



August 8, 2023

VIA ELECTRONIC SUBMISSION

The Honorable Michael S. Regan
Administrator
Environmental Protection Agency
Washington, DC 20460

Re: New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, Docket ID EPA-HQ-OAR-2023-0072.

Dear Administrator Regan:

On May 23, 2023, the Environmental Protection Agency (EPA) published a proposed rule entitled “New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule.”¹ This letter constitutes the Office of Advocacy’s (Advocacy) public comments on the proposed rule.

Advocacy is concerned that EPA has significantly underestimated the impacts this proposed rule would have on small entities, in part because the agency makes some questionable assumptions about the cost and availability of carbon capture and sequestration and low-GHG hydrogen. As a result, Advocacy believes that EPA lacks the factual basis necessary to certify this proposed rule as not likely to have a significant economic impact on a substantial number of small entities.

I. Background

A. The Office of Advocacy

Congress established the Office of Advocacy under Pub. L. 94-305 to represent the views of small entities before Federal agencies and Congress. Advocacy is an independent office within the U.S. Small Business Administration (SBA). As such, the views expressed by Advocacy do

¹ 88 Fed. Reg. 33240 (May 23, 2023).

not necessarily reflect the views of the SBA or the Administration. The Regulatory Flexibility Act (RFA),² as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA),³ gives small entities a voice in the rulemaking process. For all rules that are expected to have a significant economic impact on a substantial number of small entities, the RFA requires federal agencies to assess the impact of the proposed rule on small entities and to consider less burdensome alternatives. In addition, for EPA, SBREFA requires EPA to convene a panel that includes EPA program staff, Advocacy, and the Office of Information and Regulatory Affairs to engage in a formal consultation with small entities representatives in advance of preparing this analysis.

The Small Business Jobs Act of 2010 requires agencies to give every appropriate consideration to comments provided by Advocacy.⁴ The agency must include a response to these written comments in any explanation or discussion accompanying the final rule's publication in the *Federal Register*, unless the agency certifies that the public interest is not served by doing so.⁵

Advocacy's comments are consistent with Congressional intent underlying the RFA, that "[w]hen adopting regulations to protect the health, safety, and economic welfare of the nation, federal agencies should seek to achieve statutory goals as effectively and efficiently as possible without imposing unnecessary burdens on the public."⁶

B. The Proposed Rule

EPA has proposed a new source performance standard for greenhouse (GHG) emissions from new fossil fuel power plants and emission guidelines for existing fossil fuel power plants. EPA has subcategorized this source category by fuel type, combustion type, and utilization. Under section 111 of the Clean Air Act, EPA sets standards for each subcategory that "reflects the degree of emission limitation achievable through the application of the best system of emission reduction [(BSER)] which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated."⁷

For a number of these subcategories, EPA has proposed that BSER is carbon capture and sequestration (CCS) to remove 90 percent of carbon emissions or co-firing natural gas with low-GHG hydrogen at percentages that reach 96 percent by volume.

C. EPA Compliance with the Regulatory Flexibility Act

EPA certifies under section 605(b) of the RFA that this proposed rule would not have a significant economic impact on a substantial number of small entities. Instead of an Initial Regulatory Flexibility Analysis (IRFA) under section 603, EPA prepared a screening analysis in

² 5 U.S.C. § 601 et seq.

³ Pub. L. 104-121, Title II, 110 Stat. 857 (1996) (codified in various sections of 5 U.S.C. § 601 et seq.).

⁴ Small Business Jobs Act of 2010 (PL. 111-240) § 1601.

⁵ *Id.*

⁶ *Id.*

⁷ Clean Air Act § 111(a)(1); 44 U.S.C. § 7411(a)(1).

support of this certification.⁸ Based on historical data, EPA estimated that only six private investment holding companies and one rural electric cooperative would be subject to the new source performance standard and that the impacts would be less than 1 percent of revenue for each affected small entity.

Importantly, this certification only covers the elements of this rule that apply to new sources. The requirements this proposed rule would impose on existing sources would operate through state regulation and are thus not within the scope of analysis under the RFA.

After publication of the proposed rule, on July 27, 2023, EPA convened a SBREFA panel to consult with small entities on the impacts of more stringent regulatory alternatives in the proposed rule. Should EPA adopt these more stringent alternatives and if it were unable to certify the resulting final rule under section 605(b), EPA would be required to have prepared an initial regulatory flexibility analysis for public comment before publishing the required final analysis under section 604.

II. Advocacy's Small Business Concerns

Advocacy has the following chief concerns with the rule.

A. EPA's Approach to BSER Puts Small Businesses at a Significant Disadvantage.

In setting new source performance standards, EPA evaluates the best system of emission reduction (BSER) that has been adequately demonstrated, considering the cost, energy requirement, and other health and environmental impact and energy requirements. However, EPA's approach, as demonstrated in this proposed rule, creates disproportionate burdens on small entities and, as a natural consequence, creates market incentives for small entities to exit the power generation market.

First, when identifying BSER that is adequately demonstrated, EPA cites authority to identify technologies that are not in widespread commercial use. In this case, EPA cites to past CCS projects on coal-fired power plants that did not meet expectations and to studies in support of future projects as a basis for confidence that CCS is adequately demonstrated.⁹ For gas-fired power plants, CCS cites to a facility closed for almost 20 years that operated at less than a tenth of the capacity of a modern power plant.¹⁰ EPA also cites facilities that will be built in Scotland and West Virginia and will use CCS. But the public information on these investments is limited to press releases, which appear to be exercises in investor relations and not serious evaluations of

⁸ EPA, *Regulatory Impact Analysis for the Proposed New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule* sec.5.3 (May 2023), <https://www.regulations.gov/document/EPA-HQ-OAR-2023-0072-0007> [hereinafter *RIA*].

⁹ See EPA, *Greenhouse Gas Mitigation Measures for Steam Generating Units Technical Support Document* (May 23, 2023), <https://www.regulations.gov/document/EPA-HQ-OAR-2023-0072-0061>.

¹⁰ See EPA, *Greenhouse Gas Mitigation Measures: Carbon Capture and Storage for Combustion Turbines Technical Support Document* (May 23, 2023), <https://www.regulations.gov/document/EPA-HQ-OAR-2023-0072-0057>.

the challenges these investments will likely face.¹¹ For most small entities, these technologies are not adequately demonstrated and would not be a sound basis upon which to plan future investments.

Second, when discussing costs, EPA uses currently available information to evaluate cost effectiveness of required controls. Where technologies are relatively well-developed, EPA uses industry cost averages. This disadvantages small businesses who frequently have greater per unit costs than large businesses. As Advocacy has stated in comments on previous EPA rulemakings, including rulemakings on proposed effluent limitation guidelines for power plants and air emissions of methane from oil and gas production,¹² EPA cost effectiveness metrics based on industry averages underestimate the impacts on small entities and thus impose unreasonable costs.

This problem is exacerbated in this rulemaking because EPA has relied on public statements from large businesses to project costs and availability that may nor may not reflect practical realities for small businesses. For example, EPA cites one large business for costs of retrofitting existing co-fired power plants to co-fire hydrogen.¹³ Large businesses may have the ability to engage in public research and development and, if necessary, write-off unsuccessful projects. However, small entities often lack the equity or resources to engage in such experimentation. EPA should not be requiring them to do so.

In considering BSER, EPA should be setting emission standards based on BSER that considers the feasibility of its proposals for small entities, not just for large entities or the industry as a whole.

B. EPA Bases BSER on Unreasonable Assumptions About CCS and Low-GHG Hydrogen Co-firing.

The Clean Air Act requires EPA to consider costs in determining BSER. However, in the proposed rule, EPA has not fully considered the costs and established BSER based on promises by large businesses about future investments, which is an unreasonable standard by which to regulate small entities.

In support of BSER, EPA makes assumptions about the future availability and cost of low-GHG hydrogen for co-firing new and existing gas-fired power plants. However, many of these assumptions are at a high level of generality and do not demonstrate recognition of the serious barriers that would face small entities under the proposed rule. EPA instead assumes a single

¹¹ 88 Fed. Reg. at 33,254.

¹² See U.S. Small Bus. Admin., Off. of Advocacy, Comment Letter on Proposed Rule to Supplemental Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category (May 30, 2023), <https://www.regulations.gov/comment/EPA-HQ-OW-2009-0819-10106>; U.S. Small Bus. Admin., Off. of Advocacy, Comment Letter on Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (Feb. 13, 2023), <https://www.regulations.gov/comment/EPA-HQ-OAR-2021-0317-2279>.

¹³ *Id.* at 33,365.

“delivered” cost of hydrogen for all utilities, which incorporates all elements of production, processing, transportation, and tax credits.

EPA cites work by the Department of Energy (DOE) in support of its optimism about the price and availability of low-GHG hydrogen.¹⁴ For example, EPA states:

Suitable volumes of low-GHG hydrogen are expected to be produced by the 2032 and 2038 timeframes to satisfy the demand driven by this proposed rule. As referenced throughout this proposal, DOE's clean hydrogen production estimates are 10 MMT annually of clean hydrogen by 2030, and 20 MMT annually by 2040. There is reason to believe actual produced low-GHG hydrogen will exceed those levels. Announced clean hydrogen production projects total 12 MMT annually for 2030. In fact, hydrogen production could outpace DOE's projections if demand markets across sectors, including the power sector, grow rapidly and emerge simultaneously with cost declines across the value chain.¹⁵

EPA, however, understates the supply challenges that DOE acknowledges in this description of future investment. Most of this announced investment is associated with specific end-uses, where production and use are co-located.¹⁶ These projected volumes are not available for compliance with the proposed rule. “As described throughout this report, in the near-term limited availability of midstream infrastructure is a constraint for scaling clean hydrogen where co-located production and offtake [i.e., use] is not feasible, representing a key challenge that must be addressed.”¹⁷

EPA similarly glosses over the cost of transportation in its BSER calculations. There are only around 1600 miles of dedicated hydrogen pipelines as of December 2020, most along the Gulf Coast in Texas, Alabama, and Louisiana.¹⁸ These pipelines are estimated to cost up to \$10 million per mile, and there is no reason to think that hydrogen pipelines would face any fewer policy barriers and public resistance than oil and natural gas pipelines that have similar impacts on the environment and risks to public health. Costs for transportation by truck or via natural gas pipelines are significantly higher than for dedicated hydrogen pipelines and are not reasonable substitutes.¹⁹

Rather than address these issues, EPA relies on announced investments in hydrogen co-firing by large companies to justify ignoring transportation costs:

¹⁴ U.S. Dep't of Energy, *Pathways to Commercial Liftoff: Clean Hydrogen* (Mar. 2023), <https://liftoff.energy.gov/wp-content/uploads/2023/05/20230523-Pathways-to-Commercial-Liftoff-Clean-Hydrogen.pdf>.

¹⁵ 88 Fed. Reg. at 33,364-65 (citations omitted).

¹⁶ U.S. Dep't of Energy, *supra* note 14, at 24 fig.9.

¹⁷ *Id.* at 14.

¹⁸ PAUL PARFOMAK, CONG. RSCH. SERV., R46700, PIPELINE TRANSPORTATION OF HYDROGEN: REGULATION, RESEARCH, AND POLICY 5-6 (Mar. 2021).

¹⁹ U.S. Dep't of Energy, *supra* note 14, at 15 fig.5.

The majority of announced combustion turbine EGU projects proposing to co-fire hydrogen are located close to the source of hydrogen. Therefore, the fuel delivery systems (*i.e.*, pipes) for new combustion turbines can be designed to transport hydrogen without additional costs.²⁰

This assumption creates a significant barrier to future investments by small entities, limiting the siting of future plants to locations at which there are both sufficient renewable resources available to generate the needed hydrogen and available natural gas pipelines.

For existing gas-fired power plants, EPA acknowledges that the costs of pipeline infrastructure would be a potential cost of the rule, but the subsequent discussion ignores the challenges described above, again summarizing the entire cost of transportation into a single hypothetical cost of the price of delivered hydrogen.²¹

The basis of this delivered cost of hydrogen is not clear. In the RIA, EPA states that the cost of hydrogen is an exogenous input to its models and that it assumed delivered costs of \$1/kg in the baseline and \$0.50/kg when the co-firing requirements take effect. EPA did not include in its models the additional or redirected investment in renewable energy necessary to produce low-GHG hydrogen, competition for sources of low-GHG hydrogen, or scarcity of resources and to the preamble for details of this cost assumption.²² However, the only reference to this cost in the preamble is an assertion that hydrogen and natural gas would cost the same *if* this were the price.²³ It does not address the question of whether there will be sufficient investment in low-GHG hydrogen to meet the requirements of the proposed rule or the challenges of transporting low-GHG hydrogen to facilities not co-located with hydrogen production.

Further, because EPA simply assumed that the proposed rule would drive the delivered cost of low-GHG hydrogen to half of DOE's "bold and ambitious" price goal for 2030,²⁴ EPA finding that the costs of BSER are reasonable is not based on a credible estimate.

As with low-GHG hydrogen, EPA make several unreasonable assumptions to support its finding that CCS represents BSER. As discussed above, EPA's evaluation of the extent to which CCS has been adequately demonstrated is heavily dependent on projections and projects still in the design phase. Small entities do not approach these unrealized projects as a reasonable basis upon which to plan for their futures.

EPA also minimized the challenges of transportation. The carbon captured from power plants must be sent somewhere, and it is expected that most will need to be transported to permanent sequestration in geologic formations. There are currently only around 5,000 miles of CO₂

²⁰ 88 Fed. Reg. at 33,314.

²¹ *Id.* at 33,365.

²² *RIA*, *supra* note 8, at 3-13.

²³ 88 Fed. Reg. at 33314.

²⁴ *U.S. National Clean Hydrogen Strategy and Roadmap* at 5 (June 2023), available at <https://www.hydrogen.energy.gov/pdfs/us-national-clean-hydrogen-strategy-roadmap.pdf> (last accessed Aug. 7, 2023) (describing the Hydrogen Shot goal of \$1 per kilogram in a decade).

pipelines in the United States, most centered around Texas and the Gulf Coast, used in support of Enhanced Oil Recovery. Most of the announced investment in additional pipelines are associated with specific projects and applications, meaning that facilities that want to install CCS will be required to develop their own pipelines to sequestration sites.

However, small entities are concerned that EPA is overly optimistic about the geographic availability of carbon sequestration locations. Although the federal government has identified a broad range of locations that may be available for such use, these sites are not evenly distributed around the United States, and each individual site needs to be studied and permitted. Distance will have a significant bearing on the total costs of construction and operation. New facilities may be able to co-locate with sequestration to minimize costs (assuming the availability of a natural gas pipeline). However, existing facilities will have to bear the expense of planning, permitting, and constructing new CO₂ pipelines, including the uncertainty of whether they will be able to place the pipeline at all.

C. The Agency Lacks an Adequate Factual Basis to Certify That the Proposed Rule Will Not Have a Significant Economic Impact on a Substantial Number of Small Entities, as Required by the RFA.

As discussed above, Advocacy has significant concerns with EPA's estimates of cost. EPA's estimates of the cost of CCS and the cost of delivered low-GHG hydrogen are based on optimistic projections and announced investment decisions by large businesses. Few small entities have the resources to engage in these kinds of experiments with next-generation technologies or re-locate operations to reduce the transportation costs of carbon or low-GHG hydrogen to match EPA's assumptions. EPA's projections may reflect what a large business can accomplish with its resources, but they do not reflect the business environment in which small entities operate.

The result would likely be a significant delay in any future investment in base-load generation, despite the need for greater investment due to the projected electrification of our economy. Small entities will be hesitant to propose new investment using the CCS pathway until carbon capture can reliably operate full-time at utility scale and until pipeline capacity can be permitted or otherwise secured. Small entities will be similarly hesitant to propose new gas-fired power plants until they can ensure hydrogen pipelines will be available, since they are least able to develop co-located hydrogen production. Small entities cannot risk investments that will be stranded by immature technology or delays in crucial infrastructure.

For this reason, Advocacy believes that EPA has not demonstrated the factual basis necessary to certify this proposed rule as not having a significant economic impact on a substantial number of small entities. EPA's screening analysis for the proposed rule projects only 7 small entities would be potentially affected, i.e., would be building new power plants subjected to the new source performance standards after May 23, 2023.²⁵ As described above, EPA's assumptions about cost and availability of compliance options are likely significant underestimates of costs.

²⁵ Small entity representatives have informed Advocacy that EPA's screening analysis has some errors, including misclassification of entities and exclusion of entities that have announced future investments. Advocacy's concern about EPA's factual basis stands independent of this issue.

Further, small entities that are prevented from making investments that would be subject to this proposed rule are also significantly impacted, even if their compliance costs appear to be zero.

EPA has convened a SBREFA panel under 5 U.S.C. 609(b) of the RFA for consultation with small entities. Advocacy encourages EPA to recognize that its certification under section 605(b) lacks a factual basis and to prepare an initial regulatory flexibility analysis under section 603 that addresses the likely impacts of the proposed rule on small entities.

III. Conclusion

Advocacy is concerned that EPA has significantly underestimated the costs that its proposed rule would impose on small entities. EPA has proposed requiring technology that small entities believe is either not ready for full-scale deployment, like CCS, or unreasonably costly to implement, like co-firing with low-GHG hydrogen. As a result, Advocacy is concerned that EPA's certification under the RFA lacks a factual basis. Advocacy recommends that EPA take the opportunity presented by the SBREFA panel it has convened to consider regulatory alternatives that would reduce the economic impact of this proposed rule on small entities.

If you have any questions or require additional information, please contact me or Assistant Chief Counsel Dave Rostker at (202) 205-6966 or by email at david.rostker@sba.gov.

Sincerely,

/s/

Major L. Clark, III
Deputy Chief Counsel
Office of Advocacy
U.S. Small Business Administration

/s/

Dave Rostker
Assistant Chief Counsel
Office of Advocacy
U.S. Small Business Administration

Copy to: The Honorable Richard L. Revesz, Administrator
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