



Matthew R. Bernier  
ASSOCIATE GENERAL COUNSEL

April 28, 2023

**VIA ELECTRONIC FILING**

Adam J. Teitzman, Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850

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

Dear Mr. Teitzman:

Pursuant to Rule 25-6.0437(7), F.A.C., please find enclosed for filing Duke Energy Florida, LLC's ("DEF") Cost of Service Load Research Study Results for the twelve-month period ending December 31, 2022.

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/mw  
Enclosures

**DUKE ENERGY FLORIDA, LLC (“DEF”)  
LOAD RESEARCH STUDY RESULTS  
JANUARY 2022 THROUGH DECEMBER 2022**

**SUBMITTED APRIL 28, 2023**

**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 Cost of Service Load Research Rule, Docket No. 820491-EU, Order No. 13026, adopted as Rule 25-6.0437 (“the Rule”) on February 23, 1984, by the Florida Public Service Commission (“FPSC or “Commission”) and as amended on January 6, 2004.

Section 3 of the Rule requires that all rate classes that account for more than one percent of an investor-owned utility's annual retail sales be sampled and submitted to the Commission. Section 7 of the Rule directs that all investor-owned electric utilities submit this information to the Commission every three years. Per the direction of Section 3, 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**

DEF completed deployment of AMI meters for 1.9 million customers in the spring of 2021. Therefore, in lieu of statistically designed samples, all available interval data for the population was used for the Load Research Study. for the period of January through December 2022. The original sample plan was submitted to FPSC Staff on July 25, 2022, with a study period of April 2023 to March 2024, but a revised study period of January 2022 through December 2022 was requested on September 22, 2022 and approved by Commission administrative authority Staff via letter on November 18, 2022.

## Load Research Study Results

Interval data from the population was compiled to provide averages of the 12 monthly coincident peaks and the summer and winter peak demands for each rate class. The data retrieval rate was over 99% for every hour and group, except Interruptible (IS). The Interruptible class had a few hours in the year with a 98% retrieval rate. When interval data was unavailable, it was estimated, therefore, the final reporting represents 100% of the population for each rate class. Statistics are provided for the following rate classes, which account for more than one percent of DEF's annual retail sales:

| <b>Rate Class</b>                      | <b>Population</b> |
|--|-------------------|
| <b>Residential (RS)</b>                | <b>1,684,998</b>  |
| <b>General Service Non-Demand (GS)</b> | <b>148,999</b>    |
| <b>General Service Demand (GSD)</b>    | <b>48,543</b>     |
| <b>Interruptible (IS)</b>              | <b>163</b>        |

The winter peak hour occurred on Sunday, January 30, 2022, at hour ending 8:00 AM, and the summer peak occurred on Tuesday, August 1, 2022, at hour ending 5:00 PM.

Tables 4 – 7 attached hereto contain the 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 for each month and the averages of the twelve-monthly system peaks for all rate classes.

**DUKE ENERGY FLORIDA  
LOAD RESEARCH DATA  
JANUARY 2022 - DECEMBER 2022**

**RESIDENTIAL SERVICE (RS) CLASS**

| Month  | KWH Usage     | Class Coincident Peak |            |       | Coincident with System Peak |                  |              | Non-Coincident Peak<br>(MW) |
|--------|---------------|-----------------------|------------|-------|-----------------------------|------------------|--------------|-----------------------------|
|        |               | (MW)                  | Date       | Time  | (MW)                        | Date             | Time         |                             |
| Jan-22 | 1,658,799,960 | 5649.2                | 1/30/2022  | 8:00  | 5,649.2                     | <b>1/30/2022</b> | <b>8:00</b>  | 12,409.8                    |
| Feb-22 | 1,354,454,988 | 3992.4                | 2/10/2022  | 8:00  | 3,962.1                     | 2/1/2022         | 8:00         | 11,194.7                    |
| Mar-22 | 1,445,855,806 | 3642.3                | 3/19/2022  | 18:00 | 3,321.5                     | 3/8/2022         | 17:00        | 10,707.6                    |
| Apr-22 | 1,547,628,014 | 4220.6                | 4/17/2022  | 17:00 | 4,015.6                     | 4/6/2022         | 18:00        | 10,514.4                    |
| May-22 | 2,008,838,367 | 4839.1                | 5/22/2022  | 18:00 | 4,658.5                     | 5/5/2022         | 18:00        | 10,737.0                    |
| Jun-22 | 2,228,633,558 | 5269.3                | 6/15/2022  | 18:00 | 5,157.9                     | 6/15/2022        | 17:00        | 10,833.9                    |
| Jul-22 | 2,399,695,128 | 5312.8                | 7/31/2022  | 18:00 | 5,098.2                     | 7/29/2022        | 17:00        | 11,084.2                    |
| Aug-22 | 2,334,116,907 | 5334.6                | 8/1/2022   | 19:00 | 5,103.4                     | <b>8/1/2022</b>  | <b>17:00</b> | 10,824.8                    |
| Sep-22 | 1,963,715,143 | 5127.7                | 9/5/2022   | 17:00 | 4,903.2                     | 9/6/2022         | 17:00        | 10,586.1                    |
| Oct-22 | 1,602,280,831 | 4122.3                | 10/16/2022 | 18:00 | 3,806.8                     | 10/11/2022       | 17:00        | 10,327.1                    |
| Nov-22 | 1,446,054,462 | 4005.4                | 11/1/2022  | 18:00 | 3,876.1                     | 11/1/2022        | 17:00        | 10,467.9                    |
| Dec-22 | 1,605,602,084 | 5821.3                | 12/25/2022 | 9:00  | 5,821.3                     | 12/25/2022       | 9:00         | 12,765.0                    |

**Twelve Coincident Peak Statistics:            4614.5**

**Table 4 - RS Class Results**

**DUKE ENERGY FLORIDA  
LOAD RESEARCH DATA  
JANUARY 2022 - DECEMBER 2022**

**GENERAL SERVICE (GS) CLASS**

| Month  | KWH Usage   | Class Coincident Peak                     |            |       | Coincident with System Peak |                  |              | Non-Coincident Peak |
|--------|-------------|---|------------|-------|-----------------------------|------------------|--------------|---------------------|
|        |             | (MW)                                      | Date       | Time  | (MW)                        | Date             | Time         | (MW)                |
| Jan-22 | 183,310,288 | 444.5                                     | 1/31/2022  | 9:00  | 342.4                       | <b>1/30/2022</b> | <b>8:00</b>  | 1,070.5             |
| Feb-22 | 170,820,552 | 435.9                                     | 2/24/2022  | 15:00 | 362.1                       | 2/1/2022         | 8:00         | 1,021.4             |
| Mar-22 | 195,545,153 | 470.7                                     | 3/8/2022   | 15:00 | 417.3                       | 3/8/2022         | 17:00        | 1,007.2             |
| Apr-22 | 199,041,788 | 500.6                                     | 4/6/2022   | 15:00 | 419.8                       | 4/6/2022         | 18:00        | 1,004.9             |
| May-22 | 234,960,605 | 557.9                                     | 5/18/2022  | 15:00 | 454.6                       | 5/5/2022         | 18:00        | 1,045.6             |
| Jun-22 | 252,449,723 | 610.2                                     | 6/16/2022  | 15:00 | 572.1                       | 6/15/2022        | 17:00        | 1,071.4             |
| Jul-22 | 260,509,403 | 587.8                                     | 7/6/2022   | 15:00 | 528.0                       | 7/29/2022        | 17:00        | 1,059.5             |
| Aug-22 | 270,298,803 | 608.5                                     | 8/24/2022  | 15:00 | 554.6                       | <b>8/1/2022</b>  | <b>17:00</b> | 1,087.1             |
| Sep-22 | 230,623,159 | 607.5                                     | 9/6/2022   | 15:00 | 561.6                       | 9/6/2022         | 17:00        | 1,076.4             |
| Oct-22 | 209,804,862 | 509.1                                     | 10/11/2022 | 15:00 | 460.0                       | 10/11/2022       | 17:00        | 1,010.6             |
| Nov-22 | 187,246,284 | 513.6                                     | 11/2/2022  | 15:00 | 464.8                       | 11/1/2022        | 17:00        | 978.4               |
| Dec-22 | 185,542,859 | 428.0                                     | 12/8/2022  | 15:00 | 289.1                       | 12/25/2022       | 9:00         | 1,069.6             |
|        |             | <b>Twelve Coincident Peak Statistics:</b> |            |       | <b>452.2</b>                |                  |              |                     |

**Table 5 - GS Class Results**



**DUKE ENERGY FLORIDA  
LOAD RESEARCH DATA  
JANUARY 2022 - DECEMBER 2022**

**GENERAL SERVICE DEMAND (GSD) CLASS**

| Month  | KWH Usage     | Class Coincident Peak                     |            |       | Coincident with System Peak |                  |              | Non-Coincident Peak |
|--------|---------------|---|------------|-------|-----------------------------|------------------|--------------|---------------------|
|        |               | (MW)                                      | Date       | Time  | (MW)                        | Date             | Time         | (MW)                |
| Jan-22 | 956,215,185   | 1,740.3                                   | 1/10/2022  | 14:00 | 1,377.1                     | <b>1/30/2022</b> | <b>8:00</b>  | 2,555.1             |
| Feb-22 | 898,372,491   | 1,910.6                                   | 2/24/2022  | 15:00 | 1,519.4                     | 2/1/2022         | 8:00         | 2,536.8             |
| Mar-22 | 1,047,173,661 | 2,031.4                                   | 3/8/2022   | 15:00 | 1,940.6                     | 3/8/2022         | 17:00        | 2,589.0             |
| Apr-22 | 1,056,127,684 | 2,108.7                                   | 4/6/2022   | 15:00 | 2,006.1                     | 4/6/2022         | 18:00        | 2,646.5             |
| May-22 | 1,200,396,766 | 2,235.6                                   | 5/18/2022  | 15:00 | 2,086.7                     | 5/5/2022         | 18:00        | 2,766.9             |
| Jun-22 | 1,254,075,733 | 2,401.7                                   | 6/16/2022  | 15:00 | 2,323.6                     | 6/15/2022        | 17:00        | 2,893.2             |
| Jul-22 | 1,312,453,967 | 2,338.1                                   | 7/13/2022  | 15:00 | 2,276.3                     | 7/29/2022        | 17:00        | 2,882.7             |
| Aug-22 | 1,330,761,183 | 2,361.5                                   | 8/31/2022  | 15:00 | 2,301.5                     | <b>8/1/2022</b>  | <b>17:00</b> | 2,924.6             |
| Sep-22 | 1,180,603,041 | 2,376.0                                   | 9/6/2022   | 14:00 | 2,305.9                     | 9/6/2022         | 17:00        | 2,876.4             |
| Oct-22 | 1,101,420,472 | 2,154.2                                   | 10/11/2022 | 15:00 | 2,078.4                     | 10/11/2022       | 17:00        | 2,654.6             |
| Nov-22 | 1,017,380,335 | 2,127.3                                   | 11/2/2022  | 15:00 | 2,047.4                     | 11/1/2022        | 17:00        | 2,629.3             |
| Dec-22 | 977,250,985   | 1,875.1                                   | 12/8/2022  | 15:00 | 1,243.0                     | 12/25/2022       | 9:00         | 2,597.6             |
|        |               | <b>Twelve Coincident Peak Statistics:</b> |            |       | <b>1,958.8</b>              |                  |              |                     |

**Table 6 - GSD Class Results**

**DUKE ENERGY FLORIDA  
LOAD RESEARCH DATA  
JANUARY 2022 - DECEMBER 2022**

**INTERRUPTIBLE (IS) CLASS**

| Month  | KWH Usage   | Class Coincident Peak                     |            |       | Coincident with System Peak |                  |              | Non-Coincident Peak |
|--------|-------------|---|------------|-------|-----------------------------|------------------|--------------|---------------------|
|        |             | (MW)                                      | Date       | Time  | (MW)                        | Date             | Time         | (MW)                |
| Jan-22 | 233,829,876 | 421.9                                     | 1/4/2022   | 15:00 | 281.9                       | <b>1/30/2022</b> | <b>8:00</b>  | 531.9               |
| Feb-22 | 219,531,590 | 406.6                                     | 2/4/2022   | 17:00 | 323.3                       | 2/1/2022         | 8:00         | 505.4               |
| Mar-22 | 239,284,908 | 440.5                                     | 3/23/2022  | 22:00 | 366.2                       | 3/8/2022         | 17:00        | 525.6               |
| Apr-22 | 245,936,111 | 412.6                                     | 4/27/2022  | 15:00 | 278.6                       | 4/6/2022         | 18:00        | 540.7               |
| May-22 | 244,929,979 | 410.0                                     | 5/27/2022  | 2:00  | 326.9                       | 5/5/2022         | 18:00        | 529.9               |
| Jun-22 | 244,660,422 | 422.4                                     | 6/13/2022  | 7:00  | 335.6                       | 6/15/2022        | 17:00        | 532.9               |
| Jul-22 | 248,866,517 | 422.0                                     | 7/1/2022   | 17:00 | 357.0                       | 7/29/2022        | 17:00        | 554.7               |
| Aug-22 | 266,497,106 | 439.5                                     | 8/22/2022  | 6:00  | 362.4                       | <b>8/1/2022</b>  | <b>17:00</b> | 567.2               |
| Sep-22 | 232,962,557 | 427.4                                     | 9/19/2022  | 22:00 | 340.5                       | 9/6/2022         | 17:00        | 547.2               |
| Oct-22 | 224,381,236 | 388.3                                     | 10/15/2022 | 7:00  | 330.5                       | 10/11/2022       | 17:00        | 508.1               |
| Nov-22 | 223,873,700 | 400.8                                     | 11/8/2022  | 13:00 | 301.8                       | 11/1/2022        | 17:00        | 517.3               |
| Dec-22 | 232,039,054 | 397.4                                     | 12/28/2022 | 7:00  | 261.5                       | 12/25/2022       | 9:00         | 527.3               |
|        |             | <b>Twelve Coincident Peak Statistics:</b> |            |       | <b>322.2</b>                |                  |              |                     |

**Table 7 - IS Class Results**

# **APPENDIX**

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## **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:  
 Historical Test Year Ended 12/31/22  
 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 |
|----------------------------|----------------|---------------------------|-------------------------|------------------------------|-------------------------|-----------------------------------|-------------------------|
| <b>Residential Service</b> |                |                           |                         |                              |                         |                                   |                         |
|                            | Jan 2022       | 5,649.2                   | N/A                     | 5,649.2                      | N/A                     | 12409.8                           | N/A                     |
|                            | Feb 2022       | 3,962.1                   | N/A                     | 3,992.4                      | N/A                     | 11194.7                           | N/A                     |
|                            | Mar 2022       | 3,321.5                   | N/A                     | 3,642.3                      | N/A                     | 10707.6                           | N/A                     |
|                            | Apr 2022       | 4,015.6                   | N/A                     | 4,220.6                      | N/A                     | 10514.4                           | N/A                     |
|                            | May 2022       | 4,658.5                   | N/A                     | 4,839.1                      | N/A                     | 10737.0                           | N/A                     |
|                            | Jun 2022       | 5,157.9                   | N/A                     | 5,269.3                      | N/A                     | 10833.9                           | N/A                     |
|                            | Jul 2022       | 5,098.2                   | N/A                     | 5,312.8                      | N/A                     | 11084.2                           | N/A                     |
|                            | Aug 2022       | 5,103.4                   | N/A                     | 5,334.6                      | N/A                     | 10824.8                           | N/A                     |
|                            | Sep 2022       | 4,903.2                   | N/A                     | 5,127.7                      | N/A                     | 10586.1                           | N/A                     |
|                            | Oct 2022       | 3,806.8                   | N/A                     | 4,122.3                      | N/A                     | 10327.1                           | N/A                     |
|                            | Nov 2022       | 3,876.1                   | N/A                     | 4,005.4                      | N/A                     | 10467.9                           | N/A                     |
|                            | Dec 2022       | 5,821.3                   | N/A                     | 5,821.3                      | N/A                     | 12765.0                           | N/A                     |

Annual Peak: 5,821 MW

Annual KWH: 21,595,675,247

12 Month Coincident Peak Average: 4,614 MW

12 CP Load Factor: 0.534

90% Confidence Interval: NA

Class (NCP) Load Factor: 0.423

Sum of individual customer annual max demand 14,356 MW

Customer (Billing or Maximum Demand) Load Factor: 0.172

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:

Historical Test Year Ended 12/31/22  
 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 |
|-----------------------------------|----------------|---------------------------|-------------------------|------------------------------|-------------------------|-----------------------------------|-------------------------|
| <b>General Service Non-Demand</b> |                |                           |                         |                              |                         |                                   |                         |
|                                   | Jan 2022       | 342.4                     | N/A                     | 444.5                        | N/A                     | 1070.5                            | N/A                     |
|                                   | Feb 2022       | 362.1                     | N/A                     | 435.9                        | N/A                     | 1021.4                            | N/A                     |
|                                   | Mar 2022       | 417.3                     | N/A                     | 470.7                        | N/A                     | 1007.2                            | N/A                     |
|                                   | Apr 2022       | 419.8                     | N/A                     | 500.6                        | N/A                     | 1004.9                            | N/A                     |
|                                   | May 2022       | 454.6                     | N/A                     | 557.9                        | N/A                     | 1045.6                            | N/A                     |
|                                   | Jun 2022       | 572.1                     | N/A                     | 610.2                        | N/A                     | 1071.4                            | N/A                     |
|                                   | Jul 2022       | 528.0                     | N/A                     | 587.8                        | N/A                     | 1059.5                            | N/A                     |
|                                   | Aug 2022       | 554.6                     | N/A                     | 608.5                        | N/A                     | 1087.1                            | N/A                     |
|                                   | Sep 2022       | 561.6                     | N/A                     | 607.5                        | N/A                     | 1076.4                            | N/A                     |
|                                   | Oct 2022       | 460.0                     | N/A                     | 509.1                        | N/A                     | 1010.6                            | N/A                     |
|                                   | Nov 2022       | 464.8                     | N/A                     | 513.6                        | N/A                     | 978.4                             | N/A                     |
|                                   | Dec 2022       | 289.1                     | N/A                     | 428.0                        | N/A                     | 1069.6                            | N/A                     |

Annual Peak: 610 MW

Annual KWH: 2,580,153,478

12 Month Coincident Peak Average: 452 MW

12 CP Load Factor: 0.651

90% Confidence Interval: NA

Class (NCP) Load Factor: 0.483

Sum of individual customer annual max demand 1395 MW

Customer (Billing or Maximum Demand) Load Factor: 0.211

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:

Historical Test Year Ended 12/31/22  
 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 |
|-------------------------------|----------------|---------------------------|-------------------------|------------------------------|-------------------------|-----------------------------------|-------------------------|
| <b>General Service Demand</b> |                |                           |                         |                              |                         |                                   |                         |
|                               | Jan 2022       | 1,377.1                   | N/A                     | 1,740.3                      | N/A                     | 2555.1                            | N/A                     |
|                               | Feb 2022       | 1,519.4                   | N/A                     | 1,910.6                      | N/A                     | 2536.8                            | N/A                     |
|                               | Mar 2022       | 1,940.6                   | N/A                     | 2,031.4                      | N/A                     | 2589.0                            | N/A                     |
|                               | Apr 2022       | 2,006.1                   | N/A                     | 2,108.7                      | N/A                     | 2646.5                            | N/A                     |
|                               | May 2022       | 2,086.7                   | N/A                     | 2,235.6                      | N/A                     | 2766.9                            | N/A                     |
|                               | Jun 2022       | 2,323.6                   | N/A                     | 2,401.7                      | N/A                     | 2893.2                            | N/A                     |
|                               | Jul 2022       | 2,276.3                   | N/A                     | 2,338.1                      | N/A                     | 2882.7                            | N/A                     |
|                               | Aug 2022       | 2,301.5                   | N/A                     | 2,361.5                      | N/A                     | 2924.6                            | N/A                     |
|                               | Sep 2022       | 2,305.9                   | N/A                     | 2,376.0                      | N/A                     | 2876.4                            | N/A                     |
|                               | Oct 2022       | 2,078.4                   | N/A                     | 2,154.2                      | N/A                     | 2654.6                            | N/A                     |
|                               | Nov 2022       | 2,047.4                   | N/A                     | 2,127.3                      | N/A                     | 2629.3                            | N/A                     |
|                               | Dec 2022       | 1,243.0                   | N/A                     | 1,875.1                      | N/A                     | 2597.6                            | N/A                     |

Annual Peak: 2,402 MW

Annual KWH: 13,332,231,502

12 Month Coincident Peak Average: 1,959 MW

12 CP Load Factor: 0.777

90% Confidence Interval: NA

Class (NCP) Load Factor: 0.634

Sum of individual customer annual max demand 3,188 MW

Customer (Billing or Maximum Demand) Load Factor: 0.477

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:

Historical Test Year Ended 12/31/22  
 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 |
|--|----------------|------------------------|-------------------------|---|-------------------------|--------------------------------|-------------------------|
| <b>Curtable Service</b>                      |                |                        |                         |   |                         |                                |                         |
|  | Jan 2022       | 6.7                    | N/A                     | 7.4   | N/A                     | 7.6                            | N/A                     |
|  | Feb 2022       | 6.7                    | N/A                     | 7.6   | N/A                     | 7.7                            | N/A                     |
|  | Mar 2022       | 6.7                    | N/A                     | 7.6   | N/A                     | 7.7                            | N/A                     |
|  | Apr 2022       | 6.8                    | N/A                     | 7.5   | N/A                     | 7.6                            | N/A                     |
|  | May 2022       | 7.0                    | N/A                     | 9.6   | N/A                     | 9.6                            | N/A                     |
|  | Jun 2022       | 7.9                    | N/A                     | 8.9   | N/A                     | 9.0                            | N/A                     |
|  | Jul 2022       | 8.0                    | N/A                     | 9.1   | N/A                     | 9.2                            | N/A                     |
|  | Aug 2022       | 8.3                    | N/A                     | 8.8   | N/A                     | 8.9                            | N/A                     |
|  | Sep 2022       | 8.2                    | N/A                     | 8.7   | N/A                     | 9.2                            | N/A                     |
|  | Oct 2022       | 7.5                    | N/A                     | 8.5   | N/A                     | 8.8                            | N/A                     |
|  | Nov 2022       | 8.0                    | N/A                     | 8.9   | N/A                     | 9.1                            | N/A                     |
|  | Dec 2022       | 7.7                    | N/A                     | 8.5   | N/A                     | 8.8                            | N/A                     |
| Annual Peak:                                 | 9.6 MW         |                        |                         | Annual KWH:                                       | 65,522,710              |                                |                         |
| 12 Month Coincident Peak Average:            | 7.5 MW         |                        |                         | 12 CP Load Factor:                                | 1.002                   |                                |                         |
| 90% Confidence Interval:                     | N/A            |                        |                         | Class (NCP) Load Factor:                          | 0.778                   |                                |                         |
| Sum of individual customer annual max demand | 9.6 MW         |                        |                         | Customer (Billing or Maximum Demand) Load Factor: | 0.778                   |                                |                         |

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:

Historical Test Year Ended 12/31/22  
 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 |
|--|----------------|------------------------|-------------------------|---|-------------------------|--------------------------------|-------------------------|
| <b>Interruptible Service</b>                 |                |                        |                         |   |                         |                                |                         |
|  | Jan 2022       | 281.9                  | N/A                     | 421.9   | N/A                     | 531.9                          | N/A                     |
|  | Feb 2022       | 323.3                  | N/A                     | 406.6   | N/A                     | 505.4                          | N/A                     |
|  | Mar 2022       | 366.2                  | N/A                     | 440.5   | N/A                     | 525.6                          | N/A                     |
|  | Apr 2022       | 278.6                  | N/A                     | 412.6   | N/A                     | 540.7                          | N/A                     |
|  | May 2022       | 326.9                  | N/A                     | 410.0   | N/A                     | 529.9                          | N/A                     |
|  | Jun 2022       | 335.6                  | N/A                     | 422.4   | N/A                     | 532.9                          | N/A                     |
|  | Jul 2022       | 357.0                  | N/A                     | 422.0   | N/A                     | 554.7                          | N/A                     |
|  | Aug 2022       | 362.4                  | N/A                     | 439.5   | N/A                     | 567.2                          | N/A                     |
|  | Sep 2022       | 340.5                  | N/A                     | 427.4   | N/A                     | 547.2                          | N/A                     |
|  | Oct 2022       | 330.5                  | N/A                     | 388.3   | N/A                     | 508.1                          | N/A                     |
|  | Nov 2022       | 301.8                  | N/A                     | 400.8   | N/A                     | 517.3                          | N/A                     |
|  | Dec 2022       | 261.5                  | N/A                     | 397.4   | N/A                     | 527.3                          | N/A                     |
| Annual Peak:                                 | 441 MW         |                        |                         | Annual KWH:                                       | 2,856,793,056           |                                |                         |
| 12 Month Coincident Peak Average:            | 322 MW         |                        |                         | 12 CP Load Factor:                                | 1.012                   |                                |                         |
| 90% Confidence Interval:                     | N/A            |                        |                         | Class (NCP) Load Factor:                          | 0.740                   |                                |                         |
| Sum of individual customer annual max demand | 614.9 MW       |                        |                         | Customer (Billing or Maximum Demand) Load Factor: | 0.530                   |                                |                         |

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:

Historical Test Year Ended 12/31/22  
 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 |
|--|----------------|------------------------|-------------------------|---|-------------------------|--------------------------------|-------------------------|
| <b>Firm Standby Service</b>                  |                |                        |                         |   |                         |                                |                         |
| SS-1   | Jan 2022       | 3.5                    | N/A                     | 12.3  | N/A                     | 16.1                           | N/A                     |
|  | Feb 2022       | 6.5                    | N/A                     | 10.1  | N/A                     | 16.1                           | N/A                     |
|  | Mar 2022       | 5.1                    | N/A                     | 12.4  | N/A                     | 17.3                           | N/A                     |
|  | Apr 2022       | 2.3                    | N/A                     | 7.3   | N/A                     | 12.5                           | N/A                     |
|  | May 2022       | 2.7                    | N/A                     | 9.3   | N/A                     | 20.0                           | N/A                     |
|  | Jun 2022       | 2.3                    | N/A                     | 12.6  | N/A                     | 29.4                           | N/A                     |
|  | Jul 2022       | 4.9                    | N/A                     | 12.2  | N/A                     | 21.3                           | N/A                     |
|  | Aug 2022       | 9.9                    | N/A                     | 16.8  | N/A                     | 20.9                           | N/A                     |
|  | Sep 2022       | 13.8                   | N/A                     | 16.0  | N/A                     | 27.0                           | N/A                     |
|  | Oct 2022       | 6.7                    | N/A                     | 13.7  | N/A                     | 19.1                           | N/A                     |
|  | Nov 2022       | 6.9                    | N/A                     | 16.0  | N/A                     | 17.3                           | N/A                     |
|  | Dec 2022       | 6.0                    | N/A                     | 11.1  | N/A                     | 14.1                           | N/A                     |
| Annual Peak:                                 | 16.8 MW        |                        |                         | Annual KWH:                                       | 50,732,848              |                                |                         |
| 12 Month Coincident Peak Average:            | 5.9 MW         |                        |                         | 12 CP Load Factor:                                | 0.985                   |                                |                         |
| 90% Confidence Interval:                     | N/A            |                        |                         | Class (NCP) Load Factor:                          | 0.345                   |                                |                         |
| Sum of individual customer annual max demand | 34.2 MW        |                        |                         | Customer (Billing or Maximum Demand) Load Factor: | 0.169                   |                                |                         |

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:

Historical Test Year Ended 12/31/22  
 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 |
|--|----------------|------------------------|-------------------------|---|-------------------------|--------------------------------|-------------------------|
| <b>Interruptible Standby Service</b>         |                |                        |                         |   |                         |                                |                         |
| SS-2   | Jan 2022       | 3.5                    | N/A                     | 14.3  | N/A                     | 20.3                           | N/A                     |
|  | Feb 2022       | 10.1                   | N/A                     | 18.8  | N/A                     | 20.9                           | N/A                     |
|  | Mar 2022       | 8.2                    | N/A                     | 16.1  | N/A                     | 18.2                           | N/A                     |
|  | Apr 2022       | 10.0                   | N/A                     | 14.4  | N/A                     | 19.0                           | N/A                     |
|  | May 2022       | 7.0                    | N/A                     | 19.1  | N/A                     | 25.8                           | N/A                     |
|  | Jun 2022       | 18.0                   | N/A                     | 16.5  | N/A                     | 20.6                           | N/A                     |
|  | Jul 2022       | 4.6                    | N/A                     | 17.1  | N/A                     | 22.8                           | N/A                     |
|  | Aug 2022       | 3.5                    | N/A                     | 24.1  | N/A                     | 28.0                           | N/A                     |
|  | Sep 2022       | 8.2                    | N/A                     | 24.5  | N/A                     | 28.0                           | N/A                     |
|  | Oct 2022       | 5.5                    | N/A                     | 13.7  | N/A                     | 20.5                           | N/A                     |
|  | Nov 2022       | 7.3                    | N/A                     | 25.9  | N/A                     | 29.0                           | N/A                     |
|  | Dec 2022       | 2.2                    | N/A                     | 21.8  | N/A                     | 28.1                           | N/A                     |
| Annual Peak:                                 | 25.9 MW        |                        |                         | Annual KWH:                                       | 53,896,151              |                                |                         |
| 12 Month Coincident Peak Average:            | 7.3 MW         |                        |                         | 12 CP Load Factor:                                | 0.838                   |                                |                         |
| 90% Confidence Interval:                     | N/A            |                        |                         | Class (NCP) Load Factor:                          | 0.237                   |                                |                         |
| Sum of individual customer annual max demand | 30.7 MW        |                        |                         | Customer (Billing or Maximum Demand) Load Factor: | 0.201                   |                                |                         |

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:

Historical Test Year Ended 12/31/22  
 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 |
|----------------------------------|----------------|------------------------|-------------------------|---------------------------|-------------------------|--------------------------------|-------------------------|
| <b>Curtailed Standby Service</b> |                |                        |                         |                           |                         |                                |                         |
| SS-3                             | Jan 2022       | 10.3                   | N/A                     | 19.4                      | N/A                     | 19.4                           | N/A                     |
|                                  | Feb 2022       | 12.4                   | N/A                     | 21.1                      | N/A                     | 21.1                           | N/A                     |
|                                  | Mar 2022       | 16.8                   | N/A                     | 23.2                      | N/A                     | 23.2                           | N/A                     |
|                                  | Apr 2022       | 5.2                    | N/A                     | 20.9                      | N/A                     | 20.9                           | N/A                     |
|                                  | May 2022       | 15.5                   | N/A                     | 21.5                      | N/A                     | 21.5                           | N/A                     |
|                                  | Jun 2022       | 15.5                   | N/A                     | 20.7                      | N/A                     | 20.7                           | N/A                     |
|                                  | Jul 2022       | 14.2                   | N/A                     | 21.5                      | N/A                     | 21.5                           | N/A                     |
|                                  | Aug 2022       | 10.4                   | N/A                     | 22.4                      | N/A                     | 22.4                           | N/A                     |
|                                  | Sep 2022       | 11.0                   | N/A                     | 21.7                      | N/A                     | 21.7                           | N/A                     |
|                                  | Oct 2022       | 5.3                    | N/A                     | 21.5                      | N/A                     | 21.5                           | N/A                     |
|                                  | Nov 2022       | 3.4                    | N/A                     | 20.3                      | N/A                     | 20.3                           | N/A                     |
|                                  | Dec 2022       | 13.0                   | N/A                     | 22.8                      | N/A                     | 22.8                           | N/A                     |

Annual Peak: 23.2 MW

Annual KWH: 117,160,952

12 Month Coincident Peak Average: 11.1 MW

12 CP Load Factor: 1.207

90% Confidence Interval: N/A

Class (NCP) Load Factor: 0.576

Sum of individual customer annual max demand 23.2 MW

Customer (Billing or Maximum Demand) Load Factor: 0.576

Supporting Schedules:

DUKE ENERGY FLORIDA  
 ANALYSIS OF COINCIDENT LOADING FOR THE LIGHTING CLASS  
 FOR THE TEN YEARS ENDED DECEMBER 31, 2022

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)                                     |
|-----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
|     | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | TEN YR<br>AVG %<br>LIGHT LOAD            |
| JAN | 28%         | 28%         | -           | 21%         | 26%         | 25%         | 18%         | 7%          | 23%         | 17%         | 19.30%                                   |
| FEB | 15%         | 11%         | 2%          | 7%          | -           | -           | -           | -           | 12%         | 15%         | 6.20%                                    |
| 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 | 97%         | 2%          | -           | -           | 8%          | 7%          | 13%         | -           | -           | -           | <u>12.70%</u>                            |
|     |             |             |             |             |             |             |             |             |             |             | <u>38.20%</u>                            |
|     |             |             |             |             |             |             |             |             |             |             | ===                                      |
|     |             |             |             |             |             |             |             |             |             |             | <b>AVG MONTHLY COINCIDENCE</b> = 3.2%    |
|     |             |             |             |             |             |             |             |             |             |             | <b>ANNUAL BURNING HOURS</b> = 4,200      |
|     |             |             |             |             |             |             |             |             |             |             | <b>LOAD FACTOR:</b>                      |
|     |             |             |             |             |             |             |             |             |             |             | BASED ON AVG. 12 CP = 14.969             |
|     |             |             |             |             |             |             |             |             |             |             | BASED ON CLASS ANNUAL MAX DEMAND = 0.479 |