



Christopher E. Gowder
Business Development and Planning Manager

September 4, 2018

Takira Thompson
Florida Public Service Commission
Office of Commission Clerk
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

**Re: Review of the 2018 Ten-Year Site Plans for Florida's Electric Utilities
Supplemental Data Request #2**

Dear Ms. Thompson:

Pursuant to the Commission's 2018 Supplemental Data Request #2, dated August 9, 2018, FMPA is hereby filing one electronic copy of its written Response.

If you have any questions, please do not hesitate to contact me at (321) 239-1022.

Sincerely,

A handwritten signature in blue ink, appearing to read "Gowder", is written over a light blue horizontal line.

Christopher E. Gowder
Business Development Manager

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

FMPA actively monitors and updates the major components of our resource planning process on a quarterly and semi-annual basis. Key assumptions that were refreshed for the 2018 Ten-Year Site Plan as compared to the 2017 Ten-Year Site Plan include fuel forecasts, load forecasts for each ARP Participant, long-term inflation estimates, and capital, fixed, and variable costs of competing thermal and renewable generation options. FMPA also estimates the impacts of distributed solar generation and demand-side management related to the ARP Conservation Program using tailored models specific to each ARP Participant. With respect to such baseline assumptions, and in due recognition of the fluidity of fuel spread dynamics, there were no large-scale shifts in values or implications for 2018 as compared to 2017, with the possible exception of improvements in the economics of solar resources.

The only additional differences of note for the 2018 Ten-Year Site Plan as compared to the 2017 Ten-Year Site Plan were (i) anticipated upgrades to plant capacity for resources used to serve ARP load throughout the study period and (ii) the transfer of the City of Vero Beach's entitlement shares in certain coal and nuclear power plants to the ARP, which has been assumed to occur as of January 1, 2019 for capacity planning purposes.

While the 2018 Ten-Year Site Plan did not explicitly account for the FMPA Solar Project and the associated ARP solar entitlement, the 20-year power purchase agreement, which was finalized in May 2018, is anticipated to increase the proportion of ARP energy derived from renewable generation and these impacts will be included in future Site Plans.

2. Please refer to FMPA's responses to staff's Supplemental Data Request #1, No. 36. Please identify which and provide the status of the projects short-listed.

The status of the project referred to in response to question No. 36 is described in FMPA's responses to questions No. 28 and No. 29. The short-list of proposers included NextEra Florida Renewables, GroSolar, Invenergy, Soltage, and Holloway Solar Farm.

3. Please indicate whether or not FMPA accounts for solar degradation. If so, please explain how FMPA calculates solar degradation, discuss whether or not FMPA accounts for solar degradation in cost-effectiveness evaluations, and identify the possible causes of solar degradation. If not, please explain.

FMPA's resource planning evaluations account for solar degradation in all applicable contexts, including inputs to our production cost simulations, pro-forma evaluations of costs and benefits, and other analyses deemed necessary to determine project viability. Degradation is applied to both energy and capacity when performing annual evaluations. FMPA's degradation assumption for solar resources is derived from a combination of estimates provided by consulting engineers and vendor simulations, as available, and are recurrently reviewed within our resource planning

process to ensure they represent, as best as can be estimated, current technology for any new resource options being evaluated.

Solar degradation is a complex, multivariate issue caused by many factors. Based on interactions with vendors and research that FMPA is aware of as conducted by NREL, some examples of such factors include UV exposure, weather cycles, the quality of panels, and thermal cycling.