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National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[FRL–6768–3]

RIN 2060–AE48

National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This action proposes national emission standards for hazardous air pollutants (NESHAP) for integrated iron and steel manufacturing facilities. The EPA has identified integrated iron and steel manufacturing facilities as a major source of hazardous air pollutant (HAP) emissions. These proposed standards will implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emission standards reflecting application of the maximum achievable control technology (MACT).

The HAP emitted by facilities in the integrated iron and steel manufacturing source category include metals (primarily manganese and lead with small quantities of other metals) and trace amounts of organic HAP (such as polycyclic organic matter, benzene, and carbon disulfide). Exposure to these substances has been demonstrated to cause adverse health effects, including chronic and acute disorders of the blood, heart, kidneys, reproductive system, and central nervous system.

DATES: *Comments.* Submit comments on or before October 11, 2001.

Public Hearing. If anyone contacts the EPA requesting to speak at a public hearing by August 3, 2001, a public hearing will be held on August 13, 2001.

ADDRESSES: *Comments.* By U.S. Postal Service, send comments (in duplicate if possible) to: Air and Radiation Docket and Information Center (6102), Attention Docket Number A–2000–44, U.S. EPA, 1200 Pennsylvania Avenue, NW, Washington, DC 20460. In person or by courier, deliver comments (in duplicate if possible) to: Air and Radiation Docket and Information Center (6102), Attention Docket Number A–2000–44, Room M–1500, U.S. EPA, 401 M Street, SW, Washington, DC 20460. The EPA requests a separate copy also be sent to the contact person listed below (see **FOR FURTHER INFORMATION CONTACT**).

Public hearing. If a public hearing is held, it will be held at the EPA Office of Administration Auditorium, Research Triangle Park, NC beginning at 10 a.m.

Docket. Docket No. A–2000–44 contains supporting information used in developing the proposed standards. The docket is located at the U.S. EPA, 401 M Street SW, Washington, DC 20460 in room M–1500, Waterside Mall (ground floor), and may be inspected from 8:30 a.m. to 5:30 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: Phil Mulrine, Metals Group, Emission Standards Division (MD–13), U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541–5289, electronic mail address: mulrine.phil@epa.gov.

SUPPLEMENTARY INFORMATION:

Comments. Comments and data may be submitted by electronic mail (e-mail) to: air-and-r-docket@epa.gov. Electronic comments must be submitted as an ASCII file to avoid the use of special characters and encryption problems and will also be accepted on disks in WordPerfect® version 5.1, 6.1, or Corel 8 file format. All comments and data submitted in electronic form must note the docket number: A–2000–44. No confidential business information (CBI) should be submitted by e-mail. Electronic comments may be filed online at many Federal Depository Libraries.

Commenters wishing to submit proprietary information for consideration must clearly distinguish such information from other comments and label it as CBI. Send submissions containing such proprietary information directly to the following address, and not to the public docket, to ensure that proprietary information is not inadvertently placed in the docket: Attention: Mr. Roberto Morales, U.S. EPA, OAQPS Document Control Officer, Attn: Phil Mulrine, 411 W. Chapel Hill Street, Room 740B, Durham, NC 27711. The EPA will disclose information identified as CBI only to the extent allowed 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 information may be made available to the public without further notice to the commenter.

Public Hearing. Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be held should contact Mary Hinson, Metals Group, Emission Standards Division, U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541–5601, in advance of the public hearing. Persons interested in attending the public hearing must also call Mary Hinson to verify the time, date, and location of the hearing. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning these proposed emission standards.

Docket. The docket is an organized and complete file of all the information considered by the EPA in the development of this proposed rule. The docket is a dynamic file because material is added throughout the rulemaking process. 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 CAA.) The regulatory text and other materials related to this rulemaking are available for review in the docket or copies may be mailed on request from the Air Docket by calling (202) 260–7548. A reasonable fee may be charged for copying docket materials.

World Wide Web (WWW). In addition to being available in the docket, an electronic copy of today's proposed rule will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the rule will be placed on the TTN's policy and guidance page for newly proposed or promulgated rules at http://www.epa.gov/ttn/oarpg. The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541–5384.

Regulated Entities. Categories and entities potentially regulated by this action include:

Category	SIC	NAICS	Example of regulated entities
Integrated iron and steel mills	3312	331111	Steel companies, sinter plants, blast furnaces, basic oxygen process furnace shops.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in § 63.7781 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.

Outline. The information presented in this preamble is organized as follows:

I. Background

A. What Is the Statutory Authority for NESHAP?

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. The category of major sources covered by today's proposed NESHAP, Integrated Iron and Steel Manufacturing, was listed on July 16, 1992 (57 FR 31576). Major sources of HAP are those that have the potential to emit greater than 10 tons/yr of any one HAP or 25 tons/yr of any combination of HAP.

B. What Criteria Are Used in the Development of NESHAP?

The NESHAP for new and existing sources developed under section 112 must reflect the maximum degree of reduction of HAP emissions that is achievable taking into consideration the cost of achieving the emission reduction, any non-air quality health and environmental benefits, and energy requirements. Emission reductions may be accomplished through promulgation of emission standards under section 112(d). These may include, but are not limited to:

- Reducing the volume of, or eliminating emissions of HAP through process changes, substitution of materials, or other modifications;
- Enclosing systems or processes to eliminate emissions;
- Collecting, capturing, or treating such pollutants when released from a process, stack, storage, or fugitive emissions point;
- Design, equipment, work practice or operational standards or any combination thereof if it is not feasible to prescribe or enforce an emission standard (including requirements for operator training or certification); or
- A combination of the above.

Section 112 requires us to establish standards that are no less stringent than a certain minimum baseline, we refer to this as the ''MACT floor.'' For new sources, the standards for a source category or subcategory cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The standards for existing sources can be less stringent than the 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 (excluding certain sources) for categories and subcategories with 30 or more sources. For categories and subcategories with fewer than 30 sources, the standards cannot be less stringent than the average emission limitation achieved by the best-performing five sources.

We may take alternative approaches to establishing the MACT floor, depending on the type, quality, and applicability of available data. The three approaches most commonly used involve reliance on State regulations or permit limits, source test data that characterize actual emissions, and use of a technology floor with an accompanying demonstrated achievable emission level that accounts for process and/or air pollution control device variability.

Section 112(d) allows us to distinguish among classes, types, and sizes of sources within a category or subcategory. For example, we can establish classes of sources within a category or subcategory based on size and establish a different emission standard for each class, provided both standards are at least as stringent as the MACT floor for that class of sources.

We evaluate several alternatives (which may be different levels of emission control or different levels of applicability or both) to select the one 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. In selecting an alternative, we consider the achievable HAP emission reduction (and possibly other pollutants that are co-controlled), cost and economic impacts, energy impacts, and other environmental impacts. The objective is to achieve the maximum degree of emission reduction without unreasonable economic or other impacts. The regulatory alternatives selected for new and existing sources may be different because of different MACT floors, and separate regulatory decisions may be made for new and existing sources.

We then translate the selected regulatory alternative into a proposed rule. The public is invited to comment on the proposal during the public comment period. Based on an evaluation of these comments, we reach a final decision and promulgate the standards.

C. What Source Category Is Affected by This Proposed Rule?

Section 112(c) of the CAA requires us to list all categories of major and area sources of HAP for which we will develop national emission standards. We published the initial list of source categories on July 16, 1992 (57 FR 31576). ''Integrated Iron and Steel Manufacturing'' is one the source categories on the initial list. The listing was based on our determination that integrated iron and steel manufacturing facilities may reasonably be anticipated to emit a variety of HAP listed in section 112(b) in quantities sufficient to be major sources.

An integrated iron and steel manufacturing facility produces steel from iron ore. The integrated iron and steel manufacturing source category includes sinter production, iron production, and steel production.

D. What Processes Are Used at Integrated Iron and Steel Manufacturing Facilities?

The primary processes of interest because of their potential to generate HAP emissions include sinter plants, blast furnaces that produce iron, and basic oxygen process furnaces (BOPF) that produce steel. There are also several ancillary processes, including hot metal transfer, desulfurization, slag skimming, and ladle metallurgy. Iron and steel are produced at 20 plant sites in the United States (U.S.) that have a total of 39 blast furnaces, 50 BOPF, and 9 sinter plants. Integrated iron and steel plants are located in ten States; however, the majority of the iron and steel is produced in Indiana, Ohio, and Illinois.

The sintering process converts fine-sized raw materials, including iron ore, coke breeze, limestone, mill scale, and flue dust, into an agglomerated product (sinter) of suitable size for charging into the blast furnace. The raw materials are mixed with water to provide a cohesive matrix and then placed on a continuous traveling grate called the sinter strand. A burner hood at the beginning of the sinter strand ignites the coke in the mixture, after which the combustion is self supporting and provides sufficient heat (2,400 to 2,700 degrees Fahrenheit) to cause surface melting and agglomeration of the mix. On the underside of the sinter strand are a series of windboxes that draw combusted air down through the material bed into a common duct leading to a gas cleaning device (either a venturi scrubber or a baghouse).

The fused sinter is discharged at the end of the sinter strand where it is crushed and screened. Undersize sinter is recycled to the mixing mill and back to the strand. The remaining sinter product is cooled in open air or in a circular cooler with mechanical fans. The cooled sinter is crushed and screened for a final time, then the fines are recycled and the product is sent to be charged to the blast furnace. Generally, 2.5 tons of raw materials, including water and fuel, are required to produce 1 ton of product sinter.

Iron is produced in blast furnaces by the reduction of iron bearing materials with a hot gas. The large, refractory lined furnace is charged through its top with iron ore, iron ore pellets, sinter, flux (limestone and dolomite), and coke, which provides fuel and forms a reducing atmosphere in the furnace. Many modern blast furnaces also inject pulverized coal to reduce the quantity of coke required. Iron oxides, coke, coal, and fluxes react with the heated blast air injected into the bottom of the furnace to form molten reduced iron, carbon monoxide (CO), and slag. The molten iron and slag collect in the hearth at the base of the furnace. The by-product gas is collected through offtakes located at the top of the furnace and is recovered for use as fuel.

The molten iron and slag are removed, or cast, from the furnace periodically. The casting process begins with drilling a hole, called the taphole, into the clay-filled iron notch at the base of the hearth. During casting, molten iron flows into runners that lead to transport ladles. Slag also flows from the furnace and is directed through separate runners to a slag pit adjacent to the casthouse, or into slag pots for transport to a remote slag pit. At the conclusion of the cast, the taphole is replugged with clay. The area around the base of the furnace, including all iron and slag runners, is enclosed by a casthouse.

The blast furnace by-product gas, which is collected from the furnace top, contains CO and particulate matter (PM). As a fuel, the blast furnace gas has a low heating value, about 75 to 90 British thermal units per cubic foot (Btu/ft^3). Before it can be efficiently burned, the PM must be removed from the gas. Initially, the gases pass through a settling chamber or dry cyclone to remove about 60 percent of the particulate. Next, the gases undergo a one or two stage cleaning operation. The primary cleaner is normally a wet scrubber, which removes about 90 percent of the remaining particulate. The secondary cleaner is a high-energy wet scrubber (usually a venturi) which removes up to 90 percent of the particulate that eludes the primary cleaner. Together, these control devices provide a clean fuel with less than 0.02 grains per dry standard cubic foot (gr/dscf) of PM. A portion of this gas is fired in the blast furnace stoves to preheat the blast air, and the rest is used in other plant operations.

After the molten iron (called ''hot metal'') is produced in the blast furnace, it is transferred to the BOPF shop. Brick-lined torpedo cars are used because their insulating properties lower heat loss from the iron. Hot metal transfer occurs when the molten iron is transferred (''reladled'') from the torpedo car to the BOPF shop ladle.

Hot metal is desulfurized by adding various reagents such as soda ash, lime, and magnesium. The reagents are usually injected pneumatically with either dry air or nitrogen. Following desulfurization, any slag formed is skimmed from the ladle and the hot metal is transferred to a BOPF.

In the BOPF, molten iron from a blast furnace and iron scrap are refined by lancing (or injecting) high-purity oxygen. The input material is typically 70 percent hot metal and 30 percent scrap metal. The oxygen reacts with carbon and other impurities to remove them from the metal. Because the reactions are exothermic, no external heat source is necessary to melt the scrap and to raise the temperature of the metal to the desired range for tapping. For a BOPF, tapping begins when the furnace is tilted to remove steel and slag and ends when the furnace returns to an upright position. The large quantities of CO produced by the reactions in the BOPF can be controlled by combustion at the mouth of the furnace and then vented to gas cleaning devices, as with open hoods, or combustion can be suppressed at the furnace mouth, as with closed hoods.

The BOPF is a large (up to 400-ton capacity) refractory lined pear-shaped furnace. There are two major variations of the process. Conventional BOPF have oxygen blown into the top of the furnace through a water-cooled lance (top-blown). In the newer Quelle Basic Oxygen process (Q-BOP), oxygen is injected through tuyeres located in the bottom of the furnace (bottom-blown). A typical BOPF cycle consists of the scrap charge, hot metal charge, oxygen blow (refining) period, testing for temperature and chemical composition of the steel, alloy additions and reblows (if necessary), tapping, and slagging. The full furnace cycle typically ranges from 25 to 45 minutes.

Ladle metallurgy is a secondary step of the steelmaking process performed in a ladle after the initial refining process in the BOPF is completed. The purpose of ladle metallurgy (also referred to as secondary steelmaking) is to produce steel that satisfies the many stringent requirements associated with surface and internal quality as well as mechanical properties. Nearly all of the integrated iron and steel facilities perform some type of ladle metallurgy, such as vacuum degassing, ladle refining, reheating, alloy addition, argon/oxygen decarburization, argon stirring, and lance powder injection.

After the steel has been refined in the BOPF and ladle metallurgy operations, the molten metal is transferred to a continuous casting operation where it is cast and subsequently rolled into a semi-finished product, such as a bloom, billet, or slab.

E. What HAP Are Emitted and How Are They Controlled?

1. Sinter Plants

The primary source of HAP emissions from sinter plants (over 40 percent) is the windbox exhaust. The windbox exhaust is a high volume stream of hot gases on the order of 300,000 to 600,000 dscfm. Control devices applied include baghouses and venturi scrubbers. The HAP emissions include HAP metal compounds, primarily lead and manganese, which comprise about 3 percent of the total PM. Organic HAP compounds, including both volatile and semivolatile HAP such as polycyclic organic matter, are also emitted. The organic compounds are formed from oily materials, mostly rolling mill scale, that are used in the sinter feed. Most plants minimize emissions of organic compounds by carefully monitoring and limiting the quantity of oil introduced with the sinter feed.

The discharge end emission points include the crusher, hot screen and various transfer points as the hot sinter is conveyed to the cooler. The sinter cooler stack is also an emission point. These operations are a source of PM emissions from the dusty sinter product and account for only 7 percent of the HAP emissions from the sinter plant. The most significant HAP found in emissions from the discharge and sinter cooler is manganese, which comprises only about 0.75 percent of the PM.

2. Blast Furnace Casthouse

The primary source of blast furnace emissions is the casting operation. Particulate emissions are generated when the molten iron and slag contact air above their surface. Casting emissions are also generated by drilling and plugging the taphole. The occasional use of an oxygen lance to open a clogged taphole can increase emissions. During the casting operation, iron oxides, magnesium oxide and carbonaceous compounds are generated as PM. The only significant HAP found in the PM is manganese, which comprises about 0.6 percent of the PM.

Casting emissions are controlled by evacuation through capture hoods to a baghouse or by suppression techniques. The basic concept of suppression techniques that use steam or inert gas is to prevent the formation of pollutants by preventing ambient air from contacting the molten surfaces. Newer furnaces have been constructed with evacuated covered runners and local hooding ducted to a baghouse.

3. Hot Metal Transfer, Desulfurization, and Slag Skimming

Hot metal transfer from the torpedo car into the BOPF shop ladle is accompanied by the emissions of kish, a mixture of fine iron oxide particles together with larger graphite particles. The reladling generally takes place under a hood to capture these emissions. Emissions during desulfurization are created by both the reaction of the reagents injected into the metal and the turbulence during injection. The pollutants emitted are mostly iron oxides, calcium oxides, and oxides of the compound injected. The sulfur reacts with the reagents and is skimmed off as slag.

The emissions generated from desulfurization and slag skimming are usually collected by a hood positioned over the ladle and vented to a baghouse. Many plants perform hot metal transfer, desulfurization, and slag skimming at the same station to take advantage of a single capture and control system. Manganese is the predominant HAP in the PM emissions. The level of manganese is expected to be comparable to that of PM from the casthouse (on the order of 0.6 percent).

4. Basic Oxygen Process Furnace

Emissions from the BOPF occur during charging, the oxygen blow and tapping. Fugitive emissions escape through the BOPF shop roof monitor, and stack emissions are released through primary and secondary control systems. The predominant compounds emitted are iron oxides, and the most significant HAP is manganese. Manganese comprises about 1 percent of the particulate, which is more than all of the other HAP metals combined.

Emissions during oxygen blow periods are controlled using a primary hood capture system located directly over the open mouth of the furnaces. Two types of capture systems are used to collect exhaust gas as it leaves the furnace mouth: a closed hood design that suppresses combustion, and an open hood design that promotes combustion. A closed hood fits snugly against the furnace mouth, ducting all PM and CO to a venturi scrubber. The CO is flared at the scrubber outlet stack. The open hood design allows combustion air to be drawn into the hood, thus burning the CO. Electrostatic precipitators (ESP) and venturi scrubbers are used as the primary controls for open hood BOPF.

Charging and tapping emissions are controlled by a variety of evacuation systems and operating practices. Charging hoods, tapside enclosures, and full furnace enclosures are used to capture these emissions and send them either to the primary control device or to a secondary device, usually a baghouse. Almost all closed hood BOPF have a secondary capture and control system, whereas many open hood BOPF rely on the primary system for capture and control of fugitive emissions.

5. Ladle Metallurgy

Most BOPF shops have a ladle metallurgy station where various adjustments are made to the steel's physical and chemical properties. Almost all ladle metallurgy stations are enclosed or hooded, and any fume from the vessel is ducted to a baghouse. There are few data on the HAP composition of ladle metallurgy emissions; however, the composition should be similar to that of emissions from the BOPF (primarily manganese).

F. What Are the Health Effects Associated With Emissions From Integrated Iron and Steel Manufacturing Processes?

There are a variety of metal HAP contained in the PM emitted from iron and steel manufacturing processes. These include primarily manganese and lead, with much smaller quantities of antimony, arsenic, beryllium, cadmium, chromium, cobalt, mercury, nickel, and selenium. Organic HAP compounds are released in trace amounts from the sinter plant windbox exhaust and include polycyclic organic matter (such as polynuclear aromatic hydrocarbons and chlorinated dibenzodioxins and furans), and volatile organics such as benzene, carbon disulfide, toluene, and xylene. These HAP are associated with a variety of adverse health effects including chronic and acute disorders of the blood, heart, kidneys, reproductive system, and central nervous system.

Manganese and lead comprise the majority of the metal HAP emissions. Health effects in humans have been associated with both deficiencies and excess intakes of manganese. Chronic exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans, with a recommended daily allowance of 2 to 5 milligrams per day. Chronic exposure to high levels of manganese by inhalation in humans results primarily in central nervous system (CNS) effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. Manganism, characterized by feelings of weakness and lethargy, tremors, a mask-like face, and psychological disturbances, may result from chronic exposure to higher levels. Impotence and loss of libido have been noted in male workers afflicted with manganism attributed to inhalation exposures. We have classified manganese in Group D, not classifiable as to carcinogenicity in humans.

Lead is a very toxic element, causing a variety of effects at low dose levels. Brain damage, kidney damage, and gastrointestinal distress may occur from acute exposure to high levels of lead in humans. Chronic exposure to lead in humans results in effects on the blood, CNS, blood pressure, and kidneys. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth and other effects reported. Reproductive effects, such as decreased sperm count in men and spontaneous abortions in women, have been associated with lead exposure. The developing fetus is at particular risk from maternal lead exposure, with low birth weight and slowed postnatal neurobehavioral development noted. Human studies are inconclusive regarding lead exposure and cancer, while animal studies have reported an increase in kidney cancer from lead exposure by the oral route. We have classified lead as a Group B2, probable human carcinogen.

Trace quantities of organic HAP, such as chlorinated dibenzodioxins and furans (CDD/F) and benzene, have been detected in the windbox exhaust at sinter plants. One CDD/F compound, 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD, commonly called ''dioxin'') is listed singly as a HAP. Other CDD/F compounds, many of which cause adverse health effects in the same way as dioxin, are HAP under the definition of polycyclic organic matter. Exposure to CDD/F mixtures causes chloracne, a severe acne-like condition, and has been shown to be extremely toxic in animal studies. Dioxin itself is known to be a developmental toxicant in animals, causing skeletal deformities, kidney defects, and weakened immune responses in the offspring of animals exposed during pregnancy. Human studies have shown an association between dioxin and soft-tissue sarcomas, lymphomas, and stomach carcinomas. We have classified dioxin as a probable human carcinogen (Group B2).

Acute inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene. We have classified benzene as a Group A, known human carcinogen.

In addition to HAP, the proposed rule also would reduce PM emissions, which are controlled under national ambient air quality standards. Briefly, emissions of PM have been associated with aggravation of existing respiratory and cardiovascular disease and increased risk of premature death.

We recognize that the degree of adverse effects to health experienced by exposed individuals can range from mild to severe. The extent and degree to which the health effects may be experienced depends on:

- Pollutant-specific characteristics (e.g., toxicity, half-life in the environment, bioaccumulation, and persistence);
- The ambient concentrations observed in the area (e.g., as influenced by emission rates, meteorological conditions, and terrain);
- The frequency and duration of exposures; and
- Characteristics of exposed individuals (*e.g.,* genetics, age, preexisting health conditions, and lifestyle), which vary significantly with the population.

II. Summary of the Proposed Rule

A. What Are the Affected Sources and Emission Points?

The affected sources are each new and existing sinter plant, blast furnace, and BOPF shop at an integrated iron and steel manufacturing facility that is a major source. A new affected source is one constructed or reconstructed after July 13, 2001. An existing affected source is one constructed or reconstructed on or before July 13, 2001. The proposed rule covers emissions from the sinter plant windbox exhaust, discharge end, and sinter cooler; the blast furnace casthouse; and the BOPF, BOPF shop roof monitor, and BOPF ancillary operations (hot metal transfer, hot metal desulfurization, slag skimming, and ladle metallurgy).

B. What Are the Emission Limitations?

The proposed rule includes PM emission limits and opacity limits as well as operating limits for capture systems and control devices. Particulate matter and opacity serve as a surrogate measures of HAP emissions.

1. Sinter Plants

The proposed PM emission limit for the windbox exhaust stream, 0.3 pounds per ton (lb/ton) of product sinter, is the same for existing and new sinter plants. The proposed rule limits PM emissions from a discharge end to 0.02 gr/dscf for an existing plant and 0.01 gr/dscf at a new plant. The discharge end PM limit is a flow-weighted average for one or more control devices that operate in parallel. A 20 percent opacity limit is proposed for secondary emissions from a discharge end at an existing sinter plant; a 10 percent opacity limit is proposed for a new sinter plant. The proposed PM emission limits for sinter cooler stacks are 0.03 gr/dscf for an existing plant and 0.01 gr/dscf for a new plant.

2. Blast Furnaces

The proposed PM emission limit for a control device applied to emissions from a casthouse is 0.009 gr/dscf for the casthouse at a new or existing blast furnace. The proposed opacity limits are 20 percent for a casthouse at an existing blast furnace and 15 percent for a casthouse at a new blast furnace (both 6-minute averages).

3. Basic Oxygen Process Furnaces

For primary emissions from BOPF, we are proposing different PM emission limits based on hood system (closed or open). For BOPF with closed hood systems, we are proposing a PM emission limit of 0.024 gr/dscf which would apply only during periods of primary oxygen blow. For BOPF with open hood systems, we are proposing a PM emission limit of 0.019 gr/dscf which would apply during all periods of the steel production cycle. The primary oxygen blow is the period in which oxygen is initially blown into the furnace and does not include any subsequent reblows. The steel production cycle begins when the furnace is first charged with either scrap or hot metal and ends 3 minutes after slag is removed. The PM emission limits are the same for BOPF at new and existing BOPF shops. The proposed PM emission limits for a control device applied solely to secondary emissions from a BOPF are 0.01 gr/dscf for an existing BOPF shop and 0.0052 gr/dscf for a new BOPF shop. Secondary emissions are those not controlled by the primary emission control system, including emissions that escape from open and closed hoods and openings in the ductwork to the primary control system.

For the BOPF shop, a PM emission limit of 0.007 gr/dscf is proposed for a control device applied to emissions from ancillary operations (hot metal transfer, skimming, desulfurization, or ladle metallurgy) at a new or existing BOPF shop. For the BOPF roof monitor, a 20 percent opacity limit is proposed for secondary emissions from the BOPF or BOPF shop operations in an existing BOPF shop. This opacity limit is based on 3-minute averages. For a new BOPF shop housing a bottom-blown furnace, a 10 percent opacity limit is proposed (6-minute average) except that one 6-minute period not to exceed 20 percent may occur once during each steel production cycle. For a new BOPF shop housing a top-blown furnace, a 10 percent opacity limit is proposed (3-minute average) except that one 3-minute period greater than 10 percent but less than 20 percent may occur once during each steel production cycle.

For capture systems applied to emissions from a sinter plant discharge end or blast furnace casthouse, the proposed rule provides two options: maintain the hourly average volumetric flow rate through each separately ducted hood at or above the level established during the performance test, or maintain the total hourly average volumetric flow rate at the control device inlet at or above the level established during the performance test with all capture system dampers in the same positions as during the performance test.

The same options are available in the operating limits proposed for capture systems applied to secondary emissions from a BOPF. However, the averaging period is the steel production cycle rather than each 1-hour period.

The proposed operating limit for baghouses requires that the bag leak detection system alarm not sound for more than 5 percent of the total operating time in a semiannual reporting period. For a venturi scrubber, the hourly average pressure drop and scrubber water flow rate must remain at or above the level established during the initial performance test. For an ESP, the hourly average opacity must remain at or below the level established during the initial performance test. The proposed rule requires plants to submit information on monitoring parameters if another type of control device is used.

The proposed rule also requires sinter plants to maintain the oil content of the feedstock at or below 0.025 percent. This limit is based on a 30-day rolling average.

C. What Are the Operation and Maintenance Requirements?

All plants subject to the proposed rule would be required to prepare and implement a written startup, shutdown, and malfunction plan according to the requirements in § 63.6(e) of the NESHAP General Provisions. A written operation and maintenance plan is also required for capture systems and control devices subject to an operating limit. This plan must describe procedures for monthly inspections of capture systems, preventative maintenance requirements for control devices, and corrective action requirements for baghouses. In the event of a bag leak detection system alarm, the plan must include specific requirements for initiating corrective action to determine the cause of the problem within 1 hour, initiating corrective action to fix the problem within 24 hours, and completing all corrective actions needed to fix the problem as soon as practicable.

D. What Are the Initial Compliance Requirements?

The proposed rule requires performance tests to demonstrate that each affected source meets all applicable emission and opacity limits. The PM concentration would be measured using EPA Method 5, 5D, or 17 in 40 CFR part 60, appendix A. The proposed rule also allows plants to use a method developed by the American Society for Testing and Materials (ASTM), Standard Test Method for High-Volume Sampling for Solid Particulate Matter and Determination of Particulate Emissions (ASTM D4536–96). Plants may use this method instead of the sampling equipment and procedures required by EPA Method 5 or 17 when testing a positive pressure baghouse, but must use the sample traverse location and number of sampling locations required by EPA Method 5D. The EPA Method 9 in 40 CFR part 60, appendix A, is proposed for determining the opacity of emissions, with special instructions for computing 3-minute averages. The proposed testing requirements also include procedures for establishing site-specific operating limits for capture systems and control devices and for revising the limits, if needed, after the performance test.

The proposed rule also requires a performance test to demonstrate initial compliance with the operating limit for the oil content of the sinter plant feedstock. This test would require measurements of the oil content using EPA Method 9071B (Revision 2, April 1998) for 30 consecutive days and computing the 30-day rolling average. To demonstrate initial compliance with the proposed operation and maintenance requirements, plants would certify in their notification of compliance status that they have prepared the written plans and will operate capture systems and control devices according to the procedures in the plan.

E. What Are the Continuous Compliance Requirements?

The proposed rule would require plants to conduct performance tests at least twice during each title V operating permit term (at midterm and renewal) to demonstrate continuous compliance with the emission and opacity limits. Plants also would be required to monitor operating parameters for capture systems and control devices subject to operating limits and carry out the procedures in their operation and maintenance plan.

For capture systems, a continuous parameter monitoring system (CPMS) is required to measure and record the volumetric flow rate through each separately ducted hood or the total volumetric flow rate at the control device inlet. Plants electing to monitor the total volumetric flow rate also must check the capture system dampers at least once a day (every 24 hours) to verify that all dampers are in the same position as during the initial performance test. To demonstrate continuous compliance, plants must keep records documenting compliance with the rule requirements for monitoring, the operation and maintenance plan, and installation, operation, and maintenance of CPMS.

For baghouses, plants would be required to monitor the relative change in PM loading using a bag leak detection system and make inspections at specified intervals. The bag leak detection system must be installed and operated according to the EPA guidance document ''Fabric Filter Bag Leak Detection Guidance,'' EPA 454/R–98–015, September 1997. The document is available on the TTN at http:www.epa.gov/ ttnemc01/cem/ tribo.pdf. If the system does not work based on the triboelectric effect, it must be installed and operated consistent with the manufacturer's written specifications and recommendations. The basic inspection requirements include daily, weekly, monthly, or quarterly inspections of specified parameters or mechanisms with monitoring of bag cleaning cycles by an appropriate method.

To demonstrate continuous compliance, the proposed rule requires records of bag leak detection system alarms and records documenting conformance with the operation and maintenance plan, as well as the inspection and maintenance procedures.

For venturi scrubbers, plants would be required to use CPMS to measure and record the hourly average pressure drop and scrubber water flow rate. To demonstrate continuous compliance, plants would keep records documenting conformance with the monitoring requirements and the installation, operation, and maintenance requirements for CPMS.

For ESP, plants would be required to use a continuous opacity monitoring system (COMS) to measure and record the average hourly opacity of emissions exiting each stack of the control device. Plants must operate and maintain the COMS according to the requirements in § 63.8 of the NESHAP General Provisions and Performance Specification 1 in 40 CFR part 60, appendix B. These requirements include a quality control program including a daily calibration drift assessment, quarterly performance audit, and annual zero alignment.

To demonstrate continuous compliance with the operating limit for the sinter plant feedstock, plants would be required to determine the oil content every 24 hours (from the composite of three samples taken at 8-hour intervals) and compute and record the 30-day rolling average oil content for each operating day.

F. What Are the Notification, Recordkeeping, and Reporting Requirements?

The proposed notification, recordkeeping, and reporting requirements rely on the NESHAP General Provisions in 40 CFR part 63, subpart A. Table 4 to proposed subpart FFFFF lists each of the requirements in the General Provisions (§§ 63.2 through 63.15) with an indication of whether they do or do not apply.

The plant owner or operator would be required to submit each initial notification required in the NESHAP General Provisions that applies to their facility. These include an initial notification of applicability with general information about the facility and notifications of performance tests and compliance status.

Plants would be required to maintain the records required by the NESHAP General Provisions that are needed to document compliance, such as performance test results; copies of startup, shutdown, and malfunction plans and associated corrective action records; monitoring data; and inspection records. Except for the operation and maintenance plan for capture systems and control devices, all records must be kept for a total of 5 years, with the records from the most recent 2 years kept onsite. The proposed rule requires that the operation and maintenance plan for capture systems and control devices subject to an operating limit be kept onsite and available for inspection upon request for the life of the affected source or until the affected source is no longer subject to the rule requirements.

Semiannual reports are required for any deviation from an emission limitation, including an operating limit. Each report would be due no later than 30 days after the end of the reporting period. If no deviation occurred, only a summary report would be required. If a deviation did occur, more detailed information would be required.

An immediate report would be required if there were actions taken during a startup, shutdown, or malfunction that were not consistent with the startup, shutdown, and malfunction plan. Deviations that occur during a period of startup, shutdown, or malfunction are not violations if the owner or operator demonstrates to the authority with delegation for enforcement that the source was operating in accordance with the startup, shutdown, and malfunction plan.

G. What Are the Compliance Deadlines?

The owner or operator of an existing affected source would have to comply within [24 MONTHS OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**]. New or reconstructed sources that startup on or before the effective date of the final rule must comply by the effective date of the final rule. New or reconstructed sources that startup after the effective date of the final rule must comply upon initial startup.

III. Rationale for Selecting the Proposed Standards

A. How Did We Select the Affected Sources?

Affected source means the collection of equipment and processes in the source category or subcategory to which the emission limitations, work practice standards, and other regulatory requirements apply. The affected source may be the same collection of equipment and processes as the source category or it may be a subset of the source category. For each rule, we must decide which individual pieces of equipment and processes warrant separate standards in the context of the CAA section 112 requirements and the industry operating practices.

We considered three different approaches for designating the affected source: the entire integrated iron and steel manufacturing facility, groups of emission points, and individual emission points. In selecting the affected sources for regulation, we identified the HAP-emitting operations, the HAP emitted, and the quantity of HAP emissions from the individual or groups of emissions points. We concluded that designating the group of emission points associated with each of the major processes as the affected source is the most appropriate approach. The major processes include sinter production in a sinter plant, iron production in a blast furnace, and steel production in a BOPF shop. Consequently, we selected the sinter plant, blast furnace, and BOPF shop as the affected sources. The proposed rule includes requirements for the control of emissions from the windbox exhaust, discharge end, and cooler at sinter plants; the blast furnace casthouse; the BOPF shop including both primary and secondary emissions from the furnace; and the ancillary operations in the BOPF shop (hot metal transfer, desulfurization, slag skimming, and ladle metallurgy).

B. How Did We Select the Pollutants?

For the proposed rule, we decided that it is not practical to establish individual standards for each specific type of metallic HAP that could be present in the various processes (e.g., separate standards for manganese emissions, separate standards for lead emissions, and so forth for each of the metals listed as HAP and potentially could be present). When released, each of the metallic HAP compounds behave as PM. As a result, strong correlations exist between air emissions of PM and emissions of the individual metallic HAP compounds. The control technologies used for the control of PM emissions achieve comparable levels of performance on metallic HAP emissions. Therefore, standards requiring good control of PM will also achieve good control of metallic HAP emissions. Therefore, we decided to establish standards for total PM as a surrogate pollutant for the individual types of metallic HAP. In addition, establishing separate standards for each individual type of metallic HAP would impose costly and significantly more complex compliance and monitoring requirements and achieve little, if any, HAP emissions reductions beyond what would be achieved using the surrogate pollutant approach based on total PM.

For stack discharges, we have traditionally relied on setting numerical emission limits, sometimes coupled with limits on opacity. In the case of fugitive emissions, we have traditionally relied on setting visible emission standards, typically expressed as opacity limits.

C. How did we determine the bases and levels of the proposed standards?

• Sinter plant windbox exhaust

There are nine sinter plants in the U.S.; however, only seven are currently operating. The windbox exhaust is controlled by a baghouse at four plants and by a venturi scrubber at five plants. Useful test data on actual emissions are available for six of the nine plants, two equipped with baghouses and four equipped with venturi scrubbers. In each case, the data reflect the results of performance tests comprised of the average of three test runs, expressed in terms of total PM.

An initial characterization of achievable performance based on concentration (gr/dscf) suggested that baghouses perform substantially better than do scrubbers. Concentration values recorded for the two baghouses are two to nearly four times lower than those recorded for the four scrubbers. Upon closer scrutiny, we determined that much of the difference in perceived performance is due to the fact that baghouses require the addition of relatively large quantities of ambient air to cool the hot windbox exhaust gases prior to control, whereas scrubbers do not. To correct for this difference, we transformed the test results into a pounds of PM emissions per ton of sinter format. The test results expressed in terms of the hourly mass rate were converted to annual emissions assuming 8,760 hours per operating year. The resultant annual emissions were then divided by a best estimate of annual sinter production for each plant (average for the 5-year period from 1995 through 1999). The results range from 0.26 to 0.33 lb PM/ton of sinter. Averaging the results for the top five performers produces a MACT floor value of 0.29 lb PM/ton of sinter. Relying on the median value produces a MACT floor value of 0.30 lb/ton. Included among the top five performers are two baghouses and three venturi scrubbers, which indicates that both control devices are capable of achieving the MACT floor level of control as expressed in the lb/ton format.

The windbox exhaust gas can contain appreciable quantities of organic HAP, including both volatile and semivolatile compounds. There is strong evidence that demonstrates that the quantity of organic HAP emitted is directly related to the quantity and oil content of the mill scale component of the sinter feed. United States sinter plants limit organic emissions by carefully monitoring and limiting the oil content of the sinter feed. This pollution prevention control measure is an effective method for preventing, and thus reducing, emissions of organic HAP. Two plants in Indiana have performed testing to relate oil content with emissions of volatile organic compounds (VOC). The test results show a strong correlation between oil content and potential VOC emissions.

One of the organic pollutants of concern that has been related to oil content is a family of compounds called polychlorinated dibenzodioxins and furans (D/F). A 1994 paper [1] identified sinter plants in Germany as one of the most important industrial sources of D/F. Tests showed an average concentration in the windbox exhaust of 47 nanograms (ng) expressed in toxic equivalency (TEQ)/per cubic meter (m^3) and annual emissions of 122 grams (g) TEQ. The D/F emissions were attributed to high levels of oils and chlorinated organics in the waste materials recycled to the sinter plant.

We decided to perform testing at two representative facilities to characterize D/F emissions from U.S. sinter plants, one that uses a venturi scrubber as the windbox control device and one that uses a baghouse. The tests were performed in 1997 on the venturi scrubber in East Chicago, IN and on the baghouse in Youngstown, OH. These plants routinely monitor the oil content of their sinter feed, which averages 0.014 percent oil at the East Chicago, IN facility and 0.025 percent oil at the Youngstown, OH facility. The average D/F concentration from three 4-hour runs at each plant ranged from 0.2 ng TEQ/m^3 at the East Chicago, IN facility to 0.8 ng TEQ/m^3 at the Youngstown, OH facility, both far below the levels reported for the German sinter plant. Assuming typical operation of each plant (310 days/yr), annual emissions would range from 0.7 to 2.8 g TEQ/yr, well below the levels indicated by the German data. Based upon emission factors derived from these test results, we estimate nationwide emissions from all U.S. sinter plants to be 26 g TEQ/yr, which corresponds to less than 1 percent of current estimates of the national inventory from all sources.

We surveyed the operators of all seven active sinter plants, as well as the two inactive plants, to obtain information on the oil content of their sinter feed. Four of the active plants provided data that ranged in magnitude from 976 samples collected over 1 year (sampling about three times per day) to 14 samples collected over 14 months (monthly sampling). All four plants carefully monitor their sinter feed for oil to minimize emissions of VOC. In addition, plants with baghouses are motivated to limit oil content due to concerns over blinding of bags and possible fire hazards. The other three active plants and the two inactive plants provided little data since none routinely monitor oil content. The four plants providing data reported long-term averages of 0.014, 0.02, 0.02, and 0.025 percent, respectively. We conclude that limiting substantially the oil content in the sinter feed represents the MACT floor for organic HAP in the windbox exhaust.

We know of no control devices besides venturi scrubbers and baghouses that can achieve better emissions reductions than that indicated by the level of performance selected as the MACT floor. As a result, we are selecting 0.3 lb/ton as the standard. We selected 0.3 lb/ton as opposed to either 0.29 or 0.30 lb/ton to provide a modest but warranted margin of safety given the relatively limited data available for this standard setting and the inherent uncertainty associated with the needed transformations of the test data from mass rate to mass per ton.

For the PM limit, we also considered setting alternative concentration limits that would be tailored to each type of control device—baghouses and venturi scrubbers. Concentration limits (*e.g.*, gr/dscf) have several advantages over a lb/ton format when determining compliance. A lb/ton format requires that three measurements be made very accurately: The concentration of PM in the exhaust gas, the volumetric flow rate of exhaust gas, and the sinter production rate. Concentration is directly measured by EPA reference methods (such as Method 5), and there is no uncertainty introduced by additional measurements or calculations. The concentration limit is a direct and accurate measure of how

[1] Lahl, Uwe. Sintering Plants of Steel Industry—PCDD/F Emission Status and Perspective. In Chemosphere, vol. 29, nos. 9–11, pages 1939–1945. 1994.

well the emission control device is performing.

The two plants with baghouses averaged 0.007 and 0.009 gr/dscf when meeting the 0.3 lb/ton MACT floor level of control. Individual runs ranged from 0.004 to 0.01 gr/dscf. Considering the run-to-run variability, we conclude that an appropriate alternative concentration limit for baghouses used for the control of windbox exhaust gases would be on the order of 0.01 gr/dscf. As noted previously, plants with baghouses introduce large volumes of tempering air to cool the windbox exhaust gas prior to entering the baghouse, whereas plants with venturi scrubbers do not. Consequently, a concentration limit for scrubbers, reflecting an equivalent level of control as baghouses, would of necessity be higher than one for baghouses. The four plants equipped with scrubbers recorded average concentration values of 0.017, 0.017, 0.025, and 0.026 gr/dscf when meeting the 0.3 lb/ton MACT floor level of control. Individual runs ranged from 0.014 to 0.029 gr/dscf. Since all four of these scrubbers represent MACT, an alternative concentration limit for scrubbers would be on the order of 0.03 gr/dscf considering run-to-run variability. We request comments on both the appropriateness of setting concentration limits in addition or instead of a lb/ton limit and on the suggested values for these limits.

Relative to sinter feed oil content, we know of no control measures beyond this pollution prevention measure which would be more effective in limiting HAP organic emissions from sinter plant windboxes. Based on our review of the data obtained through our survey on oil content, we select a limit of 0.025 percent oil in sinter feed as representative of the MACT floor. Although 0.025 percent is the highest average value reported by the four plants, all of the averages are low, all are indicative of careful control of oil content, and for all intents and purposes are indistinguishable.

• Sinter plant discharge end

The sinter plant discharge end is comprised of sinter breakers (crushers), hot screens, conveyors, and transfer points that are designed to separate undersize sinter and to transfer the hot sinter to the cooler. In most cases, these discharge end operations are housed in a building. Emissions are usually controlled by local hooding and ventilation to one or more baghouses or wet scrubbers. Seven plants use baghouses and two plants use wet scrubbers.

Existing State regulations include both building opacity standards to limit releases of fugitive emissions (those escaping capture) and PM emission standards assigned to control devices. Five of the seven operating sinter plants are subject to a building opacity limit. One plant is subject to a 10 percent limit (6-minute average), and four plants are subject to 20 percent limits (6-minute average). The PM limits for control devices vary substantially from plant to plant both in terms of format and numerical values. Four plants have concentration limits for total PM (0.01, 0.02, 0.02, and 0.03 gr/dscf), one has concentration limits for PM–10, and three have mass rate limits (42.9, 50, and 50 lb/hr).

We have credible source test data on actual emissions from only one plant—the refurbished sinter plant in Youngstown, OH. Captured emissions from the discharge end are ventilated to a relatively new baghouse (1991) for control. We have no data from any source on the opacity of fugitive emissions that escape capture from the discharge end.

In selecting the MACT floor for the discharge end, we evaluated all of the available information on control measures, State regulations, and actual emissions. Due to the limited information on actual emissions available, we concluded that the available information on State regulations provided the best and most complete information for establishing floor conditions for both the discharge end building and control devices. We believe that these State limits are in fact a reasonable representation of what is actually achieved in practice and are, therefore, suitable proxies for establishing MACT floor conditions. The existing State emission limits reflect a level of performance which we would expect from the capture systems and control devices which are currently applied to the control of emissions from sinter plant discharge ends.

As noted above, five plants are subject to State standards that limit the opacity of visible emissions released from the discharge end building. These range from 10 percent (one plant) to 20 percent (four plants). We chose the median value as the MACT floor, which is 20 percent opacity based on a 6-minute average.

For control devices, we examined the top five most stringent existing State permit limits for total PM emissions. These include the four concentration limits cited above and a fifth value derived from the lowest mass rate limit to which a plant is subject (42.9 lb/hr), which is equivalent to 0.02 gr/dscf. The resulting five most stringent limits are 0.01, 0.02, 0.02, 0.02 and 0.03 gr/dscf. Averaging these five values produces a MACT floor limit of 0.02 gr/dscf.

We examined options to go beyond the floor level of control. One option is a concentration limit lower than the floor level of 0.02 gr/dscf. For example, the installation of a new pulse jet baghouse could conceivably achieve a concentration limit of 0.01 gr/dscf. We estimate the capital cost of a new pulse jet baghouse designed for a flow rate of 120,000 dscfm (typical for discharge ends) to be $3.5 million and the total annual cost to be $840,000 per year. We estimate the corresponding reduction in HAP metals achieved by reducing the PM concentration from 0.02 to 0.01 gr/dscf (for 120,000 dscfm and 0.75 percent metal HAP in the PM) to be 0.34 tons per year. The cost per ton of HAP is $2.5 million. We believe that the high cost, coupled with the small reduction in HAP emissions, does not justify this beyond the floor alternative. We could not identify any other beyond the floor alternatives. Consequently, we chose the floor level of control (0.02 gr/dscf) as MACT.

For new source MACT, we chose an opacity limit of 10 percent (6-minute average) based on the most stringent emission limit currently in place (Sparrows Point, MD). For control devices used on the discharge end, we relied on test data for the baghouse at the Youngstown, OH sinter plant. We believe this baghouse represents the best controlled similar source among the seven operating plants. It is a relatively recent installation (1991) and is a state-of-the-art pulse jet unit. The discharge end at this facility is comprised of a sinter breaker, single deck hot screen, four-stack sinter cooler, and a double deck cold screen. Capture systems are used for the breaker, hot screen, cold screen, and about 40 transfer points. The capture system is ventilated to a four compartment pulse jet baghouse with polyester bags at a rate of 140,000 dscfm.

Three test runs were conducted in 1991. The runs range from 0.005 to 0.006 gr/dscf and average 0.006 gr/dscf. Rounding the results of this single performance test (average of three runs) would support a new source MACT concentration limit of 0.01 gr/dscf. We believe that rounding from 0.006 to 0.01 is justified given the data are limited to the one performance test conducted in 1991.

The numerical limit selected for the standard is the same as that established for MACT: (1) An opacity limit of 20 percent (6-minute average) for the building and a concentration limit of

0.02 gr/dscf for control devices for existing sinter plants, and (2) an opacity limit of 10 percent (6-minute average) and a concentration limit of 0.01 gr/dscf for new sinter plants.

For compliance demonstration purposes, we are proposing a flow-weighted average for emission control devices on the discharge end. Some plants employ multiple control devices applied to the several emission points that comprise the discharge end (crushers, screens, conveyor transfer points). For example, one plant routes emissions from the crusher to one baghouse, and emissions from screens and conveyors are sent to a second baghouse. Averaging emissions across multiple control devices provides flexibility and enhances achievability. With this approach, some air pollution control devices may under perform and others may over perform provided that the average concentration weighted by volumetric flow rate meets the concentration limit for the discharge end.

• Sinter plant cooler

Sinter plant coolers are large diameter circular tables through which ambient air is drawn to cool the hot sinter after screening. Seven plants operate sinter coolers to cool the sinter product prior to storage. Two plants that are not currently operating have no cooler and stockpile hot sinter directly. Of the seven plants with coolers, three vent directly to the atmosphere, one vents to a cyclone, two vent to a baghouse, and one vents half of the cooler exhaust to a baghouse with the remainder vented directly to the atmosphere. Five plants are currently subject to State emission limits expressed as concentration or mass rate while two plants are not subject to State emission limits. Information on actual releases is limited to one source test of controlled emissions from the cooler located at the Youngstown, OH plant that is equipped with a baghouse.

We examined all of the available information on controls, State limits, and actual emissions. We decided that existing State permit limits provide the best information for establishing the floor. Emission source test data on actual emissions are limited to one source. We believe that a technology approach would provide a limit that is less representative of actual performance because it would result in a floor based on cyclone control or a 50/50 no control/baghouse control split (technology for which we have no emission test data from within this source category).

Three plants are subject to State permit limits on emission concentrations (0.01, 0.03, and 0.03 gr/dscf), and two plants are subject to State mass rate permit limits. We converted the mass rates in lb/hr to equivalent concentration limits in gr/dscf based on the volumetric flow rate through the subject coolers. The two mass rate limits resulted in equivalent concentration values of 0.03 and 0.05 gr/dscf. Averaging the five concentration limits produces a floor value for existing sources of 0.03 gr/dscf.

We considered a level of control beyond the floor. A new pulse jet baghouse installed on the sinter cooler could reduce emissions to 0.01 gr/dscf. We estimated the capital cost of a new baghouse designed for a flow rate of 200,000 dscfm as $5.5 million with a total annual cost of $1.3 million per year. The reduction in HAP emissions associated with reducing the PM concentration from 0.03 to 0.01 gr/dscf (at 0.75 percent HAP in the PM) is from 1.7 to 0.6 tons per year. The cost per ton of HAP is $1.2 million. We believe that the high cost, coupled with the small emission reduction, does not justify this beyond the floor alternative. We could not identify any other beyond the floor alternatives. Consequently, we selected the floor (0.03 gr/dscf) as MACT for existing sources.

We evaluated the source test data for the baghouse located at Youngstown, OH and the most stringent existing limit to develop MACT for new sources. The baghouse is a modern pulse jet unit that averaged 0.009 gr/dscf during the test. Individual runs were 0.005, 0.005, and 0.018. Coincidentally, the most stringent existing State permit limit for sinter coolers, which is applied at a different plant, is 0.01 gr/dscf. Given that the baghouse source test result and the most stringent emission limit are ostensibly the same, we selected 0.01 gr/dscf as the proposed standard for sinter coolers at new sinter plants.

• Blast furnace casthouse

The casthouse is a building or structure that encloses the section of the blast furnace where hot metal and slag are tapped from the furnace. The emissions from the blast furnace casthouse are fugitive emissions that escape through the roof monitor and other building openings during tapping. The emissions are primarily metal oxide fumes that are formed when air contacts the surface of the molten metal. Factors affecting these emissions include the duration of tapping, the exposed surface area of metal and slag, and the presence or absence of runner covers and flame suppression, which reduce contact with air.

As described previously, these emissions are controlled in one of two fundamentally different ways, flame suppression or conventional ventilation practices and control. Flame suppression consists of blowing natural gas over the iron runners and torpedo cars. The combustion of the gas consumes oxygen, which retards (suppresses) the formation of emissions. Ventilation practices employed include the use of localized hooding and ventilation applied at the iron trough and iron and slag runners. Alternatively, the casthouse may be totally enclosed and evacuated. Eighteen of the 39 blast furnaces have capture and control systems, 16 are controlled by baghouses and two are controlled by one wet scrubber.

As a means for limiting fugitive emissions of PM from the casthouse during hot metal tapping, most States have developed visible emission standards that limit the opacity of emissions discharged from the casthouse roof monitor or other openings. The most common limit is 20 percent (6-minute average), which is applied to 24 of the 39 casthouses. States also apply particulate limits on gases discharged from control devices used to capture tapping emissions. The most common form is a concentration limit, typically on the order of 0.01 gr/dscf.

We evaluated the available information on actual emissions, State limits, and control measures in selecting the floor for opacity from existing casthouses. Attempts to locate actual opacity data proved unsuccessful. Since most of the States have developed opacity standards, we concluded that State regulations provided the best information for establishing floor conditions.

The most stringent opacity limit is 15 percent (6-minute average) and is applied to two casthouses. The next most stringent limit is 20 percent (6-minute average), which is applied to 24 casthouses. For existing sources, we selected the 20 percent opacity limit as the floor for the roof monitor, which is the median of the top five most stringent limits and by far the most representative.

As with existing sources, MACT for new sources is also based on existing State limits since we were unable to locate and obtain data on actual emissions. As noted above, the most stringent State limit is 15 percent opacity (6-minute average). This limit applies to the casthouses for the Number 7 blast furnace at East Chicago, IN and the Number 3 blast furnace at Lorain, OH. Therefore, we have selected 15 percent opacity (6-minute average) as the floor for new sources.

We also examined available information on actual emissions, State limits, and control measures to develop the floor for control devices applied to casthouse emissions. There are 18 casthouses equipped with hooding and ventilation equipment to limit fugitive emissions. Sixteen use a baghouse for the control of captured emissions. Industry survey information on the baghouses indicate they are similar in design and performance. Most are pulse jet baghouses with air-to-cloth ratios of around 4 feet per minute (fpm). We selected baghouses with these minimum design features as the MACT floor technology for controlled emissions from blast furnace casthouses.

To determine the level of control associated with the use of a baghouse, we obtained available performance test data that characterized baghouse performance for four of the 16 baghouses. The database includes a total of eight source tests; four tests at one facility, two tests at another facility, and single tests at the two other facilities. Each performance test is comprised of three individual test runs. The three-run averages for each of the eight tests range from 0.002 to 0.009 gr/dscf. Results from individual runs range from 0.001 to 0.009 gr/dscf.

The highest emitting unit is the Granite City, IL facility for which we have information on four independent performance tests. The performance tests range from 0.006 to 0.009 gr/dscf with individual runs ranging from 0.003 to 0.009 gr/dscf. Three tests were conducted in 1988 and one in 1985, and all tests met the facility's State limit of 0.01 gr/dscf.

Since each of the baghouses is considered a MACT floor unit, we must set the standard at a point that accommodates the performance indicated by the highest emitting unit which we believe reflects a reasonable worst-case scenario. Consequently, the level of control associated with the MACT floor is 0.009 gr/dscf. We believe this emission limit represents a reasonable expectation of performance for an appropriately designed and well maintained and operated baghouse used to control blast furnace casthouse emissions. Therefore, we selected a concentration limit of 0.009 gr/dscf as the MACT floor for both new and existing blast furnace casthouses.

For the casthouse opacity standard, we selected the same format and values as that established for the MACT floors. For existing casthouses, we selected an opacity limit for the roof monitor of 20 percent using 6-minute averages. For new casthouses, we selected an opacity limit for the roof monitor of 15 percent using 6-minute averages.

Relative to control devices, we examined options for better emissions reductions. However, we could find no control alternatives that would provide additional reductions in HAP emissions for blast furnace casthouses beyond that achieved by a well-designed and operated baghouse. Consequently, we have chosen the limit of 0.009 gr/dscf, the level achieved in practice with the use of a baghouse, as the standard for both new and existing sources.

- BOPF primary emission control systems

Primary emissions from the BOPF refer to the particulate emissions generated during the steel production cycle which are captured and controlled by the primary emission control system. The majority of the emissions occur during the oxygen blow. The oxygen blow is the period in the steel production cycle when oxygen is lanced or injected into the vessel. Some shops operate open hood furnaces and others use closed hood systems. Open and closed hood furnaces are very different in terms of design and operation, pollutant loading, and emissions. Open hood systems are characterized by very high primary exhaust air flow rates due to the large quantities of combustion air introduced at the furnace mouth to support CO combustion. In contrast, closed hood systems, which include hoods that are tightly fitted to the vessel to suppress CO combustion, are characterized by much lower exhaust air flow rates. Typical flow rates for open hood systems are 200,000 to 500,000 acfm, while closed hood designs are usually less than 100,000 acfm.

There are 50 BOPF located in 23 BOPF shops. The 50 BOPF include 34 furnaces with open hood systems at 16 shops and 16 furnaces with closed hood systems at eight shops. All of the BOPF have capture and control systems for the primary emissions. For the open hood systems, eight shops are controlled by venturi scrubbers and eight shops are controlled by ESP. All eight of the closed hood shops are controlled by venturi scrubbers. Each shop is subject to existing State limits with a wide variety of formats, including concentration limits in gr/dscf and lb/1,000 lb gas for PM or PM_{10}, mass emission rate limits in lb/hr, and process weighted limits in lb/ton of steel. In addition, the emission test period required for compliance with the existing State limits varies from testing over the steel production cycle, only during the oxygen blow, for 1-hour runs, and for 2-hour runs.

We developed separate subcategories for open and closed hood furnaces due to the operational differences and volumetric air flow rates between the two designs. This subcategorization is consistent with the development of separate standards for open and closed hood BOPF for the new source performance standard (NSPS) in 40 CFR part 60, subpart N.

We examined the available test data for open hood BOPF, existing State limits, and control measures to evaluate options for selecting the MACT floor. We concluded that the source test data could not be used to rank the relative performance of all of the shops for two reasons. In several instances, the periods during which testing was conducted differed substantially from plant to plant. Some plants tested only during periods of oxygen blowing while others tested during the entire production cycle from charge to tap. The emissions generated and the control performance can be quite different depending on the part of the production cycle tested. For example, the largest amount of emissions is generated during the oxygen blow, and this period presents the greatest challenge to the control device. Another difficulty with some of the source test data is that measurements were made for PM–10 rather than for total PM which is the basis for the proposed PM limit.

As discussed earlier, there are two basic problems which prevent us from assessing the relative stringency of existing State limits and putting them on a common basis. The existing State limits are in different formats, and the required testing periods associated with the limits vary from plant to plant. Any attempt to convert them to a common basis requires assumptions on parameters such as typical volumetric flow rates and steel production rates, both of which have the potential to introduce significant errors in the conversion.

Because the available data and State limits are not useful to identify the five best-performing sources, we opted for the technology floor approach. Control devices applied to primary emissions at open hood shops include both ESP and venturi scrubbers. We have source test data and design information for seven of the 16 open hood shops, five with ESP and two with venturi scrubbers. The test data indicate that the ESP perform better than the venturi scrubbers. All the test data (charge-to-tap measurements) for the ESP are less than 0.019 gr/dscf. All of the ESP are similar in design and operation. All have three to five fields in series and operate at specific collection areas greater than 300 square feet per thousand cubic feet per minute. Data for the two plants with venturi scrubbers, operating at pressure drops of 25 to 35 inches of water, averaged 0.025 and 0.035 gr/dscf, respectively. Based on these test data, we conclude the existing inventory of ESP constitutes the MACT floor technology for open hood BOPF.

We examined the test data for the five ESP for which we have both design information and emission source test data. As noted previously, all are similar in design and operation. We have data from 13 different source tests; seven emission source tests at one facility, three tests at another facility, and single tests at three other facilities. Each of the performance tests is comprised of three individual test runs. Each run was conducted over an entire furnace cycle from charge to tap.

The three-run averages for each of the 13 tests range from 0.004 to 0.019 gr/dscf. Results from individual runs range from 0.003 to 0.025 gr/dscf. Since each of the ESP is considered a MACT floor unit, we must set the MACT floor at a level that reflects a reasonable worst-case scenario and that accommodates the ordinary and unavoidable variability in the performance of the MACT technology. We selected the highest three-run average value of 0.019 gr/dscf for the MACT floor.

We also believe that this emission limit represents the best performance that can reasonably be expected of an appropriately designed and well maintained and operated ESP applied to open hood BOPF emissions. Therefore, we selected 0.019 gr/dscf as the MACT floor for open hood BOPF at both new and existing BOPF shops.

We examined the available test data for closed hood BOPF, existing State limits, and control measures to evaluate options for selecting the MACT floor. As was the case with open hood BOPF, we also had limited actual emission data and a mixture of different formats for State emission limits from closed hood BOPF. We looked at the technology used to control primary emissions from closed hood BOPF and found that all 16 of the furnaces at the eight closed hood shops use high-energy venturi scrubbers. Closed hood systems produce an exhaust gas high in CO which precludes the use of other types of control devices (such as baghouses or ESP) due to potential explosion or fire hazards.

We collected information on the design and operation of these scrubbers through an industry survey. These scrubbers operate at a pressure drop of 50 inches of water or more, and most have liquid-to-gas ratios greater than 10 gallons per thousand cubic feet of gas. We selected high-energy venturi scrubbers with a pressure drop of 50 inches of water or more as the floor technology for closed hood BOPF.

We have recent test data for only one of the eight closed hood shops. In addition, we have performance test data from five other furnaces that were collected and used to develop the NSPS. All tests include three test runs and all were performed only during the oxygen blow. Each of these plants use the MACT floor technology for closed hood shops, which is a high-energy venturi scrubber with a pressure drop of 50 inches of water or more. The three run averages for each of the six tests range from 0.015 to 0.024 gr/dscf. Results from individual runs range from 0.013 to 0.031 gr/dscf.

Since each of the scrubbers is considered a MACT floor unit, we must set the MACT floor emission limit at a level that reflects a reasonable worst-case scenario and that accommodates the ordinary and unavoidable variability in the performance of the MACT technology. We selected the highest three run average value of 0.024 gr/dscf as the MACT floor. We also believe that this value represents the best performance that can reasonably be expected of an appropriately designed and well maintained and operated high-energy venturi scrubber applied to closed hood BOPF emissions. Therefore, we have selected 0.024 gr/dscf as the MACT floor for closed hood BOPF at both new and existing BOPF shops.

We examined options for better emissions reductions for open hood BOPF. However, we could not find any control alternatives that would provide reductions in HAP emissions beyond that demonstrated to be achievable by ESP. Consequently, the floor (0.019 gr/dscf) was chosen as the standard for both new and existing sources.

We examined options for more effective control for closed hood BOPF. However, we could not find any alternative that would provide greater reductions in HAP emissions from closed hood BOPF than high energy venturi scrubbers. Consequently, the MACT floor (0.024 gr/dscf) was chosen as the standard for both new and existing sources.

- BOPF secondary emission control systems

Secondary or fugitive emissions occur from the BOPF when the molten iron and scrap metal are charged to the furnace, and when the molten steel and slag are tapped from the furnace. The emissions generated are primarily metal oxides formed when oxygen in the air reacts with the molten iron or steel. Twelve of the 23 BOPF shops have a separate capture and control system for BOPF charging and tapping emissions. Ten of these shops use baghouses and the other two use scrubbers. Existing State limits for the control devices range from 0.0052 to 0.015 gr/dscf and the NSPS limit is 0.01 gr/dscf. The most common limit is 0.01 gr/dscf. Available data on secondary BOPF emissions are limited to one test run at a facility using a baghouse, for which we have limited documentation. This one test run measured a concentration value of 0.001 gr/dscf.

In selecting the MACT floor for existing sources, we evaluated all of the available information on existing control measures, State regulations, and actual emissions. Due to the limited information on actual emissions available, we concluded that State regulations provided the best and most complete information for establishing floor limitations for secondary BOPF emission control systems. We believe that these State limits are in fact a reasonable representation of what is actually achieved in practice and are, therefore, suitable proxies for establishing MACT floor conditions. The existing State emission limits reflect a level of performance which, based on engineering judgement, we would expect from the capture systems and control devices which are currently applied to the control of emissions from secondary BOPF emission control systems.

We examined the top five most stringent existing emission limits for total PM. The five plants with the most stringent secondary BOPF emission State limits are subject to concentration limits of 0.0052, 0.006, 0.01, 0.01 and 0.012 gr/dscf. Each of these is associated with a facility with baghouse controls. The median of the five values produces a MACT floor limit of 0.01 gr/dscf.

It is not likely that one test run will adequately reflect the full range of performance of a particular technology, and the results of the one available test run appear to represent, at most, what this type of control is able to achieve under very favorable circumstances. Therefore, we do not believe that it represents the actual level of performance that this technology is capable of consistently achieving.

We believe that 0.01 gr/dscf reasonably represents the average emission limitation achieved by the best performing five sources in the category.

Consequently, we chose 0.01 gr/dscf as the MACT floor for existing sources.

As with existing sources, MACT for new sources is also based on existing State limits since we have no credible data on actual emissions beyond the single test run. As noted above, the most stringent State limit is 0.0052 gr/dscf. Consequently, we chose 0.0052 gr/dscf as the MACT floor for new sources.

Because of the limited amount of data available, we could not identify any basis for developing a limit more stringent than the floor for either new or existing BOPF shops. Consequently, we chose the MACT floor as the standard for new and existing BOPF shops, 0.01 gr/dscf for existing sources, and 0.0052 gr/dscf for new sources.

- Hot metal transfer, desulfurization, slag skimming, and ladle metallurgy

There are several different ancillary operations performed within the BOPF shop: (1) Operations associated with the molten iron before it is charged to the BOPF (hot metal transfer, desulfurization, and slag skimming), and (2) treatment of the molten steel after tapping (various ladle metallurgy operations). The emissions from these operations are primarily metal oxides formed when oxygen in the air reacts with the molten iron or steel.

Molten iron is transported from the blast furnace casthouse to the BOPF shop in a torpedo car and transferred to a vessel at the reladling (or hot metal) station, where it is usually desulfurized and slag is skimmed from the surface. Emissions from these operations are captured by local hooding and controlled by a baghouse. Existing State emission limits for these operations range from 0.0052 to 0.04 gr/dscf, but most are on the order of 0.01 gr/dscf.

The steel from the BOPF is usually transferred to a ladle where final adjustments in temperature and chemistry are made in an operation known as ladle metallurgy. Emissions from ladle metallurgy are captured by a close fitting hood and ducted to a baghouse. Existing State limits for ladle metallurgy are a mixture of mass emission rates in lb/hr and concentration limits in gr/dscf. The mass emission rate limits range from 0.42 to 7.5 lb/hr, and the concentration limits range from 0.0052 to 0.02 gr/dscf.

In selecting the MACT floor for existing sources, we evaluated all of the available information on control techniques, State regulations, and actual emissions. Relative to information on actual emissions, we have information on three tests of hot metal transfer and desulfurization and seven tests of ladle metallurgy. Since all of the facilities using controls use baghouses and have similar types of emissions, we selected baghouses as the MACT floor technology for hot metal transfer, desulfurization, slag skimming, and ladle metallurgy.

To develop the MACT floor limitation, we examined source test data for three of the 23 baghouses that control emissions from hot metal transfer and desulfurization, and for seven of the 20 baghouses that control emissions from ladle metallurgy. Each performance test is comprised of three individual runs. The three-run averages for the ten tests range from 0.001 to 0.012 gr/dscf. Results from individual runs range from 0.001 to 0.021 gr/dscf.

Since each of the baghouses is considered a MACT floor unit, we must set the MACT floor at a level that reflects a reasonable worst-case situation and that accommodates the ordinary and unavoidable variation in the performance of the MACT technology. We looked at both the highest three-run averages and highest individual runs measured. In this case, both were obtained on the same baghouse, 0.012 and 0.021 gr/dscf. An examination of the test results on all ten baghouses indicates that these results are 2 to 2.5 times higher than those obtained on the next highest emitting unit, suggesting that this baghouse is either an under performer or that the test results include an outlier. Eliminating the 0.021 gr/dscf value from the three-run average produces an average of 0.007 gr/dscf which is in line with the next highest emitting unit's three-run average of 0.006 gr/dscf and the highest individual run of 0.0085 gr/dscf. Consequently, we believe the 0.021 gr/dscf value is an outlier and does not reflect the level of performance demonstrated to be achievable for a baghouse applied to emissions from hot metal transfer, desulfurization, and ladle metallurgy operations.

We also believe that a concentration limit of 0.007 gr/dscf represents the best reasonable expectation of performance for a baghouse applied to these emission points. Therefore, we selected 0.007 gr/dscf as the MACT floor limit for emissions from hot metal transfer, desulfurization, and ladle metallurgy operations at both new and existing BOPF shops.

We know of no control alternatives that would provide additional reductions in HAP emissions for hot metal transfer, desulfurization, slag skimming, and ladle metallurgy beyond that achieved with baghouses. Consequently, the MACT floor (0.007 gr/dscf) was chosen as the standard for both new and existing sources.

- BOPF shop fugitive emissions

The BOPF shop is a building or structure that houses several operations involved in steelmaking. These include hot metal transfer, desulfurization, slag skimming stations; one or more BOPF for refining iron into steel; and ladle metallurgy stations. Fugitive emissions from these operations in the BOPF shop exit through the roof monitor and other building openings.

In selecting the MACT floor for existing sources, we evaluated all of the available information on existing control measures, State regulations, and actual emissions. We were unable to locate any opacity data to establish MACT floors for BOPF fugitive emissions based on actual opacity readings. However, most States have visible emission standards that limit opacity from BOPF shops during all periods of the production cycle. In addition, there are existing NSPS opacity limits applicable to fugitive emissions from BOPF shops. We believe that State regulations provide the best and most complete information for establishing floor limitations for fugitive emissions from BOPF shops. We believe that these State limits are in fact a reasonable representation of what is actually achieved in practice and are, therefore, suitable proxies for establishing MACT floor conditions. The existing State opacity limits reflect a level of performance which, based on engineering judgement, we would expect to be achievable for fugitive emissions from BOPF shops.

We decided to look at top and bottom blown furnaces independently based on operational differences between the two designs. For top blown furnaces, the most stringent and also the most common State standard is a 20 percent limit (3-minute average) that is applied to 13 of the 20 BOPF shops that operate top blown furnaces. For bottom blown furnaces, the BOPF shop with the most stringent standard is subject to a 10 percent opacity limit (6-minute average, with one exception per cycle up to 20 percent). A second shop has three furnaces subject to a 20 percent limit (3-minute average). A third shop has two furnaces subject to a 20 percent limit (6-minute average), and a third subject to a 10 percent limit (3-minute average), with one 3-minute average greater than 10 percent but less than 20 percent applied only during hot metal transfer or skimming operations. Similar to the existing State standards, the NSPS for top blown furnaces applies during the entire production cycle. However, the NSPS for bottom blown furnaces applies only during periods of hot metal transfer and slag skimming. Both standards limit opacity to less than 10 percent (3-minute average), except that one 3-minute average greater than 10 percent but less than 20 percent can occur during each applicable performance period.

We are selecting a 20 percent (3-minute average) opacity limit as the MACT floor for existing sources for both new and existing top blown and bottom blown BOPF shops. In both cases, this level of control corresponds to the median level of control achieved by the top five performing shops. For top blown BOPF shops, the MACT floor for new sources is an opacity limit of 10 percent (3-minute average), except for one 3-minute average greater than 10 percent but less than 20 percent. This limit is based on the most stringent existing limit applicable to top blown BOPF shops (the existing NSPS). For bottom blown BOPF shops, we are selecting a MACT floor limit of 10 percent opacity (6-minute average with one exception per cycle up to 20 percent) for new sources, based on the most stringent existing State limit. This limit is more stringent than the NSPS since it applies during all periods of the production cycle rather than only during hot metal transfer and skimming.

Because of the limited amount of data available, we could not identify any basis for developing a limit more stringent than the floor for either new or existing BOPF shops. Consequently, we chose the MACT floor as the standard for both new and existing bottom and top blown BOPF shops. For both existing bottom blown and top blown BOPF shops, we selected an opacity limit for fugitive emissions of 20 percent using 3-minute averages. For new bottom blown BOPF shops, we selected an opacity limit for fugitive emissions of 10 percent opacity limit (6-minute average, with one exception per cycle up to 20 percent), which is based on the most stringent State limit. For new top blown BOPF shops, we are selecting an opacity limit of 10 percent (3-minute average), except that one 3-minute average greater than 10 percent but less than 20 percent can occur during each steel production cycle.

D. How Did We Select the Initial Compliance Requirements?

The proposed rule requires a performance test for each control device to demonstrate initial compliance with the applicable PM limit, and the reference method for PM is EPA Method 5 or 5D in 40 CFR part 60, appendix A (or ASTM 4536–96). The proposed rule also requires that a certified observer conduct a performance test by EPA Method 9 in 40 CFR part 60, appendix A, to determine the opacity of fugitive emissions. Consistent with Method 9 and the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A), we are requiring that opacity observations be made for at least 3 hours. We are also requiring that compliance testing for PM and opacity be performed during the production period with the greatest emissions, which is during tapping for the blast furnace; during the steel production cycle for open hood BOPF; and during the oxygen blow for closed hood BOPF.

For the measurement of oil content, we chose EPA Method 9071B, ''n-Hexane Extractable Material for Sludge, Sediment, and Solid Samples.'' This method is used to quantify low concentrations of oil in solid materials by extracting the sample with hexane to dissolve the oil, evaporating the hexane, and weighing the residue (oil). This is consistent with the method specified in Indiana's regulation for the oil content of sinter feed. Three samples of the sinter feed must be taken at 8-hour intervals each day. The three samples are composited and analyzed for oil content to provide a measure of the percent oil in the sinter feed for that day. The daily results are averaged over a 30-day period on a rolling basis to determine the 30-day rolling average. We chose a format of a 30-day rolling average for the standard because it is consistent with the data on which the limit is based, which were long term averages of historical measurements, and provides for dampening of possible short-term intermittent spikes in oil content.

We also require that certain operating limits be determined during the initial compliance test to ensure that capture and control devices operate properly on a continuing basis. All operating limits must be established during a performance test that demonstrates compliance with the applicable emission limit. During performance tests for PM, operating limits must be established for pressure drop and scrubber water flow rate for venturi scrubbers, and opacity (using a COMS) for ESP. During opacity observations of roof monitors, operating limits must be established for capture systems used on the sinter plant discharge end, blast furnace casthouse, and BOPF secondary emissions. Two options are available for the operating limits for these capture systems: (1) Establish a minimum volumetric flow rate for each individual duct, or (2) establish a minimum volumetric flow rate for the total flow to the control device along with settings for damper positions.

E. How Did We Select the Continuous Compliance Requirements?

For continuous compliance, we chose periodic performance testing for PM and opacity, which is consistent with current permit requirements. We consulted with several States on how they were implementing title V permitting requirements for performance tests. In general, performance tests are repeated every 2.5 to 5 years, depending on the magnitude of the source. Consequently, we decided that performance tests should be repeated no less frequently than twice per permit term of a source's title V operating permit (at mid-term and renewal).

Continuous compliance provisions were also established for capture equipment used on the discharge end, blast furnace casthouse, and BOPF secondary emissions to ensure the emissions are captured. There are two options: (1) Monitor the volumetric flow rate in each individual duct, or (2) monitor the total volumetric flow rate to the control device in combination with damper positions. These parameters must be in the range established during the EPA Method 9 performance test. We believe this monitoring will be sufficient to assure that ventilation adequate for the capture of fugitive emissions consistent with that demonstrated during the initial performance test will be maintained.

We also developed procedures to ensure that control equipment is operating properly on a continuous basis. When baghouses are used, the alarm for the bag leak detection system must not sound for more than 5 percent of the time in any semiannual reporting period. Venturi scrubbers must be monitored for pressure drop and scrubber water flow rate, and they must not fall below the limits established during the performance test. Electrostatic precipitators must be monitored for opacity using COMS. The opacity must not exceed the operating limit established during the performance test. If a facility uses equipment other than a baghouse, venturi scrubber, or ESP to control emissions from an affected source, the owner or operator would be required to send us a monitoring plan containing information on the type of device, performance test results, appropriate operating parameters to be monitored, operating limits, and operation and maintenance.

For demonstrating continuous compliance with the oil content standard on sinter plant feed, we chose daily sampling and analysis of sinter plant feed with daily compliance determined against a 30-day rolling average.

F. How Did We Select the Notification, Recordkeeping, and Reporting Requirements?

We selected the notification, recordkeeping, and reporting requirements to be consistent with the NESHAP General Provisions (40 CFR part 63, subpart A). One-time notifications are needed by EPA to know what facilities are subject to the standard, if a facility has complied with the rule requirements, and when certain events such as performance tests and performance evaluations are scheduled. Semiannual compliance reports containing information on any deviation from the rule requirements are also required. These reports would include information on any deviation that occurred during the reporting period; if no deviation occurred, only summary information would be required. Consistent with the General Provisions, we also require an immediate report of any startup, shutdown, or malfunction where the actions taken in response were not consistent with the startup, shutdown, and malfunction plan. This information is needed to determine if changes to the plan need to be made. Records would be required of information needed to document compliance with the rule requirements. These notifications, reports, and records are the minimum needed to ensure initial and continuous compliance.

IV. Summary of Environmental, Energy, and Economic Impacts

Generally, we do not expect the impacts of the proposed rule to be very serious or significant. Most plants have and continue to operate air pollution control equipment sufficient to meet all or most of the emission limitations contained in the proposed rule. Our best projection is that four plants will have to upgrade or install new control equipment on one or more of the affected sources. One plant does not have controls for fugitive emissions from their blast furnace casthouse and may have to install a capture and control system. One plant is expected to install new venturi scrubbers for their primary emission control system in the BOPF shop, and another plant will need to upgrade their venturi scrubbers. One of these plants may also need to install a capture and control system for fugitive emissions from the BOPF because they operate a closed hood BOPF without a capture system. Two plants use venturi scrubbers as the control devices for fugitive emissions from the BOPF; these plants may need to replace the scrubbers with baghouses.

A. What Are the Air Emission Impacts?

The installation of new controls and upgrades discussed in the preceding paragraph will result in reductions in emissions of metal HAP and PM. We estimate that the new capture and control system for the blast furnace casthouse will reduce these emissions by 90 percent, a reduction of 2 tons per year (tpy) of HAP and 324 tpy of PM. The new BOPF scrubbers at one plant and upgrade at another will result in a 50 percent reduction in emissions, 2.8 tpy of HAP and 315 tpy of PM. The new capture and control system for fugitive emissions from the BOPF would result in a 90 percent reduction in emissions, 6 tpy of HAP and 600 tpy of PM. We expect that the upgrade or replacement of the two scrubbers used as controls for BOPF fugitive emissions would result in a 50 percent reduction in emissions, 2.7 tpy of HAP and 270 tpy of PM. Overall, the proposed standard is expected to reduce metal HAP emissions by 13 tpy and PM emissions by about 1,500 tpy.

B. What Are the Cost Impacts?

The nationwide capital and annual costs of new and upgraded capture and control systems are estimated at $34 million and $5.9 million/yr, respectively. The total nationwide annual costs (including monitoring and recordkeeping) are about $6.2 million/yr. These costs are based on a new primary control system for one BOPF shop, upgraded controls at another, two new capture and control systems for secondary BOPF emissions, and one new capture and control system for a blast furnace casthouse. In addition, the estimate includes the cost of bag leak detection systems for baghouses.

C. What Are the Economic Impacts?

We conducted a detailed economic impact analysis to determine the impacts of the proposed rule on both the industry and the U.S. market for steel mill products. We estimate the economic impacts in both areas to be negligible. We project the price of steel mill products, in aggregate, to increase by less than 0.1 percent with domestic production from integrated mills declining by only 3,100 short tons. This slight decline in production at affected integrated mills is somewhat offset by increases at nonintegrated domestic steel producers (600 short tons) and foreign imports (600 short tons). In terms of industry impacts, the integrated steel producers are projected to experience a slight decrease in operating profits of $5.2 million annually, which reflects increased costs of compliance and associated reductions in revenues from producing final steel mill products. In addition, we don't foresee any individual integrated facility being in jeopardy of closure because of the proposed standards.

Based on the market analysis, the annual costs to society of the proposed rule are projected to be $5.9 million. As a result of slightly higher prices for steel mill products, the final consumers of these products will incur an additional $1.7 million annually. Integrated steel mills are expected to decline $5.2 million annually in profits related to directly incurred control costs and reduced product revenues. Non-integrated steel mills that directly compete with integrated mills in these markets and are unaffected by today's proposed rule will experience a slight increase in profits of $0.6 million. Similarly, foreign steel producers will also experience a slight increase in profits of $0.4 million due to the slightly higher prices and increases in imports to the U.S. market. For more information, consult the economic impact analysis supporting this proposed rule.

D. What Are the Non-Air Health, Environmental, and Energy Impacts?

Implementation of the rule as proposed would be expected to result in a small increase in solid waste: 3,200 tpy of sludge and 1,200 tpy of dust. The energy increase could be expected to be 24,000 megawatt-hours per year, primarily due to the energy requirements of new venturi scrubbers.

V. Solicitation of Comments and Public Participation

We seek full public participation in arriving at final decisions and encourage comments on all aspects of this proposal from all interested parties. You need to submit full supporting data and detailed analysis with your comments to allow use to make the best use of them. Be sure to direct your comments to the Air and Radiation Docket and Information Center, Docket No. A–2000–44 (see ADDRESSEES).

We are requesting comments on two specific issues. The first is whether the emission limit for the windbox exhaust at sinter plants should be expressed in terms of lb/ton of sinter (0.3 lb/ton), concentration (0.01 gr/dscf for baghouses and 0.03 gr/dscf for scrubbers), or a combination. The second issue is whether MACT standards are warranted for the discharge end and sinter cooler at sinter plants and for ladle metallurgy operations in the BOPF shop. The discharge end contributes only 1 percent of the HAP emissions from sinter plants, and the cooler contributes less than 10 percent. Ladle metallurgy contributes less than 1 percent of the HAP emissions from BOPF shops.

VI. Administrative Requirements

A. Executive Order 12866, Regulatory Planning and Review

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 a ''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 entitlement, grants, user fees, or loan programs or the rights and obligations 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 a ''significant regulatory action'' because none of the listed criteria apply to this action. Consequently, this action was not submitted to OMB for review under Executive Order 12866.

B. Executive Order 13132, Federalism

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.'' Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. The EPA also may not issue a regulation that has federalism implications and that preempts State law unless the EPA consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, Executive Order 13132 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. Also, when EPA transmits a draft final rule with federalism implications to OMB for review pursuant to Executive Order 12866, EPA must include a certification from the Agency's Federalism Official stating that EPA met the requirements of Executive Order 13132 in a meaningful and timely manner.

This proposed rule does not have federalism implications. None of the affected facilities are owned or operated by State governments, and the proposed rule would not preempt any State laws that are more stringent. Therefore, it will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. In addition, the proposed rule is required by statute and, if implemented, will not impose any substantial direct compliance costs. Thus, the requirements of section 6 of the Executive Order do not apply to this proposed rule.

C. Executive Order 13084, Consultation and Coordination With Indian Tribal Governments

On January 1, 2001, Executive Order 13084 was superseded by Executive Order 13175. However, this proposed rule was developed during the period when Executive Order 13084 was still in force, and so tribal considerations were addressed under Executive Order 13084. Development of the final rule will address tribal considerations under Executive Order 13175. Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires the EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.''

Today's proposed rule does not significantly or uniquely affect the communities of Indian tribal governments. No tribal governments own or operate integrated iron and steel manufacturing facilities. The proposed rule is required by statute and will not impose any substantial direct compliance costs. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this action.

D. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) is determined to be ''economically significant,'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. This proposed rule is not subject to Executive Order 13045 because it is technology based and not based on health or safety risks. No children's risk analysis was performed because no alternative technologies exist that would provide greater stringency at a reasonable cost. Further, this proposed rule has been determined not to be ''economically significant'' as defined under Executive Order 12866.

E. Unfunded Mandates Reform Act of 1995

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 by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any 1 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 proposed rule does not contain a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector in any 1 year. The maximum total annual cost of this proposed rule for any year has been estimated to be less than $6 million. Thus, today's proposed rule is not subject to sections 202 and 205 of the UMRA. In addition, the EPA has determined that this proposed 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 proposed rule is not subject to the requirements of section 203 of the UMRA.

F. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. et seq.

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

For purposes of assessing the impacts of today's proposed rule on small entities, small entity is defined as: (1) a small business according to Small Business Administration (SBA) size standards for NAICS code 331111 (*i.e.,* Iron and Steel Mills) of 1,000 or fewer employees; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

Based on the above definition of small entities, the Agency has determined that there are no small businesses within this source category that would be subject to this proposed rule. Therefore, because this proposed rule will not impose any requirements on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities.

G. Paperwork Reduction Act

The information collection requirements in this proposed rule will be submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An information collection request (ICR) document has been prepared by EPA (ICR No. 2003.01), and a copy may be obtained from Sandy Farmer by mail at the Office of Environmental Information, Collection Strategies Division (2822), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, by e-mail at farmer.sandy@epa.gov, or by calling (202) 260–2740. A copy also may be downloaded off the Internet at *http://www.epa.gov/icr.* The information requirements are not effective until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to NESHAP. These recordkeeping and reporting requirements are specifically authorized by section 112 of the CAA (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies in 40 CFR part 2, subpart B.

The rule would require applicable one-time notifications required by the General Provisions for each affected source. As required by the NESHAP General Provisions, all plants would be required to prepare and operate by a startup, shutdown, and malfunction plan. Plants also would be required to prepare an operation and maintenance plan for capture systems and control devices subject to operating limits. Records would be required to demonstrate continuous compliance with the monitoring, operation, and maintenance requirements for capture systems, control devices, and monitoring systems. Semiannual compliance reports also are required. These reports would describe any deviation from the standards, any period a continuous monitoring system was ''out-of-control,'' or any startup, shutdown, or malfunction event where actions taken to respond were inconsistent with startup, shutdown, and malfunction plan. If no deviation or other event occurred, only a summary report would be required. Consistent with the General Provisions, if actions taken in response to a startup, shutdown, or malfunction event are not consistent with the plan, an immediate report must be submitted within 2 days of the event with a letter report 7 days later.

The annual public reporting and recordkeeping burden for this collection of information (averaged over the first 3 years after the effective date of the final rule) is estimated to total 5,512 labor hours per year at a total annual cost of $352,302, including labor, capital, and operation and maintenance.

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; 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 number 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 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, Collection Strategies Division (2822), U.S. Environmental Protection Agency (2136), 1200 Pennsylvania Avenue, NW, 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 July 13, 2001, a comment to OMB is best assured of having its full effect if OMB receives it by August 13, 2001. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

H. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law 104–113; 15 U.S.C. 272 note), directs EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impracticable. Voluntary consensus standards are technical standards (such as material specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus standard bodies. The NTTAA directs EPA to provide Congress, through annual reports to OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

This proposed rule involves technical standards. The EPA proposes to use EPA Methods 1, 2, 2F, 2G, 3, 3A, 3B, 4, 5, 5D, 9, and 17 in 40 CFR part 60, appendix A; Performance Specification 1 (PS–1) in 40 CFR part 60, appendix B; and OSW 846 Method 9071B. Consistent with the NTTAA, we conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Methods 2F, 2G, 5D, 9, and OSW 846 Method 9071B. The search and review results have been documented and placed in Docket A–2000–44.

One voluntary consensus standard was identified as applicable to PS–1. The standard ASTM D6216 (1998), Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications, has been incorporated by reference into PS–1 (65 FR 48920, August 10, 2000).

Another voluntary consensus standard, ASTM D4536–96, Particulate (Matter) Modified High Volume, is being proposed as an alternative to the sampling equipment and procedures in Method 5 or 17 in conducting emissions testing of positive pressure baghouses. The ASTM D4536–96 equipment and procedures would be used in conjunction with the sample traverse and calculations as described in Method 5D for the application. We invite comments on whether including this ASTM standard method is appropriate for this or other applications.

In addition to the voluntary consensus standards we propose to use in this rule, our search for emissions monitoring procedures identified 15 other voluntary consensus standards. We determined that 12 of these 15 standards were impractical alternatives to EPA test methods for the purposes of this proposed rule. Therefore, we do not propose to include these 12 voluntary consensus standards in this proposed rule. Our detailed review comments for these 12 standards are in Docket A–2000–44.

Three of the 15 voluntary consensus standards identified in this search were unavailable at the time the review was conducted for the purposes of this proposed rule because they are under development by the voluntary consensus body. Our review comments for these three standards are in Docket A–2000–44.

The EPA invites comment on the compliance demonstration requirements proposed in this rule and specifically invites the public to identify potentially-applicable voluntary consensus standards. Commentors should also explain why this regulation should adopt these voluntary consensus standards in lieu of or in addition to EPA's standards. Emission test methods and performance specifications submitted for evaluation should be accompanied with a basis for the recommendation, including method validation data the procedure used to validate the candidate method (if a method other than Method 301, 40 CFR part 63, appendix A, was used).

The EPA test methods and performance specifications that would be required for integrated iron and steel manufacturing facilities are included in §§ 63.7822, 63.7823, and 63.7831 of the proposed rule. Under § 63.8 of the NESHAP General Provisions in 40 CFR part 63, subpart A, a source may apply to EPA for permission to use alternative monitoring in place of any of the EPA testing methods.

List of Subjects in 40 CFR part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Iron and steel, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: January 19, 2001.

Carol M. Browner,

Administrator.

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

PART 63—[AMENDED]

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

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

Subpart A—[Amended]

2. Section 63.14 is amended by adding paragraph (b)(20) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(b) * * *

(20) ASTM D4536–96, Standard Test Method for High-Volume Sampling for Solid Particulate Matter and Determination of Particulate Emissions,

IBR approved [EFFECTIVE DATE OF FINAL RULE] for § 63.7822.

* * * * *

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

Sec.

Subpart FFFFF—National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities

What This Subpart Covers

§ 63.7780 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for integrated iron and steel manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with all applicable emission limitations and operation and maintenance requirements in this subpart.

§ 63.7781 Am I subject to this subpart?

You are subject to this subpart if you own or operate an integrated iron and steel manufacturing facility that is (or is part of) a major source of hazardous air pollutant (HAP) emissions on the first compliance date that applies to you. Your integrated iron and steel manufacturing facility is a major source of HAP if it emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year.

§ 63.7782 What parts of my plant does this subpart cover?

(a) This subpart applies to each new and existing affected source at your integrated iron and steel manufacturing facility.

(b) The affected sources are each new or existing sinter plant, blast furnace, and basic oxygen process furnace (BOPF) shop at your integrated iron and steel manufacturing facility.

(c) This subpart covers emissions from the sinter plant windbox exhaust, discharge end, and sinter cooler; the blast furnace casthouse; and the BOPF shop including each individual BOPF and shop ancillary operations (hot metal transfer, hot metal desulfurization, slag skimming, and ladle metallurgy).

(d) A sinter plant, blast furnace, or BOPF shop at your integrated iron and steel manufacturing facility is existing if you commenced construction or reconstruction of the affected source before July 13, 2001.

(e) A sinter plant, blast furnace, or BOPF shop at your integrated iron and steel manufacturing facility is new if you commence construction or reconstruction of the affected source on or after July 23, 2001. An affected source is reconstructed if it meets the definition of ''reconstruction'' in § 63.2.

§ 63.7783 When do I have to comply with this subpart?

(a) If you have an existing affected source, you must comply with each emission limitation and operation and maintenance requirement in this subpart that applies to you no later than [2 YEARS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(b) If you have a new affected source and its initial startup date is on or before [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], then you must comply with each emission limitation and operation and maintenance requirement in this subpart that applies to you by [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(c) If you have a new affected source and its initial startup date is after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must comply with each emission limitation and operation and maintenance requirement in this subpart that applies to you upon initial startup.

(d) If your integrated iron and steel manufacturing facility is an area source that becomes a major source of HAP, the following compliance dates apply to you:

(1) Any portion of the existing integrated iron and steel manufacturing facility that is a new affected source or a new reconstructed source must be in compliance with this subpart upon startup.

(2) All other parts of the integrated iron and steel manufacturing facility must be in compliance with this subpart no later than 2 years after it becomes a major source.

(e) You must meet the notification and schedule requirements in § 63.7840. Several of these notifications must be submitted before the compliance date for your affected source.

§§ 63.7784–63.7789 [Reserved]

Emission Limitations

§ 63.7790 What emission limitations must I meet?

(a) You must meet each emission limit and opacity limit in Table 1 to this subpart that applies to you.

(b) You must meet each operating limit for capture and control devices in paragraphs (b)(1) through (5) of this section that applies to you.

(1) For each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse, you must:

(i) Maintain the hourly average volumetric flow rate through each separately ducted hood in the capture system at or above the minimum level established during the initial performance test; or

(ii) Maintain the total hourly average volumetric flow rate at the control device inlet at or above the minimum level established during the initial performance test and all capture system dampers in the same position as during the initial performance test.

(2) For each capture system applied to secondary emissions from a BOPF, you must:

(i) Maintain the average volumetric flow rate through each separately ducted hood in the capture system for each steel production cycle at or above the minimum level established during the initial performance test; or

(ii) Maintain the total average volumetric flow rate at the control device inlet for each steel production cycle at or above the minimum level established during the initial performance test and all capture system dampers in the same position as during the initial performance test.

(3) For each baghouse applied to meet any particulate emission limit in Table 1, you must operate the baghouse such that the bag leak detection system does not alarm for more than 5 percent of the total operating time in any semiannual reporting period.

(4) For each venturi scrubber applied to meet any particulate emission limit in Table 1, you must maintain the hourly average pressure drop and scrubber water flow rate at or above the minimum levels established during the initial performance test.

(5) For each electrostatic precipitator applied to emissions from a BOPF, you must maintain the hourly average opacity of emissions exiting the control device stack at or below the level established during the initial performance test.

(6) An owner or operator who uses an air pollution control device other than a baghouse, venturi scrubber, or electrostatic precipitator must submit a description of the device; test results collected in accordance with § 63.7822 verifying the performance of the device for reducing emissions of particulate matter to the atmosphere to the levels required by this subpart; a copy of the operation and maintenance plan required in § 63.7800(b); and appropriate operating parameters that will be monitored to maintain continuous compliance with the applicable emission limitation(s). The monitoring plan identifying the operating parameters to be monitored is subject to approval by the Administrator.

(c) For each sinter plant, you must maintain the 30-day rolling average oil content of the sinter plant feedstock at or below 0.025 percent.

§§ 63.7791–63.7799 [Reserved]

Operation and Maintenance Requirements

§ 63.7800 What are my operation and maintenance requirements?

(a) As required by § 63.6(e)(1)(i), you must always operate and maintain your affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart.

(b) You must prepare and operate at all times according to a written operation and maintenance plan for each capture system and control device subject to an operating limit in § 63.7790(b). Each plan must address the elements in paragraphs (b)(1) through (3) of this section.

(1) Monthly inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

(2) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(3) In the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Actions may include, but are not limited to:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

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

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions.

§§ 63.7801–63.7809 [Reserved]

General Compliance Requirements

§ 63.7810 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operation and maintenance requirements in this subpart at all times, except during periods of startup, shutdown, and malfunction as defined in § 63.2.

(b) During the period between the compliance date specified for your affected source in § 63.7783 and the date upon which continuous monitoring systems have been installed and certified and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) You must develop and implement a written startup, shutdown, and malfunction plan according to the provisions in § 63.6(e)(3).

§§ 63.7811–63.7819 [Reserved]

Initial Compliance Requirements

§ 63.7820 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) As required in § 63.7(a)(2), you must conduct a performance test within 180 calendar days of the compliance date that is specified in § 63.7783 for your affected source to demonstrate initial compliance with each emission and opacity limit in Table 1 to this subpart that applies to you, and the 30-day rolling average oil content limit for the sinter plant feedstock in § 63.7790(c).

(b) For each operation and maintenance requirement that applies to you where initial compliance is not demonstrated using a performance test or opacity observation, you must demonstrate initial compliance within 30 calendar days after the compliance date that is specified for your affected source in § 63.7783.

(c) If you commenced construction or reconstruction between July 13, 2001 and [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must demonstrate initial compliance with either the proposed emission limit or the promulgated emission limit no later than [180 DAYS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] or no later than 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(d) If you commenced construction or reconstruction between [INSERT DATE OF PUBLICATION OF THIS PROPOSED RULE IN THE **Federal Register**] and [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], and you chose to comply with the proposed emission limit when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limit by [3 YEARS AND 180 DAYS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], or after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

§ 63.7821 When must I conduct subsequent performance tests?

You must conduct subsequent performance tests to demonstrate compliance with all applicable emission and opacity limits in Table 1 to this subpart no less frequently than twice (at mid-term and renewal) during each term of your title V operating permit.

§ 63.7822 What test methods and other procedures must I use to demonstrate initial compliance with the emission limits for particulate matter?

(a) You must conduct each performance test that applies to your affected source according to the requirements in § 63.7(e)(1) and the conditions detailed in paragraphs (b) through (h) of this section.

(b) To determine compliance with the applicable emission limit for particulate matter in Table 1 to this subpart, follow the test methods and procedures in paragraphs (b)(1) and (2) of this section.

(1) Determine the concentration of particulate matter according to the following test methods in appendix A to part 60 of this chapter:

(i) Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.

(ii) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter. You can also use ASTM D4536–96 (incorporated by reference—see § 63.14) as an alternative to the sampling equipment and operating procedures in Method 5 or 17 when testing a positive pressure baghouse, but you must use the sample traverse location and number of sampling points described in Method 5D.

(2) Collect a minimum sample volume of 60 dry standard cubic feet of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

(c) For each sinter plant windbox exhaust stream, you must complete the requirements of paragraph (c)(1) and (2) of this section:

(1) Include procedures in your source test plan for measuring and recording the sinter production rate for each test run in tons per hour; and

(2) Compute the process-weighted mass emissions (E_p) for each test run using Equation 1 of this section as follows:

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

Where:

E_p = Process-weighted mass emissions of particulate matter, lb/ton;

C = Concentration of particulate matter, gr/dscf;

Q = Volumetric flow rate of stack gas, dscf/hr;

P = Production rate of sinter during the test run, tons/hr; and

K = Conversion factor, 7,000 gr/lb.

(d) If you apply two or more control devices in parallel to emissions from a sinter plant discharge end, compute the average flow-weighted concentration for each test run using Equation 2 of this section as follows:

$$C_w = \frac{\sum_{i=1}^{n} C_i Q_i}{\sum_{i=1}^{n} Q_i} \qquad \text{(Eq. 2)}$$

Where:

C_w = Flow-weighted concentration, gr/dscf;

C_i = Concentration of particulate matter from exhaust stream ''i'', gr/dscf; and

Q_i = Volumetric flow rate of effluent gas from exhaust stream ''i'', dscfm.

(e) For a control device applied to emissions from a blast furnace casthouse, sample for an integral number of furnace tapping operations sufficient to obtain at least 1 hour of sampling for each test run.

(f) For a primary emission control device applied to emissions from a BOPF with a closed hood system, sample only during the primary oxygen blow and do not sample during any subsequent reblows. Continue sampling for each run for an integral number of primary oxygen blows.

(g) For a primary emission control system applied to emissions from a BOPF with an open hood system and for a control device applied solely to secondary emissions from a BOPF, you must complete the requirements of paragraphs (g)(1) and (2) of this section:

(1) Sample only during the steel production cycle. Discontinue sampling during periods of abnormal operation. Record the start and end time of each steel production cycle and each period of abnormal operation; and

(2) Sample for an integral number of steel production cycles. The steel production cycle begins when the scrap or hot metal is charged to the furnace (whichever operation occurs first) and ends 3 minutes after the slag is emptied from the vessel into the slag pot. Consecutive cycles are not required for determining compliance.

(h) For a control device applied to emissions from BOPF shop ancillary operations (hot metal transfer, skimming, desulfurization, or ladle metallurgy), sample only when the operation(s) is being conducted.

§ 63.7823 What test methods and other procedures must I use to demonstrate initial compliance with the opacity limits?

(a) You must conduct each performance test that applies to your affected source according to the requirements in § 63.7(h)(5) and the conditions detailed in paragraphs (b) through (d) of this section.

(b) You must conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter.

(c) To determine compliance with the applicable opacity limit in Table 1 to this subpart for a sinter plant discharge end or a blast furnace casthouse:

(1) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to part 60 of this chapter.

(2) Obtain a minimum of 30 6-minute averages. For a blast furnace casthouse, make observations during tapping of the furnace. Tapping begins when the furnace is opened, usually by creating a hole near the bottom of the furnace, and ends when the hole is plugged.

(d) To determine compliance with the applicable opacity limit in Table 1 to this subpart for BOPF shops:

(1) For an existing BOPF shop:

(i) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to part 60 of this chapter except as specified in paragraphs (d)(1)(ii) and (iii) of this section.

(ii) Instead of procedures in section 2.4 of Method 9 in appendix A to part 60 of this chapter, record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles.

(iii) Instead of procedures in section 2.5 of Method 9 in appendix A to part 60 of this chapter, determine the 3-minute average opacity from the average of 12 consecutive observations recorded at 15-second intervals.

(2) For a new BOPF shop housing a bottom-blown BOPF:

(i) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to part 60 of this chapter.

(ii) Select the highest and second highest sets of 6-minute average opacities for each steel production cycle.

(3) For a new BOPF shop housing a top-blown BOPF:

(i) Determine the opacity of emissions according to the requirements for an existing BOPF shop in paragraphs (d)(1)(i) through (iii) of this section.

(ii) Select the highest and second highest sets of 3-minute average opacities for each steel production cycle.

(4) Opacity observations must cover the entire steel production cycle and must be made for at least three cycles. The steel production cycle begins when the scrap or hot metal is charged to the furnace (whichever operation occurs first) and ends 3 minutes after the slag is emptied from the vessel into the slag pot. Consecutive cycles are not required for determining compliance.

(5) Determine and record the starting and stopping times of the steel production cycle.

§ 63.7824 What test methods and other procedures must I use to establish and demonstrate initial compliance with the operating limits?

(a) For a capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse and subject to an operating limit in § 63.7790(b)(1) for flow rate, you must establish a site-specific operating limit(s) according to the procedures in paragraph (a)(1) or (2) of this section.

(1) If you elect the operating limit in § 63.7790(b)(1)(i) for the volumetric flow rate through each separately ducted hood:

(i) Using the continuous parameter monitoring system (CPMS) required in § 63.7830(a)(1), measure and record the actual volumetric flow rate through each separately ducted hood in the capture system during each visible emissions performance test.

(ii) Compute and record the hourly average volumetric flow rate for the performance test. Your operating limit is the lowest hourly flow rate value in a test that meets the opacity limit.

(2) If you elect the operating limit in § 63.7790(b)(1)(ii) for total flow rate and damper position:

(i) Using the CPMS required in § 63.7830(a)(2), measure and record the total volumetric flow rate at the control device inlet during each visible emissions performance test.

(ii) Compute and record the hourly average flow rate for the performance test. Your operating limit is the lowest hourly flow rate value in a test that meets the opacity limit.

(iii) Record the position of each damper for the capture system damper position during the visible emissions performance test. Your operating limit is the position of each damper.

(b) For each capture system applied to secondary emissions from a BOPF and subject to an operating limit in § 63.7790(b)(2) for flow rate, you must establish a site-specific operating limit(s) according to the procedures in paragraph (b)(1) or (2) of this section.

(1) If you elect the operating limit in § 63.7790(b)(2)(i) for the volumetric flow rate through each separately ducted hood:

(i) Using the CPMS required in § 63.7830(b)(1), measure and record the actual volumetric flow rate through each separately ducted hood in the capture system for each steel production cycle during the visible emissions performance test.

(ii) Compute and record the average volumetric flow rate for each steel production cycle during the performance test. Your operating limit is the lowest average flow rate value in a test that meets the opacity limit.

(2) If you elect the operating limit in § 63.7790(b)(2)(ii) for total flow rate and damper position:

(i) Using the CPMS required in § 63.7830(b)(2), measure and record the total volumetric flow rate at the control device inlet for each steel production cycle during the visible emissions performance test.

(ii) Compute and record the average flow rate for the performance test. Your operating limit is the lowest average flow rate value in a test that meets the opacity limit.

(iii) Record the position of each damper for the capture system damper position during the visible emissions performance test. Your operating limit is the position of each damper.

(c) For a venturi scrubber subject to operating limits for pressure drop and scrubber water flow rate in § 63.7790(b)(4), you must establish site-specific operating limits according to the procedures in paragraphs (c)(1) and (2) of this section.

(1) Using the CPMS required in § 63.7830(d), measure and record the pressure drop and scrubber water flow rate during each run of the particulate matter performance test.

(2) Compute and record the hourly average pressure drop and scrubber water flow rate for each individual test run. Your operating limits are the lowest average pressure drop and scrubber water flow rate value in any of the three runs that meet the applicable emission limit.

(d) For an electrostatic precipitator subject to the operating limit in § 63.7790(b)(5) for opacity, you must establish a site-specific operating limit according to the procedures in paragraphs (d)(1) and (2) of this section.

(1) Using the continuous opacity monitoring system (COMS) required in § 63.7830(e), measure and record the opacity of emissions from each control device stack during each run of the particulate matter performance test.

(2) Compute and record the hourly average opacity for each individual test run. Your operating limit is the highest hourly opacity in any of the three runs that meet the emission limit.

(e) You may change the operating limits for a capture system, venturi scrubber, or electrostatic precipitator if you meet the requirements in paragraphs (e)(1) through (3) of this section.

(1) Submit a written notification to the Administrator of your request to conduct a new performance test to revise the operating limit.

(2) Conduct a performance test to demonstrate compliance with the applicable emission limitation in Table 1 to this subpart.

(3) Establish revised operating limits according to the applicable procedures in paragraphs (a) through (d) of this section.

(f) To determine compliance with the operating limit for the oil content of the sinter plant feedstock in § 63.7790(c), follow the test methods and procedures in paragraphs (f)(1) through (3) of this section.

(1) Sample the feedstock three times a day (once every 8 hours), composite the three samples each day, and analyze the composited samples using Method 9071B ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846 (Revision 2, April 1998) (Incorporated by reference).

(2) Continue the sampling and analysis procedure for 30 consecutive days.

(3) Compute and record the 30-day rolling average using that day's value and the 29 previous daily values.

§ 63.7825 How do I demonstrate initial compliance with the emission limitations that apply to me?

(a) For each affected source subject to an emission or opacity limit in Table 1 to this subpart, you have demonstrated initial compliance if:

(1) You meet the conditions in Table 2 to this subpart; and

(2) For each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse and subject to the operating limit in § 63.7790(b)(1), you have established appropriate site-specific operating limit(s) and:

(i) If you elect the operating limit in § 63.7790(b)(1)(i) for flow rate, you have a record of the actual volumetric flow rate through each separately ducted hood measured during the performance test in accordance with § 63.7824(a)(1); or

(ii) If you elect the operating limits in § 63.7790(b)(1)(ii) for total flow rate and damper position, you have a record of the total volumetric flow rate at the inlet to the control device measured during the performance test and the position of each damper during the test in accordance with § 63.7824(a)(2); and

(3) For each capture system applied to secondary emissions from a BOPF and subject to the operating limit in § 63.7790(b)(2), you have established appropriate site-specific operating limit(s) and:

(i) If you elect the operating limit in § 63.7790(b)(2)(i) for flow rate, you have a record of the actual volumetric flow rate through each separately ducted hood measured during each steel production cycle in the performance test in accordance with § 63.7824(b)(1); or

(ii) If you elect the operating limits in § 63.7790(b)(2)(ii) for total flow rate and damper position, you have a record of the total volumetric flow rate at the inlet to the control device measured during each steel production cycle in the performance test and the position of each damper during the test in accordance with § 63.7824(b)(2); and

(4) For each venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in § 63.7790(b)(4), you have established appropriate site-specific operating limits and have a record of the pressure drop and scrubber water flow rate measured during the performance test in accordance with § 63.7824(c); and

(5) For each electrostatic precipitator subject to the opacity operating limit in § 63.7790(b)(5), you have established an appropriate site-specific operating limit and have a record of the opacity measurements made during the performance test in accordance with § 63.7824(d).

(b) For each existing or new sinter plant subject to the operating limit for the oil content of the feedstock in § 63.7790(c), you have demonstrated initial compliance if the 30-day rolling average of the oil content of the feedstock, measured during the initial performance test in accordance with § 63.7824(f), is no more than 0.025 percent.

(c) For each emission limitation that applies to you, you must submit a notification of compliance status according to § 63.7840(e).

§ 63.7826 How do I demonstrate initial compliance with the operation and maintenance requirements that apply to me?

(a) You have demonstrated initial compliance if you certify in your notification of compliance status that:

(1) You have prepared the operation and maintenance plan according to the requirements in § 63.7800(b); and

(2) You will operate each capture system and control device according to the procedures in the plan; and

(3) You submit a notification of compliance status according to the requirements in § 63.7840(e).

(b) [Reserved]

§§ 63.7827–63.7829 [Reserved]

Continuous Compliance Requirements

§ 63.7830 What are my monitoring requirements?

(a) For each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse and subject to an operating limit in § 63.7790(b)(1), you must meet the requirements in paragraph (a)(1) or (2) of this section.

(1) If you elect the operating limit in § 63.7790(b)(1)(i) for flow rate, you must at all times monitor the hourly average actual volumetric flow rate through each separately ducted hood using a CPMS according to the requirements in § 63.7831(a).

(2) If you elect the operating limits for flow rate and damper position in § 63.7790(b)(1)(ii), you must at all times monitor the average hourly total volumetric flow rate at the inlet to the control device using a CPMS according to the requirements in § 63.7831(a) and make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

(b) For each capture system applied to secondary emissions from a BOPF and subject to an operating limit in § 63.7790(b)(2), you must meet the requirements in paragraph (b)(1) or (2) of this section.

(1) If you elect the operating limit in § 63.7790(b)(2)(i) for flow rate, you must at all times monitor the average actual volumetric flow rate through each separately ducted hood for each steel production cycle using a CPMS according to the requirements in § 63.7831(a).

(2) If you elect the operating limits for flow rate and damper position in § 63.7790(b)(2)(ii), you must at all times monitor the average total volumetric flow rate at the inlet to the control device for each steel production cycle using a CPMS according to the requirements in § 63.7831(a) and make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

(c) For each baghouse subject to the operating limit in § 63.7790(b)(3) for the bag leak detection system alarm, you must at all times monitor the relative change in particulate matter loadings using a bag leak detection system according to the requirements in § 63.7831(b) and conduct inspections at their specified frequencies according to the requirements in paragraphs (c)(1) through (8) of this section.

(1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.

(2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

(3) Check the compressed air supply for pulse-jet baghouses each day.

(4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

(5) Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.

(6) Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.

(7) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

(8) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

(d) For each venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in § 63.7790(b)(4), you must at all times monitor the hourly average pressure drop and water flow rate using a CPMS according to the requirements in § 63.7831(c).

(e) For each electrostatic precipitator subject to the opacity operating limit in § 63.7790(b)(5), you must at all times monitor the hourly average opacity of emissions exiting each control device stack using a continuous opacity monitoring system (COMS) according to the requirements in § 63.7831(f).

§ 63.7831 What are the installation, operation, and maintenance requirements for my monitors?

(a) For each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse that is subject to operating limits in § 63.7790(b)(1) for flow rate and for each capture system applied to secondary emissions from a BOPF that is subject to operating limits in § 63.7790(b)(2) for flow rate, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Locate the flow sensor and other necessary equipment such as straightening vanes in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(2) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate.

(3) Conduct a flow sensor calibration check at least semiannually.

(4) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(b) For each baghouse subject to the operating limit in § 63.7790(b)(3) for the bag leak detection system alarm, you must install, operate, and maintain each bag leak detection system according to the requirements in paragraphs (b)(1) through (7) of this section.

(1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The system must provide output of relative changes in particulate matter loadings.

(3) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel.

(4) Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, ''Fabric Filter Bag Leak Detection Guidance,'' EPA–454/R–98–015, September 1997. You may obtain a copy of this guidance document by contacting the National Technical Information Service (NTIS) at 800–553–6847. You may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

(5) To make the initial adjustment of the system, establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, establish the alarm set points and the alarm delay time.

(6) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in your operation and maintenance plan. Do not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.

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

(c) For each venturi scrubber subject to the operating limits in § 63.7790(b)(4) for pressure drop and scrubber water flow rate, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (c)(1) and (2) of this section.

(1) For the pressure drop CPMS, you must:

(i) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure and that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.

(ii) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(iii) Check the pressure tap for pluggage daily.

(iv) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(v) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor.

(vi) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(2) For the scrubber water flow rate CPMS, you must:

(i) Locate the flow sensor and other necessary equipment in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(ii) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate.

(iii) Conduct a flow sensor calibration check at least semiannually according to the manufacturer's instructions.

(iv) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(d) You must install, operate, and maintain each CPMS for a capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse and each CPMS for a venturi scrubber according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of three of the required four data points to constitute a valid hour of data.

(2) Each CPMS must have valid hourly data for at least 95 percent of every averaging period.

(3) Each CPMS must determine and record the hourly average of all recorded readings.

(e) You must install, operate, and maintain each CPMS for a capture system applied to secondary emissions from a BOPF according to the requirements in paragraphs (e)(1) through (3) of this section.

(1) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period during a steel production cycle.

(2) Each CPMS must have valid data for at least 95 percent of every averaging period.

(3) Each CPMS must determine and record the average of all recorded readings for a steel production cycle.

(f) For each electrostatic precipitator subject to the opacity operating limit in § 63.7790(b)(5), you must install, operate, and maintain each COMS according to the requirements in paragraphs (f)(1) through (4) of this section.

(1) You must install each COMS and conduct a performance evaluation of each COMS according to § 63.8 and Performance Specification 1 in appendix B to 40 CFR part 60.

(2) You must develop and implement a quality control program for operating and maintaining each COMS according to § 63.8. At a minimum, the quality control program must include a daily calibration drift assessment, quarterly performance audit, and annual zero alignment of each COMS.

(3) You must operate and maintain each COMS according to § 63.8(e) and your quality control program. Identify periods the COMS is out of control, including any periods that the COMS fails to pass a daily calibration drift assessment, quarterly performance audit, or annual zero alignment audit.

(4) You must determine and record the hourly average opacity using all the 6-minute averages collected for periods during which the COMS is not out of control.

§ 63.7832 How do I monitor and collect data to demonstrate continuous compliance?

(a) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times an affected source is operating.

(b) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing compliance.

(c) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

§ 63.7833 How do I demonstrate continuous compliance with the emission limitations that apply to me?

(a) For each affected source subject to an emission or opacity limit in § 63.7790(a), you must demonstrate continuous compliance according to the requirements in Table 3 to this subpart.

(b) For each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse and subject to an operating limit in § 63.7790(b)(1), you must demonstrate continuous compliance by completing the requirements in paragraphs (b)(1) and (2) of this section:

(1) If you elect the operating limit for flow rate in § 63.7790(b)(1)(i):

(i) Maintaining the hourly average volumetric flow rate through each separately ducted hood at or above the level established during the initial or subsequent performance test;

(ii) Inspecting and maintaining each capture system CPMS according to § 63.7831(a) and recording all information needed to document conformance with these requirements; and

(iii) Collecting and reducing monitoring data for the actual volumetric flow rate through each separately ducted hood according to § 63.7831(d).

(2) If you elect the operating limits for flow rate and damper position in § 63.7790(b)(1)(ii):

(i) Maintaining the hourly average total volumetric flow rate at the control device inlet at or above the level established during the initial or subsequent performance test and all capture system damper positions in the same positions as during the initial or subsequent performance test;

(ii) Inspecting and maintaining each capture system CPMS according to § 63.7831(a) and recording all information needed to document conformance with these requirements;

(iii) Collecting and reducing monitoring data for the total volumetric flow rate at the control device inlet according to § 63.7831(d); and

(iv) Checking all capture system dampers at least once each day (24 hours) to verify each damper is in the same position as during the initial or subsequent performance test and recording all information needed to document conformance with these requirements.

(c) For each capture system applied to secondary emissions from a BOPF and subject to an operating limit in § 63.7790(b)(2), you must demonstrate continuous compliance by completing the requirements in paragraphs (c)(1) and (2) of this section:

(1) If you elect the operating limit for flow rate in § 63.7790(b)(2)(i):

(i) Maintaining the average volumetric flow rate through each separately ducted hood for each steel production cycle at or above the level established during the initial or subsequent performance test;

(ii) Inspecting and maintaining each capture system CPMS according to § 63.7831(a) and recording all information needed to document conformance with these requirements; and

(iii) Collecting and reducing monitoring data for the actual volumetric flow rate through each separately ducted hood according to § 63.7831(e).

(2) If you elect the operating limits for flow rate and damper position in § 63.7790(b)(2)(ii):

(i) Maintaining the average total volumetric flow rate at the control device inlet for each steel production cycle at or above the level established during the initial or subsequent performance test and all capture system damper positions in the same positions as during the initial or subsequent performance test;

(ii) Inspecting and maintaining each capture system CPMS according to § 63.7831(a) and recording all information needed to document conformance with these requirements;

(iii) Collecting and reducing monitoring data for the total volumetric flow rate at the control device inlet according to § 63.7831(e); and

(iv) Checking all capture system dampers at least once each day (24 hours) to verify each damper is in the same position as during the initial or subsequent performance test and recording all information needed to document conformance with these requirements.

(d) For each baghouse subject to the operating limit for the bag leak detection system alarm in § 63.7790(b)(3), you must demonstrate continuous compliance by completing the requirements in paragraphs (d)(1) through (3) of this section:

(1) Maintaining each baghouse such that the bag leak detection system alarm does not sound for more than 5 percent of the operating time during any semiannual reporting period. To determine the percent of time the alarm sounded:

(i) Alarms that occur due solely to a malfunction of the bag leak detection system are not included in the calculation.

(ii) Alarms that occur during startup, shutdown, or malfunction are not included in the calculation if the condition is described in the startup, shutdown, and malfunction plan and all the actions you took during the startup, shutdown, or malfunction were consistent with the procedures in the startup, shutdown, and malfunction plan.

(iii) Count 1 hour of alarm time for each alarm when you initiated procedures to determine the cause of the alarm within 1 hour.

(iv) Count the actual amount of time you took to initiate procedures to determine the cause of the alarm if you did not initiate procedures to determine the cause of the alarm within 1 hour of the alarm.

(v) Calculate the percentage of time the alarm on the bag leak detection system sounds as the ratio of the sum of alarm times to the total operating time multiplied by 100.

(2) Maintaining records of the times the bag leak detection system alarm sounded, and for each valid alarm, the time you initiated corrective action, the corrective action(s) taken, and the date on which corrective action was completed.

(3) Inspecting and maintaining each baghouse according to the requirements in § 63.7830(c)(1) through (8) and recording all information needed to document conformance with these requirements. If you increase or decrease the sensitivity of the bag leak detection system beyond the limits specified in § 63.7831(b)(6), you must include a copy of the required written certification by a responsible official in the next semiannual compliance report.

(e) For each venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in § 63.7790(b)(4), you must demonstrate continuous compliance by completing the requirements of paragraphs (e)(1) through (3) of this section:

(1) Maintaining the hourly average pressure drop and scrubber water flow rate at levels no lower than those established during the initial or subsequent performance test;

(2) Inspecting and maintaining each venturi scrubber CPMS according to § 63.7831(c) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to § 63.7831(d) and recording all information needed to document conformance with these requirements.

(f) For each electrostatic precipitator subject to the site-specific opacity operating limit in § 63.7790(b)(5), you must demonstrate continuous compliance by completing the requirements of paragraphs (f)(1) and (2) of this section:

(1) Maintaining the hourly average opacity of emissions no higher than the site-specific limit established during the initial or subsequent performance test;

(2) Operating and maintaining each COMS and reducing the COMS data according to § 63.7831(f).

(g) For each new or existing sinter plant subject to the operating limit for the feedstock oil content in § 63.7790(c), you must demonstrate continuous compliance by completing the requirements of paragraphs (g)(1) through (3) of this section:

(1) Sampling and recording the oil content of the sinter plant feedstock every 24 hours according to the performance test procedures in § 63.7824(f);

(2) Computing and recording the 30-day rolling average oil content for each operating day; and

(3) Maintaining the oil content of the feedstock no higher than 0.025 percent at all times.

§ 63.7834 How do I demonstrate continuous compliance with the operation and maintenance requirements that apply to me?

(a) For each capture system and control device subject to an operating limit in § 63.7790(b), you must demonstrate continuous compliance with the operation and maintenance requirements in § 63.7800(b) by completing the requirements of paragraphs (a)(1) through (3) of this section:

(1) Making monthly inspections of capture systems according to § 63.7800(b)(1) and recording all information needed to document conformance with these requirements;

(2) Performing preventative maintenance for each control device according to § 63.7800(b)(2) and recording all information needed to document conformance with these requirements; and

(3) Initiating and completing corrective action for a bag leak detection system alarm according to § 63.7800(b)(3) and recording all information needed to document conformance with these requirements.

(b) You must maintain a current copy of the operation and maintenance plan required in § 63.7800(b) onsite and available for inspection upon request. You must keep the plans for the life of the affected source or until the affected source is no longer subject to the requirements of this subpart.

§ 63.7835 What other requirements must I meet to demonstrate continuous compliance?

(a) *Deviations.* You must report each instance in which you did not meet each emission limitation in § 63.7790 that applies to you. This includes periods of startup, shutdown, and malfunction. You also must report each instance in which you did not meet each operation and maintenance requirement in § 63.7800 that applies to you. These instances are deviations from the emission limitations and operation and maintenance requirements in this subpart. These deviations must be reported according to the requirements in § 63.7841.

(b) *Startups, shutdowns, and malfunctions.* During periods of startup, shutdown, and malfunction, you must operate in accordance with your startup, shutdown, and malfunction plan.

(1) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan.

(2) The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).

§§ 63.7836–63.7839 [Reserved]

Notifications, Reports, and Records

§ 63.7840 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.6(h)(4) and (5), 63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (h) that apply to you by the specified dates.

(b) As specified in § 63.9(b)(2), if you startup your affected source before [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must submit your initial notification no later than [120 DAYS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(c) As specified in § 63.9(b)(3), if you start your new affected source on or after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must submit your initial notification no later than 120 calendar days after you become subject to this subpart.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in § 63.7(b)(1).

(e) If you are required to conduct a performance test, opacity observation, or other initial compliance demonstration, you must submit a notification of compliance status according to § 63.9(h)(2)(ii).

(1) For each initial compliance demonstration that does not include a performance test, you must submit the notification of compliance status before the close of business on the 30th calendar day following completion of the initial compliance demonstration.

(2) For each initial compliance demonstration that does include a performance test, you must submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to § 63.10(d)(2).

§ 63.7841 What reports must I submit and when?

(a) *Compliance report due dates.* Unless the Administrator has approved a different schedule, you must submit a semiannual compliance report to your permitting authority according to the requirements in paragraphs (a)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.7783 and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for your source in § 63.7783.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after your first compliance report is due.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(3)(iii)(A) or 40 CFR 71.6(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (a)(1) through (4) of this section.

(b) *Compliance report contents.* Each compliance report must include the information in paragraphs (b)(1) through (3) of this section and, as applicable, paragraphs (b)(4) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i).

(5) If there were no deviations from the continuous compliance requirements in §§ 63.7833 and 63.7834 that apply to you, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.

(6) If there were no periods during which a continuous monitoring system (including a CPMS or COMS) was out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

(7) For each deviation from an emission limitation in § 63.7790 that occurs at an affected source where you are not using a continuous monitoring system (including a CPMS or COMS) to comply with an emission limitation in this subpart, the compliance report must contain the information in paragraphs (b)(1) through (4) of this section and the information in paragraphs (b)(7)(i) and (ii) of this section. This includes periods of startup, shutdown, and malfunction.

(i) The total operating time of each affected source during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

(8) For each deviation from an emission limitation occurring at an affected source where you are using a continuous monitoring system (including a CPMS or COMS) to comply with the emission limitation in this subpart, you must include the information in paragraphs (b)(1) through (4) of this section and the information in paragraphs (b)(8)(i) through (xi) of this section. This includes periods of startup, shutdown, and malfunction.

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous monitoring system was out-of-control, including the information in § 63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

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

(vii) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

(viii) A brief description of the process units.

(ix) A brief description of the continuous monitoring system.

(x) The date of the latest continuous monitoring system certification or audit.

(xi) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

(c) *Immediate startup, shutdown, and malfunction report.* If you had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report according to the requirements in § 63.10(d)(5)(ii).

(d) *Part 70 monitoring report.* If you have obtained a title V operating permit for an affected source pursuant to 40 CFR part 70 or 71, you must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If you submit a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emission limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation you may have to report deviations from permit requirements for an affected source to your permitting authority.

§ 63.7842 What records must I keep?

(a) You must keep the following records:

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, performance evaluations, and opacity observations as required in § 63.10(b)(2)(viii).

(b) For each COMS, you must keep the records specified in paragraphs (b)(1) through (4) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for COMS during a performance evaluation as required in § 63.6(h)(7)(i) and (ii).

(3) Previous (that is, superceded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required in § 63.6(h)(6) for visual observations.

(d) You must keep the records required in §§ 63.7833 and 63.7834 to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to you.

§ 63.7843 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to § 63.10(b)(1). You can keep the records offsite for the remaining 3 years.

§§ 63.7844–63.7849 [Reserved]

Other Requirements and Information

§ 63.7850 What parts of the General Provisions apply to me?

Table 4 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.7851 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the United States Environmental Protection Agency (U.S. EPA), or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

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

(c) The authorities that will not be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternative opacity emission limits in Table 1 to this subpart under § 63.6(h)(9).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.7852 What definitions apply to this subpart?

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

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

Basic oxygen process furnace means any refractory-lined vessel in which high-purity oxygen is blown under pressure through a bath of molten iron, scrap metal, and fluxes to produce steel. This definition includes both top and bottom blown furnaces, but does not include argon oxygen decarburization furnaces.

Basic oxygen process furnace shop means the place where steelmaking operations that begin with the transfer of molten iron (hot metal) from the torpedo car and end prior to casting the molten steel, including hot metal transfer, desulfurization, slag skimming, refining in a basic oxygen process furnace, and ladle metallurgy occur.

Basic oxygen process furnace shop ancillary operations means the processes where hot metal transfer, hot metal desulfurization, slag skimming, and ladle metallurgy occur.

Blast furnace means a furnace used for the production of molten iron from iron ore and other iron bearing materials.

Bottom-blown furnace means any basic oxygen process furnace in which oxygen and other combustion gases are introduced into the bath of molten iron through tuyeres in the bottom of the vessel or through tuyeres in the bottom and sides of the vessel.

Casthouse means the building or structure that encloses the bottom portion of a blast furnace where the hot metal and slag are tapped from the furnace.

Certified observer means a visible emission observer certified to perform EPA Method 9 opacity observations.

Desulfurization means the process in which reagents such as magnesium, soda ash, and lime are injected into the hot metal, usually with dry air or nitrogen, to remove sulfur.

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

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation (including operating limits) or operation and maintenance requirement;

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

(3) Fails to meet any emission limitation in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Discharge end means the place where those operations conducted within the sinter plant starting at the discharge of the sintering machine's traveling grate including (but not limited to) hot sinter crushing, screening, and transfer operations occur.

Emission limitation means any emission limit, opacity limit, or operating limit.

Hot metal transfer station means the location in a basic oxygen process furnace shop where molten iron (hot metal) is transferred from a torpedo car or hot metal car used to transport hot metal from the blast furnace casthouse to a holding vessel or ladle in the basic oxygen process furnace shop. This location also is known as the reladling station or ladle transfer station.

Integrated iron and steel manufacturing facility means an establishment engaged in the production of steel from iron ore.

Ladle metallurgy means a secondary steelmaking process that is performed typically in a ladle after initial refining in a basic oxygen process furnace to adjust or amend the chemical and/or mechanical properties of steel.

Primary emission control system means the combination of equipment used for the capture and collection of primary emissions (e.g., an open hood capture system used in conjunction with an electrostatic precipitator or a closed hood system used in conjunction with a scrubber).

Primary emissions means particulate matter emissions from the basic oxygen process furnace generated during the steel production cycle which are captured and treated in the furnace's primary emission control system.

Primary oxygen blow means the period in the steel production cycle of a basic oxygen process furnace during which oxygen is blown through the molten iron bath by means of a lance inserted from the top of the vessel (top-blown) or through tuyeres in the bottom and/or sides of the vessel (bottom-blown).

Responsible official means responsible official as defined in § 63.2.

Secondary emission control system means the combination of equipment used for the capture and collection of secondary emissions from a basic oxygen process furnace.

Secondary emissions means particulate matter emissions that are not controlled by a primary emission control system, including emissions that escape from open and closed hoods, lance hole openings, and gaps or tears in ductwork to the primary emission control system.

Sinter cooler means the apparatus used to cool the hot sinter product that is transferred from the discharge end through contact with large volumes of induced or forced draft air.

Sinter plant means the machine used to produce a fused clinker-like aggregate or sinter of fine iron-bearing materials suited for use in a blast furnace. The machine is composed of a continuous traveling grate that conveys a bed of ore fines and other finely divided iron-bearing material and fuel (typically coke breeze), a burner at the feed end of the grate for ignition, and a series of downdraft windboxes along the length of the strand to support downdraft combustion and heat sufficient to produce a fused sinter product.

Skimming station means the locations inside a basic oxygen process furnace shop where slag is removed from the top of the molten metal bath.

Steel production cycle means the operations conducted within the basic oxygen process furnace shop that are required to produce each batch of steel. The following operations are included: scrap charging, preheating (when done), hot metal charging, primary oxygen blowing, sampling, (vessel turndown and turnup), additional oxygen blowing (when done), tapping, and deslagging. The steel production cycle begins when the scrap or hot metal is charged to the furnace (whichever operation occurs first) and ends after the slag is emptied from the vessel into the slag pot.

Top-blown furnace means any basic oxygen process furnace in which oxygen is introduced into the bath of molten iron by means of an oxygen lance inserted from the top of the vessel.

Windboxes means the compartments that provide for a controlled distribution of downdraft combustion air as it is drawn through the sinter bed of a sinter plant to make the fused sinter product.

§§ 63.7853–63.7879 [Reserved]

Tables to Subpart FFFFF of Part 63

Table 1 to Subpart FFFFF of Part 63 Emission and Opacity Limits

As required in § 63.7790(a), you must comply with each applicable emission and opacity limit in the following table:

For . . .	You must comply with each of the following . . .
1. Each windbox exhaust stream at a new or existing sinter plant..	You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.3 lb/ton of product sinter.
2. Each discharge end at an existing sinter plant.	a. You must not cause to be discharged to the atmosphere any gases that exit from one or more control devices that contain particulate matter in excess of 0.02 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the building or structure housing the discharge end that exhibit opacity greater than 20 percent (6-minute average).

For . . .	You must comply with each of the following . . .
3. Each discharge end at a new sinter plant	a. You must not cause to be discharged to the atmosphere any gases that exit from one or more control devices that contain, on a flow weighted basis, particulate matter in excess of 0.01 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the building or structure housing the discharge end that exhibit opacity greater than 10 percent (6-minute average).
4. Each sinter cooler stack at an existing sinter plant.	You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.03 gr/dscf.
5. Each sinter cooler stack at a new sinter plant.	You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.01 gr/dscf.
6. Each casthouse at an existing blast furnace	a. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.009 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the casthouse or structure housing the blast furnace that exhibit opacity greater than 20 percent (6-minute average).
7. Each casthouse at a new blast furnace	a. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.009 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the casthouse or structure housing the blast furnace that exhibit opacity greater than 15 percent (6-minute average).
8. Each basic oxygen process furnace (BOPF) at a new or existing BOPF shop.	a. You must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with a closed hood system that contain particulate matter in excess of 0.024 gr/dscf during the primary oxygen blow; and b. You must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with an open hood system that contain particulate matter in excess of 0.019 gr/dscf during the steel production cycle; and c. You must not cause to be discharged to the atmosphere any gases that exit from a control device used solely for the collection of secondary emissions from the BOPF that contain particulate matter in excess of 0.01 gr/dscf for an existing BOPF shop or 0.0052 gr/dscf for a new BOPF shop.
9. Each hot metal transfer, skimming, desulfurizaiton, and ladle metallurgy operation at a new or existing BOPF shop.	You must not cause to be discharged to the atmosphere any gases that exist from a control device that contain particulate matter in excess of 0.007 gr/dscf.
10. Each roof monitor at an existing BOPF shop.	You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or any other building housing the BOPF or BOPF shop operation that exhibit opacity greater than 20 percent (3-minute average).
11. Each roof monitor at a new BOPF shop	a. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or other building housing a bottom-blown BOPF or BOPF shop operations that exhibit opacity (for any set of 6-minute averages) greater than 10 percent, except that one 6-minute period not to exceed 20 percent may occur once per steel production cycle. b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or other building housing a top-blown BOPF or BOPF shop operations that exhibit opacity (for any set of 3-minute averages) greater than 10 percent, except that one 3-minute period greater than 10 percent but less than 20 percent may occur once per steel production cycle.

Table 2 of Subpart FFFFF to Part 63.—Initial Compliance With Emission and Opacity Limits

As required in § 63.7825(a)(1), you must demonstrate initial compliance with the emission and opacity limits according to the following table:

For . . .	You have demonstrated initial compliance if . . .
1. Each windbox exhaust stream at an existing or new sinter plant.	The process-weighted mass rate of particulate matter from a windbox exhaust stream at a new or existing sinter plant, measured according to the performance test procedures in § 63.7822(c), did not exceed 0.3 lb/ton of product sinter.
2. Each discharge end at an existing sinter plant.	a. The flow-weighted average concentration of particulate matter from one or more control devices applied to emissions from a discharge end, measured according to the performance test procedures in § 63.7822(d), did not exceed 0.02 gr/dscf; and b. The opacity of secondary emissions from each discharge end, determined according to the performance test procedures in § 63.7823(c), did not exceed 20 percent (6-minute average).

For . . .	You have demonstrated initial compliance if . . .
3. Each discharge end at a new sinter plant	a. The flow-weighted average concentration of particulate matter from one or more control devices applied to emissions from a discharge end, measured according to the performance test procedures in § 63.7822(d), did not exceed 0.01 gr/dscf; and b. The opacity of secondary emissions from each discharge end, determined according to the performance test procedures in § 63.7823(c), did not exceed 10 percent (6-minute average).
4. Each sinter cooler stack at an existing sinter plant.	The average concentration of particulate matter from a sinter cooler stack, measured according to the performance test procedures in § 63.7822(b), did not exceed 0.03 gr/dscf.
5. Each sinter cooler stack at a new sinter plant.	The average concentration of particulate matter from a sinter cooler stack, measured according to the performance test procedures in § 63.7822(b), did not exceed 0.01 gr/dscf.
6. Each casthouse at an existing blast furnace	a. The average concentration of particulate matter from a control device applied to emissions from a casthouse, measured according to the performance test procedures in § 63.7822(e), did not exceed 0.009 gr/dscf; and b. The opacity of secondary emissions from each casthouse, determined according to the performance test procedures in § 63.7823(c), did not exceed 20 percent (6-minute average).
7. Each casthouse at a new blast furnace	a. The average concentration of particulate matter from a control device applied to emissions from a casthouse, measured according to the performance test procedures in § 63.7822(e), did not exceed 0.009 gr/dscf; and b. The opacity of secondary emissions from each casthouse, determined according to the performance test procedures in § 63.7823(c), did not exceed 15 percent (6-minute average).
8. Each basic oxygen process furnace (BOPF) at a new or existing BOPF shop.	a. The average concentration of particulate matter from a primary emission control system applied to emissions from a BOPF with a closed hood system, measured according to the performance test procedures in § 63.7822(f), did not exceed 0.024 gr/dscf; and b. The average concentration of particulate matter from a primary emission control system applied to emissions from a BOPF with an open hood system, measured according to the performance test procedures in § 63.7822(g), did not exceed 0.019 gr/dscf; and c. The average concentration of particulate matter from a control device applied solely to secondary emissions from a BOPF, measured according to the performance test procedures in § 63.7822(g), did not exceed 0.01 gr/dscf for an existing BOPF shop or 0.0052 gr/dscf for a new BOPF shop.
9. Each hot metal transfer, skimming, desulfurization, or ladle metallurgy operation at a new or existing BOPF shop.	The average concentration of particulate matter from a control device applied to emissions from hot metal transfer, skimming, desulfurization, or ladle metallurgy, measured according to the performance test procedures in § 63.7822(h), did not exceed 0.007 gr/dscf.
10. Each roof monitor at an existing BOPF shop.	The opacity of secondary emissions from each BOPF shop, determined according to the performance test procedures in § 63.7823(d), did not exceed 20 percent (3-minute average).
11. Each roof monitor at a new BOPF shop	a. The opacity of the highest set of 6-minute averages from each BOPF shop housing a bottom-blown BOPF, determined according to the performance test procedures in § 63.7823(d), did not exceed 20 percent and the second highest set of 6-minute averages did not exceed 10 percent. b. The opacity of the highest set of 3-minute averages from each BOPF shop housing a top-blown BOPF, determined according to the performance test procedures in § 63.7823(d), was less than 20 percent and the second highest set of 3-minute averages did not exceed 10 percent.

Table 3 to Subpart FFFFF of Part 63.—Continuous Compliance With Emission and Opacity Limits

As required in § 63.7833(a), you must demonstrate continuous compliance with the emission and opacity limits according to the following table:

For . . .	You must demonstrate continuous compliance by . . .
1. Each windbox exhaust stream at an existing or new sinter plant.	a. Maintaining emissions of particulate matter at or below 0.3 lb/ton of product sinter, and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
2. Each discharge end at an existing sinter plant.	a. Maintaining emissions of particulate matter from one or more control devices at or below 0.02 gr/dscf, and b. Maintaining the opacity of secondary emissions that exit any opening in the building or structure housing the discharge end at or below 20 percent (6-minute average), and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

For . . .	You must demonstrate continuous compliance by . . .
3. Each discharge end at a new sinter plant	a. Maintaining emissions of particulate matter from one or more control devices at or below 0.01 gr/dscf, and b. Maintaining the opacity of secondary emissions that exit any opening in the building or structure housing the discharge end at or below 10 percent (6-minute average), and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
4. Each sinter cooler stack at an existing sinter plant.	a. Maintaining emissions of particulate matter at or below 0.03 gr/dscf, and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
5. Each sinter cooler stack at a new sinter plant.	a. Maintaining emissions of particulate matter at or below 0.01 gr/dscf, and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
6. Each casthouse at an existing blast furnace	a. Maintaining emissions of particulate matter from a control device at or below 0.009 gr/dscf, and b. Maintaining the opacity of secondary emissions that exit any opening in the casthouse or structure housing the blast furnace at or below 20 percent (6-minute average), and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
7. Each casthouse at a new blast furnace	a. Maintaining emissions of particulate matter from a control device at or below 0.009 gr/dscf, and b. Maintaining the opacity of secondary emissions that exit any opening in the casthouse or building housing the casthouse at or below 15 percent (6-minute average), and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
8. Each basic oxygen process furnace (BOPF) at a new or existing BOPF shop.	a. Maintaining emissions of particulate matter from the primary emission control system for a BOPF with a closed hood system at or below 0.024 gr/dscf, and b. Maintaining emissions of particulate matter from the primary emission control system for a BOPF with an open hood system at or below 0.019 gr/dscf, and c. Maintaining emissions of particulate matter from a control device applied solely to secondary emissions from a BOPF at or below 0.01 gr/dscf for an existing BOPF shop or 0.0052 gr/dscf for a new BOPF shop, and d. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
9. Each hot metal transfer, skimming, desulfurization, and ladle metallurgy operation at a new or existing BOPF shop.	a. Maintaining emissions of particulate matter from a control device at or below 0.007 gr/dscf. and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
10. Each roof monitor at an existing BOPF shop.	a. Maintaining the opacity of secondary emissions that exit any opening in the BOPF shop or other building housing the BOPF or shop operation at or below 20 percent (3-minute average), and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
11. Each roof monitor at a new BOPF shop	a. Maintaining the opacity (for any set of 6-minute averages) of secondary emissions that exit any opening in the BOPF shop or other building shop housing a bottom-blown BOPF or shop operation at or below 10 percent, except that one 6-minute period greater than 10 percent but no more than 20 percent may occur once per steel production cycle, b. Maintaining the opacity (for any set of 3-minute averages) of secondary emissions that exit any opening in the BOPF shop or other building housing a top-blown BOPF or shop operation at or below 10 percent, except that one 3-minute period greater than 10 percent but less than 20 percent may occur once per steel production cycle, and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

Table 4 to Subpart FFFFF of Part 63.—Applicability of General Provisions to Subpart FFFFF

As required in § 63.7850, you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) shown in the following table:

Citation	Subject	Applies to Subpart FFFFF	Explanation
§ 63.1	Applicability	Yes.	
§ 63.2	Definitions	Yes.	
§ 63.3	Units and Abbreviations	Yes.	
§ 63.4	Prohibited Activities	Yes.	
§ 63.5	Construction/Reconstruction	Yes.	

Citation	Subject	Applies to Subpart FFFFF	Explanation
§ 63.6(a), (b), (c), (d), (e), (f), (g), (h)(2)(ii)–(h)(9).	Compliance with Standards and Maintenance Requirements.	Yes.	
§ 63.6(h)(2)(i)	Determining Compliance with Opacity and VE Standards.	No	Subpart FFFFF specifies Method 9 in appendix A to part 60 of this chapter to comply with roof monitor opacity limits
§ 63.7(a)(1)–(2)	Applicability and Performance Test Dates.	No	Subpart FFFFF specifies performance test applicability and dates.
§ 63.7(a)(3), (b), (c)–(h)	Performance Testing Requirements	Yes.	
§ 63.8(a)(1)–(a)(3), (b), (c)(1)–(3), (c)(4)(i)–(e), (c)(7)–(8), (f)(1)–(5), (g)(1)–(4).	Monitoring Requirements	Yes	CMS requirements in § 63.8(c)(4)(i)–(ii), (c)(5) and (6), (d), and (e) apply only to COMS for electrostatic precipitators.
§ 63.8(a)(4)	Additional Monitoring Requirements for Control Devices in § 63.11.	No	Subpart FFFFF does not require flares.
§ 63.8(c)(4)	Continuous Monitoring System Requirements.	No	Subpart FFFFF specifies requirements for operation of CMS.
§ 63.8(f)(6)	RATA Alternative	No	Subpart FFFFF does not require continuous emission monitoring systems.
§ 63.9	Notification Requirements	Yes	Additional notifications for CMS in § 63.9(g) apply to COMS for electrostatic precipitator.
§ 63.9(g)(5)	DATA Reduction	No	Subpart FFFFF specifies data reduction requirements.
§ 63.10(a), (b)(1)–(2)(xii), (b)(2)(xiv), (b)(3), (c)(1)–(6), (c)(9)–(15), (d), (e)(1)–(2), (e)(4), (f).	Recordkeeping and Reporting Requirements.	Yes	Additional records for CMS in § 63.10(c)(1)–(6), (9)–(15), and reports in § 63.10(d)(1)–(2) apply only to COMS for electrostatic precipitators.
§ 63.10(b)(2)(xiii)	CMS Records for RATA Alternative	No	Subpart FFFFF doesn't require continuous emission monitoring systems.
§ 63.10(c)(7)–(8)	Records of Excess Emissions and Parameter Monitoring Exceedances for CMS.	No	Subpart FFFFF specifies record requirements.
§ 63.11	Control Device Requirements	No	Subpart FFFFF does not require flares.
§ 63.12	State Authority and Delegations	Yes.	
§§ 63.13–63.15	Addresses, Incorporation by Reference, Availability of Information.	Yes.	

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