



**American
Iron and Steel
Institute**



**COMMENTS OF THE
AMERICAN IRON AND STEEL INSTITUTE
AND
UNITED STATES STEEL CORPORATION**

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

88 Fed. Reg. 49,402 (July 31, 2023)

Docket No. EPA-HQ-OAR-2002-0083

SUBMITTED SEPTEMBER 29, 2023

INTRODUCTION

The American Iron and Steel Institute (representing Cleveland-Cliffs Inc.) and the United States Steel Corporation (U. S. Steel or USS) (collectively, AISI/USS or Industry Commenters) submit these comments on the U.S. Environmental Protection Agency's (EPA) proposed rule to revise the National Emissions Standards for Hazardous Air Pollutants for the Integrated Iron and Steel Manufacturing Facilities Source Category (II&S NESHAP).¹ This proposed rulemaking follows EPA's comprehensive efforts to conduct a residual risk analysis and technology review, which culminated in the 2020 final rule. Since the original NESHAP rulemaking in 2003, the II&S facilities subject to the NESHAP have worked cooperatively with EPA to provide extensive information in support of rational, fact-based decisionmaking that reflects technologically and economically feasible actions that are consistent with the Clean Air Act (the Act or CAA).²

AISI serves as the voice of the American steel industry in the public policy arena and advances the case for steel in the marketplace as the preferred material of choice. AISI also plays a lead role in the development and application of new steels and steelmaking technology. AISI is comprised of steel-producing member companies, including integrated and electric arc furnace steelmakers, and associate members who are suppliers to or customers of the steel industry. Along with the core members of AISI, including Cleveland-Cliffs Inc., these comments are submitted on behalf of United States Steel Corporation. Cleveland-Cliffs Inc. is the largest flat-rolled steel producer in North America. It operates five integrated iron and steel facilities in the Great Lakes Region and employs approximately 27,000 people. Cleveland-Cliffs' five facilities (located in Burns Harbor, Indiana; Cleveland, Ohio; Dearborn, Michigan; East Chicago, Indiana; and Middletown, Ohio) are among the facilities that have devoted significant resources to submit technical data and other information to EPA in a cooperative effort for this rulemaking.

U. S. Steel is a leading steel manufacturer in the United States and Europe. U. S. Steel has over 22,000 dedicated employees and produces over 1,000 grades of steel. For more than 100 years, while consistently meeting new challenges, U. S. Steel has been a vital part of America's history, security, and infrastructure. Three of U. S. Steel's plants (located in Braddock, Pennsylvania; Gary, Indiana; and Granite City, Illinois) are among the facilities that have invested significant resources to expand and improve the engineering, air quality, and modeling data on issues of central importance to this rulemaking.

¹ EPA, *National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Amendments*, Proposed Rule, 88 Fed. Reg. 49,402 (July 31, 2023).

² We are disappointed that EPA has repeatedly failed to consider timely information provided to it over the course of the past few years in its decisionmaking process. For example, at the beginning of this year, the Industry Commenters provided EPA with extensive information on risk and fence-line monitoring (January), on work practices (February), on fugitive emissions (April), and on speciated pollutant emissions (May). Although this proposed rule was not published until July 31, 2023, EPA did not incorporate any of the provided information in the proposal. Similarly, in 2019, the U. S. Steel facility in Gary, Indiana conducted stack testing, given a stack test from that facility reflected an anomalous result, and it submitted that information to EPA prior to the 2019 proposed action. EPA was unable to consider that information at the time but acknowledged it and stated that it only bolstered the low-risk determination EPA had made. In this new proposal, however, EPA continues to ignore this test information (although it did consider other new test information provided since 2019) and actually re-uses the anomalous results.

The U.S. Cybersecurity and Infrastructure Security Agency (CISA)—a governmental agency under the Department of Homeland Security (DHS) tasked with the important job of managing and mitigating risk to the nation’s cyber and physical infrastructure in the public and private sectors³—has designated iron and steel manufacturing to be a vital component of our nation’s critical manufacturing sector necessary for the country’s economic prosperity and national security.⁴ It is not surprising that the steel sector is essential to the nation because it:

- Provides over \$520 billion in economic output, supporting over 2 million jobs.⁵
- Generates over \$56 billion in tax revenues annually, which goes back into federal infrastructure and local communities.⁶
- Is a core critical infrastructure industry impacting transportation systems, the electric power grid, water systems, and energy generation systems.⁷
- Has been determined to be *essential for national security*, with such security being dependent on a healthy and competitive domestic steel industry.⁸

Regulatory costs imposed by this proposal will affect local, regional, and national economies and will needlessly undermine the steel manufacturing’s vital role in maintaining our nation’s physical infrastructure and national security. AISI and USS believe that it is important for EPA to balance these considerations in this rulemaking, especially given EPA’s uncontested finding of low source category risks that are protective of public health with an ample margin of safety. Extensive new testing coupled with more recent emission data included in these comments shows even lower theoretical baseline and *de minimis* HAP-related benefits from further regulation. This Administration has been at the forefront of addressing present and clear endangerments to the nation and our allies from foreign adversaries. Ignoring risks to national security and infrastructure in a narrow attempt to extinguish all theoretical HAP risks may ultimately place the country at a severe disadvantage in addressing much larger real threats.

The proposed rule would also put at risk the Administration’s broader efforts to transition the economy to cleaner, lower-emitting forms of energy. Steel is a vital component in manufacturing new wind and solar energy power, with independent estimates forecasting steep increases in US steel demand to meet transition demands. Failure to consider these effects could have much larger counter-productive impacts for the environment.

³ See “Doing Business with CISA” at <https://www.cisa.gov/doing-business-cisa#:~:text=The%20Cybersecurity%20and%20Infrastructure%20Security,the%20public%20and%20private%20sector.>

⁴ CISA.gov, “Critical Manufacturing Sector Specific Plan” at <https://www.cisa.gov/sites/default/files/publications/nipp-ssp-critical-manufacturing-2015-508.pdf>

⁵ See “Economic Impact of the American Iron and Steel Industry” at <https://www.steel.org/economicimpact/>

⁶ *Id.*

⁷ *Ibid* CISA.gov

⁸ In a study conducted under Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. § 1862), the U.S. Department of Commerce determined that *domestic steel production is essential for national security and that domestic steel production depends on a healthy and competitive U.S. industry*. See <https://www.bis.doc.gov/index.php/other-areas/office-of-technology-evaluation-ote/section-232-investigations> (emphasis added).

The reckless nature of this rulemaking is thus troublesome to Industry Commenters given the many US industries that depend on US steel manufacturing, the broader national security and environmental objectives of this Administration, and the *de minimis* benefits of further regulation. Increased costs, especially of the nature proposed here, mean that companies will be less able to compete globally, in a market where the demand for steel worldwide is increasing. Based on this, there are at least four significant impacts that should be of concern to the Administration:

1. *Off-Shoring of Steel Production:* The steel demand currently from the United States will shift to suppliers operating in other countries, creating new supply chain risks for many critical manufacturing sectors and new national security concerns.
2. *Delays and Higher Costs in Building New Renewable Energy:* The goals of the Inflation Reduction Act (IRA) will be stymied. The domestic steel industry is a leading supplier in the energy transition, in that steel is a critical component in the ten common sources of clean power.⁹ We discuss below Congress's direction that clean energy projects funded under the IRA use domestically produced steel, yet EPA's proposed actions here will could impose both higher costs and delays.
3. *Less Spending on Innovation:* Resources that could be devoted to innovation and efficiency improvements will be shifted to compliance with this rule, despite EPA's acknowledgment that further emission reductions are not required to achieve protection of public health with an ample margin of safety.
4. *Higher Global Greenhouse Gas Emissions and Environmental Degradation:* By incentivizing the production of steel in countries with less efficient production and fewer environmental controls, global greenhouse gas emissions will increase.¹⁰

As explained in these comments, EPA has absolutely no obligation to adopt many of the ill-advised proposed changes. They are purely discretionary decisions. EPA could choose not to create these consequences for the American people. Beyond being discretionary, the proposed changes lack technical and legal foundations, in many instances relying on improper data, ignoring valid data that supports results other than EPA's proposed outcome, being unachievable by even the top performing facilities, and being flatly inconsistent with the Clean Air Act. This includes EPA's flawed analysis of the changes mandated pursuant to the *LEAN* court decision. Failure to correct these errors and produce unbiased technically supportable estimates as required under the Clean Air Act and the Information Quality Act for public comment and review will render the final rule arbitrary and capricious and otherwise an abuse of Agency discretion.

The industry stands ready to work with EPA on potential regulatory approaches that would address concerns voiced by stakeholders but also take into account the need to maintain these facilities' competitive position internationally and their ability to serve the national defense. As explained

⁹ Renewable Energy & World, "Building Tomorrow's Clean Energy Systems on Clean Steel," August 30, 2022, <https://www.renewableenergyworld.com/solar/building-tomorrows-clean-energy-systems-on-green-steel/#gref>.

¹⁰ Moreover, while manufacturing the steel will produce higher greenhouse gas emissions if it occurs outside the United States, the uptick in renewable energy infrastructure will exacerbate the concern in that 180 tons of steel is needed for each MW of wind power constructed, which, given the costs this rule will impose, will go to foreign suppliers.

below, we believe several of our concerns stem from fundamental misunderstandings EPA has about how the equipment in the industry operates. In particular, we encourage EPA to meet with us to improve its understanding of the operations, including the differences in design of the blast furnaces across the industry, the design and configuration of basic oxygen processes, safety requirements, and normal operation of bells, to name a few configurations and procedures that affect the ability to conduct the proposed work practices.

Please contact Paul Balserak at pbalserak@steel.org for AISI or Dave Hacker at DWHacker@USS.com with any questions regarding these comments.

EXECUTIVE SUMMARY

Industry Commenters submit these comments in response to EPA's National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Amendments; Proposed rule, 88 Fed. Reg. 49,401 (July 31, 2023) (Proposed Rule or Proposed Reconsideration Rule). These comments are timely submitted on September 29, 2023.¹

AISI serves as the voice of the American steel industry, representing member companies, including integrated steel manufacturers and electric arc furnace steelmakers, that account for the majority of U.S. steelmaking capacity. AISI members include integrated steel manufacturers, including Cleveland-Cliffs, Inc., who, along with U. S. Steel, own and operate facilities in the United States subject to Clean Air Act regulations, including the II&S NESHAP, 40 C.F.R. Part 63, Subpart FFFFF.

Industry Commenters have been consistent in communicating significant concern to EPA, and more broadly to the Administration, about the adverse effects of this Proposed Rule and about the broader regulatory assault on the domestic steel industry that has been launched by EPA through three significant concurrently proposed NESHAP rules² that purport to implement Section 112 of the Clean Air Act. Individually and collectively, these concurrent rules will:

- Fail to achieve any meaningful HAP-related benefits given EPA's recent determination, supplemented with new testing data, showing that these highly regulated facilities operate well below Congressional mandated standards for protecting public human health with an ample margin of safety
- Significantly impact the economics of steel production in the United States in ways that could delay, if not impede, the vast increases in steel production needed for the energy transition.
- Increase global emissions by incentivizing higher-emitting foreign producers over American steel manufacturing processes that are comparatively more efficient and lower emitting than other steel-producing countries in the world.
- Create new uncertainties and barriers to expanding domestic steel investment by failing to consider the significant investments made by the industry to comply with these NESHAP regulations over the past several years.

¹ See EPA, *National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing Facilities Technology Review; Extension of Comment Period*, 88 Fed. Reg. 63,047 (Sept. 14, 2023) ("Extension Notice").

² II&S Manufacturing NESHAP; Coke Oven: Pushing, Quenching, and Battery Stacks NESHAP, and Taconite Iron Ore Processing NESHAP.

- Create new national security and supply chain concerns as reflected in the Administration’s Department of Commerce and Department of Defense statements about the criticality of a strong domestic steel industry to our national defense.
- Effectively increase U.S. Greenhouse Gas (GHG) emissions by ignoring the crucial role the steel industry is playing in the energy transition as a supplier of key infrastructure elements for renewable power.

The II&S Proposed Rule:

- Creates the false perception that significant reductions in emissions and risks will be achieved (even though in 202 EPA determined that the II&S source category posed low risk beyond AMOS) and does so by relying on flawed data that both inflates current emissions estimates and overstates the potential benefits of proposed requirements.
- Is arbitrary and capricious, and otherwise abuses agency discretion by ignoring repeated attempts to correct factual errors (including vastly overstated emission estimates, technically infeasible production assumptions, and overstated scaleup factors) and choosing instead to rely on incorrect or outdated information in its analysis. In doing so, EPA fails to engage critical information of central relevance that it has had since 2019 showing that EPA’s “before-case” emission estimates significantly overstate risk—a conclusion the Agency specifically acknowledged in the final 2020 risk and technology review rulemaking.
- Provides misleading (at best) and inaccurate cost-effectiveness claims, given costs per ton estimates for the proposed rule exceed values EPA has rejected repeatedly as too costly for other source categories under this program.
- Will impose an estimated \$5 billion in new capital costs and an estimated \$1.2 billion in annual costs on this industry,³ which will lead to competitor countries displacing U.S. suppliers, including U.S. workers, and higher global emissions for no measurable HAP related benefits. These cost estimates include:
 - An estimated \$3.2 billion in new capital expenditures across the industry and an estimated \$750 million per year in annual operating costs for the industry to comply with the proposed point source HAP emission limits, with the cost per ton removed for individual HAP limits grossly exceeding any value EPA accepted in previously promulgated standards (See Appendix K); and
 - An estimated \$1.7 billion in new capital costs and over \$350 million in new annual operating costs across the industry to implement proposed controls on several categories of UFIP emissions at an average cost per ton of \$170 million (See Appendix A).

³ *Disclaimer:* All of the data and information contained in these comments is calculated based upon several assumptions and on only the Rule as proposed. The data should not be considered to be a disclosure for any company or for the amounts to be applied to any specific facility.

- Embarks on a series of agency actions that are not compelled by the Clean Air Act (and abuse any discretion provided for therein) and that instead reflect the current Administration's (and some of its partisan supporters') dissatisfaction with the prior regulations, notwithstanding EPA's justified finding of low risk from the industry.
- Reflects an illegal repurposing of CAA Section 112(d)(6) technical review to achieve non-HAP-related criteria pollutant benefits without the protections and legal guardrails established by Congress for these pollutants, which is contrary to statements made by the Supreme Court in the ruling striking down the Mercury and Air Toxics Rule.
- Fails to provide data in the record to support these discretionary actions in order to explain why they are needed or if they are even potentially achievable by the best performing facilities.
- Claims incorrectly and without support that the statute compels EPA to take many of these actions which as explained below are neither required nor authorized by the statute.
- Would result in an unlawful, arbitrary, and capricious action and abuse of discretion if EPA promulgates a final rule as proposed without correcting the factual errors and data misrepresentation and without considering industry submitted data which is of central relevance to this rule.

On top of these substantive problems, EPA has yet to make available (as it is required to do) the “data, information, and documents” on which “the proposed rule relies”—much less as of “the date of the publication of the proposed rule.” For example, EPA waited to include upper prediction limit (UPL) Excel workbooks that are of central relevance to its 30 proposed HAP limits in the docket until 42 days *after* it published notice of the proposed rule. Appendix I lists the documents Industry Commenters requested EPA make available for comment in the docket. While a few of these were recently made available, the 30-day comment period required by Clean Air Act Section 307(d) was not provided. These are fatal procedural flaws.

We understand that EPA has recently negotiated a deadline with environmental activists before the United States District Court for the District of Columbia to take final action by March 11, 2024. Regardless of any deadline, EPA must meet its obligations under Clean Air Act Sections 112 and 307, including providing the required comment periods and record information and making decisions that are supported by the record.

We urge EPA to limit the rulemaking to the actions that are required under the *Louisiana Environmental Action Network (LEAN)* decision,⁴ which are much narrower than the overreaching and wide-ranging elements of this proposal. Indeed, some of the most problematic elements of the proposal (i.e., based on unreliable data, lack of technical justification, and aggressive regulatory positions) are not the subject of *any* mandatory rulemaking to address the *LEAN* decision.

⁴ See *Louisiana Environmental Action Network v. EPA*, 955 F.3d 1088 (D.C. Cir. 2020) (hereinafter *LEAN*).

If the Integrated Iron and Steel Proposed Rule were the only action currently at issue, these facts would clearly warrant a change in position by EPA. When combined with the impact of the proposed changes to the Coke Oven: Pushing, Quenching, and Battery Stacks NESHAP and the Taconite Iron Ore Processing NESHAP, both of which also impact this industry and these same companies, it is imperative that the Administration step back and seriously reconsider its course of action.⁵

Given the low risk, high costs, competitive impacts, and multiple technical errors in the proposal, EPA needs to limit any action here to only that which is actually required by the court's decision in *LEAN*. No other discretionary actions should be taken, and, as these comments detail, no other actions are, in fact, necessary. EPA revisits determinations that it made just three years ago during its 2020 Risk and Technology Review for this industry—which Clean Air Act Section 112(d)(6) does not compel. If EPA wants to revisit these determinations, it may do so at the next Section 112(d)(6) eight-year technical review, based on additional data and information appropriately gathered over that longer timeframe as contemplated by the Act. EPA has more than enough on its plate to complete a technically competent rulemaking on the required actions and so should put aside the numerous discretionary elements of this proposal.

* * *

Substantively, we summarize our input on these issues below. We highlight these particular points in this Executive Summary but expect EPA to take a final action that is not “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” or “in excess of statutory . . . authority” within the meaning of CAA Section 307(d)(A) and (C). EPA must address the more than 300-plus pages of substantive comments (plus extensive appendices with additional data and technical analyses) submitted herein, that result from detailed analyses and a significant investment of resources in the short period of time that was offered for public comment. The Agency's fundamental statutory responsibilities to the American public generally, and to the regulated industry specifically, cannot be disregarded for the sake of expedience.

The following points highlight key elements of the comments in summary fashion (noting that there is a table of contents at the beginning of each substantive section):

Comment Section I – Importance of domestic steel production to the economy, national defense and the energy transition

- The U.S. Government has designated steelmaking vital to the U.S. economy and a key

⁵ We note that the Administration may be operating under the misapprehension that all steel production is the same. However, many of the grades of steel produced by the integrated iron and steel industry cannot be produced through other methods. The union members that our industry employs have already expressed their concerns with EPA's proposed actions at the public hearing for this rule. Indeed, unless EPA corrects the errors made in developing the proposed new emission limits, the pending rulemaking will threaten the strategically important integrated steelmakers that produces high-purity grades of steel for critical applications that otherwise will be displaced by imported steel that will have been manufactured by processes that have much higher greenhouse gas (and other pollutant) emission rates.

component of our national defense and critical infrastructure,⁶ with the industry providing essential inputs to numerous domestic economic sectors, including defense, automobiles (including components for electric vehicles with recent advances in lighter weight steel), farm equipment, household appliances, food packaging, many types of buildings (including homes), energy (including renewables), and highway construction.

- Steel is also a critical component in the ten common sources of clean power.⁷ Every new megawatt (MW) of solar power will require 35 to 45 tons of steel while every new MW of wind power will use 120 to 180 tons of steel. Independent estimates suggest that 1.7 billion tons of steel will be needed just to build enough wind turbines required to reach net zero by 2050.
- Regulatory actions that raise the cost of steel production and undermine its efficient production and availability could slow the energy transition and its overall promise of reduced emissions, and negatively impact the economy and our national defense capabilities.

Comment Section II -- Inflated risk values

- Using upper-end, conservative emissions estimates, EPA determined in its 2020 Risk and Technology Review that the overall risk from this source category is below levels required to protect public health with an ample margin of safety. EPA is correctly not contesting or reconsidering this finding
- Information EPA collected since completion of its 2020 Risk and Technology Review validates the low risk presented by this source category, finding substantially lower risks than those relied on by the Agency in its 2020 ample margin of safety finding.
- EPA has a duty under the CAA and the Information Quality Act to present data that is objective and unbiased. It is wholly improper for EPA to rely on known flaws in its risk assessment that result in the overstatements of risk. To remedy the factual and legal flaws in this proposal, EPA must:
 - Incorporate and consider previously acknowledged data submitted during the 2020 Risk and Technology Review into its emissions estimates and risk assessment which show even *lower* risk for this already low-risk source category.

⁶ The United States considers steelmaking so vital to our economy and national security that the Defense Logistics Agency (within the Department of Defense) maintains secure supplies of strategic and critical materials, like iron ore, in the U. S. National Defense Stockpile. The 2020 report of the National Minerals Information Center highlighted that in fiscal year 2019 alone, Defense Logistics Agency Strategic Materials acquired nearly \$15 million of new stock for the National Defense Stockpile, and, at the end of that year, the minerals stored, including iron ore, were valued at over \$1 billion.

⁷ Renewable Energy & World, “Building Tomorrow’s Clean Energy Systems on Clean Steel”. August 30, 2022, available at <https://tinyurl.com/3dk8atap>.

- Correct the inhalation risk model and limit the size range of particles to PM₁₀ (the inhalable portion) for arsenic and chromium emissions, which will also show that any residual risk is significantly lower than the EPA's already low, acceptable risk determination for these HAPs EPA identified as driving the highest risk.
- Correct statements in its proposal regarding purported increases in emissions of arsenic, lead, and chromium that are based on EPA's improper mixing and matching of data and unreasonable disregard of actual data, and recalculate monitored to modeled ratios for lead, arsenic, and chromium, and, where appropriate, correct its inaccurate overestimations of modeled to monitored ratios.
- Commit to rerun its risk models with the corrected data and release this information for public comment through a supplemental proposal. Notwithstanding EPA's statements in its proposal regarding purported increases in emissions of what it considers risk-driving hazardous air pollutants, the purported concentrations of arsenic would not raise public health risks for this source category above acceptable limits, and the purported concentrations of lead would still remain well below National Ambient Air Quality Standards for protection of public health. EPA has years of actual ambient data for lead, arsenic, and chromium from monitors adjacent to these regulated facilities that show de minimis risk levels far below existing health-based standards.
- EPA is unable to quantitatively evaluate any HAP-related statutory objective benefits from this rulemaking, choosing instead to rely on monetized health benefits from PM_{2.5} emission reductions that are unrelated to the statutory purpose of this rulemaking. Even so, EPA has not properly calculated those reductions. EPA estimates that the current level of particulate matter emissions from Unmeasurable Fugitive Intermittent Particulate (UFIP) sources is 8,096 tpy, and, following implementation of the proposed new opacity and work practice standards, particulate matter will be reduced by 2,269 tpy. However, EPA applied incorrect emission factors to estimate the current particulate matter emissions from UFIP sources. If just a few corrected emission factors had been applied to the eight regulated facilities, more appropriate estimates would be 6,010 tpy for baseline PM emissions and 1,435 of PM being reduced. With additional technical corrections, industry estimates a much lower baseline rate for PM emissions at 1,122 tpy. Assuming, without agreeing with, EPA's estimated tpy rate of reduction, and with the most accurate emission factors, the amount of PM emissions reduced would be only 246 tpy—about a tenth of EPA's projection. These estimates are shown in Table ES.1 below.

Table ES.1 – Comparison of Estimated PM Emissions and Emission Reductions

UFIP SOURCE	Base Case - EPA			Scenario 1 - Corrected EPA			Scenario 2 - Industry		
	% Reduction	PM Before Control (tpy)	PM Reduced (tpy)	% Reduction	PM Before Control (tpy)	PM Reduced (tpy)	% Reduction	PM Before Control (tpy)	PM Reduced (tpy)
BF Casthouse Fugitives	31%	1,240	389	31%	1,114	349	31%	43	14
BOPF Shop Fugitives	21%	3,836	810	21%	3,848	815	21%	900	190
BF Unplanned Openings	24%	57	14	24%	57	14	22%	40	9
BF Planned Openings	25%	44	11	25%	44	11	25%	23	6
BF Bell Leaks	41%	2,047	830	41%	76	31	49%	7	3
BF Iron Beaching	16%	1	0	16%	1	0.1	13%	1	0.1
Slag Handling & Storage	25%	871	216	25%	871	216	23%	107	24
Average/Total	28%	8,096	2,269	24%	6,010	1,435	22%	1,122	246

- EPA also applies incorrect PM_{2.5}-to-PM ratios for most of the UFIP source categories, resulting in an over-estimation of the fraction of PM that is the fine (more respirable) PM_{2.5} size. As reflected in Table ES.2 below, if EPA had applied the correct ratios, then only 105 tpy of PM_{2.5} would be expected to be reduced, instead of 563 tpy. Over a 10-year period, only 1,000 tons of PM_{2.5} would be reduced, instead the purported of 5,600—a significant difference.

Table ES.2 – Comparison of Estimated PM_{2.5} /PM Emission Reductions

UFIP SOURCE	Base Case - EPA			Scenario 1 - Corrected EPA			Scenario 2 - Industry		
	EPA's PM/PM _{2.5} Ratio	PM Reduced (tpy)	PM _{2.5} Reduced (tpy)	EPA's PM/PM _{2.5} Ratio	PM Reduced (tpy)	PM _{2.5} Reduced (tpy)	Industry PM/PM _{2.5} Ratio	PM Reduced (tpy)	PM _{2.5} Reduced (tpy)
BF Casthouse Fugitives	23%	389	90	23%	349	81	23%	14	3
BOPF Shop Fugitives	29%	810	236	29%	815	237	51%	190	98
BF Unplanned Openings	22%	14	3	22%	14	3	1%	9	0.1
BF Planned Openings	23%	11	2	23%	11	2	1%	6	0.1
BF Bell Leaks	23%	830	190	23%	31	7	5%	3	0.2
BF Iron Beaching	33%	0.1	0.03	33%	0.1	0.03	11%	0.1	0.01
Slag Handling & Storage	20%	216	42	20%	216	42	18%	24	4.3
Total (tpy)		2,269	563		1,435	373		246.49	105

- EPA significantly overstates the monetized benefits from this proposal by using an inflated and unsupported estimate of a potential 560 tpy reduction in PM_{2.5} emissions. Applying corrected data yields a significantly lower estimate of potential PM_{2.5} emission reductions that would correspond to a much lower estimate of PM_{2.5} benefits of \$306 to \$414 million with equivalent annualized values of \$40 to \$47 million.
- EPA's attempt to justify its promulgation of standards for regulation of HAP pursuant to CAA Section 112(d)(2), (3), and (6), based on the potential for reduction of PM_{2.5} fine

particulates and corresponding monetized health benefits is legally flawed insofar as PM is regulated under different Clean Air Act authority.⁸

Comment Section III - The proposal is inconsistent with the Clean Air Act

From the time it first enacted the Clean Air Act in 1970, Congress has understood and expected that the mission of EPA, protecting public health and the environment, would be compatible with the goal of sound industrial development and the maintenance of a healthy, vibrant economy. See CAA Section 101(b). The proposed rule runs counter to Congress's expectations in this regard and requires significant revision before it may be finalized.

1. New source versus existing source floors

- At the root of the problem is EPA's commitment to its position that it is precluded from considering costs when establishing a standard based on the floor for existing sources. Based on this view, EPA concludes that it is authorized by the Clean Air Act to establish initial existing source MACT emission standards under CAA Section 112(d)(2) without ever considering costs. EPA's commitment to this view of the statute is misplaced, insofar as it rests on a misreading and misunderstanding of the relevant statutory provisions.
- The only authorization for MACT standard-setting under CAA Section 112(d) is CAA Section 112(d)(2). Under paragraph (d)(2), EPA is required to evaluate a statutorily specified set of factors, including removal capacities, costs, non-air quality health and environmental impacts, and energy requirements associated with available control measures, in order to determine whether a given control measure represents "the maximum degree of reduction in emissions ... that the Administrator . . . determines is achievable" through the "application of measures, processes, methods, systems or techniques."
- Historically, EPA has relied on the language of paragraph (d)(3) of CAA Section 112 to justify setting MACT standards at a "minimum control level," a level that EPA labels a "floor." EPA promulgates MACT standards for both new and existing sources without making a determination that such standards are "achievable," after "taking consideration the cost . . . of achieving such emission reduction." But in doing so the Agency fails to pick up on the fact that paragraph (d)(3) uses quite different language when it speaks, alternately, of "new sources" and of "existing sources." With respect to new source floors, Congress explicitly included in paragraph (d)(3) language from paragraph (d)(2) ("maximum degree of reduction achievable"), and provided that the control level "achieved in practice" by the "best controlled" *similar* [existing] source shall be "*deemed achievable for new sources*" in the category or subcategory. By using the new source floor to establish achievability under paragraph (d)(2), Congress excused EPA from having to "tak[e] into account the cost of achieving such emission reduction" (or any of the other factors listed in paragraph (d)(2)) in resolving "achievability" under (d)(2). With respect to existing sources, however, paragraph (d)(3) uses very different language from that governing new source floors, language that does not override consideration of cost and other factors in

⁸ 42 U.S.C. § 7409.

determining the “maximum degree of reduction achievable” for existing sources under paragraph (d)(2).

- Where, EPA promulgates a final MACT standard for existing sources based on a paragraph (d)(3) floor selected without any consideration of cost, the Agency will have inappropriately established new source standards under paragraph (d)(2) that “require[s] the maximum degree of reduction in emissions” without the Administrator ever having “tak[en] into consideration the cost of achieving such emission reduction.” Given the plain language of CAA Section 112(d)(2), EPA’s longstanding approach, which the Agency is proposing to adopt here, is unlawful.

2. Existing source “emission limitation” based floors

- EPA’s proposed approach to setting emission standards for existing sources under CAA Section 112(d) is also unlawful for a separate reason. For existing sources, paragraph (d)(3) of CAA Section 112(d) provides, as is relevant here, that “[e]mission standards promulgated under this subsection . . . shall not be less stringent, and may be more stringent than – . . . (B) the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory with fewer than 30 sources.” The focus of the existing source floor, therefore, is on an average of “allowable emissions” that have been “achieved,” not on an average of the “actual emissions” that have been “achieved” by the “best performing” existing sources. Notwithstanding this language, EPA’s longstanding approach has been to derive an existing source floor not from the “average emission limitation” of the best performing five sources, but rather from the existing sources’ actual emissions. This approach is not permissible.
- EPA fails to account for the simple fact that “emission limitation” is a defined term under the Clean Air Act. Specifically, CAA Section 302(k) defines “emission limitation” to mean a “requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this Act.” The substitution of an average “emission limitation” floor for an average “actual emissions” floor is contrary to the plain language of the CAA. Where EPA identifies the “best performers” in an existing source category that are not subject to any previously established “requirement . . . which limits the quantity, rate, or concentration of emissions” from those sources, the existing source floor provisions in paragraph (d)(3) have no application. In such circumstances, EPA’s task is to proceed to propose under CAA Section 112(d)(2) a MACT standard that reflects the “maximum degree of reduction” that is “achievable,” “taking into consideration the cost of achieving such emission reduction” and “any non-air quality health and environmental impacts and energy requirements.” To the extent EPA has failed to put forth such a proposal here, the Agency must withdraw what it has published and repropose a standard that is established in accordance with the provisions of CAA Section 112(d)(2).

3. Consistency of work practice standards with MACT

- CAA Section 112(d)(3) does not authorize EPA to establish floors for Section 112(h)(1) “work practice” or “operational standards,” but must instead apply the Section 112(d)(2) MACT standards-setting criteria to determine whether such “work practice/operational” standards are “consistent with” Section 112(d)(2).
- Section 112(d)(2) is the only Section 112 provision that authorizes EPA to establish MACT numerical emission standards. Section 112(d)(3) does not itself authorize the promulgation of numerical emission standards but instead provides EPA authority to define the *minimum* stringency of any numerical standards that may be promulgated for existing source categories or subcategories under Section 112(d)(2). Where emissions cannot be measured, either because they are fugitive or because application of measurement technology is not practicable, Section 112(h)(2)(A)(B), EPA is authorized under Section 112(h)(1) to adopt a “work practice” or “operational” standard (hereinafter “work practice standard”) “in lieu” of a “numeric [MACT] standard” under paragraph (d)(2), provided that the paragraph (h)(1) standard “is consistent with” paragraph (d)(2).
- Paragraph (d)(3) existing source floors under Section 112 require EPA to identify “the best performing ... sources,” using “emissions information that the Administrator has [developed] or could reasonably obtain.” Where information on emissions is not available, or could not be reasonably obtained, as is the case with emissions that cannot be collected or measured—the type of emissions that are subject to paragraph (h)(1) work practice standards—EPA cannot establish a floor under paragraph (d)(3).
- In this rulemaking, EPA has proposed paragraph (d)(3) “work practice” floors for two previously unregulated groups of sources. Ignoring cost and the other MACT decisional factors identified in paragraph (d)(2) of Section 112, EPA has relied on those proposed floors to justify the “consistency” of the subparagraph (h)(1) work practice standards with paragraph (d)(2). Because paragraph (d)(3) does not authorize “work practice” floors, EPA has failed to justify the proposed work practice standards. To satisfy the paragraph (h)(1) “consistency” requirement, EPA must apply the paragraph (d)(2) MACT decisional factors to the proposed paragraph (h)(1) work practice standards. *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 663 (D.C. Cir. 2016). Because EPA has not undertaken that analysis, EPA must publish a supplemental proposal (1) withdrawing the paragraph (d)(3) “work practice standard” floors in the current proposal; (2) soliciting comment on application of the paragraph (d)(2) statutory factors to those proposed work practice standards; and (3) explaining how compliance with those work practice standards would be cost effective, and feasible, for all sources subject to the standard.

Comment Section IV - Errors in estimated baseline emissions for UFIP sources

- EPA significantly overestimates current PM and HAP metal emission rates due to a number of *errors*. First, EPA uses an arbitrary emission factor for bell leaks of 0.325 lb/ton of iron that is 27 times higher than the factor EPA used in the 2020 RTR rulemaking of 0.012 lb/ton of iron. EPA cites to Region V’s position based on unsupported assumptions without

any further technical support or engineering report and then averages two emission factors to come up with a compromise of 0.325. EPA’s series of actions makes a difference—it changes the bell leak emission estimate from 2.80 tpy (2020) to 76 tpy (2023) for bell leaks—an 27-fold increase.

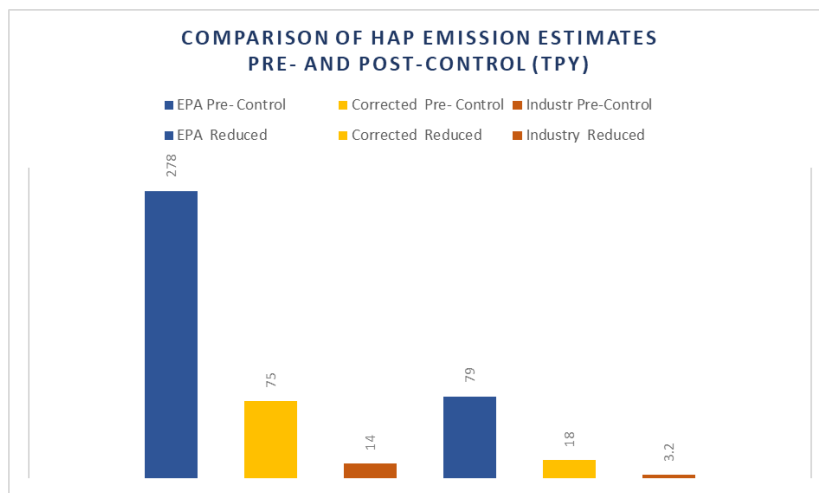
- In calculating the HAP emissions for 6 of the 7 UFIP categories, EPA has inappropriately and in error relied on what it knows to be an invalid test result and eschews a valid one. EPA’s use of HAP-to-PM ratios based on a 2012 Gary facility stack test that industry told EPA failed to correct for background and for which the facility completed a retest in 2019 is perplexing at best. EPA acknowledged in the 2020 rule that it had new data, but EPA did not correct its risk modeling because the modeling already showed low risk, and this result would only make the risk lower. Yet now, in seeking to justify its new ideas of control requirements, EPA embraces what it knows to be invalid stack test data (that EPA acknowledged in the 2020 rulemaking) and fails to even mention the more recent test result that did not have errors. Again, the error has consequences: if EPA used the ratios from the valid Gary 2019 testing, the emissions estimate would be 126 tpy using the correct HAP/PM ratios based on the valid test data compared to 278 tpy using ratios based on invalid test results.
- EPA used a HAP metals-to-PM ratio for slag handling about 8 times higher than the ratio used in 2020 without *any* explanation whatsoever. Inexplicably, EPA assumed a ratio of 3.4% of metal HAP to particulate matter, compared with 0.42% in 2020, resulting in a ~8-fold increase in the slag-related emissions estimate (from 4 to 30 tpy). In another misstep, EPA failed to subtract point source-related BF and BOPF emissions in its estimate of BF casthouse and BOPF shop fugitive emission estimates, even though EPA carefully did so in 2020. The consequence is an inappropriate overestimation of metal HAP fugitives.
- If EPA corrects these errors, pre-control HAP emissions go from 278 to 75 tpy, and, assuming the same rate of reduction, the quantity of HAPs reduced goes from 79 to 18 tpy. The table below shows EPA’s 2023 baseline estimates and the new estimates with the errors described above corrected.

Table ES.3 – Comparison of Estimated HAP Emissions and Emission Reductions

UFIP SOURCE	EPA Estimates		Corrected Estimates		Industry Estimates	
	HAP Before Control (tpy)	HAP Reduced (tpy)	HAP Before Control (tpy)	HAP Reduced (tpy)	HAP Before Control (tpy)	HAP Reduced (tpy)
BF Casthouse Fugitives	46	14	15	5	0.6	0.2
BOPF Shop Fugitives	123	26	53	11	12	3
BF Unplanned Openings	2	1	0.79	0.2	0.6	0.1
BF Planned Openings	1.6	0.4	0.60	0.2	0.3	0.08
BF Bell Leaks	76	30.7	1.04	0.4	0.09	0.05
BF Iron Beaching	0.02	0.00	0.01	0.001	0.01	0.002
Slag Handling & Storage	30	7	4	0.9	0.5	0.1
Average/Total	278	79	75	18	14	3.2

- In addition to errors noted above, EPA has used several overly conservative emission factors in calculating UFIP emission estimates for slag handling operations, unplanned and planned pressure relief device (PRD) openings, and the BOPF shop fugitives. With these errors corrected and more appropriate emission factors being used, pre-control HAP emissions would be only 14 tpy (instead of EPA's 278 tpy) as reflected in the table above. Assuming, without conceding the appropriateness of, EPA's estimated removal efficiencies, if those removal rates are applied to industry's baseline estimate, the reduction is only 3 tpy, which would not be meaningful. With the corrected baseline, the reduction would still be only 18 tpy spread among all 8 II&S facilities—which is significantly lower than a reduction of 79 tpy based on EPA's estimated baseline. This is reflected in Table ES.3 above and figure ES.1 below.

Figure ES.1 – Comparison of HAP Emission Estimates Pre- and Post-Control



- Because EPA is not using appropriate emission factors or properly calculating estimated HAP emissions from UFIP sources, it is significantly overstating both baseline emissions and emission reductions. These errors propagate themselves into the cost-effectiveness calculations for the new emission standards, leading to a significant understatement of the dollars per ton of HAP reduced. Based on EPA's estimated costs and EPA's assumed level of control, and assuming EPA's estimated rate of HAP reductions, the cost per ton of HAPs removed is \$36,000. If the errors in how the baseline emissions are calculated are corrected, the per-ton rate more than quadruples to \$159,000. If industry's estimated baseline emissions are used, then the cost-effectiveness rate goes to \$893,000 per ton of HAP removed. This unreasonably expensive rate cannot be justified given that public health is already protected with an ample margin of safety. This does not even consider that EPA has also significantly understated compliance costs.

Comment Section IV - Unjustified limits for currently regulated BOPF shops and BF casthouses as UFIP sources

- EPA’s attempt at a new Section 112(d)(6) technology review for BOPF shops and BF casthouses is improper. All of the technologies, processes, and practices that EPA considers in this review were already considered in the 2020 review that retained the existing 20% opacity limits applicable to these sources under Subpart FFFFF. Costs have increased, not decreased. While EPA states that some significant “uncertainties” during the 2020 review have been resolved, citing information received in 2022, it has not undertaken any engineering studies and admits that it is relying on its own “judgment” to support its proposal. More technical justification is required to upend the recent assessment.
- EPA proposes a 5% opacity limit for the BOPF shops and BF casthouses based on the average of what it considers the top five performers and using very limited Method 9 data from a few hours of tests in 2022. EPA’s analysis and ultimate conclusion is based on EPA’s review of inadequate data and fails to address variability. Applying a UPL analysis that includes significant additional data ignored by EPA without justification results in an opacity limit greater than 20% for both BOPF shop and BF casthouse fugitives. EPA’s refusal to account for variability is inexplicable. It simply states that it has never been done for opacity. This “because I said so” approach is the quintessential representation of arbitrary and capricious decisionmaking. Under EPA’s averaging approach, the limit would be achieved only 50% of the time by the best performers; a basic UPL analysis indicates an opacity limit of 40% would be needed for 99% achievability.
- No existing BOPF shop or BF casthouse can currently meet a 5% opacity standard at all times and under all operating conditions. Even if the industry spent huge sums of money to improve the chances of meeting a 5% opacity limit, BOPF shops and BF casthouses may still not be able to meet it continuously. The only potential way to move toward achieving a 5% opacity limit would be to enclose the shops, and that is not feasible. To do so would require significantly increased air flow rate to ensure worker safety and new add-on control technology.
- Enclosing the BOPF shops alone if that were required, is estimated to cost *\$1.2 billion* in total capital and \$204 million in overall annual costs industrywide for 8 facilities with 11 shops. This cost stands in stark contrast to EPA’s estimated compliance costs of \$495,000 in total capital and \$438,000 in annualized recurring costs. EPA has clearly missed the mark here. Assuming that 26 tpy of HAPs are reduced based on EPA’s estimate, then the cost effectiveness rate is a modest \$19,000 per ton. If EPA had estimated the costs correctly, it would show \$7.9 million per ton of HAP removed based on EPA’s own emission estimate of 26 tpy. Using the corrected emission factors noted above (with a reduction of 11 tpy), the cost would be an estimated *\$18 million per ton*. If industry’s costs are applied to industry’s estimated reduction in emissions, the estimated cost-effectiveness rate goes to *\$78 million per ton*. EPA has never issued a rule like this—nor should it.
- For BF casthouses, EPA similarly understates costs to achieve a 5% opacity limit. EPA estimates \$765,000 in total capital and \$740,000 in overall annual costs industrywide, with a cost-effectiveness of \$51,000 per ton of HAPs removed. Industry’s much more accurate cost estimates based upon the proposed rule are \$217 million in total capital and \$44

million in total annual costs. EPA’s estimated 14 tpy reduction leads to *\$3.1 million per ton*. But, given industry’s estimate that only 0.2 tpy would actually be reduced based on industry’s estimated baseline, the cost-effectiveness estimate would then be *\$234 million per ton*, far beyond what Congress could possibly have contemplated. A basic UPL analysis of additional data indicates an opacity limit of 20% would be needed for 99% achievability.

Figure ES.2 – EPA and Industry Estimated Total Capital and Annualized Costs for BOPF Shops and FG Casthouses

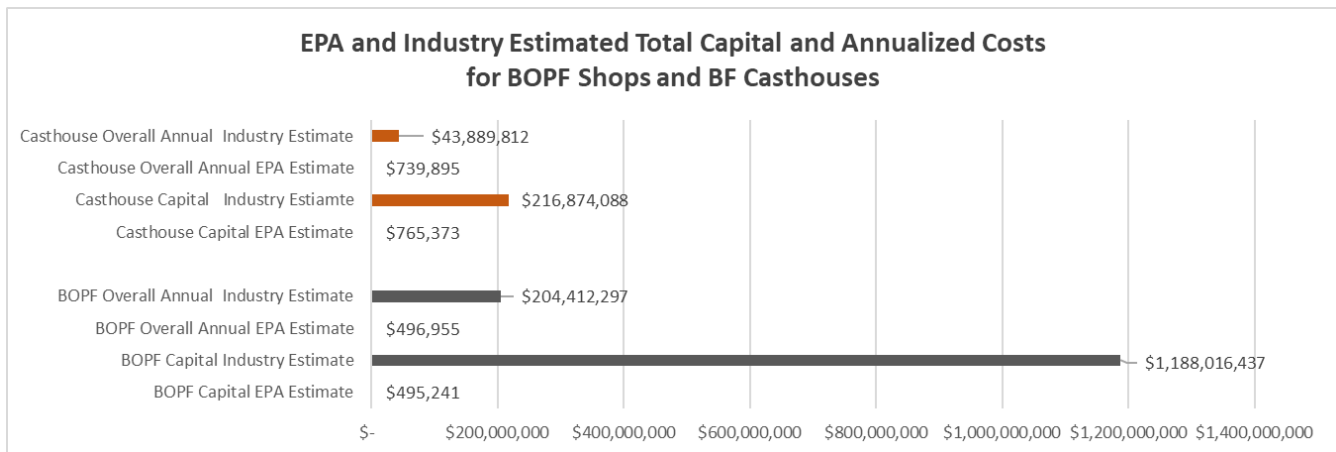
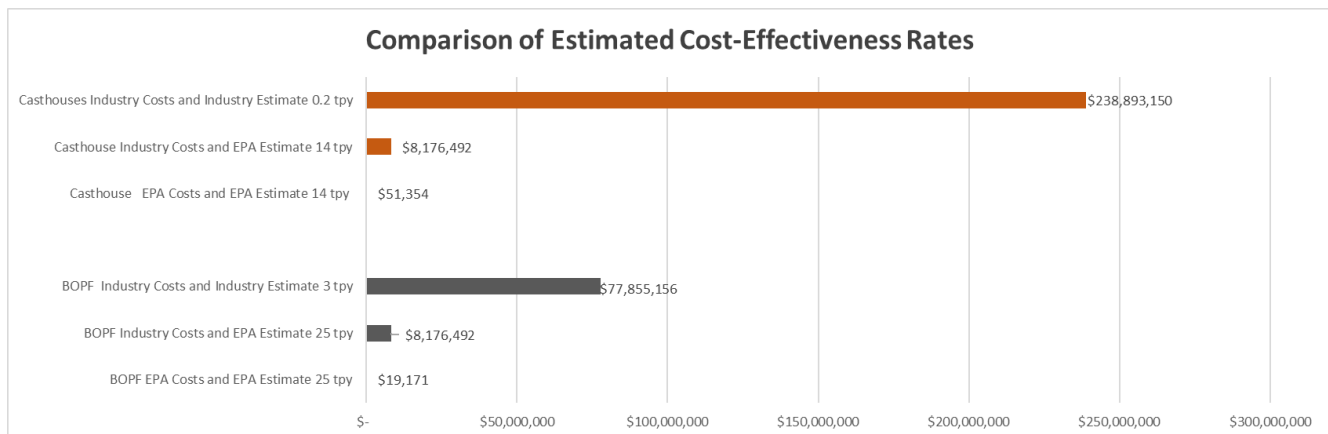


Figure ES.3 – Comparison of Estimated Cost-Effectiveness Rates



- When considering BOPF shop and BF casthouse fugitives together, the combined emission reductions range between 40 tpy based on EPA’s estimate and 3 tpy based on industry’s estimate. If EPA’s estimated annual costs of \$1.2 million are applied to its estimated reduction, the cost-effectiveness rate is only \$31,000. If industry’s estimated annual costs of \$248 million across the industry, are applied to EPA’s estimated 40 tpy reduction, the cost-effectiveness rate multiplies by more than five—at \$6.1 million per ton of HAP removed. If industry’s costs are applied to industry’s estimated reductions of 3 tpy, the cost-effectiveness rate, across the industry, becomes \$88 million per ton of HAPs. Given these costs and the very small quantities of HAPs being removed, EPA cannot consider it “necessary” under Section 112(d)(6) to revise the existing BF casthouse and BOPF shop opacity standards under Subpart FFFFF.

Comment Section VI - UFIPs sources not currently subject to opacity limits and work practice standards

- **No *LEAN* Obligation.** EPA is not obligated under *LEAN* to establish opacity and work practice standards for the five categories of UFIP sources not currently subject to Subpart FFFFF beyond what the best performers are achieving in practice, nor is it obligated to establish such standards if the costs are unreasonably expensive for the quantity of HAPs that would be reduced. While EPA’s emission reduction estimates and projected costs might make the standards appear cost-effective, a more robust analysis shows they are in fact unreasonable. EPA fails to properly analyze what emission standards are being achieved by the top performers and whether there are differences among those top performers and others within the category. Because EPA has overstated emissions and emission reductions and understated control costs, the proposed standards are exorbitantly expensive and unreasonable, and yet likely not achievable.
- **Emission Estimates.** The very nature of UFIP emissions makes it impossible to quantify current HAP emissions or determine what HAP emission reductions could be expected if the proposed opacity and work practice standards were implemented. Nevertheless, EPA has made certain assumptions and errors to estimate emissions and has also assumed realization of emission reductions if the work practices are implemented. Yet EPA provides no basis for those conclusions, similar to those discussed above. EPA overestimates emissions by using incorrect or erroneous data.
- **Cost Estimates.** EPA has also not analyzed the full extent of the costs of meeting the proposed work practice standards and opacity limits. EPA has no data upon which to estimate what it would take for UFIPs to meet the proposed opacity limits because no UFIPs are meeting or can currently meet those limits on an ongoing basis. EPA citing to its own judgment as to what changes would allow the UFIPs to meet the opacity standards lacks technical basis, and EPA provides no engineering or other studies to support its conclusions. EPA cannot simply make presumptions about what changes would be needed to meet these very stringent standards. Rather than an assumed 25% reduction in emissions and estimating costs based on that level of reduction, for example, it could actually take a much more drastic reduction in PM and HAP emissions to meet the opacity limits, well beyond what EPA estimates, which may not even be possible. EPA’s judgment here is not

within the agency's area of expertise (i.e., EPA is not an expert on operating integrated iron and steel manufacturing facilities) such that its judgment will not merit deference from a court.

- **Pressure relief device (PRD) *unplanned* openings.** EPA proposes work practice standards to limit unplanned pressure relief device openings (in place for safety purposes) and a numeric “operational limit” of 5 unplanned openings per year, as the “MACT floor.” EPA’s floor analysis is inappropriate for work practice standards because Section 112(h) does not contemplate this approach. Furthermore, the proposed work practice standards are unreasonably expensive, with estimates of the proposed rule ranging up to \$40 million/ton industry-wide and should not be required for the small amount of HAP emissions expected to be reduced (ranging from 0.5 tpy to 0.12 tpy). This is especially so given that industry is already incentivized to minimize PRD openings given the operational impacts. PRDs are safety devices in place to ensure that pressure within a BF vessel does not build to an explosive level; it is unreasonable to constrain these safety device openings to a 5-per-year limit. Also, EPA fails to appreciate some important differences among BF designs and sizes and how some are better able to handle higher pressures than others. Some of the EPA “top five” best performers are much larger and are of different designs than other BFs. These differences allow them to generally avoid unplanned openings that the others simply cannot. If EPA proceeds with any requirements other than work practice standards, it must distinguish among these classes, types, and sizes of BFs, and any associated opening requirements must be tied to those distinctions. If EPA were to regulate the number of PRD unplanned openings (although it should not), it must first establish subcategories based on the size of the BF vessels and then apply a UPL analysis. A more robust UPL analysis would indicate 112 openings per year for smaller units and 52 per year for the largest units—not 5 per year. Because of the safety function of PRD openings, any requirement should not be a “limit” but rather should be an “action level” triggering investigation and corrective action.
- **PRD *planned* openings.** 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 and more frequent visible emissions testing requirements 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).
- **Bell leaks.** The proposal to repair or replace large bells within four months of a Method 9 test indicating an opacity level of 10% or greater (which EPA arbitrarily chose because EPA does not have bell leak opacity data) based on twice-per-month testing is unreasonable. In yet another instance of a new-found, yet unexplained and unjustified, 2023 emission factor, EPA now estimates bell leak baseline emissions to be 27-fold increase than the Agency’s 2020 estimate (76 tpy now versus 2.80 tpy in 2020), an

adjustment that strains credibility. If more realistic emission factors are used, HAP emissions for bell leaks *industrywide* are estimated at just a quarter of a ton, i.e., about 500 lbs. EPA would not achieve a 31 tpy reduction in HAPs, but rather, if any, a 0.1 tpy reduction. All of this in exchange for very high costs. EPA's estimated compliance costs of \$134,00 per year per ton is also unrealistically low. When compared to industry data, the more likely estimate, based upon the proposed rule, could be as high as \$5.7 *billion* per year per ton. One reason for this large difference is EPA's complete failure entirely to account for lost revenue that will result from unscheduled outages to accomplish bell replacements. These are real costs for industry. EPA could mitigate this issue by using the appropriate emission factor for bell leaks, correcting the opacity limit trigger for industry to implement bell leak corrective actions, removing the prescriptive repair/replace language in the rule, and providing time for industry to take corrective actions which may include repairs/replacements and working within scheduled outages. In addition, EPA has not provided any justification for the newly proposed 10% opacity action level, in contravention of its statutory requirements.

- **Beaching.** 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. EPA estimates 0.02 tpy of emissions industrywide from beaching and emission reductions of 7 pounds per year, but industry estimates about 4 pounds per year of reduction. To its credit, EPA recognizes that its cost per ton of removal would be an incredible \$15.8 million/ton, but unfortunately, the proposal still proceeds with this unreasonable determination, claiming that EPA's hands are tied by the floor provisions of the statute. If the more accurate emission rates are used along with industry's facility-specific and more robust cost information, the cost-effectiveness rate, estimate based upon the proposed rule, is multiple times higher at \$311 million/ton.⁹ As Section III explains, EPA has no authority to establish work practice floors and promulgating these proposed requirements because they would impose unreasonable costs. That it is misreading the statute, for Congress did not intend this result. EPA has a perfectly reasonable option to interpret Section 112(d) to avoid this result, and to avoid the absurdity.¹⁰
- **Slag handling operations.** The proposed 5% opacity limit for slag handling operations should not be adopted. 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. EPA ignores these important safety concerns. EPA has not identified controls that could reasonably be utilized to meet a 5% opacity limit. Even implementing EPA's suggested measures, a UPL analysis results in an opacity limit of 20%, far exceeding the proposed 5% level. There is no question that variability exists, yet EPA states that it is not applying a UPL or other statistical analysis because it has never done so for opacity. This "because I said so" approach is the

⁹ Even if EPA's emission estimate is used along with Industry's costs, the cost-effectiveness rate is still unreasonably expensive at \$34 million/ton.

¹⁰ See, *Util. Air Reg'y Grp. v. EPA*, 573 U.S. 302 (2014).

quintessential representation of arbitrary and capricious decisionmaking. EPA estimates current HAP emissions at 30 tpy and reductions down to 7 tpy. Realistic estimates of current emissions are 1000 *pounds* per year with potential reduction to about 200 pounds across the eight facilities. In terms of cost-effectiveness, the more accurate values make EPA's proposed rate of \$42,000/ton increase to an estimated \$182 million/ton based upon the proposed rule. These costs are not justified, especially when there is no basis for concluding that sources would be able to meet the proposed 5% opacity standard. A basic UPL analysis of additional data indicates an opacity limit of 20% would be needed for 99% achievability.

- Overall reductions and cost-effectiveness for the five new UFIP categories.** Based on EPA's own estimates, if industry complied with all of the proposed UFIP standards for these five UFIP categories, fugitive HAP emissions would be reduced from about 110 tpy to 70 tpy—less than 40 tpy. EPA estimates compliance will cost \$1.6 million annually and \$41,000/ton. Industry estimates lower baseline emissions and emission reductions (1.7 tpy baseline and 0.4 tpy of reductions) and higher costs compared to EPA, driving the estimated cost-effectiveness rate, based upon the proposed rule, to \$7 million/ton if EPA's cost estimates are used and \$819 million/ton with industry's estimates. First, EPA *must* correct these estimates, and then it must take these costs into account when establishing standards. If it does, it must conclude that these extremely high costs are not justified, especially given that health is already protected with an ample margin of safety from this source category.
- Summary Tables in Appendix A for Total Cost and Cost-effectiveness of Proposal on the 7 UFIPS:**

Table 5-1. Comparison of Capital Costs, Annual Operating Costs and Overall Annual Costs Between EPA and Industry Case by UFIP Category (values rounded)

All Mills	EPA Base Case ^a				Industry Costs ^b			
	Equipment Costs\$		Annual Operating	Overall Annual Costs	Equipment Costs\$		Annual Operating	Overall Annual Costs
	Capital	Annualized			Capital	Annualized		
BF Casthouse Fugitives	\$765k	\$677k	\$63k	\$740k	\$217M	\$20M	\$23M	\$44M
BOF Shop Fugitives	\$495k	\$438k	\$59k	\$497k	\$1.2B	\$112M	\$92M	\$204M
<i>Existing MACT Sources</i>	<i>\$1.3M</i>	<i>\$1.1M</i>	<i>\$122k</i>	<i>\$1.3M</i>	<i>\$1.4B</i>	<i>\$133M</i>	<i>\$115M</i>	<i>\$248M</i>
BF Unplanned Openings	\$1.5M	\$197k	\$42k	\$240k	\$50M	\$4.7M	\$200k	\$4.9M
BF Planned Openings	\$0	\$0	\$55k	\$55k	\$0	\$0	\$55k	\$55k
BF Bell Leaks	\$2.1M	\$922k	\$12k	\$934k	\$26M	\$26M	\$240M	\$266M
BF Iron Beaching	\$0	\$38k	\$17k	\$55k	\$4.8M	\$453k	\$50k	\$503k
Slag Handling & Storage	\$563k	\$117k	\$191k	\$308k	\$177M	\$17M	\$2.0M	\$19M
<i>New UFIP Sources</i>	<i>\$4.2M</i>	<i>\$1.3M</i>	<i>\$317k</i>	<i>\$1.6M</i>	<i>\$258M</i>	<i>\$48M</i>	<i>\$242M</i>	<i>\$290M</i>
All UFIP Sources	\$5.4M	\$2.4M	\$439k	\$2.8M	\$1.7B	\$180M	\$358M	\$538M

^a Control costs for the Base Case are those developed in Document ID 1446.

^b Industry control cost analyses are shown in the attachments to this memo.

Table 5-2. Comparison of HAP Reduced, Overall Annual Costs and Cost-Effectiveness by UFIP Category

Cost Effectiveness Analyses	Base Case Emissions EPA Costs ^a			Industry Emissions Industry Costs ^b		
UFIP SOURCE	HAP Reduced (tpy)	Overall Annual Costs	\$/ton HAP Reduced	HAP Reduced (tpy)	Overall Annual Costs	\$/ton HAP Reduced
BF Casthouse Fugitives	14.37	\$740k	\$51k	0.19	\$44M	\$234M
BOF Shop Fugitives	25.92	\$497k	\$19k	2.63	\$204M	\$78M
<i>Existing MACT Sources</i>	<i>40.30</i>	<i>\$1.3M</i>	<i>\$31k</i>	<i>2.81</i>	<i>\$248M</i>	<i>\$88M</i>
BF Unplanned Openings	0.50	\$240k	\$479k	0.12	\$4.9M	\$40M
BF Planned Openings	0.41	\$55k	\$134k	0.08	\$55k	\$672k
BF Bell Leaks	30.71	\$934k	\$30k	0.05	\$266M	\$5.7B
BF Iron Beaching	0.00	\$55k	\$16M	0.00	\$503k	\$311M
Slag Handling & Storage	7.35	\$308k	\$42k	0.10	\$19M	\$182M
<i>New UFIP Sources</i>	<i>38.97</i>	<i>\$1.6M</i>	<i>\$41k</i>	<i>0.35</i>	<i>\$290M</i>	<i>\$819M</i>
Total UFIPs	79.27	\$2.8M	\$36k/ton	3.17	\$538M	\$170M/ton

^a Control costs for the Base Case are those developed in Document ID 1446.

^b Industry control cost analyses are shown in the attachments to this memo.

Comment Section VII - Unjustified numerical HAPs limits for sinter/recycling plants, BOPF primary control devices, BF casthouse control devices, and BF stoves

- Notwithstanding the acceptable risk, existing surrogates, and, in most instances, extremely low potential for emissions of hazardous air pollutants (HAPs) from these point sources, EPA proposes 30 new HAP limits (15 for existing sources, 15 for new sources). EPA should not finalize any of these standards due to procedural issues, which must be corrected, that have undermined the public comment process. EPA failed to include in the docket information centrally relevant to its proposed rulemaking, hampering Industry Commenters' review of the proposal. As pertinent to its HAP limits, EPA, for example, failed to include 11 Upper Prediction Limit (UPL) Excel workbooks that provide critical information regarding the Agency's treatment of data and development of its MACT limits in the docket until 42 days after publication of its proposal. EPA also has not published to date documents that clarify why it applied novel and inconsistent policies and methodologies in development of its MACT floors or the basis (if one exists) for such deviations.
- Notwithstanding these procedural defects, EPA should not finalize any of its proposed HAP limits because, while EPA asserts that the limits would cap emissions at current levels, that is not the case. EPA has (1) relied on a very limited dataset of, in many instances, only 2 or 3 test results over a short time period and fails to show how this data could be representative of best-performing units and account for variability, (2) made numerous errors in evaluating what little data it has, (3) applied novel and inconsistent policies and methodologies to its MACT determinations (without explanation), and (4) ignored existing and potential surrogates that already cover the specific pollutants for which it proposes new limits. In addition, nearly all of EPA's proposed limits are not

necessary to maintain current emission levels for these pollutants. For these reasons alone, EPA should not finalize the proposed HAP emission standards.

- EPA should not revise its MACT standards for D/F and PAHs from sinter/recycling plants because (1) existing Subpart FFFFFF VOC and oil-content limits already address sinter/recycling plant D/F and PAHs such that these limits are not subject to *LEAN*, and (2) there have been no technological developments since the 2020 Risk and Technology Review determination that risks due to emissions of air toxics from this source category are acceptable and that the current NESHAP provides an ample margin of safety to protect public health.
- EPA should not finalize its proposed limits because they fail to account for operational, seasonal, design, process, raw material, and measurement variability. For example:
 - EPA ignores differences in BOPFs with open and closed hoods and top-blown versus bottom-blown units in its proposed limits for BOPF primary control devices, which are currently recognized by EPA through distinct emissions and opacity limits in the NESHAP.
 - EPA uses a converted 3 times representative detection limit (3xRDL) - a methodology that includes known imprecision of 15 percent - for the following proposed MACT limits:
 - D/F new and existing source limits for BF stoves
 - D/F new and existing source limits for BOPF primary control devices
 - HCl new source limit for BOPF primary control devices
 - HF new and existing source limits for sinter/recycling plants
 - CS₂ new and existing source limits for sinter/recycling plants
 - EPA has not considered numerous well-known differences in raw materials, operations, processes, and seasonal influences on emissions in development of its proposed limits.
- EPA should not finalize its 30 proposed limits for hazardous air pollutants until it (1) provides a technical basis for its conclusion that its proposed limits are technologically achievable using existing controls at each of the four categorical point sources and (2) evaluates the disproportionately high cost of compliance estimated by industry compared to the lack of any environmental benefit and no reduction in the already low and acceptable levels of risk that these point sources present to public health.
 - Because of its reliance on under-representative data, its failure to account for variability, and its failure to consider fluctuations shown within the limited data upon which it relies, EPA operates under the misconception that additional controls will not be needed to achieve continuous compliance with all of its 30 proposed standards.

- Achievability of the proposed limits is a concern because it is unlikely that it would be technologically feasible for pollution control equipment to guarantee any degree of control of such low or dilute concentrations of the HAPs for which EPA proposes limits, which fall below the lowest target concentrations and capture limitations of such equipment.
- EPA should not finalize its proposed HAP limits for new and existing sources where data and other information indicate the lack of detectable emissions from such sources and/or fail to address inherent variability in measurements at such low levels.
- EPA should also not finalize its HAP limits which are based on data with frequent concentrations at, near, or below detection levels (BDL) or representative detection levels (RDL) because EPA has not considered the practical issue of compliance with standards that would be dependent upon method detection limits (MDL).
- EPA should not finalize its proposed THC limits for new and existing BF stoves, BF casthouse control devices, or BOPF primary control devices because they are arbitrary and capricious. EPA provides no reliable speciation data to demonstrate that a THC limit is a proper surrogate for any organic HAPs in this industry, and it is not technologically feasible to control for an unknown HAP.
- EPA should not finalize unnecessary HAP limits, when a relatively few targeted limits addressing the majority of potential HAP emissions will effectively reduce emissions and risk even when using upper-end conservative emissions estimates. For example:
 - Given that 92% of HCl point source category emissions under consideration in this rulemaking based on EPA estimates are from BOPF primary control devices, EPA should:
 - Not finalize a limit for BF stove HCl emissions (which are already low at 4.5 tpy industrywide (or .3 per BF), even using conservative assumptions).
 - Not finalize an HCl limit for BF casthouse control device emissions (which are already low at 1.4 tpy industrywide (or .0.1 per BF), even using conservative assumptions).
 - Not finalize a limit for sinter/recycling plant HCl emissions (which are already low at 12 tpy industrywide (or 6 tpy per sinter/recycling plant), even using conservative assumptions).
 - Given that, according to EPA's estimates, 99.4% of D/F point source emissions under consideration in this rulemaking are from sinter/recycling plants and BOPF primary control devices, EPA should not finalize a D/F limit for BF stoves.
 - Given that, according to EPA's estimates, 97.3% of THC point source emissions under consideration in this rulemaking are from BF casthouses control devices and BF stoves, EPA should not finalize a THC limit for BOPF primary control devices.

- Given that, according to EPA's estimates, 70% of D/F point source emissions under consideration in this rulemaking (12.7g/year) originate from the sinter/recycling plant and only 3.6 g/year of D/F are potentially emitted from BOPF primary control devices industrywide, which is less than 1 g/year per source, EPA should not finalize a D/F limit for BOPF primary control devices.
- If EPA nevertheless proceeds with any of its proposed limits, the limits should be consolidated through use of surrogacy as much as possible to ensure accurate emissions estimates based on surrogates that are already in use and to reduce compliance testing costs. For example:
 - EPA should not finalize the proposed COS and CS₂ numerical limits for sinter/recycling plants since existing VOC and oil-content limits are surrogates and provide equivalent incidental control of COS and CS₂.
- If EPA nevertheless proceeds with its proposed HAP limits, EPA needs to consider new available data being submitted, some of which exceeds EPA's proposed limits, as its current proposal reflects unrepresentatively low limits that are not being achieved consistently by the best performers.
- If EPA nevertheless proceeds with its proposed HAP limits (which it should not), at a minimum, these proposed existing and new source limits for these four categorical point sources must be adjusted significantly upwards to be considered representative of what is achieved in practice. These adjustments would be intended and targeted to distinctively account for the small size of the underlying dataset and operational, seasonal, process, raw material, and measurement variability which EPA's proposed standards do not.
- If EPA nevertheless proceeds with its proposed HAP limits:
 - It must correct the proposed THC limits for BOPF primary control devices and BF stoves which rely on decades-old and incongruous production data.
 - It must correct the proposed HCl limits for BF stoves which rely on decades-old incongruous production data.
 - It must correct its application of skewed UPL templates.
 - It must correct the arbitrary disregard of its own policies and methodologies, such as its selection of a 3xRDL-based MACT limit when a UPL-derived MACT limit is greater.
 - It must correct its baseless assumption that compliance with its proposed speciated numerical limits can be determined to be technically supported by the limited dataset on which they were based.
 - It must correct its baseless assumption that compliance can be achieved without additional controls and that it is technologically feasible to comply with the proposed

limits if new controls were installed in light of the low and dilute concentrations of the HAPs for which it proposes limits reflected in available data.

- It must correct its assumption that compliance demonstration would also be technically feasible given the frequency of HAP concentrations reflected in available data that are at, near, or below BDL and RDL and consideration of the thresholds of available methods of compliance demonstration.
- Summary Table of Total Cost and Cost Effectiveness of the Proposal Requirements for New HAP Limits:

Table ES.4 – Total Industry Wide Estimated Costs for Proposed HAP Limits

Capital Costs	
Total Capital Investment	\$3,202,157,876
Annual Costs	
Total Annual Cost (\$/year)	\$748,874,753

Unit	Pollutant	Units	Lowest Cost-Effectiveness	Highest Cost Effectiveness
Sinter/Recycling Plant	D/F TEQ	\$/gram	\$ 1,079,331	\$ 3,433,362
Sinter/Recycling Plant	PAH	\$/ton	\$ 5,064,528	\$ 11,439,413
Sinter/Recycling Plant	Hg	\$/lb	\$ 337,837	\$ 1,412,571
Stoves	D/F TEQ	\$/gram	\$ 166,383,402	\$ 376,269,043
Stoves	HCl	\$/ton	\$ 13,189,564	\$ 57,107,059
Stoves	THC	\$/ton	\$ 395,175	\$ 1,416,070
Casthouse	HCl	\$/ton	\$ 14,429,069	\$ 56,814,336
Casthouse	THC	\$/ton	\$ 267,538	\$ 1,582,548
BOPF	D/F TEQ	\$/gram	\$ 2,178,245	\$ 7,176,105
BOPF	HCl	\$/ton	\$ 373,168	\$ 1,589,537
BOPF	THC	\$/ton	\$ 898,267	\$ 5,094,387

Comment Section VIII - Fenceline monitoring is unjustified and unnecessary

- The attempt to use fenceline concentrations of chromium to determine whether UFIP sources are meeting proposed new opacity and work practice standards makes no sense. EPA fundamentally fails to establish any correlation between the proposed work practices and fenceline concentrations. This renders the proposal arbitrary and capricious.
- The proposed action levels, sunset provisions, and estimated fenceline monitoring program costs are likewise without basis and lacking in logic. EPA has not even promulgated the

sampling method, so it is hard to conceive how it could propose an action level or sunset level without collecting data with the yet-to-be-promulgated sampling method.

- EPA should not use data collected during the six-month ICR program to set the action and sunset levels because different sampling methods can lead to very different results. EPA must first promulgate the sampling method, then gather appropriate data based on that method, and *only then* propose action levels and sunset levels.
- The existing data from the six-month ICR fenceline monitoring program EPA imposed on facilities in 2022 demonstrates that no ongoing program is needed. Rather, the testing confirms EPA's prior findings that human health is adequately protected with an ample margin of safety from this source category.
- EPA has made no demonstration, nor could it, of any correlation between fugitive HAP metal emissions from UFIP sources and chromium concentrations at the fenceline. EPA has no way to determine current HAP emission rates from UFIP sources, any reductions that may occur if those sources meet the proposed new opacity and work practice standards, or what impact those reductions would have on measured chromium concentrations at the fenceline.
- EPA presumes that the action level would be achieved by all facilities if their UFIP sources comply with the new opacity and work practice standards—a conclusion that lacks factual basis in the record and fails to account for non-UFIP onsite contributors and numerous potential offsite contributors. In no event should a facility be required to conduct a “root cause analysis” based on measured chromium concentrations and calculated delta-c annual averages exceeding an action level.
- The proposed sunset value based on half of the action level is offered without any explanation—and certainly none tied to whether a facility's UFIP sources were continuously meeting the applicable opacity and work practice standards. The RIA and its cost analyses presume a sunset value *equal to* the action level. Even though public health is already protected with an ample margin of safety, based on the very low proposed sunset value (at half of the action level), some sources would never be allowed to stop monitoring and performing root cause/corrective action analysis because they have no feasible way to affect or sufficiently reduce the monitored concentrations of chromium at the fenceline to levels needed to sunset. This proposed rule provision is arbitrary and capricious, especially since it is duplicative of other compliance requirements and not expected to result in a reduction in emissions.
- When EPA established the ICR fenceline monitoring program, it required monitors that measure total chromium based on total suspended particulate (TSP), and Industry has records to support the expenses incurred for those monitors. Based on vendor quotes, TSP-based monitors for total chromium sampling methods tend to be less expensive than PM10-based total chromium sampling methods. However, because EPA Region V has conducted recent ambient monitoring studies near the Burns Harbor and Gary Works facilities using PM10 monitors, and because these monitors measure the inhalable fraction and would

provide information regarding the more important fraction of particulates, Industry Commenters prefer PM10-based total chromium sampling methods over total chromium TSP-based sampling methods.

I. The domestic steel industry is key to a robust economy, to achieving the energy transition, and to national defense.

EPA found in 2020 that all of the II&S facilities across the country operate in a manner such that HAP emission levels are protective of public health *with an ample margin of safety*. In addition to this important finding, which is not being changed by this proposal, the United States is the cleanest steel-producing nation in the world. Integrated producers make the advanced grades of steel necessary for vehicle manufacturing and transportation systems, electric power grid and energy generation, as well as other key markets.

- The steel industry is the critical enabler for other sectors reducing their carbon emissions. Steel is an essential component of the technologies necessary to decarbonize the U.S. overall, including steel framing for solar electric installations, steel battery enclosures and body panels for electric vehicles, and steel support towers for wind turbines.
- Integrated steel mills in the United States are almost entirely fed by domestically sourced iron ore pellets rather than the sintered ore used in China and elsewhere to produce steel. The use of pelletized iron results in significantly lower emissions of CO₂, as well as lower emissions of NO_x, SO₂, and particulate matter.
- Energy efficiency remains a key focus of integrated producers' environmental strategies, as evidenced by investments in renewable energy, and energy recovery from byproduct gases.
- Integrated producers have committed to partnering with hydrogen producers to use hydrogen in various steelmaking processes, including replacement of natural gas when it becomes commercially available in sufficient quantities, and partial replacement of coke by injecting hydrogen into blast furnaces.

Industry Commenters have worked cooperatively with EPA in the development of not only the current rulemaking, but also in conjunction with the development, proposal, and promulgation of EPA's prior RTR for the Integrated Iron & Steel (II&S) source category, having provided extensive technical information and having submitted extensive comments in connection with that earlier action.¹ At that time, while Industry Commenters took exception to certain aspects of EPA's final rule, we appreciated EPA's recognition of both that EPA's facility-specific modeling analyses for the entire II&S source category showed low risk and that the review of technology advancements showed that no revisions to the then-existing standards were necessary, in that companies already use up-to-date technology. In 2021-2022, EPA undertook an additional information gathering effort at the request of litigants on the 2020 rule. The companies expended significant effort to respond to these requests, which were both costly and time-consuming, in short order. The information provided validates EPA's earlier findings that the source category risks are well below acceptable levels and the existing standards are sufficient. What EPA has proposed here is an unfortunate step in the wrong direction and lacks both context and foundation.

¹ See "Comments of the American Iron and Steel Institute and United States Steel Corporation" (November 7, 2019); EPA-HQ-OAR-2002-0083-1059.

A. Integrated Iron & Steel production not only has a long history of supporting the economy but is also essential to the infrastructure and clean energy projects of the future.

The steel industry is, in many ways, the backbone of American manufacturing. Since the advent of the Industrial Revolution in the United States, steel production has been a critical element propelling the nation forward to the top echelon of global military and trading powers alike. The American steel industry today employs more than 370,000 people in the United States and indirectly supports nearly two million American jobs, while providing nearly \$520 billion in economic output, and generating \$56 billion in federal, state, and local taxes. The U.S. Government has designated steelmaking a key component of our national defense and critical infrastructure.² This is hardly surprising, given that the industry provides essential inputs to numerous domestic economic sectors, including defense, automobiles (including components for electric vehicles with recent advances in lighter weight steel), farm equipment, household appliances, food packaging, many types of buildings (including homes), energy (including renewables), and highway construction. Adverse impacts to the domestic steel industry will only exacerbate the flood of imported steel at a time when excessive steel imports have adversely impacted the domestic steel industry.

The Department of Commerce has found the displacement of domestic steel by excessive quantities of imports has the serious effect of weakening our internal economy and national security.³ Indeed, this is borne out by the fact that other steel-producing nations have increased capacity, to garner market share from U.S. facilities, while domestic production has remained stable.⁴ As Commerce noted, China alone is able to produce as much steel as the rest of the world combined, and domestic producers, *for the foreseeable future*, will face increasing competition from other countries seeking to bolster their own economies.⁵ With sustainability being a main driver, American steel producers have worked diligently to reduce our environmental footprint even while producing the advanced and highly recyclable steel that our economy needs. These efforts have proven successful, as the American steel industry is the cleanest and most energy efficient steel industry in the world. In this regard, the U. S. has the lowest carbon dioxide (CO₂)⁶ Making steel in the U. S. is good for American workers, is good for the American economy, and better for the global environment than having steel made by America's biggest global competitors.

The Biden administration's support for Buy American policies and its actions to strengthen and secure critical supply chains in the U.S. show recognition of the need for a government partnership

² The United States considers steelmaking so vital to our economy and national security that the Defense Logistics Agency (within the Department of Defense) maintains secure supplies of strategic and critical materials, like iron ore, in the U. S. National Defense Stockpile. The 2020 report of the National Minerals Information Center highlighted that in fiscal year 2019 alone, Defense Logistics Agency Strategic Materials acquired nearly \$15 million of new stock for the National Defense Stockpile, and, at the end of that year, the minerals stored, including iron ore, were valued at over \$1 billion.

³ U.S. Department of Commerce, Bureau of Industry and Security, Office of Technology Evaluation, *The Effect of Imports of Steel on the National Security* at 5 (January 11, 2018), available at <https://tinyurl.com/bdesherv>.

⁴ *Id.*

⁵ *Id.*

⁶ Hasanbeigi, A., *Steel Climate Impact – An International Benchmarking of Energy and CO₂ Intensities*, Global Efficiency Intelligence, April 2022.

with the steel industry that promotes economic growth while also preserving and protecting public health and our shared environment.⁷ This is entirely consistent with the goals of the Clean Air Act, as reflected in Section 101(b)(1) to “protect and enhance our nation’s air resources” while “promot[ing] the productive capacity” of the nation.⁸ To that end, we urge EPA to work with other agencies and the Office of the President to ensure a cohesive strategy among all federal agencies to promote the steel industry with reasonable policies and regulations that ensure continued vitality of this essential operation.⁹ As a matter of good government, and to ensure consistent and sound federal policy, we hope the numerous federal agencies that work to promote the steel industry will be consulted with respect to this regulation given the threat the proposal poses to industry operations—operations which are essential to the U.S. economy and the country’s defense.

While the Administration has been extremely supportive of steel as both a necessity to our domestic economy and a competitive advantage more broadly, this EPA proposal does not align with the basic principles outlined above. As noted above, the Clean Air Act seeks to improve the country’s air resources *and* to promote its productive capacity. Therefore, in interpreting Section 112 and in making choices among permissible interpretations of the statute, EPA needs to consider both of these goals and ensure that any adopted interpretations of the statute are consistent with intended results, from both an emission reduction and an economic impact perspective. As we explain below, EPA’s current interpretation of the statute that it has no choice but to issue many of the proposed regulatory requirements produces a result that Congress did not contemplate. This should signal to EPA that it has taken a wrong interpretive turn and that it needs to re-examine whether the statute really requires this result or if alternative permissible statutory interpretations would avoid it.¹⁰

B. The proposed rule and other ongoing rulemakings aimed at the country’s steel industry would impose tremendous burdens.

As noted, in taking final action in its earlier RTR rulemaking for the II&S source category,¹¹ EPA found that risk was well below the acceptable risk threshold set by Congress and that public health is protected with an ample margin of safety. As demonstrated elsewhere in the comments, EPA has produced nothing in connection with this current action to dispute that finding. Accordingly, it is against this acceptable risk finding that the further actions EPA is now contemplating must be considered. Especially given the recent prior risk findings, it is important for EPA to ensure that it is not overburdening our domestic facilities with regulation in light of the significant competition steelmakers face from foreign markets, many of which are not subject to the stringent requirements that apply to our facilities. The strong international competition the industry encounters makes us vulnerable to even small increases in operating costs, which is why it is so important that federal

⁷ See The White House, *FACT SHEET: Biden-Harris Administration Delivers on Made in America Commitments* (Mar. 4, 2022), available at <https://tinyurl.com/45cmxmhc>.

⁸ 42 U.S.C. § 7401(b)(1).

⁹ We have made a similar appeal in connection with comments filed in the ongoing rulemaking addressing the Taconite Iron Ore Processing source category. EPA-HQ-OAR-2017-0664-0285.

¹⁰ Industry Commenters elaborated on this important point in its comments filed in the ongoing Taconite Iron Ore Processing rulemaking, which we incorporate here by reference. See “Comments of the American Iron and Steel Institute and United States Steel Corporation” (submitted July 7, 2023); EPA-HQ-OAR-2017-0664-0285 (Taconite Comments) at 9.

¹¹ 85 Fed. Reg. 42,074 (July 13, 2020).

agencies, like EPA, carefully consider the impacts that new regulations will have on operating margins. While we respectfully submit that many of the proposed revisions are technically and legally flawed, we also note that even if they were justified and appropriate, the time frames for compliance fail to take these concerns of disrupting the domestic steelmaking industry into account, with the vast majority of requirements requiring compliance just months from issuance. If EPA issues a final rule in March 2024 (consistent with the recent submittal to the court), these requirements would apply in less than a year from now.

All of this comes at a time when EPA is proposing additional rules to impose new, cost-prohibitive and unprecedented requirements on other elements of the industry, specifically Taconite Iron Ore Processing and Coke Oven Batteries. The coincidence of these regulations cannot be evaluated in isolation, as EPA has done. While it would be incumbent on the government to consider these issues *across agencies*—it is unfathomable that rules being issued by the same EPA sub-office (Office of Air Quality Planning and Standards within the Office of Air and Radiation) are operating and evaluating impacts in a siloed fashion.

C. The proposed rule would needlessly adversely affect the energy transition and would delay implementing the Administration’s Inflation Reduction Act.

Section 112 is focused on achieving acceptable risk levels for listed hazardous air pollutants to protect public health with an ample margin of safety. Due to the efforts of the industry, implementation of the existing Subpart FFFFF regulations achieves that goal. The steel industry is also working to support the Administration’s net zero/climate goals, which require significant supplies of steel.

Steel is a critical component in the ten common sources of clean power.¹² According to Boston Metal, an engineering firm focusing on steel manufacturing, every new megawatt (MW) of solar power will require 35 to 45 tons of steel while every new MW of wind power will use 120 to 180 tons of steel. These estimates align with recent findings from McKinsey and Company. Its April 13, 2023 report entitled, “The Resilience of Steel; Navigating the Crossroads” estimates demand for finished steel of approximately 40 metric tons per MW for solar and 150 metric tons per MW for wind.¹³

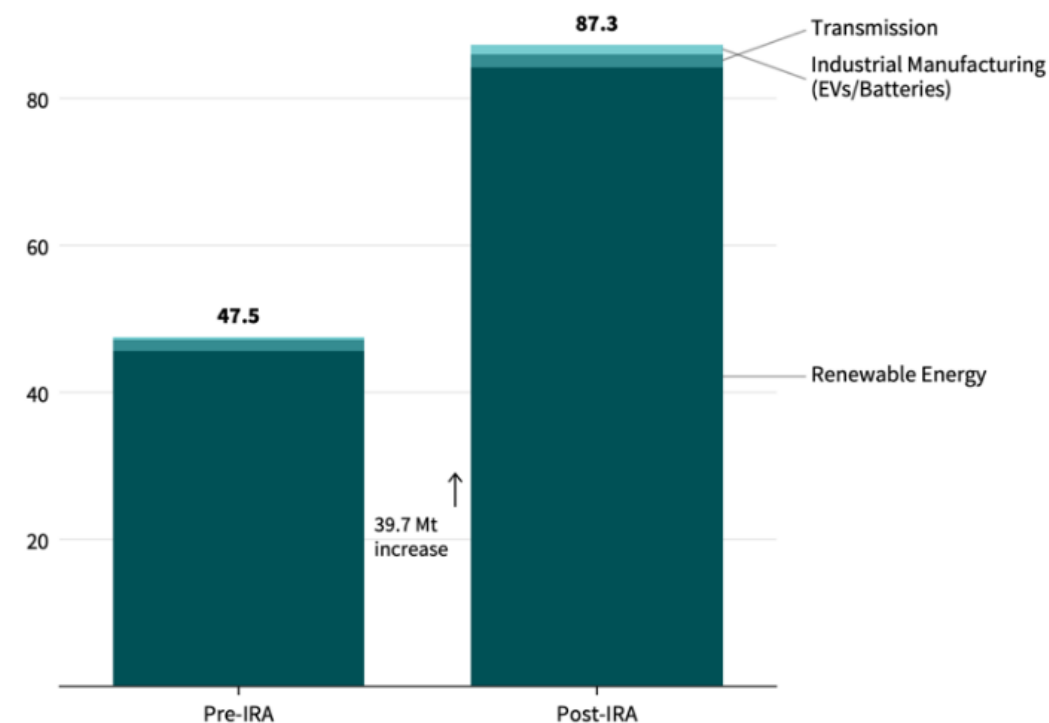
Regulatory actions that raise the cost of steel production and undermine its efficient production and availability could slow the energy transition and its overall promise of reduced emissions. The risk to the transition is significant. According to analysis from the Rocky Mountain Institute, the combined effect of the IIJA and the IRA will generate 39.7 million tons of new steel demand from now to 2030 just to help meet the demand created by the incentives of these laws to build renewables and the needed transmission and infrastructure. According to Boston Metal, 1.7 billion tons of steel will be needed just to build enough wind turbines required to reach net zero by 2050.

Figure I.1 – US cumulative steel demand to 2023 in energy transition

¹² Renewable Energy & World, “Building Tomorrow’s Clean Energy Systems on Clean Steel”. August 30, 2022, available at <https://tinyurl.com/3dk8atap>.

¹³ McKinsey and Company: The resilience of steel: Navigating the crossroads, April 18, 2023, available at <https://tinyurl.com/ypa95pwh>.

Exhibit 1: US cumulative steel demand to 2030 in energy transition projected to accelerate post-IRA (million tons)



Renewable energy projections are from the REPEAT project's average annual capacity additions. 2030 annual capacity addition estimates projected to be 49 GW, 2 GW, and 6 GW Pre-IRA and 105 GW, 14 GW, and 7 GW Post-IRA for solar, onshore wind and offshore wind, respectively. Note IJA's impact is included in the Pre-IRA estimates. Steel intensity (per MW) for each technology is assumed to be 62 t/MW, 122 t/MW, and 723 t/MW for solar, onshore and offshore wind, respectively.

Source: RMI Analysis; public project announcements; REPEAT Project Preliminary Report: The Climate and Energy Impacts of the Inflation Reduction Act of 2022/Electricity Transmission is Key to Unlock the Full Potential of the Inflation Reduction Act, Princeton University Zero Lab (2022); NERC Electricity Supply & Demand Transmission Projects; Atlas EV Hub Investment Analysis; "Effects of Renewable Energy Provisions of the Inflation Reduction Act on Technology Costs, Materials Demand, and Labor"

Production downtimes needed to install new equipment, the tight compliance deadlines in the proposed rule and the likelihood of less efficient production and higher costs can all translate to lower overall US production at a time when domestic demand is increasing. Moreover, as noted above, reliance on domestic steel sourcing is needed to qualify for tax subsidies aimed at accelerating the transition. The IRA specifies that iron and steel must be compliant with the Federal Transit Administration's Buy America regulations. Those regulations require that all iron and steel used in a project must be manufactured in the United States.¹⁴ Bonus credits also require domestic production. Under the IRA, projects that use 100% American steel and iron will be eligible to increase their credit by 10 percentage points if they are claiming the PTC or the ITC.¹⁵

Finally, under the [Buy American Act](#), any goods that the federal government directly buys must meet domestic requirements: predominantly iron or steel products must be 95 percent US-made and all other manufactured products (that are less than 50 percent steel) must be 60 percent US-

¹⁴ NHA, "Breaking Down the Inflation Reduction Act and Bipartisan Infrastructure Law" <https://tinyurl.com/5n8f4zwm>.

¹⁵ *Id.*

made. This Buy American threshold for manufactured products is *set to increase over time*, to 65 percent US-made by 2024 and 75 percent by 2029.

* * *

In the legal and technical discussions that follow, we outline ways that EPA can achieve both Section 112's goals and preserve the ability for the domestic steel industry to contribute to not only a positive trade balance and the national defense, but also, the dramatic expansion of clean energy sources, like wind and solar power.