ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[IL–64–2–5807; FRL–5821–4]

RIN 2060–AE08

National Emission Standards for Hazardous Air Pollutants for Source Categories; National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: This action proposes national emission standards for hazardous air pollutants (NESHAP) for new and existing sources in mineral wool production plants. Hazardous air pollutants (HAPs) emitted by the facilities covered by this proposed rule include carbonyl sulfide, nine hazardous metals, formaldehyde, and phenol. Exposure to the hazardous air pollutant (HAP) constituents in these emissions may be associated with adverse carcinogenic, respiratory, nervous system, dermal, developmental, and/or reproductive health effects. Because there are only 16 plants and most of these plants are already meeting the floor level of control, implementation of the proposed requirements would reduce nationwide emissions of HAPs by an estimated 46 megagrams per year (Mg/yr) (51 tons per year (tpy)). In addition, emissions of particulate matter (PM) would be reduced by approximately 186 Mg/yr (205 tpy).

The standards are proposed under the authority of section 112(d) of the Clean Air Act as amended (the Act) and are based on the Administrator's determination that some mineral wool production plants are major sources of emissions of one or more of the HAPs listed in section 112(b) of the Act from the various process operations found within the industry. The proposed NESHAP would provide protection to the public by requiring all mineral wool production plants that are major sources to meet emission standards reflecting the application of the maximum achievable control technology (MACT).

DATES: *Comments.* Comments on the proposed rule must be received on or before July 7, 1997.

Public hearing. If anyone contacts the EPA requesting to speak at a public hearing by May 29, 1997, a public hearing will be held on June 9, 1997 beginning at 9 a.m.

ADDRESSES: *Comments.* Interested parties may submit written comments (in duplicate, if possible) to Docket No. A–95–33 at the following address: U.S. Environmental Protection Agency, Air and Radiation Docket and Information Center (6102), 401 M Street, SW., Washington, DC 20460. The EPA requests that a separate copy of the comments also be sent to the contact person listed below. The docket is located at the above address in Room M–1500, Waterside Mall (ground floor). Comments and data may also be submitted electronically by following the instructions under section VII.A of this document. No Confidential Business Information (CBI) should be submitted through electronic mail.

A copy of today's document, technical background information and other materials related to this rulemaking are available for review in the docket. Copies of this information may be obtained by request from the Air and Radiation Docket and Information Center by calling (202) 260–7548. A reasonable fee may be charged for copying docket materials.

Public hearing. If anyone contacts the EPA requesting a public hearing by the required date (see **DATES**), the public hearing will be held at the EPA Office of Administration Auditorium, Research Triangle Park, NC. Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be held should notify Ms. Cathy Coats, Minerals and Inorganic Chemicals Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone number (919) 541–5422.

FOR FURTHER INFORMATION CONTACT: For information concerning the proposed regulation, contact Ms. Mary K. Johnson, Minerals and Inorganic Chemicals Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone number (919) 541–5025, facsimile number (919) 541–5600, electronic mail address, ''johnson.mary@epamail.epa.gov''.

SUPPLEMENTARY INFORMATION:

Regulated Entities

Entities potentially regulated by this action are those industrial facilities that manufacture mineral wool. Regulated categories and entities include:

Category	Examples of regulated entities
Industry	Mineral wool production plants (SIC 3296).
Federal government: Not affected	
State/local/tribal government: Not affected	

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by final action on this proposal. This table lists the types of entities that the EPA is now aware could potentially be regulated by final action on this proposal. To determine whether your facility is regulated by final action on this proposal, you should carefully examine the applicability criteria in section III.A of this document and in § 63.1175 of the proposed rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Technology Transfer Network

The text of today's document also is available on the Technology Transfer Network (TTN), one of the EPA's electronic bulletin boards. The TTN provides information and technology exchange in various areas of air pollution control. The service is free, except for the cost of a phone call. Dial (919) 541–5742 for up to a 14,400 BPS modem. The TTN also is accessible through the Internet at ''TELNET ttnbbs.rtpnc.epa.gov.'' If more information on the TTN is needed, call the HELP line at (919) 541–5384. The HELP desk is staffed from 11 a.m. to 5 p.m.; a voice menu system is available at other times.

Outline. The information in this preamble is organized as shown below.

I. Statutory Authority

The statutory authority for this proposal is provided by sections 101, 112, 114, 116, and 301 of the Clean Air Act, as amended (42 U.S.C. 7401, 7412, 7414, 7416, and 7601).

II. Introduction

A. Background

Section 112(c) of the Act directs the EPA to list each category of major and area sources as appropriate emitting one or more of the HAPs listed in section 112(b) of the Act. ''Mineral Wool Production'' is one of the 174 categories of sources listed in a notice that includes an initial list of source categories. As defined in the EPA report, ''Documentation for Developing the Initial Source Category List'' (EPA–450/3–91–030, July 1992), the Mineral Wool Production source category includes any facility engaged in producing mineral wool fiber from slag or rock. Facilities that manufacture wool fiberglass from sand, feldspar, sodium sulfate, anhydrous borax, boric acid, or other similar materials are not included in the source category. The MACT standards for this source category must be promulgated no later than November 15, 1997.

The EPA estimates that 2,590 Mg/yr (2,860 tpy) of HAPs are emitted from sources in mineral wool production plants at the current level of control. The HAPs released from cupolas include carbonyl sulfide (COS) and hazardous metals (arsenic, antimony, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium). Formaldehyde and phenol are released from curing ovens on production lines where binder formulations are applied. A total of 30,720 Mg/yr (33,860 tpy) of PM and carbon monoxide (CO) also are released from these emission sources in the 16 plants that make up this industry.

B. NESHAP for Source Categories

Section 112 of the Act requires that the EPA promulgate regulations for the control of HAP emissions from both new and existing major sources. The statute requires the regulations to reflect the maximum degree of reduction in emissions of HAPs that is achievable taking into consideration the cost of achieving the emission reduction, any nonair quality health and environmental impacts, and energy requirements. This level of control is commonly referred to as the maximum achievable control technology (MACT). For new sources, MACT standards cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. [See section 112(d)(3).] The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources for categories and subcategories with 30 or more sources, or the best-performing 5 sources for categories or subcategories with fewer than 30 sources.

The control of HAPs is achieved through the promulgation of technology-based emission standards under sections 112(d) and 112(f) and work practice standards under 112(h) for categories of sources that emit HAPs. Emission reductions may be accomplished through the application of measures, processes, methods, systems, or techniques including, but not limited to: (1) Reducing the volume of, or eliminating emissions of, such pollutants through process changes, substitution of materials, or other modifications; (2) enclosing systems or processes to eliminate emissions; (3) collecting, capturing, or treating such pollutants when released from a process, stack, storage or fugitive emissions point; (4) design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in subsection (h); or (5) a combination of the above. (See section 112(d)(2).)

C. Health Effects of Pollutants

The Clean Air Act was created in part to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population. (See section 101(b)(1).) Section 112(b) of the Act lists HAPs believed to cause adverse health or environmental effects. Section 112(d) of the Act requires that emission standards be promulgated for all categories and subcategories of major sources of these HAPs and for many smaller ''area'' sources listed for regulation under section 112(c) in accordance with the schedules listed under section 112(c). Major sources are defined as those that emit or have the potential to emit at least 10 tpy of any single HAP or 25 tpy of any combination of HAPs.

On July 16, 1992 (57 FR 31576), the EPA published the initial list of categories of sources slated for regulation. This list included mineral wool production. The statute requires emissions standards for the listed source categories to be promulgated between November 1992 and November 2000. On December 3, 1993, the EPA published a schedule for promulgating these standards (58 FR 83841).

As previously explained, in the 1990 Amendments to the Clean Air Act, Congress specified that each standard for major sources must require the maximum reduction in emissions of HAPs that EPA determines is achievable considering cost, health and environmental impacts, and energy requirements. In essence, these MACT standards ensure that all major sources of air toxic emissions achieve the level of control already being achieved by the better controlled and lower emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to effectively control its emissions. At the same time, this approach provides a level economic playing field, ensuring that facilities that employ cleaner processes and good emissions controls are not disadvantaged relative to competitors with poorer controls.

Emission data collected during development of the proposed rule, show that pollutants that are listed in section 112(b)(1) and are emitted by mineral wool production processes include HAP metals, formaldehyde, phenol, and COS. These pollutants would be reduced by implementation of the proposed emission limits. Following is a summary of the potential health and environmental effects associated with exposures to emitted pollutants that would be reduced by the standard.

Almost all metals appearing on the section 112(b) list of HAPs are emitted from mineral wool production facilities. The most important of these nonvolatile metals that would be reduced by the standard are arsenic, antimony, cadmium, chromium, nickel, beryllium, manganese, selenium, and lead compounds. These metals can cause effects such as mucous membrane irritation (e.g., bronchitis, decreased lung capacity), gastrointestinal effects, nervous system disorders (from loss of function to tremor and numbness), skin irritation, and reproductive and developmental disorders. Additionally,

several of the metals accumulate in the environment and in the human body. Cadmium, for example, is a cumulative pollutant, which can cause kidney effects after the cessation of exposure. Similarly, the onset of effects from beryllium exposure may be delayed 3 months to 15 years. Many of the metals also are known (arsenic, chromium VI, nickel refinery dust and nickel subsulfide) or probable (cadmium, lead, nickel carbonyl, and beryllium) human carcinogens.

Organic compounds that would be reduced by this standard include formaldehyde and phenol. Some of the effects of these pollutants are similar and include irritation from short-term exposures to eye, nose, and throat; respiratory effects (expressed as labored breathing, impaired lung function); and reproductive and developmental effects. Liver, kidney, and cardiac effects have been reported for phenol, which is considered to be quite toxic to humans via oral exposure. In addition to these noncancer effects, formaldehyde has been classified as a probable human carcinogen.

Emissions of COS also would be reduced by the standard. Information as to the potential health effects of COS are limited. Short-term inhalation of a high concentration of COS may cause narcotic central nervous system effects and skin and eye irritation in humans. No information is available on reproductive or developmental effects from COS exposure, and the EPA has not classified this pollutant with respect to its potential carcinogenicity.

In addition to HAPs, the proposed standard also would reduce some of the pollutants whose emissions are controlled under the National Ambient Air Quality Standards (NAAQS). These pollutants include PM, CO, volatile organic compounds (VOCs), and lead. The health effects of PM, CO, VOCs, and lead that would be reduced by this standard are described in EPA's Criteria Documents, which support the NAAQS. Briefly, PM emissions have been associated with aggravation of existing respiratory and cardiovascular disease and increased risk of premature death. Volatile organic compounds (e.g., formaldehyde) are precursors to the formation of ozone in the ambient air, as well as cause effects on agricultural crops and forests. At elevated levels, ozone has been shown in human laboratory and/or community studies to be responsible for the reduction of lung function, respiratory symptoms (e.g., cough, chest pain, throat and nose irritation), increased hospital admissions for respiratory causes, and increased lung inflammation. Animal studies have shown increased susceptibility to respiratory infection and lung structure changes. Carbon monoxide enters the blood stream and reduces oxygen delivery to the body's organs and tissues. Exposure to CO can be associated with reduced time to onset of angina pain, impairment of visual perception, work capacity, manual dexterity, learning ability, and performance of complex tasks. Depending on the degree of exposure, lead can cause subtle effects on behavior and cognition, increased blood pressure, reproductive effects, seizures, and even death.

The EPA does recognize that the degree of adverse effects to health can range from mild to severe. The extent and degree to which the health effects may be experienced is dependent upon: (1) The ambient concentrations observed in the area (e.g., as influenced by emission rates, meteorological conditions, and terrain), (2) the frequency of and duration of exposures, (3) characteristics of exposed individuals (e.g., genetics, age, pre-existing health conditions, and lifestyle) which vary significantly with the population, and (4) pollutant specific characteristics (e.g., toxicity, half-life in the environment, bioaccumulation, and persistence).

D. Mineral Wool Production Industry Profile

Mineral wool is a fibrous glassy substance, consisting of silicate fibers typically 4 to 7 micrometers in diameter, made from natural rock (such as basalt), blast furnace slag, or other similar materials. Products made from mineral wool are widely used in thermal and acoustical insulation as well as for other products, where mineral wool fiber is added to impart structural strength or fire resistance.

In 1980, 26 mineral wool production plants were in operation in the United States. Currently, 16 plants operate in 9 States. Seven of the ten companies that operate these plants are small businesses under the definition applied to this industry by the U.S. Small Business Administration (750 company employees or less). No new plants or lines are predicted to be constructed or reconstructed during the next 5 years due to the current economic condition of the industry. At this time, capacity utilization is believed to be approximately 45 percent.

In the mineral wool manufacturing process, rock and/or blast furnace slag and other raw materials (e.g., gravel), are melted in a furnace (cupola) using coke as fuel; the molten material is then formed into fiber. In the production of mineral wool products that do not require high rigidity, an oil typically is applied to suppress dust and add some strength to the fiber; the fiber is then sized and bagged or baled. This is known as a ''nonbonded'' product manufactured on a ''nonbonded'' production line.

For mineral wool products requiring a higher structural rigidity, a HAP-based (phenol/formaldehyde) binder may be applied to the fiber. This is known as a ''bonded'' product made on a ''bonded'' production line. The binder-laden fiber mat is then thermoset in a curing oven and cooled. The major differences between the ''nonbonded'' and ''bonded'' production lines are the application of binder and the presence of the curing oven process and the cooling area. Six of the 16 plants manufacture bonded products on a total of 6 production lines. Five of these six plants also have nonbonded products lines. Ten plants manufacture only nonbonded products. The 16 plants operate a total of 36 cupolas and 6 curing ovens.

No Federal air emission standards apply to HAP emissions from mineral wool production plants. However, emission control systems have been installed at some sites as a result of occupational safety regulations, primary and secondary ambient air standards for PM and PM_{10}, and State standards for odors. Some States also have developed ambient standards for COS and formaldehyde.

As a result of these State and Federal requirements, all of the 36 existing cupolas are equipped with some level of emission control. Five of the cupolas are controlled by cyclones, and three are controlled by a cyclone in combination with a fabric filter (i.e., baghouse). The majority of the cupolas (24) are currently controlled by a fabric filter. Four cupolas are controlled with an incinerator and a fabric filter. Of the six curing ovens in use at the plants, four are equipped with an incinerator and two are uncontrolled.

III. Summary of Proposed Standards

A. Applicability

The proposed standard applies to each new and existing cupola or curing oven in a mineral wool production facility that manufactures mineral wool fiber from slag, rock, or other materials (excluding sand or glass). All mineral wool production plants that are major sources would be subject to the standards. Two facilities that manufacture nonbonded products may be area sources. Because these two facilities are not believed to present an

adverse environmental or health risk, the EPA has determined not to include these facilities on the list of area sources. At both of these sites, the cupolas are equipped with above-MACT-floor level controls. A facility that is determined by EPA to be an area source would not be subject to the NESHAP.

B. Emission Limits and Requirements

Emission limits for PM control are proposed for existing cupolas at plants with bonded processes and at plants without bonded processes. For new cupolas, emission limits for CO control, in addition to PM control, are proposed. Emission limits for formaldehyde also are proposed for each existing and new curing oven.

A surrogate approach is used to allow easier and less expensive measurement and monitoring requirements. Particulate matter would serve as a surrogate for metal HAPs and CO would represent COS. A formaldehyde standard proposed for curing ovens would also serve as a surrogate for phenol emissions. Under the proposed NESHAP, the owner or operator may elect to comply with a numerical formaldehyde or CO emission limit expressed in mass of emissions per unit of production (kilograms per megagram (kg/Mg) or pound/ton (lb/ton) of melt) or a percent reduction standard. A numerical limit is proposed for PM emissions from the cupola. The proposed emission limits for existing sources and new sources are presented below.

Source	Pollutant	Emission limit
Summary of Proposed Emission Limits for Existing Sources		
Cupola	PM	0.03 kg/Mg (0.06 lb/ton) of melt.
Curing oven	Formaldehyde	0.03 kg/Mg (0.06 lb/ton) of melt or 80 percent formaldehyde removal.
Summary of Proposed Emission Limits for New Sources		
Cupola	PM	0.03 kg/Mg (0.06 lb/ton) of melt.
	CO	0.05 kg/Mg (0.10 lb/ton) of melt or 99 percent CO removal.
Curing oven	Formaldehyde	0.03 kg/Mg (0.06 lb/ton) of melt or 80 percent formaldehyde removal.

The EPA also proposes to allow affected firms up to 3 years to comply. And, as allowed under section 112(i)(3)(B) of the Act, the Administrator or delegated regulatory authority also may grant 1 additional year if necessary for the installation of controls.

C. Performance Test and Compliance Provisions

The proposed NESHAP requires the owner or operator to conduct a one-time emissions test to determine initial compliance with the emission limits or performance standards for cupolas and curing ovens. The owner or operator would measure PM emissions from the cupola using EPA Method 5 in appendix A to 40 CFR part 60, ''Determination of Particulate Matter Emissions from Stationary Sources'' and § 63.1180 (Test methods and procedures) of the proposed rule. The owner or operator also would measure emissions of CO from incinerators on new cupolas using EPA Method 10, ''Determination of Carbon Monoxide Emissions from Stationary Sources'' in appendix A to 40 CFR part 60 and § 63.1180 (Test methods and procedures) of the proposed rule.

To determine emissions of formaldehyde from curing ovens, the owner or operator would use EPA Method 318, ''Extractive FTIR Method for the Measurement of Emissions from the Mineral Wool and Wool Fiberglass Industries.'' [1] This Fourier Transform Infrared (FTIR) Spectrometry method uses a multicomponent measurement system to quantify a wide variety of pollutants, also can be used to determine compliance for the CO emission standard, and allows the measurement of additional HAPs and other pollutants [phenol, COS, sulfur dioxide (SO_2), and nitrous oxide (NO_X), among others] in one test at substantially lower costs than individual tests by manual or instrumental methods. Method 318 is an extractive FTIR procedure and has been validated by the EPA according to Method 301 requirements.

To comply with the CO or formaldehyde numerical limit for a cupola or curing oven controlled by an incinerator or the PM limit for a fabric filter-controlled cupola, measurements would be made at the outlet of the control device. If the owner or operator elected to comply with the percent removal performance standard for CO or formaldehyde, measurements of CO or formaldehyde would be required at the inlet and outlet of the control device.

During the initial performance test for each cupola and curing oven subject to the standards, the owner or operator would measure and record the amount of raw materials, excluding coke, being charged into and melted in each cupola during each test run and determine the average hourly melt rate for each test run. The arithmetic average of the melt rate for three test runs, plus 20 percent, would be used to monitor compliance. If the owner or operator plans to operate above the average melt rate established during the initial performance test, plus 20 percent, the rule would require that another performance test be conducted to verify compliance.

The owner or operator would conduct the initial performance test for each curing oven while manufacturing the product requiring the binder formulation with the highest formaldehyde content. During the performance test, the owner or operator would record the free formaldehyde content of the resin(s) used during the test and the binder formulation(s), including the formaldehyde content of the binder, used during the test. Although binder formulations can be changed as often as needed, if the owner or operator plans to use a binder with a higher formaldehyde content than that used in the initial performance test, the rule would require that another performance test be conducted to verify compliance.

The proposed rule would allow the owner or operator of curing ovens subject to the NESHAP to conduct short-term experimental production runs, where the formaldehyde content or other process parameter deviates from levels established during previous performance tests, without conducting additional performance tests. The owner or operator would have to apply for approval from the Administrator or delegated regulatory authority to conduct such experimental production

[1] Proposed method published in the March 31, 1997 **Federal Register** (62 FR 15228).

runs. The application would include information on the nature and duration of the test runs including plans to perform emission testing. Such experimental production runs are important to industry and allow them to develop new products, improve existing products, and determine the effects on product quality and on emissions of process modifications being considered, such as binder reformulation.

During the initial performance test for each cupola using a thermal incinerator to comply with the proposed emission limit for CO and each curing oven using a thermal incinerator to comply with the proposed formaldehyde emission limit, the owner or operator would determine the average operating temperature for each incinerator based on continuous temperature measurements and recorded 15-minute block averages during each of the three test runs. The arithmetic average of the three test runs would be used to monitor compliance. If the owner or operator plans to reduce the average operating temperature below the temperature established during the initial performance test, the rule would require that another performance test be conducted to verify compliance.

Using the results of each test run and information generated during the performance tests (i.e., average melt rate in tph), the owner or operator would then use the equations and procedures in the proposed rule to convert the emission rate of PM, CO, and formaldehyde into the units of the standard.

D. Monitoring Requirements

The EPA identified and analyzed several different options for compliance assurance monitoring of primary emissions from new and existing sources. In general, the options ranged from installation and operation of a continuous emission or opacity monitor to a one-time performance test. The EPA examined each option and numerous combinations of options to select the least-cost alternative suitable for use by small businesses (docket items II–B–34 and 36).

Each owner or operator subject to the proposed NESHAP would submit an operations, maintenance, and monitoring plan which becomes incorporated in the part 70 permit. The plan would include procedures for the proper operation and maintenance of processes and control devices used to comply with the proposed emission limits as well as the corrective actions to be taken when process or control device parameters deviate from allowable levels established during performance testing. The plan would also identify the process or control device parameters that would be monitored to determine compliance, a monitoring schedule, and procedures for keeping records to document compliance.

The proposed monitoring provisions require the owner or operator to measure and record the average hourly cupola production (melt) rate. If the melt rate exceeds, by more than 20 percent, the average established during the initial performance test for more than 5 percent of the total operating time in a 6-month reporting period, the owner or operator would be required to conduct additional performance tests at the higher melt rate to verify compliance. If the performance test results exceed any of the applicable emission standards, the owner or operator would be in violation of those emission standards for the entire period that the melt rate was more than 20 percent above the average level established during the initial performance test.

Under the proposed NESHAP, the owner or operator must install a bag leak detection system for each fabric filter used on a cupola to monitor emissions exiting the PM control system since opacity is not a good indicator of performance at the low, controlled PM levels characteristic of these sources. The bag leak detection system would be equipped with an audible alarm that automatically sounds when an increase in particulate emissions above a predetermined level is detected. The proposed rule requires that the monitor be capable of detecting PM emissions at concentrations of 1.0 milligram per actual cubic meter (0.0004 grains per actual cubic foot) and provide an output of relative or absolute PM emissions. Such a device would serve as an indicator of the performance of the fabric filter and would provide an indication of when maintenance of the fabric filter is needed. An alarm by itself does not indicate noncompliance with the PM limit, but would indicate an increase in PM emissions and trigger an inspection of the fabric filter to determine the cause of the alarm. The owner or operator would initiate corrective actions according to the procedures in their operation, maintenance, and monitoring plan. The owner or operator would be considered out of compliance upon failure to initiate corrective actions within 1 hour of the alarm. If the alarm is activated for more than 5 percent of the total operating time during the 6-month reporting period, the EPA proposes that the owner or operator develop and implement a written quality improvement plan (QIP) consistent with subpart D of the draft approach to compliance assurance monitoring (docket items II–B–38 and II–J–5).[2]

An owner or operator of an affected curing oven would monitor and record the free formaldehyde content of each resin lot and the binder formulation, including the formaldehyde content of each binder batch employed in the manufacture of bonded products. If binder formaldehyde content exceeds the initial performance test level, the owner or operator would be in violation of the formaldehyde emission standard.

For each thermal incinerator used to control emissions from affected cupolas or curing ovens, the proposed monitoring provisions require the owner or operator to continuously measure the incinerator operating temperature and determine and record the temperature in 15-minute block averages. The temperature monitoring device would be installed in the incinerator firebox. This is typically done using a thermocouple (a standard feature on most incinerators) and a strip chart recorder or data logger. Following the initial performance test, the owner or operator would maintain the temperature such that the average temperature in any 3-hour block period does not fall below the average temperature established during the initial performance test. If the average temperature in any 3-hour block period falls below the average established during the initial performance test, the owner or operator would be considered out of compliance with the applicable emission standard. At a minimum, valid 3-hour temperature averages would be required for 75 percent of the operating hours per day for 90 percent of the operating days per 6-month reporting period that the facility is producing mineral wool. The operations, maintenance, and monitoring plan for an incinerator would include procedures to follow in the event of a temperature drop. Examples of procedures that might be included in the plan for incinerators include: (1) Inspection of burner assemblies and pilot sensing devices for proper operation and cleaning; (2) adjusting primary and secondary chamber combustion air; (3) inspecting dampers, fans, blowers, and motors for proper operation; and (4) shutdown procedures.

The owner or operator may modify any of the control device or process parameter levels established during the initial performance tests for compliance

[2] Proposed rule published in the August 13, 1996 **Federal Register** (61 FR 41991).

monitoring. The proposed NESHAP contains provisions that would allow the owner or operator to change control device and process parameter values from those established during the initial performance tests by conducting additional emission tests to verify compliance at the modified parameter levels.

As required by the NESHAP general provisions (40 CFR part 63, subpart A), each owner or operator also must develop and implement a startup, shutdown, and malfunction plan. The plan would include procedures for the inspection and determination of the cause of a process or control device malfunction and the corrective actions to be followed to remedy the malfunction. Procedures for routine and long-term maintenance of process units and control devices, based on the manufacturer's instructions or recommendations, also would be included.

The EPA believes that these monitoring provisions will provide sufficient information needed to determine compliance or operating problems at the source. At the same time, the provisions are not labor intensive, do not require expensive, complex equipment, and are not burdensome in terms of recordkeeping needs.

E. Notification, Recordkeeping, and Reporting Requirements

The proposed standard would incorporate all requirements of the general provisions (40 CFR part 63, subpart A), except for requirements pertaining to the use of a continuous emission monitor (CEM). The general provisions (40 CFR part 63, subpart A) include requirements for notifications of applicability, date of performance test, and compliance status. The owner or operator also would submit reports of performance test results and semiannual excess emissions, which would include deviations from established parameters. If excess emissions and/or deviations from established parameters are reported, the owner or operator must report quarterly until a request to return the reporting frequency to semiannual is approved. A startup, shutdown, and malfunction plan would also be required. The development and implementation of the plan, including procedures for incinerators and fabric filters, will aid in reducing emissions from these events and in reducing malfunctions. A semiannual startup, shutdown, and malfunction report to EPA is required only when a reportable event occurs and the steps in the plan were not followed. Semiannual excess emission reports are required to ensure that the permitting authority is aware of any potential operating or compliance problems at the source. In addition to the requirements of the general provisions (40 CFR part 63, subpart A), the owner or operator would maintain records of the following, as applicable:

(1) Cupola production (melt) rate;

(2) bag leak detection system alarms, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken;

(3) free formaldehyde content of each resin lot and the binder formulation, including formaldehyde content, of each binder batch used in the manufacture of bonded products;

(4) incinerator operating temperature, including any period when the average temperature in any 3-hour block period falls below the average temperature established during the initial performance test, with a brief explanation of the cause of the deviation and the corrective action taken; and

(5) identification of the calendar dates for which the minimum number of hours of valid 3-hour incinerator operating temperature averages were not obtained, including reasons for not obtaining sufficient data and a description of the corrective action taken.

The NESHAP general provisions (40 CFR part 63, subpart A) require that records be maintained for at least 5 years from the date of each record. The owner or operator must retain the records onsite for at least 2 years but may retain the records offsite the remaining 3 years. The files may be retained on microfilm, microfiche, on computer disks, or on magnetic tape. Reports may be made on paper or on a labeled computer disk using commonly available and compatible computer software.

IV. Selection of Proposed Standards

A. Selection of Emission Sources

The mineral wool production source category, defined in the EPA report, ''Documentation for Developing the Initial Source Category List,'' defines the emission sources as including, but not limited to: (1) The cupola furnace for melting the mineral charge; (2) a blow chamber in which air and, in some cases, a binder is drawn over the fibers forming them to a screen; (3) a curing oven to bond the fibers; and (4) a cooling area. Because little or no HAP emission data for this source category were available at the beginning of this study, the EPA collected information and data through review of existing literature, a detailed information collection request (ICR) issued to seven facilities (docket items II–D–1, 12, and 14–18), site surveys of 12 facilities (docket items II–B–3, 4, 5, 8–14, 16, and 17), and EPA-funded tests at two facilities (docket items II–A–11, 12, and 13). Based on this information and data, and for the reasons described below, the EPA selected cupolas and curing ovens as the emission sources for control under the proposed rule.

Cupolas are typically large, water-cooled metal vessels with raw material melt capacities that range from 3.6 to 7.3 megagrams per hour (Mg/hr) (4 to 8 tons per hour (tph)). Alternating layers of fuel (coke) and raw materials are loaded into the furnace to melt the mixture of rock and/or slag and additives. Some units also use natural gas at startup to assist in melting the initial mineral charge. As the coke is ignited and burned, the mineral charge is heated to a molten state. Once the initial charge is melted, charging of raw materials continues to the top of the melt, where the raw materials melt and mix as the cupola temperature reaches 1,320°C to 1,650°C (2,400°F to 3,000°F). Mixing is accomplished by natural convection, by gases rising from chemical reactions, and in many operations, by preheated air or oxygen injection into the cupola.

Emissions of PM and a wide variety of HAP metals, including antimony, arsenic, beryllium, cadmium, chromium, manganese, nickel, lead, and selenium, are released from the cupola. Emissions of CO result primarily from the incomplete combustion of carbonaceous materials, such as the coke used as fuel for the cupola. Carbonyl sulfide is formed from the CO passing over the heated coke and/or the blast furnace slag that may contain a high level of sulfur. Emissions from cupolas are typically controlled by fabric filters. In some instances, a thermal incinerator is also used.

In the next stage of the process, fiberization, the molten mineral charge exits the bottom of the cupola into a water-cooled trough and flows onto a fiberization device. Various fiberization methods may be used, but in each process, fibers are formed as the melt is forced off the device by centrifugal force. Nonfiberized material, referred to as ''shot,'' is either incorporated into the fiber to become part of the finished product or is separated from the fiber and becomes a waste product. Shot may account for as much as 50 percent of the weight of mineral wool fibers.

Various chemical agents may be applied to the fiber immediately following fiber formation. An oil typically is applied to nonbonded products to suppress dust and to anneal

the fiber. If the fiber is intended for use as a nonbonded product, no further chemical treatment is necessary and it may be granulated for size, then bagged or baled.

In the manufacture of bonded products, a binder (typically composed of phenol-formaldehyde resin, water, urea, silane, ammonia, and ammonium sulfate) is applied to provide structural rigidity. The binder composition and application rate may vary with product type. The binder may account for up to 10 percent of the weight of the final mineral wool product.

After fiberization and binder and/or oil application, high velocity air streams direct the fiber into a collection chamber where the fiber is drawn down onto a wire mesh conveyor by fans located beneath the conveyor. Fiber collection processes are typically controlled by filterhouses and wet sprays that remove large particulates, but do not remove organic HAPs or other organic pollutants.

For bonded mineral wool products, the binder-coated fiber mat is conveyed to a curing oven which is typically natural gas-fired with temperatures that range from 180°C to 370°C (350°F to 700°F). Curing of the fiber mat occurs as the oven forces hot air through the mat, driving off excess moisture and thermosetting the binder in the product. Gaseous HAP emissions, including formaldehyde and phenol, result from the vaporization of the binder. Curing oven emissions are typically controlled by thermal incinerators.

After curing, the fiber mat is conveyed to a cooling section, where ambient air is forced through the mat to eliminate ''hot spots'' in the product and to facilitate finishing and packaging. Cooling sections have low emissions and are all uncontrolled (docket items II–A–11, 12, and 13).

The EPA selected cupolas and curing ovens as the sources for control under the NESHAP. Nationwide emissions from cupolas (considering current controls) are estimated to be 2,520 Mg/yr (2,780 tpy) of COS and 1.0 Mg/yr (1.1 tpy) of metal HAPs. Nationwide emissions of CO and PM are estimated to be 30,480 Mg/yr (33,600 tpy) and 238 Mg/yr (263 tpy), respectively. The curing oven also is a source of HAP emissions. Nationwide emissions are estimated to be 54 Mg/yr (59 tpy) of formaldehyde and 14 Mg/yr (16 tpy) of phenol.

The EPA did not select fiber collection or cooling processes for control. Because no plants have equipped these sources with HAP controls, no MACT floor technology can be identified. This determination is further explained in section IV.C.2 of this document.

B. Selection of Pollutants

A variety of HAPs are emitted from mineral wool production processes. Emissions of metal HAPs, COS, formaldehyde, and phenol were detected during EPA emission tests of mineral wool production plants (docket items II–A– 11, 12, and 13). All of these pollutants are included on the list of HAPs under section 112(b) of the Act. The EPA proposes to regulate PM, a surrogate for metal HAP emissions, from existing and new cupolas, and CO, a surrogate for COS, from new cupolas. Additionally, the EPA proposes to regulate emissions of formaldehyde, a HAP and also a surrogate for phenol emissions, from existing and new curing ovens.

Large quantities of PM and CO are also emitted from the cupola (docket items II–A– 11, 12, and 13). Emissions test data collected from a cupola that is controlled by a fabric filter indicate a correlation between the removal of nonvolatile HAP metals and the removal of PM (docket item II–A–11). Thus, the EPA proposes PM as a surrogate measure of nonvolatile HAP metals for emission limits for existing and new cupolas.

Emissions test data collected from a cupola that is controlled by an incinerator show that CO destruction correlates with COS destruction (docket items II–A– 12 and 13). Consequently, the EPA proposes to regulate emissions of COS using CO as a surrogate measure for the proposed emission limit for new cupolas.

Emissions of formaldehyde from curing ovens result from volatilization of the binder. Formaldehyde is the most significant HAP emitted from mineral wool production processes in terms of potential carcinogenic hazard. Consequently, the EPA proposes to regulate formaldehyde emissions. Limits are not included in the proposed standard for phenol emissions from the curing oven because when the formaldehyde limit is met through use of an incinerator, phenol emissions are also reduced by the same incinerator. Therefore, formaldehyde is used in the proposed standard as a surrogate for phenol. The use of PM, CO, and formaldehyde as surrogates requires less testing and allows the use of less expensive measurement methods.

C. Selection of Proposed Standards for Existing and New Sources

1. Background

After EPA has identified the specific source categories or subcategories of major sources to regulate under section 112, it must set MACT standards for each category or subcategory. As discussed in section II.B of this document, section 112 establishes a minimum baseline or ''floor'' for standards. After the floor has been determined for a new or existing source in a source category or subcategory, the Administrator must set MACT standards that are no less stringent than the floor. Such standards must then be met by all sources within the category or subcategory. In establishing the standards, the EPA may distinguish among classes, types, and sizes of sources within a category or subcategory. (See section 112(d)(1).)

The next step in establishing MACT standards is traditionally the investigation of regulatory alternatives. With MACT standards, only alternatives at least as stringent as the floor may be selected. Information about the industry is analyzed to develop model plants for projecting national impacts, including HAP emission reduction levels and cost, energy, and secondary impacts. Regulatory alternatives, which may be different levels of emissions control equal to or more stringent than the floor levels, are then evaluated to select the regulatory alternative that best reflects the appropriate MACT level. The selected alternative may be more stringent than the MACT floor, but the control level selected must be technically achievable. The regulatory alternatives and emission limits selected for new and existing sources may be different because of different MACT floors.

The EPA may consider going ''beyond-the-floor'' to require more stringent controls. Here, the EPA considers the achievable emission reductions of HAPs (and possibly other pollutants that are co-controlled), cost and economic impacts, energy impacts, and other non-air environmental impacts. The objective is to achieve the maximum degree of emissions reduction without unreasonable economic or other impacts. (See section 112(d)(2).)

Under the Act, subcategorization within a source category may be considered when there is enough evidence to demonstrate clearly that there are significant differences among the subcategories. The criteria to consider include process operations (including differences between batch and continuous operations), emission

characteristics, control device applicability, safety, and opportunities for pollution prevention.

Mineral wool production plants and emissions are differentiated by the operations needed to produce bonded or nonbonded products. Plants that manufacture bonded products have phenol/formaldehyde-based binder application, curing oven, and cooling processes, whereas plants that do not manufacture bonded products do not have these additional processes. Therefore, the EPA proposes to subcategorize the mineral wool production source category into plants that manufacture bonded products and those that do not manufacture bonded products.

2. MACT Floor

In establishing the MACT floor, section 112(d)(3) (A) and (B) of the CAA directs EPA to set standards for existing sources that are no less stringent than the ''average'' emission limitation achieved by the best performing 12 percent (for which there are emissions data) where there are more than 30 sources in the category or subcategory or the best performing five sources (for which there are emissions data) where there are fewer than 30 sources. Among the possible meanings for the word ''average'' as the term is used in the CAA, the EPA considered two of the most common. First, ''average'' could be interpreted as the arithmetic mean. The arithmetic mean of a set of measurements is the sum of the measurements divided by the number of measurements in the set. The EPA has determined that the arithmetic mean of the emission limitations achieved by the best performing 12 percent of existing sources (or best five sources where there are fewer than 30 sources) in some cases would yield an emission limitation that fails to correspond to the emission limitation achieved by any particular technology. In such cases, EPA would not select this approach. The word ''average'' could also be interpreted as the median emission limitation value. The median is the value in a set of measurements below and above which there are an equal number of values (when the measurements are arranged in order of magnitude). This approach identifies the emission limitation achieved by those sources within the top 12 percent (or top five where there are fewer than 30 sources), arranges those emissions limitations in order of magnitude, and the control level achieved by the median source is selected. Either of these two approaches could be used in developing standards for different source categories. The ''median'' approach was used in these proposed standards. For each source type, the median technology represented by the five best-controlled sources was selected as the MACT floor. A source having control technology representative of the MACT floor was then tested in order to determine an appropriate emission limitation.

Within the subcategory of plants that manufacture bonded products, there are 15 cupolas. Nine of these cupolas are controlled by fabric filters, three by cyclones, two by thermal incinerators and fabric filters, and one by a cyclone and fabric filter. Because there are less than 30 cupolas, the MACT floor is represented by the average, or median, of the best performing five sources. The MACT floor for existing cupolas within this subcategory is represented by a fabric filter. A fabric filter representative of this MACT floor is a pulse-jet type with nylon fiber filter material, an air-to-cloth ratio of about 0.9 cubic meter per minute/square meter [3 standard cubic feet per minute/square foot (scfm/ft^2)] and a pressure drop of approximately 15 centimeters (6 inches) of water column. Emissions tests were conducted on a cupola controlled by a fabric filter selected as representative of the floor control technology.

Of the six curing ovens also in this subcategory, four are controlled by thermal incinerators and two are uncontrolled. Because there are fewer than 30 curing ovens, the MACT floor is represented by the average, or median, of the best performing five sources. The MACT floor for existing curing ovens is represented by a thermal incinerator. An incinerator representative of this MACT floor has a combustion temperature of about 650°C (1,200°F), and a gas residence time of approximately 1 second. A curing oven with an incinerator representative of the floor control technology was tested. Thus, a fabric filter for existing cupolas and a thermal incinerator for existing curing ovens are the MACT floor technologies for this subcategory.

Within the subcategory of plants that do not manufacture bonded products there are 21 cupolas. Fifteen of these cupolas are controlled by fabric filters, two by incinerators and fabric filters, two by cyclones, and two by cyclones and fabric filters. Again, because there are less than 30 cupolas, the MACT floor is represented by the average, or median, of the best-performing five sources. The MACT floor is represented by a fabric filter. A fabric filter representative of the MACT floor within this subcategory has the same parameters as the fabric filter that represents the MACT floor for existing cupolas within the subcategory of plants that manufacture bonded products.

The MACT floors for new cupolas and curing ovens are based on the best-controlled sources. For new cupolas, MACT is a thermal incinerator and fabric filter. Because the fabric filter that represents the MACT floor for existing cupolas also represents the best control for PM and particulate metal HAPs for new cupolas, the fabric filter parameters remain the same. A thermal incinerator representative of MACT for new cupolas operates at approximately 815°C (1,500°F), and has a gas residence time of about 1 second. Because the MACT floor for existing curing ovens, an incinerator operating at 650°C (1,200°F) with a gas residence time of 1 second, also represents the best-controlled source, MACT for new curing ovens is the same as the MACT floor for existing curing ovens.

The EPA considered requiring thermal incinerators as beyond-the-MACT-floor control for existing cupolas. To comply with this requirement, 32 cupolas would have to add incinerators at estimated costs ranging from $218,300/yr for 3.6 Mg/hr (4 tph) cupolas to $349,700/yr for 7.3 Mg/yr (8 tph) cupolas. As a result of the addition of incinerators, COS emissions would be reduced by approximately 52 Mg/yr (57 tpy) for each 3.6 Mg/hr (4 tph) cupola and 104 Mg/yr (114 tpy) for each 7.3 Mg/hr (8 tph) cupola. In addition, CO emissions would be reduced by 628 Mg/yr (692 tpy) and 1,256 Mg/yr (1,384 tpy) for each 3.6 Mg/hr (4 tph) and 7.3 Mg/hr (8 tph) cupola, respectively. However, secondary emissions of SO_2 and NO_X would result from the natural gas combustion of sulfur-bearing raw materials and fuel. The increased emissions would range from 55 Mg/yr (61 tpy) to 112 Mg/yr (123 tpy) for SO_2, and 42 Mg/yr (46 tpy) to 83 Mg/yr (91 tpy) for NO_X, for each 3.6 Mg/hr (4 tph) and 7.3 Mg/hr (8 tph) cupola, respectively.

Under this beyond-the-MACT-floor control option, price increases are estimated to range from 5.94 percent to 6.98 percent, resulting in quantity adjustments of –4.75 and –8.38 percent, respectively. Additionally, loss of 87 employees is estimated. Facility unit-cost increases would be very significant. Two facilities would have unit-cost increases of more than 20 percent (one of 27 percent for bonded products and one of 22 percent for nonbonded products). Three other facilities would have unit-cost increases for at least one product of over ten percent, and an additional five facilities would have increases of over five percent. Seven facilities are projected to have control

costs greater than their increase in revenue due to the projected increase in market prices. This portion of the control costs that the facilities are projected to have to absorb ranges from 16 percent of before tax net income (B.T.N.I.) for one facility to 155 percent of B.T.N.I. for another facility. The projected market quantity decreases and changes in capital structure indicate that the costs associated with the beyond-the-floor control option would be expected to cause one or two facility closures. After assessing this information, the EPA concluded that the costs of increased control given the increase in secondary emissions do not justify beyond-the floor control for existing cupolas (docket items II–B–34 and 35).

As discussed earlier, no MACT floor could be determined for fiber collection and cooling operations. The EPA considered requiring controls that reduce organic HAP emissions from fiber collection and cooling processes by going beyond the floor. The beyond-the-floor control technology would be thermal incineration for both processes. Six fiber collection and cooling operations would be required to add incinerators ranging in cost from $1.75 million/yr to $2.85 million/yr for each fiber collection process, depending upon the process size, and about $400,000/yr for each cooling operation. Assuming an incinerator control efficiency of 80 percent, organic HAP emissions (formaldehyde, phenol, methanol) from fiber collection processes would be reduced by about 29 Mg/yr (32 tpy) for each 3.6 Mg/yr (4 tph) process and 59 Mg/yr (65 tpy) for each 7.3 Mg/yr (8 tph) process. Cooling process organic emissions (formaldehyde) would be reduced by approximately 0.4 Mg/yr (0.4 tpy) and 0.6 Mg/yr (0.7 tpy) for 3.6 Mg/yr (4 tph) and 7.3 Mg/yr (8 tph) processes, respectively. NO_X emissions from both processes would result from the combustion of natural gas used to operate the incinerator. Upon consideration of this information, the EPA concluded that the emissions reductions associated with controls beyond the floor do not offset the costs (docket items II–B–30 and 32).

3. Emission Limits

As part of this rulemaking, the EPA conducted comprehensive emission tests to characterize uncontrolled and controlled emissions from the various processes and to evaluate the effectiveness of existing control devices. Sources tested were those selected as representative of MACT. Using the test data, the EPA established the proposed emission limits for existing and new sources (docket items II–A–11, 12, and 13).

Because a fabric filter that represents the MACT floor for existing cupolas in the subcategory of plants that manufacture bonded products has the same design as a fabric filter that represents the MACT floor in the subcategory of plants that do not manufacture bonded products, the emission limits proposed for PM within each subcategory are the same. The emission limit proposed for PM for existing cupolas, 0.03 kg/Mg (0.06 lb/ton) of melt, is based on test results from a cupola equipped with a fabric filter, where PM emissions averaging 0.02 kg/Mg (0.04 lb/ton) of melt were measured. Because MACT for existing and new cupolas is the same, the EPA proposed the same PM limit, 0.03 kg/Mg (0.06 lb/ton) of melt, for new cupolas. In proposing the same PM emission limit for existing and new cupolas, the EPA recognizes that fabric filters used on existing cupolas are already efficient at controlling PM and particulate metal HAP emissions and there is no technology that has been documented to be more efficient.

The proposed CO limit for new cupolas, 0.05 kg/Mg (0.1 lb/ton) of melt, is based on test results from a cupola that is equipped with an incinerator and fabric filter where CO emissions averaging 0.035 kg/Mg (0.07 lb/ton) of melt were measured after control. The measured average efficiency for CO reduction across the control system was 99.6 percent. The owner or operator may alternatively meet a performance standard of 99 percent removal of CO across the control system. This alternative is offered because other cupolas may have a different inlet concentration and therefore may not meet the 0.05 kg/Mg (0.1 lb/ton) of melt numerical limit.

The emission limit proposed for formaldehyde for existing and new curing ovens, 0.03 kg/Mg (0.06 lb/ton) of melt, is based on test results from a curing oven equipped with an incinerator where formaldehyde emissions averaging 0.02 kg/Mg (0.04 lb/ton) of melt were measured. The measured average efficiency for formaldehyde reduction across the control system was 80 percent. The owner or operator may alternatively meet a performance standard of 80 percent removal of formaldehyde across the control system because other ovens may have higher inlet concentrations and therefore may not meet the numerical emission limit.

V. Impacts of Proposed Standards

A. Air Quality Impacts

Nationwide metal HAP and COS emissions from mineral wool production cupolas are estimated to be 2,522 Mg/yr (2,780 tpy) at the current level of control. Existing PM emissions are estimated to be 239 Mg/yr (263 tpy). Most of the existing cupolas are already well-controlled for PM and metal HAPs. Under the proposed NESHAP, it is expected that fabric filters would be added to the five cupolas currently controlled by cyclones, resulting in reductions in nationwide metal HAP emissions of 0.91 Mg/yr (1.0 tpy) and PM emissions of 186 Mg/yr (205 tpy). Formaldehyde and phenol emissions from existing curing ovens are estimated to be 54 Mg/yr (59 tpy) and 14 Mg/yr (16 tpy), respectively. Nationwide emissions of formaldehyde and phenol would be reduced by about 30 Mg/yr (34 tpy) and 14 Mg/yr (16 tpy), respectively, from the addition of thermal incinerators to two currently uncontrolled curing ovens. Because there is currently an estimated 55 percent excess capacity in the mineral wool production industry, the EPA does not anticipate any new cupolas or curing ovens within the next 5 years. If, however, a new cupola with a 7.3 Mg/hr (8 tph) capacity was built, COS and CO emissions would be reduced by 104 Mg/yr (114 tpy) and 1,256 Mg/yr (1,384 tpy), respectively, as a result of the required addition of a thermal incinerator.

Based on analyses of model processes, metal HAP and PM emissions from a cyclone-controlled small sized [3.6 Mg/hr (4 tph) melt capacity] cupola would be reduced by an estimated 24 Mg/yr (27 tpy). Estimated reductions of metal HAP and PM emissions from a large-sized [7.3 Mg/hr (8 tph) melt capacity] cupola similarly controlled would be 50 Mg/yr (55 tpy). Emissions of formaldehyde and phenol from an uncontrolled curing oven associated with a small-sized cupola would be reduced by approximately 10 Mg/yr (11 tpy) and 5 Mg/yr (5 tpy), respectively. Formaldehyde and phenol emissions from an uncontrolled curing oven associated with a large-sized cupola would be reduced by an estimated 20 Mg/yr (22 tpy) and 10 Mg/yr (11 tpy), respectively (docket items II–B–18 and 37).

Secondary emissions of NO_X from incinerator-controlled curing ovens are formed as a result of combustion of natural gas. Emissions of NO_X from the affected sources are predicted to increase by about 124 Mg/yr (137 tpy)

from a baseline level of about 248 Mg/yr (273 tpy) (docket item II–B–35).

B. Nonair Environmental and Health Impacts

Because the air pollution control devices associated with the control systems for mineral wool production processes are of a dry type (fabric filters and thermal incinerators), there are no water pollution impacts resulting from their use. Solid waste generated by fabric filter systems in the form of ash is disposed of by landfilling. With the addition of fabric filter control systems to five cupolas, the amount of solid waste is expected to increase by about 350 Mg/yr (390 tpy) from the current level of 24,800 Mg/yr (27,300 tpy) nationwide.

Reducing HAP levels may help lower occupational exposure levels and site-specific levels of PM and VOCs. Implementing the proposed equipment requirements may increase noise levels in the plant area.

Operating fabric filters and thermal incinerators requires the use of electrical energy to operate fans that move the gas stream. The additional electrical energy requirements are estimated to be 788,000 kilowatt hours per year (kWh/yr) for five fabric filters to be added to existing cupolas and 431,000 kWh/yr for two incinerators to be added to existing curing ovens. Thermal incinerators also may use natural gas as fuel. An additional 126,000 kilocubic feet per year (kft^3/yr) of natural gas would be required for the two incinerators that would be added to curing ovens.

C. Cost and Economic Impacts

The total nationwide capital and annualized costs for existing cupolas under the proposed NESHAP are estimated to be $1.5 million and $608,900/yr, respectively. These costs represent the addition of fabric filters to five cupolas but do not include the monitoring costs of bag leak detection systems required on all affected cupolas. Capital and annualized costs for a bag leak detection system are estimated at $9,100 and $1,800/yr per affected cupola, respectively.

The total nationwide capital and annualized costs of complying with the proposed NESHAP for existing curing ovens are estimated at $795,800 and $641,600/yr, respectively. These costs represent the addition of thermal incinerators to two curing ovens.

Under the proposed NESHAP, market-level price increases are estimated to range from 0.49 percent to 2.13 percent, resulting in quantity adjustments of -0.59 percent and -1.71 percent, respectively. The decreases in quantity demanded may lead to the loss of approximately nine jobs. Facility unit-cost increases would be less than one percent for all but three of the facilities. The highest unit-cost increase would be 6.3 percent for one facility for nonbonded products. These three facilities are also the only facilities projected to have control costs greater than their increase in revenue due to the projected increase in market prices. This portion of the control costs that the three facilities are projected to have to absorb would be 38 percent of B.T.N.I. for one facility and 29 percent for another facility. The third facility does not have positive B.T.N.I. in the pre-regulation baseline, so an estimate of a percentage change in B.T.N.I. is not meaningful (the unit cost increase for this facility is 3.9 percent for bonded products and 0.1 percent for nonbonded products). Neither the projected market quantity decreases or changes in capital structure indicate that the costs associated with the MACT floor control option would be expected to cause facility closure. However, if a facility would be closing in the absence of a regulation, the control costs might result in an earlier facility closure.

VI. Public Participation

The EPA seeks full public participation in arriving at its final decisions and encourages comments on all aspects of this proposal from all interested parties. Full supporting data and detailed analyses should be submitted with comments to allow the EPA to make maximum use of the comments. All comments should be directed to the Air and Radiation Docket and Information Center, Docket No. A–95–33 (see **ADDRESSES**). Comments on this document must be submitted on or before the date specified in **DATES**.

Commentors wishing to submit proprietary information for consideration should clearly distinguish such information from other comments and clearly label it ''Confidential Business Information'' (CBI). Submissions containing such proprietary information should be sent directly to the following address, and not to the public docket, to ensure that proprietary information is not inadvertently placed in the docket: Attention: Ms. Mary Johnson, c/o Ms. Melva Toomer, U.S. EPA Confidential Business Information Manager, OAQPS (MD–13); Research Triangle Park, NC 27711. Information covered by such a claim of confidentiality will be disclosed by the EPA only to the extent allowed and by the procedures set forth in 40 CFR part 2. If no claim of confidentiality accompanies a submission when it is received by the EPA, the submission may be made available to the public without further notice to the commenter.

VII. Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information considered by the EPA in the development of this rulemaking. The docket is a dynamic file, because material is added throughout the rulemaking development. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the proposed and promulgated standards and their preambles, the contents of the docket will serve as the record in the case of judicial review. (See section 307(d)(7)(A) of the Act.)

The official record for this rulemaking, as well as the public version, has been established for this rulemaking under Docket No. A–95–33 (including comments and data submitted electronically as described below). A public version of this record, including printed, paper versions of electronic comments, which does not include any information claimed as CBI, is available for inspection from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The official rulemaking record is located at the address in **ADDRESSES** at the beginning of this document.

Electronic comments can be sent directly to EPA's Air and Radiation Docket and Information Center at: ''A-and-R-Docket@epamail.epa.gov''. Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments and data will also be accepted on disks in WordPerfect in 5.1 file format or ASCII file format. All comments and data in electronic form must be identified by the docket number (A–95–33). Electronic comments on this proposed rule may be filed online at many Federal Depository Libraries.

B. Public Hearing

A public hearing will be held, if requested, to discuss the proposed standards in accordance with section 307(d)(5) of the Act. If a public hearing is requested and held, the EPA will ask clarifying questions during the oral presentation but will not respond to the presentations or comments. Written statements and supporting information

will be considered with equivalent weight as any oral statement and supporting information subsequently presented at a public hearing, if held. Persons wishing to present oral testimony or to inquire as to whether or not a hearing is to be held should contact the EPA (see **ADDRESSES**). To provide an opportunity for all who may wish to speak, oral presentations will be limited to 15 minutes each.

Any member of the public may file a written statement on or before July 7, 1997. Written statements should be addressed to the Air and Radiation Docket and Information Center (see **ADDRESSES**), and refer to Docket No. A–95–33. A verbatim transcript of the hearing and written statements will be placed in the docket and be available for public inspection and copying, or mailed upon request, at the Air and Radiation Docket and Information Center.

C. Executive Order 12866

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

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

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

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

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this regulatory action is not ''significant'' because none of the listed criteria apply to this action. Consequently, this action was not submitted to OMB for review under Executive Order 12866.

D. Enhancing the Intergovernmental Partnership Under Executive Order 12875

In compliance with Executive Order 12875, the EPA involved State regulatory experts in the development of this proposed rule. No tribal governments are believed to be affected by this proposed rule. State and local governments are not directly impacted by the rule, i.e., they are not required to purchase control systems to meet the requirements of the rule. However, they will be required to implement the rule; e.g., incorporate the rule into permits and enforce the rule. They will collect permit fees that will be used to offset the resources burden of implementing the rule. Comments have been solicited from States and have been considered in the rule development process. In addition, all States are encouraged to comment on this proposed rule during the public comment period, and the EPA intends to fully consider these comments in the development of the final rule.

E. Unfunded Mandates Reform Act

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

The EPA has determined that 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. Thus, today's rule is not subject to the requirements of sections 202 and 205 of the UMRA. In addition, the EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, today's rule is not subject to the requirements of section 203 of the UMRA.

F. Regulatory Flexibility

The Regulatory Flexibility Act (RFA) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements 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 not-for-profit enterprises, and small governmental jurisdictions. The EPA has determined that 7 of the 10 firms that potentially would be subject to the proposed standards are small firms. The EPA has met with all of these small firms and their trade association. They have been fully involved in this rulemaking and their concerns and comments have been considered in the development of this proposed rule. Also, the EPA Office of Asbestos and Small Business Ombudsman, Office of Regulatory Management and Information, participated in the development of the proposed NESHAP as a Work Group member to ensure that the requirements of the proposed standards were examined for potential adverse economic impacts. The economic impacts are summarized in section V.C of this document and in the economic impact analysis (docket item II–A–16).

Five of the 7 small firms would incur emission control costs that are less than 0.1 percent of sales, while one firm would incur control costs estimated to be 2.4 percent of the firm's sales. An estimate of control cost as a percentage of sales cannot be determined for one firm because they began producing mineral wool within the last year and sales information is not available. It is believed, however, that the emission control costs that would be incurred by

this firm would be in excess of 3 percent. Thus, this rule affects only a small number of small businesses. Further, most of the small businesses impacted by this rule will experience minimal increases in costs. Only two small businesses are projected to incur costs exceeding 0.1 percent of sales. Based on this information, the EPA has concluded that this proposed rule would not have a significant economic impact on a substantial number of small entities. Therefore, I certify that this action will not have a significant economic impact on a substantial number of small entities.

In developing these proposed standards, the EPA has exercised the maximum degree of flexibility in minimizing impacts on small businesses through subcategorization of the source category. Also, these proposed standards, which are based on MACT-floor level control technology, reflect the minimum level of control allowed under the Act.

G. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to OMB under the requirements of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1799.01), and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (2137), 401 M Street SW., Washington, DC 20460, or by calling (202) 260–2740.

The proposed information requirements include the notification, recordkeeping, and reporting requirements of the NESHAP general provisions (40 CFR part 63, subpart A), which are mandatory for all owners or operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the Act (42 U.S.C. 7414). All information submitted to the EPA for which a claim of confidentiality is made is safeguarded according to Agency policies in 40 CFR part 2, subpart B. The proposed rule does not require any notifications or reports beyond those required by the general provisions (40 CFR part 63, subpart A). Proposed subpart DDD does require additional records of specific information needed to determine compliance with the rule. These include records of: (1) Cupola production (melt) rate; (2) any bag leak detection system alarm, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken; (3) free formaldehyde content of each resin lot and the binder formulation, including formaldehyde content of each binder batch used in the manufacture of bonded products; and (4) incinerator operating temperature, including any period when the average temperature in any 3-hour block period falls below the average level established during the performance test.

The annual public reporting and recordkeeping burden for this collection of information (averaged over the first 3 years after the effective date of the rule) is estimated to be 6,107 labor hours per year at a total annual cost of $196,206. This estimate includes a one-time performance test and report (with repeat tests where needed); one-time preparation of a startup, shutdown, and malfunction plan with semiannual reports of any event where the procedures in the plan were not followed; semiannual excess emissions reports; notifications; and recordkeeping. Total capital costs associated with monitoring requirements over the 3-year period of the ICR is estimated at $309,400; this estimate includes the capital and startup costs associated with installation of a bag leak detection system for each cupola at a plant subject to the standard. The total operation and maintenance cost is estimated at $17,000/yr.

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

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 EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the EPA's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137), 401 M Street SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Include the ICR number in any correspondence. Because OMB is required to make a decision concerning the ICR between 30 and 60 days after May 8, 1997, a comment to OMB is best assured of having its full effect if OMB receives it by June 9, 1997. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

H. Pollution Prevention Act

During the development of these standards, the EPA explored opportunities to eliminate or reduce emissions through the application of new processes or work practices. By reducing or eliminating the formaldehyde and phenol in binder formulations, HAPs from the curing process would be reduced or eliminated without the use of air pollution control equipment. Alternative binders have been investigated by various mineral wool producers. Acceptable alternatives have been difficult to identify due to: the higher costs of the potential alternative binders; the problems associated with requalification of altered products to meet required product specifications; the production process changes necessitated by the use of modified binders; and the concerns regarding potential toxicity of new binder ingredients. Thus, at this time an acceptable alternative binder has not been commercially demonstrated.

I. Clean Air Act

In accordance with section 117 of the Act, publication of this proposal was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. This regulation will be reviewed 8 years from the date of promulgation. This review will include an assessment of such factors as evaluation of the residual health risks, any overlap with other programs, the existence of alternative methods, enforceability, improvements in emission control technology and health data, and the recordkeeping and reporting requirements.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Mineral wool production,

Recordkeeping and reporting requirements.

Dated: April 29, 1997.

Carol M. Browner,

Administrator.

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

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

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

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

2. Part 63 is amended by adding subpart DDD to read as follows:

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

Sec.

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

§ 63.1175 Applicability.

(a) The requirements of this subpart apply to the owner or operator of each mineral wool production facility that is a major source as defined in § 63.2 of the general provisions in subpart A of this part.

(b) The requirements of this subpart apply to emissions of hazardous air pollutants, as measured according to the methods and procedures in this subpart, emitted from each new, existing, or reconstructed cupola and curing oven at a mineral wool production facility subject to this subpart.

§ 63.1176 Definitions.

Terms used in this subpart are defined in the Clean Air Act as amended (the Act), in § 63.2 of the general provisions in subpart A of this part, or in this section as follows:

Bag leak detection system means a monitoring device for a fabric filter that identifies an increase in particulate matter emissions resulting from a broken filter bag or other malfunction and sounds an alarm.

Bonded product means mineral wool to which a hazardous air pollutant-based binder (e.g., phenol, formaldehyde) has been applied.

CO means, for the purposes of this subpart, emissions of carbon monoxide that serve as a surrogate for emissions of carbonyl sulfide, a compound included on the list of hazardous air pollutants in section 112 of the Act.

Cupola means a large, water-cooled metal vessel which charges a mixture of fuel, rock and/or blast furnace slag, and additives; as the fuel is burned, the charged mixture is heated to a molten state for subsequent processing to form mineral wool.

Curing oven means a chamber in which heat is used to thermoset a binder on the mineral wool fiber used in the manufacture of bonded products.

Fabric filter means an air pollution control device used to capture particulate matter by filtering gas streams through fabric bags; also known as a baghouse.

Formaldehyde means, for the purposes of this subpart, emissions of formaldehyde that serve as a surrogate for organic compounds included on the list of hazardous air pollutants in section 112 of the Act, including but not limited to phenol.

Hazardous air pollutant means those chemicals and their compounds that are included on the list of hazardous air pollutants in section 112(b) of the Clean Air Act.

Incinerator means an air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases.

Melt means raw materials, excluding coke, that are charged into the cupola, heated to a molten state, and discharged to the fiber forming and collection process.

Melt rate means the mass of molten material discharged from a single cupola for use in the production of mineral wool over a specified time period.

Mineral wool means a fibrous glassy substance made from natural rock (such as basalt), blast furnace slag, or a mixture of rock and slag; it may be used as a thermal or acoustical insulation material or in the manufacturing of other products to provide structural strength, sound absorbency, or fire resistance.

PM means, for the purposes of this subpart, emissions of particulate matter that serve as a surrogate for metals (in particulate or volatile form) on the list of hazardous air pollutants in section 112 of the Act, including but not limited to: antimony, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium.

§ 63.1177 Emission standards for cupolas and curing ovens.

(a) On and after the date the performance test is conducted or required to be conducted under § 63.7 of the general provisions in subpart A of this part and § 63.1179 of this subpart, whichever date is earlier, the owner or operator shall not discharge or cause to be discharged into the atmosphere any gases from an existing cupola in excess of 0.03 kilogram (kg) of particulate matter (PM) per megagram (Mg) (0.06 pound [lb] of PM per ton) of melt.

(b) On and after the date the performance test is conducted or required to be conducted under § 63.7 of the general provisions in subpart A of this part and § 63.1179 of this subpart, whichever date is earlier, the owner or operator shall not discharge or cause to be discharged into the atmosphere any gases from a new or reconstructed cupola in excess of:

(1) 0.03 kg of PM per Mg (0.06 lb of PM per ton) of melt; and

(2)(i) 0.05 kg of carbon monoxide (CO) per Mg (0.10 lb of CO per ton) of melt; or

(ii) The owner or operator shall reduce uncontrolled CO emissions by at least 99 percent.

(c)(1) On and after the date the performance test is conducted or required to be conducted under § 63.7 of the general provisions in subpart A of this part and § 63.1179 of this subpart, whichever date is earlier, the owner or operator shall not discharge or cause to be discharged into the atmosphere any gases from a new, existing, or reconstructed curing oven in excess of 0.03 kg of formaldehyde per Mg (0.06 lb of formaldehyde per ton) of melt; or

(2) The owner or operator shall reduce uncontrolled formaldehyde emissions by at least 80 percent.

§ 63.1178 Monitoring requirements.

(a) The owner or operator shall install, calibrate, maintain, and operate a device that measures and records the average hourly production (melt) rate for each cupola:

(1) Following the performance test required in § 63.1179 of this subpart, if the melt rate exceeds the average melt rate established during the performance test by more than 20 percent for more than 5 percent of the total operating time in a 6-month reporting period, the

owner or operator shall conduct a repeat performance test at the higher melt rate to demonstrate compliance; and

(2) If results from the repeat performance test exceed any of the applicable emission standards, the owner or operator is in violation of the emission standard(s) for the entire period that the melt rate was more than 20 percent above the average level established during the previous performance test.

(b) The owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system for each cupola fabric filter control system:

(1) The bag leak detection system must be capable of detecting PM emissions at concentrations of 1.0 milligram per actual cubic meter (0.00044 grains per actual cubic foot) and greater;

(2) The bag leak detection system sensor must provide output of relative or absolute PM emissions;

(3) The bag leak detection system must be equipped with an alarm system that will sound when an increase in PM emissions over a preset level is detected;

(4) For positive pressure fabric filters, a bag leak detector must be installed in each fabric filter compartment or cell. If a negative pressure or induced air fabric filter is used, the bag leak detector must be installed downstream of the fabric filter. Where multiple bag leak detectors are required (for either type of fabric filter), the system instrumentation and alarm may be shared among detectors;

(5) The bag leak detection system shall be installed, operated, calibrated, and maintained in a manner consistent with available guidance from the U.S. Environmental Protection Agency or, in the absence of such guidance, the manufacturer's written specifications and recommendations;

(6) Calibration of the system shall, at minimum, consist of establishing the relative baseline output level by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time;

(7) The owner or operator shall not adjust the range, averaging period, alarm set points, or alarm delay time after the performance test required in § 63.1179 of this subpart without written approval from the Administrator;

(8) Following the performance test, if the alarm on a bag leak detection system is triggered, the owner or operator shall inspect the control device to determine the cause of the deviation and initiate within 1 hour of the alarm the corrective actions specified in the operation, maintenance, and monitoring plan. Failure to initiate the corrective action procedures within 1 hour of the alarm is a violation of the PM emission standard; and

(9) If the bag leak detection system alarm is activated for more than 5 percent of the total operating time during a 6-month reporting period, the owner or operator shall develop and implement a written quality improvement plan consistent with subpart D of the draft approach to compliance assurance monitoring.[1]

(c) The owner or operator shall monitor and record the free formaldehyde content of each resin lot and the binder formulation, including the formaldehyde content of each binder batch used in the manufacture of bonded products:

(1) Following the performance test required in § 63.1179 of this subpart, the owner or operator shall maintain the formaldehyde content of each binder formulation at or below the level established during the test; and

(2) If the binder formaldehyde content exceeds the level established during the performance test, the owner or operator is in violation of the formaldehyde emission standard.

(d) The owner or operator shall install, calibrate, maintain, and operate a device that continuously measures the operating temperature in the firebox of each thermal incinerator used to control process emissions from a cupola or curing oven and determines and records the temperature in 15-minute block averages:

(1) Following the performance test required in § 63.1179 of this subpart, the owner or operator shall maintain the operating temperature of each incinerator such that the average operating temperature in any 3-hour block period does not fall below the average temperature established during the performance test;

(2) Operation of an incinerator such that the average operating temperature in any 3-hour block period falls below the average level established during the performance test is a violation of the applicable emission standard in § 63.1177 (b)(2) or (c) of this subpart; and

(3) At a minimum, valid 3-hour temperature averages shall be obtained for 75 percent of the operating hours per day for 90 percent of the operating days per 6-month reporting period that the facility is producing mineral wool.

(e) All monitoring systems and equipment must be installed, operational, and properly calibrated prior to the performance test required by § 63.1179 of this subpart.

(f) For all control device and process operating parameters measured during the performance test required by § 63.1179 of this subpart, the owner or operator of cupola or curing ovens subject to this subpart may change the levels established during the performance test if additional performance testing is conducted to verify that, at the new control device or process parameter levels, the owner or operator is in compliance with the emission standards in § 63.1177 of this subpart.

§ 63.1179 Performance test requirements.

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

(1) [Date 3 years after effective date of the final rule] for an existing cupola or curing oven;

(2) [Date 4 years following the effective date of the final rule] for an existing source that is granted an extension by the applicable regulatory authority under section 112(i)(3)(B) of the Act; or

(3) Upon startup, for a new or reconstructed cupola or curing oven.

(b) *Performance test.* The owner or operator of each cupola or curing oven subject to this subpart shall conduct a performance test to demonstrate compliance with each of the applicable emission standards in § 63.1177 of this subpart according to the procedures in the general provisions in subpart A of this part and in this paragraph (b):

(1) Using the test methods and procedures in § 63.1180 of this subpart, the owner or operator shall measure emissions of PM (for each existing cupola) or PM and CO (for each new or reconstructed cupola) and emissions of formaldehyde from each existing, new, or reconstructed curing oven at the outlet of the control device (if complying with a numerical emission limit), or at the inlet and outlet of the control device (if complying with a percent reduction limit). The owner or operator shall compute and record the average of at least three runs and use the applicable equations in paragraph (b)(6) of this section to determine compliance with the applicable emission limit in the units of the standard. Compliance is demonstrated when the emission rate of the pollutant is equal to or less than each of the applicable emission limits in § 63.1177 of this subpart;

(2) The owner or operator of each cupola and curing oven shall monitor and record the amount of raw materials,

[1] Proposed rule published in the August 13, 1996 **Federal Register** (61 FR 41991).

excluding coke, charged into and melted in each cupola during each test run and determine the average hourly melt rate for each test run. The arithmetic average of the melt rate for the three test runs, plus 20 percent, shall be used to monitor compliance. If the owner or operator plans to operate above the average melt rate established during the performance test by more than 20 percent for more than 5 percent of the total operating time in a 6-month reporting period, another performance test at the higher melt rate shall be conducted;

(3) The owner or operator shall conduct the performance test for each curing oven during the manufacture of the product using the binder formulation with the highest formaldehyde content. During the performance test, the owner or operator shall record the free formaldehyde content of the resin(s) used during the test and the binder formulation(s), including the formaldehyde content of the binder, used during the test. If the owner or operator plans to use a binder with a higher formaldehyde content than that recorded during the performance test, another performance test of the curing oven during use of the binder with a higher formaldehyde content shall be conducted;

(4) With prior approval from the Administrator or delegated regulatory authority, an owner or operator of a curing oven regulated by this subpart may conduct short-term experimental production runs using binder formulations or other process modifications where the formaldehyde content or other process parameter values deviate from those established during previous performance tests without first conducting additional performance tests. An application to perform an experimental short-term production run shall include the following information:

(i) The purpose of the experimental run;

(ii) The affected curing oven;

(iii) How the established process parameters will deviate from previously approved levels;

(iv) The duration of the test run;

(v) The date and time of the test run; and

(vi) A description of any emission testing to be performed during the test;

(5) During the performance test, the owner or operator shall continuously measure the operating temperature for each cupola or curing oven incinerator, determine and record the 15-minute block average temperatures, and determine the arithmetic average of the recorded temperature measurements for each test run. The arithmetic average of the three test runs shall be used to monitor compliance. If the owner or operator plans to reduce the operating temperature below the temperature established during the performance test, another performance test at the reduced operating temperature shall be conducted; and

(6) Using the results of the emissions test, the owner or operator shall use Equation 1 to determine compliance with the PM emission standard for the cupola, Equation 2 to determine compliance with a numerical emission limit for formaldehyde or CO, and/or Equation 3 to determine compliance with the percent reduction performance standard for formaldehyde or CO:

$$E = \frac{C \times Q \times K_1}{P} \qquad \text{(Eq. 1)}$$

where:

E=Emission rate of PM, kg/Mg (lb/ton) of melt;

C=Concentration of PM, g/dscm (gr/dscf);

Q=Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);

K_1=Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and

P=Average melt rate, Mg/hr (ton/hr).

$$E = \frac{C \times MW \times Q \times K_1 \times K_2}{K_3 \times P \times 10^6} \qquad \text{(Eq. 2)}$$

where:

E=Emission rate of measured pollutant, kg/Mg (lb/ton) of melt;

C=Measured volume fraction of pollutant, ppm;

MW=Molecular weight of measured pollutant, g/g-mole: CO=28.01, Formaldehyde=30.03;

Q=Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);

K_1=Conversion factor, 1 kg/1,000 g (1 lb/453.6 g);

K_2=Conversion factor, 1,000 L/m^3 (28.3 L/ft^3);

K_3=Conversion factor, 24.45 L/g-mole; and

P=Average melt rate, Mg/hr (ton/hr).

$$\%R = \frac{L_i - L_o}{L_i} \times 100 \qquad \text{(Eq. 3)}$$

where:

%R=Percent reduction, or collection efficiency of the control device;

L_i=Inlet loading of pollutant, kg/Mg (lb/ton); and

L_o=Outlet loading of pollutant, kg/Mg (lb/ton).

§ 63.1180 Test methods and procedures.

(a) The owner or operator shall use the following methods to determine compliance with the applicable emission standards:

(1) Method 1 in appendix A to part 60 of this chapter for the selection of the sampling port location and number of sampling ports;

(2) Method 2 in appendix A to part 60 of this chapter for stack gas velocity and volumetric flow rate;

(3) Method 3 or 3A in appendix A to part 60 of this chapter for oxygen (O_2) and carbon dioxide (CO_2) for diluent measurements needed to correct the concentration measurements to a standard basis;

(4) Method 4 in appendix A to part 60 of this chapter for moisture content of the stack gas;

(5) Method 5 in appendix A to part 60 of this chapter for the concentration of PM. Each run shall consist of a minimum run time of 2 hours and a minimum sample volume of 2.5 dscm (90 dscf);

(6) Method 10 in appendix A to part 60 of this chapter for the concentration of CO, using the continuous sampling option described in section 7.1.1 of the method. Each run shall consist of a minimum run time of 1 hour;

(7) Method 318[2] in appendix A to this part for the concentration of formaldehyde or CO; and

(8) Method contained in appendix A of this subpart for the determination of the free formaldehyde content of resin.

(b) The owner or operator may use an alternative method subject to approval by the Administrator.

§ 63.1181 Notification, recordkeeping, and reporting requirements.

(a) *Notifications.* As required by § 63.9 (b) through (h) of the general provisions in subpart A of this part, the owner or operator shall submit the following written initial notifications to the Administrator:

(1) Notification for an area source that subsequently increases its emissions such that the source is a major source subject to the standard;

(2) Notification that a source is subject to the standard, where the initial startup is before the effective date of the standard;

(3) Notification that a source is subject to the standard, where the source is new or has been reconstructed, the initial startup is after the effective date of the standard, and for which an application for approval of construction or reconstruction is not required;

(4) Notification of intention to construct a new major source or reconstruct a major source; of the date

[2] Proposed method published in the March 31, 1997 **Federal Register** (62 FR 15228).

construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after the effective date of the standard, and for which an application for approval of construction or reconstruction is required (See § 63.9(b) (4) and (5).);

(5) Notification of special compliance obligations;

(6) Notification of performance test; and

(7) Notification of compliance status.

(b) *Performance test report.* As required by § 63.10(d)(2) of the general provisions in subpart A of this part, the owner or operator shall report the results of the initial performance test as part of the notification of compliance status required in paragraph (a)(7) of this section.

(c) *Startup, shutdown, and malfunction plan and reports.* The owner or operator shall develop and implement a written plan as described in § 63.6(e)(3) of the general provisions in subpart A of this part that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the standard. The owner or operator shall also keep records of each event as required by § 63.10(b) of the general provisions in subpart A of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in § 63.6(e)(3). In addition to the information required in § 63.6(e)(3), the plan shall include:

(1) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended;

(2) Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and

(3) A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(d) *Operation, maintenance, and monitoring plan.* The owner or operator of each mineral wool production plant shall prepare for each cupola and curing oven subject to the provisions of this subpart, a written operations, maintenance, and monitoring plan. The plan shall be submitted to the Administrator for review and approval prior to being incorporated in the part 70 permit and shall include the following information:

(1) Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges for each process or control device;

(2) A monitoring schedule;

(3) Procedures for the proper operation and maintenance of control devices used to meet the emission limits of § 63.1177 of this subpart;

(4) Procedures for keeping records to document compliance; and

(5) Corrective actions to be taken when process or control device parameters deviate from the levels established during initial performance testing.

(e) *Excess emissions report.* As required by § 63.10(e)(3) of the general provisions in subpart A of this part, the owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter is exceeded. When no exceedances of measured emissions or monitored parameters have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period.

(f) *Recordkeeping.* (1) As required by § 63.10(b) of the general provisions in subpart A of this part, the owner or operator shall maintain files of all information (including all reports and notifications) required by the general provisions in subpart A of this part and this subpart:

(i) The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site;

(ii) The owner or operator may retain records on microfilm, on a computer disk, on magnetic tape, or on microfiche; and

(iii) The owner or operator may report required information on paper or on a labeled computer disk using commonly available and compatible computer software.

(2) In addition to the general records required by § 63.10(b)(2) of the general provisions in subpart A of this part, the owner or operator shall maintain records of the following information:

(i) Cupola production rate [Mg/hr (tons/hr) of melt];

(ii) Any bag leak detection system alarm, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken;

(iii) The free formaldehyde content of each resin lot and the binder formulation, including formaldehyde content of each binder batch used in the manufacture of bonded products;

(iv) Incinerator operating temperature, including any period when the average temperature in any 3-hour block period falls below the average temperature established during the performance test, with a brief explanation of the cause of the deviation and the corrective action taken; and

(v) Identification of the calendar dates for which the minimum number of hours of valid 3-hour incinerator operating temperature averages is not obtained, including reasons for not obtaining sufficient data and a description of the corrective action taken.

§ 63.1182 Applicability of general provisions.

The requirements of the general provisions in subpart A of this part that are applicable to the owner or operator subject to the requirements of this subpart are shown in appendix B to this subpart.

§ 63.1183 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) § 63.1180(b) of this subpart, for approval of an alternative test method.

§ 63.1184—63.1199 [Reserved]

Appendix A to Subpart DDD of Part 63—Free Formaldehyde Analysis of Insulation Resins by Hydroxylamine Hydrochloride

1. Scope

The method in this appendix was specifically developed for water-soluble phenolic resins that have a relatively high free-formaldehyde (FF) content such as insulation resins. It may also be suitable for other phenolic resins, especially those with a high FF content.

2. Principle

2.1 a. The basis for this method is the titration of the hydrochloric acid that is liberated when hydroxylamine hydrochloride reacts with formaldehyde to form formaldoxine:

HCHO+NH2OH:HCl→CH2:NOH+H2O+HCl

b. Free formaldehyde in phenolic resins is present as monomeric formaldehyde, hemiformals, polyoxymethylene hemiformals, and polyoxymethylene glycols. Monomeric formaldehyde and hemiformals

react rapidly with hydroxylamine hydrochloride, but the polymeric forms of formaldehyde must hydrolyze to the monomeric state before they can react. The greater the concentration of free formaldehyde in a resin, the more of that formaldehyde will be in the polymeric form. The hydrolysis of these polymers is catalyzed by hydrogen ions.

2.2 The resin sample being analyzed must contain enough free formaldehyde so that the initial reaction with hydroxylamine hydrochloride will produce sufficient hydrogen ions to catalyze the depolymerization of the polymeric formaldehyde within the time limits of the test method. The sample should contain approximately 0.3 grams (g) free formaldehyde to ensure complete reaction within 5 minutes.

3. Apparatus

3.1 Balance, readable to 0.01 g or better.
3.2 pH meter, standardized to pH 4.0 with pH 4.0 buffer and pH 7 with pH 7.0 buffer.
3.3 50-mL burette for 1.0 N sodium hydroxide.
3.4 Magnetic stirrer and stir bars.
3.5 250-mL beaker.
3.6 50-mL graduated cylinder.
3.7 100-mL graduated cylinder.
3.8 Timer.

4. Reagents

4.1 Standardized 1.0 N sodium hydroxide solution.

4.2 Hydroxylamine hydrochloride solution, 100 grams per liter, pH adjusted to 4.00.
4.3 Hydrochloric acid solution, 1.0 N and 0.1 N.
4.4 Sodium hydroxide solution, 0.1 N.
4.5 50/50 v/v mixture of distilled water and methyl alcohol.

5. Procedure

5.1 Determine the sample size as follows:
a. If the expected FF is greater than 2 percent, go to Part A in 5.1.c to determine sample size.
b. If the expected FF is less than 2 percent, go to Part B in 5.1.d to determine sample size.
c. Part A: Expected FF ≥ 2 percent.
Grams resin = 60/expected percent FF.
i. The following table shows example levels:

Expected percent free formaldehyde	Sample size, grams
2	30.0
5	12.0
8	7.5
10	6.0
12	5.0
15	4.0

ii. It is very important to the accuracy of the results that the sample size be chosen correctly. If the milliliters of titrant are less than 15 mL or greater than 30 mL, reestimate the needed sample size and repeat the tests.
d. Part B: Expected FF < 2 percent.
Grams resin = 30/expected percent FF.
i. The following table shows example levels:

Expected percent free formaldehyde	Sample Size, grams
2	15
1	30
0.5	60

ii. If the milliliters of titrant are less than 5 mL or greater than 30 mL, reestimate the needed sample size and repeat the tests.
5.2 Weigh the resin sample to the nearest 0.01 grams into a 250-mL beaker. Record sample weight.
5.3 Add 100 mL of the methanol/water mixture and stir on a magnetic stirrer. Confirm that the resin has dissolved.
5.4 Adjust the resin/solvent solution to pH 4.0, using the prestandardized pH meter, 1.0 N hydrochloric acid, 0.1 N hydrochloric acid, and 0.1 N sodium hydroxide.
5.5 Add 50 mL of the hydroxylamine hydrochloride solution, measured with a graduated cylinder. Start the timer.
5.6 Stir for 5 minutes. Titrate to pH 4.0 with standardized 1.0 N sodium hydroxide. Record the milliliters of titrant and the normality.

6. Calculations

$$\% \text{ FF} = \frac{\text{mL sodium hydroxide} \times \text{normality} \times 3.003}{\text{grams of sample}}$$

7. Method Precision and Accuracy

Test values should conform to the following statistical precision:
Variance = 0.005.
Standard deviation = 0.07.
95% Confidence Interval, for a single determination = 0.2.

8. Author

This method was prepared by K. K. Tutin and M. L. Foster, Tacoma R&D Laboratory, Georgia-Pacific Resins, Inc. (Principle written by R. R. Conner.)

9. References

9.1 GPAM 2221.2.
9.2 PR&C TM 2.035.
9.3 Project Report, Comparison of Free Formaldehyde Procedures, January 1990, K. K. Tutin.

APPENDIX B 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	Comment
63.1 (a)(1)–(a)(4)	General Applicability	Yes.	
63.1(a)(5)		No	[Reserved]
63.1 (a)(6)–(a)(8)		Yes.	
63.1(a)(9)		No	[Reserved]
63.1 (a)(10)–(a)(14)		Yes.	
63.1(b)	Initial Applicability Determination	Yes.	
63.1(c)(1)	Applicability After Standard Established	Yes.	
63.1(c)(2)		Yes	Some plants may be area sources.
63.1(c)(3)		No	[Reserved]
63.1 (c)(4)–(c)(5)		Yes.	
63.1(d)		No	[Reserved]
63.1(e)	Applicability of Permit Program	Yes.	
63.2	Definitions	Yes	Additional definitions in § 63.1176.
63.3	Units and Abbreviations	Yes.	
63.4 (a)(1)–(a)(3)	Prohibited Activities	Yes.	
63.4(a)(4)		No	[Reserved]
63.4(a)(5)		Yes.	

APPENDIX B 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	Comment
63.4 (b)–(c)	Circumvention/Severability	Yes.	
63.5(a)	Construction/Reconstruction Applicability	Yes.	
63.5(b)(1)	Existing, New, Reconstructed Sources Requirements.	Yes.	
63.5(b)(2)		No	[Reserved]
63.5 (b)(3)–(b)(6)		Yes.	
63.5(c)		No	[Reserved]
63.5(d)	Application for Approval of Construction/ 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)	New and Reconstructed Sources Dates	Yes.	
63.6(b)(6)		No	[Reserved]
63.6(b)(7)		Yes.	
63.6(c)(1)	Existing Sources Dates	Yes	§ 63.1179 specifies dates.
63.6(c)(2)		Yes.	
63.6 (c)(3)–(c)(4)		No	[Reserved]
63.6(c)(5)		Yes.	
63.6(d)		No	[Reserved]
63.6 (e)(1)–(e)(2)	Operation & Maintenance Requirements	Yes	§ 63.1181 specifies additional requirements.
63.6(e)(3)	Startup, Shutdown, and Malfunction Plan	Yes.	
63.6(f)	Compliance with Emission Standards	Yes.	
63.6(g)	Alternative Standard	Yes.	
63.6(h)	Compliance with Opacity/VE Standards	No	Subpart DDD does not include VE/opacity standards.
63.6 (i)(1)–(i)(14)	Extension of Compliance	Yes	§ 63.1179 specifies dates.
63.6(i)(15)		No	[Reserved]
63.6(i)(16)		Yes.	
63.6(j)	Exemption from Compliance	Yes.	
63.7(a)	Performance Test Requirements Applicability.	Yes.	
63.7(b)	Notification	Yes.	
63.7(c)	Quality Assurance/Test Plan	Yes.	
63.7(d)	Testing Facilities	Yes.	
63.7(e)	Conduct of Tests	Yes	§ 63.1179 specifies additional requirements.
63.7(f)	Alternative Test Method	Yes	EPA retains approval authority.
63.7(g)	Data Analysis	Yes.	
63.7(h)	Waiver of Tests	Yes.	
63.8(a)(1)	Monitoring Requirements Applicability	Yes.	
63.8(a)(2)		No	Subpart DDD does not require CMS performance specifications.
63.8(a)(3)		No	[Reserved]
63.8(a)(4)		Yes.	
63.8(b)	Conduct of Monitoring	Yes.	
63.8 (c)(1)–(c)(3)	CMS Operation/Maintenance	Yes.	
63.8 (c)(4)–(c)(8)		No	Subpart DDD does not require COMS/ CEMS or CMS performance specifications.
63.8(d)	Quality Control	No	Subpart DDD does not require a CMS quality control program.
63.8(e)	CMS Performance Evaluation	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)	Data Reduction	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)	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.	

APPENDIX B 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	Comment
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)	General Recordkeeping Requirements	Yes	§ 63.1181 includes additional requirements.
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)		Yes.	
63.10(c)(9)		No	[Reserved]
63.10 (c)(10)–(c)(13)		Yes.	
63.10(c)(14)		No	Subpart DDD does not require a CMS quality control program.
63.10(c)(15)		Yes.	
63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements in § 63.1181.
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)–(d)(5)	Progress Reports/Startup, Shutdown, and Malfunction Reports.	Yes.	
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.
63.10(f)	Recordkeeping/Reporting Waiver	Yes.	
63.11(a)	Control Device Requirements Applicability.	Yes.	
63.11(b)	Flares	No	Flares not applicable.
63.12	State Authority and Delegations	Yes	Authority for approval of alternative test methods retained.
63.13	Addresses	Yes.	
63.14	Incorporation by Reference	Yes.	
63.15	Information Availability/Confidentiality	Yes.	

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