ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2002–0083; FRL–5919.1–02–OAR]

RIN 2060–AV82

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

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The U.S. Environmental Protection Agency (EPA or the Agency) is finalizing amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Manufacturing Facilities to regulate hazardous air pollutant (HAP) emissions. The amendments include: HAP from unmeasured fugitive and intermittent particulate (UFIP) sources previously not regulated by the NESHAP; previously unregulated HAP for sinter plants:; previously unregulated pollutants for blast furnace (BF) stoves and basic oxygen process furnaces (BOPFs) primary control devices; and previously unregulated pollutants for BF primary control devices. We are also finalizing an update to the technology review for this source category.

DATES: This final rule is effective June 3, 2024. The incorporation by reference (IBR) of material publications listed in the rule is approved by the Director of the Federal Register (FR) beginning June 3, 2024. The incorporation by reference (IBR) of certain other material listed in the rule was approved by the Director of the Federal Register (FR) as of July 13, 2020.

ADDRESSES: The EPA established a docket for this action under Docket ID No. EPA–HQ–OAR–2002–0083. All documents in the docket are listed on the *https://www.regulations.gov/* website. Although listed, some information is not publicly available, *e.g.,* Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and is publicly available only in hard copy. With the exception of such materials, publicly available docket materials are available electronically in *https://www.regulations.gov/* or in hard copy at the EPA Docket Center, Room 3334, WJC West Building, 1301 Constitution Avenue NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Katie Boaggio, Sector Policies and Programs Division (D243–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–2223; email address: *boaggio.katie@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble acronyms and abbreviations. Throughout this document the use of ''we,'' ''us,'' or ''our'' is intended to refer to the EPA. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ACI activated carbon injection
BF blast furnace
BOPF basic oxygen process furnace
BTF Beyond-the-Floor
CAA Clean Air Act
CBI Confidential Business Information
COS Carbonyl Sulfide
CFR Code of Federal Regulations
D/F dioxins and furans
EAV equivalent annualized value
EJ environmental justice
EPA Environmental Protection Agency
HAP hazardous air pollutant(s)
HCl hydrochloric acid
HF hydrogen fluoride
HMTDS hot metal transfer, desulfurization, and skimming
ICR Information Collection Request
II&S Integrated Iron and Steel
km kilometer
MACT maximum achievable control technology
NESHAP national emission standards for hazardous air pollutants
NTTAA National Technology Transfer and Advancement Act
OAQPS Office of Air Quality Planning and Standards
OMB Office of Management and Budget
PAH polycyclic aromatic hydrocarbons
PM particulate matter
PBT persistent, bioaccumulative, and toxic
PRA Paperwork Reduction Act
PV present value
RFA Regulatory Flexibility Act
RTR residual risk and technology review
SSM startup, shutdown, and malfunction
THC total hydrocarbons
TEQ toxic equivalency
tpy tons per year
UFIP unmeasured fugitive and intermittent particulate
UMRA Unfunded Mandates Reform Act
UPL upper prediction limit
VCS voluntary consensus standards
VE visible emissions
VOC volatile organic compound
WP work practice

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

I. General Information

A. Executive Summary

1. Purpose of the Regulatory Action

The EPA set maximum achievable control technology (MACT) standards for the Integrated Iron and Steel Manufacturing Facilities major source category in 2003 (68 FR 27645) under 40 CFR part 63, subpart FFFFF and completed a residual risk and technology review final rule in July 2020 (85 FR 42074). The purpose of this rule is to (1) fulfill the EPA's statutory obligations pursuant to CAA section 112(d)(6); *see Louisiana Environmental Action Network* v. *EPA,* 955 F.3d 1088 (D.C. Cir. 2020) (''*LEAN*''), and (2) improve the emissions standards for this source category based on new information regarding developments in practices, processes, and control technologies.

2. Summary of the Major Provisions of the Regulatory Action

To comply with CAA section 112, we are finalizing: (1) new emissions limits based on MACT for five currently unregulated HAP (COS, CS_2, Hg, HCl, and HF) from the sinter plants located at integrated iron and steel manufacturing facilities; and (2) new MACT standards, in the form of opacity limits and work practice (WP) standards, for five unregulated sources of UFIP emissions: Unplanned Bleeder Valve Openings, Planned Bleeder Valve Openings, Slag Pits, Beaching, and Bell Leaks. In this context, opacity is a measure of the amount of light that is blocked or absorbed by an air pollution plume. The components of air pollution that block or absorb light are primarily particulate matter (PM). An opacity level of 0 percent means that plumes of air pollution do not block or absorb light and are fully transparent (*i.e.,* no visible emissions), while an opacity of 100 percent means that plumes are dense and block all light (*i.e.,* the trained observer or special camera cannot see any background behind the plume). Observers are trained and certified using smoke generators which produce known opacity levels, and periodic recertification is required every six months. More details regarding the EPA approved method for opacity readings by a trained observer are available at the following website: *https://www.epa.gov/emc/method-9-visual-opacity.* Alternatively, opacity can be observed with special cameras following a specific method (known as the digital camera opacity technique (DCOT), 40 CFR 63.7823), and those images interpreted by trained individuals. For the Integrated Iron and Steel Manufacturing sector (and a number of other metals processing and production sectors), a significant portion of the emitted PM is composed of HAP metals (such as arsenic, lead, manganese, and chromium) that are primarily emitted in particulate form as demonstrated in the emissions tests available in the docket for this action. Therefore, for the Integrated Iron and Steel Manufacturing sector, as well as several other industry sectors, PM and opacity serve as surrogates for particulate HAP metals.

We are also finalizing new emissions limits for three unregulated pollutants for BF stoves and BOPFs: THC (as a surrogate for non-dioxin and non-furan organic HAP), HCl, and D/F; and for two unregulated pollutants for BFs: THC (as a surrogate for non-dioxin and non-furan organic HAP) and HCl. In this action, pursuant to CAA section 112(d)(6), we are also finalizing: (1) work practice standards for the basic oxygen process furnace (BOPF) shops; (2) a requirement that facilities conduct Method 9 readings two times per month at the BOPF Shop and BF casthouse; (3) a fenceline monitoring requirement for chromium to help ensure the work practices and opacity limits are achieving the anticipated reductions; and (4) revised standards for D/F and PAHs from sinter plants to reflect the installation and operation of activated carbon injection (ACI) technology. At this time, we are not finalizing the proposed revised opacity limits for the BOPF or the BF casthouse, as explained later in this preamble.

3. Costs and Benefits

To meet the requirements of E.O. 12866, the EPA projected the emissions reductions, costs, and benefits that may result from the final rule. These results are presented in detail in the regulatory impact analysis (RIA) accompanying this final rule developed in response to E.O. 12866. The final rule is significant under E.O. 12866 Section 3(f)(1), as amended by E.O. 14094, due to the monetized benefits of fine particulate matter ($PM_{2.5}$) reductions likely to result from the UFIP emissions standards included in the final rule. The RIA, which is available in the docket for this action, focuses on the elements of the final rule that are likely to result in quantifiable cost or emissions changes compared to a baseline without these regulatory requirements. We estimated the cost, emissions, and benefit impacts for the 2026 to 2035 period, discounted to 2024. We show the present value (PV) and equivalent annualized value (EAV) of costs, benefits, and net benefits of this action in 2022 dollars. The EAV represents a flow of constant annual values that would yield a sum equivalent to the PV. The EAV represents the value of a typical cost or benefit for each year of the analysis, consistent with the estimate of the PV, in contrast to year-specific estimates.

The initial analysis year in the RIA is 2026 because we assume that will be the first year of full implementation of the rule. We are finalizing that facilities will have 1 year to demonstrate compliance with the relevant standards following promulgation. This analysis assumes that full compliance with the standards will occur in early 2025. Therefore, the first full year of impacts will occur in 2026. The final analysis year is 2035, which allows us to provide ten years of projected impacts after the rule takes effect.

The cost analysis presented in the RIA reflects a nationwide engineering analysis of compliance cost and emissions reductions. Impacts are calculated by setting parameters on how and when affected facilities are assumed to respond to a particular regulatory regime, calculating estimated cost and emissions impact estimates for each facility, differencing from the baseline scenario, and then summing to the desired level of aggregation.

The EPA expects health benefits due to the emissions reductions projected from the rule. We expect that HAP emission reductions will improve health and welfare associated with reduced exposure for those affected by these emissions. In addition, the EPA expects that $PM_{2.5}$ emission reductions that will occur concurrent with the reductions in HAP emissions will improve air quality and are likely to improve health and welfare associated with exposure to $PM_{2.5}$ and HAP. For the RIA, the EPA monetized benefits associated with premature mortality and morbidity from reduced exposure to $PM_{2.5}$. Discussion of both the monetized and non-monetized benefits can be found in Chapter 4 of the RIA.

Table 1 presents the emission changes and the PV and EAV of the projected monetized benefits, compliance costs, and net benefits over the 2026 to 2035 period under the rule. All discounting of impacts presented uses social discount rates of 3 and 7 percent.

TABLE 1—MONETIZED BENEFITS, COSTS, NET BENEFITS, AND EMISSIONS REDUCTIONS OF THE FINAL NESHAP SUBPART FFFFF AMENDMENTS, 2026 THROUGH 2035 [a]

[Dollar estimates in millions of 2022 dollars, discounted to 2024]

	3 Percent discount rate		7 Percent discount rate	
	PV	EAV	PV	EAV
Benefits [b]	$1,800 and $3,700	$200 and $420	$1,200 and $2,600	$170 and $340.
Compliance Costs	$45	$5.3	$36	$5.1.
Net Benefits	$1,800 and $3,700	$190 and $410	$1,200 and $2,600	$160 and $330.
Emissions Reductions (short tons)	2026–2035 Total			
HAP	640			
PM	18,000			
$PM_{2.5}$	4,700			
Non-monetized Benefits in this Table	HAP benefits from reducing 640 short tons of HAP from 2026–2035. Non-health benefits from reducing 18,000 tons of PM, of which 4,700 tons is $PM_{2.5}$, from 2026–2035. Benefits from reducing HCl, HF, Hg, D/F TEQ, COS, and CS2. Visibility benefits. Reduced vegetation effects.			

[a] Totals may not sum due to independent rounding. Numbers rounded to two significant digits unless otherwise noted.

[b] Monetized benefits include health benefits associated with reductions in $PM_{2.5}$ emissions. The monetized health benefits are quantified using two alternative concentration-response relationships from the Di et al. (2016) and Turner et al. (2017) studies and presented at real discount rates of 3 and 7 percent. The two benefits estimates are separated by the word "and" to signify that they are two separate estimates. Benefits from HAP reductions remain unmonetized and are thus not reflected in the table.

B. Does this action apply to me?

Table 2 of this preamble lists the NESHAP and associated regulated industrial source category that is the subject of this final rule. Table 2 is not intended to be exhaustive, but rather provides a guide for readers regarding the entities that this final action is likely to affect. The final standards are directly applicable to the affected sources. Federal, state, local, and Tribal government entities are not affected by this final action. As defined in the *Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990* (see 57 FR 31576; July 16, 1992) and *Documentation for Developing the Initial Source Category List, Final Report* (see EPA–450/3–91–030; July 1992), the Integrated Iron and Steel Manufacturing Facilities source category is any facility engaged in producing steel from iron ore. Integrated iron and steel manufacturing includes the following processes: sinter production, iron production, iron preparation (hot metal desulfurization), and steel production. The iron production process includes the production of iron in BFs by the reduction of iron-bearing materials with a hot gas. The steel production process occurs in the BOPFs where hot liquid iron from the BF is loaded (*i.e.,* charged) into the BOPF along with coke, lime, alloys, and steel scrap, and includes blowing oxygen into the furnace through a lance resulting in oxidation reactions to produce steel.

TABLE 2—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

Source category	NESHAP	NAICS code [1]
Integrated Iron and Steel Manufacturing Facilities	40 CFR part 63, subpart FFFFF	331110

[1] North American Industry Classification System.

C. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the internet. Following signature by the EPA Administrator, the EPA will post a copy of this final action at *https://www.epa.gov/stationary-sources-air-pollution/integrated-iron-and-steel-manufacturing-national-emission-standards.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the final rule and key technical documents at this same website.

D. Judicial Review and Administrative Reconsideration

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) by June 3, 2024. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

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

II. Background

A. What is the statutory authority for this action?

This action finalizes amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Integrated Iron and Steel Manufacturing Facilities source category. The statutory authority for this action is provided by section 112 of the CAA, as amended (42 U.S.C. 7401, *et seq.*). In the first stage of the CAA section 112 standard-setting process, the EPA promulgates technology-based standards under CAA section 112(d) for categories of sources identified as emitting one or more of the HAP listed in CAA section 112(b). Sources of HAP emissions are either major sources or area sources, and CAA section 112 establishes different requirements for major source standards and area source standards. ''Major sources'' are those that emit or have the potential to emit 10 tons per year (tpy) or more of a single HAP or 25 tpy or more of any combination of HAP. All other sources are ''area sources.''

For major sources, CAA section 112(d)(2) provides that the technology-based NESHAP must reflect the maximum degree of emission reductions of HAP achievable after considering cost, energy requirements, and non-air quality health and environmental impacts. These standards are commonly referred to as MACT standards. CAA section 112(d)(3) also establishes a minimum control level for MACT standards, known as the MACT ''floor.'' In certain instances, as provided in CAA section 112(h), if it is the judgment of the Administrator that it is not feasible to prescribe or enforce an emission standard, the EPA may set work practice standards in lieu of numerical emission standards. The EPA must also consider control options that are more stringent than the floor, commonly referred to as ''beyond-the-floor'' (BTF) standards.

CAA section 112(d)(6) requires the EPA to review standards promulgated under CAA section 112 and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less often than every eight years. While conducting this review, which we call the ''technology review,'' the EPA is not required to recalculate the MACT floors that were established during earlier rulemakings. *Nat. Resources Def. Council, et al.* v. *EPA,* 529 F.3d 1077, 1084 (D.C. Cir. 2008); *Ass'n of Battery Recyclers, Inc.* v. *EPA,* 716 F.3d 667 (D.C. Cir. 2013). The EPA may consider cost in deciding whether to revise the standards pursuant to CAA section 112(d)(6). However, costs may not be considered when setting the MACT floor and may only be considered when determining whether beyond-the-floor standards are appropriate. *See* CAA section 112(d)(3).

CAA section 112(f) requires the EPA to determine whether promulgation of additional standards is needed to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect. This review is known as the ''residual risk review,'' and it must occur within eight years after promulgation of the standards. When the EPA conducts the ''technology review'' together with the ''residual risk review,'' the combined review is known as a ''risk and technology review'' or ''RTR.''

The EPA initially promulgated the Integrated Iron and Steel Manufacturing Facilities NESHAP on May 20, 2003 (68 FR 27645), codified at title 40, part 63, subpart FFFFF (the NESHAP). The rule was amended on July 13, 2006 (71 FR 39579). The amendments added a new compliance option, revised emission limitations, reduced the frequency of repeat performance tests for certain emission units, added corrective action requirements, and clarified monitoring, recordkeeping, and reporting requirements.

In 2015, a coalition of environmental advocacy groups filed a lawsuit to compel the EPA to fulfill its statutory duty to conduct the CAA sections 112(d) and 112(f)(2) reviews of 21 NESHAPs, including Integrated Iron and Steel Manufacturing Facilities. As a result of that litigation, the EPA was required by court order to complete the RTR for the Integrated Iron and Steel Manufacturing Facilities source category by May 5, 2020. *California Communities Against Toxics* v. *Wheeler,* No. 1:15–00512, Order (D.D.C. March 13, 2017, as modified Feb. 20, 2020). The resulting RTR conducted for the Integrated Iron and Steel Manufacturing Facilities NESHAP was signed on May 4, 2020. 85 FR 42074 (July 13, 2020).

In an April 2020 decision by the U.S. Court of Appeals for the District of Columbia Circuit, on a petition for review of the EPA's NESHAP rulemaking for a different source category (pulp mill combustion sources), the court held that the EPA has an obligation to address all unregulated HAP emissions from a source category when the Agency conducts the eight-year technology review required by CAA section 112(d)(6). *Louisiana Environmental Action Network* v. *EPA,* 955 F.3d 1088, 1098–99 (''*LEAN*''). The parties in *California Communities Against Toxics* thereafter filed a joint motion to extend those deadlines to allow the EPA to revise the rules in accordance with the *LEAN* opinion. The court granted the motion, setting a new deadline for this rule of October 26, 2023. Order, *California Communities Against Toxics,* No. 15–512 (D.D.C. April 14, 2021). Based on further negotiation between the parties, the deadline for this final rule was changed to March 11, 2024. Minute Order, *California Communities Against Toxics,* No. 15–512 (D.D.C. Sept. 20, 2023).

In September 2021, industry and environmental advocacy groups filed petitions for review of the 2020 Integrated Iron and Steel Manufacturing Facilities final rule, and these petitions have been consolidated. *American Iron and Steel Inst., et al.* v. *EPA,* No. 20–1354 (D.C. Cir.); *Clean Air Council, et al.* v. *EPA,* No. 20–1355 (D.C. Cir.). The consolidated case is being held in abeyance pending the promulgation of this final rule. *See EPA's Unopposed Mot. to Hold Cases in Abeyance,* No. 20–1354 (consol.) (D.C. Cir.), Dkt. No. 2028131 (reporting to the D.C. Circuit the March 11, 2024 final rule deadline); Order, *American Iron and Steel Inst.,* No. 20–1354 (consol.) (D.C. Cir. Dec. 7, 2022).

In light of this litigation history, this final rule addresses multiple issues, including: (1) new standards to address previously unregulated emissions of HAP from the Integrated Iron and Steel Manufacturing Facilities source category pursuant to the *LEAN* decision and CAA sections 112(d)(2) and (3) and 112(h) and, (2) revised standards for a few currently regulated HAP, as well as fenceline monitoring requirements, pursuant to the CAA section 112(d)(6) technology review.

B. What is the source category and how does the current NESHAP regulate its HAP emissions?

As described above, the Integrated Iron and Steel Manufacturing Facilities source category includes any facility engaged in producing steel from refined iron ore (also known as taconite pellets). These facilities first produce iron from iron ore taconite pellets, sinter, coke, and other raw materials using blast furnaces (BFs), then produce steel from the hot liquid iron produced from the blast furnaces, along with coke, lime, alloys, steel scrap, and other raw materials using basic oxygen process furnaces (BOPFs). Integrated iron and steel manufacturing includes the following processes: sinter production, iron production, iron preparation (hot metal desulfurization), and steel production. The iron production process includes the production of iron in BFs by the reduction of iron-bearing materials with a very hot gas. The steel production process includes BOPFs and ladle metallurgy operations. Currently there are eight operating facilities in this source category.

The main sources of HAP emissions from integrated iron and steel manufacturing are the BF; BF stove; BOPF; hot metal transfer, desulfurization, and skimming (HMTDS) operations; ladle metallurgy operations; sinter plant windbox; sinter plant discharge end; and sinter cooler. All eight facilities have BFs, BF stoves, BOPFs, HMTDS operations, and ladle metallurgy operations. However, only three facilities have sinter plants and only two facilities with currently operating sinter plants.

The following are descriptions of the BF, BOPF, and sinter plants:

• The BF is a key integrated iron and steel process unit where molten iron is produced from raw materials such as iron ore, lime, sinter, coal and coke.

• The BOPF is a key integrated iron and steel process unit where steel is made from molten iron, scrap steel, lime, dolomite, coal, coke, and alloys.

• Sinter is derived from material formed in the bottom of the blast furnace, composed of oily scale, blast furnace sludge, and coke breeze, along with tarry material and oil absorbed from the sump in which the sinter is recovered. The sinter plant processes the waste that would otherwise be landfilled so that iron and other valuable materials can be re-used in the blast furnace. Only three sources covered by the Integrated Iron and Steel Manufacturing Facility category have sinter plants, down from nine facilities with sinter plants in 2003.

In addition to point sources, the EPA identified seven UFIP emission sources for this source category, including BF bleeder valve unplanned openings, BF bleeder valve planned openings, BF bell leaks, BF casthouse fugitives, BF iron beaching, BF and BOPF slag handling and storage operations, and BOPF shop fugitives. These UFIP emission sources were identified by observation of visible plumes by EPA regional staff during onsite source inspections and were subsequently investigated to determine the causes and any possible methods for reductions. These inspections are documented in numerous reports and photographs between 2008 and the present.[1] The NESHAP regulates two of these sources—BF casthouse fugitives and BOPF shop fugitives—with opacity limits.

The following are descriptions of the main process units and the seven UFIP sources:

• The BF is a key integrated iron and steel process unit where molten iron is produced from raw materials such as iron ore, lime, sinter, coal and coke.

• The BOPF is a key integrated iron and steel process unit where steel is made from molten iron, scrap steel, lime, dolomite, coal, coke, and alloys.

• Sinter is derived from material formed in the bottom of the blast furnace, composed of oily scale, blast furnace sludge, and coke breeze, along with tarry material and oil absorbed from the sump in which the sinter is recovered. The sinter plant processes the waste that would otherwise be landfilled so that iron and other valuable materials can be re-used in the blast furnace. Only three sources covered by the Integrated Iron and Steel Manufacturing Facility category have sinter plants, down from nine facilities with sinter plants in 2003.

• The BOPF shop is the structure that houses the entire BOPF and auxiliary activities, such as hot iron transfer, skimming, and desulfurization of the iron and ladle metallurgy operations, which generate fugitive emissions.

• The BF casthouse is the structure that houses the lower portion of the BF and encloses the tapping operation and the iron and slag transport operations, which generate fugitive emissions.

• The bleeder valve is a device at the top of the BF that, when open, relieves BF internal pressure to the ambient air. The valve can operate as both a self-actuating safety device to relieve excess pressure and as an operator-initiated instrument for process control. A bleeder valve opening means any opening of the BF bleeder valve, which allows gas and/or PM to flow past the sealing seat. Multiple openings and closings of a bleeder valve that occur within a 30-minute period could be considered a single bleeder valve opening. There are two types of openings, planned and unplanned.

• A planned bleeder valve opening means an opening that is initiated by an operator as part of a furnace startup, shutdown, or temporary idling for maintenance action. Operators can prepare the furnace for planned openings to minimize or eliminate emissions from the bleeder valves.

• An unplanned bleeder valve opening means an opening that is not planned and is caused by excess pressure within the furnace. The pressure buildup can occur when raw materials do not descend smoothly after being charged at the top of the BF and accumulate in large masses within the furnace. When the large masses finally dislodge (slip) due to their weight, a pressure surge results.

• Slag is a by-product containing impurities that is released from the BF or BOPF along with molten iron when the BF or BOPF is tapped from the bottom of the furnace. The slag is less dense than iron and, therefore, floats on top of the iron. Slag is removed by skimmers and then transported to open pits to cool to enable later removal. Usually there is one slag pit for every BF or BOPF.

• Iron beaching occurs when iron from a BF cannot be charged to the BOPF because of problems in steelmaking units; the hot molten iron from the BF is placed onto the ground, in some cases within a three-sided structure.

• The BF bells are part of the charging system on top of the furnace that allows for materials to be loaded into the furnace or next bell (as in the case of small bells) without letting BF gas escape. It is a two-bell system, where a smaller bell is above a larger bell. These bells must be tightly sealed to the blast furnace when not in use for charging, so that BF gas and uncontrolled emissions do not escape to the atmosphere. Over time, the surfaces that seal the bells wear down and need to be repaired or replaced. If these seals are not repaired or replaced in a timely manner, emissions of HAP and PM can increase significantly.

In the 2020 final rule, the Agency found that risks due to emissions of air toxics from this source category were

[1] *See, e.g.,* communications between B. Dickens and P. Miller, U.S. EPA Region V, Chicago, IL, with D.L. Jones, U.S. EPA, Office of Air Quality Planning and Standards, Office of Air and Radiation, 2015–2018. See also *Ample Margin of Safety for Nonpoint Sources in the II&S Industry.* Both documents are available in the docket to this rule.

acceptable and concluded that the NESHAP provided an ample margin of safety to protect public health. Although the 2020 NESHAP found the risks acceptable and no new requirements should be imposed, new data was collected via a CAA section 114 request to industry after re-opening the rule, due to the *LEAN* court decision. These new data necessitated technology review updates, in addition to establishing new MACT standards for unregulated HAPs pursuant to the *LEAN* court decision. Under the technology review in the 2020 RTR, the EPA found no developments in practices, processes, or control technologies that necessitated revision of the standards at that time. However, in response to a 2004 administrative petition for reconsideration of the 2003 NESHAP, the 2020 final rule promulgated a new MACT emissions limit for mercury (0.00026 lbs mercury/ton scrap metal) with two compliance options: (1) conduct annual compliance tests (to demonstrate compliance with the MACT limit); or (2) confirm that the facility obtains their auto scrap from suppliers that participate in the National Vehicle Mercury Switch Recovery Program (NVMRP) or another approved mercury switch removal program or that the facility only uses scrap that does not contain mercury switches. We also removed exemptions for periods of startup, shutdown, and malfunction (SSM) consistent with *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008); clarified that the emissions standards apply at all times; added electronic reporting of performance test results and compliance reports; and made minor corrections and clarifications for a few other rule provisions. All documents used to develop the previous 2003, 2006, and 2020 final rules can be found in either the legacy docket, A–2000–44, or the electronic docket, EPA–HQ–OAR–2002–0083.

The NESHAP includes emissions limits for PM and opacity standards—both of which are surrogates for non-mercury PM HAP metals—for furnaces and sinter plants. To support the continued use of PM as a surrogate for certain non-mercury HAP metals, we considered the holding in *National Lime Ass'n* v. *EPA,* 233 F.3d 625 (D.C. Cir. 2000). In considering whether the EPA may use PM, a criteria pollutant, as a surrogate for metal HAP, the D.C. Circuit stated that the EPA ''may use a surrogate to regulate hazardous pollutants if it is 'reasonable' to do so,'' *id.* at 637, establishing criteria for determining whether the use of PM as a surrogate for non-mercury metal HAP was reasonable. The court found that PM is a reasonable surrogate for HAP if: (1) ''HAP metals are invariably present'' in the source's PM,'' *id.*; (2) the ''source's PM control technology indiscriminately captures HAP metals along with other particulates,'' *id.* at 639; and (3) ''PM control is the only means by which facilities 'achieve' reductions in HAP metal emissions,'' *id.* If these criteria are satisfied and the PM emission standards reflect what the best sources achieve in compliance with CAA section 112(d)(3), then ''EPA is under no obligation to achieve a particular numerical reduction in HAP metal emissions.'' *Id.* The EPA has established and promulgated PM limits as a surrogate for particulate HAP metals successfully in several NESHAP regulations, including Ferroalloys Production (80 FR 37366, June 30, 2015), Taconite Iron Ore Processing (68 FR 61868), and Primary Copper Smelting (67 FR 40478, June 12, 2002).

The NESHAP also includes an operating limit for the oil content of the sinter plant feedstock or, as an alternative, an emissions limit for volatile organic compounds (VOC) for the sinter plant windbox exhaust stream. The oil limit, and the alternative VOC limit, serve as surrogates for all organic HAP. Moreover, the NESHAP includes an emissions limit for mercury emissions from the BOPF Group, which is the collection of BOPF shop steelmaking operating units and their control devices including the BOPF primary emission control system, BOPF secondary control system, ladle metallurgy units, and hot metal transfer, desulfurization and slag skimming units.

C. What changes did we propose for the Integrated Iron and Steel Manufacturing Facilities source category?

On July 31, 2023, the EPA published a proposal in the **Federal Register** to set standards to regulate HAP emissions from five UFIP sources that were not previously regulated by the NESHAP: Bell Leaks, Unplanned Bleeder Valve Openings, Planned Bleeder Valve Openings, Slag Pits, and Beaching. For sinter plants, we proposed standards for five previously unregulated HAP: COS, CS_2, Hg, HCl, and HF. For BF stoves and BOPFs, we proposed standards for three previously unregulated pollutants: THC (as a surrogate for non-dioxin and non-furan organic HAP), HCl, and D/F. And for BFs, we proposed standards for two previously unregulated pollutants: THC (as a surrogate for non-dioxin and non-furan organic HAP) and HCl.

As an update to the technology review, we proposed to revise the previous BOPF shop fugitive 20 percent opacity limit to a 5 percent opacity limit and require specific work practices; revise the current BF casthouse fugitive 20 percent opacity limit to a 5 percent opacity limit; and revise the current standards for D/F and PAH for sinter plants to reflect current control performance of sinter plants for these HAP. We also proposed a fenceline monitoring requirement for Cr, including a requirement that if a monitor exceeds the proposed Cr action level, the facility would need to conduct a root cause analysis and take corrective action to lower emissions.

III. What is the rationale for our final decisions and amendments for the Integrated Iron and Steel Manufacturing Facilities source category?

For each issue, this section provides a description of what we proposed and what we are finalizing, a summary of key comments and responses, and the EPA's rationale for the final decisions and amendments. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the document, *Summary of Public Comments and Responses for Proposed Amendments to the National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities,* which is available in the docket for this action. This document is also referred to as the Response to Comments (RTC) in subsequent sections of this preamble.

A. Standards To Address Five Unregulated UFIP Sources for Both New and Existing Sources

1. What did we propose for the five previously unregulated UFIP sources?

a. BF Unplanned Bleeder Valve Openings

Based on the data we received through the CAA section 114 requests, the average number of unplanned openings of the best performing five furnaces in the source category is 5 unplanned openings per year. Therefore, we proposed an operational limit of five unplanned openings per year per furnace for existing sources, which was an estimate of the MACT floor level of performance for existing sources. For new sources, we proposed an operational limit of zero unplanned openings per year because the best performing single source in our database reported zero unplanned openings for the most recent representative year.

Additionally, we proposed work practice standards that would require facilities to do the following: (1) install and operate devices (*e.g.,* stockline monitors) to continuously measure/monitor material levels in the furnace, at a minimum of three locations, using alarms to inform operators of static conditions that indicate a slip may occur and alert them that there is a need to take action to prevent the slips and unplanned openings from occurring; (2) install and operate instruments such as a thermocouple and transducer on the furnace to monitor temperature and pressure to help determine when a slip may occur; (3) install a screen to remove fine particulates from raw materials to ensure only properly-sized raw materials are charged into the BF; and (4) develop, and submit to the EPA for approval, a plan that explains how the facility will implement these requirements. Additionally, we proposed that facilities would need to report the unplanned openings (including the date, time, duration, and any corrective actions taken) in their semiannual compliance reports.

b. BF Planned Bleeder Valve Openings

Based on our evaluation of available information and pursuant to CAA section 112(d)(2) and (3), for existing sources we proposed a MACT floor limit of 8 percent opacity for any 6-minute averaging period for the BF planned bleeder valve openings. We did not propose the BTF option of 5 percent opacity for existing sources because we determined that 5 percent opacity may not be feasible for some sources on a consistent basis. For new sources, we proposed an opacity of 0 percent because based on the available data, the best performing single source had opacity of 0 percent during the planned opening. We expect that new sources will be able to configure their furnace design and operations similarly to the best performing single source which, in combination with utilizing the suggested work practices described in the document *Unmeasurable Fugitive and Intermittent Particulate Emissions and Cost Impacts for Integrated Iron and Steel Facilities under 40 CFR part 63, subpart FFFFF,* should allow them to achieve an opacity of 0 percent. We did not propose any work practices under CAA section 112(h) for the BF planned bleeder valve openings; facilities will have the flexibility to choose an appropriate approach to meet the opacity limit.

c. BF and BOPF Slag Processing, Handling, and Storage

Based on our analyses and pursuant to CAA section 112(d)(2) and (3), for existing sources we proposed a BTF opacity limit of 5 percent based on 6-minute averages for visible emissions from slag pits and during slag handling, storage, and processing. Regarding new sources, we proposed a MACT floor opacity limit of 2.5 percent based on 6-minute averages for visible emissions from slag pits and during slag handling, storage, and processing.

d. BF Bell Leaks

Based on our evaluation and pursuant to CAA section 112(d)(2) and (3), we proposed 10 percent opacity as an action level, as described below in this paragraph, for large bell leaks (not a MACT emissions limit). Along with this action level, we also proposed that the BF top will need to be observed monthly for visible emissions (VE) with EPA Method 22, 40 CFR part 60, appendix A–7, which determines the presence or absence of a visible plume, to identify leaks, and if VE are detected out of the interbell relief valve (indicating leaks from the large bell), we proposed that the facility would then need to perform EPA Method 9, 40 CFR part 60, appendix A–4, tests which determines the opacity (*i.e.,* degree to which a plume obscures the background), monthly and if opacity is greater than 10 percent (based on a 3-minute average), the large bell seals will need to be repaired or replaced within 4 months. For the small bell, we proposed that facilities will need to replace or repair seals prior to a metal throughput limit, specified by the facility, that has been proven and documented to produce no opacity from the small bells.

e. Beaching of Iron From BFs

Pursuant to CAA section 112(d)(2) and (3) and CAA section 112(h), we proposed a MACT standard that would require facilities to: (1) have full or partial enclosures for the beaching process or use CO_2 to suppress fumes; and (2) minimize the height, slope, and speed of beaching.

2. What comments did we receive on the proposed standards and, what are our responses?

a. BF Unplanned Bleeder Valve Openings

Comment: Commenters stated that in developing the proposed limit on the number of unplanned pressure release device (PRD) openings that could occur within a year, the EPA treated all BFs alike by placing them in a single category. Commenters stated that because larger BFs are able to accommodate higher internal pressures before the need for an unplanned opening, the EPA should create two separate subcategories of blast furnaces. Commenters stated that in reviewing data for unplanned PRD openings, they believed that subcategorization is appropriate and necessary if an action level or limit of any type is to be established for the number of events. In particular, commenters noted that large BFs have significantly fewer unplanned openings, where ''Large BF'' is defined as a BF with a working volume greater than 2,500 cubic meters (m^3). Commenters also stated that the EPA did not account for variability across sources and asked EPA to apply an upper prediction limit (UPL) if it were to finalize a limit on unplanned openings. Commenters stated that a 99 percent UPL analysis of the data supports limits of 52 unplanned openings for large BFs and 112 unplanned openings for small BFs.

Response: We agree with the commenter that larger BFs are able to accommodate higher internal pressure and that subcategorization based on BF size is appropriate. In this final rule, we define ''large BF'' as a BF with a working volume greater than 2,500 m^3 and are establishing separate limits on unplanned openings for large and small BF.

EPA also agrees with commenters that it is important to account for variability in the incidence of unplanned openings. Accordingly, in the final rule the EPA has decided to base the limit on the highest number of unplanned openings reported within the top five sources to ensure that we adequately account for variability, rather than the proposed approach of basing the limit on the average number of unplanned openings within the top five sources.

EPA disagrees with commenters' suggestion that it should apply a 99 percent UPL to determine the limit on unplanned openings. The EPA commonly uses the 99 percent UPL to calculate numerical emissions limits based on stack test data (*e.g.,* grams of HAP per cubic meter of stack exhaust gases). The UPL method is not appropriate to evaluate a count of unplanned openings because these are discrete events and are therefore not analogous to emissions data or test runs. In the context of this final rule, application of the UPL would therefore not appropriately reflect variability and would lead to an exceedingly high limit on unplanned openings that does not reflect the performance achieved at top-performing sources. As noted above, the EPA has instead accounted for variability in this final rule by basing the limit on the highest number of unplanned openings observed among the five top-performing sources.

b. BF Planned Bleeder Valve Openings

Comment: Commenters agreed that these opacity limits will result in HAP reductions. Accordingly, commenters supported these revisions and additions and encouraged the EPA to not weaken any of the proposed limits.

Response: EPA appreciates the support and agrees that these opacity limits for planned bleeder valve openings will result in HAP reductions.

Comment: EPA should not adopt the proposed 8% opacity limit and weekly Method 9 testing for planned openings in addition to the new work practice standards. PRD openings by operators are routinely necessary and appropriate for proper BF operation. Emissions from planned openings are exceedingly low, ranging from 1.6 tpy to 0.3 tpy, with reductions projected between 0.4 and 0.08 tpy across the entire industry. The work practice standards are expensive, with estimated cost-effectiveness based upon the proposed rule having rates ranging from $134,000/ton to $672,000/ton. No regulation of these small contributors should occur. If EPA nonetheless moves forward, there should be an action level at 15% (based on a more robust UPL analysis).

Response: Based on our evaluation of public comments and available information, pursuant to CAA section 112(d)(2) and (3) and the *LEAN* court decision, for existing sources we are promulgating a MACT Floor limit of 8 percent opacity for any 6-minute averaging period for the BF planned bleeder valve openings. The MACT floor is the least stringent standard allowed by section 112 of the Clean Air Act. For new sources, we are promulgating an opacity of 0 percent because based on the available data, the best performing single source had opacity of 0 percent during the planned opening, which we consider the MACT Floor level for new sources pursuant to CAA section 112. As we explained in the proposed rule, we determined based on evaluation of available information that emissions can be minimized from bleeder valve planned openings cost effectively by implementing various actions before the valves are opened such as: (1) tapping as much liquid (iron and slag) out of the furnace as possible; (2) removing fuel and/or stopping fuel injection into the furnace; and (3) lowering bottom pressure. However, as explained in the proposed rule preamble, we did not propose any specific work practices for the BF planned bleeder valve openings and we are maintaining the decision to not require any specific work practices for the final rule. Facilities will have the flexibility to choose an appropriate approach to meet the opacity limit.

We estimate that this standard will result in about 0.41 tpy reduction in HAP metal emissions. The estimated cost is $54,600/yr for the entire category and $6,800/yr per facility. The estimated cost effectiveness is $134,000 per ton of HAP metals.

c. BF and BOPF Slag Processing, Handling, and Storage

Comment: Commenters stated that the proposed 5 percent opacity limit for slag handling operations should not be adopted. They contend that it is virtually impossible to enclose the extremely hot slag material or to universally apply water at all times to help suppress emissions because of the volatile nature of the material and the potential for a life-threatening hazardous explosion when the water violently expands in the form of steam. Commenters stated that the EPA had ignored these important safety concerns in proposing the 5 percent opacity limit, and that the control measures the EPA had identified to meet this limit could not be reasonably utilized. Commenters also argued that even if EPA's suggested control measures were applied, a UPL analysis would result in an opacity limit of 20 percent, far exceeding the proposed 5 percent level. Commenters noted that the EPA had improperly failed to account for variability in the performance of sources by declining to apply a UPL or other statistical analysis.

Response: After considering these comments, we agree that a limit of 5 percent opacity could result in higher cost impacts than we estimated at proposal for some facilities. As described in the proposed rule **Federal Register** notice published on July 31, 2023 (88 FR 49402), the proposed 5 percent opacity limit was a beyond-the-floor limit based on the EPA's understanding at that time that emissions could be cost effectively minimized from slag pits with the application of water spray or fogging and/or other work practices such as installing wind screens, dust suppression misters, and maintaining a high moisture content of the slag during handling, storage, and processing. However, at proposal we did not account for variability and certain other factors such as weather conditions and possible safety issues. Although we still conclude that these measures can help minimize emissions, these measures might not be sufficient to consistently maintain opacity below 5 percent.

In the proposed rule FR notice, we also described a potential MACT floor opacity limit of 9 percent for existing sources which was based on the straight average of the top five performing facilities. Based on the comments submitted, the EPA is finalizing an opacity limit of 10 percent based on a MACT floor analysis for existing sources. This final limit is based on the average opacity of 9 percent reported by the five top performing facilities, but rounding up slightly to 10 percent to account for variability. The EPA has historically used the UPL approach to develop MACT limits for stack emissions of individual pollutants, but has not historically determined opacity limits using a UPL approach. The UPL calculation introduces a predictive element to the statistics in order to account for variability. However, unlike typical emissions testing, EPA Method 9 tests frequently result in values of zero, which cannot be used in the UPL calculation so this approach for accounting for variability was not used. The EPA determined that rounding the opacity from 9 percent to 10 percent sufficiently accounts for variability in this process. Therefore, in this final rule we are promulgating a 10 percent opacity limit (based on six-minute averages) for slag processing, handling, and storage. Because this 10 percent opacity limit has been achieved in practice by top performing facilities, we expect that all facilities will be able to achieve this 10 percent opacity limit by application of some or all of the work practices described above and in the proposed rule **Federal Register** notice (88 FR 49402). Other comments and responses on this issue are provided in the RTC.

d. BF Bell Leaks

Comment: Commenters expressed concerns that the proposed triggers for action for large bells are too low and that the repair and replacement time should consider lead time and operational concerns. Commenters suggested that with this in mind, the EPA could establish a 20 percent opacity action level (6-minute average) with quarterly EPA Method 9 observation requirements. Under this approach, if a facility observes opacity in excess of 20 percent, the facility should be required to investigate, make operational changes, and conduct a repair, followed by repeat testing using EPA Method 9 to confirm the efficacy of the repair. If repairs are not successful, only then would replacement obligations be triggered. Other commenters stated that if the EPA moves forward with work practice standards, the EPA should consider an alternative under which a facility would need to initiate operational or other corrective actions within five business days if an EPA Method 9 test identifies opacity of 20 percent or more. If the facility does not reduce opacity to less than 20 percent with those actions, the facility would have another five business days to initiate further operational or other corrective actions to reduce opacity to less than 20 percent. Only if the second attempt does not result in opacity of 20 percent or less would the test result be deemed a deviation requiring reporting and corrective actions, such as moving to the repair step or, if necessary, replacement of the large bell.

Response: We agree with the commenter who suggested the two-step approach for large bells is appropriate as well as the suggestion of 20% opacity instead of 10% opacity as a trigger. As discussed by the commenter, the replacement of bells is costly and there are numerous more cost-effective repair options available that can be achieved in a shorter time period to avoid full repair and replacement. This would help keep the bell repairs on a more organized schedule. Therefore, we decided to finalize a 20 percent opacity action level (instead of the proposed 10 percent opacity action level) and provide two five-business day periods to investigate the opacity trigger, as suggested by the commenter. Specifically, we changed the requirement to the following: if EPA Method 9 identifies opacity greater than 20 percent, the facility shall initiate corrective actions within five business days. If the first attempt to correct fails and EPA Method 9 again identifies that opacity is not reduced to 20 percent or lower, the facility would have another five business days to initiate further corrective actions to reduce opacity to 20 percent or lower. Only if the second attempt does not result in an opacity of 20 percent or less would it become a deviation, requiring reporting and corrective actions that we included in the proposed rule, such as moving to the repair step or, if unsuccessful, replacement of the large bell.

e. Beaching of Iron From BF's

Comment: Commenters supported the proposal to require facilities to: (1) have full or partial enclosures for the beaching process or use CO_2 to suppress fumes; and (2) minimize the height, slope, and speed of beaching. Commenters supported the addition of monitoring of vents from the partial enclosures to allow for additional information and accountability for these sources.

Response: EPA appreciates the support for the beaching requirements in the proposed rule.

Comment: Industry commenters stated that the proposed work practice standards to address already low emissions from beaching events, which the industry consistently works to minimize, would not provide meaningful reductions and would be extremely costly. Industry commenters estimated about 4 pounds per year of reduction from these proposed measures, lower than the estimates EPA provided in the final rule. Commenters also pointed out that EPA's estimated cost per ton of removal would be $15.8 million/ton and argued that this amount is unreasonable notwithstanding EPA's explanation that it must adhere to the floor provisions of the statute. Commenters stated that if EPA were to use the more accurate emissions and cost information provided by industry, the cost-effectiveness rate estimate based upon the proposed rule would be multiple times higher at $311 million/ton. Commenters also argued that EPA could reasonably interpret Section 112(d) to avoid this result.

Response: As EPA explained in the proposal preamble, as mandated by the *LEAN* court decision and CAA sections 112(d)(2), 112(d)(3), and 112(h), we proposed a MACT floor standard (which is the least stringent standard allowed by section 112 of the Clean Air Act) that would require facilities to: (1) have full or partial enclosures for the beaching process or use CO_2 to suppress fumes; and (2) minimize the height, slope, and speed of beaching. We expect this will result in a small amount of unquantified emission reductions since baseline emissions are already low (less than 1 tpy of HAP) and because most facilities are already following some or all of these work practices. Regarding costs, when EPA determines the MACT floor level of control, per the section 112 of the CAA, the EPA is obligated to determine the MACT floor level regardless of costs. It is only the potential beyond-the-floor standards for which costs become an important consideration. Nevertheless, as we mentioned in the proposal preamble, the estimated costs are only $55,000 per year for the entire category and an average annual cost of $6,800 per facility. More information regarding the standards for unregulated UFIP sources is available in the following document: *Unmeasurable Fugitive and Intermittent Particulate Emissions and Cost Impacts for Integrated Iron and Steel Facilities under 40 CFR part 63, subpart FFFFF,* which is available in the docket for this action.

After considering public comments and available information, pursuant to CAA sections 112(d)(2) and (3) and 112(h) and the *LEAN* court decision, we are promulgating the same MACT Floor standard as proposed.

3. What are the final MACT standards and how will compliance be demonstrated?

a. BF Unplanned Bleeder Valve Openings

In certain instances, as provided in CAA section 112(h), if it is the judgment of the Administrator that it is not feasible to prescribe or enforce an emission standard under CAA section 112(d)(2) and (3), the EPA may set work practice standards under CAA section 112(h) in lieu of numerical emission standards. For BF unplanned bleeder valve openings, the Administrator has determined that since there is no direct measurement of emissions, we are finalizing a work practice standard. We are finalizing an operational limit for two subcategories of blast furnaces: large furnaces with a working volume of equal to or greater than 2,500 m^3; and small furnaces with a working volume of less than 2,500 m^3. This is to account for variability in unplanned opening occurrences between furnace size due to design elements that allow higher operating pressure near the valve openings, which leads to less openings per year for large furnaces. For the large blast furnaces, we are finalizing an operational limit of four unplanned openings per rolling year per furnace. For small blast furnaces, we are finalizing an operational limit of 15 unplanned openings per rolling year per furnace. Both are based on a qualitative approach of using the highest number of unplanned openings from the top five performing furnaces (top four for large furnaces as there are only four operating large furnaces). For most MACT floor standards in NESHAP rules, we typically have actual emissions test data for each of the top five sources. To calculate the MACT floor limit we use all the data (all the runs) from all 5 sources to calculate the 99th UPL to account for variability. And, we conclude that this 99th value (which is higher than the true average) represents the average performance of the top 5 sources with an adjustment to account for variability.

With unplanned openings, we do not have a UPL type tool. So, as an alternative to a UPL, we considered all the data from the top five performers, and to ensure we account for variability among those top five performers, in this particular situation, we conclude that using the highest value (*i.e.,* highest number of unplanned openings) from any one source within the top five reflects our best estimate of an appropriate limit that would reflect performance of the top five sources with an adjustment to ensure we adequately account for the variability among those top five sources.

This approach is appropriate because it accounts for variability among the top five blast furnaces. For new sources, we are finalizing our proposed operational limit of zero unplanned openings per rolling year for both large and small furnaces because the best performing single source large and small blast furnace in our database reported zero unplanned openings for the most recent typical year.

Additionally, we are finalizing the work practice standards proposed for both furnace subcategories that require facilities to do the following: (1) install and operate devices (*e.g.,* stockline monitors) to continuously measure/monitor material levels in the furnace, at a minimum of three locations, using alarms to inform operators of static conditions that indicate a slip may occur, and alert them that there is a need to take action to prevent the slips and unplanned openings from occurring; (2) install and operate instruments such as a thermocouple and transducer on the furnace to monitor temperature and pressure to help determine when a slip may occur; (3) install a screen to remove fine particulates from raw materials to ensure only properly-sized raw materials are charged into the BF; and (4) develop, and submit to the EPA for approval, a plan that explains how the facility will implement these requirements. Additionally, facilities shall report the unplanned openings (including the date, time, duration, and any corrective actions taken) in their semiannual compliance reports.

b. BF Planned Bleeder Valve Openings

We are finalizing what we proposed for planned bleeder valve openings: a MACT floor limit of 8 percent opacity based on 6-minute averages. For new sources, we are finalizing an opacity of 0 percent. Facilities will have the flexibility to choose an appropriate approach to meet these opacity limits.

c. BF and BOPF Slag Processing, Handling, and Storage

As discussed above, we are finalizing an opacity limit of 10 percent based on 6-minute averages for BF and BOPF slag processing, handling, and storage, and slag pits. Regarding new sources, we are finalizing an opacity limit of 3 percent based on 6-minute averages for visible emissions from slag pits, and during slag handling, storage, and processing.

d. BF Bell Leaks

For bell leaks, we are finalizing a 20 percent opacity action level for large bell leaks as described below for new and existing large bells. This is not a numerical MACT emissions standard; because the Administrator has determined that it is not feasible to prescribe or enforce an emission standard in this instance, pursuant to CAA section 112(h), the EPA is setting work practice standards in lieu of numerical emission standards. We are also finalizing that the BF top must be observed monthly for visible emissions (VE) with EPA Method 22, 40 CFR part 60, appendix A–7, which determines the presence or absence of a visible plume, to identify leaks from the interbell relief valve (indicating leaks from the large bell). If VE are detected out of the interbell relief valve (indicating leaks from the large bell), the facility must perform EPA Method 9, 40 CFR part 60, appendix A–4, tests which determines the opacity (*i.e.,* degree to which a plume obscures the background) monthly, and if opacity is greater than 20 percent based on an average of three instantaneous and consecutive interbell relief valve openings, the facility must initiate operational or other corrective actions within five business days. After those five business days, the facility must perform EPA Method 9 tests again and, if opacity is greater than 20 percent, the facility will have another five business days to initiate further operational or corrective actions to reduce opacity to 20 percent or lower. After five additional business days (10 business days in total), the facility must perform EPA Method 9 tests again and, if opacity is still greater than 20 percent, the large bell seals must be repaired or replaced within four months. For the new and existing small bells, we are finalizing what we proposed, a requirement that facilities shall replace or repair seals prior to a metal throughput limit, specified by the facility, that has been proven and documented to produce no opacity from the small bells. Additionally, the facility must conduct monthly visible emissions testing for 15 minutes and amend the metal throughput limit in their operation and maintenance (O&M) plan as needed.

e. Beaching of Iron From BFs

As provided in CAA section 112(h), it is the judgment of the Administrator that it is not feasible to prescribe or enforce an emission standard for emissions from the beaching process, therefore the EPA is finalizing the proposed work practice standards in lieu of numerical emission standards. This work practice standard requires facilities to: (1) have full or partial enclosures for the beaching process or use CO_2 to suppress fumes; and (2) minimize the height, slope, and speed of beaching. This standard applies to both existing and new sources.

B. Reconsideration of BF Casthouse and BOPF Shop Standards for Currently Regulated Fugitive Sources Under CAA Section 112(d)(6) Technology Review

1. What did we propose for the BF casthouse and BOPF shop?

a. BF Casthouse

We proposed a 5 percent opacity limit based on 6-minute averages as an update to the CAA section 112(d)(6) technology review and proposed that facilities will need to measure opacity during the tapping operations (at least two times per month). We did not propose specific work practices for the BF casthouse, except that we proposed that the facilities will need to keep all openings, except roof monitors, closed during tapping and material transfer events (the only openings allowed during these events are those that were present in the original design of the casthouse).

b. BOPF Shop

Based on our review and analyses of the CAA section 114 information request responses we received in 2022 and 2023, and further review of the data the EPA assembled to support the 2020 RTR, we proposed that a standard composed of a 5 percent opacity limit with several specific work practices would be feasible and cost-effective for the BOPF shop. For example, based on the data we received, in the proposal we found that the maximum 3-minute opacity readings for the BOPF shops at four facilities were less than 5 percent. Furthermore, the use of work practices (described below) by the best performing facilities in the industry led us to conclude for the proposal that these work practices were feasible and, accordingly, we proposed a 5 percent opacity limit based on 3-minute average and work practices.

Specifically, we proposed that facilities will need to do the following: (1) keep all openings, except roof monitors (vents) and other openings that are part of the designed ventilation of the facility, closed during tapping and material transfer events (the only openings that would be allowed during these events are the roof vents and other openings or vents that are part of the designed ventilation of the facility) to allow for more representative opacity observations from a single opening; (2) have operators conduct regular inspections of BOPF shop structure for unintended openings and leaks; (3) optimize positioning of hot metal ladles with respect to hood face and furnace mouth; (4) monitor opacity twice per month from all openings, or from the one opening known to have the highest opacity, for a full steel cycle, which must include a tapping event; and (5) develop and operate according to an Operating Plan to minimize fugitives and detect openings and leaks. We proposed that the BOPF Shop Operating Plan shall include:

- An explanation regarding how the facility will address and implement the four specific work practices listed above;
- A maximum hot iron pour/charge rate (pounds/second) for the first 20 seconds of hot metal charge (*i.e.,* the process of adding hot iron from the BF into the basic oxygen process furnace);
- A description of operational conditions of the furnace and secondary emission capture system that must be met prior to hot metal charge, including:
- A minimum flowrate of the secondary emission capture system during hot metal charge;
- A minimum number of times, but at least once, the furnace should be rocked between scrap charge and hot metal charge;
- A maximum furnace tilt angle during hot metal charging: and;
- An outline of procedures to attempt to reduce slopping.

2. What comments did we receive on the proposed revised BF casthouse and BOPF shop standards, and what are our responses?

a. BF Casthouse

Comment: Commenters noted that the EPA did not apply UPL calculations to the opacity data, even though the EPA's practice has been to do so for other numerical standards established on limited data sets. Commenters claim that the EPA's proposed opacity limit of 5 percent, without any adjustment for variability, lacked justification or explanation and is therefore arbitrary and capricious. These commenters argued that, when utilizing limited datasets, it is appropriate for the EPA to account for variability, and there is no technical basis for suggesting that some statistical methods should not be applied to this data set. When the EPA set the 20 percent opacity limits in 2003, the preamble included the EPA's statistical basis supporting that the limits were achievable. Commenters also stated the EPA should also include a one-time alternative limit per furnace cycle similar to the new source standards in the 2003 NESHAP.

Response: The EPA disagrees with the specific approach of using UPL calculations to develop opacity limits in the same manner that the UPL is used to calculate emissions limits. The EPA has historically used the UPL approach to develop MACT limits for stack emissions of individual pollutants but has not historically determined opacity limits using a UPL approach. The UPL calculation introduces a predictive element to the statistics in order to account for variability. However, as noted by the commenter, unlike typical emissions testing, EPA Method 9 may result in values of zero, which cannot be used in the UPL calculation. While the EPA has used the UPL approach for floor determinations when setting MACT emissions limits, the proposed changes to the BOPF Shop and BF casthouse opacity standards were based on a proposed updating of the CAA section 112(d)(6) technology review. Additionally, in the case of opacity measured according to EPA Method 9, the data EPA reviewed to develop the proposed standards were the maximum 6-minute (or 3-minute as applicable) averages evaluated over the entire test period. Likewise, compliance determinations are also based on the same approach. Utilizing the maximum short-term average during each test period to determine an appropriate standard, and to determine compliance, inherently accounts for some variation in the data used to set the standard.

However, with regard to the comments on variability, we acknowledge that there are many opacity readings that occurred over the past 2 to 6 years at the Integrated Iron and Steel (II&S) manufacturing facilities that show that there is a substantial amount of variability in opacity measurements across time and across furnaces. For example, many opacity tests for BOPF and BF furnace cycles that were completed over these 2–6 years reported maximum 3-minute and 6-minute opacity readings below 5 percent for a substantial amount of the cycles. In fact, for many furnace cycles the maximum opacity was 0 percent. On the other hand, the data show that during some BOPF or BF cycles, opacity is above 5 percent and sometimes well above 20 percent. The EPA has additionally continued to receive opacity data and analyses since the close of the public comment period on this rulemaking.

The EPA was not able to adequately analyze all the available data before the deadline for this final rule ordered by the court in *California Communities Against Toxics.* Also, for most of the opacity tests that had maximum opacity readings above 5 and 10 percent, the EPA does not have any information that explains why the opacity readings were higher than 5 percent on those particular days. In most cases, the EPA is unable to determine the cause of the higher values based on the data and information currently available. Until further revision, the opacity limits in the NESHAP for existing BOPF Shops and existing BF casthouses will remain at 20 percent based on 3-minute averages for the BOPF Shop and 6-minute averages for the BF casthouse.

The opacity data and further explanation of the opacity data and related information can be found in the technical memo titled: *Unmeasured Fugitive and Intermittent Particulate Emissions and Cost Impacts for Integrated Iron and Steel Facilities under 40 CFR part 63, subpart FFFFF,* which is in docket for this final rule.

b. BOPF Shop

Comment: Some commenters conducted their own assessment of what measures would be needed to comply with the proposed opacity limit and work practice standards, which is of course facility-specific, because every BOPF shop is unique. Based on their assessments, these commenters asserted that each BOPF shop—after applying all ''required'' work practice standards and even other work practices that the EPA suggested—would likely need to install full-shop controls to meet a 5 percent opacity limit at all times. The commenters represented that the cost to apply this type of control would be high and would involve the addition of at least one large fabric filter device to properly capture fugitive emissions and allow for proper ventilation for the building. The commenters asked EPA to take into account the significant changes BOPF shops would have to make to meet a 5 percent opacity standard that even the best performers cannot currently achieve on a regular basis. They suggested that because of the exorbitantly and unreasonably expensive measures that would need to be undertaken by this industry sector, and the significant possibility that even facilities installing such measures would not be able to consistently meet the 5 percent opacity standard, the EPA should not move forward with the proposed opacity limit, at least until the Agency undertakes a robust engineering analysis to determine the technical and economic feasibility of controls that would be needed for BOPF shops to meet this lower standard.

Response: After considering public comments, the EPA now recognizes some operations may need to make more significant changes than we anticipated at proposal to meet the 5 percent opacity standard at all times. We acknowledge that there are many opacity readings that occurred over the past 2 to 6 years that indicate that there is a substantial amount of variability across time and across furnaces. For example, many opacity tests for BOPF cycles (*i.e.,* steel cycles) that were completed over these 2–6 years reported maximum 3-minute opacity readings below 5 percent for a substantial amount of the cycles. On the other hand, the data show that during some BOPF cycles, opacity is above 5 percent and sometimes above 20 percent.

The EPA was not able to adequately analyze all the available data before the court-ordered deadline for this final rule. Also, for those tests that had maximum opacity readings above 10 or 20 percent, in most cases, the EPA does not have any information that explains why the opacity readings were high on those particular days. In most cases, the EPA is unable to determine the cause of the higher values based on the data and information we have. Therefore, the EPA is not finalizing any changes to the opacity limits for the BOPF Shop in this final action. Instead, the EPA intends to continue reviewing and analyzing the opacity data from both the BF casthouse and the BOPF shop that we have and also collect additional data in the near future so that the EPA can gain a better understanding of the achievability of various opacity levels and the reasons why opacity levels are sometimes elevated. After EPA completes this additional data gathering and analyses, the EPA intends to consider potential revisions to the opacity limits in a separate future action. Until further revision, the opacity limit in the NESHAP for BOPF Shops will remain at 20 percent based on 3-minute averages, and the opacity limit in the NESHAP for BF casthouses will remain at 20 percent based on 6-minute averages, consistent with the current regulation.

The EPA is still finalizing opacity testing requirements for BF casthouse and BOPF shop fugitives as well as the proposed work practice standards for BOPF shop fugitives which are expected to reduce HAP emissions by 25 tpy. This accounts for 39% of the estimated emission reductions from UFIP sources with this promulgation.

Comment: One commenter stated that the EPA's reliance on the limited 2022 CAA section 114 testing results to determine that a 5 percent opacity standard would be achievable by BOPF shops for relatively modest capital and annual operating costs was inappropriate and has led the EPA to propose a standard that is technically and economically infeasible to meet. In an appendix to their comments, the commenters put forward alternative emission factors and cost estimates that, in their view, indicate the proposed standards would cost $88 million per ton to reduce just 2.6 tpy of HAP emissions industrywide. This conclusion is very different from the EPA's own analysis of its proposed rule, which was based on an assumption that no capital expenditures would be needed, and that for less than $500,000 per year industry-wide, all 11 existing BOPF shops should be able to meet a 5 percent opacity standard and comply with the numerous proposed work practice standards. Commenters also said that BOPF shops would not be able to meet a 5 percent opacity standard based on 3-minute averages from every opening at all times without significant capital expenditures, and remain concerned that even with this level of spending, there may be times when the shops would not be able to meet that standard. Commenters stated that until the EPA can demonstrate through a robust engineering study that the proposed opacity limit would be achievable at a certain spending level and with certain technology in place that is reasonable and cost-effective, the EPA should not move forward to finalize the proposed standards.

Response: As stated in previous responses to comments in this preamble, the EPA is not finalizing any changes to the opacity limits for the BOPF Shop in this final action. See previous responses to comments in this preamble for further explanation.

Comment: Commenters stated that because the proposal establishing an absolute 5 percent limit did not take into account the range of operations or impacts resulting in variability, it is clear that some periods of operation above 5 percent opacity will occur even with proper operation. They believe that any proposal that includes an opacity standard lower than 20 percent must provide that compliance is achieved provided there are no more than a set number of excursions above the revised limit in order to capture normal fluctuation events that occur during normal operation. Specifically, the EPA should follow the form of the current ''new source'' BOPF shop MACT opacity standard: maintain the opacity (for any set of 6-minute averages) of secondary emissions that exit any opening in the BOPF shop or other building housing a BOPF or shop operation at or below 15 percent, except that 6-minute averages greater than 15 percent but no more than 20 percent may occur twice per steel production cycle. A steel production cycle is defined in 40 CFR 63.7822.

Response: As stated in previous responses to comments in this preamble, the EPA is not finalizing any changes to the opacity limits for the BOPF Shop in this final action. The opacity limit for existing BOPF Shops will remain at 20 percent based on 3-minute averages. See previous responses to comments in this preamble for further explanation.

3. What are the revised standards for the BF casthouse and BOPF shop standards and how will compliance be demonstrated?

a. BF Casthouse

As stated in previous responses to comments in this preamble, the EPA is not finalizing any changes to the opacity limits for the BF casthouse in this final action. Facilities will need to comply with the 20 percent opacity limits that are already in the NESHAP. However, the EPA is requiring more frequent Method 9 tests as explained elsewhere in this preamble. See previous responses to comments in this preamble for further explanation.

b. BOPF Shop

For the reasons discussed in the responses to comments above, we are finalizing work practice standards for the BOPF. Specifically, in this final rule, we are requiring facilities to do the following: (1) keep all openings, except roof monitors (vents) and other openings that are part of the designed ventilation of the facility, closed during tapping and material transfer events (the only openings allowed during these events are the roof vents and other openings or vents that are part of the designed ventilation of the facility) to allow for more representative opacity observations from a single opening; (2) have operators conduct regular inspections of BOPF shop structure for unintended openings and leaks; (3) optimize positioning of hot metal ladles with respect to hood face and furnace mouth; (4) monitor opacity twice per month from all openings, or from the one opening known to have the highest opacity, for a full steel cycle, which must include a tapping event; and (5) develop and operate according to an Operating Plan to minimize fugitives and detect openings and leaks.

The purpose of the Operating Plan is to address variability in unit design and operations by creating an individualized strategy for implementing work practice standards at each source. Owners and operators can develop specific work practices that make sense for each unit and that maximize emission reduction efficiency for each unit. We require that the BOPF Shop Operating Plan include:

- An explanation regarding how the facility will address and implement the four specific work practices listed above;
- A maximum hot iron pour/charge rate (pounds/second) for the first 20 seconds of hot metal charge (*i.e.,* the process of adding hot iron from the BF into the basic oxygen process furnace);
- A description of operational conditions of the furnace and secondary emission capture system that must be met prior to hot metal charge, including:
- A minimum flowrate of the secondary emission capture system during hot metal charge;
- A minimum number of times, but at least once, the furnace should be rocked between scrap charge and hot metal charge;
- A maximum furnace tilt angle during hot metal charging: and;
- An outline of procedures to attempt to reduce slopping.

The BOPF shop work practice standards and Operating Plan are expected to result in the same HAP emission reductions as the Proposed Rule at 25 tpy. This accounts for 39% of the estimated emission reductions from UFIP sources with this promulgation.

C. What are the decisions for fenceline monitoring?

1. What did we propose for fenceline monitoring?

Pursuant to CAA section 112(d)(6), we proposed adding fenceline monitoring for chromium. Fenceline monitoring refers to the placement of monitors along the perimeter of a facility to measure pollutant concentrations. Coupled with requirements for root cause analysis and corrective action upon triggering an actionable level, this work practice standard is a development in practices considered under CAA section 112(d)(6) for the purposes of managing fugitive emissions. The measurement of these pollutant concentrations and comparison to concentrations estimated from mass emissions via dispersion modeling can be used to ground-truth emission estimates from a facility's emissions inventory. If concentrations at the fenceline are greater than expected, the likely cause is that there are underreported or unknown emission sources affecting the monitors. In addition to the direct indication that emissions may be higher than inventories would suggest, fenceline monitoring provides information on the location of potential emissions sources. Further, when used with a mitigation strategy, such as root cause analysis and corrective action upon exceedance of an action level, fenceline monitoring can be effective in reducing emissions and reducing the uncertainty associated with emissions estimation and characterization. Finally, public reporting of fenceline monitoring data provides public transparency and greater visibility, leading to more focus and effort in reducing emissions.

Specifically, we proposed that facilities must install four ambient air monitors at or near the fenceline at appropriate locations around the perimeter of the facility, regardless of facility size, based on a site-specific plan approved by the EPA to collect and analyze samples for total chromium every sixth day. In addition, we proposed that facilities must implement the following work practice requirement: if an installed fenceline monitor has a 12-month rolling average delta c concentration—calculated as the annual average of the highest sample value for a given sample period minus the lowest sample value measured during that sample period—above the proposed action level of 0.1 μg/m^3 for total chromium, the facility must conduct a root cause analysis and take corrective action to prevent additional exceedances. Data would be reported electronically to the EPA's Compliance and Emissions Data Reporting Interface (CEDRI) on a quarterly basis and subsequently available to the public via the Web Factor Information Retrieval system (WebFIRE) website. Furthermore, we proposed a sunset provision whereby if the annual average delta c remain 50-percent or more below the action level (*i.e.,* 0.05 μg/m^3 or lower) for a 24-month period, then the facility can request to terminate the fenceline monitoring. Termination of the fenceline monitoring in no way impacts the requirement for facilities to meet all other obligations under this subpart including the general duty to minimize emissions of 40 CFR 63.7810(d).

Because a method has not yet been proposed or promulgated for fenceline monitoring of metals, we proposed that fenceline monitoring would begin no later than one year after the EPA's promulgation of a fenceline test method, or two years after the promulgation of the final rule, whichever is later. The EPA is working as expeditiously as possible to propose a new metals fenceline method. As part of the prior CAA section 114 information collection effort, we relied on a common ambient monitoring method [2] for the collection of the metals samples and associated analytical method [3] for multi-metals for the analysis. While these methods are robust and appropriate for ambient trends applications, EPA needs to further investigate and revise these approaches for a stationary source regulatory program to ensure improved precision and accuracy in the method, in the same manner EPA developed Method 327 [4] from TO–15 in the recent Synthetic Organic Chemical Manufacturing Industry: Organic National Emission Standards for Hazardous Air Pollutants (NESHAP)—40 CFR 63 Subparts F,G,H,I proposed rule, published on April 25, 2023 (88 FR 25080). The required determinations of whether the action level has been exceeded and any subsequent root cause investigation will begin once the first annual rolling average is acquired.

2. What comments did we receive on the monitoring requirements, and what are our responses?

Comment: Commenters stated that the proposed focus on chromium as a ''surrogate'' and the proposal to set an action level for only chromium is demonstrably inadequate. Emission standards under CAA section 112(d) must be ''comprehensive controls for each source category that must include limits on each hazardous air pollutant the category emits.'' (*LEAN,* 955 F.3d at 1095–96.) As identified in several background documents for this proposed rule, air pollutants from various facility processes include multiple toxic metals in addition to chromium including arsenic, mercury, and lead; toxic halogenated compounds including carbonyl sulfide, carbon disulfide, hydrogen chloride, hydrogen fluoride, D/F; and other toxic pollutants such as hydrocarbons and PM. The CAA requires ''as many limits as needed to control all the emitted air toxics of a

[2] Reference Method for the Determination of Suspended Particulates in the Atmosphere (High Volume Method), 40 CFR 50, Appendix B.

[3] Method IO–3, Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma (ICP) Spectroscopy.

[4] **Federal Register** Notice published on April 25, 2023 (88 FR 25080).

particular source category.'' (*Id.* at 1097.) Commenters stated that the 2023 Proposal is unlawful on its face for only requiring monitoring and action level standards for chromium.

Response: The EPA disagrees that conducting fenceline monitoring for only chromium is inadequate or unlawful. The EPA recognizes there are multiple toxic metals emitted by various facility processes from the iron and steel facilities. We reiterate that we did not intend to measure all pollutants, especially pollutants that are emitted from point sources that are directly measurable through source tests and continuous monitoring systems. These emissions sources and pollutants are subject to other standards under these MACT. We disagree that it is necessary to conduct fenceline monitoring for every HAP emitted from fugitive emission sources at integrated iron and steel facilities. Integrated iron and steel emissions can contain many different HAP and it is very difficult for any fenceline method to detect every HAP potentially emitted from integrated iron and steel facilities. The fenceline monitoring standard was proposed as part of the CAA section 112(d)(6) technology review to improve management of fugitive emissions of metal HAPs and not as a risk reduction measure. In order to meet that goal of improved management of fugitive emissions, it is not necessary to obtain an accurate picture of the level of all HAP emitted. We chose to propose fenceline measurements only for chromium because it was a risk driver in the 2020 RTR analyses and has been determined to be a good surrogate for other HAP metals, especially arsenic, which was the other HAP metal driving the risks in the 2020 RTR risk analyses. Additionally, at the fenceline, based on fenceline monitoring conducted in 2022–23 at Integrated Iron and Steel facilities in response to the section 114 request, the highest monitored lead levels were found to be 5 times lower than the current air quality health NAAQS value (last issued in 2015 to provide an ''adequate margin of safety to protect public health''). However, based on a lack of information on fugitive lead and other metal HAP emissions, the EPA does agree with this commenter that there is a need for more data gathering, both at the fenceline and from other sources on the facilities. EPA did not propose nor are we prepared to promulgate a requirement to monitor any metals other than chromium as part of the fenceline requirement, but we intend to gather more fenceline monitoring data for lead in 2024 at Integrated Iron and Steel facilities to better characterize fugitive lead emissions. Additionally, we intend to gather more data regarding HAP metals from sinter plant stacks through the use of PM continuous monitoring systems (PM CEMs). We intend to collect this data in a separate action under CAA section 114 that will follow this final rule.

Comment: Commenters stated that the EPA should require monitoring and set action level standards for all HAP metals emitted by II&S facilities. These commenters asserted that the incremental cost to monitor for all metals is insignificant and would have outsized benefits to the community by establishing multiple triggers for assessment and corrective action. As an alternative to required fenceline monitoring for all HAP metals, commenters stated the EPA should consider implementing a fenceline standard for lead because most communities surrounding II&S facilities are EJ communities exposed to lead from multiple sources. Commenters also specifically supported a fenceline monitoring requirement for arsenic.

Response: The EPA observes that it is technically feasible to require further speciation of metal HAPs collected within a single sample. Although increasing the analyte list does increase the analytical costs because additional calibration standards are required, the EPA agrees with commenters that the costs to monitor for additional metals would be relatively low. However, the incremental cost of monitoring for additional HAPs is not the only consideration in determining the scope of a fenceline monitoring requirement for this source category. The EPA must also consider the efficacy of instituting a fenceline monitoring requirement for additional HAPs, as well as practical implementation concerns. At this time, the EPA believes these factors weigh in favor of requiring fenceline monitoring for chromium while continuing to gather information on other metal HAPs.

As discussed above, the EPA previously determined in the 2020 RTR that chromium is one of the two principal drivers of health risk in this source category and is also an effective surrogate for arsenic, which is the other most significant contributor to risk. Because the principal purpose of fenceline monitoring in this source category is to assure compliance with the emission standards that address fugitive emissions of particulate HAP metals, implementing this development will provide ''necessary'' protection against fugitive emissions of metal HAPs (including those that pose greatest risks to public health). Fenceline monitoring is a development in practices, for the purpose of managing fugitive emissions. In sum, fenceline monitors will be placed at or near the perimeter of the applicable facility to measure pollutant concentrations; this measurement is coupled with the requirement to conduct applicable root cause analyses and implement corrective action upon triggering an actionable level. The utilization of fenceline monitors will serve to manage fugitive emissions with the intent to reduce emissions, as well as to reduce uncertainty associated with initial emissions estimation. The use of fenceline monitors, coupled with action levels, represents a development in work practices. Therefore, focusing fenceline monitoring requirements on chromium is appropriate as a development pursuant to CAA section 112(d)(6). Requiring fenceline monitoring for chromium alone also facilitates establishing an appropriate action level, reduces analytical costs, and simplifies the determination of compliance for integrated iron and steel owners and operators.

By contrast, including additional metal HAPs in the fenceline monitoring program would require the EPA to resolve a number of technical issues, including how an action level for additional HAPs would be set, and whether each metal HAP would have its own action level or instead a single action level for the sum of metal HAP measured. The EPA was not able to develop the information needed to address these issues within the timeframe for this rulemaking. Given that the available information indicates that HAP metals emitted from the integrated iron and steel facilities other than chromium and arsenic do not contribute to significant ambient concentrations at or near the facility boundaries (*e.g.,* fenceline) at these facilities, we have determined that at present the benefits of including other metal HAPs in the scope of the fenceline monitoring requirement are also unclear.

Although we did not propose nor are we prepared to promulgate a fenceline monitoring requirement for any metals other than chromium at this time, the EPA recognizes that further information on fugitive emissions of lead and other HAP metals would be useful in informing whether and how a fenceline monitoring requirement for additional HAP metals as part of a future rulemaking. Accordingly, we intend to gather more data to better characterize fugitive lead and other HAP metals through a separate action that will follow this final rule as described in the previous response in this preamble.

Comment: Commenters stated that the EPA should not set an action level that would be triggered if the UFIP sources were meeting all of the proposed opacity limits and work practice standards, which is the EPA's stated purpose for establishing the fenceline monitoring program. Because the EPA did not consider or analyze whether II&S facilities could maintain UFIP emissions at rates to ensure that the action level would not be triggered or how much it would cost to maintain emissions below the action level, the EPA should not entertain these lower values of 0.08 and 0.09 μg/m³. Commenters stated that for the EPA to do so would be arbitrary and capricious per se.

Response: The EPA acknowledges the support and is finalizing the action level at 0.1 μg/m³ as proposed.

Comment: Commenters stated that regardless of the numeric value selected for the action level, the EPA should express the chromium action level in μg/m³ to at least two decimal places and clarify that rounding occurs to the second decimal place (*e.g.,* 0.11 μg/m³ would not round down to 0.10 μg/m³ and would therefore exceed the action level). The EPA states that ''[b]ecause of the variability and limitations in the data, to establish the proposed action level we rounded[. . .]to one significant figure (*i.e.,* 0.1 μg/m³).'' Commenters stated that there are two issues with this statement: (1) significant figures do not completely characterize numerical precision, and (2) reporting chromium concentrations in μg/m³ to one decimal place does not reflect the precision of modern sampling and analytical techniques. Commenters stated that in response to the first point, consider two hypothetical reported chromium concentrations: 0.1 μg/m³ and 0.01 μg/m³. Both have only one significant digit, but the second concentration is reported with a greater level of precision. As for the second point, Table 1 in EPA Compendium Method IO–3.5, which was the analytical method used to determine fenceline chromium concentrations as part of the EPA's CAA section 114 ICR, lists the estimated method detection limit for chromium as 0.01 ng/m³ (0.00001 μg/m³). This low method detection limit demonstrates the sensitivity and precision of modern sampling and analytical methods. As such, chromium concentrations measured with these methods should be reported to at least two decimal places (assuming units of μg/m³).

Response: The EPA disagrees with the commenter that more than one decimal place should be used for the action level and further disagrees with their definition of precision. Measurement precision relates to the degree of variation in repeated measurements, and not what decimal place a reading is. In the example proposed, 0.1 μg/m³ and 0.01 μg/m³, these are merely two values of differing magnitude, and not two values of different precision.

The EPA also disagrees that the detection limit of EPA Compendium Method IO–3.5 has meaning in this context. The detection limit is the lowest level at which a valid measurement can be collected, beyond indicating that, in this case, the measured values are within the measurable range, it has no practical impact upon the number of significant digits appropriate.

While the analytical techniques may be able to determine the concentration out to more than one significant figure, the setting of the action level is based not just upon the measurement itself, but upon projected gains under the newly required limits on UFIP and the calculation of delta c, further complicating the determination of an appropriate action level. The EPA is finalizing the action level at one significant figure as proposed.

Comment: Commenters stated that even if the EPA can sufficiently explain why an action level was set for chromium for II&S facilities based on fenceline monitoring, the EPA should set the action level below 0.1 μg/m³ because fenceline data collected as part of EPA's CAA section 114 collection request shows that a lower action level is achievable. Because the EPA did not request that all eight II&S facilities perform fenceline monitoring pursuant to the CAA section 114 request, the EPA did not identify the top five best performing facilities. However, two of the four facilities that conducted fenceline monitoring (Cleveland Works and Burns Harbor) had 6-month chromium delta c averages below 0.08 μg/m³, and a third facility (Granite City) is projected to be at 0.09 μg/m³ after implementing provisions of the rulemaking. The EPA has failed to explain why they are requiring an action level that constitutes the lowest number (0.1 μg/m³) instead of the level that three of the four facilities that conducted fenceline monitoring are able to meet (0.10 μg/m³). Accordingly, the EPA should set the action level below 0.1 μg/m³.

Response: Consistent with refineries and all other proposed fenceline monitoring standards, we are implementing the action level as a single significant digit as discussed further in the response to the previous comment of this section.

3. What are the revised standards for the fenceline monitoring requirements and how will compliance be demonstrated?

We are finalizing what we proposed: facilities must install four ambient air monitors at or near the fenceline at appropriate locations around the perimeter of the facility based on a site-specific plan that must be submitted to and approved by the EPA, regardless of facility size. These monitors shall collect and analyze samples for total chromium every sixth day. The facilities must also implement the following work practice requirement: if an installed fenceline monitor has a 12-month rolling average delta c concentration that is above the action level of 0.1 μg/m³ for total chromium, calculated as the annual average of the delta c determined during each sample period over the year (highest sample value for a given sample period minus the lowest sample value measured during that sample period), the facility must conduct a root cause analysis and take corrective action to prevent additional exceedances.

A facility may request to terminate fenceline monitoring after 24 months of consecutive results 50 percent or more below the action level. The EPA selected the monitoring locations and sampling frequency as specified to maintain the same basis of monitoring as that used in the derivation of the action level as discussed in the preamble to the proposed rule (88 FR 49414). The use of four monitors was selected and not expanded to the same number of monitoring sites as EPA Method 325A because, unlike EPA Method 325A that uses passive samplers, the methodology used for both the CAA section 114 request and the potential candidate method for this rule requires power at each sampling location, dramatically increasing the potential cost of each monitoring site. The sampling frequency of every six days was selected to both mimic that of the CAA section 114 request as well as to ensure operations on each day of the week would be represented in the calculation of the annual average delta c. Data will be reported electronically to CEDRI on a quarterly basis and subsequently available to the public via the WebFIRE website.

In response to many comments regarding fugitive emissions of lead and other metals, we recognize the need to gather more data to characterize these fugitive emissions at the fenceline and sinter plants. We intend to take a separate action on this data collection for lead and potentially other metals action under CAA section 114.

D. Standards To Address Unregulated Point Sources for Both New and Existing Sources

1. What standards did we propose to address unregulated point sources?

In addition to the unregulated UFIP sources, we identified five unregulated HAP from sinter plant point sources (CS_2, COS, HCl, HF, and Hg); three unregulated HAP from BF stove and BOPF point sources (D/F, HCl and THC (as a surrogate for organic HAP other than D/F)); and two unregulated HAP from BF point sources (HCl and THC (as a surrogate for organic HAP other than D/F). The proposed MACT emission limits for these unregulated point sources are in Table 3.

TABLE 3—ESTIMATED HAP EMISSIONS AND PROPOSED MACT LIMITS FOR POINT SOURCES

Process	HAP	Estimated source category emissions	Proposed MACT limit
Sinter Plants	CS_2	42 tpy	Existing and new sources: 0.028 lb/ton sinter.
Sinter Plants	COS	57 tpy	Existing sources: 0.064 lb/ton sinter. New sources: 0.030 lb/ton sinter.
Sinter Plants	HCl	11 tpy	Existing sources: 0.025 lb/ton sinter. New sources: 0.0012 lb/ton sinter.
Sinter Plants	HF	1.2 tpy	Existing and new sources: 0.0011 lb/ton sinter.
Sinter Plants	Hg	66 pounds/yr	Existing sources: 3.5e–5 lb/ton sinter. New sources: 1.2e–5 lb/ton sinter.
BF casthouse control devices.	HCl	1.4 tpy	Existing sources: 0.0013 lb/ton iron. New sources: 5.9e–4 lb/ton iron.
BF casthouse control devices.	THC	270 tpy	Existing sources: 0.092 lb/ton iron. New sources: 0.035 lb/ton iron.
BOPF	D/F (TEQ [1])	3.6 grams/yr	Existing and new sources: 4.7e–8 lb/ton steel.
BOPF	HCl	200 tpy	Existing sources: 0.078 lb/ton steel. New sources: 1.9e–4 lb/ton steel.
BOPF	THC	13 tpy	Existing sources: 0.04 lb/ton steel. New sources: 0.0017 lb/ton steel.
BF Stove	D/F (TEQ)	0.076 grams/year	Existing and new sources: 3.8e–10 lb/ton iron.
BF Stove	HCl	4.5 tpy	Existing sources: 5.2e–4 lb/ton iron. New sources: 1.4e–4 lb/ton iron.
BF Stove	THC	200 tpy	Existing sources: 0.1 lb/ton iron. New sources: 0.0011 lb/ton iron.

[1] Toxic equivalency.

2. What comments did we receive on the unregulated point sources, and what are our responses?

Comment: Commenters state that they submitted additional stack tests in Appendix L that cover the EPA's proposed MACT standards for BF Stoves, BF Casthouses, and BOPF Primary Control Devices. These commenters do not represent that the additional data submitted in Appendix L alone or in combination with data underlying the EPA's proposed standards capture the full range of operating conditions for these point sources; however, they believe these additional data further indicate that the EPA's limited datasets do not sufficiently account for variability and, therefore, are not representative of best performing units in this source category. The same commenters state that the EPA's 15 proposed HAP limits for new sources rely on insufficient data and are unlikely to be technologically feasible. They are also concerned that any new sources would also not be able to meet the emission rates of the best performers given the lack of sufficient data underlying the EPA's proposed new source limits for the 15 HAPs that inherently do not capture process, operational, raw material, or seasonal and measurement variability of the EPA-designated best performing source. Achievability of the new source proposed limits is a concern because it is also unlikely that it would be technologically feasible for pollution control equipment to guarantee any degree of control of such low or dilute concentrations of D/F, PAHs, COS, CS_2, Hg, THC, HF, and HCl, which fall below the lowest target concentrations and capture limitations of such equipment. Further, the sources of raw materials and their impact on emissions variability cannot be reasonably predicted.

Response: The EPA has considered these additional data and, where deemed valid, incorporated the data into updated UPL calculations for the point sources and HAPs. The promulgated limits are based on MACT floor calculations (UPL) using the available valid data, which represents our best estimate of current average performance, accounting for variability (*i.e.,* UPL calculations), of the sources for which we have valid data (for affected sources). Additionally, based on industry comments, we: (1) used surrogate limits for some HAP; (2) changed the format of some limits; and (3) established work practices for HAP where majority of data were below detection.

Furthermore, based on the limited data we have, we estimate that all facilities will be able to meet these limits without the need for new add-on control devices (*e.g.,* we have no data indicating a source cannot currently comply with these limits). Nevertheless, we acknowledge that there are uncertainties because of the limited data. However, pursuant to section 112 of the CAA and the LEAN court decision, we must promulgate MACT emissions limits based on available data in order to fulfill our court ordered CAA section 112(d)(6) obligations.

Comment: Commenters stated that if EPA nonetheless proceeds with BF Stove limits, the form must be revised to lb/MMBtu, and that EPA erroneously used iron, rather than steel, production rates. The commenter said the agency should use contemporaneous iron production rates instead, which were provided on May 25, 2023. Notwithstanding these errors, emission limits for combustion units including BF stoves would be most appropriately expressed as lb/MMBtu, as although stove and blast furnace operations are interrelated, there are significant site specific differences in operation which make blast furnace production inappropriate to use when developing a limit for BF stoves. Lb/MMBtu would be more appropriate because the emissions per amount of heat released is more directly related to total quantity of emissions generated. Further, gas flow can be directly measured to account for varying BF stove operation. Iron production is intermittent with tapping and plugging of the furnace, so using emissions per ton could produce misleading results and should not be used.

Response: The EPA agrees that BF stove emission limits in the units of lb/MMBtu would be more appropriate than unis of lb/ton. We have recalculated UPLs for BF stove emissions in the units of lb/MMBtu and are finalizing MACT floor limits for HCl and THC emissions from BF stoves in the units of lb/MMBtu. No additional costs are expected to meet these limits.

Comment: Commentors stated that the EPA should not finalize its proposed D/F limit for BF Stoves because D/F is not present, or, if present, is only in trace amounts. The EPA estimates that the 17 BF Stoves in the source category collectively emit 0.076 grams per year of D/F. Commentors said that basing the proposed D/F limit on only two tests, with a total of only 6 data points (5 of which are BDL) is not permissible. If the EPA nevertheless pursues D/F limits for BF Stoves, the EPA should review and revise the limits to ones that are representative of the emissions limitations being achieved by the best performers. The EPA should consider work practices, such as good combustion practices, in lieu of numerical limits.

Response: Pursuant to the LEAN decision, CAA section 112(d)(2)/(3) and the court order for the EPA to complete this final rule pursuant to CAA section 112(d)(6) by March 11, 2024, the EPA must establish standards for previously unregulated HAP based on available data in this final rule. The EPA collected emissions test data through the CAA section 114 requests. For D/F from BF stoves, when we made a determination of BDL according to the procedures outlined in Determination of ''non-detect'' from EPA Method 29 (multi-metals) and EPA Method 23 (dioxin/furan) test data when evaluating the setting of MACT floors versus work practice standards (Johnson 2014) (Johnson memo) available in the docket (EPA–HQ–OAR–2002–0083–1082), two of the six runs are determined to be non-detect. Though we disagree in the number of non-detect values with the commenter, we agree that, as only 33 percent of test runs were detected values, a work practice under CAA section 112(h) is appropriate for the control of D/F from BF Stoves. The EPA generally considers a work practice to be justified if a significant majority of emissions data available indicate that emissions are so low that they cannot be reliably measured (*e.g.,* more than 55 percent of test runs are non-detect) as discussed in the Johnson Memo. An appropriate work practice for D/F for the stoves, due to their similarity in operation with boilers and other heaters, is good combustion practices, represented for this source by the THC standard being finalized in this rule. The numerical THC standard provides assurance of good combustion practices, and a further tune-up style work practice requirement is not necessary.

Comment: Commentors stated that the EPA should not finalize its proposed CS_2 and HF limits for sinter/recycling plants because the available data demonstrates these pollutants are not emitted. The EPA estimates sinter/recycling plants emit: a total 1.3 tpy of HF and 23 tpy of CS_2 for the source category. The EPA bases its CS_2 estimate on a limited data set of six test runs where the EPA flagged 83 percent (5 out of 6) of those results as below detection limit (BDL). (2023 Data Memo at app. A) BDL means that emissions are so low they are not able to be accurately read, measured, or quantified. Similarly, 13 out of 14 (93 percent) of test runs for HF from sinter/recycling plants were flagged BDL by the EPA, indicating that HF is not emitted or emitted in trace amounts, and thus EPA should not set a numerical standard for HF for sinter/recycling plants. The commentor stated if the EPA nevertheless proceeds with such numerical limits, it must revise its proposed limits upwards to help to account for known data variability and limited datasets. Commentors stated that data underlying the EPA's proposed CS_2 and HF limits includes a significant number of readings below the detection limit. The EPA explains that ''greater than 50 percent of the data runs were BDL'' for HF and CS_2 from sinter/recycling plants. (2023 MACT Costs Memo at 19–21, tbl. 24.) The proposed limits for HF and CS_2 are not representative of current performance due to the frequency of near or BDL. The EPA has noted that ''section 112(d)(2) of the CAA specifically allows EPA to establish MACT standards based on emission controls that rely on pollution prevention techniques.'' Where a majority of BDL values exist, the EPA should instead consider pollution control techniques, such as a work practice, rather than individual limits for these HAPs. Thus, the EPA should rely on the oil-content and VOC limit pollution control techniques that are already in place for these pollutants.

Response: Pursuant to the LEAN decision, CAA section 112(d)(2)/(3) and the court's Order for EPA to complete this final rule pursuant to CAA section 112(d)(6) by March 11, 2024, the EPA must establish standards for previously unregulated HAP based on available data in this final rule. The EPA reviewed the data in question and agrees with the commenter's assessment of the number of non-detect results for CS_2 and HF. Further, the single test run for which HF was detected was only slightly above the detection limit (0.09 ppmv detected value versus the detection limit of 0.08 ppmv). The EPA generally considers a work practice to be justified if a significant majority of emissions data available indicate that emissions are so low that they cannot be reliably measured (*e.g.,* more than 55 percent of test runs are non-detect) as discussed in the Johnson Memo. Due to the extremely high percentage of non-detect values, 83 and 93 percent for CS_2 and HF respectively, it is appropriate for both of these compounds at the sinter plant to be represented by a work practice standard according to CAA section 112(h). For CS_2, the work practice being finalized consists of the existing requirement to control the oil content in the sinter or the VOC emissions at the windbox exhaust (40 CFR 63.7790(d)) to control the source of the sulfur, combined with the new numerical standard for COS being finalized in this rulemaking. For HF, where 93 percent of the values were below the detection limit and the only detected value is only slightly above, the numerical standard for HCl being finalized in this rule shall act as a work practice (or surrogate) for HF, as control of HCL will also control HF.

3. What are the revised standards for the unregulated point sources and how will compliance be demonstrated?

We are finalizing the MACT Floor emission limits mostly as we proposed, but with minor adjustments for some limits based on the inclusion of additional valid data in the UPL calculations, the revision of the format of BF Stove emission limits as advised in the comments received, and the incorporation of work practices and surrogates for CS_2 and HF at sinter plants and D/F from the BF Stove. These work practices are being finalized because under CAA section 112(h), the Administrator has determined that it is not feasible to prescribe or enforce an emissions standard for these unregulated point sources. Furthermore, based on consideration of public comments and further analyses, for mercury emissions from existing sinter plants, we are promulgating a BTF limit based on installation and operation of activated carbon injection (ACI), described in section III.E of this preamble. The emission limits, along with estimated annual emissions, for the unregulated point sources for the final rule are provided in Table 4.

TABLE 4—HAP EMISSIONS AND FINAL MACT LIMITS FOR PREVIOUSLY UNREGULATED POINT SOURCES

Process	HAP	Estimated source category emissions	Promulgated MACT emissions limit (or other applicable standard as noted below)
Sinter Plants	CS_2	23 tpy	Meet applicable COS limit and meet requirements of 40 CFR 63.7790(d).
Sinter Plants	COS	72 tpy	Existing sources: 0.064 lb/ton sinter. New sources: 0.030 lb/ton sinter.
Sinter Plants	HCl	12 tpy	Existing sources: 0.025 lb/ton sinter. New sources: 0.0012 lb/ton sinter.
Sinter Plants	HF	1.3 tpy	Meet the applicable HCl standard.
Sinter Plants	Hg	55 pounds/yr	Existing sources: 1.8e–5 lb/ton sinter.[2] New sources: 1.2e–5 lb/ton sinter.
BF casthouse control devices.	HCl	1.4 tpy	Existing sources: 0.0056 lb/ton iron. New sources: 5.9e–4 lb/ton iron.
BF casthouse control devices.	THC	270 tpy	Existing sources: 0.48 lb/ton iron. New sources: 0.035 lb/ton iron.
BOPF	D/F (TEQ[1])	3.6 grams/yr	Existing and new sources: 9.2e–10 lb/ton steel.
BOPF	HCl	200 tpy	Existing sources: 0.058 lb/ton steel. New sources: 2.8e–4 lb/ton steel.
BOPF	THC	13 tpy	Existing sources: 0.04 lb/ton steel. New sources: 0.0017 lb/ton steel.
BF Stove	D/F (TEQ)	0.076 grams/year	Good combustion practices demonstrated by meeting the THC limit.
BF Stove	HCl	4.5 tpy	Existing sources: 0.0012 lb/MMBtu. New sources: 4.2e–4 lb/MMBtu.
BF Stove	THC	200 tpy	Existing sources: 0.12 lb/MMBtu. New sources: 0.0054 lb/MMBtu.

[1] Toxic equivalency.
[2] See section III.E for description of the final mercury limit.

E. Reconsideration of Standards for D/F and PAH for Sinter Plants Under CAA Section 112(d)(6) Technology Review, and Beyond-the-Floor Limit for Mercury

1. What standards did we propose to address the reconsideration of the D/F and PAH standards for sinter plants, and new mercury limits from sinter plants?

We proposed emissions limits of 3.5E–08 lbs/ton of sinter for D/F toxic equivalency (TEQ) and 5.9E–03 lbs/ton of sinter for PAHs for existing sinter plant windboxes. These limits reflect the average current performance of the four existing sinter plants for D/F and PAHs pursuant to CAA section 112(d)(6). For mercury, we proposed a MACT Floor limit of 3.5E–05 lbs/ton sinter for existing sources, as described in section III.D of this preamble.

For new sources, we proposed emissions limits of 3.1E–09 lbs/ton of sinter for D/F (TEQ), and 1.5E–03 lbs/ton of sinter for PAHs for new sinter plant windboxes that reflect the current performance of the one best performing sinter plant pursuant to CAA section 112(d)(6). Regarding mercury, we proposed a MACT floor limit of 1.2E–05 lbs/ton sinter for new sinter plants.

2. What comments did we receive on the reconsideration of the D/F and PAH standards for sinter plants, and mercury emissions, and what are our responses?

Comment: Commenters stated that the Agency's review of ACI during the 2020 RTR found that the ACI add-on control technology for sinter/recycling plant windboxes would not be cost-effective. They said the Agency's BTF analysis and evaluation of ACI as a potential control option for sinter/recycling plants are flawed. Commenters said that they are unaware of any application of ACI with a wet scrubber for particulate control being sufficiently demonstrated in practice as a control technology for D/F. Commenters also assert that the assumed brominated powdered activated carbon (PAC) injection rate of 1.7 lb/MMacf based on 2012 test data from the Gerdau Sayreville, NJ electric arc furnace baghouse is unproven in the II&S industry and that the Agency may be underestimating the required injection rates.

Response: Based on our review of the available information and analyses, we estimate the brominated powdered activated carbon (PAC) can achieve 85 percent reduction of D/F when used with fabric filters. Regarding wet scrubbers, based on a scientific article by H.Ruegg and A. Sigg (See ''Dioxin Removal In a Wet Scrubber and Dry Particulate Removal'', Chemosphere, Vol. 25, No. 1–2, p. 143–148), we estimate ACI used with a wet scrubber will achieve 70 percent reduction. Given that PAHs and dioxins are both semi-volatile organic compounds, we assume the ACI with a wet scrubber will also achieve 70 percent reduction of PAHs from sinter plants with a wet scrubber. We note that only one of the 4 sinter plants is controlled with a wet venturi scrubber. The other three have baghouses.

Comment: Commenters stated the EPA's MACT limits for existing sinter plants should be lower, arguing that the EPA's establishment of separate MACT floors for COS, HCl, and mercury for new plants at less than half of the limit for existing sources indicates how outdated the 50 plus year-old existing sinter plants are. Commenters argued that the fact that only two integrated steel mills continue to operate sinter plants, down from nine facilities twenty years ago, further suggests that American sinter technology is outdated. In commenters' view, the EPA should not give these outdated sinter plants a ''pass'' on reducing their significant emissions of hazardous air pollutants.

Commenters further stated that the EPA should reconsider rejecting ACI as too expensive, arguing that steel mills can clearly afford this control measure based on recent profit margins. The EPA should more carefully consider an evaluation of the human health costs associated with the HAP emissions and factor that into the Agency's cost estimate. Alternatively, the commenters urged EPA to consider advanced or additional pollution controls on sinter windboxes, the most significant source of emissions from sinter plants. The proposed NESHAP does not appear to have considered the use of wet electrostatic precipitators, redundant baghouses, or other types of controls.

Response: To address the comments that sinter plants need more controls to reduce emissions of hazardous pollutants, specifically the addition of ACI controls, we are finalizing emissions limits pursuant to CAA section 112(d)(6) for D/F and PAHs, and CAA section 112(d)(2)/(3) BTF limits for mercury that reflect the installation and operation of ACI controls. We conclude that the estimated costs for these ACI controls (described below) are reasonable given that these controls will achieve significant reductions of these three HAPs, which are persistent, bioaccumulative and toxic (PBT) HAPs. For example, D/F are highly toxic carcinogens that bioaccumulate in various food sources such as beef and dairy products. Mercury, once it is converted to methylmercury in aquatic ecosystems, is also known to bioaccumulate in some food sources, especially fish and marine mammals which are consumed by people, especially people who rely on subsistence fishing as an important food source. Methylmercury is a potent developmental neurotoxin, especially for developing fetuses. The PAHs are a subset of the polycyclic organic matter (POM), which are a group of HAP that EPA considers to be PB–HAP, and includes some known or probable carcinogens such as benzo-a-pyrene.

3. What are the revised standards for the D/F, PAH and mercury for sinter plants, and how will compliance be demonstrated?

Based on the comments received, we are finalizing emissions limits that reflect the installation and operation of ACI controls, which are emissions limits of 1.1E–08 lbs/ton of sinter for D/F (TEQ), 1.8E–03 lbs/ton of sinter for PAHs, and 1.8E–05 lbs/ton for mercury for existing sinter plant windboxes. Regarding new sources, we are promulgating limits of 1.1E–08 lbs/ton of sinter for D/F (TEQ), 1.5E–03 lbs/ton of sinter for PAHs, and 1.2E–05 lbs/ton for mercury for new sinter plant windboxes. The application of this ACI will achieve significant reductions of mercury, D/F and PAH emissions, important reductions given that all three HAP are highly toxic, persistent, bioaccumulative HAP (PB–HAP), as described above. We estimate these limits for the three separate HAP will result in total combined capital costs of $950K, annualized costs of $2.3M, will achieve 8 grams per year reductions of D/F TEQ emissions, 5.4 tpy reduction in PAHs, and 47 pounds of mercury. The estimated cost effectiveness (CE) for each HAP individually are: CE of $287K per gram D/F TEQ, $426K per ton of PAHs, and $49,000 per pound for mercury.

If the EPA evaluated these emissions limits individually (*i.e.,* without consideration of the co-control of D/F, PAHs and mercury), the EPA might have reached a different conclusion (*e.g.,* maybe not promulgated one or more of the individual final limits due to costs and cost effectiveness). For example, historically, EPA has accepted cost effectiveness for mercury up to about $32,000 per pound. Regarding the D/F and PAHs, we have not identified cost effectiveness values that have been accepted in the past as part of revising standards under EPA's technology reviews pursuant to CAA section 112(d)(6).

However, given that ACI is expected to be needed to achieve the limits for all three HAP (D/F, PAHs and mercury), as described previously in this section, we determined, similar to how we group non-Hg HAP metals when evaluating cost effectiveness, that it is appropriate to consider these three HAP as a group because they would be controlled by the same technology. We note that the Hg cost-effectiveness value is within a factor of 2 of values that we have accepted, and that these three HAP are persistent and bioaccumulative in the environment. Given that ACI is required to achieve the limits for all three PB–HAP (D/F, PAHs and mercury), as described previously in this section, we decided it was appropriate to establish these limits for these three HAP that reflect application of ACI. Because these three pollutants are PB–HAP, as described in more detail in response above, we conclude the estimated costs are reasonable, especially given that these annual costs are far less than 1 percent of revenues for the parent companies, which is discussed further in the economic impacts section of this preamble (see section IV.D).

F. Other Major Comments and Issues

Comment: Commenters stated the EPA's 2023 Proposal for II&S facilities poses many challenges to the domestic iron and steel manufacturing industries. They stated when taken in conjunction with other onerous EPA regulations, including the proposed revisions to the NAAQS for PM, the 2023 Taconite Risk and Technology Review proposal and the 2023 Coke Ovens and Pushing, Quenching, and Battery Stacks Risk and Technology Review proposal, the domestic II&S manufacturers will incur significant cost and will struggle to meet these additional, infeasible standards. They stated it is critical that the EPA understand this 2023 Proposal significantly jeopardizes the potential successes of the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA), and, as a result, undercut the decarbonization priorities of the administration.

Commenters acknowledged the iron and steel industry faces significant impacts from the 2023 Proposal along with other EPA proposed rules including the Taconite MACT, the Coke MACT, the Good Neighbor Rule, and the $PM_{2.5}$ NAAQS. They stated their customers, coworkers, suppliers and themselves are concerned for the future of iron and steelmaking, an essential industry, in the U.S.

Commenters stated the regulations moving through the EPA at the current time are going to materially impact the Iron Range of Minnesota and the entire domestic steel industry. Commenters urged the EPA to be prudent and use caution before placing a single new regulation on these industries. Commenters asked the EPA to show favor in the Agency's decision making to the domestic iron and steel industry.

Response: As explained in the Regulatory Impact Analysis (RIA) and in section IV.D of this preamble, the projected economic impacts of the expected compliance costs of the rule are likely to be small. This rulemaking is estimated to cost less than 1% of the annual revenues of the parent companies. This rule should not be financially detrimental to the source category. See sections IV.C and IV.D of this preamble, and the RIA, for more details.

Comment: Commenters state that in 2020, the EPA conservatively determined that II&S source category risk was well below the acceptable levels established by the Congress and that existing standards are protective of public health with an ample margin of safety, and the proposal does not reopen or even question the EPA's conservative 2020 determination. As the proposal (briefly) recites, ''[i]n the 2020 final rule, the Agency found that risks due to emissions of air toxics from this source category were acceptable and concluded that the NESHAP provided an ample margin of safety to protect public health.'' (2023 Proposal) The EPA's decision not to revisit that conclusion confirms that the EPA supports the 2020 ample margin of safety determination and sees no reason for amendment. In fact, detailed corrected emission and modeling data show that the remaining risks are significantly smaller than even the low levels the EPA estimated in 2020.

Response: The EPA is revising the 2020 final rule to satisfy the *LEAN* decision, which requires the EPA to address any remaining unregulated sources of emissions from the iron and steel facilities. In meeting the requirements of this case law, the EPA collected more data to revisit the standards in the 2020 final rule under a technology review. Therefore, our revised standards are not based on assessment of risk, but instead based on evaluation of additional data. All the standards and other requirements in this final rule are being promulgated pursuant to CAA section 112(d)(2) and (3) or 112(d)(6). The EPA is not promulgating any new or revised standards under CAA section 112(f)(2) or revising its prior risk assessment results and conclusions, but instead are finalizing these standards and other requirements based on evaluation of additional data and applicable 112(d) requirements that direct HAP emission reductions.

Comment: Commenters stated that the EPA's emissions estimates for UFIP sources are flawed and must be corrected. The EPA has attempted to estimate current HAP emission rates for all seven categories of UFIPs, and to estimate emission reductions that it projects would occur if the proposed opacity and work practice standards are achieved. The commenter claims that EPA's emissions estimates are based, in part, on the use of incorrect emission factors, which cause a significant overstatement of emissions from UFIPs, and therefore significantly overestimates risk from UFIPs. These errors result in significant cascading and compounding effects that reveal that the current proposal will be prohibitively expensive and cannot be justified, particularly given the low-risk determination that the EPA has already made.

Response: The EPA disagrees that the UFIP emission factors led to a significant overestimation of emissions from UFIP sources. The emission factors for UFIP sources were developed from the literature, first principles, discussions with the II&S industry, or a combination of all three. The emission factors used for most UFIP sources are described in the memorandum titled *Development of Emissions Estimates for Fugitive or Intermittent HAP Emission Sources for an Example Integrated Iron and Steel Manufacturing Industry Facility for Input to the RTR Risk Assessment* (Docket ID Item No. EPA–HQ–OAR–2002–0083–0956). The emission factor used for bell leaks was lower than the emission factor used in 2019 after incorporating previous feedback from industry that the 2019 emission factor for bell leaks was an overestimation. The emission factor used for bell leaks is described in the memorandum titled *Unmeasured Fugitive and Intermittent Particulate Emissions and Cost Impacts for Integrated Iron and Steel Facilities under 40 CFR part 63, subpart FFFFF* (Docket ID Item No. EPA–HQ–OAR–2002–0083–1447), this document is also referred to as the ''UFIP memorandum'' elsewhere in this preamble.

The PM emission factors for UFIP and capture and control efficiencies for control devices were taken primarily from a relatively recent (2006) EPA document. However, this document used as its primary source of data the 1995 update of the EPA's AP–42 section for the II&S manufacturing industry (section 12.5), which relied upon even older (1970) data in some cases. However, because the 2006 EPA document was developed by the EPA after the II&S manufacturing industry MACT was promulgated and was based on an expert evaluation of the available emission information, it is considered the most reliable source of information about PM emissions for the II&S manufacturing industry available to the EPA and, hence, the most reliable information to be used for UFIP sources.

Other data that were used to estimate UFIP emissions not available in the 2006 EPA document were taken from reliable sources in the literature. In some cases, for the purposes of the II&S manufacturing industry RTR, an emission factor from AP–42 for one II&S manufacturing industry source was used for another II&S manufacturing industry source based on good engineering judgment. For example, if EPA staff determined that the two sources were similar (*e.g.,* used similar processes, equipment, input materials, control devices, etc.), then staff used such a source to estimate emissions from another similar source. If not, staff searched for other relevant information to estimate emissions. Whenever possible, the original source of data referenced by the documents was obtained and reviewed; these references are cited in the ''Example Facility memorandum'' along with the 1995 EPA AP–42 document. Also, where available, AP–42 emission factor quality ratings were provided. In some cases, none of the available literature provided emission factors considered appropriate for today's industry. In these cases, the EPA developed emission factors from basic scientific principles, industry data and feedback, emission factors for similar sources, and the EPA's knowledge of the process. Further explanation and discussion of how emissions were estimated are available in the *Development of Emissions Estimates for Fugitive or Intermittent HAP Emission Sources for an Example Integrated Iron and Steel Manufacturing Industry Facility for Input to the RTR Risk Assessment* (Example facility memorandum) and/or the UFIP memorandum cited previously in this preamble, which are available in the docket for this action.

Comment: Commenters stated the EPA must consider additional data in setting limits. Although the EPA collected data in 2022 from the eight impacted facilities, the commenters urged the EPA to compile and consider additional data before finalizing these 2023 amendments. The limited data collection did not reflect the full range of variability due to seasonal effects and variable operating scenarios. While much of the industry meets the proposed limits at times, the variability may require investment in controls that are currently excluded from the cost estimates in the rules. The EPA must consider additional data and revise the proposed limits to adjust them upwards, as appropriate to account for variability, or eliminate the proposed limit where test results were below detectable levels.

Response: The EPA has made use of all valid test data, both received through the section 114 request in 2022 and submitted during the comment period to establish the emissions limits for sinter plants, BF stoves, BF Primary control devices and BOPF primary control devices. These ''point source'' emissions limits were derived using the UPL methodology using all the valid data. Regarding opacity limits for planned openings and slag processing, we used all valid data for 2022 that we received though the section 114 request in electronic format and that were gathered following the methods, instruction and conditions described in the section 114 request and because these data reflected the most current year. The fenceline monitoring requirements are based on evaluation all the available fenceline monitoring data that EPA received from 16 monitoring sites. EPA considered the variability across all 16 sites to determine the appropriate action level, which is described in detail in the proposed rule preamble published on July 31, 2023 (88 FR 49402). Regarding the work practice standards for Bell Leaks, beaching and unplanned openings, those standards wer developed using data collected through the section 114 requests along with additional data and information collected through public comments. For more details, see the technical memos cited in responses above.

Comment: Commenters stated that the EPA should expand the proposed standards to include best work practices that reduce toxic emissions from steel mills at a minimum by 65% as was shown possible in 2019. Commenters stated that the EPA should ensure air monitoring and testing includes ALL 12 toxic emissions, not simply chromium, as currently proposed.

Response: The change from the 65 percent emission reduction estimated in 2019 to the emission reductions calculated for this rule is primarily due to calculation improvements based on newly received data rather than changes to the set of work practices published. The EPA is finalizing many of the same UFIP work practices that were published for comment in 2019. However, through the 2022 section 114 collection the EPA received information about work practices that are currently being utilized by facilities. The data showed that a subset of the facilities are already utilizing some of the UFIP work practices that are being finalized, which was not taken into account in the baseline emissions estimate conducted in 2019. In the emissions estimate conducted for this rulemaking, baseline emissions were adjusted based on facility-specific information on work practices that are already in use, resulting in lower baseline emissions. If a facility is already using a work practice that is being finalized in this rulemaking, the percent reduction of emissions estimated for that work practice was also removed from the total estimated emission reduction for that facility. The estimated baseline emissions and emission reductions are described in the memorandum titled *Unmeasured Fugitive and Intermittent Particulate Emissions and Cost Impacts for Integrated Iron and Steel Facilities under 40 CFR part 63, subpart FFFFF* (Docket ID Item No. EPA–HQ–OAR–2002–0083–1447).

G. Severability of Standards

This final rule includes MACT standards promulgated under CAA section 112(d)(2)–(3), as well as targeted updates to existing standards and work practices promulgated under section 112(d)(6). We intend each separate portion of this rule to operate independently of and to be severable from the rest of the rule.

First, each set of standards rests on stand-alone scientific determinations that do not rely on judgments made in other portions of the rule. For example, our judgments regarding the 112(d)(2)–(3) MACT Standard for *planned* bleeder valve openings rest on the best performing units' historical data, based on opacity values; in contrast, our judgments regarding 112(d)(6) work practice standards for the basic oxygen process furnace rest on different analyses, including updates to industry standards in practices. Thus, our assessment that the 112(d)(2)–(3) MACT standards are feasible and appropriate is fully independent of our judgments about the 112(d)(6) technology-review-update standards, and vice versa.

Further, EPA also finds that the implementation of each set of CAA 112(d)(2)–(3) MACT standards and each set of 112(d)(6) technology updates, including monitoring requirements, is independent. For example, there is nothing precluding a source from complying with its unplanned bleeder-valve-opening MACT limit, even if that source does not have any data from its fenceline monitors (which measure chromium), and vice versa. Thus, each aspect of EPA's overall approach to this source category could be implemented even in the absence of any one or more of the other elements included in this final rule.

Accordingly, EPA finds that each set of standards in this final rule is severable from and can operate independently of each other set of standards, and at a minimum, that the MACT emissions standards, as a group, are severable from the 112(d)(6) technology update standards (which include the fenceline monitoring requirement).

H. What are the effective and compliance dates?

All affected facilities must continue to comply with the previous provisions of 40 CFR part 63, subpart FFFFF until the applicable compliance date of this final rule. This final action meets the definition in 5 U.S.C. 804(2), so the effective date of the final rule will be 60 days after the promulgation date as specified in the Congressional Review Act. *See* 5 U.S.C. 801(a)(3)(A). The compliance dates are in Table 5. As shown in Table 5, EPA revised compliance dates for some of the final rule requirements. For explanation of revised compliance dates, see section 6 of the RTC.

TABLE 5—SUMMARY OF COMPLIANCE DATES FOR THE FINAL RULE

Source(s)	Rule requirement	Proposed compliance date	Final compliance date
All affected sinter plant windbox sources that commence construction or reconstruction on or before July 31, 2023.	New emissions limits for mercury, HCl, COS, D/F, and PAH.	6 months after the promulgation of the final rule.	3 years after the promulgation date of the final rule.
All affected sources that commence construction or reconstruction on or before July 31, 2023.	Fenceline monitoring requirements	Begin 1 year after the promulgation of the fenceline method for metals or 2 years after the promulgation date of the final rule, whichever is later.	Begin 1 year after the promulgation of the fenceline method for metals or 2 years after the promulgation date of the final rule, whichever is later.
All affected sources that commence construction or reconstruction on or before July 31, 2023.	Opacity limits for Planned Openings, Work Practices for Bell Leaks, and work practices for BOPF Shop.	12 months after the promulgation date of the final rule.	12 months after the promulgation date of the final rule.
All affected sources that commence construction or reconstruction on or before July 31, 2023.	Work Practices and Limits for Unplanned Openings, Work Practices for Beaching, and Opacity limit for Slag Processing.	12 months after the promulgation date of the final rule.	24 months after the promulgation date of the final rule.
All affected BF and BOPF sources that commence construction or reconstruction on or before July 31, 2023.	New emissions limits for HCl, THC, and D/F (see Table 4).	6 months after the promulgation date of the final rule.	3 years after the promulgation date of the final rule.
All affected sources that commence construction or reconstruction after July 31, 2023.	All new and revised provisions	Effective date of the final rule (or upon startup, whichever is later).	Effective date of the final rule (or upon startup, whichever is later).

IV. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

The affected sources are facilities in the Integrated Iron and Steel Manufacturing Facilities source category. This includes any facility engaged in producing steel from iron ore. Integrated iron and steel manufacturing includes the following processes: sinter production, iron production, iron preparation (hot metal desulfurization), and steel production. The iron production process includes the production of iron in BFs by the reduction of iron-bearing materials with a hot gas. The steel production process includes the BOPF. Based on the data we have, there are eight operating integrated iron and steel manufacturing facilities subject to this NESHAP, and one idle facility.

B. What are the air quality impacts?

We project emissions reductions of about 64 tpy of HAP metals and about 473 tpy of $PM_{2.5}$ from UFIP sources in the Integrated Iron and Steel Manufacturing Facilities source category due to the new and revised standards for UFIP sources.

C. What are the cost impacts?

The estimated capital costs are the same as the proposed estimate at $5.4M and annualized costs are $2.8M per year for the source category for the new UFIP control requirements. Also, compliance testing for all the new standards is estimated to cost the same as the proposed estimate at about $1.7M once every 5 years for the source category (which equates to about an average of roughly $320,000 per year). The estimated cost breakdown for the fenceline monitoring requirement is the same as proposed at $25,000 capital cost and $41,100 annual operating costs per monitor, $100,000 capital costs and $164,000 annual operating costs per facility, and $800,000 capital costs and $1.3M annual operating costs for the source category (assumes 8 operating facilities). Additional monitoring, recordkeeping, and reporting requirements associated with the final rule are expected to cost the same as the proposed estimate at $7,500 per facility per year ($60,000 for the source category per year, assuming eight facilities). The cost estimates were primarily revised in response to modifications of the rule requirements, with some BTF components being substituted for MACT floor options, as well as in response to contractor revisions. Additional adjustments were made to recategorize some annual costs that were initially miscategorized as capital costs. Based on the comments received, emission limits for sinter plants were revised to reflect the installation of ACI controls. ACI controls on the sinter plants are expected to cost $950,000 in total capital cost and $2.3 million in total annual cost. The total estimated capital costs are $7.1 million and total estimated annualized costs are $6.7 million for all the requirements for the source category. However, annual costs could decrease after facilities complete 2 years of fenceline monitoring because we have included a sunset provision whereby if facilities remain below the one half of the action level for 2 full years, they can request to terminate the fenceline monitoring. Termination of the fenceline monitoring in no way impacts the requirement for facilities to meet all other obligations under this subpart including the general duty to minimize emissions of 40 CFR 63.7810(d). There may be some energy savings from reducing leaks of BF gas from bells, which is one of the work practices described in this preamble, however those potential savings have not been quantified.

D. What are the economic impacts?

The EPA conducted an economic impact analysis for the final rule in the Regulatory Impact Analysis (RIA), which is available in the docket for this action. If the compliance costs, which are key inputs to an economic impact analysis, are small relative to the receipts of the affected industries, then the impact analysis may consist of a calculation of annual (or annualized) costs as a percent of sales for affected parent companies. This type of analysis is often applied when a partial equilibrium, or more complex economic impact analysis approach, is deemed unnecessary, given the expected size of the impacts. The annualized cost per sales for a company represents the maximum price increase in the affected product or service needed for the company to completely recover the annualized costs imposed by the regulation. We conducted a cost-to-sales analysis to estimate the economic impacts of this final action, given that the EAV of the compliance costs over the period 2026–2035 are $5.1 million using a 7 percent or $5.3 million using a 3 percent discount rate in 2022 dollars, which is small relative to the revenues of the steel industry.

There are two parent companies directly affected by the rule: Cleveland-Cliffs, Inc. and U.S. Steel. Each reported greater than $20 billion in revenue in 2021. The EPA estimated the annualized compliance cost each firm is expected to incur and determined the estimated cost-to-sales ratio for each firm is less than 0.02 percent. Therefore, the projected economic impacts of the expected compliance costs of the rule are likely to be small. The EPA also conducted a small business screening to determine the possible impacts of the rule on small businesses. Based on the Small Business Administration size standards and Cleveland-Cliffs, Inc. and U.S. Steel employment information, this source category has no small businesses.

E. What are the benefits?

The UFIP emissions work practices to reduce HAP emissions (with concurrent control of $PM_{2.5}$) are anticipated to improve air quality and the health of persons living in surrounding communities. The opacity limits and UFIP work practices are expected to reduce about 64 tpy of HAP metal emissions, including emissions of manganese, lead, arsenic, and chromium. Due to methodology and data limitations, we did not attempt to monetize the health benefits of reductions in HAP in this analysis. Instead, we are providing a qualitative discussion of the health effects associated with HAP emitted from sources subject to control under the rule in section 4.2 of the RIA, available in the docket for this action. The EPA remains committed to improving methods for estimating HAP-reduction benefits by continuing to explore additional aspects of HAP-related risk from the integrated iron and steel manufacturing sector, including the distribution of that risk.

The opacity limits and UFIP work practices are also estimated to reduce $PM_{2.5}$ emissions by about 473 tpy for the source category. The EPA estimated monetized benefits related to avoided premature mortality and morbidity associated with reduced exposure to $PM_{2.5}$ for 2026–2035. The present-value (PV) of the short-term benefits for the rule are estimated to be $1.8 billion at a 3 percent discount rate and $1.2 billion at a 7 percent discount rate with an equivalent annualized value (EAV) of $200 million and $170 million, respectively. The EAV represents a flow of constant annual values that would yield a sum equivalent to the PV. The PV of the long-term benefits for the rule range are estimated to be $3.7 billion at a 3 percent discount rate and $2.6 billion at a 7 percent discount rate with an EAV of $420 million and $340 million, respectively. All estimates are reported in 2022 dollars. For the full set of underlying calculations see the *Integrated Iron and Steel Benefits workbook,* available in the docket for this action.

F. What analysis of environmental justice did we conduct?

To examine the potential for any EJ issues that might be associated with Integrated Iron and Steel Manufacturing Facilities sources, we performed a proximity demographic assessment, which is an assessment of individual demographic groups of the populations living within 5 kilometers (km) and 50 km of the facilities. The EPA then compared the data from this assessment to the national average for each of the demographic groups. This assessment did not inform and was not used to develop the amended standards established in the final action. The amended standards were established based on the technical and scientific determinations described herein.

The EPA defines EJ as "the just treatment and meaningful involvement of all people regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment so that people: (i) are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and (ii) have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices.'' [5] In recognizing that communities with EJ concerns often bear an unequal burden of environmental harms and risks, the EPA continues to consider ways of protecting them from adverse public health and environmental effects of air pollution.

For purposes of analyzing regulatory impacts, the EPA relies upon its June 2016 ''Technical Guidance for Assessing Environmental Justice in Regulatory Analysis,'' which provides recommendations that encourage analysts to conduct the highest quality analysis feasible, recognizing that data limitations, time, resource constraints, and analytical challenges will vary by media and circumstance. The Technical Guidance states that a regulatory action may involve potential EJ concerns if it could: (1) create new disproportionate impacts on communities with EJ concerns; (2) exacerbate existing disproportionate impacts on communities with EJ concerns; or (3) present opportunities to address existing disproportionate impacts on communities with EJ concerns through this action under development.

The EPA's EJ technical guidance states that ''[t]he analysis of potential EJ concerns for regulatory actions should address three questions: (A) Are there potential EJ concerns associated with environmental stressors affected by the regulatory action for population groups of concern in the baseline? (B) Are there potential EJ concerns associated with environmental stressors affected by the regulatory action for population groups of concern for the regulatory option(s) under consideration? (C) For the regulatory option(s) under consideration, are potential EJ concerns created or mitigated compared to the baseline?''[1]

The results of the proximity demographic analysis (see Table 6) indicate that, for populations within 5 km of the nine integrated iron and steel facilities, the percent of the population that is Black is more than twice the national average (27 percent versus 12 percent). In addition, the percentage of the population that is living below the poverty level (29 percent) and living below 2 times the poverty level (52 percent) is well above the national average (13 percent and 29 percent, respectively). Other demographics for the populations living within 5 km are below or near their respective national averages.

Within 50 km of the nine sources within the Integrated Iron and Steel Manufacturing Facilities category, the percent of the population that is Black is above the national average (20 percent versus 12 percent). Within 50 km the income demographics are similar to the national averages. Other demographics for the populations living within 50 km are below or near the respective national averages.

The methodology and the results of the demographic analysis are presented in the document titled *Analysis of Demographic Factors for Populations Living Near Integrated Iron and Steel Facilities,* which is available in the docket for this action.

As discussed in other subsections of the impacts of this action, in this action the EPA is adding requirements for facilities to improve UFIP emission control resulting in reductions of both metal HAP and $PM_{2.5}$. We estimate that all facilities will achieve reductions of HAP emissions as a result of this rule, including the facilities at which the percentage of the population living in close proximity who are Black and below poverty level is greater than the national average. The rule changes will have beneficial effects on air quality and public health for populations exposed to emissions from integrated iron and steel facilities.

TABLE 6—PROXIMITY DEMOGRAPHIC ASSESSMENT RESULTS FOR INTEGRATED IRON AND STEEL MANUFACTURING FACILITIES

Demographic group	Nationwide	Population within 50 km of 9 facilities	Population within 5 km of 9 facilities
Total Population	329,824,950	18,966,693	478,761
	Race and Ethnicity by Percent		
White	60	63	52
Black	12	20	27
Native American	0.6	0.1	0.2
Hispanic or Latino (includes white and nonwhite)	19	10	16
Other and Multiracial	9	7	5
	Income by Percent		
Below Poverty Level	13	13	29
Above Poverty Level	87	87	71
Below 2x Poverty Level	29	28	52
Above 2x Poverty Level	71	72	48
	Education by Percent		
Over 25 and without a High School Diploma	12	9	18
Over 25 and with a High School Diploma	88	91	82

[5] *https://www.federalregister.gov/documents/2023/04/26/2023-08955/revitalizing-our-nations-commitment-to-environmental-justice-for-all.*

TABLE 6—PROXIMITY DEMOGRAPHIC ASSESSMENT RESULTS FOR INTEGRATED IRON AND STEEL MANUFACTURING FACILITIES—Continued

Demographic group	Nationwide	Population within 50 km of 9 facilities	Population within 5 km of 9 facilities
	Linguistically Isolated by Percent		
Linguistically Isolated	5	3	6

Notes:

- The nationwide population count and all demographic percentages are based on the Census' 2016–2020 American Community Survey five-year block group averages and include Puerto Rico. Demographic percentages based on different averages may differ. The total population counts are based on the 2020 Decennial Census block populations.
- To avoid double counting, the "Hispanic or Latino" category is treated as a distinct demographic category for these analyses. A person is identified as one of five racial/ethnic categories above: White, African American, Native American, Other and Multiracial, or Hispanic/Latino. A person who identifies as Hispanic or Latino is counted as Hispanic/Latino for this analysis, regardless of what race this person may have also identified as in the Census.

In addition to the analyses described above, the EPA completed a risk-based demographics analysis for the residual risk and technology review (RTR) proposed rule (84 FR 42704, August 16, 2019) and the 2020 RTR final rule (85 FR 42074, July 13, 2020). A description of the demographic analyses and the results are provided in those two **Federal Register** notices.

V. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders.*

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

This action is a "significant regulatory action" as defined under section 3(f)(1) of Executive Order 12866, as amended by Executive Order 14094. Accordingly, EPA, submitted this action to the Office of Management and Budget (OMB) for Executive Order 12866 review. Any changes made in response to recommendations received as part of Executive Order 12866 review have been documented in the docket.

B. Paperwork Reduction Act (PRA)

The information collection activities in this final action have been submitted for approval to OMB under the PRA. The information collection request (ICR) document that the EPA prepared has been assigned EPA ICR number 2003.10. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

Respondents/affected entities: Integrated iron and steel manufacturing facilities.

Respondent's obligation to respond: Mandatory (40 CFR part 63, subpart FFFFF).

Estimated number of respondents: 8 facilities.

Frequency of response: One time.

Total estimated burden: The annual recordkeeping and reporting burden for facilities to comply with all of the requirements in the NESHAP is estimated to be 30,400 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: The annual recordkeeping and reporting cost for all facilities to comply with all of the requirements in the NESHAP is estimated to be $3,950,000 per year, of which $3,140,000 per year is for this final rule, and $803,000 is for other costs related to continued compliance with the NESHAP including $108,000 for paperwork associated with operation and maintenance requirements.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

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

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. The Agency confirmed through responses to a CAA section 114 information request that there are only eight integrated iron and steel manufacturing facilities currently operating in the United States and that these plants are owned by two parent companies that do not meet the definition of small businesses, as defined by the U.S. Small Business Administration.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local, or Tribal governments or the private sector.

E. Executive Order 13132: Federalism

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

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

This action does not have tribal implications as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes. No tribal governments own facilities subject to the NESHAP. Thus, Executive Order 13175 does not apply to this action.

G. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This action involves technical standards. Therefore, the EPA conducted searches for the Integrated Iron and Steel Manufacturing Facilities NESHAP through the Enhanced National Standards Systems Network (NSSN) Database managed by the American National Standards Institute

(ANSI). We also conducted voluntary consensus standards (VCS) organizations and accessed and searched their databases. We conducted searches for EPA Methods 1, 2, 2F, 2G, 3, 3A, 3B, 4, 5, 5D, 9, 17, 23, 25A, 26A, 29, and 30B of 40 CFR part 60, appendix A, 320 of 40 CFR part 63 appendix, and SW–846 Method 9071B. During the EPA's VCS search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures that are similar to the EPA's referenced method, the EPA ordered a copy of the standard and reviewed it as a potential equivalent method. We reviewed all potential standards to determine the practicality of the VCS for this rule. This review requires significant method validation data that meet the requirements of EPA Method 301 for accepting alternative methods or scientific, engineering, and policy equivalence to procedures in the EPA referenced methods. The EPA may reconsider determinations of impracticality when additional information is available for particular VCS.

No applicable VCS was identified for EPA Methods 1, 2, 2F, 2G, 3, 3A, 3B, 4, 5, 5D, 9, 17, 23, 25A, 26A, 29, 30B and SW–846 Method 9071B not already incorporated by reference in this subpart. The search identified one VCS that was potentially applicable for this rule in lieu of EPA Method 29. After reviewing the available standard, the EPA determined that the VCS identified for measuring emissions of pollutants subject to emissions standards in the rule would not be practical due to lack of equivalency. The EPA incorporates by reference VCS ASTM D6348–12 (Reapproved 2020), ''Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy,'' as an acceptable alternative to EPA Method 320 of appendix A to 40 CFR part 63 with caveats requiring inclusion of selected annexes to the standard as mandatory. The ASTM D6348–12 (R2020) method is an extractive FTIR spectroscopy-based field test method and is used to quantify gas phase concentrations of multiple target compounds in emission streams from stationary sources. This field test method provides near real time analysis of extracted gas samples. In the September 22, 2008, NTTAA summary, ASTM D6348–03(2010) was determined equivalent to EPA Method 320 with caveats. ASTM D6348–12 (R2020) is a revised version of ASTM D6348–03(2010) and includes a new section on accepting the results from direct measurement of a certified spike gas cylinder, but still lacks the caveats we placed on the D6348–03(2010) version. We are finalizing that the test plan preparation and implementation in the Annexes to ASTM D 6348–12 (R2020), Annexes Al through A8 are mandatory; and in ASTM D6348–12 (R2020) Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5). We are finalizing that, in order for the test data to be acceptable for a compound, %R must be 70% > R ≤ 130%. If the %R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte (*i.e.,* the sampling and/or analytical procedure should be adjusted before a retest). The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound by using the following equation:

$$Reported\ Results = \frac{Stack\ Concentration}{\%R} = 100$$

The ASTM D6348–12 (R2020) method is available at ASTM International, 1850 M Street NW, Suite 1030, Washington, DC 20036. See *www.astm.org/*.

The EPA is also incorporating by reference Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, Version 2.0 (Final), March 2008 (EPA–454/B–08–002). The Quality Assurance Handbook for Air Pollution Measurement Systems; Volume IV: Meteorological Measurements is an EPA developed guidance manual for the installation, operation, maintenance and calibration of meteorological systems including the wind speed and direction using anemometers, temperature using thermistors, and atmospheric pressure using aneroid barometers, as well as the calculations for wind vector data for on-site meteorological measurements. This VCS may be obtained from the EPA's National Service Center for Environmental Publications (*www.epa.gov/nscep*).

Additional information for the VCS search and determination can be found in the memorandum, *Voluntary Consensus Standard Results for National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing,* which is available in the docket for this action.

ASTM D7520–16 is already approved for the location in which it appears in the amendatory text.

H. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All

The EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on communities with EJ concerns. For this action the EPA conducted an assessment of the various demographic groups living near Integrated Iron and Steel facilities (as described in section V.F of this preamble) that might potentially be impacted by emissions from Integrated Iron and Steel Facilities. For populations living within 5 km of the nine integrated iron and steel facilities, the percent of the population that is Black is more than twice the national average (27 percent versus 12 percent). Specifically, within 5 km of six of the nine facilities, the percent of the population that is Black is more than 1.5 times the national average (ranging between 1.5 times and 7 times the national average). The percentage of the population that is living below the poverty level (29 percent) and living below 2 times the poverty level (52 percent) is well above the national average (13 percent and 29 percent, respectively). Specifically, within 5 km of seven of the nine facilities, the percent of the population that is living below the poverty level is more than 1.5 times the national average (ranging from 1.5 times and 3 times the national average). Other demographics for the populations living within 5 km are below or near the respective national averages.

The EPA believes that this action is likely to reduce existing disproportionate and adverse effects on communities with EJ concerns. This action requires facilities to improve UFIP emission control resulting in reductions of about 64 tpy of metal HAP and about 473 tpy $PM_{2.5}$. We estimate that all facilities will achieve reductions of HAP emissions as a result of this rule, including the facilities at which the percentage of the population living in close proximity who are African American and below poverty level is greater than the national average.

The information supporting this Executive Order review is contained in sections IV and V of this preamble. The demographic analysis is available in a document titled *Analysis of Demographic Factors for Populations Living Near Integrated Iron and Steel Facilities,* which is available in the docket for this action.

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

Executive Order 13045 (62 FR 19885, April 23, 1997) directs federal agencies to include an evaluation of the health and safety effects of the planned regulation on children in federal health and safety standards and explain why the regulation is preferable to potentially effective and reasonably feasible alternatives. This action is not subject to Executive Order 13045 because the EPA does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children.

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

This action is not a ''significant energy action'' because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. We have concluded that this action is not likely to have any adverse energy effects because it contains no regulatory requirements that will have an adverse impact on productivity, competition, or prices in the energy sector.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit the rule report to each House of the Congress and to the Comptroller General of the United States. This action meets the criteria set forth in 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Hydrogen chloride, Hydrogen fluoride, Incorporation by reference, Mercury, Reorting and recordkeeping requirements.

Michael S. Regan,

Administrator.

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

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

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

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

Subpart A—General Provisions

■ 2. Section 63.14 is amended by revising paragraphs (i)(88) and (110) and paragraph (o) introductory text and adding paragraph (o)(3) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(i) * * *

(88) ASTM D6348–12 (Reapproved 2020), Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy, including Annexes A1 through A8, Approved December 1; 2020, IBR approved for §§ 63.365(b); *63.7825(g)* and *(h).*

* * * * *

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

* * * * *

(o) U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, DC 20460; phone: (202) 272–0167; website: *www.epa.gov/aboutepa/forms/contact-epa.*

* * * * *

(3) EPA–454/B–08–002, Quality Assurance Handbook for Air Pollution Measurement Systems; Volume IV: Meteorological Measurements, Version 2.0 (Final), Issued March 2008, IBR approved for § 63.7792(b).

* * * * *

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

■ 3. Amend § 63.7782 by revising paragraphs (c), (d), and (e) to read as follows:

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

* * * * *

(c) This subpart covers emissions from the sinter plant windbox exhaust, discharge end, and sinter cooler; the blast furnace casthouse; the blast furnace stove; and the BOPF shop including each individual BOPF and shop ancillary operations (hot metal transfer, hot metal desulfurization, slag skimming, and ladle metallurgy). This subpart also covers fugitive and intermittent particulate emissions from blast furnace unplanned bleeder valve openings, blast furnace planned bleeder valve openings, blast furnace and BOPF slag processing, handling, and storage, blast furnace bell leaks, beaching of iron from blast furnaces, blast furnace casthouse fugitives, and BOPF shop fugitives.

(d) A sinter plant, blast furnace, blast furnace stove, 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, blast furnace stove, 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 13, 2001. An affected source is reconstructed if it meets the definition of reconstruction in § 63.2.

■ 4. Amend § 63.7783 by revising paragraph (a) introductory text and adding paragraph (g) to read as follows:

§ 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, standard, and operation and maintenance requirement in this subpart that applies to you by the dates specified in paragraphs (a)(1) and (2) of this section. This paragraph does not apply to the emission limitations for BOPF group: mercury (Hg); sinter plant windbox: Hg, hydrochloric acid (HCl), carbonyl sulfide (COS); Blast Furnace casthouse: HCl, total hydrocarbon (THC); Blast Furnace stove: HCl and total hydrocarbon (THC); primary emission control system for a BOPF: 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8–TCDD) toxic equivalent (TEQ), HCl, THC; fugitive and intermittent particulate sources.

* * * * *

(g) If you have an existing affected source or a new or reconstructed affected source for which construction or reconstruction commenced on or before July 31, 2023, each sinter plant windbox, BF casthouse, BF stove, primary emission control system for a BOPF, and fugitive and intermittent particulate source at your facility must be in compliance with the applicable emission limits in table 1 of this subpart through performance testing under § 63.7825, April 3, 2025, except for the following:

(1) All affected sinter plant windbox sources that commence construction or reconstruction on or before July 31, 2023, must be in compliance with Hg, HCl, COS, TEQ, and PAH emissions limits in table 1 to this subpart through performance testing by April 3, 2027.

(2) All affected BF and BOPF sources that commence construction or reconstruction on or before July 31, 2023, must be in compliance with HCl, THC, and TEQ emissions limits in table 1 to this subpart through performance testing by April 3, 2027.

(3) All affected sources that commence construction or reconstruction on or before July 31, 2023 must be in compliance with work practices and limits for unplanned openings, work practices for beaching, and the opacity limit for slag processing in table 1 to this subpart through performance testing (or through reporting of number of unplanned openings for limits applicable to unplanned openings shown in table 1) by April 3, 2026.

(4) All affected sources that commence construction or reconstruction after July 31, 2023, must be in compliance with all new and revised provisions in table 1 to this subpart through performance testing by April 3, 2024 or upon startup, whichever is later.

■ 5. Amend § 63.7791 by revising the section heading to read as follows:

§ 63.7791 How do I comply with the requirements for the control of mercury from BOPF Groups?

* * * * *

■ 6. Add § 63.7792 to read as follows:

§ 63.7792 What fenceline monitoring requirements must I meet?

The owner or operator must conduct sampling along the facility property boundary and analyze the samples in accordance with paragraphs (a) through (g) of this section.

(a) Beginning either 1 year after promulgation of the test method for fenceline sampling of metals applicable to this subpart or April 3, 2026 whichever is later, the owner or operator must conduct sampling along the facility property boundary and analyze the samples in accordance with the method and paragraphs (a)(1) through (3) of this section.

(1) The owner or operator must monitor for total chromium.

(2) The owner or operator must use a sampling period and sampling frequency as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) *Sampling period.* A 24-hour sampling period must be used. A sampling period is defined as the period during active collection of a sample and does not include the time required to analyze the sample.

(ii) *Sampling frequency.* The frequency of sample collection must be samples at least every 6 calendar days, such that the beginning of each sampling period begins no greater than approximately 144 hours (±12 hours) from the end of the previous sample.

(iii) *Sunset provision.* When the annual rolling average Δc remains less than 0.05 μg/m^3 for 24 months in succession, a test waiver may be requested from the Administrator to remove or reduce fenceline sampling requirements. If the annual rolling average Δc exceeds 0.05μg/m^3, the determination of 24 consecutive annual average Δc months restarts.

(3) The owner or operator must determine sample locations in accordance with paragraphs (b)(3)(i) through (v) of this section.

(i) The monitoring perimeter must be located between the property boundary and the process unit(s), such that the monitoring perimeter encompasses all potential sources of the target analyte(s) specified in paragraph (a)(1) of this section.

(ii) The owner or operator must place a minimum of 4 samplers around the monitoring perimeter.

(iii) To determine sampling locations, measure the length of the monitoring perimeter.

(A) Locate the point downwind of the prevailing wind direction.

(B) Divide the monitoring perimeter equally into 4 evenly spaced sampling points, with one located in accordance with paragraph (a)(3)(iii)(A) of this section.

(4) The owner or operator must follow the procedures in of the fenceline metals test method to determine the detection limit of the target analyte(s) and requirements for quality assurance samples.

(b) The owner or operator must collect and record meteorological data according to the applicable requirements in paragraphs (b)(1) through (3) of this section.

(1) If monitoring is conducted under paragraph (b) of this section, if a near-field source correction is used as provided in paragraph (f)(2) of this section, or if an alternative test method is used that provides time-resolved measurements, the owner or operator must use an on-site meteorological station in accordance with the metals fenceline test method applicable to this subpart. Collect and record hourly average meteorological data, including temperature, barometric pressure, wind speed and wind direction and calculate daily unit vector wind direction and daily sigma theta.

(2) For cases other than those specified in paragraph (c)(1) of this section, the owner or operator must collect and record sampling period average temperature and barometric pressure using either an on-site meteorological station in accordance with the metals fenceline test method of this part or, alternatively, using data from a National Weather Service (NWS) meteorological station provided the NWS meteorological station is within 40 kilometers (25 miles) of the facility.

(3) If an on-site meteorological station is used, the owner or operator must follow the calibration and standardization procedures for meteorological measurements in EPA–454/B–08–002 (incorporated by reference, see § 63.14).

(c) Within 45 days of completion of each sampling period, the owner or operator must determine whether the results are above or below the action level as follows.

(1) The owner or operator must determine the facility impact on the concentration (Δc) for each sampling period according to either paragraph (d)(1)(i) or (ii) of this section, as applicable.

(i) Except when near-field source correction is used as provided in paragraph (d)(1)(ii) of this section, the owner or operator must determine the highest and lowest sample results individually from the sample pool and calculate the Δc as the difference in these concentrations. Co-located samples must be averaged together for the purposes of determining the concentration at a particular sampling location, and, if applicable, for determining Δc. The owner or operator must adhere to the following procedures when one or more samples for the sampling period are below the method detection limit for a particular compound:

(A) If the lowest detected value is below detection, the owner or operator must use zero as the lowest sample result when calculating Δc.

(B) If all sample results are below the method detection limit, the owner or operator must use the highest method detection limit for the sample set as the highest sample result and zero as the lowest sample result when calculating Δc.

(ii) When near-field source correction is used as provided in paragraph (g) of this section, the owner or operator must determine Δc using the calculation protocols outlined in the approved site-specific monitoring plan and in paragraph (g) of this section.

(2) The owner or operator must calculate the annual average Δc based on the average of the Δc values for the 61 most recent sampling periods. The owner or operator must update this annual average value after receiving the results of each subsequent sampling period.

(3) The action level for chromium is 0.1 μg/m³. If the annual average Δc value (rounded to 1 significant figure) is greater than the action level, the concentration is above the action level, and the owner or operator must conduct a root cause analysis and corrective action in accordance with paragraph (d) of this section.

(d) Once any action level in paragraph (c)(3) of this section has been exceeded, the owner or operator must take the following actions to bring the annual average Δc back below the action level(s).

(1) Within 5 days of updating the annual average value as required in (c)(2) and determining that any action level in paragraph (c)(3) of this section has been exceeded (*i.e.,* in no case longer than 50 days after completion of the sampling period), the owner or operator must initiate a root cause analysis to determine appropriate corrective action. A root cause analysis is an assessment conducted through a process of investigation to determine the primary underlying cause and all other contributing causes to an exceedance of the action level(s) set forth in paragraph (c)(3).

(2) The initial root cause analysis may include, but is not limited to:

(i) Visual inspection to determine the cause of the high emissions.

(ii) Operator knowledge of process changes (*e.g.,* a malfunction or release event).

(3) If the initial root cause cannot be identified using the type of techniques described in paragraph (d)(2) of this section, the owner or operator must employ more frequent sampling and analysis to determine the root cause of the exceedance.

(i) The owner or operator may first employ additional monitoring points or more frequent sampling to determine the root cause of the exceedance.

(ii) If the owner or operator has not determined the root cause of the exceedance within 30 days of determining that the action level has been exceeded, the owner or operator must employ the appropriate more time resolute sampling techniques (*e.g.,* continuous multi metals monitors) to locate the cause of the exceedance. If the root cause is not identified after 28 days, either the more time resolute monitor must be relocated or an additional more time resolute monitor must be added. Relocation or addition of extra monitors must continue after each 28-day period of nonidentification until the owner or operator can identify the root cause of the exceedance.

(4) If the underlying primary and other contributing causes of the exceedance are deemed to be under the control of the owner or operator, the owner or operator must take appropriate corrective action as expeditiously as possible to bring annual average fenceline concentrations back below the action level(s) set forth in paragraph (c)(2)(3) of this section. At a minimum, the corrective actions taken must address the underlying primary and other contributing cause(s) determined in the root cause analysis to prevent future exceedances from the same underlying cause(s).

(5) The root cause analysis must be completed and initial corrective actions taken no later than 45 days after determining there is an exceedance of an action level.

(e) An owner or operator must develop a corrective action plan if the conditions in either paragraph (e)(1) or (2) of this section are met. The corrective action plan must describe the corrective action(s) completed to date, additional measures that the owner or operator proposes to employ to expeditiously reduce annual average fenceline concentrations below the action level set forth in paragraph (c)(3) of this section, and a schedule for completion of these measures. The corrective action plan must identify actions to address the underlying primary and other contributing cause(s) determined in the root cause analysis to prevent future exceedances from the same underlying cause(s). The corrective action plan does not need to be approved by the Administrator. However, if upon review, the Administrator disagrees with the additional measures outlined in the plan, the owner or operator must revise and resubmit the plan within 7 calendar days of receiving comments from the Administrator.

(1) The owner or operator must develop a corrective action plan if, upon completion of the root cause analysis and initial corrective actions required in paragraph (d) of this section, the Δc value for the next sampling period, for which the sampling start time begins after the completion of the initial corrective actions, is greater than 0.1 μg/m³. The owner or operator must submit the corrective action plan to the Administrator within 60 days after receiving the analytical results indicating that the Δc value for the sampling period following the completion of the initial corrective action is greater than 0.1 μg/m³.

(2) The owner or operator must develop a corrective action plan if complete implementation of all corrective measures identified in the root cause analysis required by paragraph (d) of this section will require more than 45 days. The owner or operator must submit the corrective action plan to the Administrator no later than 60 days following the completion of the root cause analysis required in paragraph (d) of this section.

(f) An owner or operator may request approval from the Administrator for a site-specific monitoring plan to account for offsite upwind sources according to the requirements in paragraphs (f)(1) through (4) of this section.

(1) The owner or operator must prepare and submit a site-specific monitoring plan and receive approval of the site-specific monitoring plan prior to using the near-field source alternative calculation for determining Δc provided in paragraph (f)(2) of this section. The site-specific monitoring plan must include, at a minimum, the elements specified in paragraphs (f)(1)(i) through (v) of this section. The procedures in section 12 of Method 325A of appendix A of this part are not required, but may be used, if applicable, when determining near-field source contributions.

(i) Identification of the near-field source or sources.

(ii) Location of the additional monitoring stations that must be used to determine the uniform background concentration and the near-field source concentration contribution. Modeling may not be used in lieu of monitoring to identify uniform background concentration and near-field sources.

(iii) Identification of the fenceline monitoring locations impacted by the near-field source. If more than one near-field source is present, identify the near-field source or sources that are expected to contribute to the concentration at that monitoring location.

(iv) A description of (including sample calculations illustrating) the planned data reduction including the treatment of invalid data, data below detection limits, and data collected during calm wind periods; and calculations to determine the near-field source concentration contribution for each monitoring location.

(v) A detailed description of the measurement technique, measurement location(s), the standard operation procedure, measurement frequency, recording frequency, measurement detection limit, and data quality indicators to ensure accuracy, precision, and validity of the data.

(2) When an approved site-specific monitoring plan is used, the owner or operator must determine Δc for comparison with the action level using the requirements specified in paragraphs (f)(2)(i) through (iii) of this section.

(i) For each monitoring location, calculate Δc_i using the following equation.

Equation 1 to paragraph (f)(1)(i)

$$\Delta c_i = MFC_i - NFS_i$$

Where:

Δc_i = The fenceline concentration, corrected for background, at measurement location i, micrograms per cubic meter (μg/m^3).

MFC_i = The measured fenceline concentration at measurement location i, μg/m^3.

NFS_i = The near-field source contributing concentration at measurement location i determined using the additional measurements and calculation procedures included in the site-specific monitoring plan, μg/m^3. For monitoring locations that are not included in the site-specific monitoring plan as impacted by a near-field source, use NFS_i = 0 μg/m^3.

(ii) When one or more samples for the sampling period are below the method detection limit, adhere to the following procedures:

(A) If the concentration at the monitoring location(s) used to determine the near-field source contributing concentration is below the method detection limit, the owner or operator must use zero for the monitoring location concentration when calculating NFS_i for that monitoring period.

(B) If a fenceline monitoring location sample result is below the method detection limit, the owner or operator must use the method detection limit as the sample result.

(iii) Determine Δc for the monitoring period as the maximum value of Δc_i from all of the fenceline monitoring locations for that monitoring period.

(3) The site-specific monitoring plan must be submitted and approved as described in paragraphs (f)(3)(i) through (iv) of this section.

(i) The site-specific monitoring plan must be submitted to the Administrator for approval.

(ii) The site-specific monitoring plan must also be submitted to the following address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, U.S. EPA Mailroom (E143–01), Attention: Integrated Iron and Steel Sector Lead, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. Electronic copies in lieu of hard copies may also be submitted to *fencelineplan@epa.gov.*

(iii) The Administrator will approve or disapprove the plan in 90 days. The plan is considered approved if the Administrator either approves the plan in writing or fails to disapprove the plan in writing. The 90-day period begins when the Administrator receives the plan.

(iv) If the Administrator finds any deficiencies in the site-specific monitoring plan and disapproves the plan in writing, the owner or operator may revise and resubmit the site-specific monitoring plan following the requirements in paragraphs (f)(3)(i) and (ii) of this section. The 90-day period starts over with the resubmission of the revised monitoring plan.

(4) The approval by the Administrator of a site-specific monitoring plan will be based on the completeness, accuracy, and reasonableness of the request for a site-specific monitoring plan. Factors that the Administrator will consider in reviewing the request for a site-specific monitoring plan include, but are not limited to, those described in paragraphs (f)(4)(i) through (v) of this section.

(i) The identification of the near-field source or sources and evidence of how the sources impact the fenceline concentrations.

(ii) The monitoring location selected to determine the uniform background concentration or an indication that no uniform background concentration monitor will be used.

(iii) The location(s) selected for additional monitoring to determine the near-field source concentration contribution.

(iv) The identification of the fenceline monitoring locations impacted by the near-field source or sources.

(v) The appropriateness of the planned data reduction and calculations to determine the near-field source concentration contribution for each monitoring location, including the handling of invalid data, data below the detection limit, and data during calm periods.

(vi) If more frequent monitoring is proposed, the adequacy of the description of and rationale for the measurement technique, measurement location(s), the standard operation procedure, measurement frequency, recording frequency, measurement detection limit, and data quality indicators to ensure accuracy, precision, and validity of the data.

(g) The owner or operator must comply with the applicable recordkeeping and reporting requirements in § 63.7841 and § 63.7842.

(1) As outlined in § 63.7(f), the owner or operator may submit a request for an alternative test method. At a minimum, the request must follow the requirements outlined in paragraphs (f)(1)(i) through (vi) of this section.

(i) The alternative method may be used in lieu of all or a partial number of the sampling locations required under paragraph (a) of this section.

(ii) The alternative method must be validated according to Method 301 in appendix A of this part or contain performance-based procedures and indicators to ensure self-validation.

(iii) The method detection limit must nominally be at least three times below the action level. The alternate test method must describe the procedures used to provide field verification of the detection limit.

(iv) If the alternative test method will be used to replace some or all samplers required under paragraph (a) of this section, the spatial coverage must be equal to or better than the spatial coverage provided under paragraph (a).

(v) For alternative test methods capable of real time measurements (less than a 5-minute sampling and analysis cycle), the alternative test method may allow for elimination of data points corresponding to outside emission sources for purpose of calculation of the high point for the two week average. The alternative test method approach must have wind speed, direction, and stability class of the same time resolution and within the footprint of the instrument.

(vi) For purposes of averaging data points to determine the Δc for the individual sampling period, all results measured under the method detection limit must use the method detection limit. For purposes of averaging data points for the individual sampling period low sample result, all results measured under the method detection limit must use zero.

■ 7. Add § 63.7793 to read as follows:

§ 63.7793 What work practice standards must I meet?

(a) You must meet each work practice limit in table 1 to this subpart that applies to you.

(b) For unplanned bleeder valve openings on a new and existing blast furnace, you must meet each work practice standard listed in paragraphs (b)(1) through (3) of this section.

(1) Develop and operate according to a ''Slip Avoidance Plan'' to minimize slips and submit it to EPA for approval;

(2) Install devices to continuously measure/monitor material levels in the furnace (*i.e.,* stockline), at a minimum of three locations, with alarms to inform operators of static (*i.e.,* not moving) stockline conditions which increase the likelihood of slips; and

(3) Install and use instruments on the furnace to monitor temperature and pressure to help determine when a slip is likely to occur.

(c) For each large bell on a new and existing blast furnace, you must meet each work practice standard listed in paragraphs (c)(1) and (2) of this section.

(1) Maintain metal seats to minimize wear on seals and emissions; and

(2) Replace or repair large bell seals according to § 63.7833(j).

(d) For each small bell on a new and existing blast furnace, you must meet each work practice standard listed in paragraphs (d)(1) and (2) of this section.

(1) Maintain metal seats to minimize wear on seals; and

(2) You must repair or replace small bell seals prior to the time period or metal throughput limit that has been proven and documented to produce no opacity from the small bell.

(e) For each iron beaching operation, you must meet each work practice standard listed in paragraphs (e)(1) and (2) of this section.

(1) Minimize the drop height of molten metal to the ground, the slope or grade of the area where beaching occurs, and the rate at which molten metal is poured onto the ground; and

(2) Use carbon dioxide shielding during beaching event; and/or use full or partial (hoods) enclosures around beached iron.

(f) For each BOPF at a new or existing shop, you must develop and operate according to a ''BOPF Shop Operating Plan'' to minimize fugitive emissions and detect openings and leaks and submit it to EPA for approval. Your BOPF Shop Operating Plan may include, but is not limited to, any of the items listed in paragraphs (f)(1) through (8) of this section.

(1) List all events that generate VE, including slopping and other steps company will take to reduce incidence rate. State the specific actions that operators will take when slag foaming approaches the mouth of the vessel in order to prevent slopping;

(2) Minimize hot iron pour/charge rate (minutes) and set a maximum pour rate in tons/second;

(3) Schedule of regular inspections of BOPF shop structure for openings and leaks to the atmosphere;

(4) Optimize positioning of hot metal ladles with respect to hood face and furnace mouth;

(5) Optimize furnace tilt angle during charging and set a maximum tilt angle during charging;

(6) Keep all openings, except roof monitors, closed, especially during transfer, to extent feasible and safe. All openings shall be closed unless the opening was in the original design of the Shop;

(7) Use higher draft velocities to capture more fugitives at a given distance from hood, if possible; and

(8) Monitor opacity periodically (*e.g.,* once per month) from all openings with EPA Method Alt-082 (camera) or with EPA Method 9 in appendix A–4 to part 60 of this chapter.

■ 8. Amend § 63.7800 by revising paragraph (b) introductory text and adding paragraphs (b)(8) and (9) to read as follows:

§ 63.7800 What are my operation and maintenance requirements?

* * * * *

(b) You must prepare and operate at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in § 63.7790(b). Each plan must address the elements in paragraphs (b)(1) through (9) of this section.

* * * * *

(8) Small Bell repair or replacement period, in weeks, or mass of material throughput, in tons, and the specific begin date and end date for the chosen repair or replacement period or throughput over which there were no visible emissions observed.

(9) Building drawings of the BF Casthouse and BOPF shop that show and list by number the openings, including doors and vents, that are part of the original design of the building.

■ 9. Amend § 63.7820 by revising paragraph (e) to read as follows:

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

* * * * *

(e) Notwithstanding the deadlines in this section, existing and new affected sources must comply with the deadlines for making the initial compliance demonstrations for the BOPF Group mercury emission limit set forth in paragraphs (e)(1) through (4) in this section.

* * * * *

■ 10. Revise § 63.7821 to read as follows:

§ 63.7821 When must I conduct subsequent performance tests?

(a) You must conduct subsequent performance tests to demonstrate compliance with all applicable emission and opacity limits in table 1 to this subpart at the frequencies specified in paragraphs (b) through (m) of this section.

(b) For each sinter cooler at an existing sinter plant and each emissions unit equipped with a control device other than a baghouse, you must conduct subsequent particulate matter and opacity performance tests no less frequently than twice (at mid-term and renewal) during each term of your title V operating permit.

(c) For each emissions unit equipped with a baghouse, you must conduct subsequent particulate matter and opacity performance tests no less frequently than once during each term of your title V operating permit.

(d) For sources without a title V operating permit, you must conduct subsequent particulate matter and opacity performance tests every 2.5 years.

(e) For each BOPF Group, if demonstrating compliance with the mercury emission limit in table 1 to this subpart through performance testing under §§ 63.7825 and 63.7833, you must conduct subsequent performance tests twice per permit cycle (*i.e.,* mid-term and initial/final) for sources with title V operating permits, and every 2.5 years for sources without a title V operating permit, at the outlet of the control devices for the BOPF Group.

(f) For each sinter plant windbox, you must conduct subsequent mercury, hydrogen chloride, carbonyl sulfide, dioxin/furan, and polycyclic aromatic hydrocarbon performance tests every 5 years.

(g) For each blast furnace stove and BOPF shop primary emission control device, you must conduct subsequent hydrogen chloride and total hydrocarbon testing every 5 years. For the BOPF shop primary emission control device, you must also conduct subsequent dioxin/furan testing every 5 years.

(h) For each blast furnace casthouse and BOPF shop, you must conduct subsequent opacity tests two times per month during a cast, or during a full heat cycle, as appropriate.

(i) For planned bleeder valve openings on each blast furnace, you must conduct opacity tests according to § 63.7823(f) for each planned opening.

(j) For slag processing, handling, and storage operations for each blast furnace or BOPF, you must conduct subsequent opacity tests once per week for a minimum of 18 minutes for each: BF pit filling; BOPF slag pit filling; BF pit digging; BOPF slag pit digging; and one slag handling (either truck loading or dumping slag to slag piles).

(k) For large bells on each blast furnace, you must conduct visible emissions testing on the interbell relief valve according to EPA Method 22 in appendix A–7 to part 60 of this chapter, unless specified in paragraphs (k)(1) through (3) of this section. Testing must be conducted monthly, for 15 minutes.

(1) If visible emissions are detected for a large bell during the monthly visible emissions testing, you must conduct EPA Method 9 (in appendix A–4 to part 60 of this chapter) opacity tests in place of EPA Method 22 testing on that bell once per month, taking 3-minute averages for 15 minutes, until the large bell seal is repaired or replaced.

(2) If the average of 3 instantaneous visible emission readings taken while the interbell relief valve is exhausting exceeds 20 percent, you must initiate corrective action within five business days.

(3) Ten business days after the initial opacity exceedance of 20 percent, you must conduct an EPA Method 9 opacity test, taking 3-minute averages for 15 minutes. If the average of 3 instantaneous visible emissions readings from this test exceeds 20 percent, you must repair or replace that bell seal within 4 months.

(l) For small bells on each blast furnace, you must conduct visible emissions testing according to EPA Method 22 in appendix A–7 to part 60 of this chapter. Testing must be conducted monthly for 15 minutes. If visible emissions are observed, you must compare the period between the visible emissions being present and the most recent bell seal repair or replacement. If this time period or throughput is shorter or lower than the period or throughput stated in the O&M plan required by 63.7800, this new shorter period or lower limit shall be placed in the O&M plan as the work practice limit.

(m) For each blast furnace casthouse, you must conduct subsequent hydrogen chloride and total hydrocarbon testing every 5 years.

■ 11. Amend § 63.7823 by revising paragraph (a) and adding paragraphs (c)(3), (d)(6), and (f) through (h) to read as follows:

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

(a) For each discharge end of a sinter plant, sinter plant cooler, blast furnace casthouse, BOPF shop, and large bell on a blast furnace, you must conduct each performance test that applies to your affected source based on representative performance (*i.e.,* performance based on normal operating conditions) of the affected source for the period being tested, according to the conditions detailed in paragraphs (b) through (d) of this section. Representative conditions exclude periods of startup and shutdown. You shall not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

* * * * *

(c) * * *

(3) For the blast furnace casthouse, make observations at each opening:

(i) If EPA Method 9 is used, observations should be made separately at each opening.

(ii) If ASTM D7520–16 (incorporated by reference, see § 63.14) is used, observations may be read for more than one opening at the same time.

(d) * * *

(6) Make observations at each opening:

(i) If EPA Method 9 in appendix A–4 to part 60 of this chapter is used, observations should be made separately at each opening.

(ii) If ASTM D7520–16 (incorporated by reference, see § 63.14) is used, observations may be read for more than one opening at the same time.

* * * * *

(f) To determine compliance with the applicable opacity limit in table 1 to this subpart for planned bleeder valve openings at a blast furnace:

(1) Using a certified observer, determine the opacity of emissions according to EPA Method 9 in appendix A–4 to part 60 of this chapter. Alternatively, ASTM D7520–16 (incorporated by reference, see § 63.14) may be used with the following conditions:

(i) During the DCOT certification procedure outlined in Section 9.2 of ASTM D7520–16 (incorporated by reference, see § 63.14), the owner or operator or the DCOT vendor must be present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).

(ii) The owner or operator must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520–16 (incorporated by reference, see § 63.14).

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

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

(v) Use of this approved alternative does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software, and operator in accordance with ASTM D7520–16 (incorporated by reference, see § 63.14) and these requirements is on the facility, DCOT operator, and DCOT vendor.

(2) Conduct opacity observations in 6-minute block averages starting as soon as event begins or sunrise whichever is later and ending either when the bleeder valve closes, sunset, or after the first 6-minute block average where all readings are zero percent opacity, but in no case shall the opacity observation period be less than 6 minutes.

(g) To determine compliance with the applicable opacity limit in table 1 to this subpart for slag processing, handling, and storage operations for a blast furnace or BOPF:

(1) Using a certified observer, determine the opacity of emissions according to EPA Method 9 in appendix A–4 to part 60 of this chapter.

(2) Conduct opacity observations in 6-minute blocks for 30 minutes at each: slag dumping to BF pit; BOPF slag dumping to pit; BF pit digging, BOPF pit digging; slag dumping to a pile, slag

dumping to a piece of slag handling equipment such as crusher.

(h) To determine compliance with the work practice trigger for large bells on a blast furnace:

(1) Using a certified observer, determine the opacity of emissions according to EPA Method 9 in appendix A–4 to part 60 of this chapter.

(2) Conduct opacity observations of 15 instantaneous interbell relief valve emissions.

■ 12. Amend § 63.7825 by:

■ a. Revising the section heading, paragraph (a) introductory text, and paragraphs (b)(1)(v), (b)(2), and (c); and

■ b. Adding paragraphs (g) through (k).

The revisions and additions read as follows:

§ 63.7825 What test methods and other procedures must I use to demonstrate initial compliance with the emission limits for hazardous air pollutants?

(a) If demonstrating compliance with the emission limits in Table 1 to this subpart through performance testing, you must conduct a performance test to demonstrate initial compliance with the emission limit. If demonstrating compliance with the emission limit through performance testing, you must conduct each performance test that applies to your affected source based on representative performance (*i.e.,* performance based on normal operating conditions) of the affected source for the period being tested, according to the conditions detailed in paragraphs (b) through (k) of this section. Representative conditions exclude periods of startup and shutdown. You shall not conduct performance tests during periods of malfunction. Initial compliance tests must be conducted by the deadlines in § 63.7820(e).

* * * * *

(b) * * *

(1) * * *

(v) EPA Method 29 or 30B in appendix A–8 to part 60 of this chapter to determine the concentration of mercury from the exhaust stream stack of each unit. If performing measurements using EPA Method 29, you must collect a minimum sample volume of 1.7 dscm (60 dscf). Alternative test methods may be considered on a case-by-case basis per § 63.7(f).

(2) Three valid test runs are needed to comprise a performance test of each unit in table 1 to this subpart as applicable. If the performance testing results for any of the emission points yields a non-detect value, then the method detection limit (MDL) must be used to calculate the mass emissions (lb) for that emission unit and, in turn, for calculating the sum of the emissions (in units of pounds of mercury per ton of steel scrap or pounds of mercury per ton of product sinter) for all units subject to the emission standard for determining compliance. If the resulting mercury emissions are greater than the MACT emission standard, the owner or operator may use procedures that produce lower MDL results and repeat the mercury performance testing one additional time for any emission point for which the measured result was below the MDL. If this additional testing is performed, the results from that testing must be used to determine compliance (*i.e.,* there are no additional opportunities allowed to lower the MDL).

* * * * *

(c) Calculate the mass emissions, based on the average of three test run values, for each BOPF Group unit (or combination of units that are ducted to a common stack and are tested when all affected sources are operating pursuant to paragraph (a) of this section) using equation 1 to this paragraph (c) as follows:

Equation 1 to paragraph (c)

$$E = \frac{C_s \times Q \times t}{454{,}000 \times 35.31} \quad \text{(Eq. 1)}$$

Where:

E = Mass emissions of pollutant, pounds (lb);
C_s = Concentration of pollutant in stack gas, mg/dscm;
454,000 = Conversion factor (mg/lb);
Q = Volumetric flow rate of stack gas, dscf/min;
35.31 = Conversion factor (dscf/dscm); and
t = Duration of test, minutes.

* * * * *

(g) To demonstrate compliance with the emission limit for hydrogen chloride in table 1 to this subpart through performance testing, follow the test methods and procedures in paragraphs (g)(1) through (3) of this section.

(1) Determine the concentration of hydrogen chloride according to the following test methods:

(i) The methods specified in paragraphs (b)(1)(i) through (iv) of this section, and

(ii) EPA Method 26A in appendix A–8 to part 60 of this chapter to determine the concentration of hydrogen chloride from the exhaust stream stack of each unit, with the following conditions; or

(A) Collect a minimum sample volume of 70 dscf (2 dscm) of gas during each run.

(B) [Reserved]

(iii) EPA Method 320 in appendix A to this part to determine the concentration of hydrogen chloride and hydrogen fluoride from the exhaust stream stack of each unit. Alternatively, ASTM D6348–12(R2020), (incorporated by reference, see § 63.14) may be used with the following conditions:

(A) The test plan preparation and implementation in the Annexes to ASTM D 6348–12(R2020), Annexes A1 through A8 are mandatory; and

(B) In ASTM D6348–12(R2020) Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5). In order for the test data to be acceptable for a compound, %R must be 70% ≥ R ≤ 130%. If the %R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte (*i.e.,* the sampling and/or analytical procedure should be adjusted before a retest). The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound by using the equation 2 o to this paragraph (g)(1)(iii)(B) as follows:

Equation 2 to paragraph (g)(1)(iii)(B)

$$Reported\ Results = \frac{c_s}{\%R} \times 100 \quad \text{(Eq. 2)}$$

Where

c_s = measured concentration in stack.

(2) At least three valid test runs are needed to comprise a performance test of each unit in table 1 to this subpart. If the performance testing results for any of the emission points yields a non-detect value, then the MDL must be used to calculate the mass emissions (lb) for that unit and, in turn, for calculating the emissions rate (lb/ton of product sinter, lb/ton of iron, or lb/ton of steel).

(3) Calculate the emissions from each new and existing affected source in pounds of hydrogen chloride per ton of throughput processed or unit of energy (tons of product sinter, tons of iron, tons of steel, or MMBtu) to determine initial compliance with the emission limits in table 1 to this subpart.

(h) To demonstrate compliance with the emission limit for carbonyl sulfide in table 1 to this subpart through performance testing, follow the test methods and procedures in paragraphs (h)(1) through (3) of this section.

(1) Determine the concentration of carbonyl sulfide according to the following test methods:

(i) The methods specified in paragraphs (b)(1)(i) through (iv) of this section, and

(ii) EPA Method 15 in appendix A–5 to part 60 of this chapter to determine the concentration of carbonyl sulfide from the exhaust stream stack of each unit; or

(iii) EPA Method 320 in appendix A to this part to determine the concentration of carbon disulfide and carbonyl sulfide from the exhaust stream stack of each unit. Alternatively, ASTM D6348–12 (R2020), (incorporated by reference, see § 63.14) may be used with the following conditions:

(A) The test plan preparation and implementation in the Annexes to ASTM D 6348–12 (R2020), Annexes A1 through A8 are mandatory; and

(B) In ASTM D6348–12 (R2020) Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5). In order for the test data to be acceptable for a compound, %R must be 70% ≥ R ≤ 130%. If the %R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte (*i.e.,* the sampling and/or analytical procedure should be adjusted before a retest). The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound by using the Equation 2 of this section.

(2) Three valid test runs at least one hour in duration are needed to comprise a performance test of each unit in table 1 to this subpart. If the performance testing results for any of the emission points yields a non-detect value, then the MDL must be used to calculate the mass emissions (lb) for that unit and, in turn, for calculating the emissions rate (lb/ton of product sinter).

(3) Calculate the emissions from each new and existing affected source in pounds of carbonyl sulfide per ton of product sinter to determine initial compliance with the emission limits in table 1 to this subpart .

(i) To demonstrate compliance with the emission limit for total hydrocarbons in table 1 to this subpart through performance testing, follow the test methods and procedures in paragraphs (i)(1) through (5) of this section.

(1) Determine the concentration of total hydrocarbons according to the following test methods:

(i) The methods specified in paragraphs (b)(1)(i) through (iv) of this section, and

(ii) EPA Method 25A in appendix A–7 to part 60 of this chapter to determine the concentration of total hydrocarbons as propane from the exhaust stream stack of each unit.

(2) Three valid test runs at least one hour in duration are needed to comprise a performance test of each unit in table 1 to this subpart. If the performance testing results for any of the emission points yields a non-detect value, then the MDL must be used to calculate the mass emissions (lb) for that unit and, in turn, for calculating the emissions rate (lb/ton of iron or lb/ton of steel).

(3) For BOPF tests, the test runs must include at least one full production cycle (from scrap charge to 3 minutes after slag is emptied from the vessel) for each run, except for BOPF with closed hood systems, where sampling should be performed only during the primary oxygen blow and only for 20 heat cycles.

(4) For blast furnaces, each test run duration must be a minimum of 1 hour.

(5) Calculate the emissions from each new and existing affected source in pounds of total hydrocarbons as propane per ton of throughput processed or unit of energy (tons of iron, tons of steel, or MMBtu) to determine initial compliance with the emission limits in table 1 to this subpart.

(j) To demonstrate compliance with the emission limit for D/F TEQ in table 1 to this subpart through performance testing, follow the test methods and procedures in paragraphs (j)(1) through (4) of this section.

(1) Determine the concentration of each dioxin and furan listed in table 5 to this subpart according to the following test methods:

(i) The methods specified in paragraphs (b)(1)(i) through (iv) of this section, and

(ii) EPA Method 23 in appendix A–7 to part 60 of this chapter to determine the concentration of each dioxin and furan listed in table 5 to this subpart from the exhaust stream stack of each unit. You must collect a minimum sample volume of 105 dscf (3 dscm) of gas during each test run.

(2) Three valid test runs are needed to comprise a performance test of each unit in table 1 to this subpart. For determination of TEQ, zero may be used in subsequent calculations for values less than the estimated detection limit (EDL). For estimated maximum pollutant concentration (EMPC) results, when the value is greater than the EDL, the EMPC value must be used in determination of TEQ, when the EMPC is less than the EDL, zero may be used.

(3) For BOPF tests, the test runs must include at least one full production cycle (from scrap charge to 3 minutes after slag is emptied from the vessel) for each run, except for BOPF with closed hood systems, where sampling should be performed only during the primary oxygen blow and only for 20 heat cycles or the collection of 105 dscf (3 dscm) sample volume, whichever is less.

(4) Calculate the sum of the D/F TEQ per ton of throughput processed (tons of product sinter or tons of steel) to determine initial compliance with the emission limits in table 1 using equation 3 to this paragraph (j)(4) as follows:

Equation 3 to paragraph (j)(4)

$$TEQ = \frac{\sum_{i=1}^{n}(M_i \times TEF_i)}{T_r \times P} \text{ (Eq. 3)}$$

Where:

TEQ = sum of the 2,3,7,8-TCDD TEQs, lb/ton of throughput processed

M_i = mass of dioxin or furan cogener i during performance test run, lbs

TEF_i = 2,3,7,8-TCDD toxic equivalency factor (TEF) for cogener i, as provided in Table 5 of this subpart

n = number of cogeners included in TEQ

T_r = time of performance test run, hours

P = production rate during performance test run, tons of throughput processed per hour.

(k) To demonstrate compliance with the emission limit for polycyclic aromatic hydrocarbons in table 1 to this subpart through performance testing, follow the test methods and procedures in paragraphs (k)(1) through (3) of this section.

(1) Determine the concentration of each polycyclic aromatic hydrocarbon listed in table 6 to this subpart according to the following test methods:

(i) The methods specified in paragraphs (b)(1)(i) through (iv) of this section, and

(ii) EPA Method 23 in appendix A–7 to part 60 of this chapter to determine the concentration of each polycyclic aromatic hydrocarbon listed in table 6 to this subpart from the exhaust stream stack of each unit. You must collect a minimum sample volume of 105 dscf (3 dscm) of gas during each test run.

(2) Three valid test runs are needed to comprise a performance test of each unit in table 1 to this subpart. If the performance testing results for any of the emission points yields a non-detect value, then the EDL must be used to calculate the mass emissions (lb) for that unit and, in turn, for calculating the emissions rate (lb/ton of product sinter).

(3) Calculate the sum of polycyclic aromatic hydrocarbons per ton of product sinter to determine initial compliance with the emission limits in table 1 to this subpart using equation 4 to this paragraph (k)(3) as follows:

Equation 4 to paragraph (k)(3)

$$E = \frac{\sum_{i=1}^{n} M_i}{T_r \times P} \text{ (Eq. 4)}$$

Where:

E = emission rate of polycyclic aromatic hydrocarbons, lb/ton of sinter

M_i = mass of polycyclic aromatic hydrocarbon i, as provided in Table 6 to this subpart, during performance test run, lbs

n = number of polycyclic aromatic hydrocarbons included in emissions

T_r = time of performance test run, hours

P = production rate during performance test run, tons of product sinter per hour.

■ 13. Amend § 63.7830 by revising paragraph (e)(2) to read as follows:

§ 63.7830 What are my monitoring requirements?

* * * * *

(e) * * *

(2) Compute and record the 30-day rolling average of the volatile organic compound emissions (lbs/ton of sinter) for each operating day using the procedures in § 63.7824(e).

■ 14. Amend § 63.7833 by adding paragraph (j) to read as follows:

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

* * * * *

* * * * *

(j) For large bells on each blast furnace, you must demonstrate continuous compliance by following the requirements specified in paragraphs (j)(1) and (2) of this section if a bell seal exceeds a 20 percent average of 3 instantaneous opacity readings of the interbell relief valve emissions.

(1) Initiate corrective action within five business days.

(2) Ten business days after the initial opacity exceedance of 20 percent, if the average of 3 instantaneous visible emissions readings from this test exceeds 20 percent, you must repair or replace that bell seal within 4 months.

■ 15. Amend § 63.7840 by removing paragraphs (g)(3) and (h)(3) and adding paragraph (i).

The addition reads as follows:

§ 63.7840 What notifications must I submit and when?

* * * * *

(i) Confidential business information (CBI): For notifications and reports required to be submitted to CEDRI:

(1) The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information submitted under paragraph (h) of this section, you must submit a complete file, including information claimed to be CBI, to the EPA.

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

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

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

(5) If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404–02), OAQPS, U.S. Environmental Protection

Agency, Research Triangle Park, North Carolina 27711, Attention Group Leader, Measurement Policy Group. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

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

(7) You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described in paragraphs (g) or (h) of this section.

■ 16. Amend § 63.7841 by adding paragraph (b)(14), revising paragraph (d), and adding paragraph (h) to read as follows:

§ 63.7841 What reports must I submit and when?

* * * * *

(b) * * *

(14) For each unplanned bleeder valve opening for each blast furnace, you must include the information in paragraphs (b)(14)(i) through (iii) of this section.

(i) The date and time of the event.

(ii) The duration of the event.

(iii) Any corrective actions taken in response to the event.

* * * * *

(d) *CEDRI submission.* If you are required to submit reports following the procedure specified in this paragraph, you must submit reports to the EPA via CEDRI, which can be accessed through EPA's CDX (*https://cdx.epa.gov/*). You must use the appropriate electronic report template on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*) for this subpart. The date report templates become available will be listed on the CEDRI website. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. Do not use CEDRI to submit information you claim as CBI. Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information in the report, you must submit a complete file, including information claimed to be CBI, to the EPA following the procedures in paragraphs (d)(1) and (2) of this section. Clearly mark the part or all of the information that you claim to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in this paragraph.

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

(2) If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: OAQPS Document Control Officer (C404–02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Integrated Iron and Steel Sector Lead. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

* * * * *

(h) *Fenceline monitoring reports.* For fenceline monitoring systems subject to § 63.7792, each owner or operator must submit Fenceline Monitoring Reports on a quarterly basis using the appropriate electronic report template on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/cedri*) for this subpart and following the procedure specified in paragraph (d) of this section. The first quarterly report must be submitted once the owner or operator has obtained 12 months of data. The first quarterly report must cover the period beginning on the date one year after the promulgation of the metals fenceline method and ending on March 31, June 30, September 30 or December 31, whichever date is the first date that occurs after the owner or operator has obtained 12 months of data (*i.e.,* the first quarterly report will contain between 12 and 15 months of data). Each subsequent quarterly report must cover one of the following reporting periods: Quarter 1 from January 1 through March 31; Quarter 2 from April 1 through June 30; Quarter 3 from July 1 through September 30; and Quarter 4 from October 1 through December 31. Each quarterly report must be electronically submitted no later than 45 calendar days following the end of the reporting period.

(1) Facility name and address.

(2) Year and reporting quarter (*i.e.,* Quarter 1, Quarter 2, Quarter 3, or Quarter 4).

(3) For each sampler: The latitude and longitude location coordinates; the sampler name; and identification of the type of sampler (*e.g.,* regular monitor, extra monitor, duplicate, field blank, inactive). Coordinates shall be in decimal degrees with at least five decimal places.

(4) The beginning and ending dates for each sampling period.

(5) Individual sample results for each monitored compound, reported in units of $\mu g/m^3$, for each monitor for each sampling period that ends during the reporting period. Results below the method detection limit shall be flagged as below the detection limit and reported at the method detection limit.

(6) Data flags for each outlier determined in accordance with the fenceline metals method. For each outlier, the owner or operator must submit the individual sample result of the outlier, as well as the evidence used to conclude that the result is an outlier.

(7) The biweekly concentration difference (Δc) for each sampling period and the annual average Δc for each sampling period.

(8) Indication of whether the owner or operator was required to develop a corrective action plan under § 63.7792(e).

■ 17. Amend § 63.7842 by revising paragraph (d) and adding paragraphs (f) and (g) to read as follows.

§ 63.7842 What records must I keep?

* * * * *

(d) You must keep the records required in §§ 63.7823, 63.7833, and 63.7834 to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to you. This includes a record of each large and small bell repair and replacement, a record of the date on which the large bell opacity has exceeded 20 percent, and the most current time period or throughput over which no opacity was observed from the small bell.

* * * * *

(f) For fenceline monitoring systems subject to § 63.7792 of this subpart, each owner or operator must keep the records specified in paragraphs (f)(1) through (11) of this section.

(1) Coordinates of samplers, including co-located samplers and field blanks, and if applicable, the meteorological station. The owner or operator shall determine the coordinates using an instrument with an accuracy of at least 3 meters. The coordinates shall be in decimal degrees with at least five decimal places.

(2) The start and stop times and dates for each sample, as well as the sample identifying information.

(3) Sampling period average temperature and barometric pressure measurements.

(4) For each outlier determined in accordance with the procedures specified in the fenceline metals method, the sampler location and the concentration of the outlier and the evidence used to conclude that the result is an outlier.

(5) For samples that will be adjusted for uniform background, the location of and the concentration measured simultaneously by the background sampler, and the perimeter samplers to which it applies.

(6) Individual sample results, the calculated Δc for each sampling period and the two samples used to determine it, whether background correction was used, and the annual average Δc calculated after each sampling period.

(7) Method detection limit for each sample, including co-located samples and blanks.

(8) Documentation of the root cause analysis and any resulting corrective action taken each time an action level is exceeded, including the dates the root cause analysis was initiated and the resulting correction action(s) were taken.

(9) Any corrective action plan developed under § 63.7792(e).

(10) Other records as required by the sampling method.

(11) If a near-field source correction is used as provided in § 63.7792(f), or if an alternative test method is used that provides time-resolved measurements, records of hourly meteorological data, including temperature, barometric pressure, wind speed and wind direction, calculated daily unit vector wind direction, and daily sigma theta, and other records specified in the site-specific monitoring plan.

(g) For each unplanned bleeder valve opening for each blast furnace, you must keep the records specified in paragraphs (g)(1) through (3) of this section.

(1) The start date and start time of the event.

(2) The duration of the event in minutes.

(3) Any corrective actions taken in response to the event.

■ 18. Amend § 63.7852 by adding definitions for ''Iron beaching operation'', Large blast furnace'', ''Planned bleeder valve opening'', ''Slip'', ''Small blast furnace'', ''Total hydrocarbons (THC)'', and ''Unplanned bleeder valve opening'' to read as follows:

§ 63.7852 What definitions apply to this subpart?

* * * * *

Iron beaching operation means pouring hot molten iron from a torpedo car onto the ground when the iron from the blast furnace cannot be charged to the basic oxygen process furnace.

* * * * *

Large blast furnace means a blast furnace with a working volume of greater than 2,500 m^3.

* * * * *

Planned bleeder valve opening means the opening of a blast furnace pressure relief safety valve that is initiated by an operator.

* * * * *

Slip means when raw materials loaded in the top of the furnace fail to descend smoothly in the furnace and bind together to form a ''bridge'' which than ''hangs'' (*i.e.,* accumulates) in one position in the furnace. When a ''hang'' eventually falls, or ''slips,'' it creates a pressure surge that may open the bleeder valves, releasing emissions in the form of a large dust cloud.

Small blast furnace means a blast furnace with a working volume of less than 2,500 m^3.

* * * * *

Total hydrocarbons (THC) means the sum of organic compounds measured as carbon using EPA Method 25A (appendix A–7 to part 60 of this chapter).

Unplanned bleeder valve opening means the opening of a blast furnace pressure relief safety valve that is not a planned bleeder valve opening.

* * * * *

■ 19. Revise tables 1 through 4 to subpart FFFFF to read as follows:

Table 1 to Subpart FFFFF of Part 63—Emission, Opacity, and Work Practice Limits

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

For . . .	You must comply with each of the following . . .
1. Each windbox exhaust stream at an existing sinter plant.	a. You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.4 lb/ton of product sinter;
	b. You must not cause to be discharged to the atmosphere any gases that contain mercury in excess of 0.000018 lb/ton of product sinter;
	c. You must not cause to be discharged to the atmosphere any gases that contain hydrogen chloride in excess of 0.025 lb/ton of product sinter;
	d. You must not cause to be discharged to the atmosphere any gases that contain carbonyl sulfide in excess of 0.064 lb/ton of product sinter;
	e. You must not cause to be discharged to the atmosphere any gases that contain D/F TEQs in excess of 1.1E–08 lb/ton of product sinter; and
	f. You must not cause to be discharged to the atmosphere any gases that contain polycyclic aromatic hydrocarbons in excess of 0.0018 lb/ton of product sinter.
2. Each windbox exhaust stream at a new sinter plant.	a. 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;
	b. You must not cause to be discharged to the atmosphere any gases that contain mercury in excess of 0.000012 lb/ton of product sinter;
	c. You must not cause to be discharged to the atmosphere any gases that contain hydrogen chloride in excess of 0.0012 lb/ton of product sinter;
	d. You must not cause to be discharged to the atmosphere any gases that contain carbonyl sulfide in excess of 0.030 lb/ton of product sinter;
	e. You must not cause to be discharged to the atmosphere any gases that contain D/F TEQs in excess of 1.1E–08 lb/ton of product sinter; and

For . . .	You must comply with each of the following . . .
	f. You must not cause to be discharged to the atmosphere any gases that contain polycyclic aromatic hydrocarbons in excess of 0.0015 lb/ton of product sinter.
3. 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, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf; [1 2] 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).
4. 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).
5. Each sinter cooler at an existing sinter plant.	You must not cause to be discharged to the atmosphere any emissions that exhibit opacity greater than 10 percent (6-minute average).
6. Each sinter cooler 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.
7. 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 0.01 gr/dscf; [2] b. You must not cause to be discharged to the atmosphere any secondary emissions that exit all openings in the casthouse or structure housing the blast furnace that exhibit opacity greater than 20 percent (6-minute average); c. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain hydrogen chloride in excess of 0.0056 lb/ton of iron; d. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain total hydrocarbons as propane in excess of 0.48 lb/ton of iron; and e. You must not cause unplanned bleeder valve openings in excess of 4 events per year for large blast furnaces or 15 events per year for small blast furnaces.
8. 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 0.003 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit all openings in the casthouse or structure housing the blast furnace that exhibit opacity greater than 15 percent (6-minute average); c. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain hydrogen chloride in excess of 0.00059 lb/ton of iron; d. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain total hydrocarbons as propane in excess of 0.035 lb/ton of iron; and e. You must not cause unplanned bleeder valve openings in excess of zero events per year.
9. Each BOPF at a new or existing 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 at a new or existing BOPF shop that contain, on a flow-weighted basis, particulate matter in excess of 0.03 gr/dscf during the primary oxygen blow; [2 3] 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, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf during the steel production cycle for an existing BOPF shop [2 3] or 0.01 gr/dscf during the steel production cycle for a new BOPF shop; [3] 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 [2] or 0.0052 gr/dscf for a new BOPF shop; d. You must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF that contain hydrogen chloride in excess of 0.058 lb/ton of steel for existing sources and 2.8E–04 lb/ton steel for new sources; e. You must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF that contain THC as propane in excess of 0.04 lb/ton of steel for existing sources and 0.0017 lb/ton of steel for new sources; and f. You must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF that contain D/F TEQs in excess of 9.2E–10 lb/ton of steel.
10. Each hot metal transfer, skimming, and desulfurization operation at a new or existing BOPF shop.	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 0.01 gr/dscf for an existing BOPF shop [2] or 0.003 gr/dscf for a new BOPF shop.
11. Each ladle metallurgy operation at a new or existing BOPF shop.	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 0.01 gr/dscf for an existing BOPF shop [2] or 0.004 gr/dscf for a new BOPF shop.
12. Each 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).
13. Each 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; or 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.
14. Each BOPF Group at an existing BOPF shop.	You must not cause to be discharged to the atmosphere any gases that exit from the collection of BOPF Group control devices that contain mercury in excess of 0.00026 lb/ton of steel scrap input to the BOPF.
15. Each BOPF Group at a new BOPF shop.	You must not cause to be discharged to the atmosphere any gases that exit from the collection of BOPF Group control devices that contain mercury in excess of 0.000081 lb/ton of steel scrap input to the BOPF.
16. Each planned bleeder valve opening at a new or existing blast furnace.	You must not cause to be discharged to the atmosphere any emissions that exhibit opacity greater than 8 percent (6-minute average).
17. Each slag processing, handling and storage operation for a new or existing blast furnace or BOPF.	You must not cause to be discharged to the atmosphere any emissions that exhibit opacity greater than 10 percent (6-minute average).
18. Each existing blast furnace stove	a. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain HCl in excess of 0.0012 lb/MMBtu; and b. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain THC in excess of 0.12 lb/MMBtu.
19. Each new blast furnace stove	a. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain HCl in excess of 4.2e–4 lb/MMBtu; and

For . . .	You must comply with each of the following . . .
	b. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain THC in excess of 0.0054 lb/MMBtu.

[1] This limit applies if the cooler is vented to the same control device as the discharge end.
[2] This concentration limit (gr/dscf) for a control device does not apply to discharges inside a building or structure housing the discharge end at an existing sinter plant, inside a casthouse at an existing blast furnace, or inside an existing BOPF shop if the control device was installed before August 30, 2005.
[3] This limit applies to control devices operated in parallel for a single BOPF during the oxygen blow.

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

As required in § 63.7826(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 sinter plant.	a. The process-weighted mass rate of particulate matter from a windbox exhaust stream, measured according to the performance test procedures in § 63.7822(c), did not exceed 0.4 lb/ton of product sinter; b. The process-weighted mass rate of mercury from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.000018 lb/ton of product sinter; c. The process-weighted mass rate of hydrogen chloride from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.025 lb/ton of product sinter; d. The process-weighted mass rate of carbonyl sulfide from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.064 lb/ton of product sinter; e. The process-weighted mass rate of D/F TEQs from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 1.1E–08 lb/ton of product sinter; and f. The process-weighted mass rate of polycyclic aromatic hydrocarbons from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.0018 lb/ton of product sinter.
2. Each windbox exhaust stream at a new sinter plant.	a. The process-weighted mass rate of particulate matter from a windbox exhaust stream, measured according to the performance test procedures in § 63.7822(c), did not exceed 0.3 lb/ton of product sinter; b. The process-weighted mass rate of mercury from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.000012 lb/ton of product sinter; c. The process-weighted mass rate of hydrogen chloride from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.0012 lb/ton of product sinter; d. The process-weighted mass rate of carbonyl sulfide from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.030 lb/ton of product sinter; e. The process-weighted mass rate of D/F TEQs from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 1.1E–08 lb/ton of product sinter; and f. The process-weighted mass rate of polycyclic aromatic hydrocarbons from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.0015 lb/ton of product sinter.
3. 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).
4. 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).
5. Each sinter cooler at an existing sinter plant.	The opacity of emissions, determined according to the performance test procedures in § 63.7823(e), did not exceed 10 percent (6-minute average).
6. Each sinter cooler at a new sinter plant.	The average concentration of particulate matter, measured according to the performance test procedures in § 63.7822(b), did not exceed 0.01 gr/dscf.
7. 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 0.01 gr/dscf; 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); c. The process-weighted mass rate of hydrogen chloride from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.0056 lb/ton of iron; d. The process-weighted mass rate of total hydrocarbons from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.48 lb/ton of iron; and e. The number of unplanned bleeder valve openings in one year, as reported according to the specifications in § 63.7841(b)(14), did not exceed 4 events for large blast furnaces or 15 events for small blast furnaces.
8. 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 0.003 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); c. The process-weighted mass rate of hydrogen chloride from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.00059 lb/ton of iron; d. The process-weighted mass rate of total hydrocarbons from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.035 lb/ton of iron; and e. The number of unplanned bleeder valve openings in one year, as reported according to the specifications in § 63.7841(b)(14), did not exceed zero events.
9. Each 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 0.03 gr/dscf for a new or existing BOPF shop; 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 0.02 gr/dscf for an existing BOPF shop or 0.01 gr/dscf for a new BOPF shop;

For . . .	You have demonstrated initial compliance if . . .
	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; d. The process-weighted mass rate of hydrogen chloride from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.058 lb/ton of steel for an existing BOPF shop or 0.00028 lb/ton of steel for a new BOPF shop; e. The process-weighted mass rate of total hydrocarbons from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.04 lb/ton of steel for an existing BOPF shop or 0.0017 lb/ton of steel for a new BOPF shop; and f. The process-weighted mass rate of D/F TEQs from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 9.2e–10 lb/ton of steel.
10. Each hot metal transfer skimming, and desulfurization 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, or desulfurization, measured according to the performance test procedures in § 63.7822(h), did not exceed 0.01 gr/dscf for an existing BOPF shop or 0.003 gr/dscf for a new BOPF shop.
11. Each ladle metallurgy operation at a new or existing BOPF shop.	The average concentration of particulate matter from a control device applied to emissions from a ladle metallurgy operation, measured according to the performance test procedures in § 63.7822(h), did not exceed 0.01 gr/dscf for an existing BOPF shop or 0.004 gr/dscf for a new BOPF shop.
12. Each 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).
13. Each 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; or 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), did not exceed 20 percent and the second highest set of 3-minute averages did not exceed 10 percent.
14. Each BOPF Group at an existing BOPF shop.	If demonstrating compliance through performance testing, the average emissions of mercury from the collection of BOPF Group control devices applied to the emissions from the BOPF Group, measured according to the performance test procedures in § 63.7825, did not exceed 0.00026 lb/ton steel scrap input to the BOPF.
15. Each BOPF Group at a new BOPF shop.	If demonstrating compliance through performance testing, the average emissions of mercury from the collection of BOPF Group control devices applied to the emissions from the BOPF Group, measured according to the performance test procedures in § 63.7825, did not exceed 0.000081 lb/ton steel scrap input to the BOPF.
16. Each planned bleeder valve opening at a new or existing blast furnace.	The opacity of emissions, determined according to the performance test procedures in § 63.7823(f), did not exceed 8 percent (6-minute average).
17. Each slag processing, handling and storage operation for a new or existing blast furnace or BOPF.	The opacity of emissions, determined according to the performance test procedures in § 63.7823(g), did not exceed 10 percent (6-minute average).
18. Each existing blast furnace stove	a. The process-weighted mass rate of HCl from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.0012 lb/MMBtu; and b. The process-weighted mass rate of THC from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.12 lb/MMBtu.
19. Each new blast furnace stove	a. The process-weighted mass rate of HCl from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 4.2e–4 lb/MMBtu; and b. The process-weighted mass rate of THC from a windbox exhaust stream, measured according to the performance test procedures in § 63.7825, did not exceed 0.0054 lb/MMBtu.

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 sinter plant.	a. Maintaining emissions of particulate matter at or below 0.4 lb/ton of product sinter; b. Conducting subsequent performance tests at the frequencies specified in § 63.7821; c. Maintaining emissions of mercury at or below 0.000018 lb/ton of product sinter; d. Maintaining emissions of hydrogen chloride at or below 0.025 lb/ton of product sinter; e. Maintaining emissions of carbonyl sulfide at or below 0.064 lb/ton of product sinter; f. Maintaining emissions of D/F TEQs at or below 1.1E–08 lb/ton of product sinter; and g. Maintaining emissions of polycyclic aromatic hydrocarbons at or below 0.0018 lb/ton of product sinter.
2. Each windbox exhaust stream at a new sinter plant.	a. Maintaining emissions of particulate matter at or below 0.3 lb/ton of product sinter; b. Conducting subsequent performance tests at the frequencies specified in § 63.7821; c. Maintaining emissions of mercury at or below 0.000012 lb/ton of product sinter; d. Maintaining emissions of hydrogen chloride at or below 0.0012 lb/ton of product sinter; e. Maintaining emissions of carbonyl sulfide at or below 0.030 lb/ton of product sinter; f. Maintaining emissions of D/F TEQs at or below 1.1E–08 lb/ton of product sinter; and g. Maintaining emissions of polycyclic aromatic hydrocarbons at or below 0.0015 lb/ton of product sinter.
3. 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 the frequencies specified in § 63.7821.
4. 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 the frequencies specified in § 63.7821.
5. Each sinter cooler at an existing sinter plant.	a. Maintaining the opacity of emissions that exit any sinter cooler at or below 10 percent (6-minute average); and b. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
6. Each sinter cooler at a new sinter plant.	a. Maintaining emissions of particulate matter at or below 0.1 gr/dscf; and

For . . .	You must demonstrate continuous compliance by . . .
	b. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
7. Each casthouse at an existing blast furnace.	a. Maintaining emissions of particulate matter from a control device at or below 0.01 gr/dscf; b. Maintaining the opacity of secondary emissions that exit all openings in the casthouse or structure housing the casthouse at or below 20 percent (6-minute average); c. Conducting subsequent performance tests at the frequencies specified in § 63.7821; d. Maintaining emissions of hydrogen chloride at or below 0.0056 lb/ton of iron; e. Maintaining emissions of total hydrocarbons at or below 0.48 lb/ton of iron; and f. Maintaining unplanned bleeder valve openings at or below 4 events per year for large blast furnaces or 15 events per year for small blast furnaces.
8. Each casthouse at a new blast furnace.	a. Maintaining emissions of particulate matter from a control device at or below 0.003 gr/dscf; b. Maintaining the opacity of secondary emissions that exit all openings in the casthouse or structure housing the casthouse at or below 15 percent (6-minute average); c. Conducting subsequent performance tests at the frequencies specified in § 63.7821; d. Maintaining emissions of hydrogen chloride at or below 0.00059 lb/ton of iron; e. Maintaining emissions of total hydrocarbons at or below 0.035 lb/ton of iron; and f. Maintaining unplanned bleeder valve openings at zero events per year.
9. Each BOPF at a new or existing BOPF shop.	a. Maintaining emissions of particulate matter from the primary control system for a BOPF with a closed hood system at or below 0.03 gr/dscf; b. Maintaining emissions of particulate matter from the primary control system for a BOPF with an open hood system at or below 0.02 gr/dscf for an existing BOPF shop or 0.01 gr/dscf for a new BOPF shop; 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; d. Conducting subsequent performance tests at the frequencies specified in § 63.7821; e. Maintaining emissions of hydrogen chloride from a primary emission control system for a BOPF at or below 0.058 lb/ton of steel for existing sources and 2.8E–04 lb/ton steel for new sources; f. Maintaining emissions of THC from a primary emission control system for a BOPF at or below 0.04 lb/ton of steel for existing sources and 0.0017 lb/ton of steel for new sources; and g. Maintaining emissions of D/F TEQs from a primary emission control system for a BOPF at or below 9.2E–10 lb/ton of steel.
10. Each hot metal transfer, skimming, and desulfurization operation at a new or existing BOPF shop.	a. Maintaining emissions of particulate matter from a control device at or below 0.01 gr/dscf at an existing BOPF or 0.003 gr/dscf for a new BOPF; and b. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
11. Each ladle metallurgy operation at a new or existing BOPF shop.	a. Maintaining emissions of particulate matter from a control device at or below 0.01 gr/dscf at an existing BOPF shop or 0.004 gr/dscf for a new BOPF shop; and b. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
12. Each existing BOPF shop	a. Maintaining the opacity of secondary emissions that exit any opening in the BOPF shop or other building housing the BOPF shop or shop operation at or below 20 percent (3-minute average); and b. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
13. Each 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 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 the frequencies specified in § 63.7821.
14. Each BOPF Group at an existing BOPF shop.	a. Maintaining emissions of mercury from the collection of BOPF Group control devices at or below 0.00026 lb/ton steel scrap input to the BOPF; and b. If demonstrating compliance through performance testing, conducting subsequent performance tests at the frequencies specified in § 63.7821; and c. If demonstrating compliance through § 63.7791(c), (d), or (e), maintaining records pursuant to § 63.7842(e).
15. Each BOPF Group at a new BOPF shop.	a. Maintaining emissions of mercury from the collection of BOPF Group control devices at or below 0.000081 lb/ton steel scrap input to the BOPF; and b. If demonstrating compliance through performance testing, conducting subsequent performance tests at the frequencies specified in § 63.7821; and c. If demonstrating compliance through § 63.7791(c), (d), or (e), maintaining records pursuant to § 63.7842(e).
16. Each planned bleeder valve opening at a new or existing blast furnace.	a. Maintaining the opacity of emissions that exit any bleeder valve as a result of a planned opening at or below 8 percent (6-minute average); and b. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
17. Each slag processing, handling and storage operation for a new or existing blast furnace or BOPF.	a. Maintaining the opacity of emissions that exit any slag processing, handling, or storage operation at or below 10 percent (6-minute average); and b. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
18. Each existing blast furnace stove	a. Maintaining emissions of HCl at or below 0.0012 lb/MMBtu; b. Maintaining emissions of THC at or below 0.12 lb/MMBtu; and c. Conducting subsequent performance tests at the frequencies specified in § 63.7821.
19. Each new blast furnace stove	a. Maintaining emissions of HCl at or below 4.2e–4 lb/MMBtu; b. Maintaining emissions of THC at or below 0.0054 lb/MMBtu; and c. Conducting subsequent performance tests at the frequencies specified in § 63.7821.

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 (subpart A of this part) 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.	

Citation	Subject	Applies to subpart FFFFF	Explanation
§ 63.4	Prohibited Activities	Yes.	
§ 63.5	Construction/Reconstruction	Yes.	
§ 63.6(a), (b), (c), (d), (e)(1)(iii), (f)(2)–(3), (g), (h)(2)(ii)–(h)(9).	Compliance with Standards and Maintenance Requirements.	Yes.	
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See § 63.7810(d) for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions ASAP.	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes, on or before January 11, 2021, and No thereafter.	
§ 63.6(e)(3)	SSM Plan Requirements	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See § 63.7810(c).
§ 63.6(f)(1)	Compliance except during SSM	No	See § 63.7810(a).
§ 63.6(h)(1)	Compliance except during SSM	No	See § 63.7810(a).
§ 63.6(h)(2)(i)	Determining Compliance with Opacity and VE Standards.	No	Subpart FFFFF specifies methods and procedures for determining compliance with opacity emission and operating limits.
§ 63.6(i)	Extension of Compliance with Emission Standards.	Yes.	
§ 63.6(j)	Exemption from Compliance with Emission Standards.	Yes.	
§ 63.7(a)(1)–(2)	Applicability and Performance Test Dates.	No	Subpart FFFFF and specifies performance test applicability and dates.
§ 63.7(a)(3), (b)–(d), (e)(2)–(4), (f)–(h)	Performance Testing Requirements	Yes.	
§ 63.7(e)(1)	Performance Testing	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See §§ 63.7822(a), 63.7823(a), and 63.7825(a).
§ 63.8(a)(1)–(3), (b), (c)(1)(ii), (c)(2)–(3), (c)(4)(i)–(ii), (c)(5)–(6), (c)(7)–(8), (d)(1)–(2), (e), (f)(1)–(5), (g)(1)–(4).	Monitoring Requirements	Yes	CMS requirements in § 63.8(c)(4)(i)–(ii), (c)(5)–(6), (d)(1)–(2), and (e) apply only to COMS.
§ 63.8(a)(4)	Additional Monitoring Requirements for Control Devices in § 63.11.	No	Subpart FFFFF does not require flares.
§ 63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation.	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	
§ 63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS.	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	
§ 63.8(c)(4)	Continuous Monitoring System Requirements.	No	Subpart FFFFF specifies requirements for operation of CMS.
§ 63.8(d)(3)	Written procedures for CMS	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See § 63.7842(b)(3).
§ 63.8(f)(6)	RATA Alternative	No.	
§ 63.8(g)(5)	Data Reduction	No	Subpart FFFFF specifies data reduction requirements.
§ 63.9	Notification Requirements	Yes	Additional notifications for CMS in § 63.9(g) apply only to COMS.
§ 63.10(a), (b)(1), (b)(2)(x), (b)(2)(xiv), (b)(3), (c)(1)–(6), (c)(9)–(14), (d)(1)–(4), (e)(1)–(2), (e)(4), (f).	Recordkeeping and Reporting Requirements.	Yes	Additional records for CMS in § 63.10(c)(1)–(6), (9)–(14), and reports in § 63.10(d)(1)–(2) apply only to COMS.
§ 63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns.	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	

Citation	Subject	Applies to subpart FFFFF	Explanation
§ 63.10(b)(2)(ii)	Recordkeeping of Failures to Meet a Standard.	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See § 63.7842(a)(2)–(4) for recordkeeping of (1) date, time, and duration of failure to meet the standard; (2) listing of affected source or equipment, and an estimate of the quantity of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
§ 63.10(b)(2)(iii)	Maintenance Records	Yes.	
§ 63.10(b)(2)(iv)	Actions Taken to Minimize Emissions During SSM.	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See § 63.7842(a)(4) for records of actions taken to minimize emissions.
§ 63.10(b)(2)(v)	Actions Taken to Minimize Emissions During SSM.	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See § 63.7842(a)(4) for records of actions taken to minimize emissions.
§ 63.10(b)(2)(vi)	Recordkeeping for CMS Malfunctions	Yes.	
§ 63.10(b)(2)(vii)–(ix)	Other CMS Requirements	Yes.	
§ 63.10(b)(2)(xiii)	CMS Records for RATA Alternative	No.	
§ 63.10(c)(7)–(8)	Records of Excess Emissions and Parameter Monitoring Exceedances for CMS.	No	Subpart FFFFF specifies record requirements; see § 63.7842.
§ 63.10(c)(15)	Use of SSM Plan	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	
§ 63.10(d)(5)(i)	Periodic SSM Reports	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	See § 63.7841(b)(4) for malfunction reporting requirements.
§ 63.10(d)(5)(ii)	Immediate SSM Reports	No, for new or reconstructed sources which commenced construction or reconstruction after August 16, 2019. For all other affected sources, Yes on or before January 11, 2021, and No thereafter.	
§ 63.10(e)(3)	Excess Emission Reports	No	Subpart FFFFF specifies reporting requirements; see § 63.7841.
§ 63.11	Control Device Requirements	No	Subpart FFFFF does not require flares.
§ 63.12	State Authority and Delegations	Yes.	
§ 63.13–§ 63.16	Addresses, Incorporations by Reference, Availability of Information and Confidentiality, Performance Track Provisions.	Yes.	

■ 20. Add tables 5 and 6 to subpart FFFFF to read as follows:

Table 5 to Subpart FFFFF of Part 63—Toxic Equivalency Factors

As stated in § 63.7825(u), you must demonstrate compliance with each dioxin/furan emission limit that applies to you by calculating the sum of the 2,3,7,8-TCDD TEQs using the 2005 World Health Organization (WHO) toxicity equivalence factors (TEF) presented in the following table:

For each dioxin/furan congener . . .	You must calculate its 2,3,7,8-TCDD TEQ using the following TEF . . .
2,3,7,8-tetrachlorodibenzo-p-dioxin	1
1,2,3,7,8-pentachlorodibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	0.01
Octachlorodibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorodibenzofuran	0.1
1,2,3,7,8-pentachlorodibenzofuran	0.03
2,3,4,7,8-pentachlorodibenzofuran	0.3
1,2,3,4,7,8-hexachlorodibenzofuran	0.1
1,2,3,6,7,8-hexachlorodibenzofuran	0.1

For each dioxin/furan congener . . .	You must calculate its 2,3,7,8-TCDD TEQ using the following TEF . . .
1,2,3,7,8,9-hexachlorodibenzofuran	0.1
2,3,4,6,7,8-hexachlorodibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorodibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorodibenzofuran	0.01
Octachlorodibenzofuran	0.0003

Table 6 to Subpart FFFFF of Part 63—List of Polycyclic Aromatic Hydrocarbons

As stated in § 63.7825(x), you must demonstrate compliance with each polycyclic aromatic hydrocarbon emission limit that applies to you by calculating the sum of the emissions of each polycyclic aromatic hydrocarbon in the following table:

Pollutant name	CAS No.
Acenaphthene	83–32–9
Acenaphthylene	208–96–8
Anthracene	120–12–7
Benz[a]anthracene	56–55–3
Benzo[a]pyrene	50–32–8
Benzo[b]fluoranthene	205–99–2
Benzo[g,h,i]perylene	191–24–2
Benzo[k]fluoranthene	207–08–9
Chrysene	218–01–9
Dibenz[a,h]anthracene	53–70–3
Fluoranthene	206–44–0
Fluorene	86–73–7
Indeno (1,2,3-cd) pyrene	193–39–5
Naphthalene	91–20–3
Phenanthrene	85–01–8
Perylene	198–55–0
Pyrene	129–00–0

[FR Doc. 2024–05850 Filed 4–2–24; 8:45 am]

BILLING CODE 6560–50–P