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New study debunks transmission myths that deter grid modernization

by Andrew Coffman Smith

Misconceptions and outdated thinking about high-voltage transmission are muddling decision-making, according to a new white paper that seeks to debunk the myths that are undermining needed upgrades and expansions of the power grid. Released Sept. 12 by WIRES, an association of publicly owned entities favoring investment in the electric transmission grid, the report by London Economics International identified 16 of the most prevalent preconceptions and misunderstandings impeding transmission projects.

Kathleen Shea, WIRES president and president of transmission for Eversource Energy, and James Hoecker, WIRES' counsel and former FERC chairman, said in the paper's forward that many in the industry wrongly believe that, for instance, lower demand for electricity means upgrades and expansions of the power grid are not needed, and further, that the benefits and responsibility for improvements to facilities or systems are limited to the service territory, state or region in which those facilities are located.

"These 'myths' can often inflict a significant cost on investors in transmission and on customers because they contribute to protracted project delays and discount the importance of the flexibility and resilience that a robust grid provides," said Shea and Hoecker. Instead, the report asserted, North America will become more dependent on

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Utilities set expectations for restoration after Irma

by Colby Bermel

Electric utilities in Florida and Georgia are working to restore power after Hurricane Irma tore through their states and are attempting to set expectations that rebuilding infrastructure in hardest-hit areas will be a drawn-out process.

"It's not going to be as pretty as we would like," Florida Power & Light Co. President and CEO Eric Silagy said Sept. 12 of his utility's efforts. "In the months to come, we'll come back and we'll rebuild it to the strength and the smart grid equipment that we like to have on our system."

FPL on Sept. 11 alone brought back power to 2.3 million accounts, utility spokesman Rob Gould said, with over 5 million outages

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After Irma, FPL says grid investments 'absolutely' worth it

by Colby Bermel

Florida Power & Light Co.'s CEO said Sept. 11 that damage from Hurricane Irma would have been a lot worse were it not for billions of dollars spent on storm-hardening measures over the past decade.

The storm will also prove a test of Georgia Power Co.'s infrastructure, with the utility announcing Sept. 11 that over 748,000 of its customers were without power as Irma entered the Peach State, leaving Florida behind. The Southern Co. subsidiary added that it was prepared to respond with about 3,400 Georgia Power personnel and outside workers.

Although nearly 70% of FPL's 4.9 million customers were without power after Irma, President and CEO Eric Silagy argued that the NextEra Energy Inc. subsidiary's nearly $3 billion in grid investments since 2006 were "absolutely" worth it.

"With this kind of storm, what I can tell you is we would be facing a much longer restoration," he said at a Sept. 11 news conference. "When you're rebuilding, everything is measured in weeks versus restoring, which is measured in days. It might be multiple days, but if we were replacing tens of thousands of

New study debunks myths *continued*

electricity as sales of electric vehicles grow, construction of energy-intensive data centers accelerates and the use of electricity for home heating spreads.

Demand growth to continue

As a result, the reliability and resiliency of the grid will become more critical, the authors asserted. That contradicts the assumption that transmission is built solely to meet current peak demand and future electricity demand growth is likely to slow or flatten thanks to a low population growth and energy efficiency improvements.

The report also seeks to debunk the claim that transmission upgrades and expansions are not needed, as retiring power plants will "make room" for new generation in the same location.

"New power plants are not always built in the same locations as retiring power plants," countered the report. "For example, new wind plants are typically far from urban load areas or located where the grid is already at its performance limit. As a result, capacity freed up by retired power plants may not be utilized by new generation, without additional transmission infrastructure."

In ISO New England, for example, more than 4,200 MW of generation, or 15% of the region's capacity, are expected to shut down between 2012 and 2020, with another 8,800 MW of coal, nuclear and oil capacity at risk of retirement in the coming years. Most of these retiring units are in central and southern New England. Natural gas pipeline capacity constraints and limited access to gas in many parts of the region limit the potential locations for the new gas-fired plants that are expected to fill the void. In addition, new wind farms, mostly located in northern Maine, require new power lines to interconnect with the New England grid.

The long-term view

The authors also sought to counter the notions that the grid is incapable of adapting to a more distributed generation mix, that energy storage and demand response are substitutes for transmission, and that transmission projects are costly undertakings with few benefits for utilities and large upfront costs that are immediately passed onto consumers.

Ultimately, grid planning is too shortsighted and too focused on short-term costs, rather than long-term benefits, the researchers said.

"Not only is transmission a long-lived asset, its required siting, permitting and construction time frames are also lengthy," said the study. "Investors need to project drivers for transmission investment many years into the future, so that when the transmission development project is finally completed and energized, it will be the right size, and in the right place. For example, the timing of many nuclear license expirations (for the 2030s and early 2040s) seems far into the future right now; but a transmission development process that begins in 2018 and takes 10-15 years to complete will result in a project that will serve the market for many years after those nuclear plants retire."

Industry Document: A Wires Report - The Truth about the Need for Electric Transmission Investment: Sixteen Myths Debunked

Industry Document: Wires Study Debunks Myths around Transmission Investment

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