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

EO 12866 Meeting – American Iron and Steel Institute

May 18, 2023

Agenda



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- ✓ Summary of Requests
- ✓ The Iron and Steel Industry and the U.S. Economy
- ✓ Low and Acceptable Risk
- ✓ New Opacity Standards
- ✓ New Work Practice Standards
- ✓ New Limits on HAPs
- ✓ New Fenceline Monitoring
- ✓ Summary of Requests

The Iron and Steel Industry and the U.S. Economy



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Steelmaking is the core of the critical manufacturing sectors and has been identified by U.S. Government as necessary for U.S. economic prosperity and national security.

- **Economic output:** Over \$520 billion.
- **Jobs (direct/indirect):** 2 million.
- **Wages/Benefits:** \$130 billion.
- **Taxes:** \$56 billion.

Economic Sectors Impacted

- | | |
|--------------------|------------------|
| ✓ Financial | ✓ Infrastructure |
| ✓ Employment | ✓ Production |
| ✓ National Defense | ✓ Fuel |
| ✓ Transportation | ✓ Technology |
| ✓ Automobiles | ✓ Packaging |
| | ✓ Construction |

*Prosperity and Support
for Millions of
Individuals and Their
Families*

Requests



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1. Assess whether the newly proposed limits are required by *LEAN*: Limit proposal to court directives.
2. Assess whether the newly proposed opacity and HAP limits were appropriately derived – are actually ones that are representative and achieved by top-performing units (they are not) across the range of operations being regulated; if not, propose limits that are representative and are being achieved.
3. For Blast Furnace (BF) and Basic Oxygen Process Furnace (BOPF) – which are outside the scope of *LEAN*: assess whether there actually have been developments that warrant ratcheting standards by a factor of four (there have not).
4. Critically examine the cost, performance, and emission reduction information EPA provided (or absence thereof) and how that information was derived.
5. Assess whether there is any rational connection between the proposed fenceline monitoring and emissions of concern from these plants.
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Low, Acceptable Risk Should Inform Scope of Rulemaking



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Low and Acceptable Risk Already Determined: The 2020 RTR presented a conservatively estimated MIR risk range of 8 to 20 in 1 million – which is far below the 100-in-1 million acceptable risk threshold.

- EPA determined no additional controls required.

Only Need to Satisfy *LEAN v. EPA*, 955 F.3d 1088 (D.C. Cir. 2020).

- *Gap-filling:* Only required for unregulated pollutants (during CAA § 112(d)(6) technology review).
- EPA need not (and should not) re-do elements of the § 112(d)(6) technology review that were already done just two years ago.
- *Additional Discretionary Changes Can Be Done in Another Rulemaking.*

*October 2023 Court Deadline Premised on Time “to Collect and Analyze
... Information Needed to Address LEAN.”*

Erroneously-Derived BF Casthouse & BOPF Shop Opacity Limits



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- Reportedly, EPA is considering ratcheting existing standards potentially to 400% more stringent levels as “never to be exceeded limits” *plus* adding prescriptive work practice requirements.
- No § 112(d)(6) “developments” have occurred; requirements not cost-effective.
- EPA’s 2020 findings remain valid.

“[T]here are no developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category.”

– EPA II&S RTR, 85 FR 42077 (July 13, 2020)

Erroneously-Derived BF Casthouse & BOPF Shop Opacity Limits



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- **Not required by *LEAN*, therefore this portion of rule is discretionary.**
- **Standard-setting analysis invalid.**
 1. Inappropriate reliance on short-term 2022 ICR data (hours of data) and exclusion of longer term information EPA already has in its possession bankrupts the standard-setting process.
 2. Data not representative of industry.
 3. Data not representative of process variability (refusal to do UPL or any other analysis).
 4. Fails to include relevant operating scenarios (e.g., product mix).

“[I]t is important to account for seasonal variations and examine data covering 1 year or more to account for variability due to differences in ventilation rates, weather conditions, and changes in the process overtime.”

– *EPA II&S Final Rule, 68 FR 27655 (May 20, 2003)*

High Compliance Costs Would Have Broad Adverse Economic Effects



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- Never-to-be-exceeded opacity limits not being achieved by top performers.
 - Current opacity standards not being met.
 - Only option would be beyond-the-floor complete enclosure of facilities, with associated reconfiguration and controls.
- EPA's Section 112(d)(6) review must include an assessment of cost effectiveness.
- At an estimate of up to \$1 billion, retrofitting the BF and BOPFs to achieve new opacity standards would be economically infeasible and would yield minimal benefits with respect to risk reduction.

BF Bleeder, Bells, Beaching, and Slag



- The problems with BF and BOPF opacity limits are equally applicable to these 5 UFIPS, with more extreme economics given low emissions and risk.
- These sources are already regulated.

Fugitive Emissions – EPA Conservative/Upper-End Estimates

EPA-Identified Nonpoint Sources	Worst-Case Facility HAP (TPY)	Total Risk (based on retest data)
BF Bleeder Valve Unplanned Openings	0.74	0.02-in-a-million
BF Bleeder Valve Planned Openings	0.48	0.03-in-a-million
BF Bell Top	0.45	0.06-in-a-million
BF Iron Beaching	0.0099	0.02-in-a-million
BF Slag Handling and Storage Operations	0.58	0.38-in-a-million

Summary Comments on Opacity



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- EPA developed limits using an unrepresentative “snapshot” of data, lacks statistical analysis for proposed limits, ignored data in its possession that disprove the claimed “advances,” and creates compliance risk where actual risk to people is very low.
- At an estimate of up to \$1 billion, retrofitting the BF and BOPFs to achieve the new opacity standards would be economically infeasible and would yield minimal benefits with respect to risk reduction.
- Proposed limits do not meet Section 112(d)(6) criteria.
- If opacity limit proposed, must not be “never-to-be-exceeded” because even the best performers are not achieving such standards.
- EPA must solicit comment on these issues.



Large and Small Bells: These sources are already regulated. If proposal is to replace bell within 4 months after observation of 10% opacity:

- **Design Standard:** Misabeled as “work practice.”
 - EPA proposing bells be designed not to have VE>10% throughout life.
 - Whichever label applies, it lacks record (including the 2022 ICR responses).
- **Capital Costs:** \$12M-\$14M for large bell.
- **Lost Production Cost/Operational Disruption:** \$60M-\$85M in lost production during replacement outage.
- **Impossible Deadlines:**
 - Lead-time & production commitments ignored (e.g., 14-mos to recondition large bell/2-3 yrs to fabricate new top).
- **Illusory Benefit:**
 - E.g., at largest/worst-case facility 0.45 tpy HAP estimate (which overstated the actual emissions).
- **Wasteful:**
 - Requires functional equipment be scrapped without opportunity to correct.

Provide Alternative Proposals Consistent with Industry's Prior Submittal: Production-Based Trigger to Monitor Opacity. For Observations <20%, Develop Corrective Action Plan.

New Work Practice Standards for Fugitive Emissions



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- **Industry agreed to accept a work practice plan without lowering existing opacity limits.**
 - Would include procedures to address proper operation and response to fugitive emissions issues.
 - Would take into account the unique design elements of facilities (as these facilities were designed at different times).
 - Would allow facility operators to take appropriate action for operational issues.
 - Would ensure that safety is appropriately considered.
- **Instead, EPA proposes prescriptive work practices and overly stringent opacity standards.**
 - So, work practices would be effectively written in regulations as one-size-fits-all, without regard to facility design.
 - EPA's regulatory WP plan places EPA staff in the role of industry operator – not an appropriate role for a regulator.
- **Benefits are overstated.**
 - Unique designs of facilities means EPA cannot conclude reductions from one facility would translate to another, yet that is the assumption we understand has been made.
 - EPA assumes facilities are doing no existing work practices in order to generate estimated emission reductions.
 - Actual reductions (if any) will be far less than EPA concludes.
 - EPA cost estimates are unclear.

Multiple New HAP Limits – Summary



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- Industry was determined by EPA to be low, acceptable risk.
- Inaccurate floor/not being achieved by best performers.
- Limits based on limited testing, and not representative of the industry and process variability.
- Not achievable in many cases.
- Based on an engineering assessment, there are no known iron or steelmaking applications in the world which deploy add-on controls for most of the new HAP limits proposed by EPA.
- Large capital investments required.
 - Not economically feasible.
 - Preliminary industry cost estimates to comply in the several hundreds of millions of dollars.
 - Far exceeding EPA estimate of \$100 million; cost impact could be >\$1 billion.



Inadequate Information for Standard-Setting – data from fewer than five sources for the new HAP limits.

- 1 stack test from 2 sources.
- Not indicative of best performers or even sustained achievement by the tested sources.
- Does not take into account operational scenarios (e.g., different product mixes, process variability).
 - Short time frame for testing.
 - Conducted during COVID where testing resources constrained.
- UPL cannot be rationally applied to such limited test results that differ by orders of magnitude.
- Lack of demonstrated controls, but even where controls available, costs > \$1B.
 - Time to develop / test controls not possible in §112(i)'s 3-year compliance window (even with a 1-year extension).
 - Data from different types of processing equipment being conflated.
 - E.g., current BOPF regulations have different requirements for open & closed hood systems.

New Fenceline Monitoring – Not Risk-Justified



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- **Why?**

- >8 years of EPA ambient monitoring data plus 6 months' of 2022 ICR results.
 - Low risk using conservative upper-end assumptions.
 - Confirmatory of low/acceptable risk in 2020 RTR Final Rule.
- Fenceline monitors tend mislead public regarding actual risks:
 - Overestimate concentrations that are attributable to II&S facilities.
 - Fenceline monitors nearest to sensitive receptors generally show lower estimated risks; other monitors not representative of risk at sensitive receptors.
 - The proper speciation range is well established and documents low acceptable risk based on 8+ years of actual monitor data.
 - Offsite contributors.

New Fenceline Monitoring – Legal Basis and Purpose?



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- If not justified for risk purposes, then why do it? What is legal basis?
- If the industry nor EPA can pinpoint potential emissions sources and address those now, how will fenceline monitoring help?
- Concerns:
 - Rationale behind monitoring for a given pollutant.
 - Period required to monitor.
 - Ability to sunset required monitoring soon.
 - Lack of nexus of the fenceline monitoring results to any planned action level threshold.
- Monitoring results triggering action would be problematic because a root-cause analysis may not lead to conclusive results (e.g., delays before receiving lab results on monitoring data make establishing any potential casual connection difficult).
- If the proposal includes monitoring of a proxy pollutant, does the proposal sufficiently explain the relationship of a proxy to a pollutant of concern(s) to avoid public misconception of the raw proxy pollutant monitoring results?
- Estimated costs will be in the hundreds of thousands to the industry for monitoring annually.

Additional Information



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- **January 19, 2023**: Information regarding results of fenceline monitoring undertaken pursuant to the 2022 Information Collection Request.
- **February 22, 2023**: Information regarding potential work practice and opacity standards.
- **April 12, 2023**: Preliminary feedback on potential standards for the Integrated Iron and Steel Manufacturing NESHAP.
- **May 16, 2023**: Feedback on potential new HAP limits.

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