Duke Energy Florida Cancels Nuclear Projects and Turns to Renewables

Utilities Increasingly Perceive Renewables as Economic Opportunities Rather than Obligations

September 5, 2017

AUGUST 29 DUKE ENERGY FLORIDA SETTLEMENT AGREEMENT

On August 29, 2017, **Duke Energy Florida filed a settlement agreement** with the Florida Public Service Commission that **includes investments in grid modernization, solar, and storage, and notably, cancels the Levy Nuclear Project with no further charges to customers**. On the same day, **Xcel Energy proposed an early retirement of two coal-fired generators** and announced a competitive **request for proposals for significant amounts of wind, solar, natural gas and/or storage in Colorado**. Similarly, in July, the American Electric Power proposed to purchase a 2000 MW wind farm to diversify its energy mix. The recent developments strengthen the case for renewables as an economic opportunity instead of obligation.

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1 Duke Energy Florida settlement

Under the settlement, Duke Energy Florida will:

- Add 700 MW of solar over the next four years
- Deploy 50 MW of battery storage
- Install 530 electric vehicle charging stations
- Cancel the Levy nuclear project and absorb $150 million in costs

On August 25, Duke Energy Carolinas sought the North Carolina Utility Commission's approval to cancel the Lee nuclear project mainly due to the recent bankruptcy of Westinghouse Electric Company, a subsidiary of Toshiba Corporation.

2 Xcel Energy's Colorado plan

On August 29, Xcel Energy, alongside a 14-member coalition, announced it would:

- Retire Units 1/2 of the Comanche coal plant by 2022
- Issue a request for proposals for 1 GW of wind, 700 MW of solar and 700 MW of natural gas and/or storage
- Enable renewable energy subscriptions through Renewable*Connect program

The $2.5 billion RFP process targets facilities owned by utilities and independent power producers, and Xcel Energy seeks to own 50% of the renewable generation and 75% of the natural gas-fired, storage, or renewable with storage generation in this portfolio.

3 HECO's grid modernization plan

On August 30, the Hawaii Public Utilities Commission opened a docket (2017-0226) to consider the Hawaiian Electric Companies' final grid modernization strategy outlining near-term grid technology initiatives to integrate more renewables, including private rooftop solar. HECO has estimated that it will cost $205 million to update their grid over the next six years.

4 American Electric Power's investments in wind

On July 27, the American Electric Power announced it was seeking permission to invest $4.5 billion to purchase the 2 GW Wind Catcher project through its subsidiaries in Louisiana, Arkansas, Texas, and Oklahoma. The farm is supposed to save $7 billion for AEP's customers over 25 years and is part of a larger project that also includes a 350-mile 765-kV power line.

5 Corporate renewables procurement

According to the American Wind Energy Association's Q2 2017 market report, corporate customers represent 37 percent of total project capacity contracted during Q2 2017. Additionally, Advanced Energy Economy's 2016 Corporate Advanced Energy Commitments cites 22 Fortune 500 companies that have set 100 percent renewable energy targets. Apart from PPAs, a growing number of utilities are offering green tariffs that help procure renewable energy via collaborative arrangement between a customer and a utility. Select open dockets on renewable energy procurement include:

OR — AR 600, 5/2016
Rulemaking regarding allowances for diverse ownership of renewable energy resources

ID — IPC-E-16-25, 1/2017
In the matter of application of Idaho Power Company for approval or rejection of an energy sales agreement with H K Hydro LLC for the sale and purchase of electric energy from the Mud Creek S&S Hydro Project

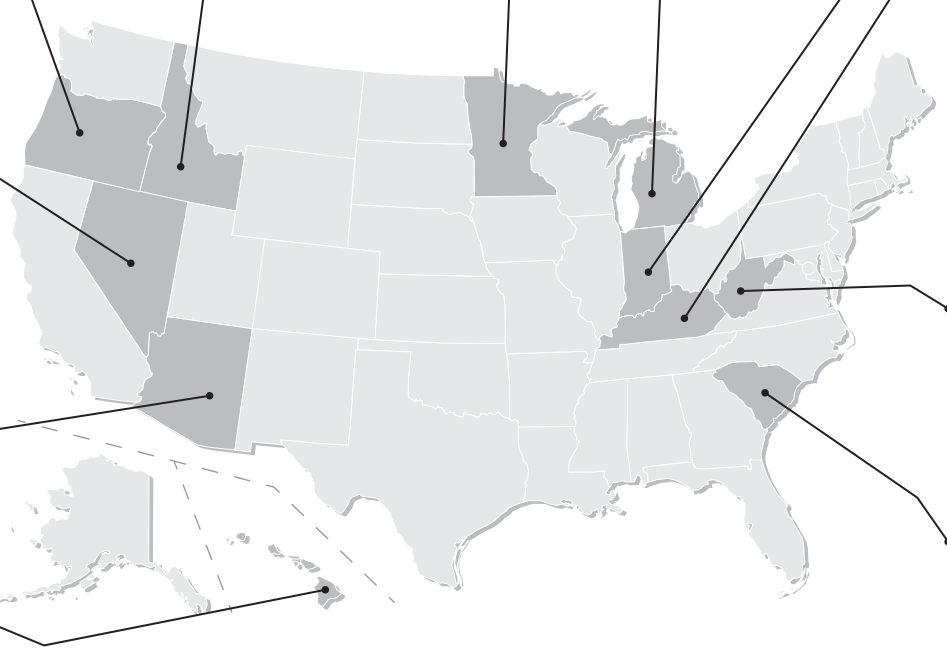
MN — 15-985, 11/2015
In the matter of the petition of Northern States Power Company, d/b/a Xcel Energy, for approval of a Renewable*Connect pilot program

MI — U-18349, 3/2017
In the matter, on the Commission's own motion, regarding the regulations for complying with Section 61 of 2016 PA 342 which requires electric providers to offer voluntary green pricing programs to their customers

IN — 44121 - GRP 10, 5/2017
Petition of Indianapolis Power & Light Company for approval of a revised green power initiative rate to be effective with the August 2017 billing cycle

NV — 17-02008, 2/2017
Application of Sierra Pacific Power Company d/b/a NV Energy for approval of a renewable energy agreement with Apple Inc.

KY — 2016-00269, 7/2016
In the matter of application of East Kentucky Power Cooperative, Inc. for the issuance of a certificate of public convenience and necessity, approval of certain assumption of evidences of indebtedness and establishment of a community solar tariff



AZ — E-01461A-16-0229, 10/2016
In the matter of the application of Trico Electric Cooperative, Inc. for approval of its 2017 renewable energy standard tariff implementation plan

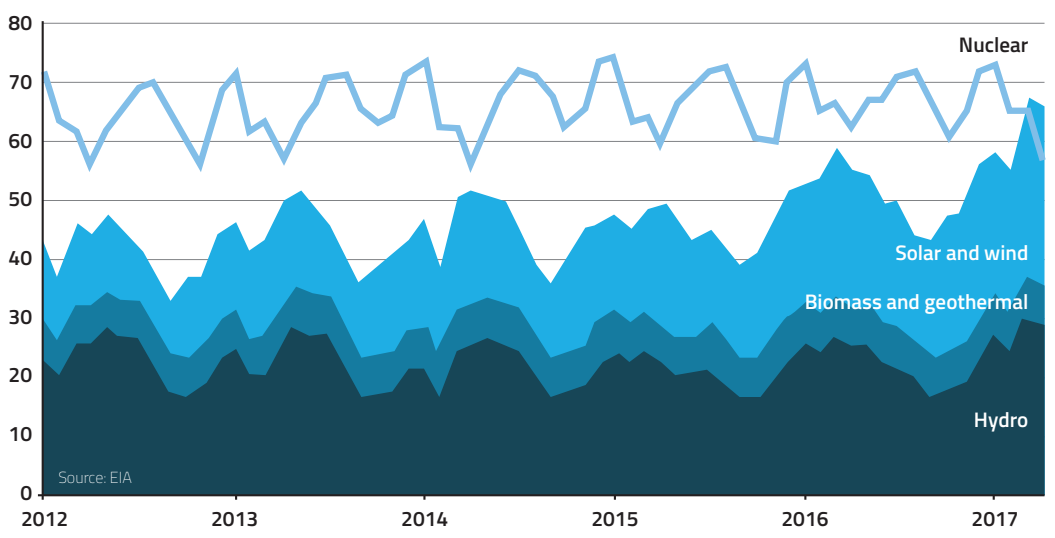
WV — 16-1026-E-PC, 9/2016
Appalachian Power Company and Wheeling Power Company petition for consent and approval of renewable energy purchase agreement

HI — 2017-0122, 5/2017
Application for approval of a power purchase agreement for renewable dispatchable firm energy and capacity

SC — 2017-166-E, 5/2017
Renewable power purchase agreement between South Carolina Electric & Gas Company and TIG Sun Energy IV, LLC

6 Demise of coal and nuclear

Monthly electric generation from selected fuels, TWh



During March and April, the U.S. monthly electricity generation from utility-scale renewable sources outpaced nuclear generation for the first time since July 1984. Natural gas, which is increasingly replacing coal, provides the much needed balance to the variable energy flows from renewables, and energy storage, as it becomes cheaper, could eventually compete with natural gas in this role. To counter this trend, New York and Illinois have enacted policies to support ailing nuclear plants with zero emission credits, and Arizona is investigating the future of the Navajo Generating Station, one of the largest coal facilities in the West.

BOTTOM LINE

Easy as One, Two, Three
Until now, the trend towards renewables has been largely attributed to state mandates and improving economics of renewables. The recent developments strengthen the case for renewables as an economic opportunity. First, smart grid and energy storage technologies have helped integrate renewables into the grid. Second, utility customers' preferences have shifted, with many large corporates setting 100-percent renewable energy targets and demanding green tariffs for purchasing energy from large-scale renewables over the grid. Third, 10-to-20-year power purchase agreements (PPAs) with fixed energy prices have helped utilities minimize the risk of fossil fuel price spikes.

Rough Waters Ahead
Meanwhile, the falling costs of renewable energy and low natural gas prices do not bode well for coal and nuclear. Nuclear power generates emissions-free energy and has therefore enjoyed the support of policymakers in Illinois and New York to keep the existing plants open. New builds, meanwhile, have been plagued by cost overruns and the bankruptcy of Westinghouse, and therefore are hardly able to prevent the contraction of the industry. Meanwhile, coal competes directly with cheap natural gas and, as one of the dirtiest ways to generate electricity, it might not receive similar assistance despite appeals to save jobs.

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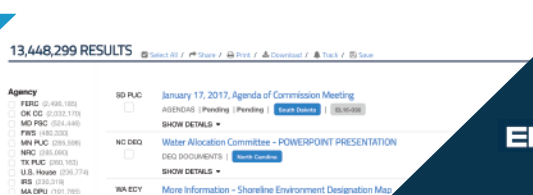

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