

Integrated Iron & Steel NESHAP Presentation to OMB

February 14, 2024

AGENDA

1. Introduction

2. Opening Remarks and Overview of the Industry and Concerns

- AISI
- United Steel Workers
- Cleveland-Cliffs
- 3. Does II&S RTR Satisfy Executive Orders 12866 & 13563?
- 4. Cost Estimate and Economic Impact
- 5. Effects on Other Agencies and President's Priorities
- 6. Concerns and Alternatives to EPA's Proposal
- 7. Closing Remarks



AISI OVERVIEW OF AMERICAN IRON AND STEEL INDUSTRY

- EPA's gross underestimation of the costs of compliance with the unachievable II&S standards will have a ripple effect across the Industry to the detriment of industry decarbonization efforts, jobs, and other federal agencies' projects.
- The American iron and steel industry is a dynamic part of the U.S. economy, accounting for more than \$520 billion in economic output and nearly two million jobs when considering the direct, indirect (supplier) and induced impacts.
- These workers earned over \$130 billion in wages and benefits.
- All told, the industry generated **\$56 billion in federal, state and local taxes**.
- American iron and steel industry is among the most regulated and cleanest steel industries in the world.
- Cumulative regulatory impact concerns (Taconite, II&S, Coke, PM2.5, Good Neighbor Ozone FIP)
- USWA and elected officials have expressed concern to EPA Administrator Michael Regan
- The unreasonable court deadline for this rule and pressure from the plaintiffs do not justify pushing through a rule about which so many legitimate concerns have been raised



OVERVIEW OF INTEGRATED IRON & STEEL INDUSTRY

United Steel Workers Partnership

• Joint efforts to secure long-term jobs in a globally competitive steel industry

A vital component of American manufacturing economy

- Use taconite iron ore pellets and metallurgical coke to produce molten iron in a blast furnace which is then fed to a basic oxygen furnace to make high-quality grades of steel ("integrated process")
- These high-quality steels can only be made through the integrated process
- Integrated production is critical for national defense, infrastructure, automotive sector, construction sector, clean energy and a host of other uses

• Domestic Integrated Iron & Steel Industry consists of 8 integrated facilities in 5 states

- Cleveland-Cliffs operates 5 integrated steel mills across Indiana, Michigan, Ohio
- Cliffs employs approximately 27,000 in the U.S, with approximately 26,000 employees located at production facilities.
- More than 90% (~20,000) of Cliffs' hourly workforce is represented by three prominent unions: USW, UAW and IAM



DOES II&S RTR SATISFY EXECUTIVE ORDERS 12866 & 13563?

EO Requirement	Issues Contrary to Executive Orders
Cost effective? Best data used to analyze costs?	Estimated costs are orders of magnitude higher than EPA's projections, and cost effectiveness expressed in cost per ton of HAPs removed is exponentially higher than any other cost effectiveness analysis. EPA did not use the best data to analyze costs and assumed that additional air pollution control equipment would not be necessary to meet new limits in most circumstances, which significantly decreased EPA's cost estimates.
Basing rule on best reasonably obtainable information and consequences of the rule?	EPA used limited data which is not representative of process, raw material, or testing variability. Not all opacity data available to EPA was evaluated to set MACT floor, nor did EPA establish limits using UPLs, contrary to emission limit setting policy. EPA overestimated HAP emissions. EPA ignores the fact that MACT floor sources cannot meet the proposed limits, and therefore are not achievable or economical. EPA did not identify technology to meet UFIP limits. Finally, EPA did not consider the impacts of the rule on carbon emissions, which could increase by up to 300,000 TPY due to new air ventilation requirements to reduce opacity and control HAPS.
Imposes least burden?	For burdens on industry, EPA incorrectly assumes that additional air pollution control equipment would not be necessary to meet new limits in most circumstances, or that new equipment that has never been used in our industry would work on our sources. In addition, regarding burdens on society, the rules will disrupt the domestic production of high-quality strategic materials while displacing middle class jobs as imported steel with higher global emissions takes over the market.
Effects on Other Agencies and President's Priorities?	New rule will derail decarbonization, displace union jobs with higher emitting foreign steel, and will increase carbon emissions by up to 300,000 TPY due to new air ventilation requirements to reduce opacity and control HAPS. DOE projects, GSA directives, and trade objectives will all be negatively affected by the rules.
Can OMB confirm that EPA's information is objective?	EPA's use of data that is not supported in the record is not objective. EPA is under pressure from ENGOs and individuals to broaden its current regulatory scheme regardless of the legal or technical support for the changes. This rule, like others, is on a judicially-ordered deadline and EPA's conversations with the plaintiffs indicate that EPA is interesting in assuaging their interests, which is not objective.

COST ESTIMATES AND ECONOMIC IMPACT

OMB should compel EPA to revise the cost estimates

EPA assumed the limits are achievable with no major investments in new air pollution control technology

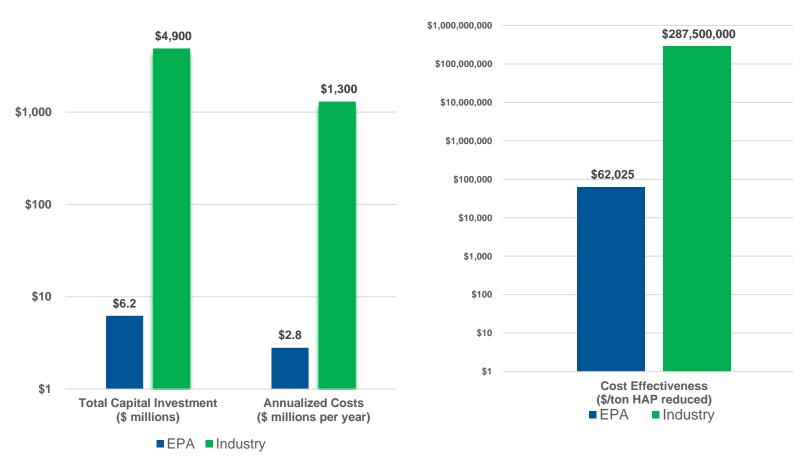
- EPA estimates capital costs at \$6.2 million (with an assumption of only requiring "work practices" to comply")
- Industry estimates of \$4.9 billion in capital costs to install new controls, plus more than \$1.3 billion/year in operating costs (which may not guarantee technical achievability)

Fundamentally, the economic implications of proposed rules are profound and will alter the economics of the domestic steel supply chain

- In 2023 Cliffs invested \$440M of capital to sustain our flat roll steel operations
- A \$2.9B cost identified by Cliffs for compliance would consume almost 7 years' worth of Cliffs' sustaining flat roll steel capex
- This level of capital demand will inhibit Industry's financial ability to reinvest in other strategic capital to remain competitive and to decarbonize
- See graphic (next slide)



VAST DIFFERENCES IN TOTAL CAPITAL, ANNUALIZED O&M AND COST EFFECTIVENESS BETWEEN EPA AND INDUSTRY



- Industry estimates result in vastly higher capital and annualized O&M costs than EPA.
- Major deficiencies in EPA's costs estimates include the following *invalid* assumptions:
 - Controls for UFIPs is achievable by work practices alone
 - Limits for individual point source HAPs could be achieved without add-on controls
- EPA also far over-estimated the potential HAP reductions as part of the rule
 - 79 tons reduced in EPA's estimated vs 3.2 tons in Industry's estimates (see White Paper II&S EPA HAP Calc. Error").
- The graphical illustration is shown on a log scale given the scale of differences.

Sources: EPA - RIA Table 3-16, Industry - See Appendices A and K of AISI/USS Comments

Note: EPA did not estimate projected HAP reductions from point source HAP limits and controls (however, erroneously assumed no new controls necessary to comply)



EFFECTS ON OTHER AGENCIES AND PRESIDENT'S PRIORITIES: DECARBONIZATION

NOTE: The proposed rules may increase our carbon footprint by 300,000 tons due to energy required to capture volumes of air to control low-risk emissions

U.S. Department of Energy is preparing to fund decarbonization projects in Iron and Steel Sector

- Cliffs is applying to seek a portion of a match for its own voluntary investments.
- We estimate decarbonization projects will cost approximately \$1B in capital and operating expenses to reduce 1M tons GHG emission from II&S sector.
- Cliffs' voluntary expenditures on decarbonization efforts will be severely undercut if more money is needed to comply with NESHAP rules, threatening DOE's goals for the steel sector.

General Service Administration implementing "Buy Clean" initiatives to incentivize low-embodied carbon steels

 Buy Clean programs threatened if capital cannot be put toward meeting GSA's thresholds and reducing emissions from II&S products purchased by GSA.

Trade implications of this rules package have not been adequately examined

- As foreign governments subsidize both steel production and decarbonization efforts, America's leadership position on clean steel is at risk if we cannot continue decarbonization expenditures
- Voluntary industry expenditures on decarbonization support trade discussions related to the carbon emission intensity
 of domestic and foreign producers and future carbon border adjustment mechanisms. Any impact on these voluntary
 expenditures will affect the strength of our arguments.



CONCERNS AND ALTERNATIVES - 15 NEW HAP LIMITS TO ADDRESS LEAN DECISION

CONCERNS

Very limited stack testing data used by EPA to set HAP limits (only 2 or 3 tests/source)

Not representative of process, raw material or testing variability

EPA assumed no need for installation of new controls

- EPA used incorrect data and cost estimates
- During the comment period, Industry provided more stack testing data and third-party engineering evaluations and concluded:
 - The 15 gap filling HAP limits are not achievable and economically infeasible
 - There are no known iron or steelmaking applications in the world which deploy add-on controls for most of the new limits proposed by EPA.

Cost to comply is \$3.2 billion in capital and \$750 M/yr in operating

EPA's proposed rule goes well beyond the "floor" level of emissions and is inconsistent with the Clean Air Act in calling the limit the "MACT Floor"

ALTERNATIVES

To correct these errors, OMB should compel EPA to:

- (1) **Reset UPLs** Applying statistical protocols to the new data to reset the 15 HAP emission limits to ensure they are achievable, representative of the process, raw materials, and seasonal variability, and cost effective
- (2) Rely on Surrogacy Do not finalize EPA's limits for D/F, PAH, COS, and CS₂ emissions from sintering plants, rely on existing EPA VOC and oil limits, as well as scrubber pH as appropriate surrogates for HCL and HF
- (3) No new limits where stack testing data is below detection limits EPA is not required to set limits for pollutants that are not within detection limits (D/F from BF stoves & BOPF primary control devices, and CS₂ and HF emissions from sinter plants).
- (4) Subcategorization Establish a procedure for alternative emission limits based on site-specific subcategorization (see white paper "II&S Off Ramp")

Also see white paper "II&S Gap Filling HAP Limits"



CONCERNS AND ALTERNATIVES - BLAST FURNACE AND BOF ROOF OPACITY LIMITS

CONCERNS

- 1. New opacity limits for these sources are not required by *LEAN* and are discretionary (an existing MACT limit of 20% exists). EPA's own analysis of the II&S sector concluded it is low risk.
- 2. No technology developments justifying new opacity limits.
- 3. EPA only used a small data set to reset the limits.
- 4. EPA erred in setting the limits by not evaluating all available opacity data provided by Industry that is representative.
- 5. The proposed 5% opacity limit is not achievable without enclosing the shop, which creates serious safety issues.
- 6. We estimated cost to comply at \$1.4 billion capital and \$115 M/yr.
- We proposed using statistically derived upper prediction limit (UPLs) to set appropriate limits. The results indicate that the existing MACT limits for opacity should be retained for these sources.
- 8. We have provided extensive comments and a recent white paper recommending alternatives.

ALTERNATIVES

- 1. Use All Opacity Data and UPL Method EPA should use all available data and perform a statistical Upper Prediction Limit (UPL) that is representative of process, raw material, and seasonal variability.
- 2. Consider NSPS BOF Subpart N Framework for BF and BOF - Should EPA not wish to adopt a UPL approach, we believe EPA should follow the existing NSPS Subpart N limit form and set an opacity limit which authorizes infrequent, intermittent opacity episodes on a 6-min average basis, including for BOPFs.
- 3. If EPA considers lowering the opacity standard below the existing 20% limit:
 - We recommend an opacity limit of 15% with two opacity exceptions per cast or heat cycle (i.e., two 6-minute average events) be allowed, similar to the NSPS Subpart N framework



CONCERNS AND ALTERNATIVES – 5 OTHER UFIP LIMITS AS PROPOSED ARE NOT ACHIEVABLE

1. Unplanned Pressure Relief Device (PRD) Events: We requested resetting events based on 99 UPL for large and small blast furnaces and subcategorization for sources that cannot achieve the limit (see White Paper "IIS Unplanned Pressure Relief Valve and BF Design Considerations").

2. Planned PRD Events:. We requested recalculation of opacity limit using complete data set, which results in an achievable opacity limit of 15% opacity (6-minute average). Industry has also offered to implement work practices to reduce emissions and conduct more frequent Method 9 observations.

3. Bell leaks: Proposed alternative to set opacity at 20% trigger for corrective action in the following sequence: 2 corrective actions allowed, then reported as deviation with submittal of a corrective action plan

4. Beaching: Beaching occurs when iron from the BF cannot be charged into a BOPF due to issues with the BOPF. It is not desired. Given that industry-wide total emissions are less than 1tpy/HAP, Industry is willing to submit site-specific "Beaching Procedures" to reduce emissions.

5. Slag Processing: Consistent with existing state limits, implement a 20% opacity limit (6-minute average) with more frequent Method 9 observations. Industry is willing to submit site-specific work practices to minimize emissions.



SINTER PLANTS ARE VITAL RECYCLING OPERATIONS – SEE WHITE PAPER "IIS SINTER PLANT"

- NGOs have a fundamental misunderstanding of sinter plants we call them "Recycle Plants"
- The remaining two operating "sinter plants" recover intra-company raw material fines that otherwise would be landfilled, saving precious taconite ore, coal and limestone natural resources; and preventing related emissions and environmental impacts associated with mining, processing and shipping these resources.
- Provide over \$200M/year in economic value due to recycling
- New beyond the floor HAP limits are unachievable and discretionary. Proposed regulations targeting recycling plants could have an unintended consequence of causing greater adverse environmental impacts should they be forced to shutdown, including:

Natural Resource Impacts

- Recycling plants recover valuable raw materials from iron and steelmaking reverts which offsets mining, processing and transportation of natural resources, including:
 - 1.8 million tons of taconite/yr
 - 123,000 tons of coal mining/yr
 - 86,000 tons of coke processing/consumption/yr
 - 280,000 tons of limestone mining/yr
 - Avoids mining, processing & transportation-related emissions and impacts

Landfill/Transportation and TRI Impacts

- Up to 2.4 M tons of reverts would require landfilling, and
 - Require 120,000 truck-loads to haul material to off-site landfill using public roads
 - Consume up to 2.2 M gallons of diesel fuel to transport reverts to landfill
 - Consume valuable regional landfill space
- TRI "releases" would sky-rocket



CLOSING REMARKS

- EPA's gross underestimation of the costs of compliance with the unachievable II&S standards will have a ripple effect across the Industry to the detriment of industry decarbonization efforts, jobs, and other federal agencies' projects.
- Industry stands ready to work with EPA to revise the rules to address concerns voiced by stakeholders, but also to develop achievable limits supported by sound science that sustain the competitive position of this strategically important industry.
- Unless EPA corrects the errors made in the proposed rule, the strategically important integrated iron and steel industry, which produces high purity grades of steel for critical applications could be at risk of being displaced by imported steel with higher emission rates because the grades cannot be produced in domestic Electric Arc Furnaces.





CLEVELAND-CLIFFS INC.

Reference Slides

UFIP COMPARISON OF EPA AND INDUSTRY COST EFFECTIVENESS OF PROPOSED RULE

• Properly estimating HAP emissions and then designing controls that can continuously meet the proposed standards results in much higher costs than EPA estimated

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

	EPA Base Case ^a				Industry Costs				
All Mills	Equipment Costs\$		Annual	Overall	Equipm	ent Costs\$	Annual	Overall	
	Capital	Annualized	Operating	Annual Costs	Capital	Annualized	Operating	Annual Costs	
BF Casthouse Fugitives	\$765k	\$677k	\$63k	\$740k	\$217M	\$20M	\$23M	\$44M	
BOF Shop Fugitives	\$495k	\$438k	\$59k	\$497k	\$1.2B	\$112M	\$92M	\$204M	
Existing MACT Sources	\$1.3M	\$1.1M	\$122k	\$1.3M	\$1.4B	\$133M	\$115M	\$248M	
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	
New UFIP Sources	\$4.2M	\$1.3M	\$317k	\$1.6M	\$258M	\$48M	\$242M	\$290M	
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.



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

Cost Effectiveness Analyses		Base Case Emissic EPA Costs ^a	ons	Industry Emissions Industry Costs			
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	
Existing MACT Sources	40.30	\$1.3M	\$31k	2.81	\$248M	\$88M	
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	
New UFIP Sources	38.97	\$1.6M	\$41k	0.35	\$290M	\$819M	
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.



UFIP HAP EMISSION ESTIMATE COMPARISON (EPA VS CORRECTED EPA VS INDUSTRY

	EPA Base Case		Correct	ed EPA	Industry	
	Before		Before		Before	
UFIP SOURCE	Control	Reduced	Control	Reduced	Control	Reduced
BF Casthouse Fugitives	45.88	14.37	15.38	4.82	0.60	0.19
BOF Shop Fugitives	122.75	25.92	53.10	11.24	12.42	2.63
Existing MACT Sources	168.64	40.30	68.48	16.06	13.02	2.81
BF Unplanned Openings	2.11	0.50	0.79	0.19	0.55	0.12
BF Planned Openings	1.61	0.41	0.60	0.15	0.32	0.08
BF Bell Leaks	75.75	30.71	1.04	0.42	0.09	0.05
BF Iron Beaching	0.02	0.00	0.01	0.00	0.01	0.00
Slag Handling & Storage	29.62	7.35	3.66	0.91	0.45	0.10
New UFIP Sources	109.12	38.97	6.10	1.67	1.43	0.35
Total	277.75	79.27	74.58	17.73	14.45	3.17

Table 2-1. Comparison of UFIP Emissions Estimates for HAPs ^{a,b}

^a Base Case are EPA's values from Document ID 1446. Corrected EPA revises the Base Case for material errors. Industry relies on EFs believed to be most representative of UFIP Sources.

^b Emissions are in units of tons per year. Before control means emissions estimates that takes into account existing work practices. Reduced means the amount of HAP estimated to be reduced by the proposed rulemaking.



UFIP HAP EMISSION AND COST EFFECTIVENESS

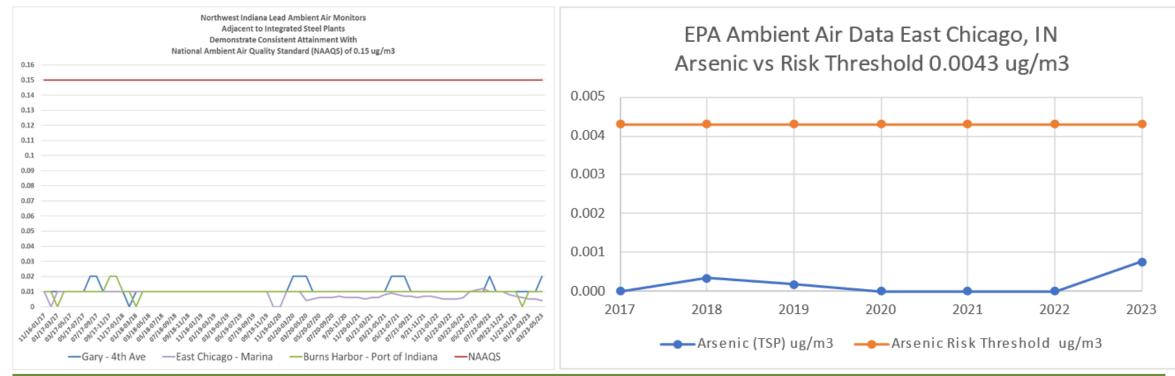
Table VI.2 – Comparison of Estimated Reductions, Overall Annual Operating Costs, and Cost-Effectiveness Rates

Cost Effectiveness Analyses	EPA Emissions EPA Costs			c	Corrected Emissio EPA Costs	ns	Industry Emissions EPA Costs		
UFIP SOURCE	HAP removed (tpy)	Overall Annual Costs	\$/ton HAP removed	HAP Removed (tpy)	Overall Annual Costs	\$/ton HAP removed	HAP Removed (tpy)	Overall Annual Costs	\$/ton HAP removed
BF Unplanned Openings	1	\$239,790	\$478,847	0.2	\$239,790	\$1,283,865	0.1	\$239,790	\$1,961,007
BF Planned Openings	0.4	\$54,603	\$134,477	0.2	\$54,603	\$360,554	0.1	\$54,603	\$671,941
BF Bell Leaks	31	\$934,556	\$30,431	0.4	\$934,556	\$2,209,762	0.05	\$934,556	\$20,168,287
BF Iron Beaching	0.003	\$54,629	\$15,718,512	0.001	\$54,629	\$42,143,836	0.002	\$54,629	\$33,822,823
Slag Handling & Storage	7	\$307,818	\$41,874	0.9	\$307,818	\$338,981	0.1	\$307,818	\$3,001,961
Total	39	\$1,591,396	\$40,835	2	\$1,591,396	\$952,646	0.4	\$1,591,396	\$4,495,055
Cost Effectiveness Analyses	EPA Emissions Industry Costs			Corrected Emissions Industry Costs			Industry Emissions Industry Costs		
UFIP SOURCE	HAP removed (tpy)	Overall Annual Costs	\$/ton HAP removed	HAP Removed (tpy)	Overall Annual Costs	\$/ton HAP removed	HAP Removed (tpy)	Overall Annual Costs	HAP \$/ton removed
BF Unplanned Openings	1	\$4,919,646	\$9,824,254	0.2	\$4,919,646	\$26,340,390	0.1	\$4,919,646	\$40,232,948
BF Planned Openings	0.4	\$54,603	\$134,477	0.2	\$54,603	\$360,554	0.08	\$54,603	\$671,941
BF Bell Leaks	31	\$265,666,667	\$8,650,723	0.4	\$265,666,667	\$628,169,965	0.05	\$265,666,667	\$5,733,248,333
BF Iron Beaching	0.003	\$503,086	\$144,753,957	0.001	\$503,086	\$388,108,435	0.002	\$503,086	\$311,479,070
Slag Handling & Storage	7	\$18,691,887	\$2,542,757	0.9	\$18,691,887	\$20,584,223	0.1	\$18,691,887	\$182,290,582
Total	39	\$289,835,889	\$7,437,095	2	\$289,835,889	\$173,502,426	0.4	\$289,835,889	\$818,669,993



LEAD AND ARSENIC AMBIENT MONITORING TRENDS (US EPA AIRDATA)

- US EPA AirData Air Quality Monitors provide relevant arsenic monitoring data to compare against risk thresholds for arsenic near steel facilities.
- Lead monitoring data from November 2016-May 2023, shows that the ambient air around the perimeter of facilities with sinter plants has consistently been a small fraction of the NAAQS limit, with the highest single average value in this period of only 0.02 ug/m3, and vast majority of data being 0.01 ug/m3 or lower.
- Arsenic monitoring data from 2017-May 2023, shows that the ambient air around the perimeter of these facilities with sinter plants has consistently been a small fraction of the arsenic risk level (shown by the red line in the below charts)









CONCERNS WITH PROPOSED RULE BY ELECTED OFFICIALS AND USW

• Bipartisan Senators' Letter to EPA Administrator, December 6, 2023

- *"We have serious concerns with these proposed rules because they would dramatically undermine the domestic steel industry and national security while driving production overseas likely resulting in no net reduction in emissions from the steel industry globally."*
- "As you move forward with these rulemakings, we urge you to take an inclusive approach working directly with major stakeholders in developing technically-sound final rules that achieve further emissions reductions while not harming the competitiveness of our American steel companies."

• House of Representatives Steel Caucus Letter to EPA Administrator, December 18, 2023

 "As you move forward, we would strongly encourage you to more openly communicate with steel industry experts and other stakeholders to ensure that proposed requirements are based on proven technology and robust scientific data. It is essential to ensure that proposed rules are technically feasible, financially reasonable, and continue protecting the livelihoods, health, and safety of workers and steel-producing communities throughout our nation."

Comments from Donnie Blatt, Director of United Steel Workers District 1

 "The USW and our represented employers have worked together to make the U.S. steel industry the cleanest in the world. The proposed amendments would result in significant costs and jeopardize good paying jobs in local economies throughout the U.S. The EPA should further consider revising these amendments responsibly to allow U.S. steel companies to compete globally and still achieve their desired goals."



CONCERNS AND ALTERNATIVES TO EPA'S PROPOSAL

EPA's Proposed Rule:

- EPA did not consider all data and made numerous errors
- · Contains unachievable emission limits
- Drives unprecedented control costs (if technically feasible to achieve)
- Relies on undemonstrated, emission control technology
- Provides no measurable environmental/health benefit
- Disrupts the domestic steel industry and related supply chains

EPA acknowledges that II&S industry is a low-risk source category

To minimize severe social and economic impacts, we ask OMB to compel EPA to consider the following:

Apply statistical protocols to the new opacity and HAP stack test data to reset the emission limits to ensure they are achievable, representative of the process, raw material, and seasonal variability and cost effective.

- There must be a mechanism in the rule for individual facilities to request approval for higher limits through EPA's subcategorization process if the limit is unachievable due to facility-specific factors. This concept has been used in other rules (e.g., metal coating) and is supported by court precedent.
- The compliance timeline should be set at the allowable 3-year MACT compliance deadline.

