



February 26, 2018

EPA Docket Center
U.S. EPA
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Attn: Docket No. ID EPA–HQ–OAR–2017–0545

Re: Advanced Notice of Proposed Rulemaking on State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units (December 18, 2017)

The Institute of Clean Air Companies (ICAC) appreciates the opportunity to offer comments in response to EPA’s Advanced Notice of Proposed Rulemaking on State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units: Docket No. ID EPA–HQ–OAR–2017–0545. (ANPRM).

ICAC is the national trade association of companies that supply air pollution control and monitoring systems, equipment and, services for stationary sources. For nearly 60 years, ICAC member companies have helped to clean the air by developing and installing reliable, cost effective control and monitoring systems. We believe that improved air quality and industrial growth best occur when achievable cost-effective policies are paired with innovative technologies.

Our comments will focus on two areas. The first area is on the issue of NSR as it relates to heat rate improvements at existing sources. We believe that further clarification of the application of NSR to heat rate improvements at existing sources in the context of a 111(d) is a necessary element of any final or proposed rule with the goal of efficiency improvements coupled with equivalent or reduced emissions.

The second area that we are happy to provide comments on is the use of carbon capture, utilization and storage (CCUS). ICAC believes that fossil fuels will continue to play a role in our energy mix and carbon management is key to an environmentally sustainable future for coal, oil and natural gas used in power generation and industrial applications. Attached you will find ICAC’s Carbon Emissions Management Division issue brief on CCUS submitted to EPA in August 2017.

Again, ICAC appreciates the opportunity to offer comments on the ANPRM.

Sincerely,

Clare Schulzki
ICAC Executive Director

I. Background

The Institute of Clean Air Companies (ICAC) provides the following specific comments in response to EPA's Advanced Notice of Proposed Rulemaking on State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units: Docket No. ID EPA-HQ-OAR-2017-0545 (ANPRM). ICAC appreciates the opportunity to comment and looks forward to working with EPA to improve air quality and grow our economy.

In the ANPRM, EPA specifically asked for comment on “the interaction of a potential new existing source regulation with New Source Review Program.”¹ In addition, EPA asked for comment regarding an approach to setting the Best System of Emission Reduction (BSER) “that can be implemented at the level of an affected source, including aspects related to efficiency (heat rate improvement technologies and practices as well as other systems of emission reductions.”²

Our comments focus on the issue of NSR as it relates to heat rate improvements at existing sources and suggest that further clarification of the application of NSR to heat rate improvements at existing sources in the context of a 111(d) is a necessary element of any final or proposed rule. To date, our data and information suggests that this lack of clarity has impeded the ability to make meaningful heat rate improvements at existing facilities. If such heat rate improvements are to be required under section 111(d), it will be necessary to see that NSR does not continue to act as an impediment to such activities that actually reduce emissions.

II. New Source Review: An Impediment to Potential Efficiency Improvements?

In the past, ICAC has commented that the NSR program's impact on potential efficiency improvement should be further examined. See ICAC comments regarding the proposed EPA Clean Power Plan dated December 1, 2014 as an attachment. ICAC believes that further clarification of the NSR program in the context of heat rate improvements may be useful and could lead to efficiency improvements coupled with equivalent or reduced emissions.

NSR is a preconstruction permitting program requiring major stationary sources of air pollution to obtain permits prior to the start of construction. ICAC examined the NSR program in light of EPA's consideration of the extent to which affected EGU's could implement heat rate improvements. In order to trigger NSR, an existing source would have to implement a “Major Modification”. A “Major Modification” is any physical or operational change of an existing major source that would result in a significant net emissions increase of any pollutant subject to regulation under the Clean Air Act (CAA). In most cases, a major modification must cause two emission increases; a significant emission increase and a significant net increase. A physical/operational change excludes routine maintenance, repair and replacement (RMR&R).

NSR court cases have been inconsistent in defining “routine maintenance”, however, some of EPA's NSR Notices of Violation (NOVs) have identified items such as economizer replacement, steam turbine upgrades, feedwater heater replacements and other activities as “non-routine” maintenance. Some court case decisions have agreed with EPA on the “non-routine” activities, however some court case decisions have not agreed with EPA's “non-routine” activities. It should be pointed out that some of these modifications could be necessary to improve a plant's heat rate.

¹ EPA: “State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units” 82 Fed. Reg. 61507, 61518, (December 21, 2017).

² 82 Fed.Reg. 61510 (Dec. 21, 2017)

Block Andrews of Burns & McDonnell has compiled a summary of historical NSR violations and then compared this list with the heat rate improvements as presented in the Sargent & Lundy NETL reports used by EPA to examine this issue in the context of the Clean Power Plan. This summary clearly shows that clarification could be provided to give EGUs certainty before committing to heat rate upgrades.

Activity	Assumed Heat Rate Improvement		NSR NOV Project Identified by EPA*	Potential Non-NSR Heat Rate Improvement	
	S&L (Btu/kWh)	NETL (percent)		S&L (Btu/kWh)	NETL (percent)
Economizer Replacement	50 - 100	2.1	Yes	0	0
Neural Network	50 - 100	0.2 - 2.0	No	50 - 100	0.2 - 2.0
Intelligent Sootblowers	30 - 90	0.1 - 0.65	No	30 - 90	0.1 - 0.65
Air Heater/Duct Leakage	10 - 40	0.16 - 1.5	Yes	0	0
Lower Acid Dewpoint (Trona)	50 - 120	Not listed	No	50 - 120	Not listed
Steam Turbine Upgrades	100 - 300	0.84 - 2.6	Yes	0	0
Clean Condenser	30 - 70	0.7 - 2.4	No	30 - 70	0.7 - 2.4
Boiler Feed Pump	25 - 50	Not listed	No	25 - 50	Not listed
Fan replacement/VFD	30 - 150	Not listed	No	30 - 150	Not listed
Misc. AQCS upgrades	0 - 65	Not listed	Yes	0	Not listed
Cooling Tower	0 - 70	0.2 - 1.0	No	0 - 70	0.2 - 1.0
Other	0 - 20	Not listed	No	0 - 20	Not listed
Ash Removal System	Not listed	0.1	No	Not listed	0.1
Combustion system optimization	Not listed	0.15 - 0.84	No	Not listed	0.15 - 0.84
Feedwater heaters	Not listed	0.2 - 2	Yes	Not listed	0
Flue Gas Moisture Recovery	Not listed	0.3 - 0.65	No	Not listed	0.3 - 0.65
Coal Drying	Not listed	0.1 - 1.7	No	Not listed	0.1 - 1.7
Reduce slagging	Not listed	0.4	No	Not listed	0.4
Steam Leaks	Not listed	1.1	No	Not listed	1.1
Total	375 - 1,175	6.95 - 20.54		215 - 670	3.55 - 12.84

*Some additional activities not specifically flagged in this column to trigger NSR could still trigger NSR. For example, for steam leaks that are significant enough that require significant replacement of parts could trigger NSR.

Whether these heat rate modifications can be implemented without triggering NSR is as important as the practical engineering or economic concerns. Both owners of EGUs and regulators should be able to know with certainty whether a specific change will trigger NSR.

Additionally, NSR is triggered on a tons/year basis. So, a facility could have a reduction in pounds/hour of a pollutant but operate the unit more, resulting in a ton(s)/year increase. There could be some credit given to the pounds/hour decrease of a pollutant, whether as an exemption from NSR or some other means, such as putting pollution control projects in a special category. Another odd result of the NSR actual- to future- projected actuals is that there is an incentive to operate units at higher capacity factors prior to the physical or operational change in order to give the unit a higher baseline emissions level. This “use it or lose it” mentality needs reexamination.

In the past, EPA itself has acknowledged problems associated with NSR, stating that:

“As applied to existing power plants and refineries, EPA concludes that the NSR program has impeded or resulted in the cancellation of projects which would maintain and improve reliability, efficiency and safety of existing energy capacity. Such discouragement results in lost capacity, as well as lost opportunities to improve energy efficiency and reduce air pollution.”³

Increased use of an efficient unit will result in decreased use of less efficient units. Hence, current NSR rules could result in higher national emissions and continued degradation of efficiency within the existing coal fleet. Of course, a power plant owner could accept the additional requirements that come with NSR and make the efficiency improvement, but as stated by EPA:

³ U.S. Environmental Protection Agency, New Source Review: Report to the President, June 2002.

“The costs associated with NSR, particularly the costs to retrofit pollution controls, can render these projects uneconomical. Thus, the EPA finds that NSR discourages some types of energy efficiency improvements when the benefit to the company of performing such improvements is outweighed by the costs to retrofit pollution controls or to take measures necessary to avoid a significant net emissions increase.”⁴

In summary, EPA’s application of NSR rules may have presented a significant regulatory barrier to projects at existing sources that would otherwise be undertaken to improve availability and efficiency. The National Coal Council has recommended that the Department of Energy work with EPA to revise NSR regulations to make clear that power plant operators can undertake routine reliability, efficiency and safety improvement projects without subjecting these plants to NSR requirements, so long as there is no increase in emissions.⁵ A more reasonable application of even the existing program would allow such projects to proceed consistent with the best interest of the U.S., encouraging the development and deployment of new technologies that can prospectively improve regional manufacturing and labor economics, as well as electricity efficiency, availability and reliability. This will be even more strongly the case if heat rate improvements are required as part of a section 111(d) emission guidelines program.

It is also worth noting that with the low price of natural gas, coal units are retiring at unprecedented rates and the economics of maintaining and upgrading coal fired power plants are very different than they were in the past. Capturing low-hanging efficiency upgrades is a critical element of emissions reductions and should not be ignored just because a facility cannot currently economically justify the significant capital investment of an entire suite of environmental upgrades to ensure a facility is truly compliant with all NSR requirements. There are certainly issues that have been raised about unit aggregation in the NSR context and we believe it may be appropriate to consider the merits of these issues as EPA looks at NSR with an eye toward current market contexts.

The adoption of renewable energy will continue to be a large part of the power infrastructure investments for the foreseeable future. However, on the path to a power grid largely supported by renewable energy, the existing utility coal-fired fleet will continue to be necessary for the immediate future to sustain a reliable electric grid. So, it is imperative that we ensure their use is as sustainable, clean, and efficient as possible. Many of the current coal-fired boilers can be made to lower greenhouse gases, reduce coal consumption/improve heat rate, and lower overall energy costs if the current NSR standards are revised to allow investments in these much-needed upgrades. These investments will also mean job opportunities for the technology companies that maintain these boilers.

ICAC believes that the NSR program continues to pose significant uncertainty regarding efficiency improvements and that further examination of this issue could be fruitful, so long as it also leads to long-term improvements in air quality.

⁴ Ibid.

⁵ National Coal Council, Reliable & Resilient - The Value of Our Existing Coal Fleet: An Assessment of Measures to Improve Reliability & Efficiency While Reducing Emissions, May, 2014