nFRONT CONSULTING LLC
Power Industry Planners • Analysts • Advisors

September 5, 2018

Carlotta Stauffer
Florida Public Service Commission
Office of Commission Clerk
2540 Shumard Oak Blvd
Tallahassee, Florida 32399-0850

Subject: Orlando Utilities Commission Response to Review of the 2018 Ten-Year Site Plans for Florida's Electric Utilities Supplemental Data Request #2

Dear Ms. Stauffer,

Attached please find the Orlando Utilities Commission (OUC) response to the subject data request.

If you have any questions about this response, please do not hesitate to contact me.

Respectfully submitted,

/s/ Bradley Kushner

Bradley Kushner
Executive Consultant
nFront Consulting LLC
BradKushner@nFrontConsulting.com
(816) 547-1637

1. Please provide a comparison of OUC's 2017 and 2018 Ten-Year Site Plans, identifying any notable differences.

   OUC Response:
   Notable differences between OUC's 2017 and 2018 Ten-Year Site Plans (TYSPs) are shown below.

   - 2017 TYSP reflects assumed expiration of purchase power agreement (PPA) with Southern Company-Florida LLC (SCF) associated with Stanton Energy Center Unit A (expires September 30, 2023), while the 2018 TYSP reflects assumed extension of the PPA through December 31, 2031.
   - 2017 TYSP indicates that while no commitments to future capacity additions have been made, OUC is assumed to maintain reserve margin requirements through the addition of combined cycle capacity, while the 2018 TYSP indicates that OUC is projected to have adequate capacity to maintain reserve margin requirements through the planning period.
   - Differences in wholesale power supply contracts (contracting entities, magnitude, duration), as illustrated below in Table 2-2 of the 2017 TYSP and 2018 TYSP.
   - The 2018 TYSP reflects an increase to the nameplate capacity of the second solar farm at the Stanton Energy Center (13 MW in the 2018 TYSP compared to 12 MW in the 2017 TYSP).
   - 2018 TYSP discusses OUC's Board vote that gives OUC the authority to enter into a contract to purchase between 60 MW to 120 MW of solar power, which will significantly increase OUC's investment in renewable energy.
   - Average annual growth rates for projected net system peak demand and net energy for load (for OUC and the City of St. Cloud, in aggregate) are approximately 0.3 percent to 0.5 percent lower in the 2018 TYSP than in the 2017 TYSP.
   - The 2018 TYSP shows the addition of 56 MW of solar capacity (contributing to capacity available at the time of summer peak demand) beginning in 2021.

2. Has OUC taken solar capacity degradation into account in its planning process? If so, please explain how degraded capacity values are calculated, what assumptions are required for calculating degraded capacity values, if solar degradation is taken into account in OUC's cost-effectiveness evaluations, and what causes solar capacity degradation. If not, why not?

   OUC Response:
   OUC's planning process (including cost-effectiveness evaluations) accounts for estimated degradation related to energy generation associated with solar resources, based on equipment manufacturer's estimated degradation factors, which may generally range from 0.3 percent to 0.5 percent, annually. The capacity associated with solar resources is not degraded; however, OUC's planning assumption is that 50 percent of the nameplate capacity rating for solar counts towards capacity planning (reserve margin) requirements for the summer season and while this assumption is primarily intended to account for uncertainty in solar generation at the time of system peak it also addresses capacity degradation. OUC intends to monitor actual degradation and will adapt its planning process further as appropriate.

In general, there are a number of factors that may contribute to solar capacity degradation. Some factors include weather (i.e. temperature, humidity, UV exposure), thermal cycling, manufacturing processes and materials, and maintenance practices.