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EPA'S PROPOSED NEW SOURCE CLEAN AIR ACT STANDARDS AND CARBON CAPTURE AND STORAGE TECHNOLOGY

CAN THE COURTS FIND THE TECHNOLOGY HAS BEEN "ADEQUATELY DEMONSTRATED" UNDER THE CAA AND/OR IN COMPLIANCE WITH THE ENERGY POLICY ACT?

On April 13, 2012, the Environmental Protection Agency ("EPA") proposed a new source performance standard ("NSPS") pursuant to Clean Air Act ("CAA") Section 111 limiting emissions of carbon dioxide ("CO2") from new fossil-fuel electric generating units ("EGUs") that primarily focused on coal- and natural gas-fired units. EPA received more than 2.5 million comments on the April 2012 proposal. Based on EPA's review and consideration of the comments as well as consideration of the future of the electric generating sector, EPA withdrew the April 2012 proposal, and on January 8, 2014, EPA published a new proposed rule. Unlike the April 2012 proposal, the new rule proposes to establish separate standards for fossil fuel-fired electric steam generating units (utility boilers and Integrated Gasification Combined Cycle ("IGCC") units) and for natural gas-fired stationary combustion turbines using separate determinations of the best system of emission reduction ("BSER"), which EPA claims are adequately demonstrated. The natural-gas fired stationary combustion turbine standard is based on natural gas combined cycle ("NGCC") technology as BSER and an emission limit of 1,000 lbs CO2/MWh for larger units and 1,100 CO2/MWh for smaller units. The utility boiler and IGCC unit standard of performance is based on partial implementation of carbon capture and storage ("CCS") as BSER and an emission limit of 1,100 lbs CO2/MWh.

For purposes of Section 111 of the Clean Air Act, a "standard of performance … reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated."[1] Since redrafting of the proposed rule, EPA has been challenged on its finding that CCS as BSER is "adequately demonstrated." These arguments have been based on two separate reasons, one grounded in the CAA itself and the other based in the Energy Policy Act.

Even prior to publication of the rule, EPA faced pushback on its use of CCS as BSER based on the argument that EPA had not proved that CCS was adequately demonstrated under Section 111 of the CAA as interpreted by the D.C. Circuit.

First, in August 2013, the Office of Management and Budget ("OMB") provided an initial set of interagency comments on EPA's proposed rule that was published on OMB's website subsequent to the publication of the proposed rule in January 2013. In those comments, OMB questioned the technical feasibility of CCS for coal-fired units and questioned the scientific support utilized by EPA as the basis for its finding that the use of CCS on commercial-scale power plants is "adequately demonstrated" for purposes of the BSER determination. "EPA's assertion of the technical feasibility of carbon capture relies heavily on literature reviews, pilot projects, and commercial facilities yet to operate. We believe this cannot form the basis of a finding that CCS on a commercial scale power plant is 'adequately demonstrated.'"[2]

Similarly, on November 12, 2013, EPA's Science Advisory Board ("SAB") Work Group ("SAB Work Group") on Planned Actions for SAB Consideration of the Underlying Science recommended that the SAB review the science supporting the new proposed rule because the SAB Work Group found that "the scientific and technical basis for carbon storage provisions is new science and the rulemaking would benefit from additional review."[3] In addition, the SAB Work Group found that the peer review of the U.S. Department of Energy National Energy Technology Laboratory ("NETL") studies used as the basis for the BSER determinations was inadequate.[4]

EPA addressed the SAB Work Group's recommendations during subsequent meetings and phone conferences in December 2013. At these meetings, EPA provided the SAB Work Group with additional information on the peer review process of the NETL studies, explaining that the studies were peer reviewed by DOE, not by EPA, and that the DOE peer reviews met the requirements of EPA's Peer Review Handbook. In addition, EPA made a policy decision that the proposed rule would apply only to capture of carbon emissions and, thus, does not directly address carbon sequestration. Rather, the rule relies on existing standards related to carbon sequestration. As a result, the Work Group changed its recommendations on January 7, 2014. Based on information provided by EPA regarding the NETL studies and its scientific basis for the determination, the Work Group recommended that the SAB not review the science supporting the proposed rule because it found "that while the scientific and technical basis for carbon storage provisions is new and emerging science, the agency is using the best available science and has conducted peer review at a level required by agency guidance."[5]

The proposed rule was published in the Federal Register with partial capture CCS as BSER for the utility boilers and IGCC. EPA explained that it considered three alternative control technologies as potentially representing BSER for new utility boilers and IGCC units: (i) highly efficient new generation technology that does not include any level of CCS, (ii) highly efficient new generation technology with at least 90 percent capture of CO2, and (iii) highly efficient new generation technology with "partial capture" CCS. However, it ultimately determined that partial capture was the only technology that qualified as BSER based on the key considerations outlined by the D.C. Circuit.

The D.C. Circuit has on numerous occasions had the opportunity to review other Section 111 standards issued by EPA and has elaborated on the meaning of "adequately demonstrated" purposes of Section 111 and how EPA can determine what the best system of emissions reduction is. According to the D.C. Circuit,

> It is the system which must be adequately demonstrated and the standard which must be achievable. This does not require that a … plant be currently in operation which can at all times and under all circumstances meet the standards; nor, however, does it allow the EPA to set the standards solely on the basis of its subjective understanding of the problem or "crystal ball inquiry."… *An adequately demonstrated system is one which has been shown to be reasonably reliable, reasonably efficient, and which can reasonably be expected to serve the interests of pollution control without becoming exorbitantly costly in an economic or environmental way. An achievable standard is one which is within the realm of the adequately demonstrated system's efficiency and which, while not at a level that is purely theoretical or experimental, need not necessarily be routinely achieved within the industry prior to its adoption.*[6]

Thus, in addition to the statutory factors outlined in section 111(a) itself (cost, nonair quality health and environmental impacts, and energy requirements), the D.C. Circuit has also identified the following additional factors to be considered by EPA in determining BSER: (i) technical achievability,[7] (ii) emissions reductions,[8] and (ii) technological innovation.[9] The D.C. Circuit has also made it clear that EPA has great discretion on the weight to give each factor when determining BSER.[10]

In the preamble to the proposed rule, EPA addressed each factor purportedly to prove that it had adequately demonstrated that partial CCS qualifies as BSER for utility boilers and IGCC. However, considering the significant comments EPA received prior to publication, it is very likely that it will face very strong legal challenges to any published final rule that includes partial CCS, considering the current state of the technology.

EPA has received similar challenges to the use of CCS as BSER based on the Energy Policy Act. On November 15, 2013, Fred Upton, chairman of the House Committee on Energy and Commerce, sent a letter to EPA Administrator Gina McCarthy arguing that the proposed rule's use of CCS as BSER violated the Energy Policy Act of 2005.[11] The Energy Policy Act states that no technology will be considered adequately demonstrated under Section 111 of the CAA solely because the technology is being used in facilities receiving assistance under the Energy Policy Act.[12] In his letter, Chairman Upton argued that EPA's use of government-funded CCS projects under the Department of Energy's Clean Coal Power Initiative to support its determination that CCS is adequately demonstrated violates the above provision of the Energy Policy Act. Chairman Upton requested that EPA withdraw the proposed rule on these grounds.

In addition, on January 15, 2014, the state of Nebraska filed a lawsuit against EPA in the United States District Court for the District of Nebraska also arguing that the proposed rule violates the Energy Policy Act for the same reasons.[13] This specific lawsuit will likely face certain jurisdictional obstacles due to the timing of its filing. However, if the final rule incorporates the use of CCS as BSER, a properly filed Energy Policy Act challenge to the provision will likely be heard by the appropriate court, requiring EPA to defend its position.

With this proposal, EPA is not proposing standards of performance for modified, reconstructed, or existing sources. However, for the reasons discussed above, to the extent those standards rely on CCS technology, they too likely will be subject to challenge for one of two reasons—one grounded in the Energy Policy Act, the other based on the CAA itself. And, if anything, the use of CCS technology for existing sources would seem to be even more vulnerable than that for new sources, given the substantial costs attendant with effectively having to retrofit plants to incorporate that technology, among other things. EPA Administrator Gina McCarthy acknowledged just that in September 2013, when she indicated—then, at least—that EPA would not require CCS for existing plants. Whether EPA maintains that position when it proposes rules with regard to such plants remains to be seen.

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ENDNOTES

1 42 U.S.C. § 7411(a)(1).

2 Summary of Interagency Working Comments on Draft Language under EO12866 Interagency Review. Subject to Further Policy Review—EPA Response ("OMB Comments") at 9.

3 Memorandum from James R. Mihelcic, Chair, SAB Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science to Members of the Chartered SAB and SAB Liaisons re Preparations for Chartered Science Advisory Board (SAB) December 4-5, 2013, Discussions of EPA Planned Agency Actions and their Supporting Science 3 (Nov. 12, 2013).

4 *Id.*

5 Memorandum from James R. Mihelcic, Chair, SAB Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science to Members of the Chartered SAB and SAB Liaisons re Revised Recommendations on the Adequacy of the Science Supporting the Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Generating Utility Generation Units (2060AQ-91), listed in the Spring 2013 Regulatory Agenda 2 (Jan. 7, 2014).

6 *Essex Chemical Corp. v. Ruckelshaus*, 486 F.2d 427, 433–34 (D.C. Cir. 1973) (emphasis added) (citing *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973)).

7 *See Essex*, 486 F.2d at 433.

8 *See Sierra Club. v. Costle*, 657 F.2d 298, 326 (D.C. Cir. 1981) ("we can think of no sensible interpretation of the statutory words 'best technological system' which would not incorporate the amount of air pollution as a relevant factor to be weighed when determining the optimal standard").

9 *See id.* at 346 ("The statutory factors which EPA must weigh are broadly defined and include within their ambit subfactors such as technological innovation.").

10 *Lignite Energy Council v. EPA*, 198 F.3d 930, 933 (D.C. Cir. 1999).

11 42 U.S.C. §§ 15801, *et seq.*

12 42 U.S.C. § 15962(i).

13 *Nebraska v. EPA*, No. 4:14-cv-3006 (D. Neb. Jan. 15, 2014).