

February 27, 2024

The Honorable Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue
Washington, D.C. 20460

Dear Administrator Regan:

I am a former Director of EPA's Air Enforcement Division and former Senior Counsel at the Department of Justice's Environmental Enforcement Section. Since my retirement from Federal service, I have engaged in consulting for States, tribes, NGOs and companies on a variety of air regulation and enforcement issues. I also served a term as a Member of Virginia's Air Pollution Control Board. Several months ago, I was retained by Earthjustice to review EPA's proposed rulemaking concerning hazardous air pollution controls at integrated iron and steel mills. Earthjustice has recently asked that I review a letter to you, dated December 6, 2023, from eight U.S. Senators concerning three pending rulemaking actions that address pollution from iron and steel production and provide a response if I felt one was appropriate or necessary.

In their letter these Senators assert that the pending proposals "would dramatically undermine the domestic industry and national security while driving production overseas likely resulting in no net reduction in emissions from the steel industry globally" and that they "would require billions of dollars in capital investments and increased operating costs for the U.S. steel industry."

I've seen nothing in the rulemaking record for these proposals that supports the cost claims in the Senators' letter. *EPA has not proposed limits that would require any capital costs for additional pollution controls on point sources (stacks) at any Blast Furnace or Basic Oxygen Process Facility in this country.* If adopted, EPA's proposals respecting point source emissions would require low-cost acid gas control at one taconite plant, mercury controls at some (but not all) taconite plants and mercury and hazardous metal emissions controls at five of the nation's 17 coke oven plants. As I set out in more detail below, these proposals would add costs on the order of \$3 million per furnace per year at some taconite facilities¹ and \$3.5 million per year at each of the five affected coke oven facilities.²

Notably,

- EPA did not propose any limits that would require additional measures to control fugitive emissions at taconite processing plants.
- EPA proposals would impose only fence-line monitoring and root cause analysis/corrective action to address fugitive emissions from coke oven batteries.
- EPA has proposed only modest fugitive emission control limits at integrated iron and

¹ EPA estimates the annual taconite industry-wide cost for both acid gas and mercury controls to be \$67.9 million; a small fraction of the more than \$2 billion in annual operating costs for this sector, U.S. EPA, 2024. *Economic Impact Analysis for the Final National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing Amendments*. Office of Air and Radiation, Research Triangle Park, NC. at Table 3-7, Table 3-10.

² 88 F.R. 55878; Table 6.

steel mills. Overall, the EPA/OMB capital cost estimate for improved control of fugitive emissions at integrated iron and steel mills is \$5.4 million – for the entire industry. The EPA/OMB cost estimate for the annual cost to industry at integrated iron and steel mills is \$2.4 million per year.³

U.S. Steel and Cleveland Cliffs own all the integrated iron and steel mills in the United States and had revenues of \$18 billion and \$22 billion respectively in 2023. Each of these companies has aggressively pursued billion-dollar stock buybacks over the last several years.⁴ Thus, even if costs are an order of magnitude higher than EPA’s estimates – or more - these companies can afford the controls in the proposed rules without significant impact on their ability to produce steel at competitive prices.

The impacts of the rules at hand are straightforward. EPA uses technology effectiveness and cost data developed through a public and transparent process and often relies exclusively on information provided by industry sources.⁵ EPA’s cost estimates are vetted by the Office of Management and Budget (OMB). EPA and industry have the same information about cost and effectiveness of sorbent injection techniques commonly used in the power sector and about fugitive control measures used in the iron and steel sector and in the wood products sector. There have been several studies by the Congressional Research Agency, the EPA and others over the years to determine whether EPA’s cost estimates are biased or whether those estimates, whether or not made in good faith, understate the cost of proposed regulation.⁶ Those studies have determined that EPA’s cost estimates overstate *ex ante* costs in most instances⁷

“In addition to the problems associated with monetizing health and environmental benefits, retrospective evaluations of the impacts of CAA regulations have determined that cost-benefit analyses conducted prior to rulemaking have consistently overestimated costs of compliance.⁵ NESCAUM’s 2000 retrospective review of several air pollution programs found a repeated pattern of high EPA cost estimates and much higher industry cost projections (often by a factor of two or more) when rules were promulgated, as

³ EPA-HQ-OAR-2002-0083-1446, Table 5.1

⁴ “The Company [US Steel] expects to complete approximately \$75 million of repurchases of common stock in the first quarter under its existing \$500 million stock buyback authorization. By quarter end, the Company expects to have repurchased approximately 15% of its diluted shares outstanding since the beginning of December 2021, which equates to approximately \$1.1 billion returned directly to stockholders.” [United States Steel Corporation Provides First Quarter 2023 Guidance - www.ussteel.com](https://www.ussteel.com/News/2023/01/United-States-Steel-Corporation-Provides-First-Quarter-2023-Guidance); [Cleveland-Cliffs Earns Buy Rating Amid Strong Q4 Performance and Aggressive Share Buyback Plans | Markets Insider \(businessinsider.com\)](https://www.businessinsider.com/cleveland-cliffs-earn-buy-rating-amid-strong-q4-performance-and-aggressive-share-buyback-plans); [Cleveland-Cliffs buying back \\$1 billion in stock from shareholders \(nwintimes.com\)](https://www.nwintimes.com/news/cleveland-cliffs-buying-back-1-billion-in-stock-from-shareholders)

⁵ [control-strategy-tool-cost-cost-equations-documentation.pdf \(epa.gov\)](https://www.epa.gov/epaosweb/documents/control-strategy-tool-cost-cost-equations-documentation.pdf)

⁶ For example, See [20160329-16-p-0122.pdf \(epa.gov\)](https://www.epa.gov/epaosweb/documents/20160329-16-p-0122.pdf)

⁷ [do regulators overestimate the costs of regulation.pdf \(epa.gov\)](https://www.epa.gov/epaosweb/documents/do-regulators-overestimate-the-costs-of-regulation.pdf); [Retrospective Study of the Costs of EPA Regulations: A Report of Four Case Studies \(2014\) | US EPA; ee-0575 0.pdf \(epa.gov\)](https://www.epa.gov/epaosweb/documents/Retrospective-Study-of-the-Costs-of-EPA-Regulations-A-Report-of-Four-Case-Studies-2014-US-EPA-ee-0575-0.pdf); Northeast States for Coordinated Air Use Management (NESCAUM), Environmental Regulation and Technology Innovation: Controlling Mercury Emissions from Coal-Fired Boilers (September 2000), http://www.nescaum.org/documents/rpt000906mercury_innovative-technology.pdf.

compared to actual the compliance costs incurred when the programs were implemented.”⁸

It bears emphasis that the December 6 letter assumes that EPA not only understated the costs of the three rules in question but understated them by more than an order of magnitude. The assertions in the December 6 letter, which I assume are based on representations by industry sources rather than any independent research by Senate staff, are incorrect. The inference that the EPA proposals ignore sound science and are based on unproven technology is also incorrect. Far from it, EPA has historically declined to set hazardous air pollutant standards that would require the use of the latest affordable technology. As I set out in more detail in Attachment A, below, in these proposals the EPA routinely rejects options for point source controls on the basis that EPA does not subjectively consider them cost-effective or that EPA did not have sufficient information about the technologies, even though EPA has ample authority to obtain the necessary information.

Of the more than a dozen specific emission points covered by these proposals EPA proposed limits that would require stack controls in only two instances - mercury and hazardous acid gas controls at some of the taconite furnaces in the U.S. and mercury and hazardous metal controls at offtake stacks from coke oven batteries. The technologies that would be needed to limit mercury and hazardous acid gas controls – injection of activated carbon (ACI) and lime (DSI) and fabric filters (FF or baghouses) – have been in use for decades at coal-fired power plants, cement plants and others. The leniency of the proposed standards is such that EPA anticipated acid gas controls at only 2 of the 18 taconite furnaces and mercury controls at 11 of those furnaces.⁹ But EPA’s proposal went further. EPA proposed and has now adopted a rule that would allow those sources to average emissions across furnaces at the same plant. This rule will allow greater emissions than permitted under a straightforward reading of the CAA by reducing the number of furnaces that would have to add DSI to six and reducing the industry-wide cost estimate to \$10.2 million per year.¹⁰

As explained below, in each of these instances EPA has taken extraordinary measures to limit costs to “add-on” sorbent injection and particulate matter control upgrades to existing pollution controls rather than new, stand-alone pollution controls. Because these additives enhance the effectiveness of existing controls in reducing acid gas emissions, the proposal to control hazardous acid gas emissions would occasion annual costs (including capital recovery and operating costs) of approximately \$1.3 million at the only plant that would have to reduce emissions. This plant generates gross revenue on the order of \$1 billion per year. EPA assumes

⁸ EPA-HQ-OAR-0044-0728, Attachment 1 at page 7. Northeast States for Coordinated Air Use Management (NESCAUM), Environmental Regulation and Technology Innovation: Controlling Mercury Emissions from Coal-Fired Boilers (September 2000), http://www.nescaum.org/documents/rpt000906mercury_innovative-technology.pdf.

⁹ Here it appears that the agency is conservative and over-estimates the number of units that would have to install ACI with the proposed limit and no averaging. Based on the emissions data in the rulemaking record additional emission controls would only be required at 6 of 13 furnaces tested. EPA-HQ-OAR-0063-0256 at Table 3.3. The agency appears to assume that four untested furnaces at Northshore and Tilden plants would need to add ACI. However, the agency’s test results for the existing units at those plants show an ample margin of compliance with the proposed limit.

¹⁰ 88 Fed. Reg. at 30925; see also [frn-taconite-preamble-rule_final.pdf \(epa.gov\)](#)

that monitoring, record keeping and reporting at other plants in the sector would add annual costs of \$600,000 – for the entire sector.

EPA has determined that injecting activated carbon to the waste gases to capture mercury might also require some upgrades to the particulate matter controls already in place and so estimates somewhat higher costs to control 11 furnaces – on the order of \$10.2 million per year per furnace (including capital recovery and operating costs) for a group of furnaces that generate upwards of \$ 5 billion per year in revenue.¹¹ Importantly, as noted above, EPA did not propose any controls on the stack emissions from steel mills or coke ovens.

As in the refining sector, the fugitive emissions from the sources subject to these three proposals can often be greater than emissions from control devices. Here, for example using published data EPA and its contractor RTI International¹² estimate that fugitive emissions from blast furnace casthouses and basic oxygen process facilities at integrated iron and steel mills were 20-25 times greater than stack emissions from the controls serving those units.¹³ To minimize costs to the companies that own these mills, EPA proposed only small dollar improvements to reduce fugitive emissions from these facilities by an average of only 27 percent.¹⁴ Many of these improvements were incorporated in a consent decree resolving years of unlawful fugitive emissions at a Wisconsin steel mill.¹⁵ In the interagency review process OMB deleted some of these recommendations.¹⁶ Those that survive include developing more frequent assessment and correction of the sources of fugitive emissions, such as broken windows, optimizing the positioning, tilt angle and pour rate of hot metal ladles rein basic oxygen process facility operations. The agency analysis recognizes that in some instances the hood over charging areas at a basic oxygen process facility may need to be modified to improve capture and routing of fugitives to existing control devices. Overall, the EPA/OMB capital cost estimate for improved control of fugitive emissions at integrated iron and steel mills is \$5.4 million – for the entire industry. The EPA/OMB cost estimate for the annual cost – capital cost recovery plus operating costs – at integrated iron and steel mills is \$2.4 million per year¹⁷.

Ignoring sources that do routinely meet EPA’s proposed opacity requirements and without providing pilot testing of EPA’s proposals or any engineering analysis whatsoever, industry representatives appear to incorrectly assume that the proposals would require capturing all fugitive emissions and assert that encapsulating the entire facility and adding extremely large fans and baghouses would be needed at some unspecified plants.¹⁸ Based purely on these incorrect, unsupported and self-serving assumptions, the industry comments oppose more

¹¹ This estimate is extremely conservative in that it assumes ACI and upgraded particulate matter controls for a group of furnaces that currently meet the proposed limit.

¹² RTI International is a nonprofit research company that has engaged in pollution control research in the U.S. and worldwide for over XX. It has no incentive to bias its analysis in one direction or another. [RTI International | Research Institute](#)

¹³ See Attachment B for photographs and videos of fugitive emissions from iron and steel mills.

¹⁴ EPA-HQ-OAR-2002-0083-1446 at Table 4.1

¹⁵ [2.pdf \(justia.com\)](#); [United States of America v. Maynard Steel Casting Company \(2:17-cv-00292\), Wisconsin Eastern District Court \(pacemonitor.com\)](#); [gov.uscourts.wied.76446.11.0.pdf \(courtlistener.com\)](#)

¹⁶ EPA-HQ-OAR-2002-0083-1446 at pp 17-18 Among the recommendations deleted were suggestions that sources develop operating plans to make good housekeeping routine and to use runner covers. See Appendix C.

¹⁷ EPA-HQ-OAR-2002-0083-1446 at pp 19-20

¹⁸ EPA-HQ-OAR-2002 - 0083-1630 Appendix V-13/14 Attachment 1.

stringent opacity limits and the alternative of work practice requirements as costing “billions” of dollars. Industry’s comments do not even grapple with EPA’s cost calculations, let alone show that they are wrong or that the necessary reductions could not be achieved through the far less costly means EPA details. The industry comments do not document any serious attempt to develop low-cost abatement techniques in recent years, do not reflect any root cause analysis of instances where high fugitives occur or what could have prevented these emissions.¹⁹

Industry’s Cost Claims for Point Source (stack) Emission

Industry’s assertion that the EPA’s proposals would “require billions of dollars in capital investments and operating costs” is unsupported and, quite frankly, absurd. The EPA has historically stretched the limits of its discretion to avoid such impacts from regulation of hazardous air pollution. The proposed rule for integrated iron and steel facilities provides a perfect demonstration. The new limits that EPA proposed for stack emissions from steel mills would not reduce emissions at all or impose any costs at all on industry, because EPA proposes to set them at levels that every source in the industry is meeting already. As EPA puts it:

“every facility meets the proposed existing and new MACT floor emission limits for each HAP, therefore no costs would be needed.”²⁰ (emphasis added)

Mercury Controls at Taconite Plants

The Clean Air Act unambiguously required EPA to reduce taconite plants’ hazardous air pollutant emissions, including their emissions of mercury and hydrogen chloride, by the “maximum” degree that is “achievable” no later than November 15, 2000.²¹ Nonetheless EPA refused to set any limits for these pollutants in its original standards for the industry, which it issued late in 2004.²² When EPA’s refusal to set limits for these pollutants was challenged in court as flatly unlawful, the agency committed to issue the missing limits “with all due speed.” The agency did not actually issue them, however, until this year, 20 years later. Thus, EPA granted industry a 20-year compliance holiday in which the owners of the taconite plants did not have to spend anything to control their mercury and hydrochloric acid emissions and in which they dumped more than a hundred tons of mercury, uncontrolled, into the environment. The waters of Minnesota and Michigan, where these plants are located, are all subject to statewide mercury advisories.

Additionally, in September of 2021, the Minnesota Pollution Control Agency (MPCA), frustrated by industry’s unwillingness over a decade of attempts by MPCA to work with industry to reduce mercury emissions from taconite plants, petitioned EPA to adopt such limits. According to the MPCA, the taconite industry is the largest emitter of mercury in the state. An earlier Minnesota Department of Health study had determined that 10 percent of infants born in the Lake Superior basin had mercury levels above the U.S. Environmental Protection Agency’s

¹⁹ [doc 2-1 consent decree.pdf \(justice.gov\)](#)

²⁰ EPA-HQ-OAR-2002-0083-1442

²¹ 42 U.S.C. § 7412(d)(2), (e)(1).

²² 69 Fed. Reg. 10,512 (March 5, 2004).

reference dose for methylmercury.²³ EPA finalized its long-delayed standards for taconite plants on February 9, 2024.

The emission limitation EPA is required to establish mercury limits at taconite plants, by statute, may not be less stringent than the average emission level already “achieved” by the best five performers.²⁴ The average emission limitation of the 5 best performers demonstrated by the EPA data was 7.80 E-06 lb/ ton. As one might expect, 12 of the 14 furnaces for which EPA had data exceed this limit. Rather than propose this limit, EPA applied its 99th percentile Upper Probability Limit (UPL) procedure which doubled the rate to 1.4 E-05²⁵ lb/ton of product- even though EPA has no data showing that this group of 5 best performing sources ever emit mercury at an average emission rate this high. As a result, six of the 14 units tested – almost half – meet EPA’s limit without additional controls.

EPA also proposes to use its discretion to permit source operators to average emissions of cleaner units at the source with dirtier units. Under this provision, the companies would need to install controls on only six of their furnaces, further reducing the costs of its proposed rule.²⁶

Although EPA’s own analysis shows that its rule would require two companies that own all the taconite plants to install controls on only 6 of their 18 furnaces, the agency’s cost analysis assumes 11 of 18 taconite furnaces would have to install ACI and some level of upgraded particulate matter controls.²⁷ For those 11 units that may have to install controls to meet a MACT floor applicable to each furnace EPA’s annual cost estimate is just \$10.2 million per year (capital recovery plus operating cost).

Acid Gas Controls for Indurating Furnaces at Taconite Plants

EPA is required to conduct a technology review to determine whether there were new developments in control technologies that suggest that further emission reductions could be achieved. Here, EPA has represented that

“recently collected new data that suggest further reductions in HCl and HF emissions could be achieved....The new emissions data indicate that the furnaces using wet scrubbers to meet the PM NESHAP standards achieved lower acid gas emissions than the furnace using dry ESP.....**After considering the costs**, we are proposing revised emission standards for HCl and HF.” (emphasis provided)

But EPA is not proposing revised acid gas emission control levels that would require sources using dry scrubbers to replace them with wet scrubbers. While this option is available to sources, EPA chose a much less expensive alternative.

²³ [Minnesota’s taconite industry not on pace to meet state’s mercury reduction targets by 2025 – Twin Cities](#)

²⁴ 42 U.S.C. § 7412(d)(3).

²⁵ 1.4 E-05 ton in scientific notation represents 0.000014 lb/ton. Each of these facilities process several million tons of ore per year.

²⁶ EPA incorrectly asserts that this approach is “more stringent”. In fact, it will allow greater mercury emissions.

²⁷ EPA assumes that some sources with emission test results below its proposed limits would nonetheless install controls.

The average hydrogen chloride (HCl) emission performance for the best performing units was 4.53 E-03 lb/ton. EPA issued an emission limit almost an order of magnitude less stringent 4.4 E-02 lb/ton. For hydrogen fluoride (HF), the average emission performance for the best performing units was 3.05E-03 lb/ton. EPA quadrupled this level to set a final limit at 1.2 E-02 lb/ton.

EPA estimates that just one facility would need to reduce its emissions to meet these limits. All other facilities are expected to meet the limit without additional emission control. The annualized costs for the other six facilities include only compliance testing, recordkeeping and reporting associated with the new standards, but no actual control costs.

EPA estimated the capital cost for adding DSI at a representative furnace with two stacks, is \$535,104. At 7 percent interest and 20-year life, this represents an annual capital charge of just over \$50,000 per year. Overall operating costs, including the cost of the sorbent, maintenance, etc, are estimated to be approximately \$650,000 per year. The facility modeled by EPA produces 6 -7 million tons of iron ore per year – roughly \$1 billion per year in gross revenue at today's price of ~ \$135/ton. All told, the costs of the rule would amount to less than half of one percent of the annual revenues of the two companies that own all the steel mills and taconite plants in the U.S.

Fugitive Emissions

EPA's "model" II&S facility produces 5,871,382 tons of steel per year. Recent steel price figures range from \$871/mt to \$1,750/mt²⁸. Thus, the revenue generated from production of steel at the "model" facility would be approximately \$7 billion per year.²⁹ As noted above, Cleveland Cliffs and U.S. Steel reported combined revenues exceeding \$40 billion last year.

EPA's proposal to strengthen the opacity limits applicable to fugitive emissions from blast furnaces and basic oxygen process facilities from 20 percent to 5 percent is rational and documented by the agency's review of the techniques employed by the better performers in the sector. EPA has found that steel mills emit 350 tons of toxic metals as fugitive emissions each year. This total includes substantial quantities of arsenic and lead, metals that cause significant adverse health effects, including cancer and irreversible developmental damage in infants and children.

Fugitive blast furnace cast house and basic oxygen process facility emissions are, by far, the largest source of fugitive metal emissions and other emissions at II&S facilities. EPA's proposed control of these emissions is not technically challenging. It merely requires creating negative atmospheric pressure in the system relative to ambient pressure so that air leakage is *into* the system that has pollution controls rather than *out* via any openings in the cast houses. This is routinely done coal fired power plants and so, as a general matter, fugitive emissions from coal-

²⁸ [Steel, Commodity Price Trends Support SLX | etf.com: Steel USA Price: Charts, Forecasts & News - FocusEconomics \(focus-economics.com\)](https://www.steelprice.com/SteelUSAPriceChartsForecastsNews-FocusEconomics) visited 8.17.2023. Eash facility would need several of these cameras.

²⁹ Based on the midpoint of the price figures quoted.

fired power boilers are minimal. EPA had proposed a zero-opacity requirement, which was strenuously objected to by the industry.³⁰ The proposed five percent opacity limit merely requires companies to adopt less intrusive measures than full-on control. EPA provides a discussion of these sources and potential options, but fails to require a number of fairly obvious steps that it has noted.

The American Iron and Steel Association acknowledges that the record in this case documents numerous facilities that have demonstrated zero percent opacity. AISA argues that, even though existing regulations require that opacity be determined under conditions that are “representative” of facility operations, the testing conducted by its members was not “representative of long-term performance. If, as proposed, compliance testing is conducted the same way as it has in the past the data in the record should be considered as “representative” of what would be anticipated in future compliance testing.

Of greater concern than the opacity limits themselves are EPA’s proposed monitoring requirements which continue to rely on a subjective “eyeball” test that dates back to 1897. Under this approach, known as Method 9, an observer, with the sun at a certain angle behind his/her back, looks at the escaping plume and mentally compares what he/she observes with pictures of plumes with different opacity – i.e., different shades of gray – shown to the observer in training. Method 9 cannot be done at night, or in the rain and, under EPA’s proposal need only be conducted as infrequently as once every five years at some sources. The test would be conducted by company employees or contractors. Plant operators would be notified in advance of the test so as to be able to optimize performance during the test. Thus, for example, operators could ensure that runner covers are in place during the scheduled opacity test, but not at all other times. Further, no objective data are recorded to allow a *post hoc* determination of the accuracy of the Method 9 observer at a later date.

For at least the past 17 years a better technology – computer analysis of digital photographs – has been available. EPA Alternative Method 082 (digital opacity camera system (DOCS)), is derived from an industry standard - ASTM D7520-13 and is currently available as an alternative to Method 9 and an improvement in the reliability and accuracy of opacity monitoring. The recently promulgated Ferromanganese RTR rule, published on June 30, 2015 (80 FR 37366), required opacity monitoring to be conducted according to ASTM D7520-13. The DOCS method provides reliable, unbiased opacity readings and is an improvement in the transparency of opacity monitoring results. As of this summer the advertised price for a suitable camera (Vivotek SD 9361-m) was \$2,799.99.³¹ Sources would need several cameras to routinely monitor for fugitive emissions, but use of this technology would greatly increase the likelihood of continuous good performance, by having a large pool of inexpensive records generated by the use of inexpensive digital cameras and a neutral source (a random number computer program) to determine which of those inexpensive records are to be further processed.

Where EPA or a state determines that a source has demonstrated poor performance on the basis of the initial set of photographs processed, they may either process additional records themselves

³⁰ [Steel-Associations-Comments-on-EPA-Proposed-EAF-NSPS-Revisions-August-2022.pdf](#)

³¹ [Speed Dome IP Camera | Vivotek SD9361-EHL \(cctvcamerapros.com\)](#).

or require the company to do so. I note that at least one source in this sector is already employing digital monitoring – as required by a Consent Decree it entered into to resolve longstanding excess fugitive emissions – and doing so at night as well as daytime. I also note that EPA has required the use of this technology in another sector.³² In my experience, industry cost objections for improved monitoring are more likely associated with their perception of the risk that the monitoring would provide a basis for regulators to enforce better performance rather than the direct cost of the monitoring.

Claim: The proposed rules “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.

This claim is indeed ironic in light of the pending sale of US Steel to a foreign corporation.³³ Taconite and steel markets are in a strong position at the present time.

“Six northeastern Minnesota taconite plants running wide open

Iron ore pellet production at northeastern Minnesota taconite plants bounced back in 2021. The six taconite plants are projected to produce a total of about 38.7 million tons of iron ore pellets for the year, according to the Minnesota Department of Revenue Minerals Tax Office. It’s a big rebound for the industry after producing 30.1 million tons of pellets in 2020 as the nation’s economy slumped. Demand for products made of steel such as automobiles, trucks, appliances, and within the energy and construction sectors increased during 2021, according to Kelsey Johnson, Iron Mining Association of Minnesota president.

“The steel market seems to be going strong,” said Johnson. “People appear to still want a new fridge, a new stove or microwave. Back orders on cars and trucks remain and thankfully production is continuing despite the chip shortage. “The demand drove steel and iron ore prices to record highs. Domestic iron ore and steelmakers recorded record profits and steelworkers earned large profit sharing checks. U.S. Steel’s Minntac Mine in Mountain Iron will again lead northeastern Minnesota taconite plants in iron ore pellet production with about 13.6 million tons forecast in 2021, according to the Minnesota Department of Revenue Minerals Tax Office.

Minntac Mine is North America’s largest taconite plant. Hibbing Taconite Co. will produce about 7.2 million tons; Keetac in Keewatin about 5.3 million tons; Minorca Mine in Virginia about 2.6 million tons; Northshore Mining Co. in Babbitt and Silver Bay about 4.9 million tons; and United Taconite in Eveleth and Forbes about 5.1 million tons.”³⁴

³² [Microsoft Word - ENV_ENFORCEMENT-#3051970-v1-USS_Final_Consent_Decree.docx \(justice.gov\)](#) – Nov 9, 2017 NOV; 5/17/22 CD

³³ [US Commerce Secretary says US Steel sale to Japanese rival may face government scrutiny | CNN Business](#)

³⁴ [North America Iron Ore Pellets Size, Outlook, Growth, Report to 2030 \(straitsresearch.com\); US Steel to build \\$150 million DR-grade pellet plant at one of its Iron Range mines - Duluth News Tribune | News, weather, and sports from Duluth, Minnesota; Iron Ore Pellet Production \(feeco.com\); Plans to idle Northshore mine disrupt otherwise strong outlook for iron ore and steel \(startribune.com\)](#)

“A PERFECT STORM FOR AN IRON ORE PELLET SHORTAGE

Benefits of utilizing iron ore pellets are extensive; in addition to lower emissions and a reduced requirement for coking coal, the use of iron ore pellets allows steel producers to lower energy costs and ultimately add to their profit margin, making pellets an increasingly favored feedstock.”³⁵

Claim: “American steel manufacturers take seriously their commitment to protecting the environment”

The letter’s’ assertion of environmental stewardship by the iron and steel sector industry is undercut by 50 years of significant violations of our environmental statutes and opposition to any significant environmental regulation, including what is one of the most striking examples of corporate indifference to public health – the Birmingham air pollution episode of 1971 - when steel mill operators refused requests by the local health department, the Alabama Attorney General’s office and the EPA to curtail pollution during an inversion that trapped their pollution and created a “imminent and substantial endangerment.”

Figure One. 1971 Birmingham Air Pollution Episode



³⁵ [Iron ore pellet production rebounds in 2021 | The Daily Briefing | businessnorth.com](https://www.businessnorth.com/news/iron-ore-pellet-production-rebounds-in-2021)

See Attachment C, below for more detail on this episode. As documented by EPA and others, violations by this industry span the entire timeframe of Federal environmental regulation from the 1970s³⁶ to recent months when Consent Decrees were entered that (1) resolved over 12,000 violations of US Steel's air permits after the company continued to operate without pollution controls when a fire damaged the existing control system; (2) required Cleveland Cliffs to spend \$100 million to replace the failed main pollution control device (installed in 1964) at a mill that allowed excess emissions of toxic air pollutant – after it had already entered into a Consent Decree in 2015 promising to correct the problem³⁷ and (3) required Cleveland Cliffs to pay a multi-million dollar fine for illegally discharging ammonia and cyanide-laden wastewater into the East Branch of the Little Calumet River.³⁸

These are large and complex sources – and so it is not surprising that the occasional environmental problems might arise. The response of these companies to their own internal compliance data and to initial inspection and informal enforcement actions demonstrates that all too often their perceived duty to their shareholders overrides whatever commitment they may have to the environment. This can be seen in the length of time between the first notice of violation to final resolution. The initial notice of violation at the Cleveland Cliffs plant cited above was issued in 2008; the amended consent decree requires a successful compliance demonstration by March of 2024 – 16 years later. The consent decrees cited herein similarly show entry dates several years after issuance of the NOV and filing of a complaint. EPA and state agencies have limited resources, as does DOJ's Environmental Enforcement Section and ultimately, the courts. In my experience corporate defense counsel often engage in discovery and motion practice to defer expenditures on environmental improvements and only get "serious" about settlement after summary judgment on liability is established and/or a trial is imminent. MPCA's experience in attempting to develop a consensus solution with its taconite mills also speaks to the level of commitment to the environment documented by this sector.

Claim: "The irony is that the United States' steel industry is world's cleanest major producer of steel!"

Response: The report referenced in the December 6 letter is no longer located at the cited web address. It can, however, be found at [Steel+climate+impact-benchmarking+report+7April2022.pdf \(squarespace.com\)](https://www.squarespace.com/benchmarking+report+7April2022.pdf). This report is limited to an evaluation of the CO₂ emission intensity (tons of CO₂ emitted per ton of steel produced) and has nothing to do with the toxic pollution issues that are the subject of the letter. Whatever might be said of the steel companies' CO₂ emissions, it is undisputed that they emit hundreds of tons of hazardous air

³⁶ See, [Enforcement Case Search Results | ECHO | US EPA](#) ; [united-states-steel | Violation Tracker \(goodjobsfirst.org\)](#); [Violation Tracker \(goodjobsfirst.org\)](#); [Commonwealth v. U.S. Steel Corp., 15 Pa. Commw. 184 | Casetext Search + Citor](#); [U.S. Steel Under Fire as a Problem Polluter - The New York Times \(nytimes.com\)](#)

³⁷ [dl \(justice.gov\)](#); [subscriber.politicopro.com/eenews/f/eenews/?id=0000018b-495a-d9bd-a1bf-e9fab3a10000](#)

³⁸ [Office of Public Affairs | U. S. Steel Corporation Agrees to End Litigation, Improve Environmental Compliance at Its Three Midwest Facilities, Pay Civil Penalty of \\$2.2 Million and Perform Projects to Aid Communities Affected by U. S. Steel's Pollution | United States Department of Justice](#)
[U. S. Steel Corporation Consent Decree | US EPA](#) ; [U.S. Steel agrees to \\$42 million settlement for 2018 fire that emitted clouds of sulfurous gas into surrounding towns | Fortune](#); [Steel Manufacturer Pays More Than \\$100 Million to Reduce Emissions from its Dearborn, Michigan Facility | US EPA](#); [dl \(justice.gov\)](#); [dl \(justice.gov\)](#); [subscriber.politicopro.com/eenews/f/eenews/?id=0000018b-495a-d9bd-a1bf-e9fab3a10000](#)

pollutants – much of which is made of toxic metals and completely uncontrolled – into neighboring communities each year. The CO₂ report, with which the industry seeks to distract attention from this inconvenient truth is misleading even on its own terms. In reality, it shows that, at best, U.S. producers are “middle of the pack” when it comes to CO₂ emissions per ton of steel produced by each of the two major processes.

As the report notes, the CO₂ emission intensity of electric arc furnaces - produced steel depends on the emission intensity of the grid supplying the electricity. The United States has a higher percentage of recycled steel than most countries and so a greater percentage of our steel is produced by less emission intensive electric arc furnaces. For these reasons the study concludes that the U.S. steel industry ranks fourth among the countries studied in energy intensity and second in CO₂ emission intensity.

Conclusion

In this letter I provide substantial detailed documentation demonstrating that the representations in the letter of December 6, 2023, are incorrect and wildly exaggerated. The Administrative record of these proposed rules contains much more information, including specific data respecting the ability of better performing sources to meet and exceed the EPA’s proposals. I believe it is important to push back against such overblown industry claims, lest that narrative drive public opinion and agency policy. I encourage the EPA to (1) adopt reasonable standards that are at least as protective as proposed; (2) revisit overly lax proposals, especially with respect to continuous opacity monitoring of fugitive emissions, (3) provide additional information and briefing by knowledgeable staff, including EPA Region V inspectors familiar with the facilities, for interested Congressional staff and members and (4) reinstate the earlier process of including Office of Enforcement and Compliance staff in the development of the enforcement components of proposed rules.

Sincerely,

Bruce C Buckheit

Bruce C. Buckheit

cc: Hon. Sherrod Brown
Hon. J.D. Vance
Hon. Mike Braun
Hon. Joe Manchin
Hon. Robert P. Casey, Jr.
Hon. Amy Klobuchar
Hon. Shelley Moore Caputo
Hon. Todd Young