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Utility Groups' Model Aims To Promote Innovation For Meeting EPA Rules

A key electricity industry research group will finalize a model later this year that aims to underscore the value of funding innovative pollution control technologies to meet a slew of pending EPA utility rules, a marked contrast to a series of "worst case" industry studies predicting utilities will shutter as a result of the regulations.

The Electric Power Research Institute (*EPRI*) plans to complete its work by the end of the year on a variable economic model that charts the cumulative costs of several pending EPA air, water and waste rules on the electricity generation industry, said Bryan Hannegan, EPRI's vice president for environment and renewables in a Sept. 1 interview. The rules represent what critics call a "train wreck" of regulations that will harm the utility industry.

But unlike existing studies predicting the train wreck of EPA utility rules will cause plants to close and harm electric grid reliability, EPRI's study will focus on the benefits of research and development to the electricity generation regardless of the regulatory landscape. According to Hannegan, the model will show that spending money on ways to better implement rules, reduce pollution or increase efficiency is good for the industry.

Proponents of EPA's pending utility rules could potentially use those findings to counter criticism of the so-called train wreck of regulations, by arguing that companies would not have concerns about having to close plants or face other adverse impacts from the rules if they instead invest in innovative controls for meeting the rules.

"The value of research and development holds up no matter that happens — we see that consistently, whether in the world of EPA regulations, [carbon dioxide] cap-and-trade — the finding comes up over and over again," Hannegan said. The point of the model is to show chief executive officers of energy companies that while many impacts of EPA rules might be "unknown," EPRI's model finds that "one thing you can hang your hat on is innovation."

The model assesses several EPA rules: its recently finalized nitrogen oxide and sulfur dioxide cap-and-trade emissions rule for power plants, a pending air toxics rule for utilities, a pending Clean Water Act rule for cooling water intake structures and a proposed rule to set first-time disposal requirements for coal combustion waste.

The upcoming model will provide cumulative impacts under a variety of policy outcomes for the EPA regulations considered, Hannegan said in the interview, and display those impacts by U.S. Census region.

"This is basically an integrated study that takes each [rule] and looks at the combined impact on the energy generation mix by region," Hannegan said, citing by example EPA's preferred alternative in its forthcoming cooling water intake structure rule of allowing states to be flexible in what methods they approve to reduce the number of adult fish killed in cooling water intake structures.

Hannegan said this would be "an order of magnitude" less expensive than requiring plants to retrofit themselves to a closed-cycle cooling system. "We can reflect that in the economic analysis, so obviously the cooling water requirement would have less of an impact — it will still have an impact, but we can mix and match" the cumulative impacts of alternative regulatory outcomes to predict the future electricity mix, Hannegan said.

The model also takes into account additional factors, including future improvements in energy efficiency and the impact of plug-in electric vehicles on the electricity generation industry, Hannegan said.

"There are tons of models out there with tons of assumptions, and people usually drown in those assumptions," Hannegan said in the interview. "What we're saying here is, we are building and operating a model that has a lot of emerging issues with renewables in it, environmental controls in there, issues with energy efficiency, plug-in hybrid vehicles, and lot of things that are going to characterize the electricity system of the future."

Hannegan gave a presentation on the forthcoming model during EPRI's Summer Seminar Aug. 1 in Marina Del Rey, CA, where he said the purpose of the model was to stress to the audience — composed largely of high-ranking energy executives — the importance of funding innovation and research, regardless of the future regulatory landscape.

Other studies to date focus more on the timing of EPA's utility rules and their potential impacts on grid reliability. For example, the North American Electric Reliability Corporation (NERC) estimated in October that the cumulative impacts of EPA rules that affect the electricity generation industry would result in between 30 and 70 gigawatts of fossil-based power becoming "economically vulnerable," which could in turn result in shortages of electricity.

ICF International also prepared a January report for the Edison Electric Institute (EEI) that outlined a host of potential scenarios resulting from the rules, including predicted coal plant retirements, pollution control investments and new power plan additions. But the report drew no firm singular conclusion. "EEI recognizes that a variety of outcomes are possible depending upon which policy, market and technology variables apply, and our member companies may have

different views as to which of these variables are most likely to apply in the future," the report says.

EPA and environmental groups have disputed the veracity of industry claims that new regulations would directly impact the energy supply by causing plant closures that harm electric grid reliability.

Sam Napolitano, director of EPA's Clean Air Markets division, told a conference in May that the industry concerns about the cumulative impacts of rules were "speculative" and "pessimistic," saying that reports critical of reliability impacts from the agency's rules often assume worst case scenarios.

Bolstering EPA's counter-argument, the non-partisan Congressional Research Service recently issued a report that seeks to debunk industry claims that the suite of pending EPA utility rules will cause a regulatory "train wreck."

The report also notes that analyses by EEI and NERC predicting significant adverse electric grid reliability impacts due to power plants closing rather than complying with the rules "assumed regulation far more stringent than EPA actually proposed" (*Inside EPA*, Aug. 19).

The report adds, "There is a substantial amount of excess generation capacity at present, due in part to the recession and also due to the large number of natural gas combined cycle plants constructed in the last decade, muting reliability concerns." — *John Heltman*