

Meeting with OMB

Federal Implementation Plan Addressing Regional Ozone Transport for
the 2015 Ozone National Ambient Air Quality Standard

Flawed Statutory Basis- No Facility Contribution Analysis


- Good Neighbor statutory basis only allows EPA to:
 - “prohibit[] . . . any **source** or **other type of emissions activity** within the State from emitting any air pollutant **in amounts** which will: (I) **contribute significantly to nonattainment in, or interfere with maintenance by, any other State** with respect to any such national primary or secondary ambient air quality standard.” See 42 U.S. Code § 7410(a)(2)(D)(i)
- EPA attempts to require facility specific controls, but EPA chose to not even attempt to model any facility-specific contributions to nonattainment or maintenance issues (even though CAMx can model such contributions).

Flawed Statutory Basis- Regulates Non-Significant Contributors

- EPA proposes to regulate types of emissions activity that EPA expressly concludes do NOT contribute significantly to downwind non-attainment
 - e.g., EPA's own modeling expressly found that the Iron and Steel industry only contributed significantly to downwind contribution in a single state (not Arkansas), yet proposed to regulate Iron and Steel in every state anyway.

Table A-3. Estimated Total, Maximum, and Average Contributions from Each Industry, and Number of Receptors with Contributions ≥ 0.01 ppb for 2023

Industry	# Facilities with Units > 100tpy	# Units > 100 tpy	Ozone Season Emissions	Total Contribution	Max Contribution	Average Contribution	# Receptors with Contributions ≥ 0.01 ppb	# States with Highest Contribution ≥ 0.01 ppb
Pipeline Transportation of Natural Gas	144	399	34,343	1.679	0.287	0.084	12	12
Cement and Concrete Product Manufacturing	61	84	36,244	1.871	0.231	0.094	19	13
Iron and Steel Mills and Ferroalloy Manufacturing	14	43	4,622	0.577	0.129	0.029	11	1



- EPA's finding that steel industry in AR is not a significant contributor is consistent with backtrajectory Hysplit modeling submitted during public comment, demonstrating emissions in northeastern corner of Arkansas (location of future Hybar, existing BRS/EV/Nucor) are not the molecules actually contributing on the ozone high days for the single downwind receptor linked to AR in 2026 (Brazoria).
- Notably, EPA regulating AR steel despite finding it not to be a significant contributor, also violates step three and 4 of EPA's own so called "4 step process" it claims to follow, since EPA is not in fact identifying and regulating the emissions actually contributing to each state's linked downwind receptors.

Overcontrol

- *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489 (2014):
 - “EPA cannot require a state to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State or at odds with the 1% threshold the Agency has set.”
- EPA fails to show that overcontrol is avoided
 - EPA modeled a single cost threshold (\$7,500) for all non-EGUs without any consideration of whether a lower cost threshold for some or all such industries could still result in sufficient emission reductions to satisfy Good Neighbor requirements.
- EPA’s own modeling shows that the Proposed Rule will overcontrol AR
 - EPA’s TSD modeled that Arkansas significant contribution was eliminated with only 6 ozone tons reduction from the AR Steel and Iron Industry, based on assuming only reductions from a single unit at a single facility (Nucor-Yamato).
 - But the Proposed Rule would require over 200 ozone season tons of reductions more than modeled even from that very same facility, not even counting reductions from other AR facilities.

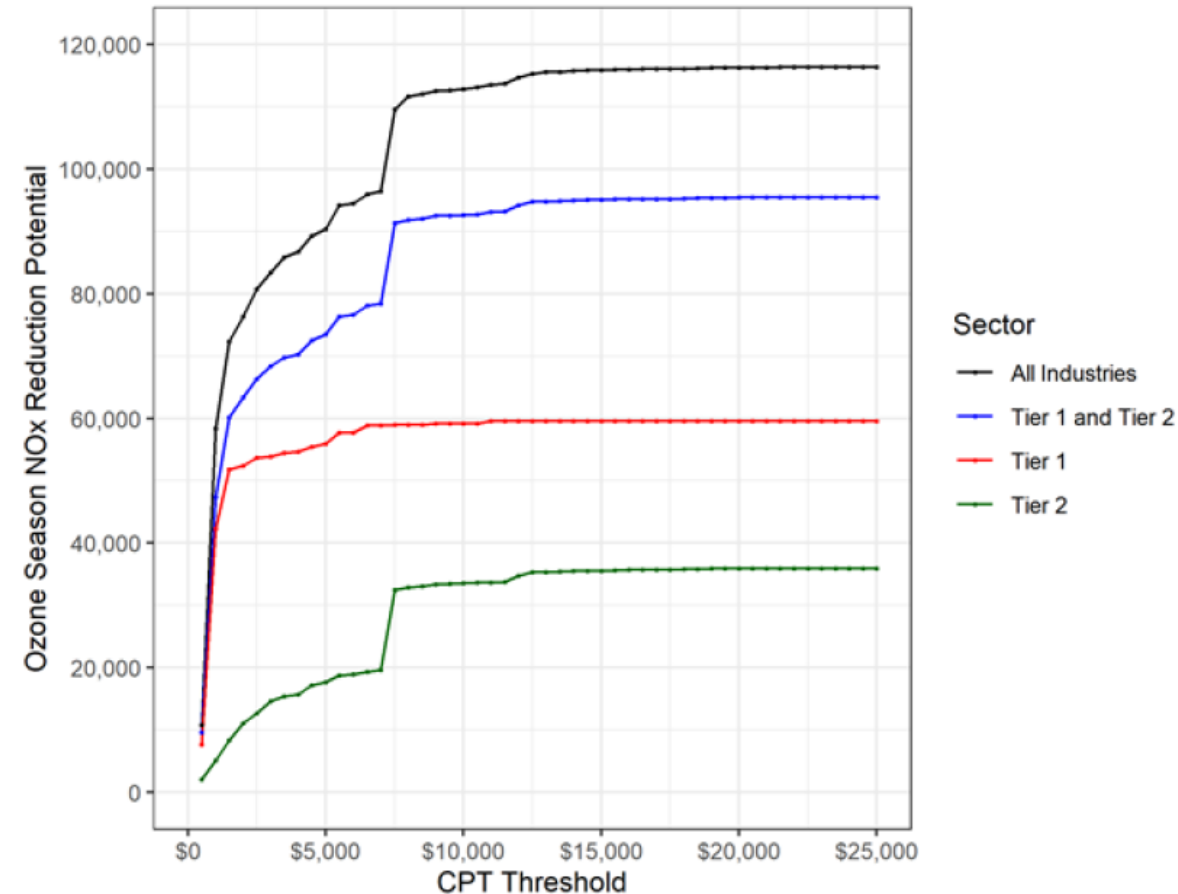
Overcontrol: Fails to account for White Bluff Closure

- Closure of AR EGU White Bluff in 2028 alone will eliminate more ozone season NO_x (2,908 tons in 2019) than EPA modeled as needed from *all the non-EGU sources combined* (1,654 ton reduction in 2026 compared to 2019), rendering *any* non-EGU controls in AR overcontrol.
- The Proposed Rule suggested exempting EGUs from the backstop daily rates otherwise applicable to EGUs in 2026, so long as the EGUs close by 2028. Arbitrary and capricious not to grant non-EGU's the same flexibility to not be subjected to controls if such controls are not needed by 2028 due to EGU closures.

Fundamentally Flawed Cost Analysis

- EPA chose to require technology for all non-EGUs based on cost threshold of \$7,500/ton NO_x, despite EPA's cost model saying that cost effective threshold was actually below \$1,000 for tier 1 industries (including Iron and Steel).
 - I.e. EPA is requiring a cost threshold their own analysis concluded is not cost effective for the Iron and Steel industry
- EPA cost estimates are unrealistic
 - When calculating cost/ton reductions, EPA inaccurately assumes credit for year-round NO_x reductions.
 - Assumes entire AR Iron and Steel Industry only faces a cost of \$54,500. But prior EGU studies showed SCR costs around ~\$50 Million for design/equipment/installation, and \$2 Million/year in O&M.
 - Recall, for AR all these costs are only for 2 years of reductions, since all significant contributions resolved in 2028 by closure of White Bluff.

Figure 1. Ozone Season NO_x Reductions and Costs per Ton (CPT) for Tier 1, Tier 2 Industries, and Other Industries



No Technical Basis for Limits

- Rule failed to demonstrate proposed limits are actually possible to consistently achieve, let alone feasible.
- EPA's *ONLY* justification for EAFs limits was: "For EAFs . . . EPA projects minimally 40% NO_x reduction efficiency is achievable by use of low-NO_x technology, including potential use of low-NO_x burners and selective catalytic reduction."
 - "low-nox burner" statement shows EPA fundamentally lacks understanding of technology EPA attempts to regulate, because largely irrelevant to EAFs (NO_x predominately from electric arc, not from burners, and supporting burners responsible for small fraction of EAF emissions use oxygen and thus functionally low-NO_x anyway).
 - SCR never achieved in practice for EAF/LMF. And many reasons to believe not feasible and/or low control efficiency for EAFs:
 - SCR requires relatively stable flow and ppm levels to be efficient, but unlike EGUs, EAFs are batch process with highly varying flow/ppm.
 - Fluegas has many metal constituents not handled by SCRs at coal boilers, that damage the SCR catalyst.
 - SCR requires strict temperature range to be efficient, but too hot coming out of EAF, and too cool after baghouse.
- Flies in face of all prior determinations reviewed by EPA (including recent BACT determinations) that post combustion controls in general, and SCR in particular, are not feasible for EAFs.

Increases All Criteria Emissions, and Especially CO₂

- Increases fossil fuel combustion related emissions at US facilities, because flue gas must either be cooled via electricity (for pre-baghouse SCR) or heated with natural gas process heaters (for post-baghouse SCR) to meet temperature range for SCR to function.
- Steel producers in the United States have far less emissions than most sources overseas that would have to be relied on to make up for the capacity drop (short and long term) in domestic steel production caused by the Proposed Rule.

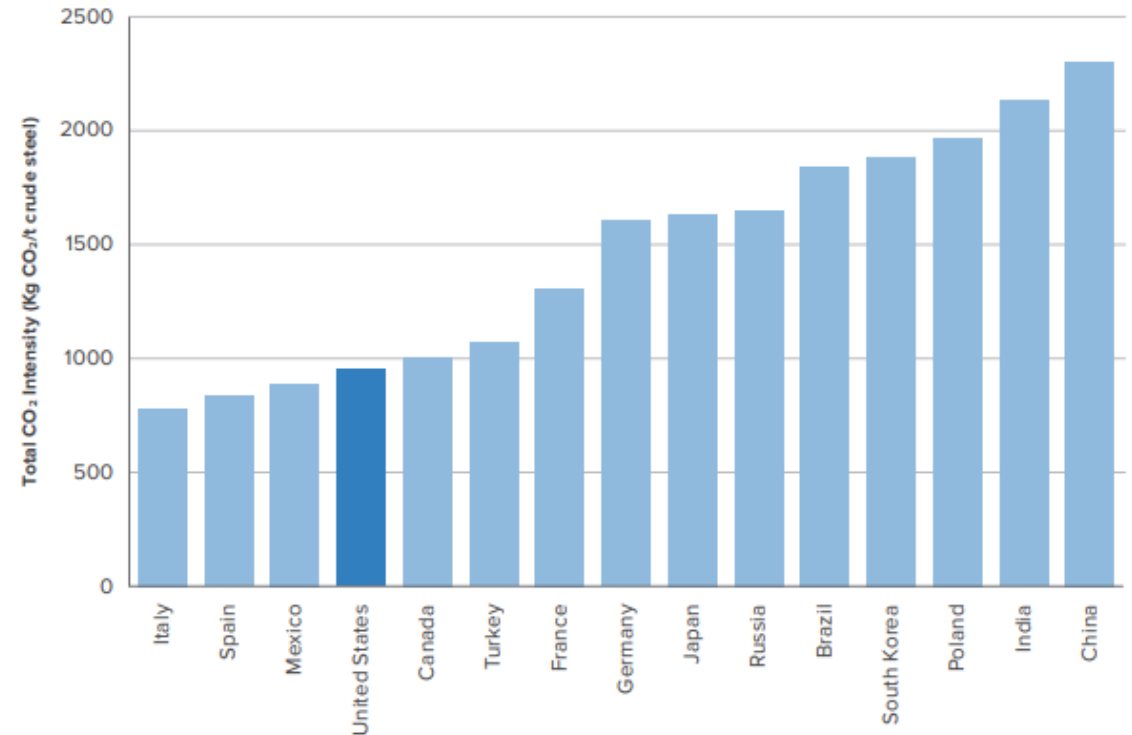


Figure 14. Total CO₂ emissions intensity of the steel industry in the studied countries in 2016

Hasanbeigi, Ali and Cecilia Springer. "How Clean is the U.S. Steel Industry? An International Benchmarking of Energy and CO₂ Intensities." *Global Efficiency Intelligence* (November 2019), available from the Harvard's Belfer Center for Science and International Affairs at <https://www.belfercenter.org/sites/default/files/publication/how-clean-is-the-us-steel-industry-nv.pdf>

Stricter than RACT for Nonattainment Areas

- The limits are stricter than those required of sources in non-attainment areas themselves (RACT)
 - EPA TSD shows EPA used RACT standards as baselines then cut limits up to 50% below RACT.
- Implausible that Congress authorized EPA to impose stricter limits for marginal contributions (~1% of NAAQS) as compared to sources in non-attainment areas themselves that make up majority of contributions.

Compromises Economy and National Security

- Iron and Steel industry across entire nation will shut down for some period to redesign entire capture systems and attempt retrofits and testing to meet limits never achieved before in practice.
 - Will be extended by supply chain issues of multiple industries across entire nation looking for same equipment and engineers in same timeframe.
- Even if some are successful, others will be forced to permanently shut down, since Proposed Rule refuses any facility-specific technical and economic feasibility analyses.
- Temporary and permanent shutdowns endanger national security due to crippling of US “surge capacity”
- Domestic steel production will slow, local and national economies will be hurt, costs will rise, and unemployment will rise. Overseas imports of steel will necessarily increase, assuming there is availability.