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July 20, 2017

VIA: ELECTRONIC TRANSMISSION

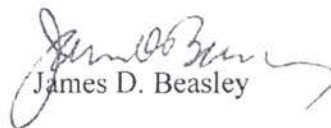
Ms. Jenny Wu  
Economic Analyst  
Division of Economics  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

Re: Tampa Electric Company's Petition for Approval of Depreciation Rates for Polk  
2 Combined Cycle Generating Units: FPSC Docket No. 20170143-EI

Dear Ms. Wu:

Enclosed are Tampa Electric Company's responses to Staff's First Data Request Nos. 1-5  
that accompanied your letter dated June 22, 2017.

Sincerely,

  
James D. Beasley

JDB/pp  
Enclosure

cc: Commission Clerk  
Office of Public Counsel  
Ms. Paula K. Brown

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TAMPA ELECTRIC COMPANY  
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REQUEST NO. 1  
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1. Please specify the following regarding Tampa Electric Company's (TECO) new Polk Unit 2 Combined Cycle (CC): Generating Maximum Nameplate (kW), Net Capacity for Summer (MW) and Winter (MW).
  - A. The Polk 2 Generating Maximum Nameplate is 513,000 kW. The Net Capacity for Summer is 461 MW and Net Capacity for Winter is 480 MW.

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2. Please provide the comparisons between TECO's Bayside Units 1 & 2 CCs and the company's new Polk Unit 2 CC in terms of the plant asset depreciation characteristics.
  - A. Bayside Units 1 & 2 CCs were put into service with the CT and HRSG assets being new construction and the Steam Turbine being an existing asset. For the Polk Unit 2 CC the CT's are existing assets and the HRSG and Steam Turbine asset is new construction.

Please see the attached charts.

Bayside 1  
3 CT's into 1 ST

CT A	CT B	CT C
New	New	New

HRSG	HRSG	HRSG
New	New	New

Steam Turbine  
Existing

Bayside 2  
4 CT's into 1 ST

CT A	CT B	CT C	CT D
New	New	New	New

HRSG	HRSG	HRSG	HRSG
New	New	New	New

Steam Turbine  
Existing

"Polk 2 CCST"  
4 CT's into 1 ST

CT #2	CT #3	CT #4	CT #5
Existing	Existing	Existing	Existing

HRSG	HRSG	HRSG	HRSG
New	New	New	New

Steam Turbine  
New

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3. Referring the first paragraph of the instant petition, please explain why a 35-year length is the appropriate period over which the new Polk 2 CC and associated equipment will be depreciated.
- A. Tampa Electric's 2013 rate case settlement stipulates that Tampa Electric is not required to file a depreciation study until the shortly before filing its next base rate case. See Order No. PSC-13-0443-FOF-EI in Docket No. 130040-EI, paragraph 8 of the settlement agreement.

Since the Polk CT's are existing assets with approved depreciation rates, the requested start rate request is limited to the new technology related to the HRSG and Steam Turbine assets only. During the next depreciation study Tampa Electric will analyze all Polk 2 assets (CT, HRSG, and Steam Turbine) and re-evaluate the useful remaining life for all assets combined.

An evaluation was made of the Bayside CT's and what starter rate should be applied to Polk 2 based on the new technology that was placed in service. Since Polk 2 has different asset types going into service Tampa Electric believes the 35-year length is an appropriate timeframe for the starter rate. During the next depreciation study when the assets are evaluated completely, the new technology and the existing technology would produce a composite rate more similar to the Bayside CT assets.

Attached is a spreadsheet that demonstrates why a 35-year life is not an inappropriate rate to use as a start rate for the new equipment at the new Polk 2 CC.

**TAMPA ELECTRIC COMPANY  
ENERGY SUPPLY - GENERATING UNIT  
CAPITAL RECOVERY DATES**

Plant Name	Unit No.	Gen. Max. Nameplate KW	10-year Summer MW	10-year Winter MW	Unit Type	Fuel Type	Month	In-svc Date Year	2017 Recovery Year	Maximum Lifespan in Years	Year End 2017	
											Current Age in Years	Maximum Remaining Life in Years
<b>Big Bend Station</b>												
31X	Common	-	-	-	-	-	10	1970	2050	80	48	33
31X	Boiler 1 (1 ST)	445,500	385	395	ST	BIT/NG	10	1970	2035	65	48	18
31X	Boiler 2 (1 ST)	445,500	385	395	ST	BIT/NG	4	1973	2038	65	45	21
31X	Boiler 3 (1 ST)	445,500	395	400	ST	BIT/NG	5	1976	2041	65	42	24
31X	Boiler 4 (1 ST)	486,000	437	442	ST	BIT/NG	2	1985	2050	65	33	33
31X	1&2 FGD	-	-	-	-	-	12	1999	2038	39	19	21
31X	3&4 FGD	-	-	-	-	-	2	1985	2050	65	33	33
31X	SCR 1	-	-	-	-	-	5	2010	2035	25	8	18
31X	SCR 2	-	-	-	-	-	5	2009	2038	29	9	21
31X	SCR 3	-	-	-	-	-	5	2008	2041	33	10	24
31X	SCR 4	-	-	-	-	-	5	2007	2050	43	11	33
34X	CT 4	69,900	56	61	GT	NG/DFO	8	2009	2049	40	9	32
		<u>1,892,400</u>	<u>1,658</u>	<u>1,693</u>								
<b>Bayside Station</b>												
34X	Common	-	-	-	-	-	4	2003	2049	46	15	32
34X	1 (3 CT's w/ CC)	809,060	701	792	CC	NG	4	2003	2043	40	15	26
34X	ST 1	-	-	-	ST	-	11	1965	2043	78	53	26
34X	2 (4 CT's w/ CC)	1,205,100	929	1,047	CC	NG	1	2004	2044	40	14	27
34X	ST 2	-	-	-	ST	-	10	1967	2044	77	51	27
34X	CT 3	69,900	56	61	GT	NG	7	2009	2049	40	9	32
34X	CT 4	69,900	56	61	GT	NG	7	2009	2049	40	9	32
34X	CT 5	69,900	56	61	GT	NG	4	2009	2049	40	9	32
34X	CT 6	69,900	56	61	GT	NG	4	2009	2049	40	9	32
		<u>2,293,760</u>	<u>1,854</u>	<u>2,083</u>								
<b>Solar Fields</b>												
34X	TIA Solar	1,600	1.6	1.6	PV	Solar	12	2015	2045	30	3	28
34X	25mw Solar	18,000	18	18	PV	Solar	12	2016	2046	30	2	29
34X	6-2mw Solar	6,000	6	6	PV	Solar	12	2016	2046	30	2	29
		<u>25,600</u>	<u>26</u>	<u>26</u>								
<b>Polk Station</b>												
34X	Common	-	-	-	-	-	9	1996	2047	51	22	30
34X	1 (Gasifier)	326,299	220	220	IGCC	PC/BIT/NG	9	1996	2036	40	22	19
34X	2 (1 CT)	175,770	151	183	GT	NG/DFO	7	2000	2040	40	18	23
34X	3 (1 CT)	175,770	151	183	GT	NG/DFO	5	2002	2042	40	16	25
34X	4 (1 CT)	175,770	151	183	GT	NG	3	2007	2047	40	11	30
34X	5 (1 CT)	175,770	151	183	GT	NG	4	2007	2047	40	11	30
34X	CC (1 ST)	461,000	459	463	ST	-	1	2017	2057	40	1	40
		<u>1,490,379</u>	<u>1,283</u>	<u>1,415</u>								
		<u>Total KW Capacity</u>	<u>MW</u>	<u>MW</u>								
		In-service	5,702,139	4,821	5,217							
		*On standby	-	-	-							
		<u>5,702,139</u>	<u>4,821</u>	<u>5,217</u>								

**Unit Type:**

CC = Combined Cycle  
GT = GasTurbine  
IC = Internal Combustion  
PV = Photovoltaic  
ST = Steam Turbine  
IGCC = Integrated Gasification CC

**Fuel Type:**

BIT = Bituminous Coal  
DFO = Distillate Fuel Oil  
NG = Natural Gas  
PC = Petroleum Coke  
SOLAR = Solar Energy

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4. Please refer to Item 4 of the instant petition and Schedules B-7, pages 5-6, of TECO's 2016 Annual Depreciation Status Report (ADSR) for the following questions.
- a. Please explain in detail why a 2.9 percent is the appropriate interim depreciation rate for Polk Unit 2 CC.
  - b. Please provide a workpaper, in Excel format, to show how the 2.9 percent interim depreciation rate was derived.
  - c. Does each of the Bayside Units 1 & 2 CCs have the same 2.9 percent composite interim depreciation rate?
  - d. If your response to question (c.) is negative, please specify the composite interim depreciation rate for each of the Bayside Units 1 & 2 CCs.
  - e. If your response to question 3.(c). is negative, please explain why TECO proposed an interim depreciation rate differs from the rate of the company's Polk Unit 2 CC.
  - f. In its instant petition, TECO indicated that Polk 2 is categorized into four sub accounts: 341 (Structures and Improvements), 342 (Fuel Holders, Producers and Accessories), 343 (Prime Movers) and 345 (Accessory Electric Equipment). However, each of the company's Bayside Unit 1 & 2 CCs is categorized into five sub accounts: the aforementioned four sub accounts plus sub account 346 (Misc. Power Plant Equipment) as shown in ADSR, Schedule B-7, pages 6-7. Please explain why TECO does not propose sub account 346 (Misc. Power Plant Equipment) to record the corresponding plant assets and reserves associated with its new Polk Unit 2 unit CC.
  - g. Please explain why TECO believes that the 2.9 percent interim depreciation rate applies to all the aforementioned four sub accounts, given that for most of the company's Bayside Unit 1 & 2 CCs sub accounts each has a unique depreciation rate as shown in ADSR, Schedule B-7, pages 6-7.

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- A.
- a. Please refer to the response to Request No. 3 this set.
  - b. Please refer to the response to Request No. 3 this set.
  - c. No. For the period of 2003-2006, an interim start rate of 4.3% was used across all accounts for both Bayside Unit 1 and Unit 2. In the 2007 Depreciation Study, Tampa Electric evaluated and established final unitization and retirement unit classification Bayside Unit 1 and Unit 2 which provided adequate data for detailed analysis and assignment of specific rates.
  - d. Please refer to the response to Request No. 4c this set.
  - e. The interim rates for Bayside Unit 1 and Unit 2 versus Polk 2 CC is not an identical mix of assets since the interim starter rate request for Polk 2 CC is only related to the HRSG and Steam Turbine assets.
  - f. Tampa Electric requests that the Commission include Account 346 (Misc. Power Plant Equipment) for the Polk 2 CC interim starter rate filing.
  - g. See response to (c) above.



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5. Please refer to TECO's 2017 Ten Year Site Plant (TYSP) and its 2016 ADSR. On page 3 of the TYSP, TECO stated that Polk 2 CC utilizes four combustion turbines (formally Polk 2-5 simple cycle CT's), four HRSGs and one steam turbine. On Page 4 of the TYSP, TECO indicated that as of December 31, 2016, Polk Units 2 - 5, are gas turbines (GT). In Schedules B-7 and B-9, pages 5-7, of 2016 ADSR, TECO recorded plant assets and reserves for Polk Units 2, 3, 4 and 5 using sub accounts 341, 342, 343, 345 and 346.
- a. Are the four CTs of TECO's new Polk 2 CC brand new generating units?
  - b. If your response to question (a.) is affirmative, please clarify that from now on which generating unit, the Polk 2 CC built in January 2017 or the existing Polk Unit 2 GT built in July 2000, will be designated as Polk Unit 2 for all the depreciation accounting and reporting purposes. Please also explain how naming duplication will be avoided.
  - c. If your response to question (a.) is negative, is it correct that the four CTs of the new Polk 2 CC were converted from the 2016-existing Polk GTs Units 2 - 5?
  - d. If your response to question (c.) is affirmative, please provide responses for the following questions.
    - i. Will all the plant assets and reserves recorded in sub accounts 341, 342, 343 and 345 associated with the then-existing Polk Unit 2 GT be transferred into the new Polk Unit 2 CC sub account 341, 342, 343 and 345? Please discuss your response.
    - ii. Will all the plant assets and reserves recorded in sub accounts 341, 342, 343 and 345 associated with the then-existing Polk Units 3 - 5 GTs be also transferred into the new Polk Unit 2 CC sub accounts 341, 342, 343 and 345? Please discuss your response.
    - iii. Given that there will be no sub account 346 for the new Polk Unit 2 CC, into which account/sub account will the plant assets and reserves recorded in sub account 346 associated with the then-existing Polk Units 2 - 5 GTs be transferred? Please discuss your response.

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- iv. Will sub accounts 346 associated with the then-existing Polk Units 2 - 5 GTs be closed? Please discuss your response.
  - v. Will all the sub accounts 341, 342, 343, 345 and 346 associated with the then-existing Polk Units 3 - 5 GTs be closed? Please discuss your response.
- A.
- a. No, the CT's utilized in the new Polk 2 CC are existing assets. Please refer to the chart included in the response to Request No. 2 this set.
  - b. N/A
  - c. Yes.
  - d.
    - i. No, the Polk CT's are currently in unique utility account/asset locations with Commission approved depreciation rates. There will be new utility account/asset locations created for the HRSG and Steam Turbine assets. These accounts will be analyzed in the next depreciation study.
    - ii. See the response to (d)(i) above.
    - iii. See the response to 5(d)(i) above and the response to Request No. 4(f) this set.
    - iv. See the response to 5(d)(i) above.
    - v. See the response to 5(d)(i) above.