

MEMORANDUM

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subject: Treatment of New NGCC under Proposed Clean Power Plan

This memorandum discusses how new natural gas combined-cycle (NGCC) power plants should be addressed under the United States Environmental Protection Agency's (EPA) "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units" Proposed Rule (hereinafter, Proposed Rule or Proposed Clean Power Plan). See 79 Fed. Reg. 34830 (June 18, 2014) (Docket ID No. EPA-HQ-OAR-2013-0602).¹ In particular, this memorandum discusses the legal authority for EPA to mandate that states relying upon new NGCC to achieve their respective CO₂ emission performance goals must account for the emissions from new NGCC in their state plans. While this memorandum discusses the requirements for state plans, the concepts would apply equally to any federal implementation plan EPA should issue for a state.

I. INTRODUCTION AND SUMMARY

A significant question that EPA raised in the Preamble to the Proposed Clean Power Plan is how, given the structure of section 111 of the Clean Air Act (Act or CAA), CO₂ emissions reductions resulting from the substitution of generation from existing affected EGUs with generation from new NGCC should be accounted for in determining each state's compliance with its emission performance goals.² Even though new NGCC units were not proposed to be part of the BSER or considered in computing the proposed state goals, EPA projects that the Clean Power Plan will result in the construction of 11 to 22 gigawatts (GW) of new NGCC capacity by 2020.³ Thus, EPA has expressly acknowledged that implementation of the Clean Power Plan will result in construction of significant new NGCC capacity and, as a consequence, significant emissions from such units. If load from existing affected EGUs were simply shifted to new NGCC facilities without accounting for the emissions from those new units, then it is possible that a state could achieve compliance with its respective emission performance goals, without achieving reductions in, or possibly even increasing, the overall carbon intensity or net emissions from its

¹ This memorandum assumes familiarity with the Proposed Rule, its alternative formulations of the best system of emission reduction (BSER), the category of affected electric generating units (EGUs) subject to the Proposed Rule, the portfolio approach for assigning responsibility for achieving the required CO₂ emission performance goals to entities other than the affected EGUs, and the relationship of the Proposed Rule's rate-based goals to illustrative mass-based equivalents.

² See 79 Fed. Reg. 34830, 34924 (posing whether: "considering the legal structure of CAA section 111(d), should the calculation consider only the emission reductions at affected EGUs, or should the calculation also consider the new emissions added by the new NGCC unit, which is not an affected unit under section 111(d)? Should the emissions from a new NGCC included as an enforceable measure in a mass-based state plan (e.g., in a plan using a portfolio approach) also be considered?").

³ *Id.* at 34933 (stating that "[b]oth the two-block and the four-block approaches result in construction of additional NGCC capacity by 2020, with 11–18 GW of new NGCC for the two-block approach and 20–22 GW of new NGCC capacity for the four-block approach.").

power sector. Section 111 does not command that EPA countenance such circumvention of the Clean Power Plan's and the Act's overall emission reduction goals. Rather, because sections 111(b) and 111(d) both require that the standards established pursuant to them each reflect the "best *system* of emission *reduction*" (and given the interconnected nature of the electricity system and the global nature of CO₂ pollution), EPA has clear authority to reject a state plan where, by merely shifting load from affected EGUs to new NGCC facilities, the plan would amount to no more than illusory compliance with a state's emission performance goals and would not achieve the full scope of required reductions in carbon intensity and/or total CO₂ emissions from the state's electricity system.

EPA has already proposed an interpretation of the interrelationship between sections 111(b) and 111(d) in the Proposed Rule, whereby affected EGUs cannot simply modify or reconstruct their way out of obligations under a state plan because allowing them to do so would undermine the emission reduction goals of section 111(d). Requiring states to account for emissions from new NGCC in their state plans would similarly avoid circumvention of section 111(d)'s emission reduction goals and would represent a logical outgrowth of both this existing proposal and EPA's solicitation of comment on how emissions changes resulting from shifting dispatch from affected EGUs to new NGCC should be calculated for purposes of determining compliance with states' goals.

Within the existing framework of the Proposed Rule, EPA could clarify that, where new NGCC facilities will, in fact, be built and operated to reduce emissions from the affected EGUs, the state must account for their emissions in the state plan. Importantly, by requiring states to address the emissions from new NGCC in this manner, new NGCC facilities would *not* become "affected EGUs" under the Clean Power Plan or "existing sources" under section 111. New NGCC would continue to be subject to separate standards under section 111(b). States, however, would be prevented from demonstrating illusory compliance with their respective emission performance goals by simply shifting dispatch from affected EGUs to new NGCC facilities, without accounting for the impact that the emissions from such new NGCCs would have on system-wide CO₂ emissions.

II. BACKGROUND

In the preamble to the Proposed Rule, EPA states that its analysis "regarding the feasibility of policies to increase utilization rates of existing NGCC units on average to 70 percent applies equally to new NGCC units"⁴ and that it views "the opportunity to reduce CO₂ emissions at affected EGUs by means of addition and operation of new NGCC capacity as clearly feasible."⁵ Additionally, EPA's Regulatory Impact Analysis for the Proposed Rule states that "[w]hile not included in the goal setting for building block 3, the addition of new NGCC capacity would have a similar impact [as adding new nuclear or renewable energy capacity to the electric system] *and is one option states may choose to achieve the goal.*"⁶

EPA further notes that its "compliance modeling for this proposal suggests that the construction and operation of new NGCC capacity will be undertaken as [a] method of responding to the proposal's requirements"⁷, even though dispatch of new NGCC capacity is not included as part of BSER. Specifically, EPA states that "[b]oth the two-block and the four-block approaches result in construction of additional NGCC capacity by 2020, with 11-18 GW of new NGCC for the two-block approach and 20-22 GW of new NGCC capacity for the four-block approach."⁸ In a Technical Support Document (TSD), EPA projects that the Proposed Rule will result in even greater new NGCC capacity than what is stated in the

⁴ *Id.* at 34876.

⁵ *Id.*

⁶ EPA, Regulatory Impact Analysis for Proposed Clean Power Plan, at 2-13, Docket No. EPA-HQ-OAR-2013-0602-0391 (June 2014) (emphasis added).

⁷ 79 Fed. Reg. 34830, 34876.

⁸ *Id.* at 34933.

preamble: 22.7 GW of new NGCC capacity is anticipated to be built as a result of the Proposed Rule (i.e., over and above the capacity that is expected to be built in the base case).⁹

A. *The Clean Air Act Contemplates That New And Existing Sources Be Treated Differently*

As a threshold matter, Congress created two separate regulatory structures for new and existing sources. The Proposed Rule was developed pursuant to section 111(d) of the CAA, which states, in relevant part, that EPA “shall prescribe regulations which shall establish a procedure similar to that provided by section 7410¹⁰ of this title under which each State shall submit to [EPA] a plan which [] establishes standards of performance for any existing source for any air pollutant

(i) for which air quality criteria have not been issued or which is not included on a list published under section 7408 (a) of this title [i.e., criteria pollutants] or emitted from a source category which is regulated under section 7412 of this title [i.e., hazardous air pollutants (HAPs)] but

(ii) to which a standard of performance under this section would apply if such existing source were a new source...”¹¹

In turn, the term “new source” means “any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.”¹² The term “existing source” means “any stationary source *other than a new source*.”¹³

Section 111(b) sets forth the procedure for EPA to establish standards of performance for new sources (i.e., New Source Performance Standards (NSPS)). After including a category of stationary sources in the section 111 list, EPA “shall publish proposed regulations, establishing Federal standards of performance for *new sources* within such category.”¹⁴ Conversely, under section 111(d), EPA prescribes regulations for *states* to submit plans establishing standards of performance “for *any existing source*” “to which a standard of performance under this section would apply *if such existing source were a new source*...”¹⁵ Therefore, section 111(b) requires EPA to issue standards directly applicable to new

⁹ EPA, Technical Support Document: Resource Adequacy and Reliability Analysis, Table A5. “New Capacity Policy Case Incremental to Base Case in 2020”, Docket No. EPA-HQ-OAR-2013-0602-0163.

¹⁰ Section 7410 pertains to the States’ formulation of State Implementation Plans (SIPs) to attain or maintain the National Ambient Air Quality Standards (NAAQS).

¹¹ 42 U.S.C. § 7411(d)(1); see also Pub. L. No. 101-549, § 108(g), 104 Stat. 2399, 2467 (1990). This amended version of section 111(d) was passed by the U.S. House of Representatives, while a different amendment (which replaced some text with a cross-reference to section 112) was passed by the U.S. Senate. Both versions of section 111(d) were enacted into law in the Statutes at Large. A legal challenge pending in the Court of Appeals for the District of Columbia Circuit claims that EPA has no authority to promulgate the Proposed Rule because (1) the House amendment to section 111(d) is the only valid version of the section and (2) this version does not permit the regulation of CO₂ from existing power plants because EPA has already regulated existing power plants under section 112, albeit for a different pollutant (i.e., under the Mercury and Air Toxics Standards (MATS)). See *Murray Energy, et al. v. EPA, et al.*, No. 14-1112 (D.C. Cir.) (argued April 16, 2015). Calpine submitted an *amicus curiae* brief in support of EPA in this case and has argued that the petitions are wholly without merit.

¹² 42 U.S.C. § 7411(a)(2).

¹³ *Id.* § 7411(a)(6) (emphasis added).

¹⁴ *Id.* § 7411(b)(1)(B) (emphasis added).

¹⁵ *Id.* § 7411(d)(1) (emphasis added).

sources; section 111(d), on the other hand, requires state plans establishing standards of performance for existing sources, which, by definition, are not new sources.

B. *How Failing To Account For Emissions From New NGCC Threatens The Integrity of Emission Reductions To Be Achieved Under The Clean Power Plan*

EPA raised the question of how to account for new NGCC in the preamble to the Proposed Rule.¹⁶ In response, commenters have suggested several different approaches, such as inclusion of new NGCC as part of both the BSER determination and state goal calculation process; adding the megawatt-hours (MWh) generated by new NGCC to the denominator for purposes of demonstrating a states' affected EGUs' compliance with a rate-based goal, but not correspondingly adding the emissions from new NGCC to the numerator;¹⁷ and only allowing states to credit emissions from new NGCC to the extent the new facilities actually displace generation from existing EGUs. Calpine suggested that, over time, new NGCC subject to the NSPS could become affected EGUs under the Clean Power Plan as the NSPS is automatically updated on a periodic basis to reflect improvements in CO₂ emissions performance.¹⁸

Commenters also described the problems associated with disparate treatment of new and existing NGCC units under the Proposed Rule.¹⁹ Calpine focused on the perverse incentives and resulting distortions within competitive electricity markets that would arise if new NGCC facilities are not subject to equivalent requirements.²⁰ The problem ultimately comes down to figuring out how to account for the emissions from new NGCC, while respecting the structure of section 111. If, as suggested by some, the MWh generated by new NGCC were credited towards compliance with a rate-based standard, but the concomitant emissions were not also accounted for in determining the state's compliance with its rate-based goal, then a state could circumvent the emission reduction goals of the Clean Power Plan merely by substituting a large share of its existing generation from existing fossil fuel-fired units with new NGCC. Even if the MWh generated by new NGCC were not credited towards a state's compliance, the same

¹⁶ See 79 Fed. Reg. 34830, 34924 ("request[ing] comment on how emissions changes under a rate-based plan resulting from substitution of generation by new NGCC for generation by affected EGUs should be calculated toward a required emission performance level for affected EGUs. Specifically, considering the legal structure of CAA section 111(d), should the calculation consider only the emission reductions at affected EGUs, or should the calculation also consider the new emissions added by the new NGCC unit, which is not an affected unit under section 111(d)? Should the emissions from a new NGCC included as an enforceable measure in a bass-based state plan (e.g., in a plan using a portfolio approach) also be considered?").

¹⁷ See Duke Energy Comments on Proposed Clean Power Plan, at 10, Docket No. EPA-HQ-OAR-2013-0602-27188 (Dec. 4, 2014) (stating that "[a]lthough new NGCC units are outside the scope of the section 111(d) program, it would be permissible for a state that employs the rate-based approach under section 111(d) to allow the megawatt hours generated by these newly constructed NGCC units to be included in a state's compliance demonstration.").

¹⁸ See Calpine Comments on Proposed Clean Power Plan, at 19-21, Docket No. EPA-HQ-OAR-2013-0602-22799 (Nov. 26, 2014) (recommending an approach whereby the NSPS for stationary combustion turbines would be updated periodically based on standardized data sources and the expectation of continual CO₂ emission rate improvement, so that, upon being updated, stationary combustion turbines subject to the prior version of the NSPS would become affected EGUs under the Clean Power Plan).

¹⁹ See, e.g., Clean Air Task Force Comments on Proposed Clean Power Plan, at 102, Docket No. EPA-HQ-OAR-2013-0602-22612 (Dec. 1, 2014) (stating that, "[t]o maintain the environmental efficacy of the rule, EPA must direct states to account for the CO₂ emissions of new NGCC units as part of state compliance demonstrations... Without this adjustment to building block 3, the CPP may create perverse incentives to build unnecessary new NGCC units.").

²⁰ See Calpine Comments on Proposed Clean Power Plan, at 17, Docket No. EPA-HQ-OAR-2013-0602-22799 (Nov. 26, 2014).

possibility for circumvention exists, particularly for states with rate-based goals lower than the average emissions rate of new NGCC facilities. Further, states electing to translate their rate-based goals to mass-based emission performance levels would also be able to achieve compliance merely by shifting dispatch to new NGCC. In either case, the failure to account for the emissions from new NGCC means that compliance with a state's emission performance goals could be demonstrated on paper, while the carbon intensity and/or total mass of emissions from the state's power sector might remain roughly the same or even increase.

In light of the interconnected nature of the electricity grid and the global nature of CO₂ pollution and its associated harms to the environment, achieving illusory emission reductions from affected EGUs by merely shifting dispatch to new NGCC would be inconsistent with section 111's mandate that the standards of performance issued under sections 111(b) and 111(d) each comprise "the best system of emission *reduction*",²¹ as well as the Act's overarching goal of *reducing* emissions.²² Further, given the extent to which EPA projects states will rely upon new NGCC and the possibility that failing to account for emissions from new NGCC could undermine the goals of the Clean Power Plan, EPA's failure to consider and resolve this problem may be subject to challenge as arbitrary and capricious rulemaking.²³

III. EPA'S AUTHORITY TO REQUIRE STATES TO ADDRESS NEW NGCC IN STATE PLANS

Under the regulatory framework already proposed for the Clean Power Plan, EPA has clear authority to require that, where a state will construct and operate new NGCC as a means to reduce emissions from its existing EGUs, states must account for such emissions in demonstrating compliance with the plan's identified emission performance level. Where a state plan indicates that the state will achieve its goals by retiring or reducing operation of affected EGUs, but fails to account for the emissions from new NGCC facilities built to serve load that would otherwise have been served by the affected EGUs, EPA has clear authority to reject the plan: Given the interconnected nature of the power grid and the global nature of CO₂ pollution, the failure to account for the emissions from such new NGCC facilities could defeat the overall emission reduction goals of section 111 and the Act. Importantly, by forcing states to account for the emissions from new NGCC in this manner, new NGCC facilities would *not* "become" affected EGUs under the Proposed Rule.

Thus, without amending the Proposed Rule in any significant respect, EPA could clarify states' obligations with respect to new NGCC in the preamble to the final rule or in subsequent guidance, just as EPA has issued extensive guidance regarding requirements for approval of SIPs under section 110.²⁴ EPA might also, as a logical outgrowth of the Proposed Rule, add a "backstop" provision to the final rule, which confirms its authority to reject a state plan which, by merely shifting generation from the affected EGUs to new NGCC facilities, would amount to no more than illusory compliance with the Clean Power Plan's goals and would not achieve the intended emission reductions from the power sector as a whole. This requirement would be justified by the need to avoid circumvention of the common emission reduction

²¹ 42 U.S.C. § 7411(a)(1) (emphasis added).

²² See 79 Fed. Reg. 34830, 34886 (stating that "[i]n enacting the CAA, Congress established 'pollution prevention' as a 'primary goal' of the Act and described it as 'the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source.' Building blocks 2, 3, and 4 are pollution prevention measures, and, in light of the importance of pollution prevention in the CAA, it is reasonable to interpret 'system of emission reduction' in section 111 to incorporate those measures."); see also 42 U.S.C. §§ 7401(a)(3), (c).

²³ See *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42-43 (1983) ("Normally, an agency rule would be arbitrary and capricious if the agency has ... entirely failed to consider an important aspect of the problem.").

²⁴ See 42 U.S.C. § 7411(d)(1) (requiring EPA to prescribe regulations establishing "a procedure similar to that provided by section 7410 [i.e., for submission of SIPs for attainment of the NAAQS]...").

purposes of both the NSPS and the Clean Power Plan, i.e., sections 111(b) and 111(d) both require that the standards established pursuant to each of them comprise the “best system of emission reduction”; and, in the context of the interconnected electricity system and a pollutant with global impacts, Congress surely did not mandate that EPA adopt an approach whereby the two sets of standards working alongside one another would achieve no actual emission reductions from the state’s power sector.

While the following discussion focuses on requirements for state plans, the principles illustrated herein apply equally to any federal implementation plan that might be imposed on a state.

A. *Requiring States To Account For New NGCC Is Consistent With Section 111*

EPA must operate “within the bounds of reasonable interpretation” (*City of Arlington, Tex. v. F.C.C.*, 133 S. Ct. 1863, 1868 (2013) (internal citation omitted)) in requiring states to address emissions from new NGCC in their state plans.²⁵ EPA would have strong responses to claims that such a requirement is unreasonable and contrary to the structure of section 111.

First, by not including new NGCC within the category of “affected EGUs” subject to the Proposed Rule, EPA has already afforded distinct treatment to new and existing sources in accordance with section 111. In other words, EPA is not treating new NGCC facilities as existing sources. On the other hand, nothing in section 111 mandates that, in the context of the interconnected electricity grid, EPA must simply ignore the impact that operation of new units subject to section 111(b) will have on states’ ability to achieve the emissions reductions required under section 111(d). Notably, requiring states to account for emissions from new NGCC facilities does not require that new NGCC be included either as part of the BSER under section 111(d) or in the calculation of states’ emission performance goals.

Second, requiring states to account for emissions from new NGCC is necessary to avoid circumvention of the overall emission reduction goals of section 111 and the Act.²⁶ Surely Congress did not intend that, working alongside one another, sections 111(b) and 111(d) could potentially result in an *increase* in total emissions or the overall emissions intensity from new and existing sources, in light of the pollution prevention purposes of the Act.²⁷ Given the relationship of sections 111(b) and 111(d) and the fact that they were both intended to *reduce* emissions, EPA could reasonably decide that state plans submitted under section 111(d) must account for the emissions from new NGCC that will be operated to reduce emissions from the affected EGUs to ensure that the required emission reductions do, in fact, occur.²⁸ Such an interpretation would be entitled to deference as consistent with “the design and structure of the statute as a whole.”²⁹

²⁵ See *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 842–844 (1984) (holding that, if Congress has not directly spoken to the precise question at issue, then a court will defer to EPA’s interpretation of the Act if it is reasonable in light of the text, the structure, and the purpose of the Act).

²⁶ See *Carpenter, Chartered v. Sec. of Veterans Affairs*, 343 F.3d 1347, 1352 (D.C. Cir. 2003) (stating that, “a regulation is reasonably related to the purposes of the legislation to which it relates if the regulation serves to prevent circumvention of the statute and is not inconsistent with the statutory provisions.”).

²⁷ See 42 U.S.C. §§ 7401(a)(3), (c).

²⁸ See *Scialabba v. Cuellar de Osorio*, 134 S. Ct. 2191, 2203 *reh’g denied sub nom. Scialabba v. de Osorio*, 135 S. Ct. 22, 189 L. Ed. 2d 874 (2014) (Kagan, J., plurality op.) (stating where “internal tension” in a statute “makes possible alternative reasonable constructions,” “*Chevron* dictates that a court defer to the agency’s . . . expert judgment about which interpretation fits best with, and makes the most sense of, the statutory scheme.”).

²⁹ See *Util. Air Regulatory Grp. v. E.P.A.*, 134 S. Ct. 2427, 2442 (2014) (internal citation omitted).

Finally, EPA could emphasize that the choice to construct and operate new NGCC to achieve reductions in emissions from affected EGUs is ultimately one to be made by the state and its stakeholders (e.g., utilities, public utility commissions, permitting authorities, integrated energy planning agencies, etc.). Once that choice has been made, however, EPA cannot allow the state to circumvent the overall emission reduction requirements of the Clean Power Plan and the Act by failing to account for the emissions from such new NGCC facilities. As the Proposed Rule relies on the interconnected nature of the power grid to drive emission reductions at affected EGUs, the final rule must also recognize and account for the risk that the interconnected nature of the grid may allow states to rely on new NGCC to achieve illusory compliance with their goals, which could undermine the emission reduction purpose of both the Clean Power Plan and the Act.

B. *EPA Should Reject State Plans That Fail To Account For Emissions From New NGCC Power Plants*

The preamble to the Proposed Rule makes clear that, “[t]he credibility of state plans under CAA section 111(d) will depend in large part on ensuring credible and consistent emission performance projections in state plans.”³⁰ To that end, EPA states that, “*any material component of a state requirement or program included in a state plan that could affect emission performance by affected EGUs should be accurately represented in emission projections included in the state plan.*”³¹ The emission performance of the affected EGUs in a state will undoubtedly be affected by construction and operation of new NGCC facilities. Thus, if a state fails to account for new NGCC in its plan, but the accompanying projections for how it will achieve its goals indicate operation of new NGCC to displace load from the affected EGUs, EPA should find the plan deficient and require the state to resubmit a plan that properly accounts for the impact of new NGCC facilities and their associated emissions. This authority to reject state plans that are deficient in this respect is already implied by the Proposed Rule³² and could be clarified by EPA, either in the preamble to the final rule or in subsequent guidance, along with statements clarifying the obligation of each state to account for emissions from such new NGCC in its emission performance projections.

Additionally, EPA could also add a “backstop” provision to the final rule, which confirms its authority to reject a state plan where, by merely shifting generation from the affected EGUs to new NGCC facilities, without accounting for the emissions from such new NGCC facilities, the plan would amount to no more than illusory compliance with a state’s goals and would not achieve the full scope of required reductions in carbon intensity and/or total CO₂ emissions from the state’s power sector. The justification for such a requirement would be the need to protect against circumvention of the common emission reduction purposes of both the NSPS and the Clean Power Plan.³³ EPA has experience crafting such regulatory backstop provisions to avoid circumvention of underlying statutory emission reduction goals.³⁴

Indeed, elsewhere as part of the Clean Power Plan, EPA has proposed an interpretation of the relationship of sections 111(b) and 111(d), whereby existing sources that are modified or reconstructed—hence, triggering applicability of a section 111(b) standard—must remain subject to obligations under a

³⁰ 79 Fed. Reg. 34830, 34922.

³¹ *Id.* (emphasis added).

³² See, e.g., Proposed Rule §§ 60.5715, 60.5790(b).

³³ See *Carpenter, Chartered v. Sec. of Veterans Affairs*, 343 F.3d at 1352, *supra* note 26 (stating that, “a regulation is reasonably related to the purposes of the legislation to which it relates if the regulation serves to prevent circumvention of the statute and is not inconsistent with the statutory provisions.”).

³⁴ See, e.g., Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals; Final Rule (i.e., Cross-State Air Pollution Rule), 76 Fed. Reg. 48028, 48464, 48477 (promulgating 40 C.F.R. § 97.706(c)(2) and 40 C.F.R. § 97.725, which establish “assurance levels” in response to the court’s decision in *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008), modified on rehearing, *North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008)).

section 111(d) plan “to avoid creating incentives for sources to seek to *avoid their obligations under a CAA section 111(d) plan* by undertaking modifications..., which would *undermine the emission reduction goals of CAA section 111(d)*.”³⁵ EPA should propose a similar justification for including a provision that clarifies its authority to reject a state plan where a state’s failure to account for emissions from new NGCC would undermine the integrity of the emission reductions to be achieved from the overall power sector under section 111(d). Given the system-wide approach to the BSER reflected by the Proposed Rule, EPA should adopt an interpretation of the relationship of sections 111(b) and (d) that gives full and independent effect to each, but assures that they work in tandem to achieve the Act’s overall emission reduction goals and that construction of new NGCC facilities is not utilized by states to avoid their obligations under section 111(d).³⁶ Addition of such a provision in the final rule could be accomplished as a logical outgrowth of the Proposed Rule’s treatment of modified and reconstructed sources and EPA’s solicitation of comment on how to account for the emissions from new NGCC.³⁷

EPA will have adequate information available during its review of state plans to determine whether a plan’s projection for how the state will achieve its goals is, in reality, premised upon construction and operation of new NGCC facilities. In the Technical Support Document entitled “Projecting EGU CO₂ Emission Performance in State Plans”, EPA describes the type of analytical tools states may use to project compliance with their emission performance goals.³⁸ These include national- or utility-scale capacity expansion and dispatch planning models, dispatch simulation models and growth tools, which can be used to “approximate future emissions from existing *and new fossil fuel-fired EGUs* under different assumed growth, retrofit, and load-reduction scenarios.”³⁹ The projections submitted by states using such tools will necessarily indicate the extent to which compliance is premised upon the construction and operation of new NGCC, even if the state should fail to identify new NGCC as an element of its compliance plan. Thus, any non-deficient plan submittal will contain the information EPA needs to determine whether a state has failed to account for the role new NGCC will play in achieving its emission performance goals. Just as EPA has the authority to reject modeling demonstrations submitted under section 110 that fail to account for all emissions impacting a nonattainment area,⁴⁰ EPA should make

³⁵ 79 Fed. Reg. 34830, 34904 (emphasis added).

³⁶ See *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997) (stating that reasonable statutory interpretation must account for both “the specific context in which ... language is used” and “the broader context of the statute as a whole”).

³⁷ See *supra* notes 2, 16; cf., *Environmental Integrity Project v. EPA*, 425 F.3d 992, 996 (D.C. Cir. 2005) (“The logical outgrowth doctrine does not extend to a final rule that finds no roots in the agency’s proposal because something is not a logical outgrowth of nothing...” (internal citations omitted)).

³⁸ See Technical Support Document, Projecting EGU CO₂ Emission Performance in State Plans, at 6-12, Docket No. EPA-HQ-OAR-2013-0602-0462 (Jun. 2014) (hereinafter, Projecting Emission Performance TSD).

³⁹ *Id.* at 11 (emphasis added).

⁴⁰ Section 172(c)(3) of the CAA requires that nonattainment plans “include a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants *in such area*.” 42 U.S.C. § 7502(c)(3) (emphasis added). While the statute limits the inventory requirement to sources located within the identified nonattainment area, for purposes of the modeled attainment demonstration, EPA also requires states to include “large upwind sources just outside the nonattainment area” when performing the required photochemical modeling. See 64 Fed. Reg. 70548, 70551 (Dec. 16, 1999) (describing the modeling requirements for an attainment demonstration in proposing to conditionally approve or, in the alternative, to disapprove Texas’ SIP submittal for Houston/Galveston ozone nonattainment area due to deficiencies in the inventory); see also Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze, at § 2.7.5 (Dec. 2014), available at: http://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf (“Modeling inventories must cover all areas of the modeling domain, which will include areas *outside of a nonattainment area*...” (emphasis added)).

clear its authority to reject state plans that fail to account for the emissions from new NGCC facilities that will be constructed and operated to reduce emissions from affected EGUs. Forcing states to account for the emissions from new NGCC facilities in this fashion does not cause such new NGCC facilities to become “affected EGUs” or “existing sources” under section 111(d), any more than requiring states to model the emissions from large sources located outside a nonattainment area causes them to become nonattainment area sources.⁴¹

C. *The Proposed Rule Provides The Framework For Mandating That States Account For Emissions From New NGCC Operated To Reduce Emissions From Affected EGUs*

EPA has already laid the groundwork in the Proposed Clean Power Plan to *allow* states to account for emissions from new NGCC in their plans. EPA should, however, make clear in the final Clean Power Plan that, if a state will, in fact, construct and operate new NGCC facilities to reduce utilization rates and emissions from the affected EGUs and thereby achieve its emission performance goals, then the state *must* account for the emissions from new NGCC in its state plan to assure the integrity of the reductions achieved through plan implementation.

In the Projecting Emission Performance TSD, EPA instructs that, where a state relies upon a multi-sector emissions budget trading program to achieve its goals, “state plan emission projections would need to evaluate projected CO₂ emissions across all source categories covered by the state or multi-state program... [in order to] project the CO₂ emissions performance of affected EGUs...”⁴² Likewise, where a state is, in fact, going to build and operate new NGCC to reduce emissions from the affected EGUs while still meeting demand for electricity, the state must, of necessity, include new NGCC in its emissions performance projections, so as to assure its emission reduction goal is actually met and that significant emissions from new NGCC do not threaten the integrity of the reductions to be achieved by the plan.

An important and material distinction can be drawn between, on the one hand, entities responsible for energy efficiency (EE), renewable energy (RE) and other forms of zero-carbon generation, whose role in achieving the state’s goals *may* be accounted for by the state plan (e.g., by crediting the MWh generated towards compliance), and, on the other hand, new NGCC that will be constructed and operated to achieve a state’s goals and whose emissions *must* therefore be accounted for in the plan. In the former case, the EE and other zero-carbon resources produce no emissions. While they may add MWh to the denominator for purposes of determining compliance with a rate-based goal, they add nothing to the numerator; nor would they add anything to the total mass emissions that needs to be accounted for to determine compliance with a mass-based target. New NGCC facilities constructed and operated to reduce emissions from affected EGUs, on the other hand, will generate significant emissions that, if not accounted for in the state plan, could completely or partially eliminate any emissions reductions occurring from the affected EGUs. In light of the global nature of harms attributable to CO₂ pollution and the interconnected nature of the electricity grid, the failure to account for such emissions could undermine the Act’s and section 111(d)’s emission reduction goals, rendering the rule arbitrary and capricious.

In addition, unlike EE, RE and other forms of zero-carbon energy that will be relied upon to achieve a state’s goals, new NGCC units are already regulated under section 111. Given the clear interrelationship and interdependency between sections 111(b) and 111(d)—indeed, no standards of performance need be developed under the latter until an NSPS has been completed under the former—EPA could squarely defend an approach that requires states to account for the emissions from new NGCC in determining compliance with their respective goals under section 111(d). Thus, EPA has a clear justification for, on the one hand, *allowing* states to credit emission reductions achieved through zero-carbon generation if they so choose and, on the other hand, *mandating* that states account for new NGCC emissions in state plans.

⁴¹ See *id.*

⁴² Projecting Emission Performance TSD, *supra* note 38, at 37.

At a minimum, therefore, a state plan must demonstrate that new NGCC emissions are accounted for in achieving the state emission performance level.⁴³ While the specific details for how the state must account for emissions from new NGCC should be left to the state's discretion, it must be sufficient to assure that the plan achieves the overall goals of the Act and does not result in illusory compliance, i.e., apparent reductions in emissions from the affected EGUs, but with significant unaccounted emissions from new NGCC facilities. To assure that its plan is not deficient in this respect, states could include the same accounting mechanisms and substantive requirements for new NGCC facilities as for existing sources with equal emissions. For example, in the case where a state is relying upon an emissions allowance or fee-based system to achieve compliance with a rate- or mass-based goal, this could be demonstrated by subjecting both the affected EGUs and new NGCC facilities to the same monitoring requirements and the same obligation to hold allowances or pay the fee.

Notably, EPA has already published illustrative mass-based equivalents that include projected emissions from new NGCC, "in the event that an implementing authority may want to include new sources of generation in its compliance approach."⁴⁴ While this statement suggests that inclusion of new sources of generation and their emissions is at the election of the state, EPA should clarify that, if a state's compliance strategy explicitly or necessarily depends upon the construction and operation of new NGCC to displace load from the affected EGUs and still meet demand, emissions from those new NGCC facilities must be accounted for in demonstrating compliance with any mass-based target. This would avoid the type of market distortions and illusory emission reductions that might arise if, by only accounting for emissions from the affected EGUs and ignoring emissions from new NGCC facilities in a state plan, a state would end up shifting significantly greater demand from its affected EGUs to new NGCC facilities than would otherwise occur if new and existing NGCC units were subject to equivalent requirements. Where EPA issues a federal implementation plan for a state, EPA should make clear that it will avoid such market distortions and circumvention of the Clean Power Plan's goals by simply imposing equivalent requirements on both new and existing units.

IV. CONCLUSION

Although section 111 sets forth mutually exclusive definitions for "new" and "existing" sources, EPA has clear authority under the regulatory framework of the Proposed Rule to mandate that states relying upon new NGCC facilities to reduce operation of the affected EGUs and thereby achieve their goals must account for the emissions from new NGCC facilities in their state plans. If a state plan fails to address new NGCC in this manner, then the state could achieve illusory compliance with its goals, even though the carbon intensity or total CO₂ emissions from the state's power sector would experience no significant decline and might actually increase. Importantly, requiring states to account for their emissions does not cause such facilities to become "affected EGUs" or "existing sources". Nor does it mandate that new NGCC be included either as part of the BSER or in the computation of state goals. Thus, an approach that requires states to address new NGCC in their plans in this fashion would not run afoul of the distinction drawn between new and existing sources by sections 111(b) and (d), but is necessary to avoid circumvention of the overall emission reduction goals of section 111 and the Act.

⁴³ Depending upon the state's existing fleet of affected EGUs and the extent to which it will rely upon new NGCC, the specified CO₂ emission performance *level* appearing in the plan may need to reflect adjustments from EPA's published CO₂ emission performance *goal*, so as to reflect the impact of the new NGCC facilities on the state's rate-based target. The Proposed Rule already implies that such adjustments may need to be made when specifying a plan's emission performance level. See Proposed Rule § 60.5820 (indicating the distinction between EPA's calculated "CO₂ emission performance goal" for a state and the corresponding "emission performance level" specified by the state in its plan). EPA could clarify the need to perform such an adjustment and the mechanics for doing so upon promulgating the final Clean Power Plan or in subsequent guidance.

⁴⁴ 79 Fed. Reg. 67406, 67408.