DUKE ENERGY FLORIDA

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July 21, 2016

VIA ELECTRONIC FILING

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

Re: *DEF's Load Research Sample Plan: Undocketed*

Dear Ms. Stauffer:

Pursuant to Rule 25-6.0437, F.A.C, on behalf of Duke Energy Florida, LLC ("DEF"), please find enclosed for your review and approval, DEF's Load Research Sample Plan. The load research sampling period will be April 1, 2017 through March 31, 2018. In accordance with Rule 25-6.0437 F.A.C, the final load research report will be filed on or before July 31, 2018. Please notify me at your earliest convenience of the results of Staff's review of the plan to allow time for implementation.

Thank you for your assistance in this matter. Please feel free to call me at (727) 820-4692 should you have any questions concerning this filing.

Respectfully,

s/Dianne M. Triplett
Dianne M. Triplett

DMT/mw
Enclosures
cc: Patricia Daniel, FPSC, pdaniel@psc.state.fl.us

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DUKE ENERGY FLORIDA, LLC'S

LOAD RESEARCH SAMPLING PLAN

FOREWORD

The following load research sampling plan is being submitted by Duke Energy Florida ("DEF") in compliance with Rule 25-6.0437, Florida Administrative Code ("F.A.C").

Section 3 of the Rule specifies that the plan shall provide for sampling all rate classes that account for more than one percent of a utility's annual retail sales. It also specifies that the sampling plan be designed to provide estimates of the averages of the 12 monthly coincident peaks for each rate class within plus or minus 10% at the 90% confidence level. The sampling plan shall also be designed to provide estimates of the summer and winter peak demands for each rate class within plus or minus 10% at the 90% confidence level, except for the General Service Non-Demand rate class which shall be designed to provide estimates of the summer and winter peak demands within plus or minus 15% at the 90% confidence level.

STUDY PERIOD

The proposed sampling plan will be implemented during the 4th quarter 2016 and the 1st quarter 2017 with data collection commencing on April 1, 2017 and continuing through March 31, 2018.

APPLICABLE RATE CLASSES

The following table provides the annual retail sales by rate class for Duke Energy Florida for twelve months ending December 2015. The applicable rate classes account for more than one percent of DEF's retail sales.

PERCENT OF RETAIL SALES BY RATE CLASS

12 months ending December 2015

Rate Class	Percent of Sales
Residential (RS)	**59.4**
General Service Non-Demand (GS)	**5.7**
General Service Demand (GSD)	**30.8**
Curtailable (CS)	0.1
Interruptible (IS)	**3.0**
Firm Standby Service (SS-1)	0.1
Interruptible Standby Service (SS-2)	0.1
Curtailable Standby Service (SS-3)	0.1
Lighting	0.7
Total	**100**

PROPOSED SAMPLING PLAN

Residential (RS) Rate Class

Using DEF's billing records, the residential sample was stratified on Winter and Summer billed kWh. Because of the large number of residences on load management, the residential sample was further stratified by the standard residential rate and load management rate. Strata breakpoints were selected using the Dalenius-Hodges cumulative square root "uf" technique. A Neyman Allocation was used to determine the sample sizes. The strata were over-sampled to account for missed load profile reads and temporary equipment failure throughout the study period. The residential sample size and stratum allocations are outlined in the following table for a total sample size of 325.

Stratum	Winter Low (<= 1100 kWh)	Winter High (> 1100 kWh)
RS Standard Summer Low (<= 1800 kWh)	55	35
RS Standard Summer High (> 1800 kWh)	35	60
RS LM Summer Low (<= 1600 kWh)	40	30
RS LM Summer High (> 1600 kWh)	30	40
Total	160	165

General Service Non-Demand (GS) Rate Class

The GS Rate Class was stratified by Summer billed kWh and revenue class (commercial, public authority, and industrial). The strata breakpoints were selected using the Dalenius-Hodges

cumulative square root "uf" technique. Neyman allocation was used to calculate the strata sample sizes. The largest customers were identified and included in a census stratum. The strata were over-sampled to account for missed load profile reads and temporary equipment failure throughout the study period. The General Service sample size and stratum allocations are outlined in the following table for a total sample size of 620.

Cell (Stratum)	Sample Size
Commercial: Summer kWh <= 1250	100
Commercial: Summer kWh > 1250, but <= 5000	100
Commercial: Summer kWh > 5000, but <= 115,000	100
Commercial: Summer kWh > 115,000 (Census)	12
Public Authority: Summer kWh <= 1630	44
Public Authority: Summer kWh > 1630, but <= 10,030	38
Public Authority: Summer kWh > 10,030, but <= 60,030	44
Public Authority: Summer kWh > 60,030	47
Industrial: Summer kWh <= 6,250	50
Industrial: Summer kWh > 6,250, but <= 26,250	45
Industrial: Summer kWh > 26,250 (Census)	40
Total	620

General Service Demand (GSD) Rate Class

The GSD Rate Class was also stratified by revenue class (commercial, public authority, and industrial). Within each revenue class, one dimensional stratification with Neyman allocation

was used for the GSD rate class sample. The Dalenius-Hodges cumulative square root "uf" technique was applied to the 3rd highest demand of the last 12 months to establish small, medium and large cells. Finally, customers with the 3rd highest demand greater than 1000 kW are already equipped with mass memory meters for power factor billing, so they are included in a census stratum. The strata were over-sampled to account for missed load profile reads and temporary equipment failure throughout the study period. The General Service Demand sample size and stratum allocations are outlined in the following table for a total sample size of 524.

Cell (Stratum)	Sample Size
Commercial: 3rd highest kW <= 40	36
Commercial: 3rd highest kW > 40, but <= 200	46
Commercial: 3rd highest kW > 200, but <= 1000	39
Commercial: 3rd highest kW > 1000 (Census)	113
Public Authority: 3rd highest kW <= 85	30
Public Authority: 3rd highest kW > 85, but <= 355	30
Public Authority: 3rd highest kW > 355, but <= 1000	30
Public Authority: 3rd highest kW > 1000 (Census)	59
Industrial: 3rd highest kW <= 100	30
Industrial: 3rd highest kW > 100, but <= 360	30
Industrial: 3rd highest kW > 360, but <= 1000	30
Industrial: 3rd highest kW > 1000 (Census)	51
Total	524

Interruptible Service (IS) Rate Class

The IS rate class is 100% mass memory metered for billing purposes, so we use all customers for the Load Research Study.