DUKE ENERGY FLORIDA

Matthew R. Bernier
ASSOCIATE GENERAL COUNSEL

July 31, 2018

VIA ELECTRONIC FILING

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

Re: *Cost of Service Load Research Study; Undocketed*

Dear Ms. Stauffer:

Pursuant to Rule 25-6.0437(7), F.A.C., please find enclosed for filing Duke Energy Florida, LLC's Cost of Service Load Research Study Results for the twelve-month period ending March 31, 2018.

Thank you for your assistance in this matter. Please feel free to call me at (850) 521-1428 should you have any questions concerning this filing.

Respectfully,

/s/ Matthew R. Bernier

Matthew R. Bernier

MRB/cmk
Enclosure

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DUKE ENERGY FLORIDA, LLC

LOAD RESEARCH STUDY RESULTS

APRIL, 2017 THROUGH MARCH, 2018

SUBMITTED JULY 31, 2018

FPSC RULE 25-6.0437(7) F.A.C.

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Study Background and Objectives

The purpose of this study is to meet the requirements of the Florida Public Service Commission's ("FPSC") Cost-of-Service Load Research Rule, Rule 25-6.0437, F.A.C.

Section 3 of the Rule requires that all rate classes that account for more than one percent of a utility's annual retail sales be sampled every three years. The studies must be designed to provide estimates of the average of the 12 monthly coincident peaks for each rate class within plus or minus 10% relative precision at the 90% confidence level. The samples shall also be designed to provide estimates of the summer and winter peak demands for each rate class within plus or minus 10% relative precision 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% relative precision at the 90% confidence interval.

Study Period

The samples for this study were designed in the summer of 2016. The sample plan was submitted to the FPSC staff on July 21, 2016, and approved on October 20, 2016. Interval recording meters were installed in the winter of 2016/2017. Data collection began on April 1, 2017 and continued through March 31, 2018.

Residential (RS) Rate Class

The Residential rate class had almost 1,570,000 customers when data collection commenced. Approximately 425,000 customers were on the load management rate at that time. Due to the large number of residences on load management, independent samples were drawn for both the load management and the standard residential rates. The samples were stratified on winter and summer billed kWh. The RS sample size and stratum allocations are outlined in Table 1 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

Table 1 – *Residential Sample Design*

General Service Non-Demand (GS) Rate Class

The General Service Non-Demand rate class had over 140,000 customers when data collection commenced. It was stratified on Summer billed kWh and revenue class – commercial, public authority, and industrial. The General Service Non-Demand sample size and stratum allocations are outlined in Table 2 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

Table 2 – *GS Sample Design*

General Service Demand (GSD) Rate Class

The General Service Demand rate class had over 48,000 customers when data collection commenced. The GSD rate class was stratified by revenue class – commercial, public authority, and industrial. Each customer's 3rd highest demand of the last 12 months was used to establish small, medium and large cells. If a customer's 3rd highest demand is greater than 1000 kW, then the customer is already equipped with an interval meter for billing, and would be included in a census stratum. The General Service Demand sample size and stratum allocations are outlined in Table 3 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

Table 3 – *GSD Sample Design*

Interruptible Service (IS) Rate Class

The Interruptible rate class did not require sampling because each customer in this class has an interval data meter for billing purposes. Data for all IS accounts was used in the analysis. In April 2017, there were 122 customers in the IS rate class.

Metering of Sample Members

Solid state meters with mass memory were used for all of the sample accounts. These meters were configured to record customer energy usage in 15 minute intervals. The data from these meters was collected, processed and validated for accuracy in the Itron MV90xi software package. Monthly extract files of interval data for all sample points were created from the Itron MV90xi system and transferred to the Oracle Load Analysis System. The Oracle Load Analysis System was utilized to run the monthly customer class analysis estimates contained in this report.

Selection of Replacements

Alternates for customers in the sampled rate classes were randomly selected at the time of the sample design. When a replacement was needed, the first available alternate in the same stratum as the original sample point was selected.

Statistical Accuracy Achieved

The winter peak hour occurred on Thursday, January 18, 2018 at hour ending 8:00 AM and the summer peak occurred on Wednesday, July 26, 2017 at hour ending 5:00 PM. The ratio method was used for expansion to the class level for RS, GS, and GSD rate classes. No expansion was necessary for IS, because all customers were included in the analysis. The target level of statistical accuracy for the winter system peak, summer system peak and average of the 12 coincident peaks was met for all classes.

Tables 4 – 7 contain the estimated class demands for the system peak hour, the class coincident peak hour, and the non-coincident peaks for the Residential, General Service Non-Demand, General Service Demand, and Interruptible Service rate classes. Also included are the 90% confidence intervals around the monthly peak demands and their relative precision in percentage. The averages of the twelve monthly system peaks for all rate classes, their 90% confidence intervals and their relative precision are computed for the study period. The statistics shown in Tables 4-7 were obtained using Oracle's Load Analysis software package.

DUKE ENERGY FLORIDA
LOAD RESEARCH DATA
APRIL 2017 - MARCH 2018

RESIDENTIAL SERVICE (RS) CLASS

		Class Coincident Peak					Coincident with System Peak					Non-Coincident Peak		
Month	KWH Sales	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)	Date	Time	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)	Date	Time	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)
Apr-17	1,528,367,082	4583.9	228.9	4.99	4/28/2017	18:00	4,476.9	202.8	4.53	4/28/2017	17:00	9,209.1	315.9	3.43
May-17	1,863,246,165	4847.0	203.0	4.19	5/29/2017	18:00	4,393.5	171.3	3.90	5/30/2017	17:00	9,405.2	298.1	3.17
Jun-17	1,880,823,297	4977.4	269.5	5.41	6/25/2017	18:00	4,751.7	231.9	4.88	6/22/2017	17:00	9,439.8	321.9	3.41
Jul-17	2,297,314,062	5332.1	184.2	3.45	**7/6/2017**	**18:00**	5,036.4	200.5	3.98	**7/26/2017**	**17:00**	10,219.8	275.9	2.70
Aug-17	2,206,153,300	5234.4	233.0	4.45	8/6/2017	17:00	4,734.6	182.8	3.86	8/7/2017	17:00	9,555.3	304.8	3.19
Sep-17	1,839,014,412	4578.7	191.9	4.19	9/27/2017	18:00	4,323.6	167.8	3.88	9/28/2017	17:00	9,665.1	337.3	3.49
Oct-17	1,724,717,173	4949.2	261.7	5.29	10/8/2017	16:00	4,320.9	179.8	4.16	10/9/2017	16:00	9,778.8	327.6	3.35
Nov-17	1,237,334,989	3212.1	234.2	7.29	11/5/2017	16:00	2,921.1	198.3	6.79	11/7/2017	16:00	8,942.3	341.6	3.82
Dec-17	1,459,065,541	3864.9	360.8	9.34	12/11/2017	8:00	3,864.9	360.6	9.33	12/11/2017	8:00	10,797.4	485.9	4.50
Jan-18	1,843,197,447	6313.0	302.5	4.79	**1/18/2018**	**8:00**	6,313.0	302.4	4.79	**1/18/2018**	**8:00**	12,343.4	404.9	3.28
Feb-18	1,199,942,566	3305.8	204.5	6.19	2/25/2018	17:00	2,980.1	235.7	7.91	2/26/2018	16:00	8,969.9	356.1	3.97
Mar-18	1,383,734,685	3386.2	233.9	6.91	3/29/2018	19:00	3,055.2	217.2	7.11	3/1/2018	16:00	10,800.5	447.1	4.14
	Twelve Coincident Peak Statistics:						**4264.3**	**89.2**	**2.09**					

Table 4 - *RS Class Results*

DUKE ENERGY FLORIDA
LOAD RESEARCH DATA
APRIL 2017 - MARCH 2018

GENERAL SERVICE (GS) CLASS

		Class Coincident Peak					Coincident with System Peak					Non-Coincident Peak		
Month	KWH Sales	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)	Date	Time	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)	Date	Time	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)
Apr-17	168,670,424	470.8	29.8	6.33	4/28/2017	15:00	416.4	28.4	6.81	4/28/2017	17:00	910.5	46.8	5.14
May-17	199,997,579	495.2	28.8	5.81	5/16/2017	15:00	433.2	27.3	6.30	5/30/2017	17:00	959.0	45.3	4.72
Jun-17	197,062,168	512.3	27.8	5.42	6/22/2017	15:00	481.2	27.3	5.68	6/22/2017	17:00	985.4	50.3	5.10
Jul-17	206,326,061	509.3	29.4	5.77	7/27/2017	15:00	456.0	24.2	5.31	**7/26/2017**	**17:00**	963.8	49.3	5.12
Aug-17	226,968,339	547.6	27.4	5.00	**8/23/2017**	**15:00**	472.2	25.5	5.41	8/7/2017	17:00	1,003.9	44.6	4.44
Sep-17	189,198,556	531.8	34.0	6.39	9/27/2017	14:00	496.9	33.5	6.75	9/28/2017	17:00	1,017.9	53.2	5.23
Oct-17	204,681,872	554.6	29.2	5.27	10/10/2017	14:00	514.1	27.8	5.40	10/9/2017	16:00	1,055.2	48.1	4.56
Nov-17	161,779,052	447.3	31.6	7.07	11/7/2017	14:00	409.0	26.5	6.48	11/7/2017	16:00	888.7	47.2	5.31
Dec-17	165,300,322	411.7	30.3	7.37	12/19/2017	15:00	343.1	32.4	9.45	12/11/2017	8:00	1,034.3	60.3	5.83
Jan-18	160,871,495	512.8	42.8	8.35	**1/18/2018**	**10:00**	397.8	31.9	8.03	**1/18/2018**	**8:00**	1,049.4	66.4	6.33
Feb-18	147,213,785	415.5	26.8	6.45	2/21/2018	14:00	374.8	24.5	6.54	2/26/2018	16:00	900.6	49.3	5.47
Mar-18	163,709,148	453.1	28.6	6.30	3/1/2018	15:00	420.9	26.8	6.37	3/1/2018	16:00	976.1	55.5	5.69
		Twelve Coincident Peak Statistics:					**434.6**	**15.9**	**3.65**					

Table 5 - *GS Class Results*

DUKE ENERGY FLORIDA
LOAD RESEARCH DATA
APRIL 2017 - MARCH 2018

GENERAL SERVICE DEMAND (GSD) CLASS

		Class Coincident Peak					Coincident with System Peak					Non-Coincident Peak		
Month	KWH Sales	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)	Date	Time	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)	Date	Time	Estimated Peak (MW)	90% Confidence Interval (MW)	Relative Precision (%)
Apr-17	1,098,637,558	2,246.8	67.4	3.00	4/28/2017	16:00	2,171.6	60.4	2.78	4/28/2017	17:00	2,738.6	80.5	2.94
May-17	1,228,991,104	2,324.7	66.2	2.85	5/31/2017	15:00	2,240.8	58.9	2.63	5/30/2017	17:00	2,851.8	79.6	2.79
Jun-17	1,246,921,948	2,400.2	71.6	2.98	6/22/2017	15:00	2,331.9	57.8	2.48	6/22/2017	17:00	2,882.7	80.1	2.78
Jul-17	1,294,193,653	2,366.0	64.6	2.73	7/26/2017	15:00	2,307.7	57.2	2.48	**7/26/2017**	**17:00**	2,839.6	83.2	2.93
Aug-17	1,392,172,213	2,495.0	65.2	2.61	**8/31/2017**	**14:00**	2,378.6	54.0	2.27	8/7/2017	17:00	3,007.9	79.1	2.63
Sep-17	1,130,396,201	2,282.2	69.2	3.03	9/1/2017	14:00	2,166.1	60.0	2.77	9/28/2017	17:00	2,742.5	79.8	2.91
Oct-17	1,273,277,912	2,493.6	68.5	2.75	10/10/2017	15:00	2,454.0	66.0	2.69	10/9/2017	16:00	3,000.3	78.9	2.63
Nov-17	1,012,926,501	2,034.1	68.1	3.35	11/9/2017	14:00	1,960.8	61.2	3.12	11/7/2017	16:00	2,526.7	82.9	3.28
Dec-17	1,072,199,502	2,152.9	74.2	3.45	12/6/2017	15:00	1,607.9	87.3	5.43	12/11/2017	8:00	2,805.1	95.7	3.41
Jan-18	1,022,414,591	1,860.5	73.5	3.95	**1/18/2018**	**11:00**	1,696.9	83.0	4.89	**1/18/2018**	**8:00**	2,683.0	84.2	3.14
Feb-18	891,850,243	1,893.5	64.1	3.39	2/20/2018	14:00	1,841.9	57.8	3.14	2/26/2018	16:00	2,331.7	79.3	3.40
Mar-18	1,017,558,524	2,106.4	73.8	3.50	3/1/2018	14:00	2,087.4	72.4	3.47	3/1/2018	16:00	2,577.3	87.4	3.39
		Twelve Coincident Peak Statistics:					**2,103.8**	**47.2**	**2.24**					

Table 6 - *GSD Class Results*

DUKE ENERGY FLORIDA
LOAD RESEARCH DATA
APRIL 2017 - MARCH 2018

INTERRUPTIBLE (IS) CLASS

		Class Coincident Peak					Coincident with System Peak					Non-Coincident Peak		
Month	KWH Sales	Estimated Peak (MW)	* 90% Confidence Interval (MW)	* Relative Precision (%)	Date	Time	Estimated Peak (MW)	* 90% Confidence Interval (MW)	* Relative Precision (%)	Date	Time	Estimated Peak (MW)	* 90% Confidence Interval (MW)	* Relative Precision (%)
Apr-17	132,168,443	253.0	N/A	N/A	4/26/2017	19:00	223.3	N/A	N/A	4/28/2017	17:00	376.5	N/A	N/A
May-17	144,829,585	259.3	N/A	N/A	5/1/2017	20:00	233.2	N/A	N/A	5/30/2017	17:00	381.4	N/A	N/A
Jun-17	143,295,370	245.5	N/A	N/A	6/8/2017	23:00	238.8	N/A	N/A	6/22/2017	17:00	363.1	N/A	N/A
Jul-17	147,906,257	260.7	N/A	N/A	7/25/2017	17:00	193.8	N/A	N/A	**7/26/2017**	**17:00**	383.5	N/A	N/A
Aug-17	155,496,042	274.7	N/A	N/A	**8/8/2017**	**9:00**	219.4	N/A	N/A	8/7/2017	17:00	397.1	N/A	N/A
Sep-17	127,384,886	266.5	N/A	N/A	9/26/2017	22:00	223.0	N/A	N/A	9/28/2017	17:00	378.3	N/A	N/A
Oct-17	146,023,220	259.8	N/A	N/A	10/27/2017	21:00	186.2	N/A	N/A	10/9/2017	16:00	382.1	N/A	N/A
Nov-17	151,816,841	258.9	N/A	N/A	11/13/2017	21:00	231.3	N/A	N/A	11/7/2017	16:00	374.4	N/A	N/A
Dec-17	143,468,836	260.9	N/A	N/A	12/7/2017	17:00	184.6	N/A	N/A	12/11/2017	8:00	357.8	N/A	N/A
Jan-18	150,595,734	261.4	N/A	N/A	1/22/2018	17:00	234.9	N/A	N/A	**1/18/2018**	**8:00**	374.3	N/A	N/A
Feb-18	138,835,606	279.7	N/A	N/A	**2/12/2018**	**18:00**	220.4	N/A	N/A	2/26/2018	16:00	355.3	N/A	N/A
Mar-18	150,168,771	258.2	N/A	N/A	3/2/2018	22:00	214.9	N/A	N/A	3/1/2018	16:00	362.7	N/A	N/A
		Twelve Coincident Peak Statistics:					**217.0**							

* All accounts were used for the IS analysis, so the confidence interval and relative precision do not apply.

Table 7 - *IS Class Results*

APPENDIX

Development of Load Factors

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Estimated Coincident Peak	90% Confidence Interval	Estimated Noncoincident Peak	90% Confidence Interval	Estimated Customer Maximum Demand	90% Confidence Interval
Residential Service							
	Apr-17	4,476.9	202.8	4,583.9	228.9	9209.1	315.9
	May-17	4,393.5	171.3	4,847.0	203.0	9405.2	298.1
	Jun-17	4,751.7	231.9	4,977.4	269.5	9439.8	321.9
	Jul-17	5,036.4	200.5	5,332.1	184.2	10219.8	275.9
	Aug-17	4,734.6	182.8	5,234.4	233.0	9555.3	304.8
	Sep-17	4,323.6	167.8	4,578.7	191.9	9665.1	337.3
	Oct-17	4,320.9	179.8	4,949.2	261.7	9778.8	327.6
	Nov-17	2,921.1	198.3	3,212.1	234.2	8942.3	341.6
	Dec-17	3,864.9	360.6	3,864.9	360.8	10797.4	485.9
	Jan-18	6,313.0	302.4	6,313.0	302.5	12343.4	404.9
	Feb-18	2,980.1	235.7	3,305.8	204.5	8969.9	356.1
	Mar-18	3,055.2	217.2	3,386.2	233.9	10800.5	447.1

Annual Peak: 6,313 MW

Annual KWH: 20,462,910,719

12 Month Coincident Peak Average: 4,264 MW

12 CP Load Factor: 0.548

90% Confidence Interval: 89 MW

Class (NCP) Load Factor: 0.370

Sum of individual customer annual max demands 13,911 MW

Customer (Billing or Maximum Demand) Load Factor: 0.168

Supporting Schedules:

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Estimated Coincident Peak	90% Confidence Interval	Estimated Noncoincident Peak	90% Confidence Interval	Estimated Customer Maximum Demand	90% Confidence Interval
General Service Non-Demand							
	Apr-17	416.4	28.4	470.8	29.8	910.5	46.8
	May-17	433.2	27.3	495.2	28.8	959.0	45.3
	Jun-17	481.2	27.3	512.3	27.8	985.4	50.3
	Jul-17	456.0	24.2	509.3	29.4	963.8	49.3
	Aug-17	472.2	25.5	547.6	27.4	1003.9	44.6
	Sep-17	496.9	33.5	531.8	34.0	1017.9	53.2
	Oct-17	514.1	27.8	554.6	29.2	1055.2	48.1
	Nov-17	409.0	26.5	447.3	31.6	888.7	47.2
	Dec-17	343.1	32.4	411.7	30.3	1034.3	60.3
	Jan-18	397.8	31.9	512.8	42.8	1049.4	66.4
	Feb-18	374.8	24.5	415.5	26.8	900.6	49.3
	Mar-18	420.9	26.8	453.1	28.6	976.1	55.5

Annual Peak: 555 MW

Annual KWH: 2,191,778,800

12 Month Coincident Peak Average: 435 MW

12 CP Load Factor: 0.576

90% Confidence Interval: 16 MW

Class (NCP) Load Factor: 0.451

Sum of individual customer annual max demands 1413 MW

Customer (Billing or Maximum Demand) Load Factor: 0.177

Supporting Schedules:

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Estimated Coincident Peak	90% Confidence Interval	Estimated Noncoincident Peak	90% Confidence Interval	Estimated Customer Maximum Demand	90% Confidence Interval
General Service Demand							
	Apr-17	2,171.6	60.4	2,246.8	67.4	2738.6	80.5
	May-17	2,240.8	58.9	2,324.7	66.2	2851.8	79.6
	Jun-17	2,331.9	57.8	2,400.2	71.6	2882.7	80.1
	Jul-17	2,307.7	57.2	2,366.0	64.6	2839.6	83.2
	Aug-17	2,378.6	54.0	2,495.0	65.2	3007.9	79.1
	Sep-17	2,166.1	60.0	2,282.2	69.2	2742.5	79.8
	Oct-17	2,454.0	66.0	2,493.6	68.5	3000.3	78.9
	Nov-17	1,960.8	61.2	2,034.1	68.1	2526.7	82.9
	Dec-17	1,607.9	87.3	2,152.9	74.2	2805.1	95.7
	Jan-18	1,696.9	83.0	1,860.5	73.5	2683.0	84.2
	Feb-18	1,841.9	57.8	1,893.5	64.1	2331.7	79.3
	Mar-18	2,087.4	72.4	2,106.4	73.8	2577.3	87.4

Annual Peak: 2,495 MW

12 Month Coincident Peak Average: 2,104 MW

90% Confidence Interval: 47 MW

Sum of individual customer annual max demands: 3,321 MW

Annual KWH: 13,681,539,949

12 CP Load Factor: 0.742

Class (NCP) Load Factor: 0.626

Customer (Billing or Maximum Demand) Load Factor: 0.470

Supporting Schedules:

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Actual Coincident Peak	90% Confidence Interval	Actual Noncoincident Peak	90% Confidence Interval	Actual Customer Maximum Demand	90% Confidence Interval
Curtailable Service							
	Apr-17	10.8	N/A	19.5	N/A	20.6	N/A
	May-17	12.2	N/A	24.3	N/A	25.6	N/A
	Jun-17	10.2	N/A	21.2	N/A	22.4	N/A
	Jul-17	7.6	N/A	18.6	N/A	20.0	N/A
	Aug-17	7.1	N/A	25.8	N/A	26.5	N/A
	Sep-17	8.4	N/A	20.4	N/A	21.2	N/A
	Oct-17	6.7	N/A	19.3	N/A	20.0	N/A
	Nov-17	6.7	N/A	18.2	N/A	19.4	N/A
	Dec-17	6.7	N/A	19.0	N/A	20.0	N/A
	Jan-18	4.9	N/A	19.9	N/A	20.6	N/A
	Feb-18	7.1	N/A	19.1	N/A	19.8	N/A
	Mar-18	7.1	N/A	20.5	N/A	21.0	N/A

Annual Peak: 25.8 MW

12 Month Coincident Peak Average: 8.0 MW

90% Confidence Interval: N/A

Sum of individual customer annual max demands: 26.9 MW

Annual KWH: 75,412,560

12 CP Load Factor: 1.082

Class (NCP) Load Factor: 0.334

Customer (Billing or Maximum Demand) Load Factor: 0.320

Supporting Schedules:

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Actual Coincident Peak	90% Confidence Interval	Actual Noncoincident Peak	90% Confidence Interval	Actual Customer Maximum Demand	90% Confidence Interval
Interruptible Service							
	Apr-17	223.3	N/A	253.0	N/A	376.5	N/A
	May-17	233.2	N/A	259.3	N/A	381.4	N/A
	Jun-17	238.8	N/A	245.5	N/A	363.1	N/A
	Jul-17	193.8	N/A	260.7	N/A	383.5	N/A
	Aug-17	219.4	N/A	274.7	N/A	397.1	N/A
	Sep-17	223.0	N/A	266.5	N/A	378.3	N/A
	Oct-17	186.2	N/A	259.8	N/A	382.1	N/A
	Nov-17	231.3	N/A	258.9	N/A	374.4	N/A
	Dec-17	184.6	N/A	260.9	N/A	357.8	N/A
	Jan-18	234.9	N/A	261.4	N/A	374.3	N/A
	Feb-18	220.4	N/A	279.7	N/A	355.3	N/A
	Mar-18	214.9	N/A	258.2	N/A	362.7	N/A

Annual Peak: 280 MW

12 Month Coincident Peak Average: 217 MW

90% Confidence Interval: N/A

Sum of individual customer annual max demands: 471.2 MW

Annual KWH: 1,731,989,591

12 CP Load Factor: 0.911

Class (NCP) Load Factor: 0.707

Customer (Billing or Maximum Demand) Load Factor: 0.420

Supporting Schedules:

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Actual Coincident Peak	90% Confidence Interval	Actual Noncoincident Peak	90% Confidence Interval	Actual Customer Maximum Demand	90% Confidence Interval
Firm Standby Service							
SS-1	Apr-17	6.3	N/A	12.3	N/A	22.3	N/A
	May-17	8.6	N/A	11.4	N/A	17.9	N/A
	Jun-17	4.0	N/A	14.2	N/A	20.9	N/A
	Jul-17	10.5	N/A	16.2	N/A	19.9	N/A
	Aug-17	10.6	N/A	17.4	N/A	28.6	N/A
	Sep-17	10.7	N/A	16.4	N/A	26.7	N/A
	Oct-17	9.7	N/A	14.4	N/A	23.6	N/A
	Nov-17	3.3	N/A	11.5	N/A	21.1	N/A
	Dec-17	1.5	N/A	9.5	N/A	25.9	N/A
	Jan-18	7.4	N/A	11.0	N/A	16.2	N/A
	Feb-18	5.3	N/A	15.0	N/A	18.4	N/A
	Mar-18	7.0	N/A	7.2	N/A	13.8	N/A

Annual Peak: 17.38563 MW

Annual KWH: 49,298,208

12 Month Coincident Peak Average: 7.1 MW

12 CP Load Factor: 0.796

90% Confidence Interval: N/A

Class (NCP) Load Factor: 0.324

Sum of individual customer annual max demands 30.3 MW

Customer (Billing or Maximum Demand) Load Factor: 0.186

Supporting Schedules:

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Actual Coincident Peak	90% Confidence Interval	Actual Noncoincident Peak	90% Confidence Interval	Actual Customer Maximum Demand	90% Confidence Interval
Interruptible Standby Service							
SS-2	Apr-17	3.2	N/A	19.2	N/A	23.9	N/A
	May-17	14.4	N/A	23.9	N/A	24.1	N/A
	Jun-17	18.8	N/A	18.8	N/A	24.1	N/A
	Jul-17	32.9	N/A	44.9	N/A	47.1	N/A
	Aug-17	0.0	N/A	38.6	N/A	47.9	N/A
	Sep-17	28.0	N/A	40.1	N/A	50.0	N/A
	Oct-17	15.8	N/A	39.0	N/A	56.5	N/A
	Nov-17	7.5	N/A	15.5	N/A	23.4	N/A
	Dec-17	3.3	N/A	15.3	N/A	24.8	N/A
	Jan-18	24.0	N/A	44.7	N/A	53.5	N/A
	Feb-18	41.1	N/A	41.1	N/A	56.8	N/A
	Mar-18	24.7	N/A	35.7	N/A	47.9	N/A

Annual Peak: 44.9 MW

12 Month Coincident Peak Average: 17.8 MW

90% Confidence Interval: N/A

Sum of individual customer annual max demands: 57.4 MW

Annual KWH: 106,990,326

12 CP Load Factor: 0.686

Class (NCP) Load Factor: 0.272

Customer (Billing or Maximum Demand) Load Factor: 0.213

Supporting Schedules:

FLORIDA PUBLIC SERVICE COMMISSION

COMPANY: Duke Energy Florida

EXPLANATION: For each rate class that is not 100% interval metered, provide the estimated historic value and 90% confidence interval by month from the latest load research for (1) contribution to monthly system peaks (coincident), (2) monthly noncoincident peak (class peaks) and (3) monthly customer maximum demand (billing demand for demand classes). For classes, 100% metered with interval meters provide actual monthly values for the aforementioned demands and identify such as actual values. Also, provide the annual KWH as well as the 12 CP Load Factor, Class NCP Load Factor and the Customer Load Factor for each class.

Type of Data Shown:
_X__ Historical Test Year Ended 03/31/18
____Projected Test Year Ended ___/___/___
____Prior Year Ended ___/___/___

Rate Schedule	Month and Year	Actual Coincident Peak	90% Confidence Interval	Actual Noncoincident Peak	90% Confidence Interval	Actual Customer Maximum Demand	90% Confidence Interval
Curtailable Standby Service							
SS-3	Apr-17	0.0	N/A	18.9	N/A	18.9	N/A
	May-17	0.0	N/A	19.8	N/A	19.8	N/A
	Jun-17	0.0	N/A	19.7	N/A	19.7	N/A
	Jul-17	0.0	N/A	19.5	N/A	19.5	N/A
	Aug-17	17.7	N/A	19.1	N/A	19.1	N/A
	Sep-17	0.5	N/A	17.8	N/A	17.8	N/A
	Oct-17	8.4	N/A	19.5	N/A	19.5	N/A
	Nov-17	9.6	N/A	18.8	N/A	18.8	N/A
	Dec-17	12.3	N/A	17.7	N/A	17.7	N/A
	Jan-18	0.0	N/A	17.8	N/A	17.8	N/A
	Feb-18	5.7	N/A	17.7	N/A	17.7	N/A
	Mar-18	18.1	N/A	19.1	N/A	19.1	N/A

Annual Peak: 19.8 MW

12 Month Coincident Peak Average: 6.0 MW

90% Confidence Interval: N/A

Sum of individual customer annual max demands: 19.8 MW

Annual KWH: 65,936,184

12 CP Load Factor: 1.248

Class (NCP) Load Factor: 0.380

Customer (Billing or Maximum Demand) Load Factor: 0.380

Supporting Schedules:

DUKE ENERGY FLORIDA
ANALYSIS OF COINCIDENT LOADING FOR THE LIGHTING CLASS
FOR THE TEN YEARS ENDED DECEMBER 31, 2017

RATE SCHEDULE
LIGHTING - LS

Percentage of Lighting Load Occurring at Time of Monthly System Peak

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	TEN YR AVG % LIGHT LOAD
JAN	25%	30%	25%	23%	27%	28%	28%	-	21%	26%	23.30%
FEB	-	10%	4%	10%	14%	15%	11%	2%	7%	-	7.30%
MAR	-	-	-	-	-	-	-	-	-	-	0.00%
APR	-	-	-	-	-	-	-	-	-	-	0.00%
MAY	-	-	-	-	-	-	-	-	-	-	0.00%
JUN	-	-	-	-	-	-	-	-	-	-	0.00%
JUL	-	-	-	-	-	-	-	-	-	-	0.00%
AUG	-	-	-	-	-	-	-	-	-	-	0.00%
SEP	-	-	-	-	-	-	-	-	-	-	0.00%
OCT	-	-	-	-	-	-	-	-	-	-	0.00%
NOV	-	-	-	-	-	-	-	-	-	-	0.00%
DEC	25%	-	30%	100%	1%	97%	2%	-	-	8%	26.30%
											56.90%
											===

AVG MONTHLY COINCIDENCE = 4.7%

ANNUAL BURNING HOURS = 4,200

LOAD FACTOR:
BASED ON AVG. 12 CP = 10.191
BASED ON CLASS ANNUAL MAX DEMANI = 0.479