

**CHAMBER OF COMMERCE
OF THE
UNITED STATES OF AMERICA**

1615 H STREET, NW
WASHINGTON, DC 20062
(202) 463-5310

March 18, 2019

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
Attention Docket ID No. EPA-HQ-OAR-2013-0495
EPA Docket Center, U.S. EPA, Mailcode: 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Review of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, Proposed Rule, Docket ID No. EPA-HQ-OAR-2013-0495; FRL-9987-85-OAR, 83 Fed. Reg. 65424 (Dec. 20, 2018)

Dear Administrator Wheeler:

The Chamber of Commerce of the United States of America (“the Chamber”) appreciates the opportunity to comment on the U.S. Environmental Protection Agency’s (“EPA’s”) proposed amendments to the Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, Proposed Rule, Docket ID No. EPA-HQ-OAR-2013-0495; FRL-9987-85-OAR, 83 Fed. Reg. 65424 (Dec. 20, 2018) (the “Proposal” or “Proposed Rule”).

The Chamber is the world’s largest business federation representing the interests of more than 3 million business of all sizes, sectors, and regions, as well as state and local chambers and industry associations. The Chamber is dedicated to promoting, protecting, and defending

America's free enterprise system. In general, the Chamber supports EPA's Proposal, and urges EPA to move forward promptly to finalize amendments. The Chamber also believes there are aspects of the Proposal that could be improved further, and outlines those in these comments.

INTRODUCTION

The Chamber represents the Nation's leading energy and manufacturing sectors that form the backbone of the Nation's industrial ability to grow our economy and provide jobs in an environmentally sustainable and energy-efficient manner. The Chamber both represents members who generate and who rely on the generation of electricity, and thus has a compelling interest in how EPA may regulate environmental aspects of electricity production.

The Chamber supports EPA's Proposal, which, if finalized, would revise EPA's 2015 rule adopted under Section 111(b) of the Clean Air Act ("CAA") entitled Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64510 (Oct. 23, 2015) ("2015 NSPS"). Among other elements, the Proposal would determine that the best system of emission reduction ("BSER") for newly constructed fossil fuel-fired steam generating units is the most efficient demonstrated steam cycle in combination with best operating practices, instead of partial carbon capture and storage ("CCS"), the 2015 NSPS's BSER for those units. Proposal at 65424. The Proposal would revise the standards of performance for newly constructed fossil fuel-fired steam generating units, the maximally stringent standards for certain large modifications, and the standards of performance for certain reconstructed fossil fuel-fired steam generating units. EPA, Economic Impact Analysis for the Review of Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, Publ'n No. EPA 452/R-18-005 at ES-4 (Dec. 2018).

Given the importance of electricity generation to the Chamber’s members, the Chamber has actively participated in the process for developing new source performance standards (“NSPS”) for greenhouse gas emissions (“GHGs”) from electric utility generating units (“EGUs”) for years. The Chamber commented on EPA’s original 2012 proposal,¹ as well as on its separate 2014 proposals for newly constructed units² and modified and reconstructed units.³ The Chamber also challenged the final 2015 NSPS in the courts.⁴ This Administration has properly chosen to reconsider the approach EPA took in the 2015 NSPS.⁵ During that reconsideration, the D.C. Circuit has held the pending challenges to the CPP in abeyance.⁶

The Chamber urges EPA to move forward expeditiously with the Proposed Rule. The Proposal correctly determines a BSER for newly constructed fossil fuel-fired steam generating units which is “adequately demonstrated,” not excessively costly as Section 111 mandates, and

¹ Nat’l Ass’n of Mfrs. *et al.*, Comments on Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, Proposed Rule, Docket ID No. EPA–HQ–OAR–2011-0660 (June 25, 2012), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2011-0660-9998>.

² Am. Chem. Council *et al.*, Comments on Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units, Proposed Rule, Docket ID No. EPA-HQ-OAR-2013-0495 (May 9, 2014), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0603-0192> (“Associations’ 2014 Comments”).

³ Am. Chem. Council *et al.*, Comments on Carbon Pollution Standards for Modified and Reconstructed Stationary Sources: Electric Utility Generating Units, Docket ID No. EPA-HQ-OAR-2013-0603 (Oct. 16, 2014), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0603-0192> (“Associations’ 2014 Modification/Reconstruction Comments”).

⁴ Petition for Review, *Chamber of Commerce of the United States of America v. EPA*, No. 15-1469 (D.C. Cir. Dec. 18, 2015).

⁵ Executive Order—Promoting Energy Independence and Economic Growth, Exec. Order No. 13783, White House (Mar. 28, 2017), <https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-energy-independence-economic-growth/>.

⁶ Order, *North Dakota v. EPA*, No. 15-1381 (D.C. Cir. Aug. 10, 2017), ECF No. 1688176 (issuing currently applicable decision to hold the pending litigation in abeyance pending further order of the court).

implementable at the source itself. EPA has the authority to revise the existing 2015 NSPS because the Proposal provides a reasoned explanation for the Agency's proposed course of action.

More broadly, the Chamber wishes to clarify that it believes the global climate is changing, and that human activities contribute to those changes. The Chamber also believes that global climate change poses a serious long-term challenge that deserves serious solutions. It also believes that businesses, through technology, innovation, and ingenuity, will offer the best options for reducing greenhouse gas emissions and mitigating the impacts of climate change. Thus, businesses must be part of any productive conversation on how to address climate change.

I. CONSISTENT WITH SECTION 111(B), THE PROPOSED RULE PROPERLY DETERMINES A BEST SYSTEM OF EMISSION REDUCTION FOR NEWLY CONSTRUCTED FOSSIL FUEL-FIRED STEAM GENERATING UNITS WHICH IS ADEQUATELY DEMONSTRATED, NOT DISPROPORTIONATELY COSTLY, AND IMPLEMENTABLE AT THE SOURCE ITSELF.

The Chamber supports EPA's proposal to revise the BSER for newly constructed fossil fuel-fired steam generating units. This proposed BSER properly reflects Section 111's command that EPA base BSER on standards of performance that have "been adequately demonstrated" and takes into account the other factors explicitly listed in Section 111(a)(1), such as cost. 42 U.S.C. § 7411(a)(1). Furthermore, the Proposal recognizes that the CAA requires EPA to base its BSER determination on emissions reduction technologies that can be implemented at a regulated source.

A. EPA Correctly Recognizes that the BSER for Newly Constructed Fossil Fuel-Fired Steam Generating Units Must Be Adequately Demonstrated and Result in a Standard Which Takes Into Account Statutorily-Mandated Factors Such as Cost.

1. Adequately demonstrated technology.

The Chamber supports EPA’s decision to propose that the BSER for newly constructed fossil fuel-fired steam generating units be the most efficient demonstrated steam cycle in combination with best operating practices, instead of the 2015 NSPS’s BSER for these units of efficient new supercritical pulverized coal utility boilers implementing partial CCS.⁷ Proposal at 65424; 2015 NSPS at 64512. Partial CCS did not take into account the factors which Section 111 mandates go into the BSER determination, while the proposed BSER does.

First, Section 111 requires that the BSER be “adequately demonstrated.” 42 U.S.C. § 7411(a)(1). The D.C. Circuit has determined that “[a]n adequately demonstrated system” “has been shown to be reasonably reliable, reasonably efficient, and...[not] exorbitantly costly in an economic or environmental way.” *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973). While EPA “may make a projection based on existing technology,...that projection is subject to the restraints of reasonableness and cannot be based on ‘crystal ball’ inquiry.”

Portland Cement Ass’n v. Ruckelshaus, 486 F.2d 375, 391 (D.C. Cir. 1973) (addressing NSPS for new or modified Portland cement plants), *superseded in part by statute*, 15 U.S.C. § 793(c)(1) (1974), *as recognized in Am. Trucking Ass’ns v. EPA*, 175 F.3d 1027 (D.C. Cir. 1999).

An adequately demonstrated technology is not one which is “purely theoretical or experimental,” *Portland Cement Ass’n*, 486 F.2d at 391 (internal citation omitted), and EPA

⁷ The Chamber also supports EPA’s decision not to amend the current standards of performance for newly constructed or reconstructed stationary combustion turbines (“CTs”), Proposal at 65431. but suggests some subcategorization is appropriate, as detailed in Section I.D.3. below.

cannot base its BSER determination on “mere speculation or conjecture.” *Lignite Energy Council v. EPA*, 198 F.3d 930, 934 (D.C. Cir. 1999). Likewise, the D.C. Circuit has stated that it does not believe that “extrapolating from...pilot scale data to the conclusion that [a technology] is adequately demonstrated for full scale plants throughout the industry” is “justified.” *Sierra Club v. Costle*, 657 F.2d 298, 341 n.157 (D.C. Cir. 1981).

Since the new source performance standards will be “national” ones “with long-term effects,” EPA must consider these factors “on the grand scale.” *Id.* at 330. For instance, a water-intensive technology “might be ‘best’ in the East where water is plentiful, but environmentally disastrous in the water-scarce West where a different technology...might be ‘best.’” *Id.*

The Chamber believes it is clear that partial CCS is not an “adequately demonstrated” technology. As alleged evidence of the technological feasibility of partial CCS as the BSER, the 2015 NSPS focused on a number of projects using different CCS technologies, such as pre- and post-combustion carbon capture. 2015 NSPS at 64549-64554. As noted in the Chamber’s comments on the proposed rule that became the 2015 NSPS, these descriptions were either inaccurate or insufficient to demonstrate that partial CCS is “reasonably reliable,” “reasonably efficient,” and not “theoretical or experimental.” *Essex Chem. Corp.*, 486 F.2d at 433; *Portland Cement Ass’n*, 486 F.2d at 391. For example, the EPA’s analysis for the 2015 NSPS variously relied on projects still in the planning stages or under construction, some of which suffered from large cost overruns; in different industrial operations from EGUs, such as soda ash production; and small-scale pilot projects. Associations’ 2014 Comments at 12-15.

Furthermore, Section 111 standards of performance are the floor for best available control technology (“BACT”) under the CAA’s Prevention of Significant Deterioration (“PSD”) program. *See* 42 U.S.C. § 7479(3) (“In no event shall application of ‘best available control

technology’ result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard of performance established pursuant to Section 7411...of this title.”). Thus, if CCS were to be deemed BSER, it would automatically qualify as BACT. EPA and the States, however, have consistently found that CCS is not viable as BACT in the power sector.

Associations’ 2014 Comments at 16-19.

Furthermore, partial CCS has not become “adequately demonstrated” in the years since the 2015 NSPS. As the Proposal observes, the Boundary Dam project, located in Saskatchewan, “experienced multiple issues with the performance of the capture technology during its first year of operation (2014-15),” the operational Petra Nova project “has not demonstrated the integration of the thermal load of the capture technology into the EGU steam generating unit,” and the Kemper integrated gasification combined cycle’s (“IGCC’s”) cost overruns led to “the company suspending startup and operations activities involving the lignite gasification portion of the energy facility.” Proposal at 65444.⁸ In fact, the CCS portion of the Kemper plant was abandoned, and the plant is being operated as a natural gas-fired combined cycle facility. Proposal at 65447; Kristi Swartz, *Southern Co. Suspends \$7.5B Kemper Plant*, GREENWIRE (June 28, 2017, 5:16 PM), <https://www.eenews.net/stories/1060056757>. Today, more than three and a half years after finalization of the 2015 NSPS, Boundary Dam and Petra Nova remain the only utility-scale power generating facilities in the world using CCS on an operational basis. Moreover, the Boundary Dam project—which the 2015 NSPS referenced more than 40 times in support of its designation of CCS as BSER—has been plagued by construction delays, cost overruns, and major operational disruptions. During Boundary Dam’s first three full years of operation (2016-2018), the plant has failed to come close to meeting its rated capture capacity of

⁸ See EPA Request for Comment C-10, Proposal at 65444.

one million tonnes per year, most recently capturing just 62% of that target in 2018. These operational problems, plus the fact that these facilities received “significant governmental assistance,”⁹ shows that partial CCS is still not an adequately demonstrated control technology for EGUs.

To be clear, the Chamber has long been an outspoken and active advocate for advancing the great promise of CCS technologies, and the challenges faced by these projects have only served to further galvanize that support and interest in securing legislative and policy changes necessary to accelerate its deployment and continued development. Nonetheless, these operational challenges illustrate that predictions and design parameters do not constitute an achievement, and as such do not meet the “adequate demonstration” determination required by the Clean Air Act.

Part of the reason that partial CCS is not adequately demonstrated is due to its limited geographical availability. *See* Proposal at 65441 (“[A]s a practical matter, the issue of whether all new steam-generating EGUs can implement partial CCS depends on the geographic scope of suitable GS [geologic sequestration] sites.”). In the 2015 NSPS, EPA concluded that suitable geologic sequestration sites “were widely available,” based on a number of assumptions, including looking at potential sequestration options within a 62-mile/100 kilometer distance from steam generating plants that EPA then believed were reachable in a cost-effective way via

⁹ Proposal at 65444, 65444 n. 88. Boundary Dam is a project of SaskPower, a power provider owned by the Canadian government through a holding company, the Crown Investments Corporation, while Petra Nova received significant funding from the U.S. Department of Energy. EPA cannot base its “adequately demonstrated” finding on facilities which received financial support under the Energy Policy Act of 2005 because that statute specifically stated that “[n]o use of technology...by or at one or more facilities with respect to which a credit is allowed under this section, shall be considered to indicate that the technology...is...adequately demonstrated for purposes of Section 111 of the Clean Air Act....”. 26 U.S.C. § 48A(g)(1); Associations’ 2014 Comments at 21-24; *see* EPA Requests for Comment C-11 and C-12, Proposal at 65444

pipeline. *Id.* In the Proposal, EPA has correctly acknowledged that “the deployment of partial CCS is site-specific and its application will depend on local market and geologic conditions,” which will result in costs which are “highly variable on a geographic basis.” *Id.* EPA also observed that “there is more uncertainty in the assessment of certain types of formations as compared to others,” when evaluating their ability to sequester carbon. *Id.* at 65442. Likewise, EPA now believes that there are “doubts regarding the feasibility of larger-scale GS in unmineable coal seams at this time,” which reduces the area of geographic sequestration availability by roughly 4 percent. *Id.* All of the above means that “GS may not be as widely geographically available as assumed in the 2015 analysis.” *Id.*

The Chamber concurs with EPA’s assessment about geographic constraints on the current practicable use of partial CCS nationwide. For instance, there are few active enhanced oil recovery wells, and they are clustered in a few geographic areas and subject to various regulatory constraints. Associations’ 2014 Comments at 24-26. Additionally, the availability of geologic storage *capacity* is a very different question than whether that capacity can realistically be used, considering cost, logistical issues, a lack of pipeline infrastructure, and the complex litany of legal, regulatory, and permitting challenges that the projects face. *Id.* at 26-27. These include, among others, regulations under EPA’s underground injection control program, barriers to acquiring the necessary land for sequestration, rights-of-way negotiations surrounding CO₂ pipelines, and a myriad of other issues could dramatically reduce the amount of geologic storage capacity which was *theoretically* available. *Id.* “Theoretical” conclusions based on “pilot projects” do not satisfy the adequately demonstrated technology standard. *Portland Cement Ass’n*, 486 F.2d at 391 (internal citation omitted); *Costle*, 657 F.2d at 341 n.157.

Thus, the continued lack of commercial scale EGU CCS projects - combined with the considerable practical barriers to implementation – demonstrate that partial CCS cannot be considered an “adequately demonstrated” technology under Section 111.

2. Excessive cost.

Section 111(a)(1) also lists a number of factors that EPA must consider in using the BSER to set a standard for a source category. These factors include “the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements.” 42 U.S.C. § 7411(a)(1). The D.C. Circuit has stated that the final standard should not be “exorbitant,” “greater than the industry could bear and survive,” or be “unreasonable.” *Lignite Energy Council*, 198 F.3d at 933; *Portland Cement Ass’n v. Train*, 513 F.2d 506, 508 (D.C. Cir. 1975) (per curiam); *Costle*, 657 F.2d at 383; *see also* Proposal at 65433.

Here, it is clear that partial CCS’s costs are “exorbitant.” *Lignite Energy Council*, 198 F.3d at 933. In the Proposal, EPA correctly revisited certain assumptions from its 2015 rulemaking. These changes included adjusting the projected transmission and storage costs based on the amount of CO₂ captured, accounting for the likelihood that costs/ton would increase substantially at lower levels of capture, the impact of using partial CCS on dispatch order, and others. Proposal at 65437-65438. EPA’s projections now show that, accounting for variable capacity factors and transmission and storage costs, the estimated levelized cost of electricity for a bituminous-fired supercritical pulverized coal unit with partial CCS goes from being 18 percent higher than one without partial CCS to 29 percent higher. *Id.* at 65440.

The Chamber agrees with this analysis, but also adds that several additional factors demonstrate that CCS’s costs currently are prohibitive. The very fact that government grants, loan guarantees, and subsidies have been essential to financing CCS projects to date demonstrates that its costs are “greater than the industry could bear and survive.” Associations’

2014 Comments at 30; *Train*, 513 F.2d at 508. Section 111’s requirement that EPA “tak[e] into account the cost of achieving such reduction” makes clear that the Agency is supposed to evaluate costs, not net costs after accounting for subsidies. Associations’ 2014 Comments at 30. Moreover, the aforementioned cost estimates are unable to account for the significant up front regulatory, permitting, and legal costs and investment risks associated with potential projects. As a recent Congressional Research Service report concludes, “Absent a policy mandate for reducing CO2 emissions, or rewarding CO2 capture and storage or utilization (apart from the 45Q tax incentives enacted in P.L. 115-123), there is broad agreement that costs for CCS would need to decrease before the technologies are commercially deployed across the nation.” *See* <https://fas.org/sgp/crs/misc/R44902.pdf>.

B. EPA’s Adoption of a BSER Which Can Be Implemented at the Source Reflects the Proper Reading of Section 111.

The Chamber supports EPA’s decision to select a BSER which is based on emissions reduction technologies that can be implemented at a regulated source. EPA’s selected BSER, “most efficient demonstrated steam cycle...in combination with the best operating practices” amounts to technology and measures implemented at the source. Proposal at 65424. Likewise, in its BSER analysis, beyond its reconsideration of partial CCS, EPA appropriately evaluates only those other technologies that can be applied at the source itself. *See* Proposal at 65445-65447.

The text of the Act itself compels that interpretation of the BSER determination.¹⁰ EPA has acknowledged this fact in other Section 111 rulemakings. *See, e.g.*, Proposed Rule, Emission

¹⁰ However, even if there were ambiguity as to the scope of EPA’s authority under Section 111(b) to regulate “outside the fence line” of an affected source, EPA’s interpretation of Section 111(b) in the Proposal is appropriate and reasonable as a matter of policy. *See* Am. Chem. Council *et al.*, Comments on Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, Proposed Rule, Docket ID No. EPA-HQ-OAR-2017-0355; FRL-9969-75-OAR,

Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44746, 44752 (Aug. 31, 2018) (“[T]he Agency proposes to return to a reading of section 111(a)(1) (and its constituent term, ‘best system of emission reduction’) as being limited to emission reduction measures that can be applied to or at an individual stationary source.”); Proposed Rule, Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48035, 48039 (Oct. 16, 2017) (same); 2015 NSPS at 64627 (EPA determined that BSER should only consider reductions that the sources themselves could achieve).

A “standard of performance” is “a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction” 42 U.S.C. § 7411(a)(1). Section 111(b) then requires EPA under certain circumstances (as discussed *infra* Section II) to “publish proposed regulations, establishing Federal standards of performance for *new sources*....” 42 U.S.C. § 7411(b)(1)(B) (emphasis added). Section 111(b) also states that EPA cannot “require[] any *new or modified source* to install and operate any particular technological system of continuous emission reduction to comply with any new source standard of performance....” *Id.* (emphasis added). Thus, standards of performance must be source-specific. *See also ASARCO Inc. v. EPA*, 578 F.2d 319, 324, 326 n.24 (D.C. Cir. 1978) (EPA may not “embellish[]” the statutory definition of “stationary source” in Section 111 by “rewrit[ing] the definition of a stationary source.”).

82 Fed. Reg. 48035, at 15-29 (Apr. 26, 2018), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2017-0355-19907> (“Associations’ Repeal Comments”)

There are many other reasons why EPA has correctly focused its BSER determination on technologies implementable at the source.¹¹ For example, this interpretation is consistent with the CAA's structure as a whole. As noted above, *supra* at 6, the PSD program provides that Section 111 standards set the floor for BACT. BACT is clearly a source-specific measure, so Section 111's standards, explicitly linked to BACT by statutory text, must be as well.

This reading is also consistent with fundamental principles of statutory interpretation. Courts are skeptical when agencies claim to discover expansive powers in existing statutes. *See, e.g., Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427, 2444 (2014) (“When an agency claims to discover in a long-extant statute an unheralded power to regulate ‘a significant portion of the American economy,’ ...we typically greet its announcement with a measure of skepticism.”) (internal citations omitted). If Congress intended to assign “a question of deep ‘economic and political significance’ ...to an agency,” Congress would have done so “expressly.” *King v. Burwell*, 135 S.Ct. 2480, 2489 (2015) (internal citation omitted). This is particularly true when a federal agency seeks to displace traditional State regulatory authority, as in the electricity sector. *See, e.g., Am. Bar Ass’n v. FTC*, 430 F.3d 457,471-72 (D.C. Cir. 2005) (internal citations omitted) (“Federal law ‘may not be interpreted to reach’” areas traditionally subject to State regulation “unless the language of the federal law compels the intrusion” with “unmistakably

¹¹ For a thorough discussion of this topic, see Am. Chem. Council et al., Comments on Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, Proposed Rule, Docket ID No. EPA-HQ-OAR-2017- 0355; FRL-9982-89-OAR, 83 Fed. Reg. 44746, at 11-16 (Oct. 31, 2018), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2017-0355-24270>; Associations’ Repeal Comments at 6-15; U.S. Chamber of Commerce *et al.*, Comments on State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units, Advance Notice of Proposed Rulemaking, Docket ID No. EPA-HQ-OAR-2017-0545; FRL-9972-50-OAR, 82 Fed. Reg. 61507, at 4-6 (Feb. 26, 2018), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2017-0545-0199>.

clear...language.”). By contrast, it is common for EPA to regulate emissions from a source under the Clean Air Act. Focusing EPA’s determination of BSER on systems of emission reductions implementable at the source is consistent with these principles.

C. Ultra-Supercritical Steam Generating Units Are Not the BSER Floor.

The Chamber supports the BSER included in the Proposal. As noted above, Section 111 requires a standard of performance to reflect a BSER which is “adequately demonstrated” and to “tak[e] into account the cost of achieving such reduction [in emissions] and any nonair quality health and environmental impact and energy requirements.” 42 U.S.C. § 7411(a)(1). EPA has a great deal of discretion both in how it balances these factors when setting the BSER and in setting standards of performance based on that BSER. *See, e.g., Lignite Energy Council*, 198 F.3d at 933 (“Because section 111 does not set forth the weight that be [sic] should assigned to each of these factors, we have granted the agency a great degree of discretion in balancing them....”); *Nat’l Asphalt Pavement Ass’n v. Train*, 539 F.2d 775, 787-88 (D.C. Cir. 1976) (approving EPA’s use of a number of different sources of data in setting standards); *Essex Chem. Corp.*, 486 F.2d at 436-38 (same).

With only one ultra-supercritical unit operating in the United States, it is entirely reasonable for EPA to find that this particular system is not adequately demonstrated until it is more widely implemented. This is particularly true given the scope, complexity, and cost associated with building a new power plant of this magnitude at this juncture. Indeed, looking at the emissions rate alone cannot capture the full picture of a particular system for producing energy, such as the additional “cost of achieving such reduction” associated with constructing a facility in the United States. 42 U.S.C. § 7411(a)(1). These include, for example, the costs associated with federal, state and local permitting and zoning requirements, environmental

impact review required by National Environmental Policy Act (“NEPA”) compliance, state-level environmental reviews similar to those required by NEPA, Endangered Species Act compliance, Historic Preservation Act compliance, and others. Further, the ultra-supercritical units found outside the United States are inapt comparisons. Large subsidies are commonly provided by European countries to their energy providers. These subsidies provide a clear basis for distinguishing any comparison to projects of the cost, scope and magnitude of an ultra-supercritical unit that is constructed overseas.

D. EPA must make improvements to the proposal to ensure achievability

1. The Periods Utilized to Establish Standards Should Align with the Periods Used to Determine Compliance

EPA must ensure that the proposed emissions standards for new coal-fired EGU’s are achievable. Achievability takes into consideration what is achievable for the entire industry, not just a subset of sources in the category. *Nat’l Lime Ass’n v. EPA*, 627 F.2d 416, 431 (D.C. Cir. 1980). Historically, EPA has ensured achievability, in part, by examining emissions data from a representative set of sources that implement the BSER and set standards of performance that minimize the number of units with exceedances. *See, e.g., Sierra Club v. Costle*, 657 F.2d 298, 377 (D.C. Cir. 1981) (“In order for EPA to demonstrate the achievability of the standard for [a pollutant] it must: (1) identify variable conditions that might contribute to the amount of expected emissions, and (2) establish that the test data relied on by the agency are representative of potential industry-wide performance, given the range of variables that affect the achievability of the standard.”); *see also* Memorandum from EPA’s Office of Air Quality Planning and Standards to Combustion Turbine NSPS Docket (EPA-HQ-OAR-2004-0490) 1-2 (June 2012) (“EPA reviewed a total of approximately 250,000 4-hour averages using CEMS data from 129 stationary

combustion turbines ... the theoretical compliance rate with a 4-hour rolling average including all periods of operation was 99.88% on a lb/MMBtu basis”).

While the Chamber agrees with EPA’s BSER determination, EPA has not provided sufficient record evidence to show that the standards of performance from this BSER determination can be achieved consistent with the Agency’s own compliance demonstration requirements. For example, EPA’s use of annual emissions rates and normalization of a subset of sources in the category as an indicator of achievability is inconsistent with historical practice and EPA’s compliance demonstration requirements. Compliance with section 111(b) GHG standards is measured on a 12-month rolling basis, not an annual average basis. *See* 40 C.F.R. § 60.5540. Among other reasons, the focus on rolling averages for compliance demonstration purposes accounts for variation in performance over that period. Although the proposal correctly notes that averaging emission rates over several years can help address equipment degradation in efficiency and variable operation conditions that lead to swings in emission rates, *See* 83 Fed. Reg. at 65,450, annual averages and rolling averages are not the same and can lead to differing results.

To avoid arbitrary and unachievable performance standards, EPA therefore must examine the impacts of the required compliance demonstration on the determination of the performance standards using actual emissions data from operating units and applying consistent periods for setting the standards and demonstrating compliance.¹²

¹² While a 12-month rolling average is similar to an annual average, EPA still has the obligation to demonstrate how its use of multi-year normalized annual averages coincides with actual emissions data and actual compliance calculations. This is particularly important given the changes in how the existing coal-based EGU fleet operates.

2. Increased Variability of Operations Merits the Use of a 12-Month Rolling Average to Assess Compliance

Furthermore, many coal units are operating in a daily load-following role due to the increase of renewable generation and natural gas generation.¹³ The increase in load-following behavior has resulted in capacity factors and emissions rates with increasing and significant variability. One of the most important factors affecting the emissions performance of an EGU is the ramping up and down of a unit in response to load fluctuations. In general, units achieve lower emissions rates at higher and more constant capacity factors. While many coal-based units were intended to operate as baseload units, with high and steady capacity factors, the dynamics of the generation mix are changing this paradigm. These same dynamics and factors affecting operation and performance would apply equally to new units. The increase in load-following behavior has resulted in capacity factors and emissions rates with increasing and significant variability. By focusing on normalized, multi-year averages, it is not clear that the Agency has properly evaluated how to set an emissions rate standard that addresses this variability.

To assure achievability, EPA should correct the final methodology to evaluate 12-month rolling averages, better account for variability in operating conditions carefully analyze achievability for the category as a whole when it sets the ultimate performance standard.

3. The Unique Design and Technology of Aero-derivative Turbines Merit the Establishment of a New Compliance Subcategory

The Proposal also solicits comments on aero-derivative turbines while expressly not seeking to reopen the standards promulgated with respect to combustion turbines in the 2015

¹³ See DOE, National Energy Technology Lab, *Impact of Load Following on the Economics of Existing Coal-Fired Power Plant Operations*, DOE/NETL-2015/1718 (June 3, 2015) https://www.netl.doe.gov/energyanalyses/temp/ImpactofLoadFollowingontheEconomicsofExistingCoal-FiredPowerPlantOperations_060315.pdf.

NSPS. Proposal at 65,460. Given the increased use of these types of turbines as an essential component of the evolving electricity generation mix, the Chamber agrees that the establishment in a separate action of a new subcategory for aeroderivative units would be prudent.

At present, aeroderivative turbines are regulated with all stationary turbines under Subpart TTTT. The limits established under this subpart were not designed with aeroderivative turbines in mind, however. The quick-ramping capabilities provided by these units have enabled them to play a growing and often essential role in integrating an influx of new renewable technologies. Subpart TTTT applies a heat input standard to aeroderivative turbines that unfortunately acts to “cap” the output at these highly-efficient and increasingly necessary generation balancing resources. Thus, a narrow rulemaking should be undertaken to recognize the unique design and technology of aeroderivative turbines so that these units may continue to play an increasingly important, efficient, and environmentally supportive role in effectively and reliably integrating variable energy resources into the nation’s electric grid.

II. IN GENERAL, THE CLEAN AIR ACT REQUIRES A SEPARATE SIGNIFICANT CONTRIBUTION AND ENDANGERMENT DETERMINATION FOR EACH POLLUTANT EMITTED FROM EACH REGULATED SOURCE CATEGORY.

EPA has asked for comment on whether, in the Clean Air Act, Congress has constrained EPA’s legal authority to regulate under Section 111 of the Act. Specifically, EPA has asked if the Act directs EPA first to evaluate whether emissions of a specific pollutant emitted from a particular source category cause, or contribute significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare before EPA can step in and regulate that source category’s emissions of that specific pollutant under Section 111. Proposal at 65432 n.25. The Chamber submits that EPA must make that separate finding. Indeed, Congress has soundly included certain restrictions on the authority of an administrative agency,

in this case EPA, and the agency must follow them. Moreover, solely for purposes of this rulemaking, the Chamber believes the data in the present record is sufficient to allow EPA to conduct the analysis necessary to correct its prior procedural error and make the appropriate findings for EGUs. Any future NSPS rule for other pollutants and other source categories, however, would require separate findings.

In its 2015 NSPS, EPA argued that it “interprets the statute to require an endangerment finding to be made at the time the EPA lists the source category and to broadly concern emissions from the source category, and not to concern emissions of any particular pollutant that may be made subject to a...standard for a source category that has already been listed.” Proposal at 65432. EPA then explained that since Section 111(b) does not dictate what pollutants the Agency must regulate after listing a source category, “EPA may exercise its discretion to regulate particular pollutants as long as the EPA provides a rational basis for doing so.” *Id.* EPA argued that it had a rational basis for regulating GHG emissions from fossil fuel-fired EGUs and, that even if it were required to issue an endangerment finding, the rationale for its regulation would so qualify. *Id.*¹⁴ In this rulemaking, EPA “is proposing to retain the statutory interpretations and record determinations” regarding the endangerment finding issue. *Id.* at 65432 n.25. However, EPA then requested comment on a number of related topics, including the accuracy of these past statements generally, whether EPA must only make an endangerment finding once per source category or must make it for each pollutant for a listed source category,

¹⁴ Although EPA does not reference it in this Proposal, the Chamber understands EPA to still be relying, at least in part, on its 2009 endangerment finding under Section 202(a)(1) of the Act, 42 U.S.C. § 7521(a)(1), and its 2016 endangerment finding under Section 231(a)(2)(A) of the Act, 42 U.S.C. § 7571(a)(2)(A). *See, e.g.*, 83 Fed. Reg. at 44748-44749.

and whether GHG emissions are different from other pollutants such that it is appropriate to conduct a new endangerment finding for GHGs for a previously listed source category. *Id.*

The Chamber's position is straightforward: as argued previously to the Agency, before promulgating an NSPS, in general, the text of Section 111(b)(1)(A) requires EPA to make an endangerment determination that is both pollutant-specific and demonstrates that the source category contributes significantly to the air pollution at issue in the regulation.¹⁵ In other words, before issuing an NSPS, in general, EPA must separately find that emissions from the regulated source category "cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. §7411(b)(1)(A). Hence, by the plain terms of Section 111(b), EPA cannot rely on findings related to GHG emissions under other CAA provisions, such as the finding made for mobile sources in Title II of the Act, because Title II does not require a "significant contribution" from the source category, as required by Section 111(b). *See* 42 U.S.C. § 7521(a)(1) (for mobile sources, requiring regulated sources to "cause, or contribute to, air pollution..."); 42 U.S.C. § 7571(a)(2)(A) (for aircraft engines, same). Rather, EPA must stay within its delegated authority and follow the procedures outlined in Section 111(b) before regulating any pollutant, including GHGs.

Thus, EPA's position that all Section 111(b) requires for the Agency to regulate is a "rational basis" to do so is clearly erroneous. Proposal at 65432. Section 111(b)(1)(a) is unambiguous with regard to the requirement for an endangerment finding and leaves no statutory gap for EPA's interpretation to fill. Second, the EPA's rational basis test would not be entitled to deference under *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984),

¹⁵ *See* Associations' 2014 Comments at 9-11 and Associations' 2014 Modification/Reconstruction Comments at 2-8.

even if the statute were ambiguous. This approach disregards the statute’s “significance” requirement and replaces it with a less stringent standard based on subjective references to health and welfare impacts and the amount of a source category’s contribution. An interpretation that deviates from the statutory requirements and lacks any substantive guiding principle lacks reasonableness and cannot be afforded *Chevron* deference.

III. EPA HAS THE AUTHORITY TO REVISE ITS EXISTING REGULATIONS.

It is EPA’s prerogative to revisit the 2015 NSPS. In so doing, all the Agency must provide is a “reasoned explanation” for its changed course of action. *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009); *see also Nat’l Cable & Telecommunications Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005) (“For if the agency adequately explains the reasons for a reversal of policy, ‘change is not invalidating....’”) (internal citations omitted); *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 56 (1983) (“While the agency is entitled to change its view..., it is obligated to explain its reasons for doing so.”). In fact, “[a]gencies obviously have broad discretion to reconsider a regulation at any time,” as long as they comply with the Administrative Procedure Act. *Clean Air Council v. Pruitt*, 862 F.3d 1, 8 (D.C. Cir. 2017). The Court has acknowledged that changes in presidential administrations can result in changes in agency statutory interpretation. *Brand X Internet Servs.*, 545 U.S. at 981.

The reasoned explanation standard “ordinarily demand[s] that...[an agency] display awareness that it is changing position” and not disregard existing regulations while “still on the books.” *Fox Television Stations*, 556 U.S. at 515 (emphasis omitted). Agencies must also “show that there are good reasons for the new policy.” *Id.* But, there is no requirement “that every agency action representing a policy change must be justified by reasons more substantial than

those required to adopt a policy in the first instance.” *Id.* at 514. Indeed, an agency need not show that from any one stakeholder’s point of view that “the reasons for the new policy are better than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency believes it to be better....” *Id.* at 515. This dynamic is particularly appropriate in cases where a policy is not longstanding and has not led to serious reliance interests. *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2126 (2016).

Here, EPA has reevaluated the stated underpinnings of its prior decision that partial CCS should comprise part of the BSER for newly constructed fossil fuel-fired electric utility steam generating facilities. EPA’s analysis is extensive, Proposal at 65435-65448, and the Agency has correctly found its previous conclusions to be unjustified by the facts on the ground. Likewise, EPA has properly reevaluated its prior standards for newly constructed, modified, and reconstructed fossil fuel-fired electric utility steam generating units and revised them, again based on a detailed analysis. Proposal at 65449- 65452. EPA has acknowledged it is revising certain BSER determinations and standards of performance in this rulemaking and has provided a verifiable factual underpinning for its revised proposal. That is all that is required for the Agency to revisit a preexisting rule. *Fox Television Stations*, 556 U.S. at 515.

CONCLUSION

For all these reasons, EPA should finalize the Proposal, with the improvements described above.

Respectfully submitted,

Chamber of Commerce of the United States of America