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September 28, 2020

VIA: ELECTRONIC FILING

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

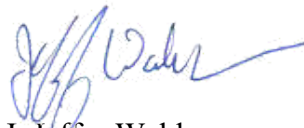
Re: Petition for a Limited Proceeding to Approve Fourth SoBRA by Tampa Electric Company;
Docket No. 20200064-EI

Dear Mr. Teitzman:

Attached for filing in the above docket are Tampa Electric Company's responses to Staff's Second Data Request (Nos. 1-10), propounded on September 14, 2020.

Thank you for your assistance in connection with this matter.

Sincerely,



J. Jeffrey Wahlen

JJW/bmp
Attachment

cc: All Parties of Record (w/attachment)
Donald Phillips, Engineering Specialist (w/attachment)
Shaw Stiller, Senior Attorney, FPSC (w/attachment)
Walt Trierweiler, Senior Attorney, FPSC (w/attachment)

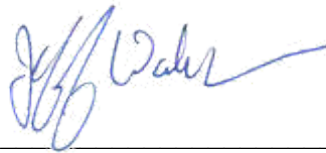
CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Responses to Staff's Second Data Request (Nos. 1-10), filed on behalf of Tampa Electric Company, has been furnished by electronic mail on this 28th day of September, 2020 to the following:

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ATTORNEY

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1. Please refer to the direct testimony of TECO witness Jose A. Aponte, page 13, lines 11 through 14. Please explain how TECO plans to recover the remaining 14.4 MW of capacity from the Durrance project.
 - A. In accordance with Tampa Electric's 2017 Settlement Agreement, the company will not recover these revenue requirements in the Fourth SoBRA but will include the costs of the 14.4 MW of solar generation in surveillance reporting.

Tampa Electric may use the 14.4 MW of solar generation in a community solar program. The program will be a cost-effective, voluntary program for customers who are interested in using renewable energy but do not have the opportunity or desire to install PV panels on their rooftops. If the solar capacity is not incorporated into a community solar program, then at the time of the company's next general base rate proceeding the depreciated net book value of the remaining portion of the project will be included in rate base for the test year for the service and benefit of all customers.

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2. Please refer to the direct testimony of TECO witness Jose A. Aponte, page 19, lines 1 through 6, and Exhibit JAA-1, Document No. 4. Please explain, if the deferral was based on 2016 planning assumptions, why the type of avoided unit was changed from a combustion turbine to a reciprocating engine.
 - a. Please provide the impact to the cost-effectiveness test of using a combustion turbine instead of the reciprocating engine, and if the project would still be cost effective with this modified analysis. As part of this response, provide the results in the same format as Exhibit JAA-1, Document No. 4.

- A. The Fourth SoBRA value of deferral was not based on the 2016 planning assumptions. The total 600 MW of Solar was the only analysis that used 2016 assumptions and was the basis for each of the SoBRA tranche cost-effectiveness dockets. Tampa Electric updated the modeling assumptions to reflect its current Fuel Docket and Ten-Year Site Plan (TYSP) modeling assumptions, including the avoided unit. For the first three tranches, the avoided unit was a combustion turbine.

All modeling assumptions were synchronized with the Fuel Docket, including the avoided unit, and this same method was applied to each SoBRA filing. The company then used the same assumptions that were used in the Fuel Docket and in its next filed TYSP. As filed in Tampa Electric's April 2020 TYSP, the company will be building reciprocating engines as part of the expansion plan. The company used the reciprocating engine for the value of deferral calculations of the Fourth SoBRA since that is the current modeling assumption and using a combustion turbine would not have reflected the fleet expansion plan.

- a. The Excel file "(BS 3) Staff's Second Data Requests," tab "Q2 – Cost Effectiveness Tables" provides the impact of cost-effectiveness using a combustion turbine rather than a reciprocating engine and displays the CPVRR results in the same format as Exhibit No. (JAA-1) Document No. 4.

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- 3.** Please refer to the direct testimony of TECO witness Jose A. Aponte, Exhibit JAA-1, Document No. 3. Please provide a more detailed breakdown of “Exhibit (JAA-1), Document No. 3” (i.e., including capital, which is provided in petition, the weighted average cost of capital, depreciation, and any other O&M, e.g., property taxes, and the Net Operating Income multiplier/revenue expansion factor used) in electronic/spreadsheet format (MS Excel, cells unlocked and formulas intact) for the Forth Solar Base Rate Adjustment.

- A.** Please see the Excel file “(BS 3) Staff’s Second Data Requests” for the more detailed breakdown of “Exhibit No. (JAA-1), Document No. 3” on the tab labeled “Q3 – First Year RR.”

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- 4.** Please refer to the direct testimony of TECO witness Jose A. Aponte, Exhibit JAA-1, Document Nos. 4 and 5. Please provide the reserve margin in megawatts and percentage of net firm system peak for the years 2020 to 2050 (30-year period) in an Excel table comparing the reserve margin with the Fourth SoBRA included and with the Fourth SoBRA excluded.

- A.** Please see the Excel file “(BS 3) Staff’s Second Data Requests,” tab “Q4 – Reserve Margin” for the reserve margin in megawatts and percentage of net firm system peak for the period 2020 through 2050. This tab also provides the reserve margin with and without the Fourth SoBRA included.

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- 5.** Please refer to the direct testimony of TECO witness Jose A Aponte, Exhibit JAA-1, Document Nos. 4 and 5. Please provide a table comparing TECO's resource plan with the Fourth SoBRA included and with the Fourth SoBRA excluded.

- A.** Please see the Excel file "(BS 3) Staff's Second Data Requests," tab "Q4 – Reserve Margin" for the table comparing the company's resource plan with and without the Fourth SoBRA included.

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6. Please refer to the direct testimony of TECO witness Jose A Aponte, Exhibit JAA-1 Document No. 2. Has TECO compared the fuel price forecast shown on Document No. 2 to any other publically available source of forecasted fuel prices, such as the Energy Information Administration? If so, please discuss the results of any analysis performed. If not, why?
- A. Yes. Tampa Electric utilizes the Annual Energy Outlook produced by the Energy Information Administration as part of its annual fuel price forecast, specifically for natural gas. The Annual Energy Outlook is utilized to produce the last 10 years of our 30-year annual natural gas price forecast. Tampa Electric utilizes New York Mercantile Exchange (NYMEX) futures contracts to estimate near-term prices (one to three years) and a commodity forecast from PIRA Energy Group for the mid-term. The commodity component of the Tampa Electric natural gas forecast shown on Exhibit No. (JAA-1), Document No. 2 is within one percent of the natural gas forecast published by the Energy Information Administration in its Annual Energy Outlook when comparing 30-year forecasts.

Tampa Electric utilizes contracted pricing and information from industry recognized consultants and published indices, such as IHS Markit and *Coal Daily*, to forecast solid fuel prices and transportation. The forecasts are specific to the quality and mined location of solid fuel utilized by Tampa Electric's Big Bend Station and Polk Unit 1. The coal forecast produced by the Energy Information Administration in its Annual Energy Outlook utilizes more of a blended approach to commodity and transportation forecasts that does not specifically represent coal purchased by Tampa Electric. Nevertheless, the commodity component of the Tampa Electric coal forecast as shown on Exhibit No. (JAA-1), Document No. 2 is within three percent of the coal forecast published by the Energy Information Administration in its Annual Energy Outlook when comparing 30-year forecasts.

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7. Please refer to the direct testimony of TECO witness Jose A Aponte, Exhibit JAA-1, Document No. 5. Please provide the avoided fossil fuels (avoided oil barrels, avoided natural gas MMcf, avoided coal short tons) from the years 2021 to 2050. Please explain how calculations were made for each fuel and provide an example using 2022. Provide the response in tabular electronic format in Excel.
- A. A base case model was prepared without the fourth tranche of solar generation. Next, starting from this base case, a change case model was prepared with the fourth tranche, 45.7 MW of solar generation, in service on January 1, 2021. Both the base case and change case were run with the production cost modeling software for an economic dispatch. The generation times the heat rate divided by the fuel's heating value equals the fuel used. The change case fuels were then subtracted from the base case fuels to arrive at the avoided fuels.

Please see the Excel file "(BS 3) Staff's Second Data Requests," tabs "Q7 - Avoided Fuel," "Q7 - Coal Tons," "Q7 - NG MCF," and "Q7 - PetCoke Tons" for the avoided fossil fuels and example calculations for 2022.

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- 8.** Please refer to the direct testimony of TECO witness Jose A Aponte, Exhibit JAA-1, Document No. 5. Please provide the avoided air emissions (CO₂, SO₂, NO_x) for the 30-year period. Show how each was calculated using the year 2022 as an example. Also, provide the response in tabular electronic format in Excel.
- A.** A base case model was prepared without the fourth tranche of solar generation. Next, starting from this base case, a change case model was prepared with the fourth tranche, 45.7 MW of solar generation, in service on January 1, 2021. Both the base case and change case were run with the production cost modeling software for an economic dispatch. The fuel used times the fuel's emissions rate equals the emissions. The change case emissions were then subtracted from the base case emissions to arrive at the avoided emissions.

Please see the Excel file "(BS 3) Staff's Second Data Requests," tabs "Q8 - Avoided Emissions," "Q8 - Avoided CO₂," "Q8 - Avoided NO_x," and "Q8 - Avoided SO₂" for the avoided air emissions example calculations for 2022.

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9. Please refer to the direct testimony of TECO witness William R. Ashburn, Exhibit WRA-1, Document No. 4. Please provide the estimated monthly bill impact of the Fourth SoBRA for an average residential customer (1,000 kWh/mo) for each year of the project's life. As part of this response, provide a breakdown of the total bill impact, base rate increase associated with the SoBRA, system base rate savings, and system fuel savings. Please provide all calculations in Excel format, with formulas intact.

A. As shown in the direct testimony of TECO witness William R. Ashburn, Exhibit No. (WRA-1), Document No. 4, page 1 of 4, the estimated monthly bill impact of the Fourth SoBRA for an average residential customer (1,000 kWh/month) is \$0.45 as of January 1, 2021. This includes the base rate increase and assumes all the clauses remaining constant. This base rate impact will remain in effect until the company's general base rates are changed and then will change each time base rates are set in future general base rate proceedings, because the net book value of the solar assets in rate base will decline over time as the amount of accumulated depreciation for the assets increases. As more fully explained below, the number and timing of future general base rate proceedings, as well as how the revenue requirement will be calculated in the general base rate proceedings that may occur over the life of the solar assets is not known or predictable with a reasonable measure of certainty at this time.

Other factors in future base rate proceedings could affect the impact of the project on the residential bill, including what the residential rate structure may be at the 1,000 kWh level, what capital structure is put into effect, the cost of the various components of that capital structure, increases or decreases in the cost of O&M associated with the project, applicable tax rates, applicable depreciation rates, and other elements of the calculation of a revenue requirements at the time of each base rate case. Tampa Electric has not, and cannot forecast over the project's life when rate cases will occur, what the cost elements that make up the project's revenue requirements at each such time, or the overall impact on a residential 1,000 kWh bill for each such case.

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- 10.** Please refer to the direct testimony of TECO witness Mark D. Ward, Exhibit MDW-1 to answer the following questions about the Durrance site.
- a. How many total acres are in the Durrance site?
 - b. How many acres in the Durrance site are planned for this solar installation?
 - c. How many acres in the Durrance site would be suitable for future development as a solar installation, or other utility purposes including battery storage?
 - d. How many acres in the Durrance site are not suitable for future development as solar installation, or any other utility purpose?
 - e. Please describe why any area of the Durrance site is not suitable for future development.
 - f. Please describe the work required to develop the Durrance site.
- A.**
- a. The Durrance Solar project encompasses 463 acres not including the lake. The lake is approximately 118 acres.
 - b. The Durrance Solar array will use 250 acres.
 - c. Approximately 30 acres may be available for a future cost-effective battery storage project that would be integrated with the solar project. The remaining acreage (land) is likely not compatible for additional PV solar. There is a lake that is approximately 118 acres that may be available for a future cost-effective floating PV solar project.
 - d. Approximately 95 acres are not compatible for PV solar or other utility purposes.
 - e. Land that is not compatible for PV solar or other utility purposes have been identified as wetlands and will not be mitigated for any other use.
 - f. The work activities necessary to develop the Durrance Solar include due diligence to ensure the site can support a cost-effective solar project and engineering required to complete county and state permit applications. Due diligence activities include geotechnical studies,

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environmental studies, and wetlands delineation. Engineering and design of the project include development and analysis of the civil plans, storm water analyses, and design of the project's solar array.