Stephanie A. Cuello
SENIOR COUNSEL

June 6, 2025

VIA ELECTRONIC DELIVERY

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

Re: *2025 Ten-Year Site Plan Data Request #2; Undocketed*

Dear Mr. Teitzman:

Please find enclosed for filing, Duke Energy Florida, LLC's Response to Staff's Data Request #2, questions 1-10 regarding the 2025 TYSP, issued on May 20, 2025.

Thank you for your assistance in this matter and if you have any questions, please feel free to contact me at (850) 521-1425.

Sincerely,

/s/ Stephanie A. Cuello

Stephanie A. Cuello

SAC/mh
Attachment

cc: Greg Davis, GDavis@psc.state.fl.us and Phillip Ellis, PEllis@psc.state.fl.us, Division of Engineering, FPSC

106 East College Avenue, Suite 800, Tallahassee, FL 32301 ▪ Phone: 850.521.1425
▪ Email: stephanie.cuello@duke-energy.com

DEF's Response to Staff's Data Request #2 Regarding the 2025 Ten Year Site Plan; Questions 1 - 10

1. Please explain any historic trends or other information as requested below in each of the following:

    a. Growth of customers, by customer type (residential, commercial, industrial) as well as Total Customers, and identify the major factors that contribute to the growth/decline of the trends.

    b. Average KWh consumption per customer, by customer type (residential, commercial, industrial), and identify the major factors that contribute to the growth/decline of the trends.

    c. Total Sales (GWh) to Ultimate Customers and identify the major factors that contribute to the growth/decline of the trends.

    d. Provide a detailed discussion of how Duke Energy Florida LLC's (DEF) demand-side management program(s) for each customer type impacts the observed trends in gigawatt hour sales (Schedule 3.3).

Response:

a. From 2015 to 2024 residential customers grew at a compound average growth rate (CAGR) of 1.82%. From 2021-2024 customer growth, 2.04% CAGR, was partially fueled by increased migration and remote work due to COVID, as individuals sought a lower cost of living and favorable weather. Customer growth trends are driven by broad economic and demographic trends. These generic trends are typically covered in each years' assumptions section of the DEF's TYSP. Items such as population growth, population migration, and retirement demographic trends determine customer growth. Housing market issues such as affordability, mortgage rates, and job growth have always applied a significant influence on customer growth dynamics as well. More recent site plans reflect a return to the long-term trend of population migration into Florida.

   From 2015 to 2024 commercial customers grew at a CAGR of 1.24%. Commercial customer growth is driven by residential customer growth which drives demand for goods and services.

   From 2015 to 2024 industrial customers decreased at a CAGR of (3.22%). This decrease has been driven by off shoring of manufacturing.

   From 2015 to 2024 total customers increased at a CAGR of 1.73%, driven by residential growth.

b. From 2015 to 2024 residential average kWh consumption per customer (UPC) decreased at a CAGR of (0.68%). From 2015 to 2024 commercial UPC decreased at a CAGR of (0.77%). Residential and commercial class per customer usage are driven, primarily, by fluctuations in electric price, end use appliance saturation, changing (improving) end use appliance efficiency, improved building codes, housing type/building size, and space conditioning equipment fuel type. More recently, the ability to self-generate has begun to make an impact. A small percentage of industrial/commercial customers have chosen to install their own natural gas generation, reducing kWh consumption from the power grid. Similarly, residential and some commercial accounts have reduced their utility requirements by installing solar panels behind their meter. Contrarily, the penetration of plug-in electric vehicles has grown, working to increase residential use per customer, however, rooftop solar generation continues to outweigh consumption from electric vehicles. Each of these stated items are handled either implicitly in the economic scenario presented by Moody's Analytics or explicitly in the internal DEF projections of UEE, Solar PV and plug-in Electric Vehicles.

   From 2015 to 2024 industrial UPC increased at a CAGR of 3.30%. Industrial UPC has increased due to flat load combined with declining customer counts.

c. From 2015-2024 total sales to ultimate customers grew at a CAGR of 0.72%, the majority of growth was driven by residential.

d. DEF's conservation programs incentivize customers to purchase heating/cooling equipment at a level just above the required Federal Standards. Demand-side management program(s) and conservation/energy-efficiency program(s) contribute to load reduction, lower use per customer and reductions in peak demand. As of 2024 residential programs contribute to 1,212 GWH of load reduction and commercial programs contribute to 1,005 GWH of load reduction. In terms of total load including conservation, retail, wholesale, utility use and losses, residential conservation makes up 2.58% of total load while commercial conservation makes up 2.14% of total load.

2. Please explain the forecasted trends or other information as requested below in each of the following:

   a. Growth of customers, by customer type (residential, commercial, industrial) as well as Total Customers, and identify the major factors (currently and in the forecasted period) that contribute to the growth/decline of the trends.

   b. Average KWh consumption per customer, by customer type (residential, commercial, industrial), and identify the major factors (currently and in the forecasted period) that contribute to the growth/decline of the trends.

c. Total Sales (GWh) to Ultimate Customers and identify the major factors (currently and in the forecasted period) that contribute to the growth/decline of the trends.

Response:

a. From 2025 to 2034 residential customers grew at a compound average growth rate (CAGR) of 1.70%. This is slightly lower than the historical 10-year period as population growth is expected to normalize to pre-pandemic levels. Additional major drivers are consistent with the historical period.

   From 2025 to 2034 commercial customers grew at a CAGR of 1.30%. This is slightly higher than the historical period as it takes time for new goods and services to fill the demand from new residential growth.

   From 2025 to 2034 industrial customers are expected to remain essential flat at a CAGR of 0.21%. The projection of industrial accounts was not expected to decline as rapidly as it has in the previous ten years. The pace of "off-shoring" manufacturing jobs was expected to decline from past levels as the current administrations has favored the rebuilding of the American manufacturing sector. Also, the rapid increase in Florida population may recalibrate Florida's competitiveness in "location analysis" studies performed by industry when determining site selection for new operations.

   From 2025 to 2034 total customers increased at a CAGR of 1.64%, driven by residential growth

b. From 2024 to 2034 residential average kWh consumption per customer (UPC) decreased at a CAGR of (0.96%). From 2025 to 2034 commercial UPC decreased at a CAGR of (0.41%). The disparity between the rates of residential and commercial UPC is the result of growing residential behind the meter solar adoption.

   From 2025 to 2034 industrial UPC increased at a CAGR of 0.73%, reflecting relatively flat sales and customer growth

c. From 2025-2034 total sales to ultimate customers grew at a CAGR of 0.74%, continuing the historical trend of growth.

3. Column 7 of Schedule 3.1.1, History and Forecast of Summer Peak Demand (MW) Base Case Forecast, on page 2-15, reflects that in 2022, Residential Conservation decreased by 110 MW (calculated by subtracting the 2022 figure of 513 MW from the 2021 figure of 623 MW). The footnote on this page indicates that Column 7 values are cumulative. Please explain how this cumulative number can decline from one year to the next, including any factors that may account for this reduction.

Response:

While working on the 2023 TYSP an error in the calculation of the actual value for the summer Conservation programs was found and fixed. From that time on the values are correct and this is why the sudden drop shows in Schedule 3.1 in year 2022. It is important to clarify that both Schedules 3.1 and 3.2 show the values for the Peak Month, which could be June, July, or August for the summer (Schedule 3.1) or the previous year December or the current year January or February for the winter (Schedule 3.2),which makes the comparison from year to year not to be an apples to apples comparison.

The table below shows the original values provided in the 2025 TYSP, the updated values for years 2015 to 2021 with the correction, and the last column with numeric values shows both the corrected 2015-2021 values and the August values instead of the ones for the peak month.

This only affected actuals, so our forecast values are correct. DEF will show the second column in the 2026 TYSP.

DUKE ENERGY FLORIDA

SCHEDULE 3.1.1

HISTORY AND FORECAST OF SUMMER PEAK DEMAND (MW)

BASE CASE FORECAST

(7)

RESIDENTIAL

CONSERVATION

	2025 TYSP - Peak Month Values	2025 TYSP - Corrected 2015-2021 - Peak Month Values	2025 TYSP - Corrected 2015-2021- August Values	Summer Peak Month
HISTORY:				
2015	435	421	421	August
2016	466	428	441	July
2017	498	447	461	July
2018	532	480	480	August
2019	566	477	501	June
2020	599	495	519	June
2021	623	529	529	August
2022	513	513	538	June
2023	550	550	550	August
2024	548	548	564	July

4. Table 2.1, Residential DSM MW and GWH Savings, on page 2-43, indicates that DEF achieved 18 MW of summer peak reductions for the Residential customer class in 2024. However, Schedule 3.1.1 (Base Case Forecast), on page 2-15, indicates a net reduction of only 3 MW based on the combined change in Residential Conservation (550 MW in 2023 vs. 548 MW in 2024) and Residential Load Management (352 MW in 2023 vs. 357 MW in 2024). Please explain the discrepancy between these reported values, including any factors that may account for the difference.

   Response:
   The values shown in Table 2.1 includes the summer impacts of new customer additions to the Residential Load Management program. The values shown in Schedule 3.1.1, column 6 show the net summer capacity of the Residential Load Management program and can vary slightly over time due to variations in participating customer counts in customer billing cycles. The difference in peak month is also a contributor to the discrepancy.

5. Table 2.2, page 2-45, indicates that DEF achieved 21 MW of summer peak reductions for the Commercial/Industrial customer class in 2024. However, Schedule 3.1.1 (Base Case Forecast), on page 2-15, indicates a net reduction of only 13 MW, based on the combined change in Commercial/Industrial Conservation (459 MW in 2023 vs. 443 MW in 2024) and Commercial/Industrial Load Management (88 MW in 2023 vs. 91 MW in 2024). Please explain why these two reported values do not align, including any factors that may account for the discrepancy.

   Response:
   The values shown in Table 2.2 include the summer impacts of new customer additions to all of the commercial Demand Response programs. The values shown in Schedule 3.1.1, column 8 show the net capacity of the Standby Generation and the Commercial LM programs in the summer. Standby Generation program capacity reporting can vary slightly as customer operation and load demand fluctuates due to their business operations.

6. Table 2.1, page 2-43, indicates that DEF achieved 29 MW of winter peak reductions for the Residential customer class in 2024. However, Schedule 3.2.1 (Base Case Forecast), on page 2-18, indicates a net increase of 76 MW, based on the combined change in Residential Conservation (975 MW in 2023 vs. 1,055 MW in 2024) and Residential Load Management (638 MW in 2023 vs. 634 MW in 2024). Please explain why these two reported values do not align, including any factors that may account for the discrepancy.

   Response:

   The values shown in Table 2.1 includes the winter impacts of new customer additions to the Residential Load Management program. The values shown in Schedule 3.2.1, column 6 show the net winter capacity of the Residential Load Management program and can vary slightly over time due to variations in participating customer counts in billing cycles. The winter value in 2024 was reduced due to increased program maintenance campaigning which led to an

increased number of customers opting to discontinue their participation in the program. The difference in peak month is also a contributor to the discrepancy.

7. Table 2.2, page 2-45, indicates that DEF achieved 24 MW of winter peak reductions for the Commercial/Industrial customer class in 2024. However, Schedule 3.2.1 (Base Case), on page 2-18, indicates a net increase of only 5 MW, based on the combined change in Commercial/Industrial Conservation (262 MW in 2023 vs. 263 MW in 2024) and Commercial/Industrial Load Management (83 MW in 2023 vs. 87 MW in 2024. Please explain why these two reported values do not align, including any factors that may account for the discrepancy.

Response:
The values shown in Table 2.2 include the winter impacts of new customer additions to all of the commercial Demand Response programs. The values shown Schedule 3.2.1, column 8 show only the net capacity of the Standby Generation program because it reflects winter capacity, and the Commercial LM program is a summer-only program. Standby Generation program capacity reporting can vary slightly as customer operation and load demand fluctuates due to their business operations. There are two additional contributors to the discrepancy, the peak month and the inclusion of Interruptible Service and Curtailable Services programs.

8. Refer to Schedule 3.1.1, History and Forecast of Base Summer Peak Demand (MW), on page 2-15, and Order No. PSC-2024-0429-FOF-EG, issued September 20, 2024, in Docket No. 20240013-EG, *In re: Commission review of numeric conservation goals (Duke Energy Florida, LLC)*, page 22. Explain the factors expected to contribute to the difference between the Residential Conservation forecast of 33 MW for savings reductions in 2025 (column 3 of Schedule 3.1.1) and the value indicated in the Goal Approval order (21 MW). Include any programs or initiatives implemented during this period that may account for the increased forecast.

Response:
The following two factors are causing this difference:

(1) The "History" of Conservation MW in Schedule 3.1.1 is being reported during the month of actual summer system peak (which was July in 2024), while the "Forecast" values are reported assuming a summer peak month of August. However, summer peak DSM savings are estimated to occur in August for all years, so it would be more appropriate to compare Residential Conservation in August 2025 (581 MW) versus August 2024 (564 MW), which yields a 17 MW difference.

(2) The 21 MW of Summer Peak MW in year 2025 of the Goal Approval order includes 4 MW of Residential Demand Response. The remaining 17 MW represents Residential

Conservation, which also equals the 17 MW difference in Residential Conservation from August 2024 to August 2025, as cited in factor (1) above.

9. Please refer to DEF's 2025 Ten-Year Site Plan (TYSP), Schedule 2.2.1, Column (8) "Total Sales to Ultimate Customers" for the questions below:

   a. Please explain why DEF's actual 2024 Total Sales were higher than its respective actual 2023 and 2022 Total Sales (41,132 GWh vs. 40,832 GWh and 40,512 GWh, respectively; or 0.73 percent annual increase in 2024 vs. 0.11 percent annual increase in both 2023 and 2022).

   b. Please explain why DEF's projected 2025 Total Sales are 0.3 percent lower than its actual 2024 Total Sales (41,007 GWh vs. 41,132 GWh).

   c. Referring to Table 1 below, please explain the reason for the projected high annual percent increase in Total Sales for 2027 relative to the percent increase in Total Sales for other years.

Table 1

	Total Sales To Ultimate Consumers	Annual Increase
	(GWh)	(%)
Year	Sch. 2.2.1 (8)	Staff Calculated
2024	41,132	
2025	41,007	-0.30%
2026	41,031	0.06%
2027	41,445	1.01%
2028	41,692	0.60%
2029	42,055	0.87%

Response:

a. DEF believes the value of the 0.11% growth rate for 2022 and 2023 was calculated in error. DEF's actual 2024 Total Sales growth rate was **lower** than the actual 2023 and 2022 Total Sales growth rates; 0.73 percent annual increase in 2024 vs. **0.79** percent annual increase in 2023 and **2.69** percent annual increase in 2022. The declining growth rate in 2024 is attributed to declining use per customer in the residential and commercial classes.

b. 2024 reflects actual weather and 2025 reflects projected normal weather. 2024 was hotter than projected normal weather used for the 2025 projection.

c. This higher annual increase in 2027 relative to other years is related to DEF's billing/meter reading schedule. The number of billing days in 2025 was 367.2, 2026 was 363.9, and 2027 was 365.7. The higher number of billing days in 2027 resulted in more sales growth relative

to 2026. This variation is a result of the billing schedule and part of the billed sales methodology, showing a key difference between billed sales and calendar sales.

10. Comparing DEF's Fall 2024 and Fall 2023 EV Forecasts as they appear below (responses to Staff's Data Request #1 – TYSP), please explain the causes for the significant changes evident in each of the following metrics over the forecast horizon: PEV counts, charging stations (PEV and DCFC), PEV summer and winter demand, and PEV annual energy.

DEF Fall 2024 EV Forecast

Year	Number of PEVs	Number of Public PEV Charging Stations	Number of Public DCFC PEV Charging Stations	Cumulative Impact of PEVs		
				Summer Demand (MW)	Winter Demand (MW)	Annual Energy (GWh)
2025	82,431	3,282	752	13.8	0.8	52
2026	112,917	4,933	829	29.6	3.9	129
2027	152,824	7,162	864	55.9	9.9	231
2028	205,171	10,189	938	81.9	17.1	358
2029	272,878	14,154	1,062	113.3	25.9	516
2030	357,871	19,139	1,238	152.2	37.3	714
2031	461,273	25,180	1,465	207.9	54.2	988
2032	582,663	32,234	1,739	273.1	75.5	1,314
2033	714,221	39,844	2,042	344.9	100.8	1,682
2034	857,869	48,108	2,380	423.1	128.4	2,085

Notes

1. Source: Fall 2024 EV Forecast
2. "Number of PEVs" total cumulative PEV vehicles which includes includes Light, Medium, and Heavy Duty Vehicles.
3. "Cumulative Impact of PEVs" includes only net-new vehicles beginning January 2025 as used and provided to load forecasting. This includes energy impacts from light, medium, and heavy duty vehicles (energy is from 1/1/2025).
4. "Number of Public PEV charging stations" includes both L2 and DC charging stations
5. "Cumulative Impact of PEV's at the system's coincident peak for Summer and Winter.

DEF Fall 2023 EV Forecast

Year	Number of PEVs	Number of Public PEV Charging Stations	Number of Public DCFC PEV Charging Stations.	Cumulative Impact of PEVs		
				Summer Demand (MW)	Winter Demand (MW)	Annual Energy (GWh)
2024	68,488	1,905	543	14	0	50
2025	104,185	2,498	703	34	3	143
2026	157,228	3,246	896	63	8	286
2027	234,412	4,209	1,134	106	16	496
2028	339,524	5,395	1,411	164	28	792
2029	474,718	6,819	1,723	293	45	1,183
2030	636,557	8,450	2,058	331	67	1,663
2031	822,895	10,311	2,431	531	96	2,221
2032	1,029,188	12,397	2,848	669	131	2,846
2033	1,242,094	14,574	3,281	809	171	3,506

Notes

1. Source: Fall 2023 EV Forecast
2. "Number of PEVs" total cumulative PEV vehicles which includes includes Light, Medium, and Heavy Duty Vehicles.
3. "Cumulative Impact of PEVs" includes only net-new vehicles beginning January 2024 as used and provided to load forecasting. This includes energy impacts from light, medium, and heavy duty vehicles (energy is from 1/1/2024).
4. "Number of Public PEV charging stations" includes both L2 and DC charging stations
5. "Cumulative Impact of PEV's at the system's coincident peak for Summer and Winter.

Response:

Historical registration data through 2023 was included in the DEF Fall 2024 forecast. The data showed a slowdown in PEV adoption in Q4 2023 and Q1 of 2024, therefore a decrease in near term EV adoption was included in the forecast. Inflationary and interest rate pressures were a factor, as well as total market vehicle availability. Manufacturers have announced delays in initial EV rollouts and a slower transition away from ICE vehicles.

Home charging has been reduced based on NREL's report "There's No Place Like Home." As adoption of PEVs shifts from early adopters to mainstream customers, home charging is becoming less certain. This is often due to infrastructure limitations and/or adoption among residents of multi-family properties. Lower home charging access leads to higher public charging requirements.

The "Cumulative Impact of PEV" columns in the tables above show only the impacts of net-new vehicles from their respective start dates, January 2024 for the Fall 2023 EV Forecast, and January 2025 for the Fall 2024 Forecast. The adoption assumptions outlined above are also significant contributors to the change in MW and GWh impacts.