposure guideline levels
CAA Clean Air Act
CBI Confidential Business Information
CFR Code of Federal Regulations
CO Carbon monoxide
COS Carbonyl sulfide
EPA Environmental Protection Agency
ESP electrostatic precipitators
FA flame attenuation
GP General Provisions
HAP hazardous air pollutants

HCl Hydrogen chloride
HF Hydrogen fluoride
HI Hazard Index
HQ Hazard Quotient
lb/ton pounds per ton
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
NTTAA National Technology Transfer and Advancement Act
OAQPS Office of Air Quality Planning and Standards
OMB Office of Management and Budget
PM Particulate matter
RFA Regulatory Flexibility Act
RS rotary spin
RTO regenerative thermal oxidizers
RTR residual risk and technology review
SBA Small Business Administration
SO_2 Sulfur dioxide
SSM startup, shutdown, and malfunction
tpy tons per year
TTN Technology Transfer Network
UMRA Unfunded Mandates Reform Act

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

I. General Information

A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 below.

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

Source category	NESHAP	NAICS code [1]
Mineral Wool Production	Mineral Wool Production	327993
Wool Fiberglass Manufacturing	Wool Fiberglass Manufacturing	327993

[1] North American Industry Classification System.

Table 1 is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this proposed action for the source categories listed. To determine whether your facility would be affected, you should examine the applicability criteria in the appropriate NESHAP.

If you have any questions regarding the applicability of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this proposed action will also be available on the worldwide web through the EPA's TTN. Following signature, a copy of the proposed action will be posted on

the TTN's policy and guidance page for newly proposed and promulgated rules at the following address: *http://www.epa.gov/ttn/caaa/new.html.* The TTN provides information and technology exchange in various areas of air pollution control. Additional information is available on the RTR Web page at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes source category descriptions and detailed emissions and other data that were used as inputs to the proposed rule development.

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, a copy of the comment that does not contain the information claimed as CBI must be submitted 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: Roberto Morales, 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–2010–1042 (Wool Fiberglass).

D. When will a public hearing occur?

If a public hearing is requested by April 22, 2013, it will be held on May 6, 2013, at the EPA's Research Triangle Park Campus room C113, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. The hearing will convene at 1 p.m. (Eastern Standard Time) and end at 5 p.m. (Eastern Standard Time). Please contact Pamela Garrett at (919) (541–7966) or at *garrett.pamela@epa.gov* to request a hearing, to determine if a hearing will be held and to register to speak at the hearing, if one is held. If a hearing is requested, the last day to pre-register in advance to speak at the hearing will be Wednesday, May 1, 2013. Additionally, requests to speak will be taken the day of the hearing at the hearing registration desk, although preferences on speaking times may not be able to be fulfilled. If you require the service of a translator or special accommodations such as audio description, please let us know at the time of registration. If no one contacts the EPA requesting a public hearing to be held concerning this proposed rule by April 22, 2013 a public hearing will not take place.

If a hearing is not requested by April 22, 2013 one will not be held. If a hearing is held it will provide interested parties the opportunity to present data, views or arguments concerning the proposed action. The EPA will make every effort to accommodate all speakers who arrive and register. Because this hearing, if held, will be at a U.S. governmental facility, 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. 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. If a hearing is held on May 6, 2013, written comments on the proposed rule must be postmarked by June 5, 2013. Commenters should notify Ms. Garrett if they will need specific equipment, or if there are other special needs related to providing comments at the hearing. The EPA will provide equipment for commenters to show overhead slides or make computerized slide presentations if we receive special requests in advance. Oral testimony will be limited to 5 minutes for each commenter. The EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email or CD) or in hard copy form. 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 hearing to run either ahead of schedule or behind schedule. Information regarding the hearing (including information as to whether or not one will be held) will be available at: *http://www.epa.gov/ttnatw01/woolfib/woolfipg.html.* Again, all requests for a public hearing to be held must be received by April 22, 2013.

II. Background Information for Proposed Area Source Standards

A. What is the Wool Fiberglass Manufacturing source category?

In 1992, the EPA listed the Wool Fiberglass Manufacturing major source category and defined that category to include any facility engaged in producing wool fiberglass from sand, feldspar, sodium sulfate, anhydrous borax, boric acid or any other materials. In the wool fiberglass manufacturing process, molten glass is formed into fibers that are bonded with an organic resin to create a wool-like material that is used as thermal or acoustical insulation. The Wool Fiberglass Manufacturing source category includes, but is not limited to, the following processes: Glass-melting furnace, marble-forming, refining, fiber-forming, binder application, curing and cooling. Though the listing was for major sources, all of the manufacturing process steps described here are applicable to both major and area sources. The only difference is that area sources use a formulation for some or all of their binders that does not contain HAP, and, thus, emissions do not exceed the major source threshold. These changes to the bonded lines are independent of and occur downstream of the furnace. Also, furnaces located at major and area sources have the same emissions profiles.

Wool fiberglass manufacturing facilities at major and area sources typically operate one or more manufacturing lines. Refined raw materials for the glass batch are weighed, mixed, and conveyed to the glass-melting furnace, which may be gas-fired, electric, oxygen-enriched or gas and electric combined.

The glass-melting furnace is lined with refractory bricks, providing thermal insulation and corrosion protection. According to industry statements in product specification materials and in ICR responses regarding refractory composition and furnace design, these bricks may contain significant amounts (over 94 percent by weight) of chromium-containing

compounds.[1] Specifically, the 114 responses, which were completed by all wool fiberglass companies, listed the chromium content of the refractory linings of the glass melting furnaces. The chromium content of the refractories in use at wool fiberglass furnaces ranged from 30–94 percent chromium compounds, with a chromium content of up to 68 percent (chromium by weight). The primary component of wool fiberglass is silica (quartz) sand, but it also includes varying quantities of feldspar, sodium sulfate, anhydrous borax, boric acid, previously melted glass and many other materials. Previously melted glass in the form of marbles or crushed recycled glass (cullet) is a primary component in most batches.

In the first step of wool fiberglass manufacturing, raw materials are introduced continuously or in batches on top of a bed of molten glass into glass-melting furnaces where they mix and dissolve at temperatures ranging from 2,700 °F to 3,100 °F (1,500 °C to 1,700 °C), and are transformed by a series of chemical and thermal reactions to molten glass.

In the second step of wool fiberglass manufacturing, fibers are formed using either of two methods: The rotary spin (RS) method or the flame attenuation (FA) method. In the RS process, centrifugal force causes molten glass to flow through small holes in the wall of a rapidly rotating cylinder. In the FA process, molten glass flows by gravity from a small glass-melting furnace, or pot, to form threads that are then attenuated (stretched to the point of breaking) with air and/or flame.

After the fibers are formed, they are sprayed with a binder to hold the fibers together. Both major and area sources use binders. The bonded fibers are then collected as a mat on a moving conveyor. Binder compositions vary with product type. After application of the binder and formation of the mat, the conveyor carries the newly formed mat through an oven for curing of the thermosetting resin contained in the binder and then through a cooling section. Some products do not require curing and/or cooling and FA manufacturing lines do not have cooling processes. Low and high-temperature thermal oxidizers are used to control emissions of phenol, formaldehyde, and methanol from curing operations on bonded lines at major sources.

B. What are the HAP-emitting processes in wool fiberglass manufacturing at area and major sources?

Glass-melting furnaces emit metal HAP (chromium, cadmium, beryllium, manganese, nickel, lead and arsenic), which are present in the particulate emissions. Particulate emissions are caused by entrainment of dust from batch dumping and the combustion process and from melting of the raw mineral materials. In addition, emissions of chromium also result from entrainment of materials eroded from the refractory lining of the glass-melting furnace and the glass-melting furnace exhaust stack. Several HAP metals, including lead and arsenic, are released from the batch materials and from the use of contaminated cullet i.e., crushed recycled glass (64 FR 31695 (June 14, 1999)). As shown in Table 2 below, the total metal emissions from all sources is about 1,800 pounds per year (1,300 from major sources and 500 from area sources), of which 620 pounds are chromium compounds. Area sources contribute approximately 80 pounds of chromium compounds; major sources contribute the balance of 540 pounds of chromium compounds.

TABLE 2—TOTAL METALS AND CHROMIUM EMISSIONS BY FURNACE TYPE AND SOURCE, LB/YR

	Number of furnaces		Total metals emissions (lb/yr)		Chromium emissions (lb/yr)	
	Major	Area	Major	Area	Major	Area
Electric Furnaces	21	46			10	10
Gas-Fired	8	8			530	70
Total	29	54	760	420	540	80

Glass-melting furnaces may be either gas-fired, electric, oxygen-enriched or a combination of gas and electric. About 80 percent of the glass-melting furnaces used in the wool fiberglass industry are electric (e.g., steel shell or cold-top) and about 20 percent are gas-fired (e.g., air gas, recuperative air gas, or oxyfuel). Glass pull rates for glass-melting furnaces typically range from 20 to 240 tons per day, but can go up to 435 tons per day. Emissions from glass-melting furnaces are typically controlled by baghouses or ESP. Electric glass-melting furnaces typically have low PM and metal HAP emissions without add-on controls as a result of their design. Operators of these units maintain a thick crust of raw materials on top of the molten glass, which impedes the release of heat and keeps the air temperature of the glass-melting furnace below 300 °F (120 °C).

Glass-melting furnaces also emit acid gases (hydrofluoric and hydrochloric acid) that result from the presence of chlorides and fluorides in the raw materials. Total emissions of acid gases from both major and area sources are 24 tons per year (about 19 tons from major sources and about 5 tons from area sources).

The forming and binding step occurs at both area and major sources. Emissions from the forming and binding step include formaldehyde, phenol, and methanol. These emissions occur post-furnace, when the volatile components of the binder come in contact with the hot fibers. A portion of the binder components pass through the conveyor and into the control device (thermal oxidizer, catalytic oxidizer or scrubber). However, at area sources some or all of the binders used are formulated to contain no HAP. Though air emissions of non-HAP containing binders still occur, the overall emissions of HAP from binder application are either eliminated or significantly reduced (if some HAP containing binders are still used) to a level where the facility is not a major source.

As explained in our 1997 major source MACT rulemaking (62 FR 15229–530), exposure to the HAPs emitted by wool fiberglass manufacturing can cause reversible or irreversible health effects including carcinogenic, respiratory, nervous system, developmental, reproductive, and/or dermal health effects. However, chromium emissions from furnaces are

[1] *See* product specifications from Saint-Gobain Corporation (chromium refractory product line and SEFPRO) at *saint-gobain.com* and in the docket to this rule.

not affected by the reformulation of the binder. Chromium emissions are of particular concern. The effects of inhaling chromium depend on whether the oxidation state of the metal is trivalent or hexavalent. Trivalent chromium is substantially less toxic than hexavalent chromium. Both types of chromium irritate the respiratory tract. Hexavalent chromium inhalation is associated with lung cancer, and EPA has classified it as a Class A known human carcinogen, per EPA's classification system for the characterization of the overall weight of evidence for carcinogenicity.[2]

Here, we have a situation where the agency had listed and regulated metal HAP emissions from wool fiberglass furnaces as part of Subpart NNN, the major source MACT. As explained above, many of the area sources at issue were, in fact, subject to Subpart NNN, and were required to meet the PM limits (as a surrogate for metal HAP) in that rule. These sources are no longer subject to Subpart NNN because they no longer meet the definition of a ''wool fiberglass facility,'' since they do not use a phenol-formaldehyde binder in their manufacturing lines. Recent data provided by industry confirm that the gas-fired glass-melting furnaces located at area sources emit urban metal HAP, including significant amounts of chromium.

C. What is the regulatory history for wool fiberglass manufacturing?

Section 112 of the Clean Air Act requires the agency to list and promulgate NESHAP in order to control, reduce or otherwise limit the emissions of HAP from categories of major and area sources. Pursuant to the various specific listing requirements in section 112(c), the agency listed 174 categories of major and area sources that would be subject to NESHAP (57 FR 31576, July 16, 1992). The Wool Fiberglass Manufacturing major source category was on that list.

In the 1992 listing notice, we provided source category descriptions and noted that the list, consistent with the statute, may be revised from time to time as additional information became available. The agency also noted the requirement to list area sources pursuant to the Urban Air Toxics Strategy under section 112(c) and (k). (See 57 FR 31582).

We proposed the NESHAP for the Wool Fiberglass Manufacturing major source category on March 31, 1997 (61 FR15228). At proposal, we explained that we were aware of only three facilities that were area sources. We further explained that two glass-melting furnaces located at these area sources had MACT floor level controls. 40 CFR Part 63, Subpart NNN (62 FR 31695). The EPA promulgated the final NESHAP for the Wool Fiberglass Manufacturing major source category on June 14, 1999 (62 FR 31695), and those requirements are codified at 40 CFR Part 63, Subpart NNN.

The requirements of the major source NESHAP apply to HAP emitted from the following new and existing sources at a wool fiberglass manufacturing facility:

1. *Glass-melting furnaces* located at a wool fiberglass manufacturing facility;

2. *Rotary spin wool fiberglass manufacturing lines* producing a bonded wool fiberglass building insulation product; and

3. *Flame attenuation wool fiberglass manufacturing lines* producing a bonded pipe product and bonded heavy density product. (40 CFR 63.1380).

With regard to the two manufacturing lines, rotary spin and flame attenuation, the major source NESHAP provides that a bonded product is wool fiberglass to which a phenol-formaldehyde binder has been applied. (40 CFR 63.1381).

As explained previously, HAP emitted from glass-melting furnaces include acid gases and metals, such as chromium, cadmium, beryllium, manganese, nickel, lead and arsenic. Formaldehyde, phenol and methanol are the HAP emitted from forming, cooling and curing processes, which are the processes associated with the rotary spin and flame attenuation lines.

The major source NESHAP set standards for PM (as a surrogate for non-Hg metal HAP) to address emissions from glass-melting furnaces and formaldehyde (as a surrogate for phenol and methanol) to address emissions from the forming, cooling, and curing processes. (40 CFR 63.1382). Thus, the NESHAP regulates emissions from both glass-melting furnaces and the manufacturing lines. The record supporting the major source NESHAP (Subpart NNN) provides that regulation of PM, chromium and metal HAP emissions from the glass-melting furnaces would occur irrespective of whether the lines were producing a bonded product. The EPA did not intend to exempt any major sources or incentivize such sources to avoid MACT coverage by producing non-bonded products (i.e., wool fiberglass to which a phenol-formaldehyde binder was not applied). Rather the EPA contemplated that the Wool Fiberglass Manufacturing NESHAP would regulate emissions from both glass-melting furnaces and rotary spin and flame attenuation lines, the latter of which are part of the forming, curing and cooling process.[3]

The major source NESHAP, however, also defined the term ''wool fiberglass manufacturing facility'' as ''any facility manufacturing wool fiberglass on a rotary spin manufacturing line or on a flame attenuation manufacturing line.'' (40 CFR 63.1381). As noted above, in order to have a rotary spin manufacturing line or a flame attenuation manufacturing line you must produce a bonded product, which is a product to which a phenol-formaldehyde binder has been applied. Thus, a facility that does not use phenol-formaldehyde binders does not manufacture a bonded product, and therefore does not have a rotary spin manufacturing line or a flame attenuation manufacturing line as defined in the NESHAP. If the facility does not have a rotary spin manufacturing line or a flame attenuation manufacturing line it does not meet the definition of wool fiberglass manufacturing facility and therefore, would no longer be subject to the Wool Fiberglass Manufacturing NESHAP. Thus, the wool fiberglass manufacturing facility definition appears to be in tension with the

[2] From ''Guidelines for Carcinogen Risk Assessment'', 51 FR 33991–34003, September 24, 1986. For more information on chromium's inhalation carcinogenicity: *http://www.epa.gov/iris/subst/0144.htm*—Section II: Carcinogenicity Assessment for Lifetime Exposure. For more information on the support for the summary of the carcinogenicity of chromium in EPA's Integrated Risk Information System (IRIS): *http://www.epa.gov/iris/toxreviews/0144tr.pdf.* For the most recent guideline document for Carcinogen Risk Assessment: *http://www.epa.gov/raf/publications/pdfs/CANCER_GUIDELINES_FINAL_3–25–05.PDF.*

[3] For example, in the response to comments document supporting the final major source NESHAP, EPA clarified the applicability of the rule. Specifically, EPA rejected a request to limit the rule to the manufacturing lines, noting that the commenter's suggested revision ''would alter the applicability of the rule'' such that glass-melting furnaces would not be covered. Further, in response to the commenter's suggested change of the definition of ''wool fiberglass,'' EPA responded that ''while the suggested change may help to clarify the EPA's intent to cover only manufacturing lines producing bonded wool fiberglass products, it would create confusion over the rule's coverage of glass-melting furnaces.'' EPA stated: ''*Because the EPA's intent is to regulate all glass-melting furnaces located at wool fiberglass plants that are major sources of HAP, and not just those melters that feed molten glass to manufacturing lines producing bonded wool fiberglass products, the EPA has decided to not modify the definition of 'wool fiberglass' by adding 'bonded to the definition.* The EPA believes that other definitions and the applicability section of the rule are clear on the EPA's intent to regulate manufacturing lines that produce bonded products and not non-bonded products.'' (Emphasis added). See Comments 2.2 and 2.3 of the response to comment documents for the Wool Fiberglass Manufacturing Source Category, which can be found in the docket for this rulemaking.

applicability provision, (in 40 CFR 63.1380, which is described above), to the extent the provision states that the requirements of the NESHAP apply to HAP emitted from the glass-melting furnaces located at a wool fiberglass manufacturing facility (40 CFR 63.1380).

As shown in a 2002 applicability determination for Johns Mansville (JM), the narrow definition of a wool fiberglass manufacturing facility resulted in a determination that a rotary spin line that stopped making bonded products was no longer subject to Subpart NNN.[4]

However, the phase out of phenol-formaldehyde binders does not reduce or otherwise change emissions from the glass-melting furnace. This is because the first step of wool fiberglass manufacturing at both major and area sources (i.e., where raw materials are introduced) occurs in the glass-melting furnace and as earlier explained total chromium compounds, arsenic, cadmium, beryllium, lead, manganese and nickel are some of the HAP emitted from glass-melting furnaces. These emissions are different from HAP emissions from the forming and bonding section of rotary spin and flame attenuation manufacturing lines; which as explained above are formaldehyde, phenol and methanol or none of these where a facility has phased out the use of phenol-formaldehyde binders. Thus, sources that no longer meet the definition of a wool fiberglass facility because they no longer use phenol-formaldehyde binders on the rotary spin and flame attenuation lines are no longer subject to Subpart NNN. However, they still emit metal HAP from the glass-melting furnaces. These HAP include total chromium compounds, lead, arsenic, cadmium, beryllium, manganese and nickel, which are HAP that the EPA has identified under sections 112(c)(3) and (k)(3) as part of the 30 urban HAP (the ''urban HAP'').

[4] The determination provided, in pertinent part, ''Based on the definitions provided in section 63.1381, EPA agrees that if the [rotary spin line located at the] JM Penbryn Plant is no longer using a phenol-formaldehyde binder, the facility no longer meets the definition of a wool fiberglass manufacturing facility in Subpart NNN.'' Memorandum from Michael S. Alushin, Director for Compliance Assessment and Media Programs Division, Office of Compliance, USEPA to Karl Mangels, Air Compliance Branch, USEPA, Region II, (August 1, 2002)). EPA also agreed ''that as a result of the switch to a non phenol-formaldehyde binder, the glass-melting furnace is not subject to Subpart NNN since it is no longer located at a wool fiberglass manufacturing facility.'' (Memorandum from Michael S. Alushin, Director for Compliance Assessment and Media Programs Division, Office of Compliance, USEPA to Karl Mangels, Air Compliance Branch, USEPA, Region II, (August 1, 2002)).

On November 25, 2011, the EPA proposed revisions to the Mineral Wool and the Wool Fiberglass Manufacturing NESHAP, 40 CFR part 63, subparts DDD and NNN, respectively, to address the results of the technology review and residual risk review that the EPA is required to conduct under sections 112(d)(6) and 112(f)(2) (76 FR 72770). The limits in those proposed amendments apply to major sources, that is, sources emitting at least 10 tons per year of a single HAP or 25 tons per year of any combination of HAP.

In the November 25, 2011 proposal, the agency noted that since promulgation of the 1999 NESHAP, sources had modified certain processes by using non-HAP binders instead of phenol-formaldehyde binders (76 FR 72770). As noted above, a facility that no longer uses phenol-formaldehyde binders does not meet the definition of ''wool fiberglass facility'' under Subpart NNN. Many sources that were subject to the major source NESHAP (Subpart NNN) have eliminated the use of phenol-formaldehyde binders and these sources now emit less than 10 tons per year of a single HAP or 25 tons per year of any combination of HAP. We understand that 20 of the existing 30 wool fiberglass facilities have become area sources through the phase-out of phenol-formaldehyde in the binders. However, the glass-melting furnaces at these sources continue to emit chromium and other HAP metal compounds. As explained above, emissions from glass-melting furnaces are completely separate and independent from emissions from the bonding portion of the process. Further, while replacement of phenol-formaldehyde binders with non-HAP binders is an environmentally responsible, or ''green'' choice within the wool fiberglass manufacturing industry, recent data from industry show that gas-fired glass-melting furnaces specifically continue to emit chromium and other HAP metal compounds, and for furnaces located at area sources these emissions are not currently regulated pursuant to CAA section 112.

While subpart NNN applies to wool fiberglass manufacturing facilities that are major sources, today's proposed rule would apply to gas-fired glass-melting furnaces located at wool fiberglass manufacturing facilities that are area sources (subpart NN). As explained below in section IV, we are listing gas-fired glass-melting furnaces located at wool fiberglass manufacturing facilities that are area sources pursuant to section 112(c)(3) and (k)(3)(B) of the CAA.

D. What is the authority for the development of NESHAP for area sources?

1. Authority Under Section 112(k) Area Source Program

Sections 112(c)(3) and (k) of the CAA require the EPA to identify and list the area source categories that represent 90 percent of the emissions of the 30 urban air toxics associated with area sources and subject them to standards under the CAA (section 112(d)). Cross referencing section 112(c)(3), section 112(k)(3) requires the EPA to identify a list of at least 30 air toxics that pose the greatest potential health threat in urban areas (the ''urban'' HAP). Taken together, these requirements are known as the Urban Air Toxics Strategy (Strategy). These are the HAP that present the greatest threat to public health in the largest number of urban areas (section 112(k)(3)(B)(i) of the Act). The EPA is also required to ''assure that sources accounting for 90 percent or more of the 30 identified hazardous air pollutants are subject to standards.'' (Section 112(k)(3)(B)(ii) and section 112(c)(3)). Under the Strategy, the EPA has developed standards to control toxic air pollutants from area sources. For the Strategy, the EPA identified a list of 33 air toxics in the area source program under which a total of 68 area source categories were identified which represented 90 percent of the emissions of the 33 listed air toxics. Under the Strategy, EPA regulated these 68 source categories of urban HAP in 56 subparts of the Code of Federal Regulations.[5] [6]

As noted above, section 112(k)(3)(B)(ii) requires the EPA to ''assure that [area] sources accounting for 90 percent or more of the 30 identified hazardous air pollutants [the 30 urban HAP] are subject to standards.'' (Emphasis added). Nothing in the CAA prevents the agency from going beyond the statutory minimum of 90 percent. Indeed, to date, we have established emission standards for sources accounting for almost 100 percent of area source emissions of certain urban HAP. For example, we have established emission standards for various source categories emitting dioxin, which is an urban HAP, and these categories represent 100 percent of area source dioxin emissions.

To date, the agency has regulated 90 percent of sources accounting for area source chromium, manganese, lead and nickel emissions, all of which are urban

[5] For EPA's notice on the Urban Air Toxics Strategy, see 64 FR 38706, 38715–716 (July 19, 1999.)

[6] EPA issued final area source standards in the following FR notices:

HAP emitted by gas-fired glass-melting furnaces, and 93 percent of sources accounting for cadmium emissions and 99 percent for arsenic and beryllium emissions.[7] Consistent with the authority provided in section 112(c)(3) and (k)(3)(B), the agency is listing and proposing emission standards for these urban metal HAP emissions from gas-fired glass-melting furnaces located at area sources. With this regulation, pursuant to section 112(c)(3) and (k)(3)(B), the agency will have subjected additional sources to regulation for urban metal HAP, which is wholly consistent with the goals of the Strategy. Under the Strategy, we went above the 90 percent when it was feasible to do so.[8] For example, EPA subjected 99 percent of sources of arsenic and beryllium compounds to regulation under the Strategy. We have no requirement to limit our regulation to the minimum of 90 percent of sources; we however must subject at least 90 percent of the sources of the urban HAP to regulation under the strategy.

As we are adding gas-fired glass-melting furnaces located at area sources to the source category list, we are also proposing standards for the category.[9] See section III.B below regarding the proposed standards.

2. Alternative Standards for Area Sources Under Section 112(d)(5)

Under CAA section 112(d)(5), EPA may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.'' Additional information on generally available control technologies or management practices (GACT) is found in the Senate report on the legislation (Senate report Number 101–228, December 20, 1989), which describes GACT as:

* * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT. Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category.

In setting GACT, we always look to the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. In this case, the control technologies and managment practices for major sources are transferable because major source glass-melting furnaces are no different than area source glass-melting furnaces. Finally, as we have already noted, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

GACT differs from MACT in that cost can be considered in the first instance when establishing a GACT standard. By contrast, when establishing MACT standards pursuant to section 112(d)(3), EPA must determine the average emission limitation achieved by the best performing 12 percent of existing sources and the emission limitation achieved by the best controlled similar source for new sources, without regard to cost.

As explained in greater detail in section III.B below, we determined that GACT standards for area sources should be the same as the major source standards proposed for PM and chromium on November 25, 2011, pursuant to section 112(d)(6), based on the similarity between production processes, emission points, emissions, and control technologies that are characteristic of both major and area source wool fiberglass manufacturing facilities and considerations of cost.[10]

E. What sources did EPA look to in assessing GACT?

As noted above, determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources in the same industrial sector, which is particularly relevant here as the control technologies and management practices are transferable and generally available to area sources. Given the above, it is appropriate to consider both major and area sources in assessing GACT.

In order to identify all wool fiberglass manufacturing facilities we relied on the original listing of facilities from the 1999 NESHAP, based on industry comments. Major sources are subject to Title V, and are identified in a database used for Title V permitting purposes. The agency used this Title V database to identify major sources in the Wool Fiberglass Manufacturing source category. There are currently 30 facilities in this source category, of which 10 are major sources and 20 are area sources. Currently, area sources operate 54 glass-melting furnaces while major sources operate 29 glass-melting furnaces. We also note that the industry has provided information that some of the major sources have already filed permit modifications with the appropriate permitting agencies to become area sources, but the permitting agency has not yet acted on the request.

F. Upon what set of data are the limits for glass-melting furnaces located at area sources based?

At the time of the November 25, 2011, RTR proposal, the EPA had information that all glass-melting furnaces emit metal HAP in the form of particulate emissions. In addition, subsequent to the November 25, 2011, proposal, the EPA requested information through a section 114 information request regarding PM and chromium compounds that are either used in or emitted by glass-melting furnaces at facilities that engage in wool fiberglass manufacturing. The EPA has evaluated the responses and confirmed that over 90 percent (15 out of 16) of gas-fired glass-melting furnaces emit chromium compounds at measurable amounts. These data have been compiled with previously submitted industry source tests into a database for this source category and serve as the technical basis for this area source rulemaking.

The EPA reviewed the entire set of data for the wool fiberglass manufacturing industry, which includes

[7] See. ''Technical Memorandum. Emission Standards for Meeting the 90 Percent Requirement under Section 112(c)(3) and Section 112(k)(3)(B) of the Clean Air Act'' From Nathan E. Topham, Environmental Engineer, USEPA February 18, 2011.

[8] For the listing notices of the Strategy, see 64 FR 38705, July 19, 1999; 67 FR 43112, June 26, 2002; 67 FR 70427, November 22, 2002; 73 FR 78637, December 23, 2008; and 74 FR 30366, June 25, 2009.

[9] We have made several revisions to the section 112(c)(3) list since its issuance: 67 FR 43112, June 26, 2002; 67 FR 70427, November 22, 2002; 73 FR 78637, December 23, 2008; 74 FR 30366, June 25, 2009.

[10] The EPA also considers the costs and economic impacts of available control technologies and management practices when determining whether to revise a standard pursuant to section 112(d)(6).

both major and area sources. We conducted QA/QC analyses to ensure data accuracy, identified the area sources and arrayed those data according to the magnitude of the emissions and control device.

We considered whether to include all glass-melting furnaces in the set of data or only those glass-melting furnaces located at area sources. We concluded it was most reasonable to base the emission limit on the entire set of data, and not on a subset of area sources for the reasons described below.

First, due to the definition of ''wool fiberglass facility'' in Subpart NNN, the set of area sources is constantly growing. When facilities change their status from a major source to an area source, they typically do so as a result of changes in their binder formulation, a process occurring downstream of the glass-melting furnace. In 2002, two out of 33 facilities were area sources; within 10 years that number had increased 10-fold, and by December 2012, 20 out of 30 had become area sources. The bonded lines are independent of glass-melting furnaces; the binder formulation change does not affect glass-melting furnace operations, limits or production.

Second, the glass-melting furnaces in use when the facility is a major source are the same glass-melting furnaces operating in the same manner as when it becomes an area source. Because there is no difference between the glass-melting furnace operations at area sources and those at major sources, we found no reason to differentiate the glass-melting furnaces located at major sources from the furnaces located at area sources.

Third, there is no definitive cut-off date to determine when facilities that are major sources become area sources. As discussed earlier, the industry is phasing out its use of phenol-formaldehyde based binders, but each company/facility has its own schedule for the transition to non phenol-formaldehyde binders. As explained earlier, because the HAP emissions resulting from the use of phenol-formaldehyde binders place the facility in major source status (that is, the HAP emissions are at least 10 tpy of a single HAP or 25 tpy of a combination of HAP), when a facility discontinues the phenol-formaldehyde binder and begins use of a non-HAP binder, it becomes an area source, emitting less than major source levels.

The limits we are proposing in today's action are GACT limits, and are based on the ''generally available control technologies or management practices by such sources to reduce emissions of HAP.'' We note that this is the same data set on which technology review was based for the wool fiberglass RTR proposed rule.[11] We therefore propose that the larger industry dataset, including glass-melting furnaces at both major and area wool fiberglass manufacturing sources, is the appropriate set on which to base the proposed GACT limits.

III. What are the proposed requirements for glass-melting furnaces located at area sources?

As previously discussed, we have determined the EPA's intent in developing the 1999 Wool Fiberglass Manufacturing NESHAP was to regulate metal HAP emissions from all glass-melting furnaces, but now many glass-melting furnaces are no longer regulated by the NESHAP. Based on industry-provided data, these glass-melting furnaces emit metal HAP. However, we have determined that gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities can emit higher levels of metal HAP, and also higher than expected levels of chromium than electric glass-melting furnaces. This is due to the use of high chromium refractories above the glass melt line, and use of these refractories is essential to obtain the desired glass-melting furnace life. Also, the industry has indicated that the current trend is to replace air gas glass-melting furnaces with oxyfuel glass-melting furnaces.[12] [13] Oxyfuel glass-melting furnaces have the highest potential for elevated chromium emissions as discussed further in section IV.A of this preamble. Accordingly, we believe it is appropriate to add gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities that are located at area sources to the list of area sources regulated in the Urban Air Toxics Program.

The following sections present the applicability requirements, emission limits, measurement methods, monitoring, notification, recordkeeping and reporting requirements we are proposing for these area sources. The rationale for these requirements follows this section.

A. What are the proposed applicability requirements?

The proposed rule would apply to gas-fired glass-melting furnaces located at wool fiberglass manufacturing facilities that are at area sources. Gas-fired furnaces include, but are not limited to, oxyfuel, air gas and recuperative air gas glass-melting furnaces.

We also considered having the limits apply only to glass-melting furnaces constructed using chromium in the refractory of the glass-melting furnace. However, we also learned from the section 114 responses that most wool fiberglass glass-melting furnaces are constructed of refractory materials containing similar chromium content. The potential for chromium emissions is related more to the amount of high chromium refractories above the glass melt line and the air temperature above the glass melt. The furnace energy source (gas versus electric) is a more reliable indicator of the potential for chromium emissions from the refractory than refractory chromium content. Therefore, we opted to use the energy source as a basis of determining the types of area source furnaces to regulate rather than the chromium content of the refractory. We therefore propose that all wool fiberglass gas-fired glass-melting furnaces located at area sources should be subject to the same emission limit being proposed today, regardless of the chromium content of the refractory bricks used to construct them.

B. What are the proposed emission limits for gas-fired glass-melting furnaces located at wool fiberglass manufacturing area sources?

We are proposing a GACT standard of 0.00006 pounds (lb) of chromium compounds per ton of glass pulled (0.06 lb per thousand tons glass). This is the same limit we previously proposed for glass-melting furnaces used by wool fiberglass manufacturing facilities at major sources, pursuant to section 112(d)(6) (76 FR 72770).

We found that emissions of glass-melting furnaces, including those located at area sources, are generally below this limit. Thus, most glass-melting furnaces, specifically gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities, show this limit can be met using generally available control technologies and practices.

We are also proposing a PM emission limit of 0.33 lb per ton of glass pulled. This is the same limit we are proposing for major sources in this action based on technology review showing most glass-melting furnaces using baghouses or

[11] This is similar to our decision in the Portland Cement NESHAP (74 FR 21155, May 6, 2009), where we based the PM, mercury, and total hydrocarbon limits on all the kilns used by industry for which we had data because there were no differences between kilns located at major sources and those located at area sources.

[12] US DOE Energy Efficiency and Renewable Energy, Industrial Technologies Program, Final Technical Report. ''Compressive Creep and Thermophysical Performance of Refractory Materials''. Oak Ridge National Laboratories. June 2006.

[13] *Oxygen-Enhanced Combustion,* Baukal, Charles E., Jr. 1998.

electrostatic precipitators for PM control. Similarly, PM emissions from gas-fired glass-melting furnaces located at wool fiberglass manufacturing facilities are all below this limit. The above proposed limits apply at all times. See Sierra Club v. EPA, 551 F.3d 1019 (D.C. Cir. 2008) (Vacating the provisions of 40 CFR 63.6(f)(1) and 63.6(h)(1) that exempt sources from the requirement to comply with otherwise applicable CAA section 112(d) emissions standards during periods of startup, shutdown and malfunctions).

Finally, because the analyses for technology review and for GACT both consider costs and analyze available technologies, and because major and area sources share the same control approaches, it is a reasonable outcome that the emission limits proposed for major sources under the technology review and the proposed GACT limits are the same.

C. What are the proposed measurement methods, monitoring, reporting and recordkeeping requirements for glass-melting furnaces located at wool fiberglass manufacturing area sources?

To be consistent with the major source rule, we are proposing the same test methods and procedures for PM and chromium compounds contained in 40 CFR part 63, subpart NNN.

In order to minimize the burden associated with stack testing, we are proposing a reduction in performance testing frequency. We are proposing that sources measuring chromium compounds in two successive performance tests that are less than 75 percent of the limit of the rule be allowed to reduce their testing frequency (for chromium) to no less than every 3 years. We are also proposing that sources measuring PM emissions less than 75 percent of the limit in two successive performance tests be allowed to reduce their PM testing frequency to no less than every 3 years. With each of these performance test frequency reductions, the reduced frequency benefit is lost if a subsequent re-test shows PM or chromium emissions above 75 percent of the emission standard. In that case, two successive performance tests demonstrating compliance below 75 percent of the emission limit would be required for a source to, once again, qualify for less frequent emissions testing.

To be consistent with the wool fiberglass manufacturing major source rule, we are proposing that glass-melting furnaces located at area sources must meet all applicable monitoring requirements and all notification, recordkeeping and reporting requirements contained in 40 CFR part 63, subpart NNN.

D. What are the proposed decisions and actions related to startup, shutdown and malfunction provisions?

Consistent with *Sierra Club* v. *EPA,* the EPA is proposing standards in this rule that apply at all times. In proposing these standards, the EPA has taken into account startup and shutdown periods. Based on the information before the Agency, which includes information provided by industry, we expect facilities can meet the proposed emission standards during startup and shutdown. Nothing in the record suggests that emissions will be greater during startup and shutdown periods and the record confirms that the control devices are operated during these periods.

We are also including an alternative compliance provision that would allow sources to demonstrate compliance with the standards during startup and shutdown by keeping records showing that your 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. During startup and shutdown of a gas-fired furnace the operating temperatures and amounts of raw materials available to produce air emissions are lower than other operating periods. This would tend to result in lower uncontrolled emissions levels. Therefore, it is reasonable to assume that by continuing to operate the air pollution control equipment during these periods a source will be in compliance with the emissions limit.

For the reasons discussed in the preamble to the November 2011 proposal and as discussed further below, we are proposing in this area source rule to include an affirmative defense to civil penalties for violations of emission limits that are caused by malfunctions. See 40 CFR 63.881 of the proposed rule (defining ''affirmative defense'' to mean, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding).

We also are proposing other regulatory provisions to specify the elements that are necessary to establish this affirmative defense; the source must prove by a preponderance of the evidence that it has met all of the elements set forth in 40 CFR 63.886. (See 40 CFR 22.24). The criteria are designed in part to ensure that the affirmative defense is available only where the event that causes a violation of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (sudden, infrequent, not reasonable preventable and not caused by poor maintenance and or careless operation). For example, to successfully assert the affirmative defense, the source must prove by a preponderance of the evidence that the violation ''[w]as caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner * * *.'' The criteria also are designed to ensure that steps are taken to correct the malfunction, to minimize emissions in accordance with 40 CFR 63.882(b) when finalized and to prevent future malfunctions. For example, the source must prove by a preponderance of the evidence that ''[r]epairs were made as expeditiously as possible when a violation occurred * * *'' and that ''[a]ll possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health * * *.'' In any judicial or administrative proceeding, the Administrator may challenge the assertion of the affirmative defense and, if the respondent has not met its burden of proving all of the requirements in the affirmative defense, appropriate penalties may be assessed in accordance with section 113 of the CAA (see also 40 CFR 22.27).

The EPA included an affirmative defense in this proposed rule in an attempt to balance a tension, inherent in many types of air regulations, to ensure adequate compliance while simultaneously recognizing that despite the most diligent of efforts, emission standards may be violated under circumstances beyond the control of the source. The EPA must establish emission standards that ''limit the quantity, rate, or concentration of emissions of air pollutants on a continuous basis.'' 42 U.S.C. 7602(k)(defining ''emission limitation and emission standard''). See generally *Sierra Club* v. *EPA,* 551 F.3d 1019, 1021 (D.C. Cir. 2008) Thus, the EPA is required to ensure that section 112 emissions standards are continuous. The affirmative defense for malfunction events meets this requirement by ensuring that even where there is a malfunction, the emission standard is still enforceable through injunctive relief. The United States Court of

Appeals for the Fifth Circuit recently upheld the EPA's view that an affirmative defense provision is consistent with section 113(e) of the Clean Air Act. *Luminant Generation Co. LLC* v. *United States EPA,* 699 F.3d.427 (5th Cir. Oct. 12 2012) (upholding the EPA's approval of affirmative defense provisions in a CAA State Implementation Plan). While ''continuous'' standards, on the one hand, are required, there is also case law indicating that in many situations it is appropriate for the EPA to account for the practical realities of technology. For example, in *Essex Chemical* v. *Ruckelshaus,* 486 F.2d 427, 433 (D.C. Cir. 1973), the D.C. Circuit acknowledged that in setting standards under CAA section 111 ''variant provisions'' such as provisions allowing for upsets during startup, shutdown and equipment malfunction ''appear necessary to preserve the reasonableness of the standards as a whole and that the record does not support the 'never to be exceeded' standard currently in force.'' See also, *Portland Cement Association* v. *Ruckelshaus,* 486 F.2d 375 (D.C. Cir. 1973). Though intervening case law such as *Sierra Club* v. *EPA* and the CAA 1977 amendments call into question the relevance of these cases today, they support the EPA's view that a system that incorporates some level of flexibility is reasonable. The affirmative defense simply provides for a defense to civil penalties for violations that are proven to be beyond the control of the source. By incorporating an affirmative defense, the EPA has formalized its approach to upset events. In a Clean Water Act setting, the Ninth Circuit required this type of formalized approach when regulating ''upsets beyond the control of the permit holder.'' *Marathon Oil Co.* v. *EPA,* 564 F.2d 1253, 1272–73 (9th Cir. 1977). See also, *Mont. Sulphur & Chem. Co.* v. *United States EPA,* 2012 U.S. App. LEXIS 1056 (Jan 19, 2012)(rejecting industry argument that reliance on the affirmative defense was not adequate). But see, *Weyerhaeuser Co.* v. *Costle,* 590 F.2d 1011, 1057–58 (D.C. Cir. 1978) (holding that an informal approach is adequate). The affirmative defense provisions give the EPA the flexibility to both ensure that its emission standards are ''continuous'' as required by 42 U.S.C. 7602(k), and account for unplanned upsets and thus support the reasonableness of the standard as a whole.

IV. How did we develop the proposed standards for glass-melting furnaces located at wool fiberglass manufacturing area sources?

At proposal of the technology review and residual risk review of the major source NESHAP in 2011, we proposed emission limits for chromium compounds because hexavalent chromium is emitted from wool fiberglass glass-melting furnaces and stated that we planned to regulate wool fiberglass glass-melting furnaces located at area sources in a future action. (76 FR 72770). The highest emitting glass-melting furnace, an oxyfuel glass-melting furnace, was measured emitting at 550 pounds per year, while other glass-melting furnaces were emitting between five and 250 pounds of chromium per year. We considered whether it was possible for other facilities to emit chromium compounds at the level of the highest emitting facility and proposed that, under the same circumstances, other wool fiberglass manufacturing facilities could emit at similar levels. We reasoned at proposal in 2011 that nothing prevents a wool fiberglass company from constructing a glass-melting furnace identical to the glass-melting furnace with the highest chromium emissions.

As explained in the November 25, 2011, proposal, the industry trade association (National Association of Insulation Manufacturers of America (NAIMA) had conducted a voluntary survey of companies that manufacture wool fiberglass. The survey sought test data on HAP emissions, process equipment, control devices and other aspects of the wool fiberglass manufacturing operations. With regard to total chromium compounds, the survey requested information on the chromium content of glass-melting furnaces at different parts of the glass-melting furnace and required all glass-melting furnaces to be tested for both total chromium and hexavalent chromium emissions. This voluntary survey was followed by the EPA's section 114 information request letter requesting test data on total chromium compounds emissions from all glass-melting furnaces and information on glass-melting furnace design and refractory chromium content.

A. How did the EPA select the emissions sources and pollutants to regulate?

As previously discussed, wool fiberglass manufacturing facilities emit the following urban air toxics: arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel (PM is regulated as a surrogate for these metals) from the glass-melting furnace; and phenol, formaldehyde and methanol from the binding process. The emissions profile of glass-melting furnaces at area sources and major sources are identical. However, this is not true for emissions of formaldehyde from the binding operation. A facility becomes an area source by minimizing or eliminating binder formaldehyde emissions. For this reason, we determined that it is not necessary to include the binding operation in this proposed listing, and have limited the listing to chromium and PM as a surrogate for the remaining metal HAP from glass-melting furnaces.

The glass-melting furnace design (layout and location of chromium refractory), energy source, and refractory age are the major factors affecting chromium emissions from glass-melting furnaces.

There are two types of glass-melting furnaces in the wool fiberglass industry, gas-fired and electric. Oxyfuel, air gas, and recuperative air gas are gas-fired; cold-top electric and electric steel shell are electric glass-melting furnaces. All of these furnace types emit metal HAP in the form of controlled PM emissions at similar levels. However, based on new information gathered since the November 25, 2011, proposal of the major source RTR, we have determined that gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities exhibit a greater potential to emit chromium compounds and other metal HAP than electric furnaces, and also to convert trivalent chromium to hexavalent chromium.

Table 3 of this preamble presents a summary of the chromium test data for wool fiberglass glass-melting furnaces. The data show a significant range of chromium emissions. All of the glass-melting furnace types have some sources that emit at very low levels, but only gas-fired glass-melting furnaces show a potential to have chromium emissions levels above the 0.00006 lb/ton glass pulled emissions level proposed for glass-melting furnaces.

TABLE 3—RANGE OF CHROMIUM COMPOUND EMISSIONS BY GLASS-MELTING FURNACE TYPE

Glass-melting furnace type	Cr compound emissions (lb/1000 tons glass pulled)
Electric Steel Shell	0.0022–00.039
Cold-Top Electric	0.00078–0.027
Air Gas	.0025–0.96
Oxy Fuel	.011–3.5

Available data indicate that all furnace types use high chromium

refractory in some areas. However, information provided by the industry on furnace design indicates that gas-fired glass-melting furnaces have a higher potential to emit chromium compounds due to the placement of the high chromium refractory, the physical layout of the furnace, the size and placement of the burners in relation to the sides and top of the glass-melting furnace, the depth from the burners to the top of the raw materials, the temperature at and above the melt, and the oxide concentration of the glass-melting furnace gas environment. In addition, gas-fired furnaces show the greatest potential to convert chromium to its most toxic form, hexavalent chromium, due to the significantly higher temperature above the glass melt line of a gas-fired furnace.

These data (i.e., data submitted by the wool fiberglass manufacturing industry on glass-melting furnace type and construction materials in response to both NAIMA's voluntary survey and the agency's section 114 letter) indicate that the highest emitting glass-melting furnace is a gas-fired furnace, specifically, an oxyfuel glass-melting furnace constructed using chromium refractories. However, all glass-melting furnaces with the high chromium emissions were either oxyfuel or air gas glass-melting furnaces. The section 114 information letter required measurements of both hexavalent and total chromium as well as identification of the location and chromium content of the refractories used in glass-melting furnace construction.

The reason for the higher emission potential for gas-fired glass-melting furnaces is due to differences in design, construction materials, and operation of gas-fired glass-melting furnaces compared to electric glass-melting furnaces. A chromium refractory product has the greatest resistance to heat and wear of any refractory in use today. The temperatures above the melt in gas-fired glass-melting furnaces range from 2,500 °F to 4,500 °F, while the temperatures in electric glass-melting furnaces are a few hundred degrees. Due to their higher operating temperatures, gas-fired glass-melting furnaces are constructed using chromium refractories at various parts of the glass-melting furnace that are above the molten glass, including the crown. The chromium in the refractory is the source of the chromium emissions from the gas-fired glass-melting furnaces.[14] However, other influencing factors determine both the rate and magnitude of the chromium emissions when chromium is available in the furnace lining. The presence of chromium above the glass melt line, the percentage of chromium available in the refractory, the rate of degradation of the furnace interior, the chemistry of the wool fiberglass 'recipe', the temperature of the furnace, the oxidizing atmosphere of the furnace, the placement and proximity of burners to the furnace wall, and other design and construction factors contribute to the corrosion and erosion of the gas-fired glass-melting furnace refractory and the formation of hexavalent chromium furnace. In addition, the high temperatures result in more of the chromium being converted to its hexavalent state compared to electric furnaces.

Since our November 25, 2011, proposal, we have learned that if a source of reasonably priced oxygen is available, the oxyfuel glass-melting furnace is the design favored for use by glass manufacturers due to the glass-melting furnace's low NO_X emissions (NO_X is an ozone precursor), and low energy demands per volume output of glass. The low NO_X emissions of an oxyfuel glass-melting furnace result from the fact that no air (which contains nitrogen) is introduced into the high temperature zone above the glass melt. Instead, the oxyfuel glass-melting furnace design mixes the natural gas fuel with pure oxygen for combustion, thus reducing NO_X emissions.

The DOE's office of Industrial Technology, in association with industry experts from the glass manufacturing, refractory production sectors and the Oak Ridge National Laboratory, conducted studies to determine ways to optimize energy uses, needs and efficiencies in industrial sectors. In these studies, industry experts agreed (Oak Ridge National Laboratory, June 2006, p. 9) that oxyfuel glass-melting furnaces will ultimately replace air gas glass-melting furnaces by 2020 due to these economic and environmental factors. For example, industry experts participating in the Industrial Technologies Program (ITP), under the Department of Energy's Energy Efficiency and Renewable Energy program, described the demands an oxyfuel glass-melting furnace places upon the refractory lining: ''The ITP has recognized that a reduction in overall domestic energy consumption will occur if the primary energy-consuming industries improve their own energy efficiencies. Recognizing this need, the glass industry is currently converting older, conventional air-fuel-fired furnaces to oxyfuel firing, or in the case of new construction, is building new oxyfuel-fired furnaces instead. This has caused oxyfuel technology to become one of the fastest growing technologies in the glass industry because it promises pollution abatement, increased glass-pull effectiveness, capital cost savings and increased energy efficiency. For example, a recent study has shown that approximately $202M in energy savings per year in 2005 and a $445M per year savings by 2020 could be expected with the conversion of air/fuel to oxy-fuel-fired glass manufacturing furnaces. These results, which reflect energy savings of 2.8 and 14.2 TBtu/year, respectively, are based on the projection that 61 percent and 100 percent furnace conversions will occur by the years 2005 and 2020, respectively.''

Other studies (Metallurgical and Materials Transactions, Lee,Y., Nassaralla, C.L., 1998) advise us that, under normal industrial temperatures, which can exceed 1,300 ° F., and oxidizing conditions, trivalent chromium, which is present in the refractory, oxidizes to hexavalent chromium.[15] It was found that uncombined and available oxides were responsible for a higher yield of hexavalent chromium. Consequently, an increasing concentration of oxides in the oxyfuel glass-melting furnace environment increases the formation of chromium from the trivalent state to hexavalent state. The condition of high oxides in the oxyfuel glass-melting furnace environment is one characteristic of the highest emitting glass-melting furnace (see Docket number EPA–HQ–OAR–2010–1042 document number 0067: Region 7 Notes on CertainTeed Kansas City. June 10, 2011. 13 pages).

Moreover, while the degradation of the glass-melting furnace refractory indicates increasing chromium emissions, that process does not necessarily follow a normal and predictable pattern. The degradation of refractories within the glass-melting furnace is a function of numerous factors, including temperature, time, stress and the composite effects of aging and creep response. These processes are highly nonlinear, so the traditional equations that assume steady-state deformation rates are not appropriate (DOE and Oak Ridge National Laboratory, June 2006 p. 63).

[14] EPA Notes of meeting with Certainteed, April 14, 2011; Industry Meetings with EPA on March 19, 2012; April 30, 2012; and December 6, 2012; email from Lauren P. Alterman, Saint-Gobain Corporation, regarding chrome emissions and refractory bricks, August 6, 2012).

[15] Metallurgical and Materials Transactions B. ''Minimization of Hexavalent Chromium in Magnesite-Chrome Refractory''. Y. Lee and C. L. Nassaralla. Vol. 28 B, Oct. 1997—pp. 855–859.

Although all glass-melting furnaces are constructed using chromium refractories (NAIMA letter dated January 28, 2013. Industry Meeting Notes, August 31, 2011) at and below the line of contact defined by the refractory wall and the molten glass within the glass-melting furnace (the glass/metal line), oxyfuel and some air gas glass-melting furnaces have other glass-melting furnace parts constructed using chromium refractories, such as the crown and forehearth. The use of chromium refractories above the melt line is necessary to obtain the desired furnace life and reduce the necessity for hot repairs of the furnace. When the hot, corrosive and reactive gases of a gas-fired glass-melting furnace come in contact with the high chromium refractories lining the area above the glass melt in high temperature glass-melting furnaces, the chromium is available to be oxidized and converted into its hexavalent form.

The cost of rebuilding a wool fiberglass glass-melting furnace ranges from 10–12 million dollars; most of this cost is the cost of skilled labor (C. Davis, CertainTeed Corp., April 2011). While chromium refractories are more expensive than conventional refractories, they are only incrementally so (DOE and Oak Ridge National Laboratory, June 2006, p. 1). When conventional (high alumina/silica) refractories are used, the useful life of the glass-melting furnace is about 7 years. Chromium refractories almost double the useful life of the glass-melting furnace. Therefore, industry has a strong economic incentive to develop and use longer lasting refractories in construction of the glass-melting furnaces. Industry spokespersons have indicated that they rely on using chromium refractories offering longer glass-melting furnace life, and have commented that the EPA should regulate the chromium emissions from wool fiberglass glass-melting furnaces rather than regulate chromium content of refractories. (Email from *Lauren.P.Alterman@saint-gobain.com* to persons at the EPA, July 27, 2012, 10:32 a.m., regarding chrome emissions and refractory bricks.)

We have also found that as the refractories of the gas-fired glass-melting furnaces degrade, the chromium of those refractories at and above the metal/glass line is emitted as particulate to the outside air. Chromium from the refractories below the metal/glass line is absorbed into the molten glass and becomes vitrified with the other raw minerals. Industry commented that refractory loss from degradation of the refractory walls in use is approximately 20,000 pounds of refractory annually (minutes of the August 31, 2011 Meeting with Representatives of the Wool Fiberglass Industry and NAIMA). However, much of the loss occurs below the glass melt line. The chromium released below the glass melt line is believed to stay in the glass.

The facility with the highest emitting glass-melting furnace (an oxyfuel glass-melting furnace) submitted chromium testing for state inventory reporting purposes over a seven-year period. As shown in Table 4 below, those test results are extrapolated using permitted production rates to calculate approximate annual emissions of chromium compounds. The calculations show that in 2004, chromium emissions are estimated to be less than 5 pounds annually. Repeated chromium emissions testing for the State reports in 2005 and 2008 and permitted production rates for those years show chromium emissions increased to 540 pounds per year for the same glass-melting furnace. Emissions testing conducted in 2010 speciating chromium by its compounds show that 93 percent of the chromium was in the hexavalent state.

TABLE 4—SUMMARY OF CHROMIUM EMISSIONS FROM 2004–2010

Year	Glass-melting furnace chromium emissions at permitted production rate, pounds per year
2004	<5
2005	30
2008	114
2010	540

This glass-melting furnace was not reconstructed during this 7-year period covered by the chromium testing. This indicates that a degradation of the chromium refractory resulted in a significant increase in chromium emissions during this period. We collected source testing for all types of furnaces used in the wool fiberglass manufacturing industry. Specifically, each air-gas and oxyfuel furnace was tested, and facilities that operated identical electric furnaces provided testing for one furnace along with design, construction, and refractory information for all furnaces operated. Industry provided schematics of all types of furnace designs showing that while all wool fiberglass furnace 'tanks' (holding the molten materials) are constructed of high chromium refractory, only the gas-fired furnaces may also be constructed from chromium refractories above the molten glass. In our review of all the data submitted, only gas-fired furnaces are designed in a manner that, during operation, may emit significant amounts of chromium compounds. We, therefore, believe that because the gas-fired furnaces are the only furnaces in which the chromium refractory is exposed to oxidizing conditions at temperatures exceeding 1,300 °F, gas-fired furnaces clearly demonstrate a greater potential for increased chromium emissions. While the highest emitting glass-melting furnace is located at a major source, we note, as we discussed in the proposed RTR rule, that there is no difference in a glass-melting furnace at a major source and the same design glass-melting furnace at an area source facility.

The thermal, physical and chemical properties of molten wool fiberglass cause corrosion and erosion to the refractory lining of the glass-melting furnace, and the glass-melting furnace must be constructed of materials capable of resisting this environment. Because oxygen burns very hot, some of the highest refractory performance requirements in the industry are placed upon wool fiberglass oxyfuel glass-melting furnaces (''New High Chrome Fused Cast Refractory for Use in Contact With Highly Corrosive Glasses'', T.A. Myles and F. Knee, in Ceramic Engineering and Science Proceedings, The American Ceramic Society, 1986). Consequently, an oxyfuel glass-melting furnace used to produce wool fiberglass must be constructed of chromium refractories because these are the only types of materials currently available that are suitable for this use and meet the rigorous practical demands of wool fiberglass manufacturing. The industry has commented that the use of chromium refractories is economically essential to wool fiberglass manufacturing, because of normal high thermal and chemical stressors to oxyfuel glass-melting furnaces, chromium refractories are preferred by industry for economical and safe oxyfuel glass-melting furnace operation. Construction using these materials significantly increases the life of the glass-melting furnace (see Region 7 Notes on CertainTeed Kansas City. June 10, 2011. p. 5 of 13; email from *Lauren.P.Alterman@saint-gobain.com* to persons at the EPA, July 27, 2012, 10:32 a.m., regarding chrome emissions and refractory bricks).

In summary, because of the advantages of oxyfuel glass-melting furnaces over other wool fiberglass glass-melting furnace technology described in the preceding discussions, we expect oxyfuel glass-melting furnaces constructed of chromium refractories to replace many existing

wool fiberglass glass-melting furnaces of other designs (Letter from NAIMA to Ms. Susan Fairchild, EPA, January 28, 2013), particularly as sources of industrial oxygen are sited near wool fiberglass facilities (*Oxygen-Enhanced Combustion*, Baukal, Charles E. Jr., Prince B. Eleazar III, and Bryan C. Hoke, Jr. 1998).

Emissions of the other metal HAP are very low for electric glass-melting furnaces. This low emission potential is inherent in the glass-melting furnace design. Electric glass-melting furnaces establish a crust on the raw material at the surface of the molten glass. They use electrodes which are embedded below the crust and within the molten glass to maintain the temperature of the melt, while the temperature above the melt is low. They also have lower air flows and low turbulence above the glass melt. Therefore the potential for metal emissions (in the form of PM entrained in the exhaust gas) from electric glass-melting furnaces is much lower than from gas-fired glass-melting furnaces.

Electric furnaces also do not have the same potential to emit chromium as gas-fired furnaces. Although electric glass-melting furnaces are lined at and below the glass/metal line with chromium refractories, they are constructed using either non-chromium refractories (cold-top electric) or steel in place of refractories (electric steel shell) above the glass/metal line. This design is used because electric glass-melting furnaces operate with a dry batch cover and are tapped at the bottom or end of the glass-melting furnace to draw off the molten glass. Raw materials are constantly added to the top of the glass-melting furnace in damp form and create a crust on top of the molten glass. Steel shell glass-melting furnaces have a steel enclosure above glass/metal the line and cold-top electric glass-melting furnaces use non-chromium refractories above the glass/metal line. The air above the melt inside an electric glass-melting furnace is below 300 °F, and is not hot enough to warrant use of chromium refractories. Even if chromium refractories were used to construct the crown of the electric glass-melting furnace, the temperature of an electric glass-melting furnace above the glass/metal line is insufficient to drive the chromium to its hexavalent state.

Consequently, electric glass-melting furnaces do not have the same potential to emit chromium compounds that gas-fired glass-melting furnaces have, and accordingly, many of the chromium test data collected at electric glass-melting furnaces are below the detection level of the emissions measurement method. All the electric glass-melting furnace test data were also below the proposed chromium limit for glass-melting furnaces at major sources in the November 25, 2011, proposed RTR rule amendments.

Gas-fired furnaces also have a higher potential to emit PM, and consequently metal HAP. This is because gas-fired furnaces require that combustion air or oxygen and natural gas be blown into the furnace. This increases the gas flow velocities and turbulence above the glass melt tine, which increases the potential for particle entrainment in the exhaust gas.

EPA's original intent was to regulate metal emissions from glass-melting furnaces, which at that time included all existing furnaces. We have now determined that glass-melting furnaces at area source and major source facilities have the same emissions profiles. Therefore, it is appropriate to add glass-melting furnaces at wool fiberglass manufacturing facilities to the area source list, and as previously noted we have the statutory authority to do so. However, gas-fired furnaces have a greater emissions potential than electric furnaces. Metal HAP emissions from electric glass-melting furnaces are inherently low, and more importantly, the potential to emit elevated amounts of chromium are low. Therefore we are limiting this listing to the furnaces with the greatest emissions potential, which are the gas-fired furnaces. In addition, due to certain source category specific facts, we are proposing limits for both PM and a separate limit for chromium. (See Memo to File ''Development of Background Information on Proposed Area Source Emissions Limits'', March 15, 2013.)

Wool fiberglass glass-melting furnaces that are hybrid gas-fired and electric glass-melting furnaces would be included in this action; wool fiberglass glass-melting furnaces that are all-electric would not be included. Therefore, in today's action we are proposing PM and chromium compounds emission limits that would apply to gas-fired glass-melting furnaces located at wool fiberglass manufacturing facilities that are area sources. Electric glass-melting furnaces located at area sources would not be subject to this proposed rule.

In today's proposal, we are soliciting comment on whether to regulate only gas-fired glass-melting furnaces located at area sources or to regulate all glass-melting furnaces located at wool fiberglass manufacturing facilities that are area sources. In addition we are soliciting comment on the pollutants regulated.

B. How did the EPA select the format for the proposed rule for glass-melting furnaces located at wool fiberglass manufacturing area sources?

The emission points covered by this proposed area source rule were selected to ensure control of chromium compounds and other metal HAP emissions from gas-fired glass-melting furnaces located at area sources. We are proposing to establish numerical emission limits in the form of mass of pollutant (chromium compounds and PM) per mass of glass pulled through the glass-melting furnace. The same format is used for emission limits in both the area and the major source rules.

The emission limits in the proposed rule provide flexibility for the regulated community by allowing a regulated source to choose any control technology or technique to meet the emission limits, rather than requiring each unit to use a prescribed control method that may not be appropriate in every case. The EPA solicits comment on the format of the proposed standards.

C. How did the EPA determine the proposed emission standards for glass-melting furnaces located at wool fiberglass manufacturing area sources?

Under CAA section 112(d)(5), the Administrator may, in lieu of standards requiring maximum achievable control technology (MACT) under section 112(d)(2), elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies [''GACT''] or management practices by such sources to reduce emissions of hazardous air pollutants.'' Further, legislative history describes GACT as standards reflecting application of generally available control technology, that is, ''methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems'' (S. Rep. 101–228 (December 20, 1989). In addition to technical capabilities of the facilities and availabilities of control measures, legislative history suggests that we may consider costs and economic impacts in determining GACT.

In this proposed rule, we are setting emission standards to address emissions of chromium compounds and other metal HAP from wool fiberglass gas-fired glass-melting furnaces (i.e. cadmium, beryllium, manganese, lead, and arsenic). In determining what

constitutes GACT for this proposed rule, we considered the control technologies and management practices that are generally available to gas-fired wool fiberglass furnaces at area sources by examining relevant data and information, including information collected from all known wool fiberglass manufacturing sources. We also considered the risk and technology review standards proposed for major sources (76 FR 72770, November 25, 2011), to determine if the control technologies and management practices proposed for the major sources are generally available to area sources as well. Finally, we considered the costs of available control technologies and management practices on area sources.

In setting GACT we look to the control technologies generally available for major and area sources. From the information that we have collected to date in conjunction with this rulemaking, which includes stack testing and site visits at both major and area sources, we know that area sources have the same types of emissions, emission sources, and controls as major sources. Gas-fired wool fiberglass glass-melting furnaces at major and area sources are using the same control technologies (baghouses or electrostatic precipitators). The available emission data show no discernible differences between area source and major source furnaces. In fact, when a major source facility becomes an area source, the furnace emission and emissions controls do not change. Therefore, the control technologies used by major sources are generally available for area sources.

The data in the record show that major and area source furnaces are equipped with technologies that effectively control chromium and metal HAP emissions, including, but not limited to, ESPs and fabric filters. In determining GACT, we examined different levels of control using these generally available control technologies and evaluated the cost of such control. We are proposing a PM emissions limit of 0.33 lb/ton glass pulled, and a chromium emissions limit of 6.5×10^{-5} lb/ton glass pulled. We are proposing these limits because they reflect a level of control that can be achieved cost-effectively using generally available control technologies and management practices. See Development of Background Information on Proposed Area Source Emissions Limit, March 15, 2013.

We estimate no costs or emission reductions associated with the proposed PM standard because the record shows that all the gas-fired area source furnaces are currently meeting the proposed emissions limit. Significantly, however, the proposed PM limit will codify current actual current PM emissions levels to prevent any future increase in PM emissions. Without the proposed limits, these furnaces could increase PM emissions at any time as they are no longer subject to Subpart NNN.

There are three area source gas-fired furnaces that currently do not meet the proposed GACT for chromium. However, data are available for industries with similar control requirements that demonstrate that there are effective chromium control technologies available. We searched other industries for controls that would remove chromium and found that a sodium hydroxide (NaOH) scrubber is used in both high temperature metallurgical industries and in the chromium electroplating industry for removal of hexavalent chromium.[16] Based on the effectiveness of this technology on to two different types of exhaust gas streams, we believe this control technology is transferable to wool fiberglass furnaces. Though there are currently no NaOH scrubbers applied in the wool fiberglass industry, there is currently one gas-fired furnace equipped with a PM control followed by a wet scrubber for SO_2 control. This is directly analogous to using a NaOH wet scrubber downstream of the PM controls to achieve additional chromium removal. Assuming that the facilities not currently meeting the proposed chromium emission limit opted to use the NaOH scrubbers to achieve compliance, the cost of the proposed chromium emissions limit is $7,600 per pound of chromium. This is a reasonable cost given that chromium is an urban air toxic and that a significant portion of the chromium emitted from gas-fired glass-melting furnaces is hexavalent chromium, which is extremely toxic and carcinogenic even in low amounts. We note that we found $11,000 per pound chromium removed to be a reasonable cost in the final Chromium Electroplating RTR rulemaking, where we regulated chromium compounds (77 FR 59220, September 19, 2012). For information on the methodology and more detailed results of this analysis, see the memorandum, *Costs and Emission Reductions for the Proposed Wool Fiberglass Manufacturing NESHAP—Area Sources,* in the docket and section V.B of this preamble. We did, however, examine lower limits and the costs associated therewith. See Development of Background Information on Proposed Area Source Emissions Limit, March 15, 2013.

The proposed limits for area sources are identical to the limits we have proposed for furnaces located at major sources as part of our technology review under 112(d)(6). It is reasonable that the limits for major and area sources be the same, especially, where, as here, there are no discernible differences between area and major source furnaces. Accordingly, we are proposing GACT standards for PM and chromium. We solicit comment on the proposed GACT standards for PM and chromium.

D. How did the EPA determine the compliance and monitoring requirements for the Wool Fiberglass Manufacturing area sources proposed rule?

We are proposing testing, monitoring, notification, recordkeeping, and reporting requirements to assure continuous compliance with the requirements of the proposed rule and that are consistent with the major source rule requirements in subpart NNN. In fact, the specific requirements in the proposed rule reference the requirements in § 63.1386 of subpart NNN. We solicit comment on the proposed compliance and monitoring requirements for area sources. These proposed requirements impose on facilities the minimum burden that is necessary to ensure compliance with the proposed rule.

E. How did the EPA determine compliance dates for the proposed Wool Fiberglass Manufacturing area sources rule?

Section 112 of the CAA provides limits for the dates by which affected sources must comply with the emission standards. New or reconstructed units would be required to be in compliance with the final rule immediately upon startup, or the date the final rule is published in the **Federal Register**, whichever is later. The proposed rule allows existing area sources up to one year to comply with the final rule. The CAA provides that existing sources must comply as expeditiously as possible but not later than 3 years after promulgation of the final NESHAP. We do not believe that 3 years for compliance is necessary to allow adequate time to design, install, and test control systems. All facilities currently already meet the proposed PM limit. If an area source must apply additional control to meet the chromium limit, we believe one year is adequate time given

[16] NaOH Scrubber Information. Telephone discussion and emails between vendors, companies and EPA. Steffan Johnson, Measurement Policy Group. USEPA/OAQPS/SPPD.

the fact that there is only one pollutant involved, and the available chromium control technology can be added downstream of the current PM controls and is a well established technology. However, sources can always petition their permitting authorities to allow for additional time to install controls pursuant to section 112(i)(3)(B). We solicit comment on the proposed compliance dates for area sources.

F. How did the EPA determine recordkeeping and reporting requirements for the Wool Fiberglass Manufacturing area sources proposed rule?

Section 112 of the CAA requires the EPA to develop regulations that include requirements for reporting the results of testing and monitoring performed to determine compliance with the standards. In today's action, we are proposing sources be required to comply with the applicable requirements in the NESHAP General Provisions, subpart A of 40 CFR part 63, as referenced in Table 1 of the proposed rule. We evaluated the General Provisions requirements, and included those we determined to be the minimum notification, recordkeeping, and reporting necessary to ensure compliance with, and effective enforcement of, the proposed rule. The reports that we are proposing to be required are found in 40 CFR 63.886 of the proposed rule.

We also determined the necessary records that need to be kept to demonstrate continuous compliance with the proposed emission limits. These recordkeeping requirements are specified directly in the today's proposed rule, and in the General Provisions to 40 CFR part 63. The recordkeeping requirements are found in 40 CFR 63.886 of the proposed rule. We are proposing that records be kept for 5 years in a form suitable and readily available for EPA review. We are proposing that records be kept on site for 2 years. Records may be kept off site for the remaining 3 years.

The General Provisions include specific requirements for notifications, recordkeeping, and reporting. The reports are specified in proposed 40 CFR 63.886.

The notification of compliance status report required by 40 CFR 63.9(h) must include certifications of compliance with rule requirements. The excess emissions and continuous system performance report and summary report required by 40 CFR 63.10(e)(3) of the NESHAP General Provisions (referred to in the rule as a compliance report) would be required to be submitted semiannually for reporting periods during which there was an exceedance of any emission limit, or a monitored parameter, or when a deviation from any of the requirements in the rule occurred, or if any process changes occurred, and compliance certifications were reevaluated.

V. Impacts of the Proposed Wool Fiberglass Manufacturing Area Source Rule

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

A. What are the air impacts for the proposed Wool Fiberglass Manufacturing area source rule?

We have estimated the potential emission reductions from implementation of the proposed emission standards to be 50 pounds of chromium compounds per year.

We estimated emission reductions of the proposed rule for each gas-fired glass-melting furnace. For all emission points, we first calculated emissions at the current level of control for each facility (referred to as the baseline level of control), and at the proposed level of control. We calculated emission reductions as the difference between the proposed level and baseline.

B. What are the cost impacts for the proposed Wool Fiberglass Manufacturing area source rule?

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 found that the use of a sodium hydroxide scrubber is effective in reducing emissions of hexavalent chromium from other industrial processes and that the technology can be transferred to this industry sector. We estimated the capital cost for a sodium hydroxide scrubber to be $250,000 and the total annualized costs, including operating costs, to be $100,000.

Costs are also incurred for compliance testing, monitoring, recordkeeping, and reporting requirements of the proposed rule. Based on the most recent test data provided, all eight glass-melting furnaces currently meet the proposed PM emission limit.

Because the scrubbers will be installed on three furnaces, the industry-wide total capital investment will be $750,000. We estimate that the total annualized cost of these controls will be $300,000, in 2011 dollars. 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 estimated HAP reduction is 50 pounds of chromium compounds resulting in overall cost effectiveness of $7,600 per pound of HAP reduced.

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 5 below presents the costs to wool fiberglass area sources.

TABLE 5—ESTIMATED COSTS AND REDUCTIONS FOR THE PROPOSED WOOL FIBERGLASS MANUFACTURING AREA SOURCE STANDARDS (NN) IN THIS ACTION

Proposed amendment	Est. capital cost ($MM)	Est. total annualized cost ($MM)	Total HAP emissions reductions	Cost effectiveness	Number facilities
Installation of NaOH scrubber	0.25 × 3	0.1 × 3	50 pounds per year ..	7,600 ($ per pound) ..	2

TABLE 5—ESTIMATED COSTS AND REDUCTIONS FOR THE PROPOSED WOOL FIBERGLASS MANUFACTURING AREA SOURCE STANDARDS (NN) IN THIS ACTION—Continued

Proposed amendment	Est. capital cost ($MM)	Est. total annualized cost ($MM)	Total HAP emissions reductions	Cost effectiveness	Number facilities
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.

C. What are the non-air quality health, environmental and energy impacts for the proposed Wool Fiberglass Manufacturing area source rule?

We anticipate that three gas-fired glass-melting furnaces would need to apply additional controls to meet the proposed chromium emission limits. These controls, sodium hydroxide scrubbers, use water. We estimate an annual requirement of 4.8 million gallons per year of additional wastewater would be generated as a result of additional water used for scrubbers.

The energy impacts associated with meeting the proposed emission limits would consist primarily of additional electricity needs to run added or improved air pollution control devices. By our estimate, we anticipate that an additional 1,000 megawatt-hours per year would be required for the additional and improved control devices.

We anticipate the secondary air impacts from adding controls to meet the standards to be minimal. The combustion of fuel needed to generate additional electricity would yield slight increases in NO_X, CO, SO_2 emissions. Since NO_X and SO_2 emissions and electric generating units are covered by capped emissions trading programs, we do not estimate an increase in secondary air impacts for these pollutants for this rule form additional electricity demand. The combustion of additional fuel from additional electrical usage and supplemental fuel for incineration devices would yield CO emissions of less than 0.1 tpy. The analyses are documented in the memorandum, *Secondary Impacts of the Proposed Wool Fiberglass Manufacturing NESHAP—Area Sources,* which is available in the docket.

D. What are the economic impacts of the proposed Wool Fiberglass Manufacturing area source rule?

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 0.01 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 0.01 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).

VI. What are the proposed changes to Mineral Wool Production (Subpart DDD) and Wool Fiberglass Manufacturing (Subpart NNN) major source rules?

On November 25, 2011, the EPA proposed revisions to the Mineral Wool and the Wool Fiberglass Manufacturing NESHAP, 40 CFR part 63, subparts DDD and NNN, respectively, to address the results of the residual risk and technology review (RTR) that the EPA is required to conduct under sections 112(d)(6) and 112(f)(2)(76 FR 72812). Today's notice also proposes several revisions, corrections and clarifications to that proposal.

A. Subpart DDD—Mineral Wool Production Major Source Rule

Based on comments on the November 2011 proposal and new data supplied by the industry, we are proposing the following revisions to the major source rule amendments:

(1) In response to the limits proposed on November 25, 2011, we received raw material content information from the seven facilities producing mineral wool in the U.S. Of the seven facilities, three reported using slag and four reported only using minerals (rock) and coke (e.g., ''no slag''). Slag is a waste by-product from the iron and steel industry and is location-specific depending on the type of facility/process generating the slag. Some slags have residual fluorides or chlorides which vary from location to location and from process to process. In response to this information, we are proposing to subcategorize the mineral wool cupolas into two categories: Those that process slag materials and those that do not. Based on this subcategorization, we are proposing revised standards for HCl and HF.

The revised limits being proposed today are summarized in Table 6 below:

TABLE 6—HCL AND HF EMISSION LIMITS FOR MINERAL WOOL CUPOLAS

[lb/ton of melt]

Pollutant	2011 Proposed limit for all cupolas	2013 Proposed limit for existing, new, and reconstructed cupolas using slag	2013 Proposed limit for existing, new, and reconstructed cupolas not using slag
HCl	0.0096	0.21	0.43
HF	0.014	0.16	0.13

(2) We are also proposing revised COS emission limits for cupolas based on additional information regarding cupola design supported by test data provided by industry in their comments on the November 2011 proposal. In response to the information provided, we are proposing to subcategorize cupolas into closed-top and open-top cupolas. The revised COS emission limits being proposed in this action are summarized in Table 7 below:

TABLE 7—COS EMISSION LIMITS FOR MINERAL WOOL CUPOLAS

[lb/ton of melt]

COS	2011 Proposed limit for existing cupolas	2013 Proposed limit for existing cupolas	2011 Proposed limit for new and reconstructed cupolas	2013 Proposed limit for new and reconstructed cupolas
Closed-Top	3.3	3.4	0.017	0.025
Open-Top	3.3	6.8	0.017	4.3

(3) The formaldehyde, phenol, and methanol emission limits for combined collection/curing operations proposed on November 25, 2011, have been revised based on comments and additional facility information. The revised limits being proposed in this action are summarized in Table 8 below. As a result of new test data, limits for vertical and drum collection/curing would increase compared to the limits previously proposed on November 25, 2011.

TABLE 8—EMISSION LIMITS FOR MINERAL WOOL COMBINED COLLECTION/CURING OPERATIONS

[lb/ton of melt]

	2011 Proposed limit	2013 Proposed limit
Curing & Drum Collection		
Formaldehyde	0.067	0.18
Phenol	0.0023	1.3
Methanol	0.00077	0.48
Curing & Vertical Collection		
Formaldehyde	0.46	2.7
Phenol	0.52	0.74
Methanol	0.63	1.0
Curing & Horizontal Collection		
Formaldehyde	0.054	0.054
Phenol	0.15	0.15
Methanol	0.022	0.022

The updated draft risk assessment, located in the docket for this rulemaking, is based on actual emissions currently emitted by the industry. Due to new formaldehyde emissions data that were provided by the industry our estimate of risk from actual emissions has increased slightly compared to the risk assessment conducted for the November 25, 2011, proposal. The risk from mineral wool production is driven by formaldehyde. The MIR at proposal for actual baseline emissions was 4-in-1 million. The allowable MIR was estimated to be 10-in-1 million. The post control emissions MIR was estimated to be 4-in-1 million.

The actual MIR increased to 10-in-1 million, acute noncancer HQ increased from eight to 22 and the AEGL–1 increased from 0.4 to 1.1 based on the new test data characterizing actual emissions. While the risk increased slightly, we note that it is still very low, is evaluated using conservative methods, and is still well within a level we consider acceptable (that is, less than 100-in-1 million).

(4) We are proposing definitions for open-top cupolas, closed-top cupolas and slag.

(5) The Part 63 GP have been amended seven times since they were first promulgated in 1994 (59 FR 12430), and subpart DDD cites to the GP requirements as they appeared in 1999. As a result, numerous citations to the GP appear in subpart DDD that have since changed. In today's action, we propose technical corrections to GP citations to accurately reflect the GP as they now appear.

(6) In response to industry comments we are proposing to remove the requirement for PM testing by EPA method 202 contained in the original proposal. The PM emission limits were based on testing that measured only filterable particulate. Including Method 202 as a required test method would measure condensible particulate, which was not accounted for in determining the PM limit.

B. Subpart NNN—Wool Fiberglass Manufacturing Major Source Rule

Based on comments on the November 2011 proposal and new data supplied by the industry, we are proposing the following revisions to the major source rule amendments:

(1) At the time of the November 25, 2011 proposal, we proposed that all glass-melting furnaces (electric or gas-fired) located at major sources would be subject to the limit for chromium compounds we proposed pursuant to 112(d)(6) and (f)(2). However, because of information we have developed since the November 25 proposal, we are now only proposing to apply the chromium emissions limit for glass-melting furnaces to furnaces fired with gas. This would include oxyfuel, recuperative air gas, air gas, and hybrid electric and air gas furnaces. Comments received indicated that a separate chromium limit is not necessary for electric furnaces. (See section IV.A of this preamble for more information) Gas-fired glass-melting furnaces would be required to limit their emissions of

chromium compounds to no more than 0.06 pounds of chromium compounds per thousand tons of glass pulled (6×10^{-5} lb/ton). Glass-melting furnaces emitting at rates less than 75 percent of the proposed limit would be able to reduce their testing frequency from annually to every 3 years. Glass-melting furnaces emitting at or above 75 percent of the proposed limit would be required to test annually, as described in the performance test requirements (see section 63.884) of the proposed rule.

(2) Consistent with our intent to propose PM standards resulting from our technology review, under section 112(d)(6), we are revising the PM limit for all glass-melting furnaces from 0.5 to 0.33 lb PM per ton glass pulled. The limits proposed in the November 25, 2011, notice (76 FR 72815) were calculated incorrectly and did not reflect the technology review results as described in that notice. The revised limits proposed in today's action are based on our technology review and reflect our analysis of the level of control being achieved by the majority of the industry using baghouses and electrostatic precipitators.

(3) We are proposing work practice standards for control of HF and HCl emissions from furnaces, instead of the emission limits in the November 25, 2011, proposal. During the comment period, we received comment from industry that most of the test data revealed results that were below the detection limits (BDL) of the method. Upon reexamination of our analysis of the acid gas data, we found that over 80 percent of the HF and HCl test data were BDL, and as such we now agree with the commenter and believe that rather than a numerical emission limit, a work practice standard is appropriate for this case. We are therefore proposing a work practice standard for HF and HCl emissions from furnaces. (See Memo to File ''Development of Background Information on Proposed Area Source Emissions Limits'', March 15, 2013.)

Under section 112(h) of the CAA, the EPA may adopt a work practice standard in lieu of a numerical emission standard only if it is ''not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant''. This phrase is defined in the Act to apply to any situation ''in which the Administrator determines that * * * the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.'' CAA section 112(h)(1) and (2).

The EPA regards situations where, as here, the majority of the measurements are below the detection limit as being a situation where measurement is not ''technologically practicable'' within the meaning of section 112(h)(2)(B) of the CAA. (See 76 FR 25046 where EPA proposed set work practice standards for dioxins and organic HAP for utility boilers.) Unreliable measurements raise issues of practicability and of feasibility and enforceability (see section 112(h)(1)). The application of measurement methodology in this situation would also not be ''practicable due to * * * economic limitation'' within the meaning of section 112(h)(2)(B) since it would just result in cost expended to produce analytically suspect measurements.

(4) In the November 25, 2011 proposal we proposed new MACT emission limits for RS lines for formaldehyde, phenol, and methanol. In today's proposal, we are revising the emission limits for RS lines based on clarification of test data received from the industry during the comment period. During the data collection phase, we required companies to provide test data on bonded lines even if these lines had phased out the use of formaldehyde and were not producing a product that was subject to Subpart NNN. Many companies did not distinguish between the bonded lines that still used formaldehyde and those that did not. We mistakenly included some data for HAP-free lines with the data for lines still using formaldehyde. Today's notice proposes to correct that error and to propose revised emission limits for formaldehyde, phenol and methanol from RS manufacturing lines summarized in Table 9 of this preamble.

TABLE 9—EMISSION LIMITS FOR ROTARY SPIN MANUFACTURING LINES

HAP	Current limit (1999 rule)	2011 Proposal	2013 Proposal
Existing Sources (lb/ton of glass pulled)			
Formaldehyde	1.2	0.17	0.19
Phenol	.....	0.19	0.26
Methanol	.....	0.48	0.83
New or Reconstructed Sources (lb/ton of glass pulled)			
Formaldehyde	0.8	0.020	0.087
Phenol	.....	0.0011	0.063
Methanol	.....	0.00067	0.61

(5) In the original NESHAP, FA lines were subcategorized by product (heavy density wool fiberglass verses pipe product). In the November 25, 2011 proposal we included new MACT emission limits for FA lines for formaldehyde, phenol, and methanol that applied to both heavy density wool fiberglass and pipe product. However, we did not clearly state that we were eliminating the FA line subcategories that existed in the original NESHAP. We are proposing to eliminate subcategories of FA manufacturing lines because we no longer believe that a technical basis exists to distinguish these subcategories. As part of rule development, industry provided test data that they claimed was representative of FA lines for both product types. The 2011 and 2012 ICR response data indicate that only one company uses FA processes to produce several different products on the same lines. This is the company that provided the test data on which the limits for FA lines are based.

(6) As with the amendments to subpart DDD discussed in section VI(A)(5) of this preamble, we are proposing to make technical corrections to the GP citations in the rule. These amendments would serve to accurately identify the requirements of the GP that apply to subpart NNN.

(7) An industry commenter stated that for measuring the concentration of formaldehyde, phenol, and methanol the use of the proposed EPA Method 318 can result in non-quantifiable levels

that are inappropriate to determine the proposed emission limits. The commenter requested the option to determine all organics by EPA Method 318 or, alternatively, to determine formaldehyde by EPA Method 316; determine phenol by EPA Method 8270D; and determine methanol by EPA Method 308. The EPA agrees that EPA Method 318 may result in non-quantifiable levels that are inappropriate for compliance determination. Therefore we are proposing to allow compliance testing with EPA Method 318 for all organics or, alternatively, to determine formaldehyde by EPA Method 316; determine phenol by EPA Method 8270D; and determine methanol by EPA Method 308.

(8) In the November 25, 2011 proposal, we proposed to require Method 0061 to measure chromium compounds. An industry commenter stated that most existing compliance tests require the use of EPA Method 29 to measure chromium compounds, and asked us to allow Method 29 to also be acceptable for measuring chromium compounds. We agree with the commenter that Method 29 is an acceptable method for this purpose, and we propose to also allow compliance testing with EPA Method 29 for total chromium compounds.

C. Revisions to Startup, Shutdown and Malfunction Provisions

In the proposed rules for mineral wool and wool fiberglass to which this supplemental proposal is added, the EPA proposed the removal of the exemptions pertaining to periods of startup, shutdown, and malfunction, and proposed standards that apply at all times. This supplemental proposal does not change those proposed standards.

In our proposal to revise subparts DDD and NNN for major sources, we proposed the elimination of the startup and shutdown exemption and other related requirements, including eliminating the requirement to develop and maintain a startup, shutdown, and malfunction plan. However, in the proposal notice, we neglected to revise section 63.1386(c), which contains planning, recordkeeping, and reporting requirements related to startup and shutdown. In this supplemental proposal, we are correcting this oversight and replacing prior requirements with recordkeeping and reporting appropriate to standards applicable at all times.

Consistent with our intent to revise the requirements related to SSM, we proposed several revisions to Table 1 (the General Provisions Applicability Table). The changes in the supplemental proposal here correctly correspond to the recordkeeping and reporting requirements related to the rule revisions as proposed in 76 FR 72770.

The EPA has attempted to ensure that the revisions we are proposing to eliminate are inappropriate, unnecessary, or redundant in the absence of the SSM exemption. We are specifically seeking comment on whether we have successfully done so.

As we proposed, the Subpart DDD emissions limits apply at all times. In the proposed RTR rule, we did not define the periods of startup or shutdown. In light of the comments received on the proposed rule, which raise questions as to when startup and shutdown begin and end, we are proposing definitions of startup and shutdown. We are proposing to define startup to be when the coke interspersed with layers of rock and/or slag and other mineral products are ignited. We are proposing startup as ending when molten mineral wool begins to flow from the cupola. We are proposing to add a definition of shutdown to be when the cupola has reached the end of the melting campaign and is empty.

As was the case with wool fiberglass furnaces, the uncontrolled emissions from a mineral wool cupola are expected to be lower during startup and shutdown periods than during other operating periods due to lower temperatures, and in the case of shutdown less raw materials. Therefore, if a source continues to route the exhaust to the air emissions control equipment, and operate that equipment consistent with the operating parameters established during the last successful compliance test, the source would be expected to maintain compliance with the emissions limits during startup and shutdown. Therefore, we are proposing a compliance alternative allowing sources to demonstrate compliance with the emissions limits during startup and shutdown by keeping records establishing that its emissions were routed to the air pollution control devices, and these control devices were operated at the parameters established by the most recent performance test that showed compliance with the emissions limit.

For subpart NNN we are also retaining the requirements that the emissions limits apply at all times, including startup and shutdown. For the reasons previously discussed in III.D, we are adding a compliance alternative for startup and shutdown of all furnaces that a facility keep records demonstrating that emissions are routed to the air pollution control devices, and all applicable control devices were operated at the same parameters as they were operated during the most recent performance test that showed compliance with the standard.

Electric cold-top furnaces are controlled differently than other furnace types. In this case cold-top glass-melting furnaces could demonstrate compliance by melting only cullet until a crust on the batch cover has been established. Cullet has a lower emissions potential than other raw materials typically used. Therefore, limiting the raw material to only cullet during startup will result in lower emissions. We are also adding a requirement that all other glass-melting furnaces could demonstrate compliance during startup by preheating the empty glass-melting furnace using only natural gas.

As with the amendments to subpart DDD discussed in section VI(A)(5) of this preamble, we are proposing to make technical corrections to the GP citations in the rule. These amendments would serve to accurately identify the requirements of the GP that apply to subpart NNN.

Finally, we are also proposing affirmative defense language that differs in some respects from the language we proposed in November of 2011. For example, we have used the term ''exceedance'' rather than the term ''violation'' in several places. We have also eliminated the two-day notification requirement and the directive that off-shift and overtime labor be used to the extent practicable to make repairs and have revised the reporting requirement deadlines. We are asking for comments on the language we have proposed today that differs from the language proposed in November 2011.

VII. Impacts of the Proposed Changes to Mineral Wool Production (Subpart DDD) and Wool Fiberglass Manufacturing (Subpart NNN) Major Source Rules

A. Subpart DDD—Mineral Wool Production Major Source Rule

Emissions of COS and formaldehyde from mineral wool production facilities have declined over the last decade as a result of federal rules, state rules and on the industry's own initiative. Today's proposed amendments would maintain emissions of COS, formaldehyde, phenol or 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.

The estimated cost impacts have been reduced from those in the November 25, 2011, proposal. In the November 2011 RTR proposal, we estimated the total annualized costs from the rule as $548,000. Those cost estimates included $360,000 for low sulfur coke and other raw materials and $243,000 for additional testing and monitoring. In that proposal, annual testing was required for sources to comply with the rule. In this supplemental proposal, we reevaluated those costs and the compliance testing frequency, and the costs presented below in Table 10 wholly replace those estimated in the November 2011 proposed rule. As explained in section VI.A. of this preamble, the EPA is establishing subcategories for mineral wool based on (1) whether slag is included in the raw materials melted in the cupola(s), and (2) whether the line has a closed-top cupola or an open-top cupola. 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 0.03 lb COS per ton melt when an 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. Today's proposed rule establishes a limit of 4.3 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 $59,200 (2011 dollars) for additional testing and monitoring. Note also that the cost impacts for today's proposed rule are about 10 percent of those proposed in November 2011. This reduction in cost is due to two factors. First, we have subcategorized cupolas according to design and use of slag. Second, cost changes for testing and monitoring are due to a reduced frequency of testing: from annual required under the proposed rule to testing every 5 years under this supplemental proposal. Other differences also affect the cost comparison. These include one new source in the source category (Roxul in Mississippi) and the change from cost estimates based upon 2010 dollars to 2011 dollars. Table 10 below provides a summary of the estimated costs and emissions reductions associated with today's proposed amendments to the Mineral Wool Production NESHAP.

TABLE 10—ESTIMATED COSTS AND REDUCTIONS FOR THE MINERAL WOOL PRODUCTION PROPOSED STANDARDS 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	0.059	N/A	N/A

B. Subpart NNN—Wool Fiberglass Manufacturing Major Source Rule

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

Our assessment of impacts is based on the data from tested glass-melting furnaces only, and may not be representative of untested glass-melting 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 amendments. We estimate that two of the 10 wool fiberglass manufacturing facilities that are major sources would install air pollution controls.

We expect that today's proposed RTR amendments would result in reductions of 442 pounds of chromium compounds. Hexavalent chromium can be as much as 93 percent of the total chromium compounds emitted from wool fiberglass glass-melting furnaces.

We believe that all affected facilities will be able to comply with the today's 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 revised 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 today's proposed amendments, eight of the 10 major source wool fiberglass facilities will not to 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 install a sodium hydroxide scrubber on each of three glass-melting furnaces, for a total capital cost of $750,000. The total annualized cost for the scrubbers, including operating and maintenance costs, is estimated to be $300,000. 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 six of those facilities would incur a total cost of $750,000 for operation and maintenance of their existing thermal oxidizers due to the proposed rule emission limits. The total annualized costs for the proposed amendments are estimated at $1.21 million (2011 dollars).

Table 11 below summarizes the costs and emission reductions associated with the proposed amendments.

TABLE 11—ESTIMATED COSTS AND REDUCTIONS FOR THE PROPOSED WOOL FIBERGLASS MANUFACTURING MAJOR SOURCE STANDARDS (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					
Installation of NaOH scrubber	0.25 × 3	0.1 × 3	455 pounds per year	835 ($ 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	0.750	123 tons per year	6750 ($ per ton)	6
Additional testing and monitoring for FA and RS lines	0	0.080	N/A		10

VIII. 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 a ''significant regulatory action'' because it raises novel legal or policy issues. Accordingly, the EPA submitted this action to OMB for review under Executive Order 12866 and Executive Order 13563 (76 FR 3821, January 21, 2011), and any changes made in response to OMB recommendations have been documented in the docket for this action.

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 V.B 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 Information Collection Request (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. The requirements discussed below pertain only to the proposed area source rule. The requirements for the major source rule remain unchanged from the November 2011 proposal.

The 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, you must submit a notification of compliance status that documents the performance test and the values for the operating parameters. A periodic report submitted every six months documents the values for the operating parameters and deviations. Owners or operators of wool fiberglass manufacturing facilities are required to keep records of certain parameters and information for a period of 5 years. 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 estimated to be $32,808. This includes 77 labor hours per year at a total labor cost of $6,088 per year, and total non-labor capital costs of $26,720 per year. This estimate includes 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 V of this preamble. The total burden for the Federal government (averaged over the first 3 years after the effective date of the standard) is estimated to be 16 hours per year, at a total labor cost of $695 per year. Burden is defined at 5 CFR 1320.3(b).

When malfunctions occur, sources must report them according to the applicable reporting requirements of 40 CFR part 63, subpart NN. An affirmative defense to civil penalties for violations of emission limits that are caused by malfunctions is available to a source if it can demonstrate that certain criteria and requirements are satisfied. The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 63.2 (e.g., sudden, infrequent, not reasonably preventable and not caused by poor maintenance or careless operation) and where the source took necessary actions to minimize emissions. In addition, the source must meet certain reporting requirements. For example, the source must prepare a written root cause analysis and submit a written report to the Administrator documenting that it has met the conditions and requirements for assertion of the affirmative defense. The EPA considered whether there might be any burden associated with the recordkeeping and reporting requirements associated with the assertion of the affirmative defense. Any such burdens are only incurred if there has been a violation and a source chooses to take advantage of the affirmative defense. Therefore, the EPA estimates that there would be no additional costs for sources that choose to take advantage of the affirmative defense for malfunctions since it is already required for compliance with the rule. However, there may be other malfunctions that are not currently regulated under the part 61 NESHAP that might prompt a source to take advantage of an affirmative defense.

To provide the public with an estimate of the relative magnitude of the burden associated with an assertion of the affirmative defense position adopted by a source, the EPA has provided administrative adjustments to the ICR that show what the recordkeeping and reporting requirements associated with the assertion of the affirmative defense might entail. The EPA's estimate for the required reports and records, including the root cause analysis, totals $3,141, and is based on the time and effort required of a source to review relevant data, interview plant employees, and document the events surrounding a malfunction that has caused a violation of an emission limit. The estimate also includes time to produce and retain the record and reports for submission to the EPA. The EPA provides this illustrative estimate of this burden because these costs are only incurred if there has been a violation and a source chooses to take advantage of the affirmative defense.

Given the variety of circumstances under which malfunctions could occur, as well as differences among sources' operation and maintenance practices, we cannot reliably predict the severity and frequency of malfunction-related excess emissions events for a particular source. It is important to note that the EPA has no basis currently for estimating the number of malfunctions that would qualify for an affirmative defense. Current historical records would be an inappropriate basis, as source owners or operators previously operated their facilities in recognition that they were exempt from the requirement to comply with emissions standards during malfunctions. Of the number of excess emissions events reported by source operators, only a small number would be expected to result from a malfunction (based on the definition above), and only a subset of violations caused by malfunctions would result in the source choosing to assert the affirmative defense.

Thus, we expect the number of instances in which source operators might be expected to avail themselves of the affirmative defense will be extremely small. For this reason, we estimate no more than one such occurrence will occur per year for all sources subject to subpart NN over the 3-year period covered by this ICR. We expect to gather information on such events in the future and will revise this estimate as better information becomes available.

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 a public docket for this rule, which includes this ICR, under Docket ID number EPA–HQ–OAR–2010–1042. Submit any comments related to the ICR to the EPA and the OMB. See **ADDRESSES** section at the beginning of this notice 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 EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after April 15, 2013, a comment to OMB is best assured of having its full effect if OMB receives it by May 15, 2013. 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 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 today's 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.

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.

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 one year. The total annualized cost of these rules is estimated to be no more than $150,000 (2011$) in any one year. Thus, these rules are not subject to the requirements of sections 202 or 205 of UMRA.

This 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. The 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). The 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 a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The EPA estimates that the requirements in this proposed action would cause most wool fiberglass manufacturers to modify existing air pollution control devices (*e.g.,* increase the horsepower of their wet scrubbers) or install and operate new control devices, resulting in a small increase in the megawatt-hours per year of additional electricity being used.

Given the negligible change in energy consumption resulting from this proposed action, the EPA does not expect any significant price increase for any energy type. The cost of energy distribution should not be affected by this proposed action at all since the action would not affect energy distribution facilities. We also expect that any impacts on the import of foreign energy supplies, or any other adverse outcomes that may occur with regards to energy supplies, would not be significant. We, therefore, conclude that if there were to be any adverse energy effects associated with this proposed action, they would be minimal.

I. National Technology Transfer and Advancement Act

Section 12(d) of the NTTAA, Public Law 104–113 (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 NSSN Database managed by the American National Standards Institute (ANSI). We also contacted 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 rule. The review identified those census block groups with centroids within a circular distance of a 0.5, 3, 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 three miles (or approximately five kilometers) has been used in other demographic analyses focused on areas around potential sources.[17] [18] [19] [20] 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 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.[21]

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 polices. 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 affected by the proposed rule.

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

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

[19] 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.

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

[21] 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.

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: March 15, 2013.

Bob Perciasepe,

Acting 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—[AMENDED]

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

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

Subpart A—[AMENDED]

■ 2. Section 63.14 is amended by revising paragraph (p)(10) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(p) * * *

(10) Method 8270D (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, IBR approved for §§ 63.1385, 63.11960, 63.11980, and table 10 to subpart HHHHHHH of this part.

* * * * *

■ 3. Part 63 is amended by adding subpart NN to read as follows:

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

Sec.

Table 1. Subpart NN of Part 63—Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart NN

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

§ 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 this part 63, subpart A 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 NNN 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:

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

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 Part 63, subpart NNN 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.

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 of this part, 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:

(A) 0.33 pound (lb) of particulate matter (PM) per ton of glass pulled; and

(B) 0.00006 lb of chromium (Cr) compounds per ton of glass pulled (60 lb per million tons glass pulled).

(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 5 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 5 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 40 CFR part 63, subpart NNN.

§ 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 40 CFR part 63, subpart A and in this section.

(b) You must meet all applicable performance test requirements contained in 40 CFR part 63, subpart NNN.

§ 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) for the selection of the sampling port location and number of sampling ports;

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

(3) Method 3 or 3A (40 CFR part 60, appendix A) 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) for moisture content of the stack gas;

(5) Method 5 (40 CFR part 60, appendix A) for the concentration of PM. Each run must consist of a minimum run time of 2 hours and a minimum sample volume of 2 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 29 (appendix A of this subpart) for the concentration of chromium compounds. Each run must consist of a minimum run time of 2 hours and a minimum sample volume of 2 dscm.

(7) 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.

(a) *Requirements.* You must meet all applicable notification, recordkeeping and reporting requirements contained in 40 CFR part 63, subpart NNN.

(b) *Affirmative Defense for Exceedance of Emission Limit During Malfunction.* In response to an action to enforce the standards set forth in this subpart, you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed if you fail to meet the burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(1) Assertion of affirmative defense. To establish the affirmative defense in any action to enforce such a standard, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(i) The violation:

(A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(B) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(D) Were not part of a recurring pattern indicative of inadequate design, operation or maintenance.

(ii) Repairs were made as expeditiously as possible when a violation occurred and

(iii) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and

(vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(viii) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis must also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(2) *Report.* The owner or operator seeking to assert an affirmative defense you must submit a written report to the Administrator, with all necessary supporting documentation, that meets the requirements set forth in paragraph (b)(1) of this section. This affirmative defense report shall be included in the

first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

§ 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 1 year after promulgation.

(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 at promulgation of the final rule.

(3) The compliance date for the provisions related to malfunctions and affirmative defense provisions of § 63.886 and the electronic reporting provisions of § 63.886 is at promulgation of the 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) of this part.

§ 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 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 this paragraph (e) of this section.

(f) During periods of startup and shutdown, records establishing that your air pollution control devices were operated at the parameters established by the most recent performance test that showed compliance with the standard may be used to demonstrate compliance with the emission limits.

§§ 63.889–63.899 [Reserved]

TABLE 1—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), (b), (c)	Existing, New, Reconstructed Sources Requirements.	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)–(e)(4)		Yes	
63.7(f), (g), (h)	Alternative Test Method Data Analysis Waiver of Tests.	Yes	

TABLE 1—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
63.8(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		
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)–(b)(2)(v)		No	
63.10(b)(2)(vi)–(b)(2)(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)–(c)(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—[AMENDED]

■ 4. Section 63.1178 is amended by revising paragraph (a)(2) and adding paragraphs (a)(3) through (a)(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) 0.025 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) 4.3 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 cupolas using slag as a raw material.

(ii) 0.13 lb of HF per ton of melt or less for 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) 0.21 lb of HCl per ton of melt or less for cupolas using slag as a raw material.

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

* * * * *

■ 5. Section 63.1179 is amended by revising the section heading, paragraph (a) and paragraph (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) 0.18 lb of formaldehyde per ton melt or less,

(ii) 1.3 lb of phenol per ton melt or less, and

(iii) 0.48 lb of methanol per ton melt or less.

(2) For combined horizontal collection/curing operations:

(i) 0.054 lb of formaldehyde per ton melt or less,

(ii) 0.15 lb of phenol per ton melt or less, and

(iii) 0.022 lb of methanol per ton melt or less.

(3) For combined vertical collection/curing operations:

(i) 2.7 lb of formaldehyde per ton melt or less,

(ii) 0.74 lb of phenol per ton melt or less, and

(iii) 1.0 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) and adding paragraph (e) 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.

(e) *Affirmative defense for violation of emission standards during malfunction.* In response to an action to enforce the standards set forth in § 63.1197, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(1) Assertion of affirmative defense. To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in § 63.1191 of this subpart, and must prove by a preponderance of evidence that:

(i) The violation:

(A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(B) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(ii) Repairs were made as expeditiously as possible when a violation occurred; and

(iii) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and

(vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(viii) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(2) *Report.* The owner or operator seeking to assert an affirmative defense must submit a written report to the Administrator with all necessary supporting documentation that explains how it has met the requirements set forth in paragraph (e)(1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

* * * * *

■ 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 the coke interspersed with layers of rock and/or slag and other mineral products are ignited. Startup ends when molten mineral wool begins to flow from the cupola.

(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 by keeping 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.

■ 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

Citation	Requirement	Applies to subpart DDD	Explanation
63.1(a)(1)–(a)(4)	General Applicability	Yes	
63.1(a)(5)		No	[Reserved].
63.1(a)(6)		Yes	
63.1(a)(7)–(a)(9)		No	[Reserved].
63.1(a)(10)–(a)(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)–(c)(2)	Applicability After Standard Established.	Yes	
63.1(c)(3)–(c)(4)		No	[Reserved].
63.1(c)(5)		Yes	
63.1(d)		No	[Reserved].
63.1(e)	Applicability of Permit Program	Yes	
63.2	Definitions	Yes	
63.3	Units and Abbreviations	Yes	
63.4(a)(1)–(a)(2)	Prohibited Activities	Yes	
63.4(a)(3)–(a)(5)		No	[Reserved].
63.4(b)(1)–(b)(2)	Circumvention	Yes	
63.4(c)	Fragmentation	Yes	
63.5(a)(1)–(a)(2)	Construction/Reconstruction Applicability.	Yes	
63.5(b)(1)	Requirements for Existing, Newly Constructed, and Reconstructed Sources..	Yes	
63.5(b)(2)		No	[Reserved].
63.5(b)(3)–(b)(4)		Yes	
63.5(b)(5)		No	[Reserved].
63.5(b)(6)		Yes	
63.5(c)		No	[Reserved].
63.5(d)	Application for Approval of Construction or Reconstruction.	Yes	
63.5(e)	Approval of Construction/Reconstruction.	Yes	
63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes	
63.6(a)	Compliance with Standards and Maintenance Applicability.	Yes	
63.6(b)(1)–(b)(5)			
63.6(b)(6)		No	[Reserved].
63.6(b)(7)		Yes	
63.6(c)(1)–(c)(2)	Compliance Dates for Existing Sources.	Yes	§ 63.1180 specifies compliance dates.
63.6(c)(3)–(c)(4)		No	[Reserved].
63.6(c)(5)		Yes	
63.6(d)		No	[Reserved].
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].

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

Citation	Requirement	Applies to subpart DDD	Explanation
63.6(e)(3)	Startup, Shutdown Malfunction (SSM) Plan.	No	Startups and shutdowns addressed in § 63.1197.
63.6(f)(1)–f(3)	SSM exemption	No	
63.6(g)	Alternative Nonopacity Emission Standard.	Yes	
63.6(h)	SSM exemption	No	
63.6(i)(1)–(i)(14)	Extension of Compliance	Yes	§ 63.1180 specfies the dates
63.6(i)(15)		No	[Reserved].
63.6(i)(16)		Yes	
63.6(i)(j)	Exemption from Compliance	Yes	
63.7(a)	Performance Test Requirements Applicability.	Yes	
63.7(b)	Notification of Performance Test	Yes	
63.7(c)	Quality Assurance Program	Yes	
63.7(d)	Performance Testing Facilities	Yes	
63.7(e)(1)	Performance testing	No	See § 63.1180.
63.7(e)(2)–(e)(4)		Yes	
63.6(f)	Use of an alternative test method	Yes	
63.7(g)(1)	Data Analysis, Recordkeeping, and Reporting.	Yes	
63.7(g)(2)		No	[Reserved].
63.7(g)(3)		Yes	
63.7(h)	Waiver of Performance Test	Yes	
63.8(a)(1)–(a)(2)	Monitoring Requirements Applicability.	Yes	
63.8(a)(3)		No	[Reserved].
63.8(a)(4)		Yes	
63.8(b)	Conduct of Monitoring	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)(iii)	Requirement to develop SSM Plan for CMS.	No	
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)	Performance Evaluation of Continuous Monitoring Systems.	No	Subpart DDD does not require CMS performance evaluations.
63.8(f)(1)–(f)(5)	Alternative Monitoring Method	Yes	
63.8(f)(6)	Alternative to RATA Test	No	Subpart DDD does not require CEMS.
63.8(g)(1)	Reduction of Monitoring Data	Yes	
63.8(g)(2)		No	Subpart DDD does not require COMS or CEMS.
63.8(g)(3)–(g)(5)		Yes	
63.9(a)	Notification Requirements Applicability.	Yes	
63.9(b)(1)–(2)	Initial Notifications	Yes	
63.9(b)(3)		No	[Reserved].
63.9(b)(4)–(b)(5)		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	Subpart DDD does not include VE/opacity standards.
63.9(g)	Additional CMS Notifications	No	Subpart DDD does not require CMS performance evaluation, COMS, or CEMS.
63.9(h)(1)–(h)(3)	Notification of Compliance Status	Yes	
63.9(h)(4)		No	[Reserved].
63.9(h)(5)–(h)(6)		Yes	
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	§ 63.1192 includes additional requirements.
63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups and shutdowns.	No	

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

Citation	Requirement	Applies to subpart DDD	Explanation
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	
63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions.	Yes	
63.10(b)(2)(vii)–(xiv)	Other CMS requirements	Yes	
63.10(c)(1)	Additional CMS Recordkeeping	Yes	
63.10(c)(2)–(c)(4)		No	[Reserved].
63.10(c)(5)		Yes	
63.10(c)(6)		No	Subpart DDD does not require CMS performance specifications.
63.10(c)(7)–(c)(8)	Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions.	Yes	
63.10(c)(9)		No	[Reserved].
63.10(c)(10)–(c)(11)		No	See § 63.1192 for recordkeeping of malfunctions.
63.10(c)(12)–(c)(14)		No	Subpart DDD does not require a CMS quality control program.
63.10(c)(15)	Use of SSM Plan	No	
63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements in § 63.1193.
63.10(d)(2)	Performance Test Results	Yes	
63.10(d)(3)	Opacity or VE Observations	No	Subpart DDD does not include VE/opacity standards.
63.10(d)(4)	Progress Reports	Yes	
63.10(d)(5)	SSM reports	No	See § 63.1193(f) for reporting of malfunctions.
63.10(e)(1)–(e)(2)	Additional CMS Reports	No	Subpart DDD does not require CEMS or CMS performance evaluations.
63.10(e)(3)	Excess Emissions/CMS Performance Reports.	Yes	
63.10(e)(4)	COMS Data Reports	No	Subpart DDD does not require COMS.
3.10(f)	Recordkeeping/Reporting Waiver	Yes	
63.11(a)	Control Device Requirements Applicability.	Yes	
63.11(b)	Flares	No	Flares not applicable.
63.11(c)	Alternative Work Practice for Monitoring Equipment for Leaks.	Yes	
63.11(d)	Alternative Work Practice Standard.	Yes	
63.11(e)	Alternative Work Practice Requirements.	Yes	
3.12	State Authority and Delegations	Yes	
63.13	Addresses	Yes	
63.14	Incorporation by Reference	Yes	
63.15	Availability of Information and Confidentiality.	Yes	
63.16	Performance Track Provisions	Yes	

Subpart NNN—[AMENDED]

■ 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 in alphabetical order a definition for ''Gas-fired glass-melting furnace.''

§ 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 paragraph (a) to read as follows:

§ 63.1382 Emission standards.

(a) *Emission limits*—(1) *Glass-melting furnaces.* On and after the date the initial performance test is completed or required to be completed under § 63.7 of this part, 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).

(2) *Rotary spin manufacturing lines.* On after the date the initial performance test is completed or required to be completed under § 63.7 of this part, whichever date is earlier,

(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) 0.087 lb of formaldehyde per ton glass pulled;

(B) 0.063 lb of phenol per ton glass pulled; and

(C) 0.61 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 of this part, whichever date is earlier,

(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) 3.3 lb of formaldehyde per ton glass pulled;

(B) 0.46 lb of phenol per ton glass pulled; and

(C) 0.50 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)(1)(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).

(1) You must conduct chromium compounds emissions performance tests according to § 63.1385 on an annual basis, except as specified in paragraphs (d)(2) through (4) of this section. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in paragraphs (b) through (e) of this section.

(2) You can conduct performance tests less often for chromium compounds if your performance tests for the pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. In this case, you do not have to conduct a performance test for chromium compounds for the next 2 years. You must conduct a performance test during the third year and no more than 37 months after the previous performance test.

(3) If your gas-fired glass-melting furnace continues to meet the emission limit for chromium compounds, you may choose to conduct performance tests for the pollutant every third year if your emissions are at or below 75 percent of the emission limit and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test.

(4) If a performance test shows chromium compounds emissions exceeded 75 percent of the emission limit, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level of 75 percent of the emission limit.

(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 of this subpart at least once every 5 years.

■ 14. Section 63.1385 is amended by revising paragraphs (a)(5) and (6) and 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) for the concentration of total PM. Each run must consist of a minimum run time of 2 hours and a minimum sample volume of 2 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 subpart) for the concentration of formaldehyde, phenol, and methanol. Each test run must consist of a minimum of 10 spectra;

* * * * *

(11) Method 316 (40 CFR part 63, appendix A) for the concentration of formaldehyde. Each test run must consist of a minimum of 2 hours and 2 dry standard cubic meters (dscm) of sample volume;

(12) Method SW–846 0010 and Method SW–846 8760D (*http://www.epa.gov/osw/hazard/testmethods/sw846/*) for the concentration of phenol. Each test run must consist of a minimum of 3 hours;

(13) Method 8270D for the concentration of phenol. Each test run must consist of a minimum of 3 hours;

(14) Method 308 (40 CFR part 63, appendix A) for the concentration of

methanol. Each test run must consist of a minimum of 2 hours;

(15) Method 29 (40 CFR part 60, appendix A) for the concentration of chromium compounds. Each test run must consist of a minimum of 3 hours and 3 dscm of sample volume;

* * * * *

■ 15. Section 63.1386 is amended by revising paragraph (c) 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.

* * * * *

■ 16. 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 and shutdowns you may demonstrate compliance with the emission limits in § 63.1382 by keeping records showing that your 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.

■ 17. Table 1 to Subpart NNN of Part 63 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

Citation	Requirement	Applies to subpart NNN	Explanation
63.1(a)(1)–(a)(4)	General Applicability	Yes.	
63.1(a)(5)		No	[Reserved].
63.1(a)(6)		Yes.	
63.1(a)(7)–(a)(9)		No	[Reserved].
63.1(a)(10)–(a)(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)–(c)(2)	Applicability After Standard Established.	Yes.	
63.1(c)(3)–(c)(4)		No	[Reserved].
63.1(c)(5)		Yes.	
63.1(d)		No	[Reserved].
63.1(e)	Applicability of Permit Program	Yes.	
63.2	Definitions	Yes.	
63.3	Units and Abbreviations	Yes.	
63.4(a)(1)–(a)(2)	Prohibited Activities	Yes.	
63.4(a)(3)–(a)(5)		No	[Reserved].
63.4(b)(1)–(b)(2)	Circumvention	Yes.	
63.4(c)	Fragmentation	Yes.	
63.5(a)(1)–(a)(2)	Construction/Reconstruction Applicability.	Yes.	
63.5(b)(1)	Requirements for Existing, Newly Constructed, and Reconstructed Sources.	Yes.	
63.5(b)(2)		No	[Reserved].
63.5(b)(3)–(b)(4)		Yes.	
63.5(b)(5)		No	[Reserved].
63.5(b)(6)		Yes.	
63.5(c)		No	[Reserved].
63.5(d)	Application for Approval of Construction or Reconstruction.	Yes.	
63.5(e)	Approval of Construction/Reconstruction.	Yes.	

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

Citation	Requirement	Applies to subpart NNN	Explanation
63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes.	
63.6(a)	Compliance with Standards and Maintenance Applicability.	Yes.	
63.6(b)(1)–(b)(5)			
63.6(b)(6)		No	[Reserved].
63.6(b)(7)		Yes.	
63.6(c)(1)–(c)(2)	Compliance Dates for Existing Sources.	Yes	§ 63.1387 specifies compliance dates.
63.6(c)(3)–(c)(4)		No	[Reserved].
63.6(c)(5)		Yes.	
63.6(d)		No	[Reserved].
63.6(e)(1)(i)	General Duty to minimize emissions.	No	See § 63.11382(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 (SSM) Plan.	No	Startups and shutdowns addressed in § 63.1388.
63.6(f)(1)–f(3)	SSM exemption	No.	
63.6(g)	Alternative Nonopacity Emission Standard.	Yes.	
63.6(h)	SSM exemption	No.	
63.6(i)(1)–(i)(14)	Extension of Compliance	Yes	§ 63.1387 specfies the dates
63.6(i)(15)		No	[Reserved].
63.6(i)(16)		Yes.	
63.6(i)(j)	Exemption from Compliance	Yes.	
63.7(a)	Performance Test Requirements Applicability.	Yes.	
63.7(b)	Notification of Performance Test	Yes.	
63.7(c)	Quality Assurance Program	Yes.	
63.7(d)	Performance Testing Facilities	Yes.	
63.7(e)(1)	Performance testing	No	See § 63.1382(b).
63.7(e)(2)–(e)(4)		Yes.	
63.6(f)	Use of an alternative test method	Yes.	
63.7(g)(1)	Data Analysis, Recordkeeping, and Reporting.	Yes.	
63.7(g)(2)		No	[Reserved].
63.7(g)(3)		Yes.	
63.7(h)	Waiver of Performance Test	Yes.	
63.8(a)(1)–(a)(2)	Monitoring Requirements Applicability.	Yes.	
63.8(a)(3)		No	[Reserved].
63.8(a)(4)		Yes.	
63.8(b)	Conduct of Monitoring	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)(iii)	Requirement to develop SSM Plan for CMS.	No.	
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)	Performance Evaluation of Continuous Monitoring Systems.	No	Subpart NNN does not require CMS performance evaluations.
63.8(f)(1)–(f)(5)	Alternative Monitoring Method	Yes.	
63.8(f)(6)	Alternative to RATA Test	No	Subpart NNN does not require CEMS.
63.8(g)(1)	Reduction of Monitoring Data	Yes.	
63.8(g)(2)		No	Subpart NNN does not require COMS or CEMS.
63.8(g)(3)–(g)(5)		Yes.	
63.9(a)	Notification Requirements Applicability.	Yes.	
63.9(b)(1)–(2)	Initial Notifications	Yes.	
63.9(b)(3)		No	[Reserved].
63.9(b)(4)–(b)(5)		Yes.	
63.9(c)	Request for Compliance Extension.	Yes.	

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

Citation	Requirement	Applies to subpart NNN	Explanation
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	Subpart NNN does not include VE/opacity standards.
63.9(g)	Additional CMS Notifications	No	Subpart NNN does not require CMS performance evaluation, COMS, or CEMS.
63.9(h)(1)–(h)(3)	Notification of Compliance Status	Yes.	
63.9(h)(4)		No	[Reserved].
63.9(h)(5)–(h)(6)		Yes.	
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	§ 63.1386 includes additional requirements.
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 malfunction.
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(c)(1)	Additional CMS Recordkeeping	Yes.	
63.10(c)(2)–(c)(4)		No	[Reserved].
63.10(c)(5)		Yes.	
63.10(c)(6)		No	Subpart NNN does not require CMS performance specifications.
63.10(c)(7)–(c)(8)	Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions.	Yes.	
63.10(c)(9)		No	[Reserved].
63.10(c)(10)–(c)(11)		No	See § 63.1386 for recordkeeping of malfunctions.
63.10(c)(12)–(c)(14)		No	Subpart NNN does not require a CMS quality control program.
63.10(c)(15)	Use of SSM Plan	No.	
63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements in § 63.1193.
63.10(d)(2)	Performance Test Results	Yes.	
63.10(d)(3)	Opacity or VE Observations	No	Subpart NNN does not include VE/opacity standards.
63.10(d)(4)	Progress Reports	Yes.	
63.10(d)(5)	SSM reports	No	See § 63.1386(c)(iii) for reporting of malfunctions.
63.10(e)(1)–(e)(2)	Additional CMS Reports	No	Subpart NNN does not require CEMS or CMS performance evaluations.
63.10(e)(3)	Excess Emissions/CMS Performance Reports.	Yes.	
63.10(e)(4)	COMS Data Reports	No	Subpart NNN does not require COMS.
3.10(f)	Recordkeeping/Reporting Waiver	Yes.	
63.11(a)	Control Device Requirements Applicability.	Yes.	
63.11(b)	Flares	No	Flares not applicable.
63.11(c)	Alternative Work Practice for Monitoring Equipment for Leaks.	Yes.	
63.11(d)	Alternative Work Practice Standard.	Yes.	
63.11(e)	Alternative Work Practice Requirements.	Yes.	

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

Citation	Requirement	Applies to subpart NNN	Explanation
3.12	State Authority and Delegations	Yes.	
63.13	Addresses	Yes.	
63.14	Incorporation by Reference	Yes.	
63.15	Availability of Information and Confidentiality.	Yes.	
63.16	Performance Track Provisions	Yes.	

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