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Exclusive Interview

Wellinghoff Sees Big FERC Role Supporting Obama Green Energy Goals

FERC Commissioner Jon Wellinghoff sees a major role for the commission in supporting the Obama administration's "green energy economy" as advanced through the massive economic stimulus package and energy legislation that the president-elect and Congress are working on for early next year. Wellinghoff says FERC's role centers on FERC efforts to promote demand response (DR) and its ability to manage a federal Renewable Portfolio Standard (RPS) if, as many are suggesting, one is adopted.

Wellinghoff, who is well known for his renewable energy expertise and interests, spoke with *EnergyWashington* about what he sees as the critical components of a 21st century "smart grid" and the role FERC can play -- and already is playing -- in the push for a new energy system that many expect will create major "green jobs" growth.

What's necessary to move forward with various components of the green energy economy is a comprehensive plan that focuses on the critical questions of green jobs for the economy, i.e. reducing carbon, and achieving security -- both economic security "writ large" and security with respect to fuel price volatility, says Wellinghoff. "We need to set those priorities, and between the administration and Congress they'll do that over the next months," he adds, noting that he and other FERC commissioners have had discussions with the Obama transition team about these and other issues.

"[DR] is very important in the overall energy infrastructure," Wellinghoff stresses, describing it as the "glue" that can "stabilize the grid, allow us to bring in a lot of variable energy resources like wind and solar, and allow us to do that in a way that the grid remains reliable." Likewise, transmission -- "the pipes and wires" -- are another major piece of the system necessary for moving energy resources that are available around the country, Wellinghoff says, and cites the commission's major transmission-related role defined in the 2005 energy law's provisions giving FERC responsibility for grid reliability.

"These are part of the pieces that have to come together in a comprehensive view of how we move forward," Wellinghoff says about DR and transmission upgrades.

FERC's major role regarding DR was defined in the 2007 energy law that required the commission to conduct an assessment of the potential for DR over 5 and 10 year time frames and to offer specific policy recommendations to achieve the potential. Congress also asked FERC to develop a "national action plan on [DR]" for maximizing the amount

of DR resources that can be developed and deployed and to submit to lawmakers a proposal to implement the plan. FERC has hired a consultant and is already at least six months into the assessment process, drawing on previous FERC studies of DR across the country, says Wellinghoff. After the assessment is completed in approximately six months, FERC will move to the next stage of developing its overall DR action plan, adding, “Anything we do with [DR] will have to be done in conjunction with the states because the states have considerable jurisdiction” in this area.

Congress also gave FERC authority to promulgate smart grid regulations and the commission will do so once the standards are developed by the Commerce Department’s National Institute of Standards & Technology (NIST). FERC staff are currently working with NIST on those standards and after the process is done FERC will evaluate them and decide to what degree they’ll be promulgated into rules.

“It will take really two years to get the momentum up and to get some of these rules and regulations in place,” Wellinghoff says. But, he adds, “The quicker we can get these pieces into place, the quicker we can start deploying them with green jobs that will actually put demand response, smart grid, and distributed technology out on the streets with residential, commercial, and industrial consumers so that ultimately we can improve the efficiency of the grid, reduce their bills, and, hopefully, reduce greenhouse gas emissions as well.”

Interim Steps

Prior to the regulatory framework being set in place, Wellinghoff has recommended to the Obama transition team several interim steps that could create green jobs and advance the green economy. For example, a good demonstration project would be to deploy smart grid on military bases with mixed use residential and commercial consumers, providing security by “islanding” (or taking the bases off the grid) and then later rolling out the technology to the surrounding local jurisdictional utility, he says. With such a demonstration, the military base could be off-grid if it needed to be, but could also interface with the local utility to reduce demand and to show the utility smart grid technologies it could use with its own customers.

Another step Wellinghoff has recommended is that the U.S. could re-start a number of lines of manufacturing, such as for large-scale -- 500 KVA and above -- transformers that are no longer made domestically. They are now made in Korea and elsewhere and take 18-30 months lead time to acquire but are critical to opening lines in Pennsylvania and other states. They could be made highly efficient and also secure to make certain they can’t be brought down by cyber attacks. “Those are the kinds of things we can start doing to start creating jobs for the smart grid and the green jobs economy,” Wellinghoff says.

FERC As RPS Manager

On the energy bill Congress will debate after the stimulus package, Wellinghoff expects to see a Renewable Portfolio Standard or “renewable energy standard.” It will probably

include energy efficiency and combined heat and power, waste-heat recovery, DR, in a "comprehensive standard nationwide" that could go a long way in moving the U.S. toward a much lower-carbon future. "There has been some serious discussion of FERC administering such a standard, another role FERC could potentially play" in advancing the green energy economy, he says.

With a national standard, "Someone will have to be the entity to ensure that the standards are being met and the credits are accurately being accounted for, and that utilities not meeting the standards receive appropriate penalties," Wellinghoff says. "FERC is well positioned to be the agency that would administer that," he suggests, comparing such a role to the commission's current responsibility for ensuring reliability through standards all utilities have to comply with. "We could do the same thing with respect to a national energy standard."

Wellinghoff says a national energy standard, together with other mechanisms to put renewable and distributed energy in place, could form an underlying system that would support carbon reductions, but notes that a price on carbon would "make these things easier" because it would make alternatives more economically attractive. "The technology is there; we need to figure out how to get as many companies out deploying it as we can," he says.

Some studies show that as much as 700 gigawatts of wind could be available in the West, while the current total capacity of the U.S. is 1,000 gigawatts. That doesn't count offshore wind, hydrokinetic, solar, substantial wind in the far West, and other resources, Wellinghoff notes. "There's a tremendous amount of capacity when you add up all those potential renewable resources." FERC has 3,000 MW of hydrokinetic permit applications for the Mississippi River alone, equivalent to three large coal-fired power plants, he says.

Besides the hardware systems necessary for a smart grid and DR that can bring renewable energy on line, there must be matching operational efficiencies, Wellinghoff says. Operation of the grid as a huge machine doesn't get enough attention; it has various markets -- day-ahead, capacity, and so forth -- and those operations could be optimized with software that could be put in place to ensure day-to-day operations are done most efficiently, saving billions of dollars and curbing a significant amount of carbon emissions, he says.

FERC is investigating those software operating systems, working with ISOs and RTOs to determine best practices, including the best ways to make markets function so that DR, renewable energy, and energy efficiency is economically attractive. "We want to expand the economic drivers" that enable companies to bid in energy efficiency, DR, and other resources, and once the regulatory structures are in place the U.S. can really start expanding these resources in a major way, Wellinghoff says.