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May 9, 2018

VIA ELECTRONIC DELIVERY

Ms. Carlotta Stauffer, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: *Duke Energy Florida, LLC's 2017 Demand-Side Management Annual Report*;
Undocketed

Ms. Stauffer:

Please find enclosed for electronic filing Duke Energy Florida, LLC's Response to Staff's First Data Request (Nos. 1-10).

Thank you for your assistance in this matter. If you have any questions, please feel free to contact me at (850) 521-1428.

Sincerely,

/s/ Matthew R. Bernier

Matthew R. Bernier

MRB/cmkn
Enclosures

cc: Nathan Whitchurch
Tripp Coston

**Duke Energy Florida, LLC's Response to
Staff's First Data Requests regarding Duke Energy Florida, LLC's
2017 Demand-Side Management Annual Report**

1. According to page 1 of the company's DSM report, Duke Energy is not on pace to reach the goal cycle's total Residential Winter Peak MW Reduction. For this goal cycle, how does the company plan to ensure that it will be able to achieve this total goal?

Response:

This question seems to suggest that the Commission set a cumulative winter residential MW goal for the 2015-2024 goals cycle. FPSC Rule 25-17.0021(1) requires the Commission to set residential and commercial/industrial goals for each year over a ten year period. Pursuant to these requirements, as presented in Order PSC-14-0696-FOF-EU, Table B-6, the Commission established annual residential goals for each year of the goals cycle. DEF does not interpret the Commission's order or the rules to mean that there is a requirement to make up annual under achievements in subsequent years. Additionally, per FPSC Rule 25-17.0021 (2), the Commission is required to reset goals for each utility at least once every 5 years. This means that the Commission is expected to reset the annual winter MW goals in 2019 for the next goals cycle beginning in 2020. This process will afford DEF the opportunity to evaluate and recalibrate the annual savings impacts and participation levels that should be included in future goals.

DEF has and will continue to put forth its best efforts to promote energy efficiency and demand response measures that provide winter MW savings. DEF has provided incentives to residential customers on 112,497 measures and has added 23,220 customers to its residential demand response program since the beginning of the goals cycle.

Additionally, a review of the annual achievements relative to annual goals shows that the driver of the shortfall on a cumulative basis is due to the 2015 annual results. This was primarily due to the fact that the Program Plans designed to achieve the 2015 goals were not approved by the Commission until the fourth quarter of 2015 and therefore weren't implemented until 2016.

Another important issue to consider in assessing MW achievements versus goals is that achievements for the residential and commercial segments combined significantly exceeded the combined 2017 annual and the combined 2017 cumulative goal. This is relevant because the resulting system impacts and cost savings to all customers are the same regardless of whether the demand (MW) savings come from commercial or residential achievements.

2. According to page 10 of the DSM Report, there were four approved projects for the Commercial Industrial Custom Incentive program. Please give the details for each

project's scope, including a breakdown of its overall costs and the cost-effectiveness test results.

Response:

| COMMERCIAL CUSTOM INCENTIVE PROGRAM PROJECT SUMMARY - 2017 | | | | |
|--|---|--------------|-----------|-----------|
| Commercial Business | Project Scope | Project Cost | Incentive | RIM Score |
| Gas Station & Convenience Store | Whole building effects of energy efficient lighting and cool roof | \$ 49,263 | \$1,051 | 1.01 |
| Gas Station & Convenience Store | Whole building effects of energy efficient lighting and cool roof | \$ 53,922 | \$1,051 | 1.01 |
| Community College | Thermal Energy Storage | \$ 1,930,000 | \$54,150 | 2.37 |
| Grocery Store | Whole building effects of energy efficient lighting and HVAC system | \$ 413,175 | \$12,200 | 1.11 |

3. According to Page 14 of the DSM report, the Curtailable Service Program has yet to enroll program participants. Please describe the company's efforts to enroll customers in this program.

Response:

In order to best meet individual customer needs, DEF offers multiple types of demand response programs to commercial customers and the Business Energy Advisor and Large Account Management teams work with commercial customers to inform them about all of the options that are available and help them determine which option is best suited for their operations. The Curtailable program is often not the best option because, in the case of a load management event, the responsibility to curtail falls on the customer and failure to curtail can result in significant penalties. Depending on the customers load and operation, the Interruptible or Stand-by program are often better options for the customer and also better from a company perspective because the demand response is controlled by the company. It is also important to note that, when considering all of the commercial demand response on a combined basis, DEF has exceeded the projected participation levels included in the Program Plan. DEF plans to evaluate the Curtailable program in conjunction with a review of all commercial demand response program offerings as part of the 2019 goals setting process.

4. Is the company considering or pursuing any new programs or modifications to existing DSM programs within the next year? Please explain.

Response:

DEF is not currently considering any new programs or modifications to its existing programs. DEF will continue to monitor and evaluate program performance and

participation relative to goals, impacts of changes to codes and standards, and impacts of technology advances and will propose changes and make adjustments to programs as deemed appropriate.

5. Please describe the company's process for monitoring any new federal energy efficiency standards and Florida Building Code requirements, including how the company modifies existing programs to reflect these changes if necessary (6th version of FLBC released June 2017, effective December 2017).

Response:

The residential and commercial program managers are responsible for monitoring changes to the Florida Building Code and for modifying programs standards to reflect these changes when necessary. DEF determined that there were changes in the 6th version of the FLBC released June 2017 that impacted its commercial energy efficiency program and filed a letter with the FPSC requesting approval of modifications to that program on December 7, 2017. DEF received approval from the Commission in a letter dated January 16, 2018, and those changes have now been implemented. DEF determined that there were no changes in the 6th version of the FLBC that would require modifications to its residential programs.

6. Please provide a detailed description of the company's research and development initiatives, including the status of each project, and any final reports related to the work completed under this DSM program.

Response:

DEF continues to investigate the potential applicability of emergent DSM technologies to enhance existing programs and potentially develop new programs utilizing these new technologies. See the following for a summary of the current activities:

- CTA-2045 standard modular demand response interface - These field pilots are testing the enhanced DSM capabilities of water heaters, retrofit water heater switches, heat pump water heaters, pool pumps and HVAC thermostats. We continue to perform demand response events, collect data and perform analytics on effectiveness.
- Integrated Advanced Control Algorithms for Commercial Buildings - DEF is collaborating with the University of South Florida to understand the impacts of integrating advanced control algorithms with existing building management systems on both energy efficiency and demand side management for commercial buildings. Demand response events were performed and analyzed during through February 2018. A final report is expected to be available by July 2018.
- Variable Speed Heat Pumps - This is a study to demonstrate the potential of improving energy efficiency and eliminating back-up heat needs of heat pumps.

Data collection through February 2018 has been collected and is being analyzed. A final report is expected to be available by July 2018.

- USF Renewable Energy Storage Demand Response Project – This project is a collaboration with the University of South Florida to study the use of a customer-sited energy storage system for demand response. This system's primary use is to smooth solar PV load fluctuations and island a portion of the load on loss of utility power, but we are also investigating the viability of using this system for demand response. An energy storage system upgrade is underway, and is expected to be available to begin testing by August 2018.
- Flexible Demand Response Project - We are participating in an EPRI project to study the potential of using customer DSM to compensate for variable loads and intermittent renewable generation sources. The status of this project is ongoing. See reports attached on Flexible DR requirements and a Flexible DR project report.
- Energy Management Circuit Breakers - This is a field pilot to study the potential to use advanced circuit breakers to improve energy efficiency and provide demand response capability for customer appliances. We are performing functional testing, demand response testing, and investigating other impacts from this technology. The data collection and analysis is expected to continue through August 2018.
- Partnered with EPRI on a project to assess the demand response opportunities for new and existing variable capacity heat pump systems in support of potential future load management programs.

7. Please describe any changes the company has made to its process for ensuring low-income customers are aware of, and have access to, conservation programs.

Response:

DEF filed modifications to eligibility requirements for the Low Income Weatherization Assistance Program in 2017. These changes, which were approved by the FPSC in April 2017, align the program eligibility criteria with that of the organizations and agencies that provide weatherization assistance and are intended to provide greater access to the program benefits. DEF held meetings with various organizations and agencies and made presentations at low income conferences and various community events in 2017 to communicate these changes and ensure customers are aware of the benefits of its low income programs.

DEF also made changes to its process for selecting neighborhoods for the Neighborhood Energy Saver program in 2017. DEF began targeting neighborhoods with a higher concentration of single family homes that can benefit from insulation, duct repair, and HVAC tune-up measures. DEF invites all customers who live in the selected communities to a kick-off event and shares information about not only the benefits provided through the Neighborhood Energy Saver program, but also the other incentives

and rebates that these customers may be eligible for through DEF's other residential program offerings.

8. Please provide the number of participants for each type of energy audit during 2017:

Response:

- a. Residential
 - i. Free Walk-through – 15,913
 - ii. Customer Online – 11,402
 - iii. Customer Phone-Assisted – 9,814

- b. Commercial/Industrial
 - i. Walk-Through - 635
 - ii. Phone-Assisted - 2

9. The following programs fell below the company's initial projected participation penetration levels:

- a. Please describe the company's assessment on why it did not achieve the projected participation levels for 2017.

Response:

Neighborhood Energy Saver - The reason that the Neighborhood Energy Saver program fell below the projected participation levels on a cumulative basis is due entirely to participation levels in 2015. The reason participation in 2015 was so far under the goal is that the Program Plan that included the measures required to meet that participation level was not approved by the Commission until the fourth quarter of 2015 and the changes included in that plan could not be implemented until 2016. Actual participation in each subsequent year has exceeded the projected participation included in the Plan.

Better Business - Although the reported participation for the Commercial programs was significantly less than the projected participation, the demand and energy savings from the Better Business program well exceeded the projected savings included in the Program Plan. There is a wide diversity in both the types of commercial customers and the demand and energy requirements of those customers. The types of measures

incentivized through the Better Business program are often a bigger driver of program achievements and cost effectiveness than the actual number of participants.

- b. Is the company considering or researching any program modifications to ensure these programs are able to more accurately achieve the projected participation levels? Please explain.

Response:

Neighborhood Energy Savings - DEF is not planning to make any modifications to the Neighborhood Energy Savings program. DEF plans to continue to target installing measures in 4,500 homes annually and providing home energy reports to 15,000 low income customers.

Better Business - DEF is not planning to make any modifications to the Better Business program. DEF plans to continue marketing this program to all commercial customers and will continue to focus on achieving its commercial demand and energy goals.

10. The following programs are exceeding the company's initial projected participation penetration levels:

Does the company expect these participation levels to continue at the current level? Please explain

Response:

Home Energy Improvement - DEF plans to continue to actively market and promote its residential programs to customers and expects to maintain these participation levels. However, DEF attributes some of this excess participation to recent favorable economic conditions that have provided the means for customers to make investments in energy conservation measures. The ability to maintain this level of participation will in part be driven by future economic conditions, as well as other market conditions.

Response:

Standby Generation - DEF expects to continue to add new participants to the Stand-by Generation program. DEF is currently projecting approximately 40 new participants in 2018.