

Commission weighing pricing policy for electricity storage assets, Kelly tells House

FERC is considering developing a pricing policy for energy storage devices, Commissioner Suedeen Kelly revealed Thursday. In a hearing about smart grid options, Kelly and a DOE official also told members of Congress that smart grid technologies, from inception to deployment, would need to be designed to prevent cyber attacks to the bulk power grid.

A critical issue in deploying a smart grid “is the need to ensure grid reliability and cybersecurity,” said Kelly. “The significant benefits of smart grid technologies must be achieved without taking reliability and security risks that could be exploited to cause great harm to our nation’s citizens and economy,” she told the House Science and Technology subcommittee on energy and environment. FERC is considering whether to “come up with some sort of comprehensive policy” on storage assets, said Kelly.

The Office of Energy Policy and Innovation about two months ago “put on their list of things to do, whether we should come up with a pricing policy on energy storage,” Kelly told reporters after the hearing.

“There are very few ways, currently, that utilities can monetize the benefits of storage,” said Representative Gabrielle Giffords, Democrat-Arizona. Since storage technologies do not fall under any of the traditional asset classes — generation, transmission or distribution — “it’s really a struggle for the utilities to use storage as part of their rate base.”

“This seems to be a real key part of figuring out how we’re going to transition to a renewable energy” future, Giffords continued. “What can FERC do to encourage the use of energy storage in light of these circumstances? And should FERC institute a separate asset class for storage since it provides benefits to the generation and transmission and distribution of energy?”

Commission staff currently is gathering information from electric industry representatives “to understand better what [electricity] storage is actually being used.” FERC also wants to know how the storage facilities are being used by grid operators, “and the problems that industry is running into, if any, with how we’re classifying it,” Kelly said.

Earlier this month, FERC issued a policy statement on smart grid principles in which it voiced support for developing smart grid standards to coordinate the grid integration of emerging technologies such as renewable resources, demand response resources and power storage facilities (*IF*, 20 July, 1). It included an interim rate policy for recovering costs of smart grid investments made at the wholesale level.

Storage can take the form of a number of different entities within the grid system, Kelly said. An electric storage facility could arguably be a “transmission asset or a distribution asset, or a demand response asset,” she later told reporters. If a facility is holding electricity potential, “then when [the facility] releases it, it’s a generator. Yet a storage facility is a consumer when it’s “getting that potential.”

The dilemma of how to classify electricity storage gets more complicated if a storage asset owner “wants to capture multiple revenue streams,” Kelly said during the hearing. There would be several “implications for the market and the competitiveness of the market and cost recovery,” if a storage asset were allowed to recover costs as a transmission and a generation asset.

“So the question is: Should you classify it?” Kelly told reporters. Or should the commission evaluate each storage asset on a case-by-case basis. Staffers do not have a deadline for completing the research and making a recommendation to the commission, said FERC spokeswoman Mary O’Driscoll.

“This seems to be a real key part of figuring out how we’re going to transition to a renewable energy” structure, Giffords said, to which subcommittee Chairman Brian Baird, of Washington, replied that “maybe we want to pursue this specifically in a hearing.”

More clarity on rate recovery for electricity storage would be beneficial for the industry, said Jeffrey Ross, executive vice president of GridPoint. Some utilities have deployed grid-scale storage solutions, he said, “but it’s tended to be on a pilot basis and not on a wide scale.”

Speaking from the perspective of a smart grid development company, Ross believes that regulatory and economic policies and incentives for investor-owned utilities need to be realigned so “utilities are motivated to invest in smart grid technologies,” he said.

Government agencies and trade groups figure to play an important role in the research and development of smart grid technologies “and in setting the standards that will govern the new electricity delivery system,” said

subcommittee ranking member Bob Inglis, Republican-South Carolina.

Smart grid projects may help with the implementation of renewables, demand response and distributed generation, Kelly continued. But because the smart grid is expected to allow the bi-directional flow of information and electricity there will be increasing opportunities for cyber attacks, said energy experts and some members of Congress.

“The smarter we make the grid, the more vulnerable we are,” warned Representative Roscoe Bartlett, Republican-Maryland. Unless the system is protected against cyber and electromagnetic pulse attacks, it will continue to be vulnerable.

“It is paramount that smart grid devices and interoperability standards include protections against cyber intrusions,” said Patricia Hoffman, DOE acting assistant secretary for electricity delivery and energy reliability. Smart grid systems should be designed from the start, not with patches added on at a later time, to prevent hackers from disrupting grid operations and from gaining entry through the “millions of new portals created by the deployment of smart grid technologies,” Hoffman said.

DOE has made about \$4 billion available to utilities for smart grid projects, with the first application deadline on August 6. In its smart grid funding announcement, DOE said cybersecurity should be addressed in every phase of the engineering lifecycle of the project. “Cyber security solutions should be comprehensive and capable of being extended or upgraded in response to changes to the threat or technological environment,” Hoffman said.

Also last week, DOE announced it would provide \$47 million toward eight smart grid demonstration projects. And it issued a smart grid systems report, which said smart grid capabilities are emerging, and substation automation, smart metering and distributed generation technologies are growing rapidly.

The industry needs to “design in the necessary safeguards at the very beginning,” said George Arnold, National Institute of Standards and Technology’s national coordinator for smart grid interoperability.

While smart grid infrastructure in the form of smart meters and advanced communications is important in transforming the nation’s grid, “we also need other new innovative technologies to realize the benefits of increased efficiency, reliability, and security,” Ross said.—*Esther Whieldon*