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VIA ELECTRONIC FILING

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

Re: *Petition for approval of new my energy bill+ program with income qualified component, by Duke Energy Florida, LLC; Docket No. 20220106-EI*

Dear Mr. Teitzman:

On behalf of Duke Energy Florida, LLC ("DEF"), please find enclosed for electronic filing DEF's Response to Staff's Second Data Request regarding the above-referenced Docket.

Thank you for your assistance in this matter. Should have any questions, please feel free to contact me at (727) 820-4692.

Sincerely,

/s/ Dianne M. Triplett

Dianne M. Triplett

DMT/vr
Enclosures

cc: Suzanne Brownless, Office of General Counsel, FPSC
Holly Forrest, Division of Economics, FPSC
William Coston, Division of Economics, FPSC

**Duke Energy Florida, LLC’s (“DEF”) Response to Florida Public Service
Commission’s Second Data Request (Nos. 1-14) re. Petition for approval of new
My Energy Bill+ Program with income qualified component
by Duke Energy Florida, LLC**

Docket No. 20220106-EI

1. What is the cost, or range of costs, for a smart thermostat that would be used by participants in the program?

Response:

For non-qualified customers, the program is a bring-your-own-thermostat program. The smart thermostats that will be used by participants in the program range in cost from \$65 to \$249, depending on the make and model of the thermostat they purchase. For the first 1,000 income qualified customers who participate in the program, the smart thermostat will be free to the customer. For income qualified customers beyond the first 1,000, the thermostats will be heavily discounted, although the final cost to customer has not yet been determined.

2. Does Duke expect that any thermostats be donated for the use in the program? If yes, please explain why a thermostat partner would donate a thermostat.

Response:

Yes, DEF expects that some thermostats may be donated for use in the program. A thermostat partner may donate thermostats to support their own goals of assisting the low to moderate income customer population.

3. Please explain if the program has the capability to work with customers who already have a smart thermostat installed in their home or whether customers need to get a specific smart thermostat to be able to subscribe to the proposed program.

Response:

The program has the capability to work with customers who already have a smart thermostat installed in their home as long as it is an eligible thermostat that is active, installed, and connected to Wi-Fi. An eligible thermostat is defined below. If the customer’s existing thermostat does not fall in the list of eligible thermostats, they would need to get one that is eligible in order to subscribe to the program.

4. The proposed tariff refers to an “eligible peak usage management device.” Please explain what makes a smart thermostat “eligible.”

Response:

An eligible smart thermostat is one whose make and model is in the list of thermostats that the Demand Response Management System (DRMS) can communicate with. DEF has not yet selected the DRMS vendor.

5. Is there a cap on the total number of participants of the program? If yes, please explain how Duke determined the cap number.

Response:

No, there is not a cap to the total number of participants in the program.

6. What, if any, research has been done to determine the coincident peak reduction the proposed program will have on Duke's system?

Response:

DEF used 2021 applicable monthly class coincident peak times and demand values and applied estimated monthly load reductions, based upon ESS 2.0 pilot study results. This is consistent with the Company's other demand response programs and is also dependent upon many factors, such as weather.

7. Please explain if and how this program will be used for reliability purposes.

Response:

While reliability may benefit from the operation of My Energy Bill+ program, it is not the focus nor the intent of the program to operate for reliability purposes. The My Energy Bill+ program is focused on garnering a benefit by impacting an individual participant's cost to serve through the UCM design.

8. Please explain what the "Share the Light" fund is and how it is funded. In your answer, please explain any other programs Duke has that use this fund.

Response:

DEF's Share the Light Fund brings together customers and communities to help individuals and families struggling to pay their energy bills. No other DEF program uses this fund.

- Customers can contribute over the phone, recurring donation, written on their paper bill, roundup their bill or by check or money order.
- Employees can contribute by payroll deduction or by making a onetime payment.
- The DEF Foundation matches 1:1 contributions up to \$500K annually.
- DEF partners with the Tampa Bay Rays to support the Share the Light Fund contributing \$1K to Share the Light Fund agencies for every Tampa Bay Rays win.

9. The following questions are related to Duke's response to question No. 6 of Staff's First Data request. Please respond to the following:

A) Based on the hypothetical My Energy Bill+ amounts for the first year, please explain and show the calculation for the following for the month of January.

- i) Amount allocated below-the-line.
- ii) Amount allocated above-the-line using UCM mechanism.
- iii) Please explain whether the amounts recorded below-and above-the-line are determined and recorded monthly or annually.

Response:

- i) The amount allocated below-the-line is the revenue collected directly from the customer minus the amount recorded above-the-line based on the UCM. In the supporting spreadsheet the amount collected directly from the customer is estimated by taking the customer's average revenue under RS-1 and adding the risk adder. The estimated amount for January, as it would be for any of the 12 months, is \$216.68.

As with Your Fixed Bill, the amount recorded below-the-line represents the margin for the program before considering program and administrative costs. For January, the below-the-line revenue is the revenue collected from the customer \$216.68 less the amount remitted above the line (\$340.01), for a net amount of (\$123.34). While the amount received from the My Energy Bill+ customer is levelized across 12 months, the amount remitted above-the-line will vary. For example and comparison, May has a positive net below-the-line revenue of \$117.94, as revenue collected from the customer remains \$216.68, while the above-the-line remittance drops to \$98.73.

It is important to note that the examples shown assume that the load control is successful in reducing demands during peaks. The UCM is also designed to be revenue neutral to RS-1 for the average residential customer. Therefore, the net below-the-line revenue is ultimately based in reducing customer's allocated cost to serve as well as the impact of the risk adder (which functions in an identical manner to in the Your Fixed Bill program).

- ii) The amount remitted or allocated to above-the-line is determined through the UCM and is \$340.01 in the January example and \$98.73 in the May example.
- iii) The below-the-line and above the line calculations are determined and recorded on a monthly basis.

B) Please provide the chart provided in Excel format with formulas intact.

Response:

Please see the Excel file “Response to DR 2-9.xlsx.” Each tab is labeled with the scenario number that the respective calculations correspond to in the response to DR 2-9A. The first scenario January, corresponding to the answer in Part A above. The second scenario shows May as a comparison to the January analysis. Both examples assume successful peak management efforts through effective load control.

10. The following questions are related to the Unit Cost Mechanism (UCM) and Duke’s response to question No. 7 of Staff’s First Data Request.

A) Regarding the UCM, please explain how Duke will determine the billing determinants (on-peak kwh, off-peak kwh, super off-peak kwh, and customer max kw) for a customer on the program.

Response:

The billing determinants (on-peak kWh, off-peak kWh, super-off-peak kWh, and customer max kW) will be determined from the specific customer’s interval billing data, which is leveraged by our AMI meter rollout. Customer max kW will be determined on a rolling 12-month basis.

B) Regarding the UCM, please explain whether the billing determinants for the system peak kW and per class peak kW will be updated annually for UCM calculations.

Response:

The system peak kW and class peak kW billing determinants will be determined on a monthly basis, not on an annual basis. The coincident with system peak value will determine the system peak kW, while the class coincident peak will determine the class peak kW.

C) Duke states that “Specifically, the UCM reflects cost causation through discreet charges designed to recover targeted system costs in a much more accurate and granular manner than the standard RS rate design.” Please explain what the “targeted system costs” are.

Response:

The targeted system costs are the demand billing determinants in the UCM mechanism (system peak kW and class peak kW) that can be reduced through utility load control of customer owned assets and/or devices. Each determinant in the UCM reflects a

specific category of costs, in accordance with established cost allocation methodology as shown in Exhibit D – MFR Schedule E-14 Unitized Cost of Service (included with the Petition). For example, the Coincident Peak (CP) Demand Charge recovers Production & Transmission costs through the System Peak kW determinant.

11. Please explain what the administrative and operating costs of the proposed program are and if they are being accounted for as an above-the-line or below-the-line.

Response:

Administrative and operating costs of the proposed program are listed below. They would be accounted for as below-the-line.

- Enrollment processing costs
 - Marketing costs: printing and postage for offer and renewal letters
 - Bill inserts
 - Email campaign
 - Development of creative for direct mail, e-mail & landing page
- Demand Response Management Device / Household Fee
- Per Call-In Expense
- Call Center set up (training) fee
- Income qualified thermostats

12. Referring to Duke’s response to question No. 11 of Staff’s First Data Request, please explain what is the value of the confidence intervals that will determine if the demand impact is statistically significant? In your answer, please state how Duke will handle outliers in the model that may affect the output of the statistically significant result.

Response:

A quantile regression model with 90% confidence intervals will be used to determine if demand impacts are statistically significant. For each hour of an event day the model is used to generate a baseline forecast consisting of low (5th percentile), mid (50th percentile), and high (95th percentile) demand estimates.

These baseline forecasts are then compared to actual demand measurements during event hours. A demand impact estimation will only be considered statistically significant if actual measured demand during event hours falls outside of the 5th and 95th percentile baseline forecast range.

The counterfactual impact estimates will be generated from a quantile regression model which provides some robustness against outliers. Outliers will generally be included in the analysis unless they are determined to be a result of measurement error (for example,

missing AMI interval data or incorrect weather data measurements). If outliers are determined to be caused by measurement error, they will be excluded from the analysis.

13. How has Duke marketed the proposed program to its customers? In your answer, please provide a dollar amount of the marketing costs that Duke has already incurred and is expected to incur in the first year of the program.

Response:

DEF has not yet marketed the proposed program to its customers; therefore, no marketing expenses have been incurred yet. In the first year of the program, marketing expenses are estimated to be \$13,902, which is a combination of fixed and variable marketing costs. Fixed marketing costs include development of creative for direct mail, email, and landing page. Variable marketing costs include printing and postage for offer and renewal letters, bill inserts, and the email campaign.

14. Please explain how the utility will ensure that the demand savings from controlling the smart thermostats in the proposed program justify the reduction from 6% risk premium in Your Fixed Bill program to the proposed 4% risk premium in the My Energy Bill+ program.

Response:

DEF considered various factors, including the number and duration of peak load management events paired with DEF's ability to forecast participant's cost of service determinants, weather variability, and frequency of participant opt-outs from peak load management events, in the decision to reduce the risk premium offered in the My Energy Bill+ program. The 4% risk premium proposition was the best balance in garnering customer interest in participation and the risk borne by the Company to effectively control customer demand.

My Energy Bill+ Monthly Calculation

January Inputs & Estimations:	
kWh Usage	2,575
On-peak kWh usage ¹	377
Off-peak kWh usage ²	2,198
Super-off-peak kWh usage ³	
kW Demand ⁴	6.79
Load Control Reduction ⁵	0.88
UCM Coincident Peak Demand	5.91
UCM Class Peak Demand	5.91
UCM Customer Max Demand ⁶	7.18

RS-1 Prices	
Customer charge (\$)	12.45
1st 1,000 kWh - win base (¢/kWh)	7.623
1,001+ kWh - win base (¢/kWh)	8.773
1st 1,000 kWh - sum base (¢/kWh)	6.587
1,001+ kWh - sum base (¢/kWh)	7.474
1st 1,000 kWh - clauses (¢/kWh)	6.495
1,001+ kWh - clauses (¢/kWh)	7.565

2022 UCM Rate Prices	
Customer charge (\$)	12.77
On-peak kWh - base (¢/kWh)	1.275
Off-peak kWh - base (¢/kWh)	1.081
Super-off-peak kWh - base (¢/kWh)	0.922
Coincident Peak Demand Charge (\$/kW)	13.16
Class Peak Demand Charge (\$/kW)	5.36
Customer Max Demand Charge (\$/kW)	1.45
On-peak kWh - clauses (¢/kWh)	8.158
Off-peak kWh - clauses (¢/kWh)	6.736
Super-off-peak kWh - clauses (¢/kWh)	5.530

Month	RS-1
Jan	\$410.95
Feb	\$309.66
Mar	\$208.09
Apr	\$128.36
May	\$112.13
Jun	\$154.55
Jul	\$194.26
Aug	\$182.37
Sep	\$119.72
Oct	\$125.61
Nov	\$198.02
Dec	\$356.38
Average	\$208.34

RS-1 Bill Calculation	
Customer Charge	\$12.45
1st 1,000 kWh Base Energy Charge	\$76.23
1,000+ kWh Base Energy Charge	\$138.17
1st 1,000 kWh Clause Charge	\$64.95
1,000+ kWh Clause Charge	\$119.15
Total RS-1 Calculation	\$410.95

UCM Mechanism Calculation	
Customer Charge	\$12.77
On-peak Energy Charge	\$4.81
Off-peak Energy Charge	\$23.76
Super-off-peak Energy Charge	\$0.00
Coincident Peak Demand Charge	\$77.78
Class Peak Demand Charge	\$31.68
Customer Max Demand Charge	\$10.41
On-peak Clause Charge	\$30.76
Off-peak Clause Charge	\$148.06
Super-off-peak Clause Charge	\$0.00
Total UCM Calculation	\$340.01

MEB+ Monthly Revenue Calculation	
Below-the-Line (MEB+ Price) + 4% Risk Prem.	\$216.68
Remit to Reg. Utility/Above-the-Line (UCM)	\$340.01
Net Below-the-Line Revenue	(\$123.34)

Notations:

- 1) On-peak kWh estimated based on monthly RS class average - 14.6%.
- 2) Off-peak kWh estimated based on monthly RS class average - 85.4%.
- 3) Super-off peak kWh estimated based on monthly RS class average - 0%.
- 4) kW Demand scaled relative to the hypothetical kWh usage based on the average monthly 2021 RS-1 usage.
- 5) Monthly load control reduction based upon ESS 2.0 pilot study results.
- 6) UCM Customer Max Demand is the highest monthly kW Demand value rolling 12 months - Feb at 7.18 kW.

My Energy Bill+ Monthly Calculation

May Inputs & Estimations:	
kWh Usage	761
On-peak kWh usage ¹	97
Off-peak kWh usage ²	538
Super-off-peak kWh usage ³	126
kW Demand ⁴	1.89
Load Control Reduction ⁵	1.02
UCM Coincident Peak Demand	0.88
UCM Class Peak Demand	0.88
UCM Customer Max Demand ⁶	7.18

RS-1 Prices	
Customer charge (\$)	12.45
1st 1,000 kWh - win base (¢/kWh)	7.623
1,001+ kWh - win base (¢/kWh)	8.773
1st 1,000 kWh - sum base (¢/kWh)	6.587
1,001+ kWh - sum base (¢/kWh)	7.474
1st 1,000 kWh - clauses (¢/kWh)	6.495
1,001+ kWh - clauses (¢/kWh)	7.565

2022 UCM Rate Prices	
Customer charge (\$)	12.77
On-peak kWh - base (¢/kWh)	1.275
Off-peak kWh - base (¢/kWh)	1.081
Super-off-peak kWh - base (¢/kWh)	0.922
Coincident Peak Demand Charge (\$/kW)	13.16
Class Peak Demand Charge (\$/kW)	5.36
Customer Max Demand Charge (\$/kW)	1.45
On-peak kWh - clauses (¢/kWh)	8.158
Off-peak kWh - clauses (¢/kWh)	6.736
Super-off-peak kWh - clauses (¢/kWh)	5.530

Month	RS-1
Jan	\$410.95
Feb	\$309.66
Mar	\$208.09
Apr	\$128.36
May	\$112.13
Jun	\$154.55
Jul	\$194.26
Aug	\$182.37
Sep	\$119.72
Oct	\$125.61
Nov	\$198.02
Dec	\$356.38
Average	\$208.34

RS-1 Bill Calculation	
Customer Charge	\$12.45
1st 1,000 kWh Base Energy Charge	\$50.14
1,000+ kWh Base Energy Charge	\$0.00
1st 1,000 kWh Clause Charge	\$49.44
1,000+ kWh Clause Charge	\$0.00
Total RS-1 Calculation	\$112.03

UCM Mechanism Calculation	
Customer Charge	\$12.77
On-peak Energy Charge	\$1.23
Off-peak Energy Charge	\$5.82
Super-off-peak Energy Charge	\$1.16
Coincident Peak Demand Charge	\$11.52
Class Peak Demand Charge	\$4.69
Customer Max Demand Charge	\$10.41
On-peak Clause Charge	\$7.90
Off-peak Clause Charge	\$36.26
Super-off-peak Clause Charge	\$6.97
Total UCM Calculation	\$98.73

MEB+ Monthly Revenue Calculation	
Below-the-Line (MEB+ Price) + 4% Risk Prem.	\$216.68
Remit to Reg. Utility/Above-the-Line (UCM)	\$98.73
Net Below the Line Revenue	\$117.94

Notations:

- 1) On-peak kWh estimated based on monthly RS class average - 14.6%.
- 2) Off-peak kWh estimated based on monthly RS class average - 85.4%.
- 3) Super-off peak kWh estimated based on monthly RS class average - 0%.
- 4) kW Demand scaled relative to the hypothetical kWh usage based on the average monthly 2021 RS-1 usage.
- 5) Monthly load control reduction based upon ESS 2.0 pilot study results.
- 6) UCM Customer Max Demand is the highest monthly kW Demand value rolling 12 months - Feb at 7.18 kW.