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April 3, 2024

VIA: ELECTRONIC FILING

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

Re: Petition for Approval of 2023 Depreciation and 2023 Dismantlement Study by Tampa Electric Company
Dkt. 20230139-EI

Dear Mr. Teitzman:

Please find attached for filing in the above-styled matter Tampa Electric Company's response to Staff's Second Data Request (Nos. 1-15), propounded on March 6, 2024.

Thank you for your assistance in connection with this matter.

Sincerely,

Malcolm N. Means

MNM/bml
Attachment

cc: All parties of record

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Response, filed on behalf of Tampa Electric Company, has been served by electronic mail on this 3rd day of April, 2024 to the following:

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ATTORNEY

TAMPA ELECTRIC COMPANY
DOCKET NO. 20230139-EI
STAFF'S SECOND DATA REQUEST
REQUEST NO. 1
BATES PAGE(S): 1 - 2
FILED: APRIL 3, 2024

Please refer to Tampa Electric Company's (TECO's) 2023 Depreciation and Dismantlement Study (2023 Study) for the questions below.

1. In accordance with Rule 25-6.04364(3)(d), (e), (f), and (l), Florida Administrative Code, please provide the following information regarding TECO's 2023 Study:

a. A summary of the major assumptions used in the study (in addition to those details included in Section 3.0 Decommissioning Costs).

b. The explanation of the methodology selected to dismantle each generating unit and support for the selection.

c. The explanations of the methodology and escalation rates used in converting the current estimated dismantlement costs to future estimated dismantlement costs and supporting documentation and analyses.

d. A summary and explanation of material differences between the current study and the utility's last filed study including changes in methodology and assumptions.

A.

a. The major assumptions used in the study are provided in Section 3.0 Decommissioning Costs. The assumptions applicable to all sites are provided in Section 3.1 and the assumptions specific to the individual sites are provided in 3.2 and 3.3.

b. Methodology for decommissioning each facility will not be dictated to the demolition contractor by 1898 & Co. It is assumed at the time of decommission, the demolition contractor will use the most efficient means and methods. An example of means and methods that may be used and that form the basis of the estimates are provided in Section 3.0.

c. The methodology and escalation rates used in this study are the same as in prior filings. This methodology is as follows:

Escalation rates are calculated using Moody's Analytics (Economy.com) forecasts. Historical information is provided for the years 2022 and prior. The needed forecast information is provided for the years 2023 to 2053. For the years 2054 and beyond, the same annual change percentage for year 2053 is carried forward. Since the cost estimates are provided in 2023 dollars, the dismantlement model initially escalates each unit's cost

estimate into 2025 dollars to align with the study, which projects each unit's ending balance of reserve through December 31, 2024. Next, each unit's cost estimates are escalated to the projected retirement date to perform the present value calculations and averaging of the next four years' accrual results. Three Moody's Analytics indices are used and applied to the four cost estimate categories in the following manner.

Labor is applied the Compensation Per Hour, Productivity and Costs (2012=100).

Materials & Equipment is applied the Intermediate Goods, Producer Prices (1982=100).

Environmental & Disposal is applied to the GDP Chain Price Deflator (2012=100).

Salvage is applied the Intermediate Goods, Producer Prices (1982=100).

d. Material differences between the current study and the utility's last filed study include the additions of solar and battery facilities that have reached commercial operation since the time of the prior study and that are planned for future construction.

Major changes in scope include the removal of equipment associated with Big Bend Power Station Units 2 and 3 and the addition of a new organism return system and traveling screens for the water intake system at Bayside Power Station .

2. Bates Stamped Page 476 reads:

"[…] it is 1898 & Co.'s typical practice and recommendation that 20 percent contingency be included on the direct costs in the estimates prepared as part of this study and that owner indirect costs be included as 5 percent of the direct cost."

a. Bates Stamped Pages 539-540 show that a 15 percent contingency factor was used for the instant study. Please explain, with necessary supporting documentation and analyses, why TECO believes the 15 percent rather than the 20 percent contingency factor is appropriate.

b. Please identify and explain the components and their corresponding weights that comprise the 15 percent contingency factor TECO used for the 2023 Study.

A. a. In prior dismantlement study filings, the company controlled the application of cost estimate contingency factors for modeling purposes. This allows for easier study cost estimate comparisons and quicker scenario calculations. Historically, the company has used a 15 percent contingency factor.

b. The breakdown of components for the 15 percent contingency factor used in the estimates is:

5 percent - Errors in Engineering Scope
5 percent - Errors in Cost Estimation
5 percent – Tampa Electric Management Costs (for indirect costs incurred to support vendor or non-vendor decommissioning work efforts).

The 15 percent contingency factor is applied to 1898 & Co.'s cost estimates for Labor, Materials & Equipment and Environmental & Disposal, but is not applied to Salvage credits. Please see Bates Stamped pages 538 Vendor Cost Estimates, 539 Contingency Amounts @ 15%, and 540 Estimates with Contingency @ 15% from Tampa Electric's Depreciation and Dismantlement Study, filed on December 27, 2023.

TAMPA ELECTRIC COMPANY
DOCKET NO. 20230139-EI
STAFF'S SECOND DATA REQUEST
REQUEST NO. 3
BATES PAGE(S): 4 - 5
FILED: APRIL 3, 2024

3. Referring to Bates Stamped Pages 552-554, please provide a comparison between the inflation and escalation indexes used in TECO's 2023 Study, and its last dismantlement study, and explain your response.

A. In a comparison of the instant 2023 study to the prior 2020 study inflation indices, the resulting compound multipliers (escalation factors) starting from year 2019, the year 2020 has minimal percentage differences between the actual and forecast. However, due to global inflationary impacts resulting from the pandemic and post-pandemic economic environments, the annual projections for year 2021 and beyond are vastly higher in the instant 2023 study index. Increases in these compound multipliers (escalation factors) applied to the vendor cost estimates will yield increases in the dismantlement accruals.

Compensation Per Hour, Productivity and Costs (2012=100), increase in the compound multipliers (escalation factors) can range from 5 percent to 15 percent depending on the year the unit is retired (sooner vs later).

Intermediate Goods, Producer Prices (1982=100), increase in the compound multipliers (escalation factors) can range from 16 percent to 36 percent depending on the year the unit is retired (sooner vs later).

GDP Chain Price Deflator (2012=100), increase in the compound multipliers (escalation factors) can range from 7 percent to 16 percent depending on the year
" the unit is retired (sooner vs later).

See Excel file "(BS 5") #3_Inflation Index Comparison 2023 vs 2020.xlsx.

4. Please refer to Bates Stamped Page 479, Section 2.0 Plant Description, Subsection 2.5 Big Bend Power Station, for the questions below regarding Big Bend Units 1-3:

a. Have all the dismantling/decommissioning activities of Units 1-3 been completed? If not, when does TECO expect them to be finished?

b. Please identify the respective actual/estimated dismantlement expense, reserve, deficiency (if any), and the cumulative deficiency each year from 2022 through the year when Units 1-3 dismantling/decommissioning is accomplished.

A. a. No. The preliminary engineering for dismantlement of Big Bend Units1-3 began in 2021, and equipment dismantlement began in 2022. The company estimates that dismantlement activities will be complete in 2027.

b. The existing dismantlement reserves for Big Bend Units 1-3 became deficient in March 2022. In April 2022, the company began recovering incremental dismantlement spend deficiencies through the Clean Energy Transition Mechanism ("CETM") instead of base rates. Refer to Order No. PSC-2021-0423-S-EI.

The table below is based on actual expenditures as of December 2023 and preliminary estimates of expenditures through 2027.

Big Bend Units 1-3												
Existing Dismantlement Reserve		Applied to Reserve	+	Deficiency Applied to CETM	=	Total Dismantlement Estimated Costs	=	Thru 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027
($8.3M)		$8.3M		$139.9M		$148.2M		$12.5M	$42.9M	$23.7M	$33.3M	$25.5M	$10.3M

5. Please refer to Bates Stamped Pages 488-489, Section 3.0 Decommissioning Costs, Subsection 3.2.2 Big Bend Power Station, for the questions below:

a. Item 2 of Subsection 3.2.2 reads "[i]t is assumed that approximately 145,800 tons of gypsum will be removed from site and disposed of as part of the gypsum storage remediation cost." TECO conventionally sells its gypsum. (see Document No. 6238-2011 in Docket No. 20110262-EI) Does the dismantlement cost of Big Bend Station include an estimate of the gypsum sales proceeds? Please explain your response.

b. Item 3 of Subsection 3.2.2 reads "[t]he bottom ash ponds, settling pond, […] will have all material removed by TECO prior to decommissioning. As such the costs for removal of this material are not included." Does TECO intend to book the cost associated with the removal of this material as "cost of removal" in depreciation? Please explain your response.

c. Please elaborate on the statement of Item 13, "Unit 1 asbestos was assumed to be partially remediated during the Big Bend Modernization, after discussion during the site visit."

A. a. The dismantlement cost of Big Bend Station does not include sales proceeds. This is consistent with the methodology used in the 2020 study.

b. This type of non-vendor related decommissioning work effort performed by Tampa Electric would be applied to the dismantlement reserve. Please see response to Data Request No. 2(b), above.

c. Asbestos located inside the turbine building on equipment for Unit 1's, cable trays, pipe insulation, etc., was remediated during the Big Bend Modernization project.

6. Bates Stamped Pages 489-494, provide the specific assumptions for 32 existing and planned solar sites. For each of the 16 sites listed below, the "cost for substation removal was not included." Please explain why.

Agrivoltaics Solar (Subsection 3.3.1)
Alafia Solar (Subsection 3.3.2)
Balm Solar (Subsection 3.3.3)
Big Bend Floating Solar (Subsection 3.3.4)
Bonnie Mine Solar (Subsection 3.3.7)
Bull Frog Creek Solar (Subsection 3.3.9)
Eastern PVS+ES Solar (Subsection 3.3.12)
Florida Aquarium Pavilion Solar (Subsection 3.3.14)
Grange Hall Solar (Subsection 3.3.17)
Lake Hancock Solar (Subsection 3.3.20)
Lithia Solar (Subsection 3.3.24)
Little Manatee River Solar (Subsection 3.3.25)
Payne Creek Solar (Subsection 3.3.28)
Peace Creek Solar (Subsection 3.3.29)
Tampa International Solar (Subsection 3.3.31)
Wimauma Solar (Subsection 3.3.32)

A. Substation removal costs were not included for the sites above either because the site is a small-scale solar project with no high-voltage transmission interconnection or because the substations are assumed to be owned by others and are otherwise expected to remain following decommissioning to be used by other generating facilities.

7. Please refer to Bates Stamped Pages 482, 489, and 577-582 (as pertains to MacDill AFB RICE/Battery) for the questions below:

a. Please identify the respective in-service date of RICE Units 1-4 and the battery energy storage system.

b. What is the respective probable life of the RICE units and the on-site battery energy storage?

c. Please explain how the 2055 capital recovery date was determined for the site.

A. a. Two of the reciprocating generating units and the battery energy storage have an estimated in-service date of April 2025. The remining two reciprocating generating units have an estimated in-service date of June 2026.

b. The life span of the reciprocating generating units is 30 years based on the 30-year contract / land lease from the government. The life span of the battery energy storage equipment is 10 years based on battery replacement intervals.

c. The 2055 recovery date is based on an initial installation year of 2025 and a 30-year life span for the reciprocating generating units. I

8. Referring to Bates Stamped Page 535, please define the abbreviation “CCST.”

A. **“**CCST” refers to combined cycle steam turbine equipment. On the cited page, the acronym refers to equipment associated with the Big Bend Modernization project. Combined cycle steam turbine equipment can also be referred to as 2xGT - HSRG - ST.

9. Referring to Bates Stamped Pages 565-566, Big Bend Unit 4, please explain in detail why TECO revised the capital recovery year from 2045 (estimate of the 2020 Dismantlement Study) to 2040 (estimate of the 2023 Study).

A. There are two main reasons why the company revised the retirement date for Big Bend Unit 4. First, the unit has experienced reduced Equivalent Availability Factor ("EAF") due to higher wear and tear caused by coal combustion. The higher wear and tear are resulting in reduced estimates of its operating life. Second, the company's fuel projections show that natural gas will remain more cost-effective than coal in the future.

10. Referring to Bates Stamped Pages 569-570, Big Bend GT's 5-6, please explain in detail why TECO revised the capital recovery year form 2061 (estimate of the 2020 Dismantlement Study) to 2057 (estimate of the 2023 Study).

A. The 2020 dismantlement study assumption of a 40-year life span was an error. These units have an assumed 35-year life span, and this assumption was used in the 2020 depreciation study, 2023 depreciation study and 2023 dismantlement study model.

11. Referring to Bates Stamped Pages 569-570, Big Bend GT's 5-6, please explain in detail why TECO revised the capital recovery year form 2061 (estimate of the 2020 Dismantlement Study) to 2057 (estimate of the 2023 Study).

A. Please see the response to Data Request No. 10, above.

12. Please refer to Bates Stamped Pages 487-488, 537-538 for the questions below:

a. Please describe in detail how labor rates were determined for deriving the estimate of the dollar amounts associated with each dismantlement task and/or job.

b. Referring to Bates Stamped Pages 537-538, please identify the components that comprise the labor cost, such as direct cost of completing a dismantlement activity, and indirect cost such as engineering services and construction management support, along with any allocated expenditure such as overhead cost. Please also explain the weight assigned to each of the cost components identified.

c. Please explain how the scrap metal values were determined, and provide a copy of supporting documentation and analysis.

d. Apart from the stainless steel, titanium, and Inconel scrap metal values (Bates Stamped Pages 487-488), what other cost components, if any, are included in the column titled “Salvage” reflected on Bates Stamped Page 537?

e. Please explain how TECO determined the environmental & disposal expenses for the instant Decommissioning Study, and provide a copy of supporting documentation and analysis.

A.

a. Labor rates were obtained from RS Means information using an online subscription. The rates were adjusted using RS Means Site Cost Index for the local markets.

b. Labor rates obtained from RS Means include fringe benefits, workers' compensation (5-11 percent), fixed overhead (18.5 percent), overhead (11-14 percent) and profit (10 percent). Overhead figures include federal and state unemployment costs (8 percent), social security taxes (7.65 percent), builders' risk insurance (0.80 percent), and public liability costs (2.02 percent). The average overhead & project totals to around 47-53 percent of base costs.

c. The scrap prices were obtained using an online subscription to American Metal Market. Scrap values were developed using the most recent 12-month average of American Metal Market prices at the time of the study. Total scrap values are the product of the scrap values multiplied by quantities.

d. There is no column titled “Salvage” on Bates Stamped page 537; however, there is a column titled “Scrap Value” and, as stated on Bates Stamped Page 487, the scrap values are inclusive of the most recent 12-month average of American Metal Market prices and the cost to haul the scrap via truck and/or rail to the major market, multiplied by the quantity of scrap materials. Included are scrap values for steel, copper, aluminum, and brass. On Bates Stamped Page 488, scrap values for stainless steel, titanium, and Inconel are included for Bayside Power Station, Big Bend Power Station, and Polk Power Station.

e. Environmental rates were determined using RS Means information and 1898 & Co. project experience. Debris disposal rates were based on tipping fees from local landfills and the cost of transporting the material from each site.

13. Referring to Bates Stamped Page 535, Summary of Dismantling Accruals, please explain why TECO proposed a positive amount of FPSC Dismantlement Accrual – Salvage component, effective 1/1/2025, for Big Bend Common (Handling) and Polk Common (Handling), respectively, in contrast to the Company's proposed negative amount of Accrual – Salvage component for each and all of the other plant sites/items.

A. Typically, dismantlement accruals are necessary to build up an underfunded (deficient) reserve to recover the future escalated component cost estimates.

The accrual in the study model is calculated by comparing the existing component reserve balance as of 12/31/2024 to the future escalated component cost estimate at the capital recovery year (retirement date). The difference is the component's remaining accrual requirement over time. The negative accruals for these accounts occurred because the current component reserve balance for these accounts as of 12/31/2024 is a surplus. This can occur due to changing input variables in the model for the capital recovery year, engineering scope assumptions / cost estimates, contingency costs and inflation escalation factors. Depending on what is changing and in which direction (up or down), the model will self-correct the necessary accrual requirements either way. See the chart below for all the negative accruals found on Bates Stamped Page 535, when added together is an overall net ($70,219) accrual reduction per year. Negative accruals can be eliminated now by proposing reserve transfers that net $0 between the unit specific components, however doing so would cause the requested overall annual accrual to increase by $6,688. The company did not propose any reserve transfers for this reason, as the model will self-correct over time.

NEGATIVE ACCRUALS	LABOR	MATERIALS & EQUIPMENT	ENVIROMENTAL & DISPOSAL	SALVAGE	TOTAL
Bayside Unit #1 (3xGT - HSRG - ST)	-	-	(69,704)	-	**(69,704)**
Bayside Unit #2 (4xGT - HSRG - ST)	-	-	(70,191)	-	**(70,191)**
Bayside GT's 3-6	-	-	(2,119)	-	**(2,119)**
Big Bend Common (Handling)	-	-	-	7,584	**7,584**
Big Bend GT 4	-	-	(387)	-	**(387)**
Big Bend GT's 5-6 (and Unit 1 CCST)					-
Polk Common (Handling)	-	-	-	64,598	**64,598**
Total Negative Accruals	-	-	**(142,401)**	**72,182**	**(70,219)**

14. Referring to Table 1 below, please summarize and explain the major drivers and/or causes of the significant increase in the dismantlement costs associated with the Bayside and Polk Power Stations, respectively.

Table 1: Comparison of TECO's Generation Plant Dismantlement Cost Estimates (Including Contingency @ 15%)

Account	2020 Study	2023 Study	Change ($)	Change (%)
Bayside Power Station	$14,575,850	$21,418,750	$6,842,900	46.9%
Big Bend Power Station	$80,772,550	$86,859,500	$6,086,950	7.5%
Polk Power Station	$15,229,450	$20,115,800	$4,886,350	32.1%
MacDill Station		1,061,750	$1,061,750	
Solar Sites	81,786,195	$228,872,135	$147,085,940	179.8%
Total Surviving Assets	$192,364,045	$358,327,935	$165,963,890	86.3%
Source: TECO's 2020 and 2023 Dismantlement Studies.				

A. The major driver for the increase in the dismantlement costs associated with the Bayside Power Station includes the addition of traveling screens and an organism return system at the site.

The major driver for the increase in the dismantlement costs associated with the Polk Power Station includes the increase of the Site Cost Index for 2023. The 2020 Site Cost Index for Lakeland, Florida was 93.2 percent and the 2023 Site Cost Index for Lakeland, Florida is 101. percent%.

The Big Bend Power Station estimate did not include equipment associated with Unit 2 and Unit 3 were not included in. This resulted in a lower percent change in comparison to Bayside Power Station and Polk Power Station.

15. Referring to Table 2 below, please summarize and explain the major drivers and/or causes of the proposed increase in the dismantlement accruals for Bayside Station, Big Bend Station, Polk Station, and the existing Solar Sites, respectively.

Table 2: Comparison of TECO's Generation Plant Dismantlement Accruals

Account	Current Accrual (01/01/2022) (1)	Company Proposed Accrual (01/01/2025) (2)	Company Proposed Change in Accrual (3) = (2) - (1)	Change in (%) (4) = (3) / (1)
Bayside Power Station	$445,892	$991,627	$545,735	122.4%
Big Bend Power Station	$2,311,891	$2,722,952	$411,061	17.8%
Polk Power Station	$680,254	$970,585	$290,331	42.7%
MacDill Station		57,082	$57,082	
Existing Solar Sites	4,576,706	$5,471,855	$895,149	19.6%
New Solar Sites		$7,228,291	$7,228,291	
Solar Sites Subtotal	4,576,706	$12,700,146	$8,123,440	177.5%
Total Surviving Assets	$8,014,743	$17,442,392	$9,427,649	117.6%
Source: "2023 Generation Dismantling Model for FPSC - Filed.xlsx" TECO filed on 12/27/2023.				

A. The Bayside Power Station accrual increase is caused by higher cost estimates and higher compound multipliers (escalation factors) due to the post-pandemic economic environments.

The Big Bend Power Station accrual increase is caused by higher compound multipliers (escalation factors) due to the post-pandemic economic environments and acceleration of the Big Bend Unit 4 capital recovery year (retirement date) from 2045 to 2040. This is offset by the extension of the capital recovery year (retirement date) for Big Bend Common from 2045 to 2057 to match the last unit installed per the depreciation study.

The Polk Power Station accrual increase is caused by higher compound multipliers (escalation factors) due to the post-pandemic economic environments and acceleration of the capital recovery year (retirement date) of Polk 2-5 (4xGT - HRSG - ST) from 2057 to 2052. This is offset by the extension of the capital recovery year (retirement date) for Polk Common from 2047 to 2052 to match the last unit installed per the depreciation study.

The existing Solar Site accrual increase is caused by higher compound multiplier (escalation factors) due to the post-pandemic economic environments and acceleration of the capital recovery year (retirement date) assumption from 35-year life spans to 30-year life spans per the depreciation study.