August 7, 2025

The Honorable Lee Zeldin
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Submitted to the Federal eRulemaking Portal, www.regulations.gov

Re: Repeal of Greenhouse Gas Emissions Standards for Fossil Fuel-Fired Electric Generating Units (Docket ID No. EPA-HQ-OAR-2025-0124); 90 Fed. Reg. 25752 (June 17, 2025)

Dear Administrator Zeldin,

The National Rural Electric Cooperative Association (NRECA) respectfully submits these comments in response to the U.S. Environmental Protection Agency's (EPA, or the Agency) Proposed Rule to repeal greenhouse gas (GHG) emissions standards for new and existing fossil fuel-fired electric generating units (EGUs) (Proposed Rule).[1] NRECA is the national trade association representing nearly 900 not-for-profit electric cooperatives and other rural electric utilities.

America's electric cooperatives are owned by the people they serve and comprise a unique sector of the electric industry. Electric cooperatives power one in eight Americans and serve as engines of economic development for 42 million people across 56% of the nation's landscape.[2] Electric cooperatives are focused on providing affordable, reliable, and safe electric power in an environmentally responsible manner and supporting common sense solutions to environmental impacts.

NRECA appreciates the opportunity to comment on the Proposed Rule. These comments are accompanied by two technical documents attached to this submission and cited throughout.[3] In

[1] Repeal of Greenhouse Gas Emissions Standards for Fossil Fuel-Fired Electric Generating Units; 90 Fed. Reg. 25752 (June 17, 2025) (Proposed Rule).
[2] NRECA. *Electric Co-op Facts and Figures.* June 25, 2025. p.1. Available at: https://www.electric.coop/electric-cooperative-fact-sheet. (NRECA Co-op Facts and Figures)
[3] These documents are: *Technical Comments on Base Load and Intermediate Load Phase I Emissions Standards for Stationary Combustion Turbines in the Final New Source Performance Standards for GHG Emissions*, Trinity Consultants (Attachment 1) and *Technical Comments on CCS, Slipstreams, and Impacts on Grid Reliability*, Dr. William Morris (Attachment 2).

addition, these comments frequently cite NRECA's 2023 comments on the Carbon Pollution Standards (CPS) and technical documents attached to our August 8, 2023 comments, which we incorporate into the docket as attachments to this filing.[4]

I. Executive Summary

NRECA supports EPA's Proposed Rule as it would repeal the unlawful, unrealistic, and unachievable CPS. The CPS, which remains in effect, was designed to curtail always available, fossil fuel-fired generation under the guise of a standard application of the Clean Air Act's (CAA) Section 111. Quickly finalizing the Proposed Rule would help alleviate the substantial challenges electric cooperatives continue to encounter as they attempt to navigate the CPS's compliance requirements while reliably and affordably meeting skyrocketing demand growth.

NRECA supports EPA's Primary Proposal. The CAA requires EPA to make a finding that GHG emissions from fossil fuel-fired power plants contribute significantly to dangerous air pollution as a predicate to regulating GHG emissions from those plants. The Agency has yet to make such a finding, despite finalizing regulations in 2015, 2019, and 2024. Yet the plain text of Section 111, along with its context and structure, compel this finding.

NRECA also supports the elements of the Alternative Proposal that would repeal most of the CPS, specifically the requirements that existing coal plants and many new natural gas plants achieve 90% carbon capture and storage (CCS). These requirements are unlawful, and were based on forward-looking prediction rather than a best system of emission reduction (BSER) that has been adequately demonstrated. NRECA also supports the repeal of the requirement that existing coal plants co-fire natural gas at 40% by volume as it is not achievable and is unlawful generation shifting. We urge you to finalize these aspects of the Alternative Proposal along with the Primary Proposal.

NRECA opposes the portion of the Alternative Proposal that would retain the CPS's non-CCS emissions standards for new natural gas plants. These emissions standards are not achievable in real world operation and will only become less achievable as natural gas plants increasingly cycle with greater frequency to support intermittent generation and support data centers and other large loads. Accordingly, these standards should be repealed. EPA should, at a minimum, reconsider these standards. Many cooperatives are actively permitting new natural gas combustion turbines (CTs). Repeal of the non-CCS standards is needed to allow cooperatives to fully utilize these assets for the benefit of rural communities. Retaining these standards is diametrically opposed to the administration's vision of unleashing American energy, as the unachievable emissions standards would arbitrarily cap how often new natural gas plants can operate.

NRECA urges EPA to continue to act expeditiously to repeal the CPS. EPA can best do so by adopting NRECA's suggested rationale for repeal of the CPS's non-CCS standards and issuing a final rule repealing the CPS that is based on the justifications for both the Primary and Alternative Proposals.

[4] *See* Attachments 3-16 of these comments.

II. Overview of America's Electric Cooperatives

NRECA is the national trade association representing nearly 900 not-for-profit electric cooperatives and other rural electric utilities. NRECA's member cooperatives include 64 generation and transmission (G&T) cooperatives and 830 distribution cooperatives.[5]

Locally, cooperatives are focused on powering and empowering their communities. Nationally, electric cooperatives are focused on advocating for smart energy policy that keeps the lights on. This includes pressing for solutions to meet increasing energy demands at a cost local families and businesses can afford.

As our nation increasingly relies on electricity to power the economy, keeping the lights on has never been more important – or more challenging. In its most recent Long-Term Reliability Assessment, the North American Electric Reliability Corporation (NERC), the nation's grid watchdog, found that "most of the North American [bulk power system] faces mounting resource adequacy challenges over the next 10 years as surging demand growth continues and thermal generators announce plans for retirement."[6]

Flawed public policies that force the closure of existing power plants – like the CPS that this rule would repeal[7] – are a big reason why. Policymakers must approach national energy policy with affordability and reliability at the core while balancing aspirations with reality. NRECA supports efforts to maintain a diverse supply of always available energy technologies which are essential to keeping the lights on.

Cooperatives are leading the way with locally led solutions that ensure energy reliability, embrace responsibility and empower consumers with next-generation technologies. And with the growth of data centers in rural areas, they are balancing the need to meet increasing energy demand while ensuring that they keep the lights on at a cost their members can afford. Cooperatives' ability to meet the demands associated with data centers is vital to ensuring America wins the race to be the world's leader in artificial intelligence (AI).

From state-of-the-art power plants and transmission lines to long-duration battery storage and microgrids, to carbon capture systems, to providing gigabit rural broadband, electric cooperatives are delivering more reliable services to their consumers, making our electric grid more resilient, and paving new pathways to prosperity for their communities.

America's electric cooperatives comprise a unique sector of the electric industry. These not-for-profit entities are independently owned and democratically governed by the people they serve.

---

[5] NRECA Co-op Facts and Figures at 1.

[6] North American Electric Reliability Corporation. *2024 Long-Term Reliability Assessment*. Updated July 15, 2025. p.6. Available at: https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_Long%20Term%20Reliability%20Assessment_2024.pdf. (NERC 2024 LTRA)

[7] 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; 89 Fed. Reg. 39798 (May 9, 2024).

They exist in rural areas, where low populations and incomes have not attracted for-profit power companies.

Each cooperative is governed by a board of directors elected from its membership. The G&T cooperatives generate and transmit power to distribution cooperatives that then provide that power to consumer-members.

Collectively, G&T cooperatives generate and transmit power to nearly 80% of distribution cooperatives, which in turn provide power directly to consumer-members at the "end of the line" – i.e., the location where electricity is consumed. The remaining distribution cooperatives obtain power directly from other generation sources within the electric utility sector. Both distribution and G&T cooperatives share an obligation to serve their consumer-members by providing affordable, reliable, and safe electric service.

Unlike the rest of the electric utility sector, cooperatives sell most of their power – 52% – to households.[8] They also own and maintain 2.7 million miles, or 42%, of the nation's electric distribution lines and serve large expanses of the United States that are primarily residential and typically sparsely populated.[9] Those characteristics make it comparatively more expensive for rural electric cooperatives to operate than the rest of the sector, which tends to serve more compact, industrialized, and densely populated areas.

Because electric cooperatives serve areas with low population density, costs are borne across a base of fewer consumers and by families that spend more of their limited resources on electricity than do comparable customers of municipal-owned or investor-owned utilities. Using data from the U.S. Energy Information Administration (EIA) and other sources, NRECA estimates that rural electric cooperatives serve an average of eight consumers per mile of line and collect annual revenue of approximately $19,000 per mile of line. In contrast, the rest of the industry averages are 32 customers and approximately $79,000 in annual revenue per mile of line.[10]

Many cooperative consumer-members are among those least able to afford higher electricity rates. Electric cooperatives serve 92% of persistent poverty counties in the United States.[11] One in four households served by cooperatives have an annual income below $35,000.[12]

The electricity supplied by cooperatives is vital to rural economies. Rural development requires access to affordable and reliable electric power. Regulations, like the CPS, that are not cost-effective and increase the cost of producing electricity, or that threaten its availability, pose serious threats to economies in large segments of rural America.

Electric cooperatives rely on a diversity of resources to affordably and reliably meet their consumer-members' energy needs. Because of the comparatively smaller scale at which many cooperatives operate, cooperatives rely on fewer generation resources than other parts of the

[8] NRECA Co-op Facts and Figures at 4.
[9] NRECA. *America's Cooperative Electric Utilities*. p.2. February 2025. Available at: https://www.cooperative.com/programs-services/bts/Documents/Data/Electric-Co-op-Fact-Sheet.pdf.
[10] *Id.*
[11] NRECA Co-op Facts and Figures at 1.
[12] *Id*. at 4.

utility sector. Any actions affecting the availability of these resources disproportionately impact cooperatives and their consumer-members.

As not-for-profit entities, electric cooperatives are unique in the way they are financed. Cooperatives have no equity shareholders who can bear the costs of stranded generation assets or investment in new or alternative generation resources. Cooperatives do not have a rate of return on equity as do investor-owned utilities. All costs are passed through directly to each cooperative's consumer-members via increased electric rates.

Because of their not-for-profit nature, cooperatives maintain only marginal cash reserves for anticipated operating expenses and unforeseen events. For that reason, financing the significant capital investment required for new generation, transmission, and other infrastructure projects necessarily requires reliance on debt sourced from entities such as the U.S. Department of Agriculture's Rural Utilities Service (RUS), National Rural Utilities Cooperative Finance Corporation, and CoBank.[13] While RUS loans can be attractive to cooperatives because of lower interest rates, RUS financing is not without challenges. These challenges include loan restrictions, lengthier and uncertain approval processes (including National Environmental Policy Act reviews), and the significant amount of capital required.

III. The CPS Needs to Be Expeditiously Repealed

Before addressing the elements of the Proposed Rule, NRECA is compelled to discuss the incredible challenges faced by electric cooperatives because of the CPS. The CPS is unlawful, unrealistic, and unachievable. It jeopardizes electric reliability and affordability. Its standards were based on technology that has not been adequately demonstrated, and its requirements are not achievable. Instead, the previous administration attempted to leverage an "ancillary provision" of the CAA to reshape the electric sector when it was unable to pass transformative legislation through Congress.

While EPA attempted to portray the CPS as a run-of-the-mill application of EPA's authority under Section 111 to identify the BSER for a category of sources, the CPS was anything but. EPA selected a primary BSER of 90% CCS, even though no commercial power plant has ever achieved, let alone demonstrated, that rate of capture. Even assuming plants were capable of that level of capture, the infrastructure needed to transport and permanently store carbon dioxide (CO_2) underground will not be developed by the compliance date and are not expected to be developed on a trajectory even close. The rule's less-stringent requirements either force existing coal-fired power plants to retire or were designed to drive new natural gas plants to operate less often than makes economic or operational sense.

Today, the CPS remains in effect. While NRECA is pleased that the Proposed Rule would provide relief for its members, the CPS continues to sow uncertainty. Cooperatives are struggling to make decisions about their existing coal-fired plants that provide needed always available

[13] The Cooperative Finance Corporation is a member-owned, nonprofit cooperative organized in 1969 to raise funds from capital markets to supplement RUS loan programs. CoBank is a national cooperative bank and a member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agricultural interests and the nation's rural economy.

generating capacity. They are also attempting to build new natural gas plants to grow capacity to keep up with skyrocketing demand and replace assets that have reached the end of their useful life. Yet when permitting these new units, they have to address the CPS's unattainable requirements. As a result, cooperatives are having to make decisions to move ahead with billion-dollar-plus investments in new generation capacity (in the case of combined cycle units) without the certainty of knowing how often they will be able to run those assets. This challenge makes planning sufficiently for future needs almost impossible.

Accordingly, NRECA urges EPA to continue to act expeditiously to repeal the CPS. EPA can best do so by adopting NRECA's suggested rationale for repeal of the CPS's non-CCS standards and issuing a final rule repealing the CPS that is based on the justification of both the Primary and Alternative Proposals.

IV. Comments on EPA's Primary Proposal

EPA's Primary Proposal would repeal all GHG emissions standards for fossil fuel-fired power plants. EPA is proposing to clarify its understanding that the CAA requires the Agency to make a finding that GHG emissions from fossil fuel-fired power plants contribute significantly to dangerous air pollution as a predicate to regulating GHG emissions from those plants. EPA is further proposing to make a finding that GHG emissions from fossil fuel-fired power plants do not contribute significantly to dangerous air pollution.

NRECA supports the Primary Proposal because it would have the effect of entirely repealing the unlawful, unrealistic, and unachievable CPS.

For the past decade, EPA has attempted to develop GHG regulations for the power sector – and aside from the New Source Performance Standards (NSPS) it finalized in 2015[14] – each attempt has failed. The Clean Power Plan, promulgated contemporaneously with the 2015 NSPS, would have regulated existing fossil fuel-fired power plants.[15] That rule – and its generation shifting approach – was found unlawful by the U.S. Supreme Court in 2022. The Affordable Clean Energy rule, promulgated in 2019 to regulate existing coal-fired power plants by establishing a BSER based on heat rate improvement, was vacated by the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) in 2021.[16] The CPS, finalized in May 2024, is yet another unlawful attempt to regulate the power sector under Section 111.[17]

EPA has yet to find a durable, cost-effective approach under Section 111. The regulatory uncertainty from EPA's oscillating attempts at finding a lawful scheme creates substantial challenges for electric utilities. Adequately planning the sufficient generation and transmission resources needed to ensure reliability takes several years of advance preparation. When regulations are promulgated and then vacated or repealed every few years, utilities' ability to

[14] 80 Fed. Reg. 64510 (October 23, 2015). Litigation challenging the NSPS for coal-fired power plants remains in abeyance.
[15] 80 Fed. Reg. 64662 (October 23, 2015).
[16] 84 Fed. Reg. 32520 (July 8, 2019). The Supreme Court reversed the D.C. Circuit's vacatur in *West Virginia v. EPA*, 597 U.S. 697 (2022).
[17] Litigation challenging the CPS is currently held in abeyance before the D.C. Circuit. NRECA is a petitioner.

plan is undermined. That challenge is exacerbated by the substantial demand growth forecast in the coming years related to the development of AI data centers and increased industrialization and electrification.

A. CAA Section 111 requires EPA to make a significant contribution finding before regulating a source category (addressing Request for Comment identifiers C-1, C-5, and C-6)

NRECA supports EPA's proposed conclusion that Section 111 requires the Agency to make a finding that emissions of a pollutant from a source category "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare" before promulgating any new source or existing source standards for that category.

EPA's interpretation is evident in the plain language and context of Section 111. This section directs EPA to list "categories of stationary sources" that it determines "cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."[18] Only once EPA has made such a determination does Section 111(b) direct the Agency to promulgate federal "standards of performance for new sources" in that category.[19] Similarly, after determining that emissions of a pollutant from a source category contributes significantly to such a danger and EPA establishes standards for new sources in that category, the Agency must create regulations for states to establish standards of performance "for any existing source for any air pollutant…to which a standard of performance under this section would apply if such existing source were a new source."[20]

Because an NSPS can only apply to categories of sources for which EPA has made a significant contribution finding and listed them under Section 111(b)(1)(A) and because existing source performance standards can only apply to existing sources "to which a standard of performance…would apply if such existing source were" new, EPA has no authority to regulate either new or existing sources unless they are listed. And those categories cannot be listed unless EPA first makes a finding that the source contributes significantly to air pollution that endangers public health or welfare.

The plain language of the statute also dictates that EPA can only regulate "air pollutants" from a source category if those pollutants contribute significantly to "air pollution" that endangers health and welfare. If that's not what the section means, EPA's regulatory authority is absurdly broad – it could require sources to spend substantial amounts implementing emissions limitations that would have no impact whatsoever on public health or welfare.

As EPA notes, the context and structure of Section 111 further demonstrate that a significant contribution finding must be made on a pollutant-specific basis. Section 111 is an "ancillary provision" of the CAA.[21] Congress designed the section to capture emissions that were not otherwise addressed by the Act's primary programs. It would make no sense for Congress to

[18] 42 U.S.C. § 7411(b)(1)(A).
[19] 42 U.S.C. § 7411(b)(1)(B).
[20] 42 U.S.C. § 7411(d)(1).
[21] *West Virginia v. EPA*, 597 U.S. 697, 724 (2022).

focus this ancillary provision on categories that endanger public health and welfare only to have the Agency regulate emissions of pollutants from those categories that do not.

Other language in the statute supports this interpretation. Section 111(b)(3) requires EPA to "issue information on pollution control techniques for categories of new sources *and air pollutants* subject to the provisions of this section."[22] If Section 111 was not intended to apply to only those pollutants deemed dangerous, the language italicized above would be superfluous. Section 111(h) similarly authorizes EPA to develop work practice standards for pollutants for which numerical standards cannot be developed, showing again that Section 111 is concerned with pollutant-specific regulation.[23] Section 111(j) allows EPA to waive requirements in some circumstances for "any air pollutant," also showing a pollutant-by-pollutant basis.[24]

The structure of the CAA also supports the proposed interpretation. Congress repeated language requiring a form of contribution finding throughout the CAA. In each instance, Congress directed EPA to make findings about specific pollutants before regulating those pollutants.[25] Accordingly, the structure of the CAA shows that Congress took a pollutant-by-pollutant approach. It was focused on the regulation of pollutants that endanger the public, not regulation for regulation's sake. In other words, the CAA's reference to "air pollutant" and "air pollution" must be given "reasonable, context-appropriate interpretations."[26] It is "plain as day that the Act does not envision an elaborate, burdensome permitting process for major emitters of steam, oxygen, or other harmless airborne substances,"[27] which is exactly what would happen if Section 111 were not read to require a pollutant and source category specific finding.

Beyond the language of the statute, EPA's past practice also shows that Section 111 is pollutant specific. Although the Agency's interpretations of the law are not entitled to deference, consistent past practice – particularly when adopted near the time of enactment – can sometimes be informative.[28] EPA has historically interpreted Section 111 to require a pollutant-specific significant contribution finding. As the Agency explained in 1977:

> "The Administrator first considers potential health and welfare effects of a designated pollutant in connection with the establishment of standards of performance for new sources of that pollutant under section 111(b) of the Act. Before such standards may be established, the Administrator *must find that the*

[22] 42 U.S.C. § 7411(b)(3).
[23] 42 U.S.C. § 7411(h)(1).
[24] 42 U.S.C. § 7411(j)(1)(A).
[25] *See, e.g.* 42 U.S.C. §§ 7408(a)(1) (authorizing national ambient air quality standards for "each air pollutant" that endangers public health or welfare); 7415(a) (similar for pollutants that endanger public health or welfare in a foreign country); 7521(a)(1) (allowing control of "any air pollutant from" new vehicles that endanger public health and welfare); 7545(c)(1) (fuel additives that endanger public health or welfare); 7571(a)(2) (allowing control of "the emission of any air pollutant" from classes of aircraft that endanger public health and welfare).
[26] *Utility Air Regulatory Group v. EPA*, 573 U.S. 302, 317 (2014).
[27] *Id.*
[28] *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369, 386 (2024).

> *pollutant in question* 'may contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare….'"[29]

Consistent with that understanding, when EPA first listed stationary gas turbines it regulated only those pollutants that significantly contributed to air pollution.[30] Thus, EPA's recent efforts to read Section 111 as authorizing performance standards for all pollutants as long as a source category had been listed was not just a departure from the statute, it was a departure from EPA's historical understanding of the statute.

In short, the proposed interpretation that Section 111 requires EPA to determine that emissions of a specific pollutant from a specific source category significantly contributes to public health and welfare issues before issuing performance standards is consistent with the text, structure, and context of Section 111.

B. CAA Section 111 requires EPA to make a finding that a source category "contributes significantly" to dangerous air pollution (addressing C-2, C-5, C-6, and C-8)

NRECA supports EPA's proposed conclusion in the Primary Proposal that Section 111 requires a significant contribution finding for the source category (e.g., fossil fuel-fired power plants). As noted above, Section 111 requires a significant contribution finding for the pollutant as emitted from the source category. The statute ties the listing authority to the pollutant being regulated and does not permit EPA to bootstrap regulation of new pollutants absent a finding for those pollutants. Accordingly, EPA must make a significant contribution finding for each category of power plant before it can regulate them under Section 111.

EPA's prior rationale for avoiding a source category-specific finding was flawed. EPA justified regulation of fossil fuel-fired power plants by referencing two significant contribution findings from the 1970s for sulfur dioxide, nitrogen oxides, and particulate matter from steam generators and gas turbines. But, as explained above, EPA cannot rely on significant contribution findings for other pollutants to regulate GHGs.

Nor can EPA rely on aspects of its 2009 endangerment finding for cars and trucks under CAA Section 202.[31] That finding predicated regulation of GHG emissions from motor vehicle tailpipes on a finding that they "contribute" to air pollution that endangers public health or welfare. But Section 111 requires a higher threshold. Section 111 requires EPA to determine that emissions from the source category "cause[] or contribute[] *significantly*" to air pollution that endangers public health or welfare. Therefore, EPA must do the work of determining whether or not each category of fossil fuel-fired power plants significantly contributes to an endangerment before regulating under Section 111.

---

[29] U.S. Environmental Protection Agency. *Final Guideline Document: Control of Fluoride Emissions from Existing Phosphate Fertilizer Plants*. EPA-450/2-77-005 at 2-1 (March 1977) (Emphases added).
[30] *See* 42 Fed. Reg. 53782, 53787 (October 3, 1977).
[31] 74 Fed. Reg. 66496 (December 15, 2009).

C. EPA's proposed interpretation of what it means for a source category to "contribute significantly" to dangerous air pollution must be based on objective criteria (addressing C-3, C-5, and C-6)

NRECA supports EPA's proposed determination in the Primary Proposal that the legal threshold for what constitutes a "significant contribution" must rest on objective criteria. The CAA authorizes EPA to list a source category for regulation only if "in [the Administrator's] judgment" the category "causes, or contributes significantly" to dangerous air pollution.[32] While the phrase "in his judgment" delegates the determination to EPA, it does not authorize a standardless or subjective determination. Courts have long held that discretionary terms in regulatory statutes must be tethered to discernible standards or limiting principles.[33]

NRECA agrees with EPA on the point that interpreting "significantly" to mean merely "important" or "influential" allows for post hoc or politically motivated conclusions. A significance finding should not vary depending on an administration's energy priorities, views on foreign policy, or subjective judgments about regulatory burdens.

To "contribute significantly" to a danger, the emissions from the category must objectively play a major role in causing the danger. This is required by the plain language of the statute. "Contribute" means "to be an important factor in; help to cause."[34] Therefore, "contribute *significantly*" must mean something more than merely contribute. "Significantly," as an adverb, means to do something in a way that is "important; of consequence" or "consequential, momentous, or weighty."[35] Putting these together, the best reading of "contribute significantly" means to help cause something in a way that is substantial, or large enough to matter. The contribution must have a consequentially influential role.

As part of this analysis, the Agency must also consider whether the danger is of the type that Congress designed Section 111 to address, or put another way, whether Congress provided the tools through Section 111 to counter the danger. In *Utility Air Regulatory Group v. EPA*, the Supreme Court explained that the fact that GHGs are a pollutant under the Act "does not strip EPA of authority to exclude [GHGs] from the class of regulable air pollutants under other parts of the Act where their inclusion would be inconsistent with statutory scheme."[36] As part of that analysis, the Agency must, of course, consider the relevant regulatory scheme and evaluate whether including the pollutant "would bring about an enormous and transformative expansion

---

[32] 42 U.S.C. § 7411(b)(1)(A).
[33] *See Motor Vehicle Ass'n v. State Farm*, 463 U.S. 29, 43 (1983).
[34] Webster's New Universal Unabridged Dictionary 442 (Barnes & Noble Ed 1996) (defining "contribute"); *see also* Webster's Third New International Dictionary of the English Language, Unabridged vol. I (A-G) 496 (Merriam-Webster 1966) (defining "contribute") (to have "a part in producing an effect").
[35] Webster's New Universal Unabridged Dictionary 1779 (Barnes & Noble Ed 1996) (defining "significantly"); *see also* Webster's Third New International Dictionary of the English Language, Unabridged vol. III (S-Z) 2116 (Merriam-Webster 1981) (defining "significantly") ("in a significant manner" i.e., "having meaning" or "having or likely to have influence or effect.").
[36] *Utility Air Regulatory Group v. EPA*, 573 U.S. 302, 319 (2014).

in EPA's regulatory authority without clear congressional authorization" or would assign to EPA "decisions of vast economic and political significance."[37]

The history of EPA's attempt to regulate GHGs under Section 111 shows that this program was simply not designed to address issues like climate change. That is because EPA has repeatedly run head-long into enormous and transformative expansions of its authority when attempting to fit the round peg of Section 111 into the square hole of climate change. The Clean Power Plan was overturned, in part, because EPA attempted to interpret its authority to identify the "best system of emissions reduction" into authority to determine the appropriate mix of energy generation for the nation.[38] The Affordable Clean Energy Rule was overturned, in part, for producing negligible results that could have increased emissions. And, as noted in the Proposed Rule, the CPS exceeds EPA's authority by selecting technology that has never been demonstrated and is not achievable as somehow the best system that has been adequately demonstrated and is achievable. As the Supreme Court noted in *Utility Air Regulatory Group*, part of the Agency's current analysis should focus on whether including GHGs in Section 111 through a significant contribution finding would be inconsistent with the statutory scheme. EPA's continued inability to identify a meaningful system that would fit within the confines of this program suggests that it is.

Applying the plain meaning of the statute, EPA should set objective standards for what would cause a significant contribution to GHG pollution that endangers public health or welfare. Without developing such concrete criteria, the significant contribution finding (or lack thereof) becomes susceptible to the whims of each administration. Given the importance of the determination, this exacerbates regulatory uncertainty. We encourage EPA to articulate clear criteria, grounded in science, to evaluate what threshold constitutes a significant contribution without regard to policy preferences. As part of that consideration, the Agency should be guided by the understanding that the limited regulatory scheme contemplated by Section 111 is inapt to address global atmospheric GHG concentrations.

D. The CPS has not created legitimate reliance interests (addressing C-4)

NRECA is not aware of legitimate reliance interests on the CPS and, on the contrary, believes the rule imposes irrecoverable costs that damage the electric utility sector. The CPS has created significant regulatory hurdles and imposed enormous costs on the sector. Because many of the CPS's requirements are impossible to comply with, no significant progress has been made in the infrastructure needed to comply with it. If it is allowed to remain in effect, the result would be significant curtailment of reliable, dispatchable resources – namely the premature retirement of coal-fired power plants and the arbitrarily capped generation of new natural gas-fired power plants. Furthermore, because the new source performance standards in the CPS are impossible to comply with (or require significant capacity factor restrictions), it has created significant hurdles to the financing and permitting of much needed new natural gas generation. The sooner the

[37] *Id.* at 324.
[38] *West Virginia v. EPA*, 597 U.S. 697, 727-728 (2022).

administration can alleviate these hurdles, the sooner more generation can be added to the system to preserve affordable and reliable electricity.

E. Comments regarding the proposed alternative interpretation that CAA Section 111 at least authorizes EPA to require a significant contribution determination in order to establish performance standards (addressing C-7)

NRECA holds the view that EPA does not have discretion to regulate without making a significant contribution finding, as described above. Accordingly, it is not a matter of discretion – EPA must make a significant contribution finding before regulating.

F. Comments regarding the impact of the U.S. Supreme Court's decision in *Loper Bright* on how EPA should approach interpreting CAA Section 111 (addressing C-10)

The *Loper Bright* decision instructs that EPA should follow the best reading of the statute without resorting to shifting policy considerations. Under *Loper Bright*, it is the courts' responsibility to interpret the law. Courts must no longer defer to EPA's interpretation of statutory ambiguity or silence. In practice this means that the Agency must closely adhere to the canons of construction and follow the plain language of the statutory text, informed by its context. The courts will not defer to Agency interpretations that stray from these traditional rules of statutory interpretation, and any perceived ambiguity does not give rise to a delegation to exercise policy judgment. This should instruct the Agency's reading of both the significant contribution finding and the BSER requirements. EPA should simply follow the words of the statute.

G. Comments regarding EPA's proposed determination that GHG emissions from the fossil fuel-fired EGU source category do not contribute significantly to dangerous air pollution under CAA Section 111 (addressing C-13)

EPA proposes to determine that GHG emissions from fossil fuel-fired power plants do not contribute significantly to dangerous air pollution under Section 111. In doing so, EPA finds that the share of global GHG emissions contributed by U.S. power plants today is "relatively minor" and has declined since 2005. EPA also points to the declining share of these emissions as other countries increase their GHG emissions from both industrial and power sector sources – a trend likely to continue.

NRECA concurs with EPA's assessment that the global share of GHG pollution from the U.S. power sector has declined from about 5.5% in 2005 to 3% in 2022. EPA is correct that other countries have been increasing their share of power sector GHG emissions. According to data from the European Commission's Emissions Database for Global Atmospheric Research, the amount of U.S. power sector emissions declined 41.9% from 2005 levels by 2023. Over that same period, China increased its power sector emissions by 172.7% and India by 145.3%. While Russia emitted about the same amount in 2023 as it did in 2005, since its lowest emissions level

of 2017, its emissions have increased 14%.[39] It is likely that the share of emissions from the U.S. power sector will continue to decline as others increase their fossil fuel electric generation and industrial emissions.

Further, it is highly unlikely that *any* regulation under Section 111 would reduce GHG emissions by an amount that would mitigate climate change. For example, the cumulative emissions reductions that EPA estimated over the first 20 years of the CPS's implementation would constitute just a small fraction of global GHG emissions *annually*. EPA forecasted total CO_2 emissions reductions from the U.S. power sector of 1.38 gigatons through 2047.[40] According to the United Nations, global annual GHG emissions (in CO_2 equivalent) were 57.4 gigatons in 2022, the most recent year data is available.[41]

V. Comments on EPA's Alternative Proposal – Repeal Elements

In the Proposed Rule, EPA offers an Alternative Proposal to its Primary Proposal. The Alternative Proposal would repeal almost all of the CPS – but would retain the non-CCS emissions standards for new CTs. Because of this divergence, Section V of these comments focuses on the elements of the Alternative Proposal that would repeal requirements of the CPS. Section VI focuses on the Alternative Proposal's retention of the non-CCS standards for new CTs.

NRECA supports the repeal elements of the Alternative Proposal. The CPS is unlawful, unrealistic, and unachievable. If allowed to remain, it will jeopardize electric affordability and reliability by forcing the retirement of existing coal-fired power plants and arbitrarily limiting generation from new natural gas-fired power plants. In its comments on the CPS, NRECA submitted extensive comments and technical reports explaining why the rule should be withdrawn. These documents are attached to these comments and should be considered part of the rulemaking docket for this Proposed Rule.

A. 90% CCS is not the BSER for coal-fired units (addressing C-15 through C-23, and C-32)

As explained below, NRECA strongly supports EPA's proposed determination in the Alternative Proposal that 90% CCS is not BSER for coal-fired power plants. EPA's determination in the CPS that 90% CCS was BSER was fatally flawed.

1) 90% CCS has not been adequately demonstrated

CAA Section 111 requires EPA to identify the BSER that "has been adequately demonstrated" and establish an "achievable" limitation based on that system.[42] An "adequately demonstrated"

---

[39] Figures calculated from data from *Emissions Database for Global Atmospheric Research*. European Commission. Available at: https://edgar.jrc.ec.europa.eu/report_2024.

[40] U.S. Environmental Protection Agency. *Fact Sheet: Carbon Pollution Standards for Fossil Fuel-fired Power Plants: Final Rule*. p.2. April 2024. Available at: https://www.epa.gov/system/files/documents/2024-04/cps-111-fact-sheet-overview.pdf. One billion metric tons is the equivalent of a gigaton.

[41] United Nations Environment Programme. *Emissions Gap Report 2023*. p.4. November 20, 2023. Available at: https://www.unep.org/resources/emissions-gap-report-2023.

[42] 42 U.S.C. § 7411(a)(1).

system is one that has an operational history showing more than mere technical feasibility.[43] The system must be commercially available, reliable, reasonably efficient, and not exorbitantly costly. To be adequately demonstrated for all sources within a category or subcategory, a technology must be available for each source type to which the standard applies.[44]

As the Proposed Rule correctly notes, the CPS inappropriately based its determination on forward-looking prediction, projected enhancements, improvements, and developments that the Agency believed would take place in the future and that it believed would make the technology viable.[45] The statute, however, clearly requires EPA to select a system that has been adequately demonstrated, meaning that the "best system" must not only be feasible in theory, but proven in practice to achieve the specified level of emissions reduction under expected operating conditions. It must have a reasonable track record from real world application, at scale, in the industry. Further, any emissions limitation or rate based on that system must be achievable, in practice, under the worst foreseeable circumstances in the industry. There must be evidence that the covered sources can comply with the standard, not just speculation that they should be able to do so at some point in the future.

The statute's plain text demonstrates that the relevant question is not what technology *may be developed*, but what "has been adequately demonstrated."[46] Congress's use of the present perfect tense "denotes an act that has been completed."[47] The plain meaning of the terms "adequately" and "demonstrate" confirms this. "Demonstrate" means "to show clearly," "to prove or make clear by reasoning or evidence," or "to illustrate or explain…with examples."[48] "Adequate" means "sufficient for a specific requirement."[49] Thus, there is no space for "emerging technology" or speculation about what improvements will be made on any future horizon – the best system must be the best of those systems already in place.

Similarly, the emissions limitation based on the best system must be "achievable." That means that it can be achieved by applying the appropriate BSER technology under the full range of relevant conditions that may affect the emissions and under the most adverse conditions expected. The standard cannot be theoretical or experimental.[50] In other words, standards should represent the "least common denominator" that can "be reasonably achieved by [a] new source anywhere in the nation."[51] EPA must demonstrate with certainty that the sources actually can comply with the performance standards, not that they might be able to if certain advances and improvements that EPA suspects will occur come to fruition.

---

[43] *See Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433-32 (D.C. Cir. 1973).
[44] *See* 70 Fed. Reg. 9706, 9712, 9714, 9715 (February 28, 2005) (rejecting certain technology as best system of emission reduction in part because of the unavailability of these options across source types to which the performance standards would apply).
[45] E.g., 90 Fed. Reg. at 25769.
[46] 42 U.S.C. § 7411(a)(1).
[47] *See Carr v. United States*, 560 U.S. 438, 448 (2010).
[48] *See Webster's Seventh New Collegiate Dictionary* at 220 (1970).
[49] *Id.* at 11.
[50] *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 434 (D.C. Cir. 1973).
[51] *See* Letter from G. McCutchen, to R.E. Grusni (July 28, 1987).

Despite these clear requirements, the system that EPA selected in the CPS for existing coal plants expected to operate beyond 2038 and new base load natural gas plants was 90% CCS. Those sources would have to capture, transport, and store 90% of their annual CO_2 emissions in order to comply with the rule. No system has demonstrated that. Certainly not the ones EPA pointed to.

EPA's primary example, Boundary Dam Unit 3 in Saskatchewan, never achieved an annual average capture rate near 90%.[52] The operator's own disclosures show that capture rates have hovered closer to 65%, with significant technical and reliability issues throughout the plant's operational history.[53] Even if Boundary Dam had achieved 90% capture on a temporary basis, that does not adequately demonstrate the statute's requirement for facility-wide and annualized capture at 90%.

Petra Nova captured only a fraction of the host unit's total CO_2 emissions – not full facility capture.[54] It operated only intermittently and suffered significant availability issues, specifically related to the capture system.[55] Plant Barry used a 25-megawatt (MW) slipstream, about 1% of the plant's total flue gas volume.[56] At no time did the facility attempt, much less achieve full facility capture at 90%.[57]

These partial capture, slipstream projects, no matter how successful in advancing CCS, could not be said to have demonstrated – let alone, adequately demonstrated – 90% full stream capture. Slipstream capture fails to meet the challenges of full-stream integration. A slipstream design avoids the complex operational, thermal, and process integration challenges that arise when CCS is applied to the entire flue gas volume of the unit.[58] Full-facility systems require rebalancing of plant heat and steam loads, continuous performance across varying load conditions, and reliable management of compression, transport and storage across a much larger throughput. None of these projects' successes showed this.[59]

EPA's claim that Petra Nova captured a volume that was equivalent to that of a smaller power plant misses the point – capturing a portion of a large plant's emissions does not demonstrate the ability to capture all of the emissions from a smaller plant. The two are not functionally or operationally equivalent.[60] As the D.C. Circuit recognized in *Portland Cement Association v. Ruckelshaus*[61] and *Essex Chemical Corp. v. Ruckelshaus*,[62] EPA may not assume that a partial demonstration or promising technology can be linearly extrapolated to support a stringent

---

[52] *See* Attachment 3 at 11.
[53] *See* SaskPower's CPS Comments (August 4, 2023, Docket ID: EPA-HQ-OAR-2023-0072-0687)
[54] Attachment 2 at 9.
[55] *See* NRECA's August 8, 2023 CPS Comments at 11.
[56] According to Alabama Power, Plant Barry's operator, total capacity at the facility is 3,246 MW. *See* https://www.alabamapower.com/press-releases/2023/plant-barry-unit-8-now-serving-customers.html.
[57] *See* Power Generators Air Coalition CPS Comments (August 8, 2023, p.34, Docket ID: EPA-HQ-OAR-2023-0072-0710).
[58] Attachment 2 at 9-11, 14-16.
[59] *Id.* at 9-11.
[60] *Id*. at 14.
[61] *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391-92 (D.C. Cir. 1973).
[62] *Essex Chem. Corp., supra* n.44, at 433-34, 438.

national standard. That standard must be "adequately demonstrated" and "achievable" in full, not just on paper.

EPA tried to argue in the CPS that vendor statements, unbuilt projects, and feasibility studies supported its projection that 90% CCS would work, and it argued in court that those statements about future developments somehow showed that 90% CCS had been demonstrated. EPA now correctly admits in the Alternative Proposal that was an error. The crux of EPA's reliance in the CPS on vendor statements, feasibility reports, and unbuilt projects was to argue that enhancements, improvements, and future developments would make the technology viable. But no matter the horizon, optimism alone is not sufficient to show that technology has been adequately demonstrated.

Further, vendor optimism is not a demonstration. Vendors have an obvious interest in portraying technologies as feasible and market ready. Vendor statements are not the same as vendor performance guarantees. But EPA must prove that its standard is achievable under real operating conditions and across the full range of expected variability.[63] Vendor speculation cannot substitute for demonstration.

Finally, EPA's interpretation in the CPS that the term "has been adequately demonstrated" can include extrapolation or projections from things like vendor statements, pilot projects, or slipstream facilities that have never achieved full stream operation would raise serious concerns under the major questions doctrine. The Supreme Court has repeatedly held that agencies may not rely on vague or incidental statutory language to justify economically and politically significant rules absent "clear congressional authorization."[64]

The CPS imposed performance standards that would require coal-fired and natural gas-fired power plants to install 90% CCS without that system having been adequately demonstrated. As NRECA repeatedly emphasized in its comments on, and challenge to, the CPS, the cost and uncertainty would fundamentally reshape the nation's electricity sector. It would trigger massive investments in unbuilt infrastructure (pipelines, storage networks), and it would affect electric reliability on a national scale and be economically transformative across energy markets. The CPS attempted to use limited and underwhelming technical demonstrations to justify standards that would force large swaths of the dispatchable power fleet into retirement. That is the essence of a major question – and there is no clear congressional authorization for it in Section 111.

2) 90% CCS is not achievable

In the CPS, EPA wrongly determined that an emissions limitation based on 90% CCS was achievable. The Alternative Proposal would correct this error, finding that the performance standard is unachievable because the supporting infrastructure – CO_2 pipelines and permitted geologic storage sites – does not exist. The Alternative Proposal would also find that EPA's belief that the necessary infrastructure might exist by the compliance deadline was, again, based on speculation, not evidence.

---

[63] *Essex Chem. Corp.*, *supra* n.44, at 433-34.
[64] *West Virginia v. EPA*, 597 U.S. 697, 723 (2022); *Util. Air Reg. Grp. v. EPA*, 573 U.S. 302, 324 (2014).

While the Alternative Proposal appropriately acknowledges that 90% CCS is not achievable by 2032 due to the likely unavailability of infrastructure, there are additional constraints that further undermine the achievability of the standard and reinforce the legal error in the CPS.

First, there are substantial regulatory bottlenecks involved in siting and permitting CO_2 pipelines. These include the complex, multi-jurisdictional permitting processes required to develop new CO_2 pipelines – especially in states that lack clear routing authority or eminent domain for CO_2 transport. As explained in NRECA's 2023 CPS Comments, pipeline development is subject to National Environmental Policy Act review, approval from state utility commissions, and landowner opposition, all of which can delay or prevent siting.[65] There is no federal authority like the Federal Energy Regulatory Commission's natural gas pipeline certification process to guarantee timely development, and there is no federal eminent domain authority to guarantee rights of way.

In fact, since the CPS was finalized in May 2024, there have been additional roadblocks put in place. In March of this year, South Dakota enacted legislation preventing the use of eminent domain for the development of CO_2 pipelines.[66] The following month, the state denied the permit for the largest pipeline in development, a pipeline that EPA cited in the CPS to support its claim that sufficient pipeline capacity would be developed to enable compliance.[67] Courts in North Dakota have allowed lawsuits challenging its Public Service Commission's decision to grant a permit for the same pipeline project to proceed in the state.[68] Environmental and landowner groups continue to oppose pipelines.[69] Further, the incentive programs from the Inflation Reduction Act and other infrastructure support have become uncertain due to changes in federal policy priorities.

Second, EPA assumed private actors would step in to build the predicted infrastructure, but there was no enforceable obligation or financial mechanism ensuring this would happen – especially given the regulatory and legal risks surrounding the standards themselves. The CPS created no offtake requirement, no federal backstop, and no guarantee of return on investment. EPA simply assumed the infrastructure would appear.

Indeed, as of today, NRECA is aware of no substantial progress on the 4,700 miles of CO_2 pipelines EPA assumed in 2024 would materialize by the end of 2031.[70] On the contrary, as

---

[65] *See* Attachments 3, 6, and 15.

[66] Jack Dura. *New South Dakota law threatens massive carbon dioxide pipeline proposed for Midwest*. Associated Press. March 6, 2025. Available at: https://apnews.com/article/carbon-capture-south-dakota-3160bc081070d0d1e0b9405d6ddde138.

[67] Sarah Raza. *South Dakota panel rejects permit for an $8.9 billion carbon capture Midwest pipeline*. Associated Press. April 22, 2025. Available at: https://apnews.com/article/carbon-south-dakota-pipeline-route-permit-f6ba5287e24aebebcaf22f4cc8d75c9f.

[68] Jeff Beach. *2 lawsuits against Summit allowed to advance; a third case pending*. North Dakota Monitor. May 13, 2025. Available at: https://northdakotamonitor.com/2025/05/13/2-lawsuits-against-summit-allowed-to-advance-a-third-case-is-pending/.

[69] E.g., https://pipelinefighters.org/, https://noillinoisco2pipelines.org/, https://www.sierraclub.org/iowa/carbon-dioxide-pipelines.

[70] While EPA assumed 4,700 miles of pipeline would be built, NRECA's 2023 comments disputed this estimate, citing estimates that a more substantial buildout would be necessary for all covered plants to be able to comply.

discussed in NRECA's November 2023 supplemental comment letter to the CPS docket and earlier in this section, the obstacles have increased.

Third, in the CPS, EPA pointed to *potential* geologic storage to support its claim that there would be sufficient permanent storage capacity by the 2032 compliance deadline. As was pointed out in comments on the CPS, even if some storage formations are geologically feasible, not all are legally available or technically viable.[71] Class VI wells (and associated permits) require extensive subsurface characterization, tribal and landowner consultation, and post-injection site care plans.[72] EPA failed to adequately address these complex requirements in the CPS.

Indeed, only 15 Class VI injection wells have been permitted by EPA across the nation and only four are operational.[73] Despite EPA's insistence in the CPS that the Agency was working quickly to permit more, only seven have been permitted since the rule was published in May 2024.[74] States granted primacy may move more quickly, but as of today just four states have primacy.[75]

The additional challenges described above starkly undercut EPA's suggestion in the CPS that a robust CCS infrastructure was already in place or will soon be available to support the achievability of a 90% CCS standard by January 1, 2032.

3) 90% CCS is exorbitantly costly

NRECA supports EPA's proposed determination that 90% CCS is not cost-reasonable under Section 111. However, we note that several additional factors further underscore why EPA's cost conclusions in the CPS were flawed and unlawful.

First, in the CPS, EPA failed to account for cost distribution across the industry. The Alternative Proposal critiques EPA's overall optimism on CCS cost trends, but EPA should further recognize that the CPS never demonstrated that its standards were achievable by the industry as a whole – not just a few select facilities. EPA must show that a standard is achievable by the full category of covered sources. Even if a few large, well-capitalized utilities could absorb the cost, that does not meet the legal standard. This is especially important for electric cooperatives and smaller generators, which are disproportionately affected by capital-intensive compliance technologies and less able to finance speculative infrastructure projects.

Unlike investor-owned utilities, not-for-profit cooperatives cannot seek cost recovery for debt. They and their members bear the full cost of these investments, and in the case of the CPS that translates to substantial rate increases. For example, one NRECA member estimated that the rule

[71] *See* Attachments 3 and 6.
[72] *Id*.
[73] Jones, Angela C. *Class VI Carbon Sequestration Wells: Permitting and State Program Primacy*. Congressional Research Service Report R48033 at 1, 3. April 16, 2024. Available at: https://www.congress.gov/crs-product/R48033. (CRS Class VI). This number is calculated by adding the 8 referenced in the CRS Class VI report with the 7 permitted since finalization of the CPS.
[74] *See* https://www.crc.com/news-releases/news-release-details/crcs-carbon-terravault-receives-epa-permits-co2-injection-and and https://www.oxy.com/news/news-releases/occidental-and-1pointfive-secure-class-vi-permits-for-stratos-direct-air-capture-facility/.
[75] *See Primary Enforcement Authority for the Underground Injection Control Program*. As of August 7, 2025. Available at: https://www.epa.gov/uic/primary-enforcement-authority-underground-injection-control-program-0.

would cause it to double members' costs in just a few short years because of a stranded asset.[76] Another projected a rate increase that was 50% higher than what would be expected before the CPS.[77]

Second, EPA ignored the inflationary and grid reliability impacts of capital costs. The CPS ignored comments that the massive up-front costs for CCS would destabilize energy pricing and grid investment, especially in regions with tight capacity. This oversight distorted EPA's cost-effectiveness balancing under Section 111(a)(1), which requires the Agency to weigh both costs and energy system impacts.

Third, EPA improperly segregated government subsidies from cost calculations. In the CPS, EPA explicitly excluded the value of federal tax credits (e.g., Section 45Q) from its cost analysis arguing that costs to the taxpayer are not relevant. But Congress instructed EPA to consider the costs of the "system" to evaluate whether it is the "best," without differentiating who would pay those costs. While the Alternative Proposal reconsiders the achievability of 90% CCS, it does not address the legal error in this approach. EPA cannot exclude the costs of taxpayer subsidies while declaring that costs are "reasonable." The statute requires consideration of total costs – not artificially siloed ones. This omission violated *Michigan v. EPA*,[78] which held that EPA must consider *all costs*, including indirect and systemwide burdens when determining the reasonableness of a standard.

Finally, EPA did not evaluate the opportunity costs of comparative regulatory efficiency. The Alternative Proposal does not address that EPA failed to compare the marginal cost of CCS to alternative, lower-cost emissions reduction strategies. Commenters explained in 2023 that this omission violated Section 111's directive to consider the best systems available – not technologically ambitious ones. EPA never explained why billions should be spent on CCS when reductions may have been achievable through more cost-effective means, even if emissions reductions would not be as substantial.

4) EPA failed in the CPS to adequately consider energy requirements when determining 90% CCS was the BSER

Section 111(a)(1) requires that EPA accounts for "energy requirements" when selecting the best system. The Alternative Proposal fails to mention several important omissions from the CPS regarding energy requirements that rendered it unlawful.

First, in the CPS, EPA ignored the energy diversion from CCS systems. CCS imposes a significant energy penalty, diverting a portion of a power plant's output to operate compressors, heat exchangers, and solvent regeneration systems. As NRECA and others pointed out in comments, this can consume 20-30% of gross generation capacity.[79] Petra Nova built a dedicated auxiliary source of power for its slipstream capture system. Project Tundra, a CCS project being considered by NRECA member Minnkota Power Cooperative and cited by EPA in the CPS,

[76] *See* Attachment 17 at paragraph 39 (page 25).
[77] *See* Attachment 18 at paragraph 32 (page 20).
[78] *See Michigan v. EPA*, 576 U.S. 743, 752-53 (2015).
[79] *See* Attachment 8.

would divert about 205 MW of power that could otherwise contribute to the grid to operate its capture system.[80] Whether Minnkota can meet its members' electricity needs without that capacity is a major consideration in whether the project will go forward.

EPA never accounted for whether individual plants could still meet energy needs or whether the grid system as whole could do so with this diversion of energy that would otherwise be used to meet demand. Accordingly, the CPS was unlawful because it failed to assess how the energy diversion would affect regional grid capacity, reserve margins, or reliability during high-demand periods.

Second, EPA failed to evaluate system-wide impacts on grid resource planning. By mandating CCS retrofits that degrade efficiency and increase on-site power consumption, the CPS would create ripple effects across the electricity system. The cumulative energy burden of deploying CCS at scale would require substantial new build-out of generation simply to replace lost net output. The CPS did not address whether these replacement resources were feasible, affordable, or consistent with other regulatory constraints. Instead, the Agency relied on results from its Integrated Planning Model (IPM), which simply assumed new generation will be built to meet energy demands.

Third, EPA did not consider load-following or cycling constraints. Many fossil fuel-fired units operate as load following resources that support variable renewable generation.[81] CCS equipment, however, functions optimally only under steady-state load conditions.[82] Commenters pointed out that requiring CCS on load-following units could increase forced outage rates, impair ramping capability, and disrupt ancillary services provision. In short, the CPS failed to address significant concerns about the real-world operability of the system EPA deemed "best."

Fourth, EPA failed to reconcile energy demands with the gap in infrastructure. Commenters on the CPS explained that CCS would increase electricity demand from compressor stations and storage site operations – creating localized load growth in areas with little available capacity. The final CPS did not assess whether local distribution and transmission infrastructure could absorb those demands.

Fifth, EPA failed to address operational reliability in the CPS. EPA conflated resource adequacy with operational reliability, and in doing so, failed to evaluate how CCS would impair the real-time operability of the power system. Resource adequacy does not equal reliability, as the Agency's own technical document explained.[83] The CPS addressed reliability primarily through capacity projections and resource planning models that purported to show sufficient capacity on the grid over time. But as commenters pointed out, the presence of capacity on paper says little about whether that capacity can start and stop quickly, ramp up and down, provide spinning reserves or frequency response, or operate under extreme weather or peak demand events.

---

[80] *See* Attachment 19 at paragraph 36 (page 20).
[81] Attachment 2 at 1-3.
[82] *Id*. at 13-14.
[83] U.S. Environmental Protection Agency. *Resource Adequacy Analysis Technical Support Document*. April 2024. p.1. Available at: https://www.regulations.gov/document/EPA-HQ-OAR-2023-0072-8916.

CCS impairs load following and fast-ramping capabilities.[84] CCS systems induce thermal inertia, increased equipment complexity, and constraints on variable load operation. Commenters warned that requiring CCS would make formerly reliable coal and natural gas units less capable of meeting short-term operational needs. EPA's general failure in the CPS to consider CCS's impact on meeting the grid's operational requirement is distinct from the Agency's failure to show that 90% CCS is "achievable" in cost or engineering terms. It implicates the real-time operability and grid-balancing function of the units subject to regulation.

Yet the CPS failed to engage with these operational risks. The CPS simply assumed capacity would be replaced, without addressing whether the replaced or remaining capacity would meet the grid's actual operating demands. EPA relied on capacity expansion models like IPM to assert that overall resource adequacy could be maintained, without evaluating whether CCS-equipped units could deliver operational reliability services. EPA's failure to respond to these technical and operational comments from grid operators and utilities violated basic administrative law principles. An agency must engage with "important aspects of the problem" raised in comments.[85]

To summarize, while the Alternative Proposal rightly questions the achievability and cost of 90% CCS, the severe energy burdens and grid distortions that accompany large-scale deployment further support the Alternative Proposal, and EPA should include these considerations in a final rule. The CPS never addressed the concern that if deployed, CCS would degrade system performance and cause widespread reliability problems. These unresolved flaws further support the conclusion that 90% CCS cannot be the "best system" under Section 111.

B. 90% CCS is not BSER for base load combustion turbines (addressing C-33 through C-39)

NRECA supports EPA's proposed repeal of the Phase 2 CCS-based performance standards for base load CTs. While the proposal acknowledges the lack of infrastructure and the impracticality of meeting the 2032 deadline, EPA should further address additional legal and technical flaws with the CPS that further require rescission.

1) EPA never demonstrated Phase 2 was achievable under adverse conditions

EPA did not analyze whether standards based on 90% CCS are achievable under the most adverse conditions reasonably expected to occur as required by Section 111.[86] As NRECA and others noted in comments on the CPS, even if CCS were to work on CTs in a controlled environment, EPA failed to show it would work reliably across the full range of operating conditions – including load changes, ambient temperature variations, and ramping demands typical of peaking or cycling natural gas units.[87] This is important because performance standards must be applied to all new sources in the sector and there must be a viable path toward compliance. Due to the absence of any demonstration that 90% CCS is available across the range

[84] Attachment 2 at 3-5, 8-14.
[85] *See Motor Vehicle Mfrs. Ass'n v. State Farm*, 463 U.S. 29, 43 (1983).
[86] *See Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 434 (D.C. Cir. 1973).
[87] Attachment 2 at 12-13.

of these conditions and that emissions standards based on 90% CCS are achievable at all new plants, the CPS exceeded EPA's authority.

2) EPA never evaluated grid reliability impacts of CCS on combustion turbines

Even if infrastructure would be in place to meet the CPS's 90% CCS requirements, which is unlikely as noted in the Alternative Proposal, the fact that CCS would degrade operational reliability is further reason repeal the standards. CTs are often used to provide flexible, quick start capacity and respond to renewable intermittency.[88] As described above, CCS impairs these characteristics due to energy diversion and thermal integration challenges. EPA's failure to assess how CCS would be affected by or affect ramping, cycling, and contingency response left critical gaps in the record that rendered the CPS unlawful.

3) EPA provided no evidence that the Phase 1 base load standard was sufficient standing alone

As discussed further in Section VI.C., the Alternative Proposal asserts that the Phase 1 base load standard (based on highly efficient generation) is severable and independently justified but does not explain how Phase 1 standing alone constitutes BSER. EPA did not conduct a separate analysis showing that Phase 1 satisfies Section 111's requirement for emissions limitations based on the best demonstrated system. This creates a severability problem that is not addressed in the rescission and reinforces the need to repeal both components. If EPA chooses to move forward with performance standards for CTs, whether Phase 1 or something else, they must be independently justified and fully comply with notice and comment requirements.

4) EPA did not confront the major questions doctrine

EPA's imposition of CCS on CTs in the CPS – absent congressional authorization and based on speculative evidence – triggers major questions doctrine scrutiny. The Alternative Proposal does not assess whether the Phase 2 base load standard constitutes a "major policy decision" that lacks a clear statutory basis. Stretching "adequately demonstrated" to justify nationwide 90% CCS mandates on CTs – when no such systems currently exist – raises serious major questions doctrine concerns and should be examined.

C. Natural gas co-firing is not BSER for medium-term coal-fired units (addressing C24 through C-30)

NRECA supports the proposed repeal of natural gas co-firing requirements for medium-term coal-fired units, which under the CPS would be forced to retire before 2039. This retirement requirement unnecessarily, arbitrarily, and capriciously burdens cooperative consumer-members by not allowing cooperatives to utilize coal plants until the end of their useful lives. While EPA in the Alternative Proposal has correctly proposed to conclude that 40% co-firing is not cost-reasonable and would impose infeasible infrastructure demands, the rescission should also address several other legal and factual flaws that render the requirements unlawful.

[88] *Id*. at 1-3.

1) Natural gas co-firing violated *West Virginia v. EPA*

One of the core legal flaws with the natural gas co-firing requirement is that it is a form of generation shifting that the Supreme Court explicitly rejected in *West Virginia v. EPA*.[89] Requiring coal-fired units to co-fire with natural gas fundamentally alters the source's fuel mix and dispatch characteristics, rather than improving emissions performance through an on-site emissions control system. The CPS attempted to indirectly force fuel-switching – a policy decision of vast economic and political significance – without clear statutory authorization.

While it is true that many coal-fired units use natural gas as a startup fuel, that is not the same as having a unit designed to operate on natural gas. On the contrary, as NRECA's and others' comments previously pointed out, using natural gas as a primary (or even substantial) fuel source requires significant alteration and infrastructure build out and fundamentally changes the nature of a coal plant from a coal plant to a hybrid plant.[90]

2) EPA never demonstrated achievability of 40% co-firing at covered units

While the Alternative Proposal acknowledges general infrastructure concerns, it does not address the lack of record evidence that the covered fleet can obtain sufficient volumes of firm natural gas by January 1, 2030, which presents an additional flaw in the CPS standards. Commenters, including NRECA, previously highlighted that most coal plants do not have existing pipeline connections – many are located in regions without excess gas capacity.[91] The CPS's failure to consider whether the plants targeted by this requirement would be able to obtain firm contracts that enable price stability is another important flaw in the rule.

3) The CPS ignored operational and economic distortions introduced by co-firing

Natural gas co-firing fundamentally changes how a coal unit operates, including boiler tuning, efficiency curves, and emissions profiles.[92] Such operational changes could require new air permits under the New Source Review program, invalidate coal fleet engineering assumptions, and trigger new permitting, safety, and interconnection requirements. These operational risks are distinct from cost or pipeline feasibility and remain unaddressed in the Alternative Proposal.

D. Emission guidelines for natural gas- and oil-fired steam units should be repealed (addressing C-31)

NRECA supports EPA's proposed repeal of the GHG guidelines for natural gas- and oil-fired steam electric generating units. EPA reasonably concludes that continuing to regulate this subcategory under the CPS is neither cost-effective nor environmentally meaningful. In addition to those reasons noted in the Alternative Proposal, in the CPS, EPA offered no demonstration

[89] *See West Virginia v. EPA*, 597 U.S. 697 (2022).
[90] *See* Attachment 11.
[91] Attachment 11 at 4-7.
[92] *Id*. at 8.

that these units could feasibly install or operate CCS and did not identify any other cost-effective add-on control.

VI. Comments on EPA's Alternative Proposal – Retention of Emissions Standards for New Natural Gas Units (addressing C-13 and C-14)

NRECA opposes the Alternative Proposal's retention of the CPS's non-CCS standards for new natural gas units. Specifically, for base load natural gas units that operate above a 40% annual capacity factor (i.e., how much electricity a power plant actually produces over a year as a percentage of its maximum potential output if it ran at full capacity for the entire year), the standard is 800 pounds of CO_2 per megawatt hour (lb/MWh) on an annual basis. For intermediate load units that operate in the range from a 20% to 40% capacity factor, the standard is 1,170 lb/MWh. For low load units that operate below a 20% capacity factor, the emissions standard is less than 160 pounds of CO_2 per million British thermal units.

The emissions standards for the base load and intermediate load subcategories are not achievable in real world operation for the full range of new CTs. Further, the capacity factor limits imposed on the subcategories of units under these standards will arbitrarily constrain electric generation. Both the emissions standards and capacity factor limits of the subcategories pose risks to electric affordability and reliability and do not align with the administration's vision of American energy dominance. Because the standards are not achievable, EPA should repeal them along with the other elements of the CPS. At a minimum, EPA should reconsider these standards.

A. Combustion turbines are critical to American energy dominance

President Trump has clearly articulated a vision for his administration to enable American energy dominance. The president has signed several executive actions directing agencies to remove regulatory barriers to achieving that goal. These executive actions include, but are not limited to:

- Executive Order 14154, *Unleashing American Energy*, which calls on agencies "to protect the United States's economic and national security and military preparedness by ensuring that an abundant supply of reliable energy is readily accessible in every State and territory of the Nation."[93]
- Executive Order 14156, *Declaring a National Energy Emergency*, which expresses the need for "a reliable, diversified, and affordable supply of energy to drive our Nation's manufacturing, transportation, agriculture, and defense industries, and to sustain the basics of modern life and military preparedness."[94]
- Executive Order 14219, *Ensuring Lawful Governance and Implementing the President's "Department of Government Efficiency" Deregulatory Initiative*, which calls on agencies

[93] 90 Fed. Reg. 8353 (January 29, 2025).
[94] 90 Fed. Reg. 8433 (January 29, 2025).

to "initiate a process to review all regulations subject to their sole or joint jurisdiction for consistency with law and administration policy."[95]

- Executive Order 14262, *Strengthening the Reliability and Security of the United States Electric Grid*, which in part establishes a policy "to ensure adequate and reliable electric generation in America, to meet growing electricity demand, and to address the national emergency declared pursuant to Executive Order 14156."[96]

In addition to these actions, EPA itself has announced its Powering the Great American Comeback Initiative, which aims to achieve the Agency's mission while "energizing the greatness of the American economy."[97] This initiative is based on five pillars guiding EPA's work, including restoring American energy dominance and making the United States the AI capital of the world.

CTs are an essential component of electricity production and accordingly serve a necessary role in ensuring affordable and reliable power consistent with these executive actions and EPA's pillars. According to EIA data, in 2024, natural gas-fired generation made up the largest share of the United States' electric generation at 43.3%.[98] Simple cycle and combined cycle CTs provided 84% of the country's natural gas-fired generation capacity in 2022.[99]

These units provide versatile, dispatchable power to the grid and can ramp up and down as needed to meet demand. These attributes will only make CTs more critical as electricity demand continues to skyrocket. Their essential nature is exemplified by several projects underway at G&T cooperatives across the country.

1) Combustion turbines are essential to reliability amid skyrocketing demand growth

The versatility of CTs make them integral to ensuring electric reliability. Combined cycle units, which generate electricity through both CTs burning fuel and by steam generated from their residual heat, are effective in providing base load power. Simple cycle units, which generate electricity solely from the CT itself, provide grid support by delivering power when needed to meet rapid changes in system demand. That is because CTs can start up and shut down quickly, helping them stabilize the grid during periods of high demand or unplanned outages. This also makes CTs ideal for providing grid support for weather-dependent renewable generation like wind and solar. In recent testimony to Congress, Lanny Nickell, Executive Vice President and Chief Operating Officer of Southwest Power Pool, Inc. (SPP), described a situation where wind

[95] 90 Fed. Reg. 10583 (February 25, 2025).
[96] 90 Fed. Reg. 15521 (April 14, 2025).
[97] *See* EPA Press Release "EPA Administrator Lee Zeldin Announces EPA's 'Powering the Great American Comeback' Initiative. Available at: https://www.epa.gov/newsreleases/epa-administrator-lee-zeldin-announces-epas-powering-great-american-comeback.
[98] Calculation of data from U.S. Energy Information Administration. *Electricity Data Browser*. Available at: https://www.eia.gov/electricity/data/browser/. Accessed August 7, 2025.
[99] U.S. Energy Information Administration. *In Depth Analysis: Use of natural gas-fired generation differs in the United States by technology and region*. February 22, 2024. Available at: https://www.eia.gov/todayinenergy/detail.php?id=61444.

generation in SPP fell by 12,000 megawatts (MW) in two hours.[100] As his testimony describes, natural gas generation was essential to keeping the lights on.

CTs will be necessary to address today's challenges facing the electric grid. As discussed at the outset of these comments, in its *2024 Long-Term Reliability Assessment*, NERC found that most of the North American bulk power system "faces mounting resource adequacy challenges over the next 10 years."[101] A significant part of the challenge is the ongoing and forecast retirements of base load thermal generation, primarily those of coal power plants. Interconnection queues abound with intermittent renewables that could ostensibly replace this lost generation, but the nameplate capacity of a renewable resource is not equivalent to that of a thermal resource (such as coal or natural gas).[102] For example, PJM, the regional transmission organization which serves all or parts of 13 states and Washington, DC, finds that – on average – it takes 5.2 MW of solar nameplate capacity or 14 MW of onshore wind nameplate capacity to equal 1 MW of thermal capacity.[103] In addition, the rate of completion for renewable and battery projects in interconnection queues lags behind those of gas.[104] As result of these dynamics, CTs are vital to help close the gap in generation.

In addition to a forecast shortfall of the electricity needed to meet existing levels of demand, future demand is expected to increase substantially. According to a recent report from Grid Strategies, nationwide electricity demand is forecast to increase by nearly 16 percent by 2029, driven primarily by growth in AI data centers, manufacturing demand, and electrification.[105]

In particular, the projected growth of data centers, which according to the Department of Energy consume 10 to 50 times the energy per floor space of a typical commercial office building,[106] is expected to lead to skyrocketing growth in electricity demand. According to a report from the Lawrence Berkeley National Laboratory, at the end of 2023 data centers made up 4.4% of total

[100] Testimony of Lanny Nickell, Executive Vice President, Chief Operating Officer, Southwest Power Pool, Inc., U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Energy. March 25, 2025, at 4-5. Available at: https://d1dth6e84htgma.cloudfront.net/03_25_2025_ENG_Testimony_Nickell_60f2e9d769.pdf.
[101] NERC 2024 LTRA at 6.
[102] *See* EIA, Glossary. The term "generator nameplate capacity (installed)" is defined by the EIA as the "maximum rated output of a generator, prime mover, or other electric production equipment under specific conditions designated by the manufacturer." In other words, this is the potential amount of electricity, usually expressed in MWs, that a manufacturer determines a resource can produce under specific conditions.
[103] PJM. *Energy Transition in PJM: Resource Retirements, Replacements & Risks*. February 24, 2023. p.13 (see footnote 22). Available at: https://www.pjm.com/-/media/DotCom/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx.
[104] Rand, et al. for Lawrence Berkeley National Laboratory. *Queued Up: 2024 Edition – Characteristics of Power Plants Seeking Transmission Interconnection As of the End of 2023*. p.28. April 2024. Available at: https://emp.lbl.gov/sites/default/files/2024-04/Queued%20Up%202024%20Edition_1.pdf.
[105] John D. Wilson, Zach Zimmerman, and Rob Gramlich for Grid Strategies. *Strategic Industries Surging: Driving US Power Demand*. December 2024. p.3. Available at: https://gridstrategiesllc.com/wp-content/uploads/National-Load-Growth-Report-2024.pdf.
[106] *See* https://www.energy.gov/eere/buildings/data-centers-and-servers.

U.S. electricity use, up from 1.9% in 2018.[107] That number is projected to jump to as much as 12% by 2028, a nearly threefold increase.

In order to meet this surge, utilities and data center developers are looking to natural-gas fired generation – primarily in the form of simple and combined cycle units. The EIA finds that planned projects could add 18.7 gigawatts (GW) of combined cycle generation *alone* by 2028.[108] Another estimate projects that as many as 80 new natural gas-fired power plants will be built in United States by 2030 – potentially 46 GW worth.[109] In one such example, earlier this year plans were announced for a 4.5 GW natural gas power plant made up of seven CTs – which would be the largest such plant in the country – that will power a major data center campus.[110]

The expected growth in data centers may be even greater in areas served by cooperatives. Developers of data centers often look for inexpensive land on which to site projects, and rural land in areas served by cooperatives is an attractive option.

2) Examples of cooperative combustion turbine projects

Faced with the prospect of substantial growth and the need to fulfill their mission to provide affordable and reliable power, NRECA's members are building new CTs. Basin Electric Power Cooperative (Basin Electric) is relying on CTs to help meet projected load growth over the next decade that could reach 5.9%.[111] In addition to the ongoing construction of two 235 MW simple cycle CTs, Basin Electric recently announced the planned construction of approximately 1,470 MW in new natural gas-fired generation from two combined cycle units.

Oglethorpe Power Corporation has announced two new projects to help it meet significant demand growth.[112] The first is a two-unit combined cycle plant expected to produce more than 1,400 MW and come online in 2029. The second is a 240 MW simple cycle peaking unit.

Arkansas Electric Cooperative Corporation (AECC) plans to add four new large, frame-type CTs to its generation fleet by the end of 2030. AECC has proposed to add approximately 900 MW of generation capacity from two new simple-cycle CTs at a greenfield site in Morris County,

---

[107] Shehabi, et al. for Lawrence Berkeley National Laboratory. 2024 United States Data Center Energy Usage Report. p.52. December 2024. Available at: https://eta-publications.lbl.gov/sites/default/files/2024-12/lbnl-2024-united-states-data-center-energy-usage-report.pdf.

[108] U.S. Energy Information Administration. *In Depth Analysis: Electric generators plan more natural gas-fired capacity after few additions in 2024*. June 11, 2025. Available at: https://www.eia.gov/todayinenergy/detail.php?id=65464.

[109] Amanda Chu and Jamie Smyth. *AI set to fuel surge in new US gas power plants.* Financial Times. January 13, 2025. Available at: https://www.ft.com/content/63c3ceb2-5e30-44f4-bd39-cb40edafa4f8.

[110] Jennifer Hiller. *A Big Coal Plant Was Just Imploded to Make Way for an AI Data Center*. The Wall Street Journal. April 2, 2025. Available at: https://www.wsj.com/business/energy-oil/a-big-coal-plant-was-just-imploded-to-make-way-for-an-ai-data-center-cd4bbe32.

[111] Testimony of Todd Brickhouse, Chief Executive Officer and General Manager of Basin Electric Power Cooperative, U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Energy. March 5, 2025, at 2. Available at: https://d1dth6e84htgma.cloudfront.net/03_05_2025_ENG_Testimony_Brickhouse_88b42179d6.pdf.

[112] *See* https://opc.com/newgeneration.

Texas. AECC also anticipates proposing to add two new combined-cycle units to add approximately 1,500 MW at an existing power plant site in Independence County, Arkansas.[113]

Associated Electric Cooperative, Inc., has plans to add two new peaking facilities to meet their system's needs during periods of high demand.[114] The Ripley Energy Center, already under construction, and the forthcoming Turney Energy Center will each be equipped with a simple cycle CT that can produce a net output of 420-445 MW. East Kentucky Power Cooperative plans to build a 745 MW combined cycle unit at its Cooper Station.[115] These cooperatives are not alone. Other cooperatives are similarly looking to CTs to help meet future demand affordably and reliably.

B. The standards EPA would retain are unachievable for both base load and intermediate load units

The emissions standards for base load and intermediate load CTs are not achievable by most, let alone all, new CTs under real world operating conditions. As with the 90% CCS BSER in the CPS, EPA exceeded the boundaries of Section 111's BSER requirements by developing standards that appeared grounded in achievability, but in practice would arbitrarily cap the output of new natural gas generation (via its capacity factor-based subcategories). The CPS relied on faulty assumptions to justify the standards for these units.

For base load units, EPA finalized an 800 lb/MWh average annual emissions standard. While some of the new units EPA assessed may achieve this standard under specific operating conditions,[116] EPA jumped to the conclusion that all new units could achieve that standard over the course of a year under all operating conditions.[117]

A unit's ability to achieve an emissions standard is not based solely on one specific operating scenario. There are important factors outside of an operator's control that affect a unit's average annual emissions rate. The most pressing is load duty, or how much electricity a unit is generating at a given time divided by its maximum potential output over that period. CTs realize their lowest emissions rates at high levels of load. EPA's 800 lb/MWh standard assumes that combined cycle CTs nearly always operate at their most efficient load duty levels.[118]

In reality, combined cycle units operate at highly variable levels of load duty. These include "a varying number of start-stop cycles, periods of base load operation, periods of part-load operation, and duct firing."[119] Furthermore, the load duty at which a unit operates is dictated by how it is dispatched to the grid by its grid operator – it is not up to the plant operator. These changes in operation are often automatically controlled by the grid operator to maintain the stability of the grid as levels of demand and generation from intermittent resources (such as wind

[113] *See* https://aecc.com/balance-of-power/new-generation-projects.
[114] *See* https://www.aeci.org/new-gas-generation.
[115] *See* https://www.ekpc.coop/new-generation.
[116] 88 Fed. Reg. at 33324.
[117] *See* GE Vernova's CPS Comments (August 8, 2023, p.21, Docket ID: EPA-HQ-OAR-2023-0072-0722) (GE Vernova Comments)
[118] Attachment 1 at 15.
[119] GE Vernova Comments at 21.

and solar) fluctuate.[120] Should such intermittent resources continue to comprise a greater share of overall generation capacity, the load fluctuations of combined cycles will only increase. The variability of load duty matters because more frequent cycling increases the potential for degradation of performance due to the "unavoidably large thermal and pressure stresses" associated with startups and shutdowns.[121]

EPA also assumed that emissions standards achieved at nearly ideal conditions could be readily achieved by all units. In reality, conditions vary widely across the fleet. As ambient temperatures increase, for example, the efficiency of a CT decreases. The altitude of a unit also plays a role in determining efficiency. EPA was aware of the impact of both on efficiency, yet apparently ignored its own technical documents.[122]

Similar issues plague EPA's emissions standard for intermediate load CTs. While the Agency more fully evaluated the varying operating conditions for simple cycle units, it looked at the universe of these CTs as though they all operate similarly. But there are two types of simple cycle CTs – aeroderivative and frame units. Aeroderivative CTs are adapted from aircraft jet engines, making them lighter, more compact, and faster to start up. They are known for high efficiency, flexibility, and suitability for distributed generation or peaking power applications. Frame CTs, on the other hand, are designed specifically for heavier duty use. By looking at simple cycles in a monolithic fashion, EPA failed to establish an emissions standard that could be achieved by all units.[123] Indeed, analysis performed for NRECA found that only one frame unit constructed since 2012 can meet the emissions standard.[124]

EPA's technical analysis in the CPS contained other flaws. The Agency underestimated the impact of degradation on performance as units age, despite comments on the proposed CPS that highlighted these issues.[125] While acknowledging in the CPS that long term data are more appropriate than short term data for determining an achievable standard, EPA nonetheless reached the conclusion that results achieved over a 12-month averaging period could be sustained as long as units are properly maintained.[126]

This assertion fails to make a distinction between efficiency improvements realized through capital projects associated with periodic unit upgrades and overhauls (which occur at intervals of about three years) and those realized through annual operation and maintenance practices.[127] EPA's technical document finds that the former improves efficiency by 1% to 3%, while the latter improves efficiency between .25% and .7%. According to CT manufacturers, performance

[120] *Id*. at 22.
[121] Attachment 1 at 6.
[122] U.S. Environmental Protection Agency. *Catalog of CHP Technologies: Section 3: Technology Characterization: Combustion Turbines.* March 2015. pp. 3-10 - 3-12. Available at: https://www.epa.gov/sites/default/files/2015-07/documents/catalog_of_chp_technologies_section_3._technology_characterization_-_combustion_turbines.pdf. While EPA's technical document in the CPS docket notes the impacts, its discussion glosses over the main implications.
[123] GE Vernova Comments at 19.
[124] Attachment 1 at 4.
[125] *Id*. at 5-7.
[126] *Id*. at 6.
[127] *Id*.

of new or like new CTs can degrade by as much as 6% over the typical period between overhauls, meaning that such degradation outpaces the efficiency improvements of annual maintenance in between capital upgrades.[128]

Additionally, the Agency failed to adequately account for the use of duct burners on combined cycle units. Duct burners use additional fuel to heat the exhaust from a CT to increase steam turbine output, with the result that the CO_2 emissions efficiency of a combined cycle unit decreases. Accordingly, they are typically used when quick peaking power is needed. According to the EIA, about 75% of the country's combined cycle capacity utilize duct burners.[129] There is nothing about the design of units currently being constructed to suggest such prevalence will not continue.[130]

EPA substantially underrepresented combined cycles with duct burners, as only 7% of the units that EPA analyzed in the CPS were equipped with the devices. Of those units that had duct burners, fewer than half were able to meet the 800 lb/MWh base load standard, and those that did had little compliance margin.[131] This is relevant because of the prevalence of duct burners among the combined cycle fleet, but also because their usage is increasing. An analysis of a subset of NRECA's members found that between 2022 and 2024 duct burner operation increased 61 percent, a trend reflecting rapidly changing electric markets.[132] As the grid continues to require more flexibility and variability in order to meet increased demand, this trend can be expected to continue, even beyond NRECA's membership.

In the CPS, EPA extrapolated emissions rates at lower capacity factors incorrectly. EPA plotted annual emissions rates with annual capacity factors for the best performing combined cycle CTs to show the relationship between the two. EPA then used a linear function to estimate emissions rates for lower capacity factors not represented by actual data. Unfortunately, EPA's linear annual relationship between emissions rates and capacity factor is not reflected in monthly data, and accordingly, is likely inappropriate for extrapolating emissions rates at lower capacity factors.[133] In fact, one of the units EPA examined actually showed increased emissions at *higher* capacity factors.[134]

EPA's approach for normalizing the performance of the best performing CTs to account for less efficient units was also flawed. Specifically, the equation the Agency used failed to account for its own identified additional normalization factor for "2x1" or "3x1" units of 1.4%. As Attachment 1 to NRECA's comments explains, this results in "a flawed determination of an emissions standard that can be achieved by the considerable population of 1x1 combined cycle CTs that are inherently less efficient than 2x1 and 3x1 configurations."[135]

---

[128] *Id*. at 7.
[129] *Id*. at 9.
[130] *Id*. at 9-10.
[131] *Id*. at 9.
[132] *Id*.
[133] *Id*. at 11-12.
[134] *Id*. at 12.
[135] *Id*. at 13-14.

In sum, it was unlawful for EPA to set performance standards that do not account for all operating scenarios, including those explained above, and the Phase 1 base load and intermediate load standards should be repealed. At a minimum, EPA should reconsider the standards.

C. The CPS inappropriately subcategorizes new natural gas units based on capacity factor

Section 111 of the CAA authorizes EPA to subcategorize covered sources by class, size, and type.[136] While EPA has subcategorized units based on capacity factor in other rules, it is not an appropriate approach in this situation. This method does not take into account design and operational variability among units that end up in the same subcategory, such as aeroderivative and frame types of CTs – nor does it account for variation within the same type of CT, such as the different capabilities of the different classes of frame units.

EPA failed to provide a convincing technical or legal basis for categorizing the units this way. It appears that the subcategories served as a convenient way to arbitrarily cap the amount of electricity that could be generated to boost the prior administration's non-statutory goal of promoting other favored generating resources, like wind and solar. This underscores the earlier point that maintaining the non-CCS standards from the CPS threatens electric reliability and affordability – and is in direct conflict with the Trump Administration's energy goals.

While EPA should repeal the non-CCS standards from the CPS because its emissions limitations are not achievable, should EPA opt instead to reconsider its approach in the Alternative Proposal it should base subcategories on the characteristics of units rather than capacity factor.

D. Even if the Phase 1 standards for base load combustion turbines were achievable, EPA cannot retain them because they are not severable from the Phase 2 standards

In proposing to retain the Phase 1 standards for new base load CTs, EPA is relying on the severability language contained in the CPS to assert that Phase 1 and Phase 2 can "function sensibly without" the other.[137] This cursory conclusion fails to support that claim. In the CPS, EPA did not provide the necessary legal or factual foundation to treat the two phases as functionally or analytically independent and neither does the Alternative Proposal. Accordingly, it would be legal error to leave the Phase 1 standards in place.

The CPS did not treat Phase 1 and Phase 2 as independent standards. Instead, it asserted that the 90% CCS-based standard of Phase 2 was a second step in a unified BSER for new base load CTs. In the CPS, EPA described the BSER as having two *components*, not two severable standards, stating: "the second component for base load combustion turbines is utilization of CCS with 90 percent capture. Recognizing the lead time…the EPA is finalizing a second phase compliance deadline of January 1, 2032, for this second component of the standard."[138] Thus,

[136] 42 U.S.C. § 7411(b)(2).
[137] 89 Fed. Reg. 39802.
[138] *Id.* (emphasis added).

Phase 1 was merely a preliminary component, not a standalone BSER. EPA made clear that the complete system it was mandating for base load units included both components together.

This is further evident by the fact that EPA did not make a separate BSER determination for Phase 1 alone in the CPS. In contrast to its treatment of low load and intermediate load CTs, EPA did not identify the use of the most efficient technology as independently sufficient to meet Section 111's requirements for base load units. Instead, EPA expressly relied on its expectation that 90% CCS would be deployed. Therefore, if the 90% CCS-based Phase 2 standard is rescinded, EPA cannot maintain that the Phase 1 standard stands alone as a valid BSER finding – the Phase 1 requirement was never justified independently in the rulemaking record. If EPA wants to identify highly efficient generation as the BSER for base load units, it must propose a new standard, analyze its costs and benefits, and take comment on it. The assertion otherwise in the Alternative Proposal would violate both the CAA and the Administrative Procedure Act's notice and comment requirements.[139]

In addition, the severability language in the CPS was generalized and did not address the specific BSER structure for base load units. While the severability discussion claims that "within the subcategory for base load turbines, the requirements for each of the two components are severable," that assertion is conclusory and not supported by a distinct BSER analysis for the first phase. EPA did not provide (1) separate feasibility, cost, or emissions reduction analyses for Phase 1 alone, (2) a clear statement that Phase 1 would have been selected as a BSER absent Phase 2, or (3) any indication that Phase 1 achieves sufficient GHG reductions to justify regulation on its own.

As the Supreme Court found in *Ohio v. EPA*, conclusory assertions about severability cannot substitute for reasoned decision-making. Rather the severability conclusion must be accompanied by explanatory analysis that shows the Agency fully considered how the remaining provisions would function and continue to serve the statute's purpose independently if part of the rule is struck down or rescinded.[140] The severability language in the CPS fails to provide a rationale for such a determination.

E. The non-CCS standards for new natural gas combustion turbines are inextricably linked to the CPS's unlawful 90% CCS standard

The Alternative Proposal's retention of the CPS's non-CCS standards for new CTs appears to be based on the determination there were relatively few comments submitted to the docket during the 2023 public comment period and that the standards were not included in legal challenges to the CPS.[141] That does not mean the standards were appropriate.

The non-CCS standards were finalized as part of one of the most onerous, unlawful, and transformative stretches of Section 111 authority in history – the CPS's 90% CCS standards. As EPA has rightly proposed to find elsewhere in the Alternative Proposal, 90% CCS is not BSER. It is not adequately demonstrated, it is not achievable, and it is not cost effective. The sheer

[139] *See* 42 U.S.C. § 7607(d) and 5 U.S.C. § 553(c), respectively.
[140] *Ohio v. EPA*, 603 U.S. 279, 295-96 (2024).
[141] NRECA is among the parties that filed a petition for review challenging the CPS.

outrageousness of those standards appropriately drew the primary attention of commenters and petitioners.

Even still, there were comments provided during the 2023 comment period that provided EPA information that these non-CCS standards were not appropriate. GE Vernova, one of the primary manufacturers of CTs, explained in its comments that both the base load and intermediate load standards based on highly efficient generation also were not appropriate.[142] The Gas Turbine Association, Electric Power Research Institute, and Large Public Power Council were also among those expressing concern about the standards.[143]

The comments above, and NRECA's accompanying technical memorandum on the CPS's non-CCS emissions standards, show that the EPA set the bar at an unachievable level.

F. EPA need not engage in a separate rulemaking to repeal the non-CCS standards

EPA may lawfully repeal the non-CCS standards without a separate rulemaking because (1) the Phase 1 standards for base load CTs were never properly proposed or finalized as standalone standards, and (2) any repeal of the standards for the various categories of CTs would fall within the bounds of the logical outgrowth doctrine. Although EPA may ultimately wish to initiate a new rulemaking to set lawful and achievable CT standards, it need not do so before repealing the flawed standards from the CPS.

First, as noted in Section VI.D. above, EPA's Phase 1 standards for base load CTs were never properly noticed or finalized as standalone standards. They were proposed only as part of (or a component of) a broader, integrated package. EPA did not separately notice or take comment on Phase 1 as an independent standard. It would be unlawful for EPA to finalize the Phase 1 standards as if they had previously been noticed and commented on as standalone standards.

For similar reasons, it would be absurd to suggest that EPA is bound to finalize, without change, this newly suggested standalone Phase 1 base load standard. EPA must, at a minimum, evaluate and consider the comments that NRECA and others are providing that show that Phase 1 is not achievable throughout the anticipated operating conditions of the affected sources and revisit the standard, and it must reevaluate the effectiveness and benefits of this component as a standalone standard before imposing it.

Second, the assertion that EPA must retain the non-CCS standards for base load and intermediate load units simply because it initially disclaimed reopening them ignores the logical outgrowth doctrine.[144] The logical outgrowth doctrine serves to preserve the integrity of the public comment process by ensuring the public has a fair opportunity to comment on EPA's proposals.[145] The proposed and final rule "need not be identical," the final "need only be a 'logical outgrowth' of

[142] *See* GE Vernova's Comments at 19-24.
[143] *See* Gas Turbine Association's CPS Comments (August 8, 2023, pp.7-24, Docket ID: EPA-HQ-OAR-2023-0072-0498), Electric Power Research Institute's CPS Comments (August 8, 2023, pp.12-13, Docket ID: EPA-HQ-OAR-2023-0072-0674), and Large Public Power Council's CPS Comments (August 8, 2023, p.8, Docket ID: EPA-HQ-OAR-2023-0072-0771).
[144] *See* 90 Fed. Reg. at 25767 (describing the actions that EPA is taking and what it is taking comment on).
[145] *See, e.g., CSX Transp., Inc. v. Surface Transp. Bd.,* 584 F.3d 1076, 1080 (D.C. Cir. 2009).

its notice."[146] In this regard, the logical outgrowth doctrine forbids changes from a proposal only where "interested parties would have had to divine the agency's unspoken thought because the final rule was surprisingly distant from the proposed rule."[147] A final rule is valid so long as interested parties could reasonably anticipate the change based on the notice.[148] It is true that commenters must be able to trust an agency's representations about which particular aspects of its proposal are open for consideration," but the point of the limitation is, again, to ensure adequate notice and opportunity to comment.[149]

The notice here was adequate to inform the public that changes to the non-CCS standards or revocation of those standards could be made. While EPA did suggest in one breath that it was not reopening the standards, it explicitly stated in another that it was taking comment on "[t]he BSER determinations or standards of performance and related requirements for new and reconstructed intermediate load and low load fossil fuel-fired stationary combustion turbines," and "[t]he BSER determinations or standards of performance and related requirements for phase 1 for new and reconstructed base load fossil fuel-fired stationary combustion turbines."[150] Moreover, in EPA's Primary Proposal, it alerted the public that it may revoke all of the Section 111 GHG standards for all categories of units, altogether. Given EPA's specific call for comments on the non-CCS standards, its various proposals to revise the Section 111 standards, and the significant problems with both the BSER finding and the non-CCS standards, the public should anticipate changes to these standards.

In short, the public has adequate notice that EPA may change or repeal the non-CCS standards for CTs. It would be appropriate to commence a new rulemaking to propose performance standards based on efficient operations that are actually achievable, because EPA has not yet proposed those specific limitations. However, given the significant legal and technical flaws in the non-CCS standards, EPA should act now to repeal them and initiate a new rulemaking based on achievable, efficient operations, if that is the course the Agency decides to take.[151]

VII. The CPS Unlawfully Restricts States' Consideration of "Remaining Useful Life and Other Factors"

The CPS should further be rescinded because it unlawfully attempts to constrain states' ability to consider "remaining useful life and other factors" (RULOF) when applying the federal emission guidelines to individual existing sources under Section 111(d). This Section preserves state discretion to tailor standards.

---

[146] *Id.* (cleaned up).
[147] *Id.*
[148] *E.g., id.*
[149] *Environmental Integrity Project v. EPA*, 425 F.3d 992, 998 (2005).
[150] 90 Fed. Reg. at 25778.
[151] Furthermore, because EPA should propose efficiency-based standards that are achievable if it decides such action is necessary, there would be no harm from repealing the standards now. CTs are desperately needed to satisfy demand and reliability. CTs that are permitted in the interim could be addressed through an existing source standard focused on maximizing efficiency, while ensuring operation in all expected conditions.

Section 111 allows states to establish "standards of performance for any existing source" that reflect the "application of the best system of emission reduction" *taking into account remaining useful life of the sources, and other factors*.[152] This language preserves a key role for states in customizing standards based on the circumstances of particular units.

Nevertheless, EPA structured the CPS as a binding federal mandate. EPA nominally allowed states to submit plans, but the CPS purported to preclude any adjustment of the existing source performance standard based on RULOF and prevent states from proposing less stringent standards based on cost, technical feasibility, or the operational characteristics of covered units. The CPS did this by imposing presumptive standards from which states could not meaningfully depart. It relegated RULOF to an unlawfully narrow set of emergency and short-term compliance mechanisms, and EPA threatened to impose a federal plan if states exercised their statutory discretion more broadly.

This violation of state authority further supports full repeal. The CPS was inconsistent with the text and structure of Section 111(d).

VIII. Conclusion

NRECA supports repeal of the unlawful, unrealistic, and unachievable CPS. EPA's Primary and Alternative Proposals both provide justification for repeal, provided EPA adopts NRECA's rationale for repealing the CPS's non-CCS standards.

NRECA appreciates the opportunity to comment on EPA's Proposed Rule. Should you have any questions, please contact Dan Bosch, regulatory affairs director, at dan.bosch@nreca.coop, or Viktoria Seale, regulatory affairs director, at viktoria.seale@nreca.coop.

Sincerely,

Jim Matheson
CEO, NRECA

[152] 42 U.S.C. § 7411(d)(1)(B).