

Client Alert: In a Choose Your Own Adventure-Approach, EPA Proposes Greenhouse Gas Emissions Standards for New and Existing Power Plants

Publications

May 11, 2023

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Today, the US Environmental Protection Agency released its long-awaited proposal for **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** (Proposed GHG Rule). This article provides an overview of the Proposed GHG Rule and identifies some issues that may lie ahead.

I. Basic Architecture of the Proposed GHG Rule

The Proposed GHG Rule includes four parts. First, as a matter of housekeeping, the proposed rule officially rescinds the Affordable Clean Energy (ACE) Rule. The ACE Rule would have set emissions guidelines for states to incorporate into measures to address greenhouse gas (GHG) emissions from existing coal-fired power plants and focused on efficiency improvements. The ACE Rule was promulgated in 2019 to replace the 2015 Clean Power Plan. In 2022, the Supreme Court issued its landmark decision in *West Virginia v. EPA*, which ruled that the Clean Power Plan exceeded EPA's authority to regulate GHGs pursuant to the Major Questions Doctrine, an assessment of which can be found in our article *West Virginia v. EPA: The Major Questions Doctrine Arrives to Rein in Administrative Power*, published in *Pratt's Law Report*.^[1]

The Proposed GHG Rule then outlines standards of performance and emissions requirements based on the Agency's determination of the best system of emissions reduction (BSER), as required by Section 111 of the Clean Air Act (CAA), for three types of generating units: (A) existing coal-fired power plants, (B) new gas-fired power plants, and (C) existing gas-fired power plants. For each of these categories of generating units, EPA establishes stratified emissions standards and compliance dates dictated by the unit's anticipated lifespan and capacity factor. Observers may recognize that the targets and dates proposed in the rules are consistent with climate goals already set by many power generators.

II. Operation of the Fuel-Type Subcategory Approach

Within the basic categories of existing coal plants, existing gas plants, and new gas plants, the Proposed GHG Rule applies a schedule for compliance and emissions reduction targets based on an individual plant's capacity and anticipated lifespan. These standards and subcategories are guided by EPA's determination of what constitutes the most cost effective and demonstrated technology available, thereby meeting BSER.

A. Existing Coal-Fired Generating Unit GHG Emissions Standards

For existing coal plants, EPA created four subcategories based on the projected lifespan of the individual operating unit. They include coal plants that have not committed to a date certain by which to cease operations, coal plants that have voluntarily committed to cease operations by 2040, coal plants that will retire by 2035, and coal plants that will retire by 2032.

(1) Coal Plants Anticipating Ongoing Operations

If a coal steam unit has not committed to ceasing operations, EPA will require it to meet a standard consistent with carbon capture and sequestration at a 90% capture rate.

(2) Coal Plants with a Voluntary Commitment to Cease Operations by 2040

For a coal plant that has committed to voluntary retirement before 2040, the plant must meet a standard consistent with co-firing 40% natural gas.

(3) Coal Plants Retiring By 2035

With respect to a coal plant retiring in the near term, i.e., it plans to discontinue operations by 2035, EPA proposes a more relaxed standard. The more relaxed standard requires, in addition to routine operation and maintenance activities, the plant to accept a capacity limitation of 20% by 2030 and each year of operation thereafter.

(4) Coal Plants Retiring By 2032

For coal plants with an imminent retirement schedule, which means a coal plant that commits to ceasing operations by 2032, no capacity limitations must be taken. The plant need only continue to fulfill routine operation and maintenance requirements.

The underlying message for coal plants is that if retirement looms near on the horizon, then there is not an expectation for significant investments to be made in the plant.

B. New Gas-Fired Electric Generating Units

In setting a BSER for GHG emissions from new gas-fired power plants, EPA also uses subcategories to stratify the BSER analysis. In doing so, EPA appears to be striving to strike a balance between a

requirement that plants install demonstrated and achievable technology and the observation that infrastructure must exist to support the technology that would make it possible to meet the standards.

The subcategories thus include standards for peaker plants or plants that have a capacity factor of 20% or less, intermediate plants, which include plants with a 20 to an approximately 50% capacity factor (used over a certain amount of time per annum), and baseload plants, which constitute plants with a capacity factor over 50%. The standards are set based on the usage of the plant – the greater the annual operation of the plant, the greater controls and stricter emissions standards required.

(1) New Gas-Fired Peaker Plants / Plants with an Annual Capacity Factor of 20% or Less

Peaker plants include natural gas-fired power plants with a capacity factor of 20% or less. The Proposed GHG Rule would require peaker plants to use clean fuels, which include natural gas, with no other requirements.

(2) New Gas-Fired Intermediate Plants / Plants with an Annual Capacity Factor between 20% and 50%

The intermediate category includes plants with a capacity factor ranging from 20% to approximately 50%. This category generally includes the most efficient simple-cycle plants. By 2032, intermediate plants will be required to meet an emissions standard equal to blending 30% hydrogen by volume into the plant's fuel stream. The hydrogen must qualify as low GHG hydrogen, which is a standard borrowed from the Inflation Reduction Act's hydrogen tax credit and is defined in the Inflation Reduction Act as hydrogen generated via a process that results in a lifecycle GHG emissions rate of no more than 4 kilograms of carbon dioxide equivalent (CO₂ e) per kilogram of hydrogen.^[2] In the Proposed GHG Rule, EPA identifies the low hydrogen standard but defers the determination of what constitutes low hydrogen to the Department of Treasury. The Treasury Department is currently developing guidance on the implementation of the production tax credit for clean hydrogen, which includes a decision on how to account for GHG emissions as part of the hydrogen production lifecycle analysis.

(3) New Baseload Gas-Fired Electric Generating Units / Plants with an Annual Capacity Over 50%

For natural gas-fired power plants with an annual capacity factor over 50%, EPA plans to require those plants to employ efficient combined cycle technology in the first phase of operation. This means that when the plant is built, it must implement the most efficient combined cycle technology and meet an emissions standard of 770 lb CO₂ /MWh-gross standard. Over time, the standard becomes stricter, seemingly to match the anticipated increased availability and advancements in technology in future years, with a choice of one of two pathways. The first pathway requires the

increasing use of hydrogen, or an equivalent emissions outcome, and the second pathway would require carbon capture and storage (CCS) or an equivalent emissions outcome.

(3)(a) Hydrogen Pathway for New Baseload Gas-Fired Electric Generating Units

If a baseload plant were to choose to use hydrogen as its path for reducing its GHG emissions, it can anticipate a stepwise timeline. By 2032, the plant will have to reach a level that represents a 30% hydrogen blend by volume or reduce its emissions to an equivalent extent. Then, by 2038, the same plant will need to achieve a 96% blend of hydrogen by volume or reduce its emissions to an equivalent extent. In all instances, the source of hydrogen must meet the standards set for the lowest carbon-emitting hydrogen tax credits, which will be defined by the Department of Treasury.

(3)(b) Carbon Capture and Storage Pathway for New Baseload Gas-Fired Electric Generating Units

If a plant operator were to choose to employ CCS as a means of reducing its GHG emissions, the Proposed GHG Rule would require the plant to reach a 90% capture rate by 2035 or reduce its emissions to an equivalent extent. Note that the 90% capture rate achieves emissions reductions equivalent to a 96% blend of hydrogen in the fuel stream.

C. Existing Gas-Fired Generating Units

Finally, the Proposed GHG Rule not only sets standards for new gas-fired generating units, but also for the largest and most frequently used of the existing gas-fired power plants. These plants include those that generate 300 megawatts or more of electricity per year and operate at a 50% or greater capacity factor. Under the proposal, these plants will be required to meet the 2038 hydrogen pathway standard, the 2035 CCS pathway standard, or achieve the equivalent thereof. For existing gas-fired generating units that do not meet the 300MW and 50% annual capacity factor thresholds, EPA is seeking comment on how it should regulate such units.

III. Anticipated Questions and Challenges

In addition to the obvious legal challenges regarding whether the proposed rule implicates the Major Questions Doctrine and whether the technologies and timelines constitute BSER, there remain questions regarding the definition of what constitutes clean or green hydrogen. Are hydrogen and CCS as achievable as EPA contends? Are the target dates correct? Also, the proposed rule's new gas turbine standards will apply to any plant for which construction commences after the date of publication of the Proposed GHG Rule. This CAA provision is intended to prevent a rush to commence construction on new plants to lock in the old standards. This may lead to an early challenge of this mechanism because it becomes controlling upon the publication of the proposal and prior to the rule's finalization.

Another question is how will states, which have two years to develop state plans to incorporate the existing source standards, go about implementing the proposed rule. Will states be able to cooperate to achieve emissions reductions, such as through emissions trading regimes, particularly if such cooperative approaches allow states to achieve equivalent or better results? Why has EPA overlooked other significant emissions reduction options, such as renewable natural gas? How will plant operators pay for these upgrades? EPA has considered the Inflation Reduction Act's many tax incentives and the Bipartisan Infrastructure Law's incentives and payments in determining what is economically achievable, but how easy will it be to access such funds, and how can those funds be leveraged?

IV. Immediate Takeaways

An initial review of the Proposed GHG Rule indicates EPA has been careful not to step outside the proverbial fenceline. EPA appears to be taking into account the implied guidance provided by the Supreme Court in *West Virginia v. EPA* that the Agency's authority under the CAA to regulate power plants should focus on facilities on a unit-by-unit basis rather than an approach that relies on generation-shifting, which the Court determined exceeded EPA's statutory authority. The rules also appear to be designed in a way and timed to align with other regulatory requirements for the power sector, such as regulations governing wastewater discharges and ozone and mercury emissions, which may streamline investments made in specific plants as well as across the power generation fleet.

Details on the findings that underlie the emissions standards and timing within the proposal will be well litigated. The ultimate question, however, will be whether the overall approach, which entails setting standards for individual plants while still providing options and flexibility by which plant operators can achieve those standards, can thread the judicial scrutiny needle. As you work through these issues, Jenner's Transitions in Energy and Climate Solutions Practice and Environmental and Workplace Health and Safety Practice are here to help.

Footnotes

[1] Allison Torrence, Tatjana Vujic, *West Virginia v. EPA: The Major Questions Doctrine Arrives to Rein in Administrative Power*, 22 PRATT'S ENERGY LAW REPORT 284 (LexisNexis A.S. Pratt).

[2] 26 USC. § 45V.

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