Southern Co. Warns Against Making Kemper Plant Model For EPA GHG Rule

Utility giant Southern Company is striking a delicate balance as it nears completion of a high-profile Mississippi coal plant capable of capturing a majority of its greenhouse gas (GHG) emissions, touting the project as a successful collaboration between industry and government while at the same time urging that EPA's imminent rule to limit GHG emissions from new power plants not rely on the project as evidence that carbon capture is adequately demonstrated. Southern Company's balancing comes amid expectations that EPA's proposed GHG new source performance standard (NSPS) for newly constructed facilities, due to be unveiled this week, will reference the facility as part of its justification for deeming carbon capture and storage (CCS) as the best system of emissions reductions for coal plants.

Section 111 of the Clean Air Act, under which the rule is being developed, requires that such emissions control technologies be "adequately demonstrated," but industry groups are arguing that CCS does not meet the law's standard.

Jonas Monast, director of the climate and energy program at Duke University's Nicholas Institute for Environmental Policy Solutions, said on a Sept. 16 webcast discussing the agency's rules that he expects to see "a clear articulation why EPA believes that carbon capture is adequately demonstrated," noting that language is the Clean Air Act requirement.

"That's going to be the fight around the new rule. We know that's where the court fight's going to be, and in order to get to the more challenging question," which is how EPA can regulate existing power plants, the agency "has to get the new source regulation right."

Sources say that EPA is expected to set a limit for new coal plants in the range of 1,100 pounds of carbon dioxide (CO2) per megawatt hour (lbs/MWh) to 1,400 lbs/MWh, both levels which will likely require installation of at least partial CCS.

EPA already cited the Kemper plant in an earlier version of the proposed rule -- which set the same 1,000 lbs/MWh standard for coal and natural gas power plants. But the agency is reworking the plan to bifurcate the coal and gas standards.

In the original April 2012 proposal, EPA cited Kemper and several other projects as justification for setting an emissions limit that would have required CCS at new coal plants but not at natural gas generators.

The 524-megawatt Kemper plant is nearing completion and is due to come online next year, buoyed by more than a decade of development of related technologies at the National Carbon Capture Center, a joint collaboration between the Department of Energy (DOE) and industry.

It will capture 65 percent or more of its CO2 and will emit the gas and other pollutants in ranges comparable to natural gas plants, according to a Sept. 9 presentation by Southern Company's gasification manager Randall Rush at a Washington, D.C. forum.

Kemper's Success
Southern Company continues to tout the success of the Kemper plant, due to factors including the technology's cost, broader legal uncertainties related to carbon storage and the Kemper plant's particular suitability for lignite coal, though utility and other industry sources argue that the plant does not prove that CCS is sufficiently demonstrated to be required in a national rule. At the forum on advanced fossil energy, sponsored by the Atlantic Council, Southern's Rush touted the Kemper project as a prime example of advanced coal-based technology development aided by cooperation with DOE.

Rush explained that the plant, which uses a specific technology known as a "transport coal gasifier," is particularly suited to lignite and steered clear of explicitly discussing the pending EPA rules. "This gasifier does not work particularly well with the high-rank coals," he said.

In brief follow-up comments, Rush declined to discuss specifics of the EPA rule, citing his technical rather than policy expertise, but urged caution in citing the plant to set national emissions policy. Rush called Kemper a "specific project in a specific place that meets the needs of the state of Mississippi. . . . It doesn't seem to make any sense to me to be a basis for an environmental standard on a national basis. It is peculiar to the location in Mississippi and the fuel there."

A press official from Southern Company also declined to comment in detail on Kemper's relevance to EPA's upcoming regulation before its release, but stated that "by itself, [Kemper] cannot be used as a standard for all new power plants nationwide."

Southern Company and other utilities in recent weeks have embarked on a flurry of lobbying at EPA and the Office of Management & Budget to resist or blunt the expected requirement for CCS at new coal plants. They have argued that the technology is not "adequately demonstrated" and therefore cannot be mandated in the EPA rule. As part of efforts to counter such arguments, Environmental Defense Fund in a Sept. 13 email noted prior remarks from American Electric Power's Michael Morris calling CCS a "viable technology." The remark was part of a broader update for investors during which Morris discussed the company's decision to cancel the second phase of its Mountaineer CCS demonstration project in West Virginia due to factors including the lack of a climate policy. EPA's prior power plant proposal cited Kemper as one of several "currently operating or planned CO2 capture systems, including components necessary for CCS coal plants" that show CCS is "technically feasible and sufficiently available in light of the limited amount of new coal-fired construction expected in the foreseeable future." EPA also noted that Kemper facility is the only coal plant since 2009 that is being built.

A knowledgeable source says EPA's upcoming rule is expected to specifically call partial CCS "adequately demonstrated" technology for coal plants, and will, like the prior proposal, be based in similar fashion on citation on Kemper as well as other current and planned projects that include CCS.

The source says EPA is expected to note that the Kemper project is 75 percent complete. In that vein, a Sept. 12 press release from Mississippi Power, a Southern subsidiary, underscores continuing progress toward the plant's full operation, noting that the first firing of the plants two combustion turbines has been completed.

2012 Comments

Southern's comments on the prior EPA rule noted that Kemper had not yet begun operations and said EPA cannot point to a "single fully integrated commercial-scale CCS project on a power plant in
operation today." The company also raised several broad objections to any requirement for CCS, citing concerns including cost and legal obstacles to carbon storage. "It is inappropriate for EPA to set a standard based on technology that has never been demonstrated on a commercial scale," the company said.

A coal industry source objects to what the source believes will be EPA citation of Kemper to require CCS as a demonstrated technology in the new proposal, and questions why Kemper in particular should serve as a basis for regulation, arguing it would not have been built without significant support from both DOE and the Mississippi legislature.

However, a source with the Clean Air Task Force (CATF) calls resistance by Southern Company and others to the idea CCS is adequately demonstrated "totally wrong." At the same time, the source does not quarrel with the Southern Company's descriptions of the technical limits of the Kemper project, including its suitability for lignite.

But the CATF source argues that the current clash over CCS is less about disagreement over technical facts than "different comfort levels on what constitutes commercially available technology."

The source says Southern and other industry sources would presumably like to see dozens or more power plant CCS projects fully in operation before the technology is required, but warns this ignores the technology-forcing goals of the air law, which does not require a technology to be mature and inexpensive, but rather that it be commercially available, a much looser standard.

Additionally, the CATF source points out that earlier Southern Company testimony to Mississippi utility regulators said key aspects of the technology was well established. CATF referenced this testimony in its own comments to EPA last year, noting that a Southern official said the "carbon capture process design proposed for this Project has been in commercial use in the chemical industry for decades. Thus, the risk associated with the design and operation of the carbon capture equipment incorporated into the plants' design is manageable."

CATF's comments also reference over 50 industrial facilities using pre-combustion carbon capture around the world and cite over half a dozen CCS coal power projects in EPA's administrative record for its prior proposal that were expected to be or are already operating -- including Kemper.

But even proponents of CCS acknowledge debate over costs of the technology. In Mississippi, Southern has faced fire over ballooning costs of the Kemper project, and top Mississippi Power officials were recently replaced amid questions over whether the utility misled state utility regulators about escalating costs, according to press reports. A July report from Reuters notes that project costs have reached roughly $5 billion -- about twice initial estimates -- and that it is now costlier than nuclear energy on a kilowatt basis.

A source with Sierra Club notes that that the environmental group continues to oppose Kemper, and is challenging state utility regulators' certification of the plant's public convenience and necessity.

Moreover, DOE acting deputy assistant secretary for clean coal Darren Mollot said at the Atlantic Council forum that CCS is viable for meeting emissions rules, but "at a cost" and that is where "all the debate and discussion is right now." Mollot called Kemper's becoming operational in 2014 "very, very, key" to achieving trust in CCS among financiers, regulators and environmentalists as a viable technology for the United States and globally.
Victor Der, a former DOE official now of the Global CCS Institute, warned at the forum that regulation could actually reduce CCS deployment if it is too onerous, but he also called CCS crucial to meeting global targets to reduce GHG emissions, citing a need for continued incentives. -- Doug Obey
(dobey@iwpnews.com)

Inside Washington Publishers

Document EPAWDB0020130917e99h00003