**NRECA New Unit CO2 New Source Performance Standards (NSPS) Comments**

 **Summary and Comment Overview**

Summary of key issues addressed in NRECA Comments

* NRECA supports the proposal to limit the applicability of the proposed new source performance standard (NSPS) for natural gas electric generating unit (EGU) combustion turbines to only units supplying more than 1/3 of potential electric output and more than 219,000 MWh net annual electric output to the grid.
* The proposed natural gas NSPS can only be met by units having thermal efficiencies associated with natural gas combined cycle (NGCC) combustion turbines. Simple cycle combustion turbines (CTs) cannot possibly meet the proposed standards. Since the simple cycle CTs are dispatched to maintain grid reliability and can require operation exceeding the 219,000 MWh annual cut-off, simple cycle CTs should be exempt from this rulemaking.
* The proposed NSPS for coal-fired EGUs requiring carbon capture is not supported by the existing state of carbon capture technology as applied to EGUs, and EPA does not have the discretionary authority to impose it.
* EPA should make its intent clear in the actual proposed rule, as indicated in the preamble, not to apply the proposed NSPS to modified units.
* Lastly, EPA has apparently considered and rejected the only rational and legally permissible option at this time for a coal-fired EGU CO2 NSPS, which centers on optimized reasonable heat rate efficiencies. We encourage EPA to rethink its rejection of this approach if it insists on promulgating CO2 NSPS for coal-fired EGUs at this time.

Overview of comments

The proposal would require coal-fired EGUs to meet a CO2 limit of 1100 lb/MWh. This represents approximately a 50 percent reduction from what can be achieved utilizing the most effective technology available that does not incorporate a carbon capture and sequestration or storage (CCS) system. The proposal “appears” to be based on the premise that the technology to capture CO2 and store or sequester it either by the process of “enhanced oil recovery” (EOR) or by deep well sequestration is “adequately demonstrated” as a best system of emission reduction (BSER). We state “appears” because it is unclear whether EPA is including carbon sequestration or EOR as part of the system that defines BSER, or whether BSER is defined by just carbon capture

EPA is without a factual or rational basis to reasonably conclude that carbon capture meets the NSPS statutory requirements of adequately demonstrated technology. Ignoring the myriad of questions and uncertainties surrounding the practical availability and reliability of carbon capture, the costs associated with carbon capture at this stage of scale up to commercial demonstration are enormous. Thus, this proposal all but guarantees that natural gas would be the only practical option available for future baseload generation.

 **A. The proposal portends a risky and imprudent national energy policy.**

It is noteworthy that concerns over natural gas availability prompted the U.S. Congress to enact the 1978 Power Plant and Industrial Fuel Use Act[[1]](#footnote-1) that required all new electric generating facilities to be “coal capable.” Due to the capital cost differentials between facilities constructed to be coal capable compared to those designed solely for natural gas use, and the significantly higher fuel costs associated with using natural gas as compared to coal at that time, the Fuel Use Act essentially prohibited new EGUs from using natural gas as the primary fuel. The Act was repealed in 1987, but during the time the Fuel Use Act was in effect, electric cooperative generation needs grew substantially. As a consequence about 60 percent of cooperative total baseload electric generation was constructed during the Fuel Use Act and is coal-based.

EPA’s supposition in this proposed rulemaking is that the affordability of natural gas for baseload generation will continue, making it the generation of choice for the foreseeable future, thus virtually eliminating any need for future coal-fired generation. Of course requiring new coal-fired EGUs to be equipped with extremely costly and unproven carbon capture technologies, as this proposal does, will all but guarantee none will be built. Additionally, with nuclear power generation facing geographical and other policy constraining issues, natural gas would be the sole fuel for practically all new baseload generation as EPA would have it under this proposal. This “all your eggs in one basket” approach is a high-risk, low-reward approach. Even if EPA had the regulatory discretion to promulgate an NSPS that virtually mandates a one fuel national energy policy for electric generation, and we believe it does not, it should refrain from doing so for the sake of common sense and rational decision-making.

 **B. The price and availability of natural gas are too speculative to make it the only practical choice for new baseload generation.**

Historically, natural gas prices have varied widely, making its reliance as the sole fuel to provide affordable future baseload electric generation risky and policies encouraging exclusive natural gas reliance dubious. The risk of overreliance on natural gas is significantly enhanced because the cost of electricity generated by natural gas is principally driven by the cost of the fuel itself. And costs can vary significantly and unpredictably. We question EPA’s rationality to propose a rule that banks on one fossil-fuel, natural gas, to supply all future baseload electricity generation, especially considering the price and availability uncertainties.

In addition, onsite natural gas storage capacity at electric generation sites is limited at best and nonexistent at most sites. As we have recently witnessed, hurricanes and other inclement weather including prolonged cold snaps, as observed this past winter, can significantly affect natural gas price and availability.

Aside from cost, natural gas must be available in quantities necessary to provide year-round baseload generation. In many rural areas where electric cooperative baseload facilities are located, natural gas supplies are either significantly limited or not available at all. There are vast rural areas served by rural electric cooperatives where natural gas supply via pipeline is literally hundreds of miles away from where additional electric generation may be required. Even where pipelines are available the availability of firm gas supplies at a reasonable price are ongoing uncertainties.

Uncertainties about natural gas supply and price set natural gas generation apart from coal generation where electricity costs are driven by capital outlays, not by uncertain fuel costs or availability. For these reasons, national policies that effectively negate or even significantly diminish coal as a fuel choice for baseload electric generation place both electric reliability and affordability in jeopardy.

 **C. Natural gas pipeline infrastructure may not be sufficient to transport natural gas needed for electric generation**.

Considering the importance this proposal places on of the need for natural gas availability, and based on this rulemaking’s record, EPA has apparently spent little effort actually examining the Nation’s natural gas transportation capabilities to electric generating facilities that must be strategically located to support electric grid reliability. EPA appears to base availability assumptions on available natural gas reserves coupled with recent low prices. While natural gas may be available at gas transmission hubs, its availability on needed generation sites is fundamental in determining whether it is rational to promulgate a rule that leaves natural gas as the only practical choice for future fossil-fuel baseload generation.

EPA has either ignored these natural gas availability and pricing questions or has failed to realize that any reasonable evaluation of this proposed rule must include them. At either rate EPA’s failure to include a reasoned analysis here is yet another deficiency that makes this proposal arbitrary and capricious.

 **D. EPA’s conclusion that coal cannot compete with natural gas for new electric generation is based on an arbitrary set of presumptions.**

This proposal virtually ensures that new coal-based generation cannot be built by proposing a coal-based NSPS that would make new coal-based EGUs prohibitively expensive. EPA’s justification for this is twofold: (1) that at present new coal without carbon capture cannot compete with new natural gas EGUs on a cost basis; and, (2) that EPA can require an NSPS so long as cost can be accommodated by industry and passed on the consumer.

NRECA had J.E. Cichanowicz evaluate the proposal’s conclusion that new coal-fired supercritical pulverized coal (SCPC) units cannot compete with new baseload natural gas combined cycle (NGCC) units on a levelized cost of electricity (LCOE) $/MWh basis. By using a different set of assumptions for capital, financing, and fuel costs, all well within the margin of errors and variability contained in the studies of which EPA relies, Cichanowicz concludes that the LCOE for new SCPC (without carbon capture) can be comparable, indeed virtually equal to that of new NGCC.

 **E. EPA cannot justify proposing carbon capture as a BSER for coal-fired NSPS based technically on DOE funded demonstration projects and is legally prevented from doing so.**

* **EPA has provided no technical justification for relying on DOE funded demonstration projects to conclude that carbon capture is adequately demonstrated as is a BSER.**

Although withdrawn with the publication of the current CO2 NSPS proposal on January 2014, the April 2012 NSPS proposal embraced a technology development pathway for carbon capture and storage (CCS). The proposal’s intent was to bring carbon capture to full adequately demonstrated technology by following policies and positions adopted by EPA and the entire administration several years earlier. In the first proposal, EPA found CCS “technically feasible” but declined to require it as BSER on new coal-fired EGUs on the date of the proposal because the costs were “presently high,” among other reasons.

The findings and conclusions in the administration’s August 2010 Report of the Interagency Task Force (Task Force) on Carbon Capture and Storage were critical to EPA’s earlier position in the first CO2 NSPS proposal not to propose carbon capture as BSER.

In the twenty-one months that have elapsed between the EPA’s initial April 2012 CO2 NSPS proposal and the current one, EPA has “short circuited” the technology pathway both the administration’s Task Force and EPA initially embraced. EPA concludes now that carbon capture is adequately demonstrated as BSER without any rational explanation.

* **EPA exclusively relies on three DOE clean coal technology funded demonstration projects to conclude unlawfully that carbon capture is adequately demonstrated and is BSER.**

As EPA identifies in a technical support document (TSD) that accompanies this proposal, several sections of the 2005 Energy Policy Act (42§§ USC 15962(i), 13573(e) and 13574(d)) prohibit technology or the achievement of emission reductions gained from projects funded under DOE’s Clean Coal Technology Demonstration Programs from being the **sole** reason such technology or achievement of emissions is considered adequately demonstrated as BSER under CAA Section 111 NSPS.[[2]](#footnote-2) EPA identifies three IGCC planned demonstration projects with partial carbon capture as evidence that partial carbon capture is BSER to achieve the proposed coal-fired EGU NSPS limit of 1100 lbs CO2/MWh. The three IGCC projects identified by EPA all received DOE funding.

In the TSD, EPA goes to notable lengths to explain away what it simply cannot. The three DOE funded projects provide the **only** basis from which EPA concludes carbon capture is adequately demonstrated at a reasonable cost.[[3]](#footnote-3)

EPA’s sole reliance on these projects is fundamental to its conclusion on BSER, and this reliance is irrefutable.

 Although we think EPA’s conclusion that carbon capture is BSER is not supported by the rulemaking docket and is otherwise arbitrary, EPA’s **sole** rationale for concluding such is based on exclusive reliance on information gleaned from projects that EPA is prevented from considering.

  **F**. **Simple Cycle Combustion Turbines (CTs) should not be regulated under this proposal.**

The proposal regulates all natural gas CTs constructed for the purpose of supplying one-third or more potential electric output and more than 219,000 MWh net electric output to the electric grid. Under this inclusion, both NGCC CTs and simple cycle CTs are regulated under this proposal even though, as acknowledged in this proposal, simple cycle CTs cannot possible meet the proposed standard. Thus their use must be restricted to one-third or less potential output. EPA appears to believe that excluding simple cycle CTs from this rulemaking, as it did in the proposal now withdrawn, creates opportunities to evade the standard and would lead to an increase of greenhouse gas emissions, especially CO2. At the same time, however, EPA requests comment as to whether simple cycle CTs should be explicitly excluded from this rulemaking. Contrary to the rulemaking’s assumptions that appear to lead to the proposed limit of simple cycle CTs’ operation, that is, curtailing utilization, simple cycle CTs can serve vital functions in today’s grid, functions that can ensure reliability and minimize GHG emissions that this proposal prohibits. For these reasons we urge EPA to withdraw the proposed regulation’s applicability to simple cycle CTs that would impose needless artificial constraints on simple cycle CT operation.

1. Pub. L. 85-620; 42 U.S.C. §8300 et seq. (repealed 1987). [↑](#footnote-ref-1)
2. Effect of EPA05 on BSER for New Fossil Fuel-fired Boilers and IGCCs, Docket EPA-HQ-OAR-2013-0495. [↑](#footnote-ref-2)
3. As detailed later in these comments, even if it were permissible to use technology to be tested in these three projects in effort to conclude that carbon capture is BSER, we believe such a conclusion is not rationally supportable. [↑](#footnote-ref-3)