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Will the EPA's New Carbon Rule Survive Judicial Challenge?

By EDWARD DODGE

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The Environmental Protection Agency (EPA) recently proposed new carbon emission standards for fossil fuel power plants under the Clean Air Act (CAA). The rules for new-build power plants fall under Section 111(b) and are known as the New Source Performance Standards (NSPS). This should not be confused with Section 111(d) that regulates existing power plants. The NSPS for coal power plants are controversial because they require the use of partial Carbon Capture and Sequestration (CCS) technology that has not been deployed to date absent government funding.

The EPA has proposed separate technology standards for natural gas and coal fired units based on the performance of advanced Natural Gas Combined Cycle (NGCC) power plants. The standard is 1,000-1,100 pounds of CO₂ per megawatt-hour. Modern NGCC units easily meet this standard but coal plants can only meet the standard by using Integrated Gasification Combined Cycle (IGCC) with partial CCS which is the most expensive coal technology and one that has yet to be proven commercially viable.

Utility and mining interests have been vocal in their criticisms of the NSPS and they have some potent legal arguments that will be brought forward in a certain legal challenge. The National Mining Association (NMA), among others, will be party to a suit against the EPA. Central to the legal challenge is EPA's assertion that CCS is the Best System of Emissions Reduction (BSER) and has been adequately demonstrated.

EPA cites five facilities as evidence that CCS is adequately demonstrated. The problem is that none of these five plants necessarily meet the standards. Two of the plants are still under construction and not yet operational, the Kemper, MS IGCC and the Boundary Dam, Canada post-combustion capture project. Two of the plants have not yet begun construction and may never be built, Hydrogen Energy California (HECA) and the Summit Texas Clean Energy Project (TCEP). The only project that is operational is not a power plant at all but is a coal to synthetic natural gas plant, Great Plains Synfuels in North Dakota.

In addition, all five of the above listed projects received substantial government funding. Government funding may violate the Energy Policy Act of 2005 which explicitly prohibits EPA from setting a performance standard under Section 111 of the CAA based on projects that received funding from the Department of Energy's Clean Coal Power Initiative (CCPI). Kemper, HCEP, and TCEP all received significant funding under the CCPI program. EPA is aware of this legal briar patch as they were written a letter by Sen. Fred Upton and three other members of Senate Subcommittee on Energy and Commerce in Nov. 2013.^[1] Boundary Dam is funded by the Canadian government and Great Plains Synfuels was also DOE funded in various stages.

EPA is generally given wide deference by the courts to determine BSER and are allowed to consider a technology to be adequately demonstrated if the technology is reasonably projected to exist in the near future, but not based on mere speculation or conjecture. Nor is the EPA beholden to specific cost thresholds either, but costs are supposed to remain commercially reasonable. ^[2] Since all five projects have been first of a kind demonstrations and the technology has yet to get to the second generation, it is a stretch for EPA to claim that costs will be reasonable for private developers.



CCS remains at an early stage of development and due to the lack of existing CO₂ pipeline infrastructure EPA is confining the ability to construct coal power plants to limited regions of the country. EPA argues that CO₂-EOR operations will help defray the costs of adding CCS to a power plant, but offers no assurances that existing regulatory hurdles regarding CO₂ injection will be managed or that permitting for pipelines will be available. Without adequate infrastructure or regulatory assurance it is hard to imagine a utility or developer seeking to construct a power plant with CCS outside the few regions in Texas and the Midwest where CO₂-EOR is already ongoing. This is expected to be cited as evidence that the NSPS are adding costs to new power plants that are exorbitant and unreasonable.[3]

EPA themselves argue that they expect no new coal fired units to be built before 2022 and all new power plants will be fueled by natural gas, largely due to market conditions.[4] Despite EPA's claims that the NSPS will encourage the use of CCS and promote the technology, it would appear that under the proposed law, utility operators will be even more encouraged to go with natural gas and abandon coal with CCS altogether, to the detriment of CCS technology development. EPA argues otherwise and claims these rules will offer regulatory certainty to encourage the growth of CCS.

The coal and mining interests are arguing that the BSER for coal power plants should be Supercritical Pulverized Coal (SCPC) and IGCC without CCS. These technologies offer high efficiencies and substantial emissions improvements over conventional pulverized coal boilers, and these plants are commercially viable today. CCS still needs R&D funding and demonstration

projects to get to commercial viability and there remain issues over permitting CO₂ injection wells and pipeline infrastructure.[5] Regulations that merely favor existing natural gas technologies at the expense of advanced coal and CCS technologies are not helping to move the ball forward, but impede technology development and lock in the continued operation of older, dirtier plants.

CCS demonstration projects have been successful, but the technology is mired in the “Valley of Death” stage of commercial development. It is typical of new technology development that substantial funds are needed to get from the demonstration stage to the fully-scaled commercial stage where cost reductions can finally be achieved. Many promising new technologies fail to emerge from the Valley of Death as their developers simply run out of funds before reaching commercial success. CCS is too important to allow this to happen since in the long run we will need CCS on natural gas power plants as well as manufacturing facilities in order to meet long-term CO₂ emissions goals.

While some in the coal industry continue to be climate deniers and argue for the status quo, there are those who seek to bring coal into the 21st century with the latest technologies and be part of the solution. Coal is not going away and arguments that we should just leave it all in the ground also fail to bring forth real world solutions. We need a robust CCS development program and infrastructure that can be utilized by many industries. Though market conditions are clearly pushing the power industry towards natural gas the fear is that these new regulations will impede their own stated goal of encouraging CCS. It will be interesting to see what the D.C. Circuit Court of Appeals has to say on the matter and what the implications will be for 111(d).

[1] Letter from Senators Upton, et al to Gina McCarthy, EPA, Nov. 15, 2013

[2] Jones Day, whitepaper, Review of EPA Authority for Upcoming Rules for Greenhouse Gas Emissions from Electric Power Plants, Feb. 2014

[3] ACCCE, American Coalition for Clean Coal Electricity Comments on EPA’s Proposed Performance Standards, May 9, 2014

[4] EPA, Regulatory Impact Analysis for the Proposed Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units 5-54 (2013)

[5] NMA, Statement of the National Mining Association at U.S. EPA public hearing, Feb. 6, 2014

