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August 22, 2014

VIA: ELECTRONIC FILING

Ms. Carlotta S. Stauffer Commission Clerk Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, Florida 32399-0850

Re:

Environmental Cost Recovery Clause

FPSC Docket No. 140007-EI

Dear Ms. Stauffer:

Attached for filing in the above docket, on behalf of Tampa Electric Company, are the original of each of the following:

- 1. Petition of Tampa Electric Company.
- 2. Prepared Direct Testimony and Exhibit (PAR-2) of Penelope A. Rusk.
- 3. Prepared Direct Testimony of Paul L. Carpinone.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp Attachment

cc: All Parties of Record (w/attachment)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Petition and Testimonies, filed on behalf of Tampa Electric Company, has been furnished by hand delivery (*) or electronic mail on this 2 day of August 2014 to the following:

Mr. Charles W. Murphy*
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ATTORNE

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Environmental Cost)	DOCKET NO. 140007-EI
Recovery Clause.)	
)	FILED: August 22, 2014

PETITION OF TAMPA ELECTRIC COMPANY

Tampa Electric Company ("Tampa Electric" or "the company"), hereby petitions the Commission for approval of the company's environmental cost recovery true-up and the cost recovery factor proposed for use during the period January 2015 through December 2015, and in support thereof, says:

Environmental Cost Recovery

- 1. Tampa Electric's final true-up amount for the January 2013 through December 2013 period is an over-recovery of \$1,957,072. [See Exhibit No. ____ (HTB-1), Document No. 1 (Schedule 42-1A).]
- 2. Tampa Electric projects an estimated/actual true-up amount for the January 2014 through December 2014 period, which is based on actual data for the period January 1, 2014 through June 30, 2014 and revised estimates for the period July 1, 2014 through December 31, 2014, to be an over-recovery of \$6,935,676. [See Exhibit No. _____ (PAR-1), Document No. 1 (Schedule 42-1E), from the filing dated July 25, 2014.]
- 3. The company's projected environmental cost recovery amount for the period January 1, 2015 through December 31, 2015, adjusted for taxes, is \$75,568,127. When spread over projected kilowatt hour sales for the period January 1, 2015 through December 31, 2015, the average environmental cost recovery factor for the new period is 0.406 cents per KWH after application of the factors which adjust for variations in line losses. [See Exhibit No. _____ (PAR-2), Document No. 7 (Schedule 42-7P).

4. The accompanying Prepared Direct Testimony and Exhibits of Paul L. Carpinone

and Penelope A. Rusk present:

(a) A description of each of Tampa Electric's environmental compliance actions

for which cost recovery is sought; and

(b) The costs associated with each environmental compliance action.

5. For reasons more fully detailed in the Prepared Direct Testimony of witness

Penelope A. Rusk, the environmental compliance costs sought to be approved for cost recovery

proposed in this petition are consistent with the provisions of Section 366.8255, Florida Statutes,

and with prior rulings by the Commission with respect to environmental compliance cost recovery

for Tampa Electric and other investor-owned utilities.

WHEREFORE, Tampa Electric Company requests this Commission's approval of the

company's prior period environmental cost recovery true-up calculations and projected

environmental cost recovery charges to be collected during the period January 1, 2015 through

December 31, 2015.

DATED this 22nd day of August 2014.

Respectfully submitted,

JAMES D. BEASLEY

J. JEFFRY WAHLEN

ASHLEY M. DANIELS

Ausley & McMullen

Post Office Box 391

Tallahassee, FL 32302

(850) 224-9115

ATTORNEYS FOR TAMPA ELECTRIC COMPANY

-2-

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Petition, filed on behalf of Tampa Electric Company, has been furnished by hand delivery (*) or electronic mail on this 22nd day of August 2014 to the following:

Mr. Charles W. Murphy*
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ATTORNEY



BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 140007-EI

ENVIRONMENTAL COST RECOVERY FACTORS

PROJECTIONS

JANUARY 2015 THROUGH DECEMBER 2015

TESTIMONY AND EXHIBIT

OF

PENELOPE A. RUSK

FILED: AUGUST 22, 2014

BEFORE THE PUBLIC SERVICE COMMISSION 1 PREPARED DIRECT TESTIMONY 2 3 OF PENELOPE A. RUSK 4 5 Please state your name, address, occupation and employer. 6 7 My name is Penelope A. Rusk. My business address is 702 8 Α. North Franklin Street, Tampa, Florida 33602. Ι am employed by Tampa Electric Company ("Tampa Electric" or 10 "company") in the position of Manager, Rates in the 11 Regulatory Affairs Department. 12 13 14 Q. Please provide a brief outline of your educational background and business experience. 15 16 I received a Bachelor of Arts degree in Economics from 17 the University of New Orleans in 1995, and I received a 18 Master of Arts degree in Economics from the University of 19 South Florida in Tampa in 1997. I joined Tampa Electric 20 in 1997, Economist in the Load Forecasting 21 as an Department. In 2000, I joined the Regulatory Affairs 22 23 Department, where I have assumed positions of increasing responsibility in the areas of fuel and capacity cost 24 25 recovery. I have accumulated 17 years of electric

utility experience working in the areas load forecasting, cost recovery clauses, as well as project management and rate setting activities for wholesale and retail rate cases. My duties include managing cost recovery for fuel and purchased power, interchange sales, FPSC-approved capacity payments, and environmental projects

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Q. What is the purpose of your testimony in this proceeding?

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The purpose of my testimony is to present, for Commission review and approval, the calculation of the revenue requirements and the projected ECRC factors the period of January 2015 through December 2015. The projected ECRC factors have been calculated based on the current allocation methodology. In support of the projected ECRC factors, my testimony identifies the capital and operating and maintenance ("O&M") associated with environmental compliance activities for the year 2015.

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Q. Have you prepared an exhibit that shows the determination of recoverable environmental costs for the period of January 2015 through December 2015?

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___ (PAR-2), containing eight Yes. Exhibit No. Α. documents, was prepared under my direction and supervision. Document Nos. 1 through 8 contain Forms 42-1P through 42-8P, which show the calculation and summary and capital expenditures that support development of the environmental cost recovery factors for 2015.

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- 9 **Q.** Are you requesting Commission approval of the projected environmental cost recovery factors for the company's various rate schedules?
 - A. Yes. The ECRC factors, prepared under my direction and supervision, are provided in Exhibit No. ____ (PAR-2), Document No. 7, on Form 42-7P. These annualized factors will apply for the period January through December 2015.
 - Q. What has Tampa Electric calculated as the net true-up to be applied in the period January 2015 through December 2015?
 - A. The net true-up applicable for this period is an over-recovery of \$8,892,748. This consists of the final true-up over-recovery of \$1,957,072 for the period of January 2013 through December 2013 and an estimated true-up over-

recovery of \$6,935,676 for the current period of January 1 2014 through December 2014. The detailed calculation 2 supporting the estimated net true-up was provided on 3 Forms 42-1E through 42-9E of Exhibit No. (PAR-1) 4 5 filed with the Commission on July 25, 2014. 6 Will Electric include 7 Q. Tampa any new environmental compliance projects for ECRC cost recovery for the period 8 from January 2015 through December 2015? 10 No, Tampa Electric is not including any new environmental 11 compliance projects for ECRC cost recovery during 2015. 12 13 14 Q. What are the existing capital projects included in the calculation of the ECRC factors for 2015? 15 16 Α. Tampa Electric proposes to include for ECRC recovery the 17 25 previously approved capital projects and 18 their projected costs in the calculation of the ECRC factors 19 20 for 2015. These projects are: 21 1) Big Bend Unit Gas Desulfurization 22 3 Flue ("FGD") 23 Integration

2) Big Bend Units 1 and 2 Flue Gas Conditioning

3) Big Bend Unit 4 Continuous Emissions Monitors

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1	4) Big Bend Fuel Oil Tank 1 Upgrade
2	5) Big Bend Fuel Oil Tank 2 Upgrade
3	6) Big Bend Unit 1 Classifier Replacement
4	7) Big Bend Unit 2 Classifier Replacement
5	8) Big Bend Section 114 Mercury Testing Platform
б	9) Big Bend Units 1 and 2 FGD
7	10) Big Bend FGD Optimization and Utilization
8	11) Big Bend NO_x Emissions Reduction
9	12) Big Bend Particulate Matter ("PM") Minimization and
10	Monitoring
11	13) Polk ${ m NO_x}$ Emissions Reduction
12	14) Big Bend Unit 4 SOFA
13	15) Big Bend Unit 1 Pre-SCR
14	16) Big Bend Unit 2 Pre-SCR
15	17) Big Bend Unit 3 Pre-SCR
16	18) Big Bend Unit 1 SCR
17	19) Big Bend Unit 2 SCR
18	20) Big Bend Unit 3 SCR
19	21) Big Bend Unit 4 SCR
20	22) Big Bend FGD System Reliability
21	23) Mercury Air Toxics Standards ("MATS")
22	24) SO ₂ Emission Allowances
23	25) Big Bend Gypsum Storage Facility
24	
25	Some of these projects are described in more detail in

1		the direct testimony of Tampa Electric Witness, Paul
2		Carpinone.
3		
4	Q.	Have you prepared schedules showing the calculation of
5		the recoverable capital project costs for 2015?
6		
7	A.	Yes. Form 42-3P contained in Exhibit No (PAR-2)
8		summarizes the cost estimates projected for these
9		projects. Form 42-4P, pages 1 through 26, provides the
10		calculations of the costs, which result in recoverable
11		jurisdictional capital costs of \$55,840,291.
12		
13	Q.	What are the existing O&M projects included in the
14		calculation of the ECRC factors for 2015?
15		
16	A.	Tampa Electric proposes to include for ECRC recovery the
17		23 previously approved O&M projects and their projected
18		costs in the calculation of the ECRC factors for 2015.
19		These projects are:
20		
21		1) Big Bend Unit 3 FGD Integration
22		2) Big Bend Units 1 and 2 Flue Gas Conditioning
23		3) SO ₂ Emissions Allowances
24		4) Big Bend Units 1 and 2 FGD
25		5) Rig Rend DM Minimization and Monitoring

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1		6) Big Bend NO_{x} Emissions Reduction
2		7) NPDES Annual Surveillance Fees
3		8) Gannon Thermal Discharge Study
4		9) Polk NO_{x} Emissions Reduction
5		10) Bayside SCR Consumables
6		11) Big Bend Unit 4 SOFA
7		12) Big Bend Unit 1 Pre-SCR
8		13) Big Bend Unit 2 Pre-SCR
9		14) Big Bend Unit 3 Pre-SCR
10		15) Clean Water Act Section 316(b) Phase II Study
11		16) Arsenic Groundwater Standard Program
12		17) Big Bend Unit 1 SCR
13		18) Big Bend Unit 2 SCR
14		19) Big Bend Unit 3 SCR
15		20) Big Bend Unit 4 SCR
16		21) Mercury Air Toxics Standards
17		22) Greenhouse Gas Reduction Program
18		23) Big Bend Gypsum Storage Facility
19		
20		Some of these projects are described in more detail in
21		the direct testimony of Tampa Electric Witness, Paul
22		Carpinone.
23		
24	Q.	Have you prepared schedules showing the calculation of
25		the recoverable O&M project costs for 2015?

A. Yes. Form 42-2P contained in Exhibit No. ___ (PAR-2) summarizes the recoverable jurisdictional O&M costs for these projects which total \$28,566,214 for 2015.

- Q. Do you have a schedule providing the description and progress reports for all environmental compliance activities and projects?
- **A.** Yes. Project descriptions and progress reports, as well
 10 as the projected recoverable cost estimates, are provided
 11 in Form 42-5P, pages 1 through 31.
- Q. What are the total projected jurisdictional costs for environmental compliance in the year 2015?
 - A. The total jurisdictional O&M and capital expenditures to be recovered through the ECRC are calculated on Form 42-1P. These expenditures total \$84,406,505.
 - Q. How were environmental cost recovery factors calculated?
 - A. The environmental cost recovery factors were calculated as shown on Schedules 42-6P and 42-7P. The demand allocation factors were calculated by determining the percentage each rate class contributes to the monthly

system peaks and then adjusted for losses for each rate The energy allocation factors were determined by class. calculating the percentage that each rate class contributes to total MWH sales and then adjusted for losses for each rate class. This information was based on applying historical rate class load research to the 2015 projected forecast of system demand and energy. Form 42-7P presents the calculation of the proposed ECRC factors by rate class.

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Q. What are the ECRC billing factors for the period of January through December 2015 which Tampa Electric is seeking approval?

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A. The computation of the billing factors is shown in Exhibit No. ___ (PAR-2) Document No. 7, Form 42-7P. In summary, the January through December 2015 proposed ECRC billing factors are as follows:

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Rate Class	Factor by voltage
	Level(¢/kWh)
RS Secondary	0.408
GS, TS Secondary	0.407

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1		GSD, SBF	
2		Secondary 0	.405
3		Primary 0	.401
4		Transmission 0	.397
5		IS	
6		Secondary 0	.397
7		Primary 0	.393
8		Transmission 0	.389
9		LS1 0	.401
10		Average Factor 0	.406
11			
12	Q.	When does Tampa Electric propose to beg	in applying these
13		environmental cost recovery factors?	
14			
15	A.	The environmental cost recovery factors	will be effective
16		concurrent with the first billing cycle f	or January 2015.
17			
18	Q.	What capital structure, components and	cost rates did
19		Tampa Electric rely on to calcula	te the revenue
20		requirement rate of return for Janua	ry 2015 through
21		December 2015?	
22			
23	Α.	Tampa Electric relied upon the weighted	average cost of
24		capital methodology approved by the Com	mmission in Order
25		No. PSC-12-0425-PAA-EU, to calculat	e the revenue
ļ		1.0	

requirement rate of return found on Form 42-8P.

Q. Are the costs Tampa Electric is requesting for recovery through the ECRC for the period January 2015 through December 2015 consistent with criteria established for ECRC recovery in Order No. PSC-94-0044-FOF-EI?

A. Yes. The costs for which ECRC treatment is requested meet the following criteria:

 Such costs were prudently incurred after April 13, 1993;

The activities are legally required to comply with a governmentally imposed environmental regulation enacted, became effective or whose effect was triggered after the company's last test year upon which rates are based; and,

 Such costs are not recovered through some other cost recovery mechanism or through base rates.

Q. Please summarize your testimony.

A. My testimony supports the approval of a final average environmental billing factor of 0.406 cents per kWh.

This includes the projected capital and O&M revenue

requirements of \$84,406,505 associated with a total of 31 environmental projects and a true-up over-recovery provision of \$8,892,748 that is primarily driven by the combination of O&M expenditures being greater than anticipated while ECRC revenue was less than expected. My testimony also explains that the projected environmental expenditures for 2015 are appropriate for recovery through the ECRC.

Q. Does this conclude your testimony?

A. Yes, it does.

INDEX

ENVIRONMENTAL COST RECOVERY COMMISSION FORMS

JANUARY 2015 THROUGH DECEMBER 2015

DOCUMENT NO.	<u>TITLE</u>	PAGE
1	Form 42-1P	14
2	Form 42-2P	15
3	Form 42-3P	16
4	Form 42-4P	17
5	Form 42-5P	42
6	Form 42-6P	73
7	Form 42-7P	74
8	Form 42-8P	75

DOCKET NO. 140007-EI ECRC 2015 PROJECTION, FORM 42-1P EXHIBIT NO. _____ (PAR-2), DOCUMENT NO. 1

Tampa Electric Company Environmental Cost Recovery Clause (ECRC) Total Jurisdictional Amount to Be Recovered

For the Projected Period January 2015 to December 2015

<u>Line</u>	Energy (\$)	Demand (\$)	Total (\$)
1. Total Jurisdictional Revenue Requirements for the projected period			
a. Projected O&M Activities (Form 42-2P, Lines 7, 8 & 9)	\$27,271,714	\$1,294,500	\$28,566,214
b. Projected Capital Projects (Form 42-3P, Lines 7, 8 & 9)	55,731,411	108,880	55,840,291
c. Total Jurisdictional Revenue Requirements for the projected period (Lines 1a + 1	83,003,125	1,403,380	84,406,505
True-up for Estimated Over/(Under) Recovery for the current period January 2014 to December 2014			
(Form 42-2E, Line 5 + 6 + 10)	6,840,016	95,660	6,935,676
3. Final True-up for the period January 2013 to December 2013 (Form 42-1A, Line 3)	1,950,546	6,526	1,957,072
 Total Jurisdictional Amount to Be Recovered/(Refunded) in the projection period January 2015 to December 2015 			
(Line 1 - Line 2- Line 3)	74,212,563	1,301,194	75,513,757
 Total Projected Jurisdictional Amount Adjusted for Taxes (Line 4 x Revenue Tax Multiplier) 	\$74,265,996	\$1,302,131	\$75,568,127

> 20,000 145,000 48,000 138,000 48,000 48,000

2,164,529 2,499,555 2,023,711 1,111,949 230,000 90,000 1,284,000

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

O&M Activities

(in Dollars)

Line		Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total	Method of Demand	Classification Energy
1.	Description of O&M Activities					,										
	a. Big Bend Unit 3 Flue Gas Desulfurization Integration	\$512,140	\$537,140	\$537,140	\$512,140	\$512,140	\$512,140	\$512,140	\$512,140	\$512,140	\$512.140	\$537,140	\$537,140	\$6,245,680		\$6,245,680
	b. Big Bend Units 1 & 2 Flue Gas Conditioning	0	0	0	0	0	0	0	0	0	0	0	0	0		0
	 SO₂ Emissions Allowances 	2,140	2,078	2,152	2,200	2,202	2,193	2,199	2,207	2,206	2,227	2,187	2,137	26,128		26,128
	d. Big Bend Units 1 & 2 FGD	888,982	889,929	889,455	938,272	533,717	884,722	884,722	934,722	983,538	984,722	485,322	891,060	10,189,162		10,189,162
	e. Big Bend PM Minimization and Monitoring	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	840,000		840,000
	 Big Bend NO_x Emissions Reduction 	30,000	30,000	0	0	0	0	0	0	30,000	30,000	0	0	120,000		120,000
	 g. NPDES Annual Surveillance Fees 	34,500	0	0	0	0	0	0	0	0	0	0	0	34,500	\$34,500	
	 Gannon Thermal Discharge Study 	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	 Polk NO_x Emissions Reduction 	1,050	1,050	1,050	3,525	3,525	1,050	1,050	1,050	1,050	1,050	3,500	1,050	20,000		20,000
	 Bayside SCR Consumables 	0	14,500	0	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	145,000		145,000
	 k. Big Bend Unit 4 SOFA 	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	48,000		48,000
	 Big Bend Unit 1 Pre-SCR 	4,000	4,000	4,000	4,000	4,000	4,000	4,000	24,000	39,000	39,000	4,000	4,000	138,000		138,000
	m. Big Bend Unit 2 Pre-SCR	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	48,000		48,000
	n. Big Bend Unit 3 Pre-SCR	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	48,000		48,000
	Clean Water Act Section 316(b) Phase II Study	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	960,000	960,000	
	p. Arsenic Groundwater Standard Program	42,000	42,000	54,500	42,000	42,000	52,500	0	0	12,500	0	0	12,500	300,000	300,000	
	q. Big Bend 1 SCR	218,296	209,069	224,344	192,599	183,893	215,840	221,115	172,617	45,000	50,610	210,170	220,976	2,164,529		2,164,529
	r. Big Bend 2 SCR	214,570	204,125 119.826	219,678	197,439	173,484	212,419	218,097 176,668	222,125	225,171	193,996	203,414	215,035	2,499,555		2,499,555 2,023,711
	s. Big Bend 3 SCR t. Big Bend 4 SCR	166,122 93,840	119,826 88.241	173,220 87.892	175,506 91.087	176,853 94,273	172,011 89,840	92.107	180,045 92,784	182,448 94,217	191,832 98.720	137,914 91.267	171,265 97,682	2,023,711 1,111,949		2,023,711 1,111,949
	u. Mercury Air Toxics Standards	36.000	11,000	11.000	31,000	11,750	11,000	31,750	11,000	21.750	31,000	11.750	11,000	230,000		230.000
	v. Greenhouse Gas Reduction Program	90,000	11,000	11,000	31,000	11,750	11,000	31,750	11,000	21,750	31,000	11,750	11,000	90,000		90.000
	w. Big Bend Gypsum Storage Facility	107.000	107.000	107.000	107.000	107.000	107.000	107.000	107.000	107.000	107.000	107.000	107.000	1.284.000		1,284,000
	w. big bend dypsum storage racility	107,000	107,000	107,000	107,000	107,000	107,000	107,000	107,000	107,000	107,000	107,000	107,000	1,204,000	-	1,204,000
2.	Total of O&M Activities	2,602,641	2,421,958.00	2,473,432	2,473,268	2,021,336.00	2,441,215	2,427,348	2,436,190	2,432,520	2,418,797	1,970,164	2,447,345	28,566,214	\$1,294,500	\$27,271,714
3.	Recoverable Costs Allocated to Energy	2,446,141	2,299,958	2,338,932	2,351,268	1,899,336	2,308,715	2,347,348	2,356,190	2,340,020	2,338,797	1,890,164	2,354,845	27,271,714		
4.	Recoverable Costs Allocated to Demand	156,500	122,000	134,500	122,000	122,000	132,500	80,000	80,000	92,500	80,000	80,000	92,500	1,294,500		
		,	,	,	,	,	,	,	,	,	,	,	,	.,,		
5.	Retail Energy Jurisdictional Factor	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000			шш
6.	Retail Demand Jurisdictional Factor	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000			
																$\succeq \Omega$
7.	Jurisdictional Energy Recoverable Costs (A)	2,446,141	2,299,958	2,338,932	2,351,268	1,899,336	2,308,715	2,347,348	2,356,190	2,340,020	2,338,797	1,890,164	2,354,845	27,271,714		五分
8.	Jurisdictional Demand Recoverable Costs (B)	156,500	122,000	134,500	122,000	122,000	132,500	80,000	80,000	92,500	80,000	80,000	92,500	1,294,500		H R R
																37 2
9.	Total Jurisdictional Recoverable Costs for O&M															⊣ 18
	Activities (Lines 7 + 8)	\$2,602,641	\$2,421,958	\$2,473,432	\$2,473,268	\$2,021,336	\$2,441,215	\$2,427,348	\$2,436,190	\$2,432,520	\$2,418,797	\$1,970,164	\$2,447,345	\$28,566,214		ラゴ
	whisi	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		Z 25

Notes:

(A) Line 3 x Line 5

(B) Line 4 x Line 6

DOCKET NO. 140007-EI
ECRC 2015 PROJECTION, FORM 42-2P
EXHIBIT NO. _____ (PAR-2), DOCUMENT NO. 2

End of

CKET NO. 140007-EI RC 2015 PROJECTION, FORM 42-3P HIBIT NO. ____ (PAR-2), DOCUMENT NO. 3

Tampa Electric Company
Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount
January 2015 to December 2015

Capital Investment Projects-Recoverable Costs

(in Dollars)

Line	Description (A)	_	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	Period Total	Method of C Demand	Classification Energy
1.	a. Big Bend Unit 3 Flue Gas Desulfurization Integration	1	\$98,185	\$97,969	\$97.754	\$97,538	\$97,323	\$97,107	\$96,892	\$96,677	\$96,461	\$96,246	\$96,030	\$95.815	\$1,163,997		\$1,163,997
	b. Big Bend Units 1 and 2 Flue Gas Conditioning	2	26,867	26,744	26.621	26,499	26,376	26,253	26,131	26.008	25,885	25.763	25,640	25,518	314.305		314,305
	c. Big Bend Unit 4 Continuous Emissions Monitors	3	5,395	5,378	5.361	5,343	5,326	5,308	5,290	5,273	5,255	5.237	5,220	5,202	63,588		63,588
	d. Big Bend Fuel Oil Tank # 1 Upgrade	4	3,490	3,479	3,468	3,458	3,446	3,436	3,426	3,414	3,404	3,393	3,382	3,372	41,168	\$41,168	
	e. Big Bend Fuel Oil Tank # 2 Upgrade	5	5.739	5.722	5.704	5,686	5,669	5,651	5,634	5.617	5,599	5,581	5,564	5,546	67,712	67,712	
	f. Big Bend Unit 1 Classifier Replacement	6	8,569	8,535	8,502	8,468	8,435	8,403	8,369	8,336	8,302	8,269	8,235	8,202	100,625		100,625
	g. Big Bend Unit 2 Classifier Replacement	7	6,179	6,156	6,134	6,111	6,088	6,065	6,041	6,018	5,995	5,972	5,949	5,926	72,634		72,634
	 Big Bend Section 114 Mercury Testing Platform 	8	894	892	889	887	885	883	880	878	876	874	871	870	10,579		10,579
	 Big Bend Units 1 & 2 FGD 	9	636,261	634,273	632,285	630,296	628,308	626,319	624,330	622,342	620,353	618,365	616,377	614,388	7,503,897		7,503,897
	 Big Bend FGD Optimization and Utilization 	10	155,884	155,540	155,196	154,852	154,508	154,164	153,820	153,476	153,132	152,787	152,444	152,100	1,847,903		1,847,903
	 k. Big Bend NO_x Emissions Reduction 	11	51,404	51,326	51,248	51,171	51,094	51,016	50,939	50,862	50,785	50,707	50,629	50,552	611,733		611,733
	 Big Bend PM Minimization and Monitoring 	12	140,553	140,199	139,847	139,493	139,140	138,823	139,502	141,060	147,208	157,913	169,683	198,887	1,792,308		1,792,308
	m. Polk NO _x Emissions Reduction	13	11,887	11,853	11,820	11,786	11,753	11,718	11,685	11,651	11,618	11,584	11,551	11,517	140,423		140,423
	n. Big Bend Unit 4 SOFA	14	20,656	20,607	20,558	20,509	20,462	20,413	20,364	20,315	20,266	20,218	20,170	20,121	244,659		244,659
	o. Big Bend Unit 1 Pre-SCR	15	14,453	14,412	14,369	14,328	14,286	14,244	14,203	14,161	14,120	14,077	14,036	13,994	170,683		170,683
	p. Big Bend Unit 2 Pre-SCR	16	13,697	13,660	13,623	13,586	13,549	13,511	13,475	13,438	13,401	13,363	13,326	13,290	161,919		161,919
	 q. Big Bend Unit 3 Pre-SCR 	17	24,341	24,281	24,220	24,160	24,099	24,039	23,978	23,918	23,857	23,797	23,737	23,677	288,104		288,104
	r. Big Bend Unit 1 SCR	18	824,714	822,365	820,016	817,666	815,317	812,968	810,619	808,269	805,919	803,570	801,221	798,872	9,741,516		9,741,516
	s. Big Bend Unit 2 SCR	19	864,350	862,046	859,742	857,439	855,135	852,832	850,528	848,224	845,920	843,617	841,313	839,009	10,220,155		10,220,155
	t. Big Bend Unit 3 SCR	20	713,051	711,170	709,289	707,408	713,126	718,843	716,963	715,082	713,200	711,320	709,438	707,558	8,546,448		8,546,448
	u. Big Bend Unit 4 SCR	21	541,280	539,901	538,523	537,145	535,767	534,388	533,010	531,631	530,253	528,874	527,496	526,117	6,404,385		6,404,385
	v. Big Bend FGD System Reliability	22	215,122	214,732	214,343	213,953	213,563	213,173	212,783	212,394	212,004	211,614	211,224	210,834	2,555,739		2,555,739
	 W. Mercury Air Toxics Standards 	23	81,625	81,466	81,306	81,146	80,985	80,826	80,666	80,506	80,346	80,794	81,242	81,082	971,990		971,990
	 SO₂ Emissions Allowances (B) 	24	(272)	(271)	(270)	(270)	(269)	(269)	(269)	(268)	(268)	(268)	(266)	(266)	(3,226)		(3,226)
	z. Big Bend Gypsum Storage Facility	25	236,793	236,271	235,748	235,226	234,704	234,182	233,659	233,137	232,615	232,093	231,570	231,049	2,807,047		2,807,047
2.	Total Investment Projects - Recoverable Costs		4,701,117	4,688,706	4,676,296	4,663,884	4,659,075	4,654,296	4,642,918	4,632,419	4,626,506	4,625,760	4,626,082	4,643,232	55,840,291	\$108,880	\$55,731,411
3 .	Recoverable Costs Allocated to Energy		4,691,888	4,679,505	4,667,124	4,654,740	4,649,960	4,645,209	4,633,858	4,623,388	4,617,503	4,616,786	4,617,136	4,634,314	55,731,411		55,731,411
4 .	Recoverable Costs Allocated to Demand		9,229	9,201	9,172	9,144	9,115	9,087	9,060	9,031	9,003	8,974	8,946	8,918	108,880	108,880	
つ ₅.	Retail Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000			
6.	Retail Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000			
7.	Jurisdictional Energy Recoverable Costs (C)		4,691,888	4,679,505	4,667,124	4,654,740	4,649,960	4,645,209	4,633,858	4,623,388	4,617,503	4,616,786	4,617,136	4,634,314	55,731,411		
8.	Jurisdictional Demand Recoverable Costs (D)	_	9,229	9,201	9,172	9,144	9,115	9,087	9,060	9,031	9,003	8,974	8,946	8,918	108,880	Г	пшО
9.	Total Jurisdictional Recoverable Costs for																× n ŏ
٥.	Investment Projects (Lines 7 + 8)	_	\$4,701,117	\$4,688,706	\$4,676,296	\$4,663,884	\$4,659,075	\$4,654,296	\$4,642,918	\$4,632,419	\$4,626,506	\$4,625,760	\$4,626,082	\$4,643,232	\$55,840,291	-	エアの

- Notes:

 (A) Each project's Total System Recoverable Expenses on Form 42-8A, Line 9
 (B) Project's Total Return Component on Form 42-8A, Line 6
 (C) Line 3 x Line 5
 (D) Line 4 x Line 6

End of

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 3 Flue Gas Desulfurization Integration (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other - AFUDC (excl from CWIP)		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$13,614,840 (4,412,355) 0 \$9,202,484	\$13,614,840 (4,440,719) 0 9,174,121	\$13,614,840 (4,469,083) 0 9,145,757	\$13,614,840 (4,497,447) 0 9,117,393	\$13,614,840 (4,525,811) 0 9,089,029	\$13,614,840 (4,554,175) 0 9,060,665	\$13,614,840 (4,582,539) 0 9,032,301	\$13,614,840 (4,610,903) 0 9,003,937	\$13,614,840 (4,639,267) 0 8,975,573	\$13,614,840 (4,667,631) 0 8,947,209	\$13,614,840 (4,695,995) 0 8,918,845	\$13,614,840 (4,724,359) 0 8,890,481	\$13,614,840 (4,752,723) - 8,862,117	
6.	Average Net Investment		9,188,302	9,159,939	9,131,575	9,103,211	9,074,847	9,046,483	9,018,119	8,989,755	8,961,391	8,933,027	8,904,663	8,876,299	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Taxes (B) b. Debt Component Grossed Up For Taxes (C)		\$54,245 15,576	\$54,077 15,528	\$53,910 15,480	\$53,742 15,432	\$53,575 15,384	\$53,407 15,336	\$53,240 15,288	\$53,073 15,240	\$52,905 15,192	\$52,738 15,144	\$52,570 15,096	\$52,403 15,048	\$639,885 183,744
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$28,364 0 0 0 0	\$28,364 0 0 0	\$340,368 0 0 0										
9.	Total System Recoverable Expenses (Lines 7 + 8) a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demand		98,185 98,185 0	97,969 97,969 0	97,754 97,754 0	97,538 97,538 0	97,323 97,323 0	97,107 97,107 0	96,892 96,892 0	96,677 96,677 0	96,461 96,461 0	96,246 96,246 0	96,030 96,030 0	95,815 95,815 0	1,163,997 1,163,997 0
10. 11.	3,		1.0000000 1.0000000												
12. 13. 14.	. Retail Demand-Related Recoverable Costs (F)		98,185 0 \$98,185	97,969 0 \$97,969	97,754 0 \$97,754	97,538 0 \$97,538	97,323 0 \$97,323	97,107 0 \$97,107	96,892 0 \$96,892	96,677 0 \$96,677	96,461 0 \$96,461	96,246 0 \$96,246	96,030 0 \$96,030	95,815 0 \$95,815	1,163,997 0 \$1,163,997

Notes:

- (A) Applicable depreciable base for Big Bend; account 312.45
 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 2.5% (E) Line 9a x Line 10
- (F) Line 9b x Line 11

PAGE 1 OF 25

18

DOCKET NO. 140007-EI ECRC 2015 PROJECTION, FORM 42-4P EXHIBIT NO. ____ (PAR-2), DOCUMENT NO. 4,

PAGE 2 OF 25

Tampa Electric Company Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Units 1 and 2 Flue Gas Conditioning (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$5,017,734 (3,598,202) 0 \$1,419,532	\$5,017,734 (3,614,343) 0 1,403,391	\$5,017,734 (3,630,484) 0 1,387,250	\$5,017,734 (3,646,625) 0 1,371,109	\$5,017,734 (3,662,766) 0 1,354,968	\$5,017,734 (3,678,907) 0 1,338,827	\$5,017,734 (3,695,048) 0 1,322,686	\$5,017,734 (3,711,189) 0 1,306,545	\$5,017,734 (3,727,330) 0 1,290,404	\$5,017,734 (3,743,471) 0 1,274,263	\$5,017,734 (3,759,612) 0 1,258,122	\$5,017,734 (3,775,753) 0 1,241,981	\$5,017,734 (3,791,894) 0 1,225,840	
6.	Average Net Investment		1,411,462	1,395,321	1,379,180	1,363,039	1,346,898	1,330,757	1,314,616	1,298,475	1,282,334	1,266,193	1,250,052	1,233,911	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Taxes (B) b. Debt Component Grossed Up For Taxes (C)		\$8,333 2,393	\$8,238 2,365	\$8,142 2,338	\$8,047 2,311	\$7,952 2,283	\$7,856 2,256	\$7,761 2,229	\$7,666 2,201	\$7,570 2,174	\$7,475 2,147	\$7,380 2,119	\$7,285 2,092	\$93,705 26,908
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$16,141 0 0 0 0	\$193,692 0 0 0											
9.	Total System Recoverable Expenses (Lines 7 + 8) a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demand		26,867 26,867 0	26,744 26,744 0	26,621 26,621 0	26,499 26,499 0	26,376 26,376 0	26,253 26,253 0	26,131 26,131 0	26,008 26,008 0	25,885 25,885 0	25,763 25,763 0	25,640 25,640 0	25,518 25,518 0	314,305 314,305 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000												
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Li	ts (F)	26,867 0 \$26,867	26,744 0 \$26,744	26,621 0 \$26,621	26,499 0 \$26,499	26,376 0 \$26,376	26,253 0 \$26,253	26,131 0 \$26,131	26,008 0 \$26,008	25,885 0 \$25,885	25,763 0 \$25,763	25,640 0 \$25,640	25,518 0 \$25,518	314,305 0 \$314,305

- (A) Applicable depreciable base for Big Bend; accounts 312.41 (\$2,676,217) and 312.42 (\$2,341,517)
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rates are 4.0% and 3.7%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

DOCKET NO. 140007-EI ECRC 2015 PROJECTION, FORM 42-4P EXHIBIT NO. ____ (PAR-2), DOCUMENT NO. 4,

PAGE 3 OF 25

Tampa Electric Company
Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 4 Continuous Emissions Monitors (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$866,211 (459,005) 0 \$407,206	\$866,211 (461,315) 0 404,896	\$866,211 (463,625) 0 402,586	\$866,211 (465,935) 0 400,276	\$866,211 (468,245) 0 397,966	\$866,211 (470,555) 0 395,656	\$866,211 (472,865) 0 393,346	\$866,211 (475,175) 0 391,036	\$866,211 (477,485) 0 388,726	\$866,211 (479,795) 0 386,416	\$866,211 (482,105) 0 384,106	\$866,211 (484,415) 0 381,796	\$866,211 (486,725) 0 379,486	
6.	Average Net Investment	Q 107,200	406,051	403,741	401,431	399,121	396,811	394,501	392,191	389,881	387,571	385,261	382,951	380,641	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Ta b. Debt Component Grossed Up For Tax		\$2,397 688	\$2,384 684	\$2,370 681	\$2,356 677	\$2,343 673	\$2,329 669	\$2,315 665	\$2,302 661	\$2,288 657	\$2,274 653	\$2,261 649	\$2,247 645	\$27,866 8,002
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$2,310 0 0 0 0	\$2,310 0 0 0	\$2,310 0 0 0 0	\$2,310 0 0 0 0	\$2,310 0 0 0	\$2,310 0 0 0 0	\$27,720 0 0 0 0						
9.	Total System Recoverable Expenses (Lin a. Recoverable Costs Allocated to Energ b. Recoverable Costs Allocated to Dema	y	5,395 5,395 0	5,378 5,378 0	5,361 5,361 0	5,343 5,343 0	5,326 5,326 0	5,308 5,308 0	5,290 5,290 0	5,273 5,273 0	5,255 5,255 0	5,237 5,237 0	5,220 5,220 0	5,202 5,202 0	63,588 63,588 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000												
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (L	sts (F)	5,395 0 \$5,395	5,378 0 \$5,378	5,361 0 \$5,361	5,343 0 \$5,343	5,326 0 \$5,326	5,308 0 \$5,308	5,290 0 \$5,290	5,273 0 \$5,273	5,255 0 \$5,255	5,237 0 \$5,237	5,220 0 \$5,220	5,202 0 \$5,202	63,588 0 \$63,588

- (A) Applicable depreciable base for Big Bend; account 315.44
 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.2%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

22

Tampa Electric Company Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Fuel Oil Tank # 1 Upgrade (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$497,578 (223,192) 0 \$274,386	\$497,578 (224,602) 0 272,976	\$497,578 (226,012) 0 271,566	\$497,578 (227,422) 0 270,156	\$497,578 (228,832) 0 268,746	\$497,578 (230,242) 0 267,336	\$497,578 (231,652) 0 265,926	\$497,578 (233,062) 0 264,516	\$497,578 (234,472) 0 263,106	\$497,578 (235,882) 0 261,696	\$497,578 (237,292) 0 260,286	\$497,578 (238,702) 0 258,876	\$497,578 (240,112) 0 257,466	
6.	Average Net Investment		273,681	272,271	270,861	269,451	268,041	266,631	265,221	263,811	262,401	260,991	259,581	258,171	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Ta b. Debt Component Grossed Up For Tax		\$1,616 464	\$1,607 462	\$1,599 459	\$1,591 457	\$1,582 454	\$1,574 452	\$1,566 450	\$1,557 447	\$1,549 445	\$1,541 442	\$1,532 440	\$1,524 438	\$18,838 5,410
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$1,410 0 0 0 0	\$1,410 0 0 0 0	\$1,410 0 0 0 0	\$1,410 0 0 0	\$1,410 0 0 0 0	\$1,410 0 0 0 0	\$1,410 0 0 0 0	\$1,410 0 0 0	\$1,410 0 0 0 0	\$1,410 0 0 0 0	\$1,410 0 0 0	\$1,410 0 0 0 0	\$16,920 0 0 0
9.	Total System Recoverable Expenses (Lin a. Recoverable Costs Allocated to Energ b. Recoverable Costs Allocated to Dema	y	3,490 0 3,490	3,479 0 3,479	3,468 0 3,468	3,458 0 3,458	3,446 0 3,446	3,436 0 3,436	3,426 0 3,426	3,414 0 3,414	3,404 0 3,404	3,393 0 3,393	3,382 0 3,382	3,372 0 3,372	41,168 0 41,168
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000												
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (L	ts (F)	3,490 \$3,490	0 3,479 \$3,479	0 3,468 \$3,468	0 3,458 \$3,458	0 3,446 \$3,446	0 3,436 \$3,436	0 3,426 \$3,426	0 3,414 \$3,414	3,404 \$3,404	0 3,393 \$3,393	0 3,382 \$3,382	0 3,372 \$3,372	0 41,168 \$41,168

- (A) Applicable depreciable base for Big Bend; account 312.40
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.4%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Fuel Oil Tank # 2 Upgrade (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	0	
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		U	U	Ü	0	0	U	U	Ü	0	U	0	Ü	
2.	Plant-in-Service/Depreciation Base (A)	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	\$818,401	
3.	Less: Accumulated Depreciation	(367,108)	(369,427)	(371,746)	(374,065)	(376,384)	(378,703)	(381,022)	(383,341)	(385,660)	(387,979)	(390,298)	(392,617)	(394,936)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$451,293	448,974	446,655	444,336	442,017	439,698	437,379	435,060	432,741	430,422	428,103	425,784	423,465	
6.	Average Net Investment		450,134	447,815	445,496	443,177	440,858	438,539	436,220	433,901	431,582	429,263	426,944	424,625	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Ta	ixes (B)	\$2,657	\$2,644	\$2,630	\$2,616	\$2,603	\$2,589	\$2,575	\$2,562	\$2,548	\$2,534	\$2,521	\$2,507	\$30,986
	b. Debt Component Grossed Up For Tax	es (C)	763	759	755	751	747	743	740	736	732	728	724	720	8,898
8.	Investment Expenses														
	a. Depreciation (D)		\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$2,319	\$27,828
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Lin	es 7 + 8)	5,739	5,722	5,704	5,686	5,669	5,651	5,634	5.617	5,599	5,581	5,564	5,546	67,712
	a. Recoverable Costs Allocated to Energ		0	0	0	0	0	0	0	0	0	0	0	0	0
	b. Recoverable Costs Allocated to Dema	nd	5,739	5,722	5,704	5,686	5,669	5,651	5,634	5,617	5,599	5,581	5,564	5,546	67,712
10	Francy Jurisdictional Factor		1.0000000	1 0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000		1.0000000	1.0000000	1.0000000	
11.	Demand Junsulchonal Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
12.	Retail Energy-Related Recoverable Costs	s (E)	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	Retail Demand-Related Recoverable Cos		5,739	5,722	5,704	5,686	5,669	5,651	5,634	5,617	5,599	5,581	5,564	5,546	67,712
14.	Total Jurisdictional Recoverable Costs (Li	nes 12 + 13)	\$5,739	\$5,722	\$5,704	\$5,686	\$5,669	\$5,651	\$5,634	\$5,617	\$5,599	\$5,581	\$5,564	\$5,546	\$67,712

Notes:

- (A) Applicable depreciable base for Big Bend; account 312.40
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.4%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

DOCKET NO. 140007-EI
ECRC 2015 PROJECTION, FORM 42-4P
EXHIBIT NO. ____ (PAR-2), DOCUMENT NO. 4, PAGE 5 OF 25

Tampa Electric Company

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 1 Classifier Replacement (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	0	ΨΟ
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	\$1,316,257	
3.	Less: Accumulated Depreciation	(763,880)	(768,268)	(772,656)	(777,044)	(781,432)	(785,820)	(790,208)	(794,596)	(798,984)	(803,372)	(807,760)	(812,148)	(816,536)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$552,377	547,989	543,601	539,213	534,825	530,437	526,049	521,661	517,273	512,885	508,497	504,109	499,721	
6.	Average Net Investment		550,183	545,795	541,407	537,019	532,631	528,243	523,855	519,467	515,079	510,691	506,303	501,915	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Tax	xes (B)	\$3,248	\$3,222	\$3,196	\$3,170	\$3,144	\$3,119	\$3,093	\$3,067	\$3,041	\$3,015	\$2,989	\$2,963	\$37,267
	b. Debt Component Grossed Up For Taxe	es (C)	933	925	918	910	903	896	888	881	873	866	858	851	10,702
8.	Investment Expenses														
	a. Depreciation (D)		\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$4,388	\$52,656
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
	o. Callo														
9.	Total System Recoverable Expenses (Line		8,569	8,535	8,502	8,468	8,435	8,403	8,369	8,336	8,302	8,269	8,235	8,202	100,625
	Recoverable Costs Allocated to Energy		8,569	8,535	8,502	8,468	8,435	8,403	8,369	8,336	8,302	8,269	8,235	8,202	100,625
	b. Recoverable Costs Allocated to Demar	na	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
12.	Retail Energy-Related Recoverable Costs		8,569	8,535	8,502	8,468	8,435	8,403	8,369	8,336	8,302	8,269	8,235	8,202	100,625
13.	Retail Demand-Related Recoverable Cost		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lin	nes 12 + 13)	\$8,569	\$8,535	\$8,502	\$8,468	\$8,435	\$8,403	\$8,369	\$8,336	\$8,302	\$8,269	\$8,235	\$8,202	\$100,625

Notes:

- (A) Applicable depreciable base for Big Bend; account 312.41
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 4.0%
 (E) Line 9a x Line 10
- (F) Line 9b x Line 11

PAGE 6 OF 25

×3

PAGE 7 OF 25

Tampa Electric Company Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 2 Classifier Replacement (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total	
1	Investments															
••	a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	0		
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0		
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0		
2.	Plant-in-Service/Depreciation Base (A)	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794	\$984,794		
3.	Less: Accumulated Depreciation	(569,574)	(572,610)	(575,646)	(578,682)	(581,718)	(584,754)	(587,790)	(590,826)	(593,862)	(596,898)	(599,934)	(602,970)	(606,006)		
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	O O	0	0	0	0	0		
5.	Net Investment (Lines 2 + 3 + 4)	\$415,220	412,184	409,148	406,112	403,076	400,040	397,004	393,968	390,932	387,896	384,860	381,824	378,788		
6.	Average Net Investment		413,702	410,666	407,630	404,594	401,558	398,522	395,486	392,450	389,414	386,378	383,342	380,306		
7.	Return on Average Net Investment															
	a. Equity Component Grossed Up For Ta	xes (B)	\$2,442	\$2,424	\$2,407	\$2,389	\$2,371	\$2,353	\$2,335	\$2,317	\$2,299	\$2,281	\$2,263	\$2,245	\$28,126	
	b. Debt Component Grossed Up For Taxe	es (C)	701	696	691	686	681	676	670	665	660	655	650	645	8,076	
8.	Investment Expenses															
	a. Depreciation (D)		\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$3,036	\$36,432	
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0	
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0	
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0	
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0	
9.	Total System Recoverable Expenses (Line	es 7 + 8)	6,179	6,156	6,134	6,111	6,088	6,065	6,041	6,018	5,995	5,972	5,949	5,926	72,634	
	a. Recoverable Costs Allocated to Energy	y	6,179	6,156	6,134	6,111	6,088	6,065	6,041	6,018	5,995	5,972	5,949	5,926	72,634	
	b. Recoverable Costs Allocated to Demai	nd	0	0	0	0	0	0	0	0	0	0	0	0	0	
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000		
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000		
12.	Retail Energy-Related Recoverable Costs	s (E)	6,179	6,156	6,134	6,111	6,088	6,065	6,041	6,018	5,995	5,972	5,949	5,926	72,634	
13.	Retail Demand-Related Recoverable Cos		0	0	0	0	0	0	0	0	0	0	0	0	0_	
15	Total Jurisdictional Recoverable Costs (Li	nes 12 + 13)	\$6,179	\$6,156	\$6,134	\$6,111	\$6,088	\$6,065	\$6,041	\$6,018	\$5,995	\$5,972	\$5,949	\$5,926	\$72,634	
																- 1

- (A) Applicable depreciable base for Big Bend; account 312.42
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.7%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

24

Tampa Electric Company Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Section 114 Mercury Testing Platform (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$120,737 (41,395) 0 \$79,342	\$120,737 (41,687) 0 79,050	\$120,737 (41,979) 0 78,758	\$120,737 (42,271) 0 78,466	\$120,737 (42,563) 0 78,174	\$120,737 (42,855) 0 77,882	\$120,737 (43,147) 0 77,590	\$120,737 (43,439) 0 77,298	\$120,737 (43,731) 0 77,006	\$120,737 (44,023) 0 76,714	\$120,737 (44,315) 0 76,422	\$120,737 (44,607) 0 76,130	\$120,737 (44,899) 0 75,838	
6.	Average Net Investment		79,196	78,904	78,612	78,320	78,028	77,736	77,444	77,152	76,860	76,568	76,276	75,984	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Ta b. Debt Component Grossed Up For Tax		\$468 134	\$466 134	\$464 133	\$462 133	\$461 132	\$459 132	\$457 131	\$455 131	\$454 130	\$452 130	\$450 129	\$449 129	\$5,497 1,578
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other	_	\$292 0 0 0 0	\$3,504 0 0 0											
9.	Total System Recoverable Expenses (Lin a. Recoverable Costs Allocated to Energ b. Recoverable Costs Allocated to Dema	ıy	894 894 0	892 892 0	889 889 0	887 887 0	885 885 0	883 883 0	880 880 0	878 878 0	876 876 0	874 874 0	871 871 0	870 870 0	10,579 10,579 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000	<u>}</u>											
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (L	sts (F)	894 0 \$894	892 0 \$892	889 0 \$889	887 0 \$887	885 0 \$885	883 0 \$883	880 0 \$880	878 0 \$878	876 0 \$876	874 0 \$874	871 0 \$871	870 0 \$870	10,579 Z 0 S \$10,579

Notes:

- (A) Applicable depreciable base for Big Bend; account 311.40
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 2.9%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

DOCKET NO. 140007-EI
ECRC 2015 PROJECTION, FORM 42-4P
EXHIBIT NO. ____ (PAR-2), DOCUMENT NO. 4, PAGE 8 OF 25

End of

<u>Tampa Electric Company</u>
Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Units 1 and 2 FGD (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other - AFUDC (excl from CWIP)		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$95,157,391 (45,732,869) 0 \$49,424,523	\$95,157,391 (45,994,552) 0 49,162,840	\$95,157,391 (46,256,235) 0 48,901,157	\$95,157,391 (46,517,918) 0 48,639,474	\$95,157,391 (46,779,601) 0 48,377,791	\$95,157,391 (47,041,284) 0 48,116,108	\$95,157,391 (47,302,967) 0 47,854,425	\$95,157,391 (47,564,650) 0 47,592,742	\$95,157,391 (47,826,333) 0 47,331,059	\$95,157,391 (48,088,016) 0 47,069,376	\$95,157,391 (48,349,699) 0 46,807,693	\$95,157,391 (48,611,382) 0 46,546,010	\$95,157,391 (48,873,065) 0 46,284,327	
6.	Average Net Investment		49,293,681	49,031,998	48,770,315	48,508,632	48,246,949	47,985,266	47,723,583	47,461,900	47,200,217	46,938,534	46,676,851	46,415,168	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Ta b. Debt Component Grossed Up For Tax		\$291,013 83,565	\$289,469 83,121	\$287,924 82,678	\$286,379 82,234	\$284,834 81,791	\$283,289 81,347	\$281,744 80,903	\$280,199 80,460	\$278,654 80,016	\$277,109 79,573	\$275,565 79,129	\$274,020 78,685	\$3,390,199 973,502
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$261,683 0 0 0 0	\$261,683 0 0 0	\$261,683 0 0 0 0	\$261,683 0 0 0 0	\$261,683 0 0 0	\$261,683 0 0 0	\$261,683 0 0 0 0	\$261,683 0 0 0 0	\$261,683 0 0 0 0	\$261,683 0 0 0	\$261,683 0 0 0 0	\$261,683 0 0 0 0	\$3,140,196 0 0 0 0
9.	Total System Recoverable Expenses (Lin a. Recoverable Costs Allocated to Energ b. Recoverable Costs Allocated to Dema	у	636,261 636,261 0	634,273 634,273 0	632,285 632,285 0	630,296 630,296 0	628,308 628,308 0	626,319 626,319 0	624,330 624,330 0	622,342 622,342 0	620,353 620,353 0	618,365 618,365 0	616,377 616,377 0	614,388 614,388 0	7,503,897 7,503,897 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000												
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Li	ts (F)	636,261 0 \$636,261	634,273 0 \$634,273	632,285 0 \$632,285	630,296 0 \$630,296	628,308 0 \$628,308	626,319 0 \$626,319	624,330 0 \$624,330	622,342 0 \$622,342	620,353 0 \$620,353	618,365 0 \$618,365	616,377 0 \$616,377	614,388 0 \$614,388	7,503,897 0 \$7,503,897

Notes:

- (A) Applicable depreciable base for Big Bend; account 312.46
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rates are 3.3%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

PAGE 9 OF 25

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend FGD Optimization and Utilization (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$21,739,737 (7,161,061) 0 \$14,578,676	\$21,739,737 (7,206,335) 0 14,533,402	\$21,739,737 (7,251,609) 0 14,488,128	\$21,739,737 (7,296,883) 0 14,442,854	\$21,739,737 (7,342,157) 0 14,397,580	\$21,739,737 (7,387,431) 0 14,352,306	\$21,739,737 (7,432,705) 0 14,307,032	\$21,739,737 (7,477,979) 0 14,261,758	\$21,739,737 (7,523,253) 0 14,216,484	\$21,739,737 (7,568,527) 0 14,171,210	\$21,739,737 (7,613,801) 0 14,125,936	\$21,739,737 (7,659,075) 0 14,080,662	\$21,739,737 (7,704,349) 0 14,035,388	
6.	Average Net Investment		14,556,039	14,510,765	14,465,491	14,420,217	14,374,943	14,329,669	14,284,395	14,239,121	14,193,847	14,148,573	14,103,299	14,058,025	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Taxe b. Debt Component Grossed Up For Taxe		\$85,934 24,676	\$85,667 24,599	\$85,399 24,523	\$85,132 24,446	\$84,865 24,369	\$84,598 24,292	\$84,330 24,216	\$84,063 24,139	\$83,796 24,062	\$83,528 23,985	\$83,261 23,909	\$82,994 23,832	\$1,013,567 291,048
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$45,274 0 0 0 0	\$45,274 0 0 0	\$45,274 0 0 0 0	\$45,274 0 0 0	\$543,288 0 0 0								
9.	Total System Recoverable Expenses (Line a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Deman	<i>,</i>	155,884 155,884 0	155,540 155,540 0	155,196 155,196 0	154,852 154,852 0	154,508 154,508 0	154,164 154,164 0	153,820 153,820 0	153,476 153,476 0	153,132 153,132 0	152,787 152,787 0	152,444 152,444 0	152,100 152,100 0	1,847,903 1,847,903 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000	ŗ											
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Li	s (F)	155,884 0 \$155,884	155,540 0 \$155,540	155,196 0 \$155,196	154,852 0 \$154,852	154,508 0 \$154,508	154,164 0 \$154,164	153,820 0 \$153,820	153,476 0 \$153,476	153,132 0 \$153,132	152,787 0 \$152,787	152,444 0 \$152,444	152,100 0 \$152,100	1,847,903 0 \$1,847,903

- (A) Applicable depreciable base for Big Bend; accounts 312.45 (\$21,699,919)and 311.45 (\$39,818)
 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rates are 2.5% and 2.0%
 (E) Line 9a x Line 10
- (F) Line 9b x Line 11

Tampa Electric Company

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend NO_x Emissions Reduction (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0 0 0 0	\$0 0 0	\$0 0 0	\$0 0 0 0	\$0 0 0 0	\$0 0 0 0	\$0 0 0	\$0 0 0	\$0 0 0	\$0 0 0 0	\$0 0 0	\$0
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$3,190,852 2,238,603 0 \$5,429,455	\$3,190,852 2,228,419 0 5,419,271	\$3,190,852 2,218,235 0 5,409,087	\$3,190,852 2,208,051 0 5,398,903	\$3,190,852 2,197,867 0 5,388,719	\$3,190,852 2,187,683 0 5,378,535	\$3,190,852 2,177,499 0 5,368,351	\$3,190,852 2,167,315 0 5,358,167	\$3,190,852 2,157,131 0 5,347,983	\$3,190,852 2,146,947 0 5,337,799	\$3,190,852 2,136,763 0 5,327,615	\$3,190,852 2,126,579 0 5,317,431	\$3,190,852 2,116,395 0 5,307,247	
6.	Average Net Investment		5,424,363	5,414,179	5,403,995	5,393,811	5,383,627	5,373,443	5,363,259	5,353,075	5,342,891	5,332,707	5,322,523	5,312,339	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Taxe b. Debt Component Grossed Up For Taxe		\$32,024 9,196	\$31,964 9,178	\$31,903 9,161	\$31,843 9,144	\$31,783 9,127	\$31,723 9,109	\$31,663 9,092	\$31,603 9,075	\$31,543 9,058	\$31,483 9,040	\$31,422 9,023	\$31,362 9,006	\$380,316 109,209
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$10,184 0 0 0	\$10,184 0 0 0 0	\$10,184 0 0 0	\$10,184 0 0 0	\$10,184 0 0 0	\$10,184 0 0 0	\$10,184 0 0 0	\$10,184 0 0 0 0	\$10,184 0 0 0 0	\$10,184 0 0 0 0	\$10,184 0 0 0 0	\$10,184 0 0 0 0	\$122,208 0 0 0
9.	Total System Recoverable Expenses (Line a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demar	, ·	51,404 51,404 0	51,326 51,326 0	51,248 51,248 0	51,171 51,171 0	51,094 51,094 0	51,016 51,016 0	50,939 50,939 0	50,862 50,862 0	50,785 50,785 0	50,707 50,707 0	50,629 50,629 0	50,552 50,552 0	611,733 611,733 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000	1											
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Costs Total Jurisdictional Recoverable Costs (Lir	s (F)	51,404 0 \$51,404	51,326 0 \$51,326	51,248 0 \$51,248	51,171 0 \$51,171	51,094 0 \$51,094	51,016 0 \$51,016	50,939 0 \$50,939	50,862 0 \$50,862	50,785 0 \$50,785	50,707 0 \$50,707	50,629 0 \$50,629	50,552 0 \$50,552	611,733 0 \$611,733

- (A) Applicable depreciable base for Big Bend; accounts 312.41 (\$1,675,171), 312.42 (\$1,075,718), and 312.43 (\$439,963).
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200). (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rates are 4.0%, 3.7%, and 3.5%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

Tampa Electric Company

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: PM Minimization and Monitoring (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	 a. Expenditures/Additions 		\$0	\$0	\$0	\$0	\$0	\$9,629	\$261,925	\$241,049	\$1,470,000	\$1,440,718	\$1,750,000	\$1,495,325	\$6,668,646
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	5,187,675	1,495,325	\$6,683,000
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$15,439,547	\$20,627,222	\$22,122,547	
3.	Less: Accumulated Depreciation	(3,050,638)	(3,097,116)	(3,143,594)	(3,190,072)	(3,236,550)	(3,283,028)	(3,329,506)	(3,375,984)	(3,422,462)	(3,468,940)	(3,515,418)	(3,561,896)	(3,625,666)	
4.	CWIP - Non-Interest Bearing	14,354	14,354	14,354	14,354	14,354	14,354	23,983	285,908	526,957	1,996,957	3,437,675	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$12,403,263	12,356,785	12,310,307	12,263,829	12,217,351	12,170,873	12,134,024	12,349,471	12,544,042	13,967,564	15,361,804	17,065,326	18,496,881	
6.	Average Net Investment		12,380,024	12,333,546	12,287,068	12,240,590	12,194,112	12,152,449	12,241,748	12,446,757	13,255,803	14,664,684	16,213,565	17,781,104	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Ta	xes (B)	\$73,088	\$72,813	\$72,539	\$72,264	\$71,990	\$71,744	\$72,271	\$73,482	\$78,258	\$86,575	\$95,719	\$104,974	\$945,717
	b. Debt Component Grossed Up For Taxe	es (C)	20,987	20,908	20,830	20,751	20,672	20,601	20,753	21,100	22,472	24,860	27,486	30,143	271,563
8.	Investment Expenses														
	a. Depreciation (D)		\$46,478	\$46,478	\$46,478	\$46,478	\$46,478	\$46,478	\$46,478	\$46,478	\$46,478	\$46,478	\$46,478	\$63,770	\$575,028
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Line	es 7 + 8)	140,553	140,199	139,847	139,493	139.140	138,823	139,502	141,060	147,208	157,913	169,683	198,887	1,792,308
	a. Recoverable Costs Allocated to Energy	, ·	140,553	140,199	139,847	139,493	139,140	138,823	139,502	141,060	147,208	157,913	169,683	198,887	1,792,308
	b. Recoverable Costs Allocated to Demar	nd	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
10	Retail Energy-Related Recoverable Costs	(E)	140,553	140,199	139,847	139,493	139,140	138,823	139,502	141,060	147,208	157,913	169,683	198,887	1,792,308
12. 13	Retail Demand-Related Recoverable Costs		140,555	140,199	139,647	139,493	139,140	130,023	139,502	141,060	147,206	157,913	109,003	190,007	1,182,300
14.	Total Jurisdictional Recoverable Costs (Li		\$140,553	\$140,199	\$139,847	\$139,493	\$139,140	\$138.823	\$139,502	\$141,060	\$147,208	\$157,913	\$169,683	\$198,887	\$1,792,308
14.	Total danies of the Nobel Court (El		φ. το,οοο	ψ. 10,100	ψ.50,041	ψ.50,400	ψ.30,140	ψ.30,020	₩.30,002	ψ. 11,000	ψ. 17,200	ψ.51,010	ψ.50,000	ψ.50,007	Ψ.,. σΞ,000

- (A) Applicable depreciable base for Big Bend; accounts 312.41 (\$8,196,263), 312.42 (\$5,153,072), 312.43 (\$7,875,560), 315.41 (\$17,504), 315.44 (\$351,594), and 315.43 (\$528,554) (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rates are 4.0%, 3.7%, 3.5%, 3.5%, 3.2%, and 3.6% (E) Line 9a x Line 10
- (F) Line 9b x Line 11

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Polk NO_x Emissions Reduction (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$1,561,473 (577,146) 0 \$984,327	\$1,561,473 (581,570) 0 979,903	\$1,561,473 (585,994) 0 975,479	\$1,561,473 (590,418) 0 971.055	\$1,561,473 (594,842) 0 966.631	\$1,561,473 (599,266) 0 962,207	\$1,561,473 (603,690) 0 957,783	\$1,561,473 (608,114) 0 953,359	\$1,561,473 (612,538) 0 948.935	\$1,561,473 (616,962) 0 944,511	\$1,561,473 (621,386) 0 940.087	\$1,561,473 (625,810) 0 935,663	\$1,561,473 (630,234) 0 931,239	
6.	Average Net Investment	φοσ 1,02.	982,115	977,691	973,267	968,843	964,419	959,995	955,571	951,147	946,723	942,299	937,875	933,451	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Tax b. Debt Component Grossed Up For Taxe		\$5,798 1,665	\$5,772 1,657	\$5,746 1,650	\$5,720 1,642	\$5,694 1,635	\$5,667 1,627	\$5,641 1,620	\$5,615 1,612	\$5,589 1,605	\$5,563 1,597	\$5,537 1,590	\$5,511 1,582	\$67,853 19,482
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$4,424 0 0 0 0	\$53,088 0 0 0											
9.	Total System Recoverable Expenses (Line a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demar	<i>,</i>	11,887 11,887 0	11,853 11,853 0	11,820 11,820 0	11,786 11,786 0	11,753 11,753 0	11,718 11,718 0	11,685 11,685 0	11,651 11,651 0	11,618 11,618 0	11,584 11,584 0	11,551 11,551 0	11,517 11,517 0	140,423 140,423 ⁰ п
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000	200											
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Lin	s (F)	11,887 0 \$11,887	11,853 0 \$11,853	11,820 0 \$11,820	11,786 0 \$11,786	11,753 0 \$11,753	11,718 0 \$11,718	11,685 0 \$11,685	11,651 0 \$11,651	11,618 0 \$11,618	11,584 0 \$11,584	11,551 0 \$11,551	11,517 0 \$11,517	140,423 0 \$140,423

- (A) Applicable depreciable base for Polk; account 342.81
 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12. (D) Applicable depreciation rate is 3.4%
- (E) Line 9a x Line 10 (F) Line 9b x Line 11

DOCKET NO. 140007-EI ECRC 2015 PROJECTION, FORM 42-4P EXHIBIT NO. ____ (PAR-2), DOCUMENT NO. 4, PAGE 14 OF 25

Tampa Electric Company Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 4 SOFA (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	0	
	c. Retirements d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
	u. Other		U	U	U	Ü	U	U	U	U	U	U	U	U	
2.	Plant-in-Service/Depreciation Base (A)	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	\$2,558,730	
3.	Less: Accumulated Depreciation	(679,142)	(685,539)	(691,936)	(698,333)	(704,730)	(711,127)	(717,524)	(723,921)	(730,318)	(736,715)	(743,112)	(749,509)	(755,906)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$1,879,588	1,873,191	1,866,794	1,860,397	1,854,000	1,847,603	1,841,206	1,834,809	1,828,412	1,822,015	1,815,618	1,809,221	1,802,824	
6.	Average Net Investment		1,876,390	1,869,993	1,863,596	1,857,199	1,850,802	1,844,405	1,838,008	1,831,611	1,825,214	1,818,817	1,812,420	1,806,023	
7.	Return on Average Net Investment														
• • • • • • • • • • • • • • • • • • • •	a. Equity Component Grossed Up For Tax	xes (B)	\$11,078	\$11,040	\$11,002	\$10,964	\$10,927	\$10,889	\$10,851	\$10,813	\$10,775	\$10,738	\$10,700	\$10,662	\$130,439
	 b. Debt Component Grossed Up For Taxe 	es (C)	3,181	3,170	3,159	3,148	3,138	3,127	3,116	3,105	3,094	3,083	3,073	3,062	37,456
	Investment Francisco														
8.	Investment Expenses a. Depreciation (D)		\$6,397	\$6,397	\$6,397	\$6,397	\$6,397	\$6,397	\$6,397	\$6,397	\$6.397	\$6.397	\$6.397	\$6,397	\$76,764
	b. Amortization		ψ0,557	φυ,557	φυ,557	ψ0,537	φυ,557	ψ0,557	φυ,557	φυ,557	0	φυ,557	φυ,557	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Line	es 7 + 8)	20,656	20,607	20,558	20,509	20,462	20,413	20,364	20,315	20,266	20,218	20,170	20,121	244,659
٥.	a. Recoverable Costs Allocated to Energy		20,656	20,607	20,558	20,509	20,462	20,413	20,364	20,315	20,266	20,218	20,170	20,121	244,659
	b. Recoverable Costs Allocated to Demar	nd	0	0	0	0	0	0	0	0	0	0	0	0	0
4.0					4 0000000	4 0000000	4 0000000	4 0000000	4 0000000	4 0000000	4 0000000	4 0000000	4 0000000	4 0000000	
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000												
11.	Demand Junsulctional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	:
12.	Retail Energy-Related Recoverable Costs	(E)	20,656	20,607	20,558	20,509	20,462	20,413	20,364	20,315	20,266	20,218	20,170	20,121	244,659
13.	Retail Demand-Related Recoverable Cost		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lir	nes 12 + 13)	\$20,656	\$20,607	\$20,558	\$20,509	\$20,462	\$20,413	\$20,364	\$20,315	\$20,266	\$20,218	\$20,170	\$20,121	\$244,659

- (A) Applicable depreciable base for Big Bend; account 312.44
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.0%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 1 Pre-SCR (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	0	ΨΟ
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	\$1,649,121	
3.	Less: Accumulated Depreciation	(467,737)	(473,234)	(478,731)	(484,228)	(489,725)	(495,222)	(500,719)	(506,216)	(511,713)	(517,210)	(522,707)	(528,204)	(533,701)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$1,181,384	1,175,887	1,170,390	1,164,893	1,159,396	1,153,899	1,148,402	1,142,905	1,137,408	1,131,911	1,126,414	1,120,917	1,115,420	
6.	Average Net Investment		1,178,636	1,173,139	1,167,642	1,162,145	1,156,648	1,151,151	1,145,654	1,140,157	1,134,660	1,129,163	1,123,666	1,118,169	
7.	Return on Average Net Investment	(D)	#C 0E0	\$6.926	#C 000	\$6.861	\$6.828	¢c 700	PC 704	¢c 724	\$6.699	\$6.666	CC C24	CC CO1	004.057
	a. Equity Component Grossed Up For Tab. Debt Component Grossed Up For Taxe		\$6,958 1,998	1,989	\$6,893 1,979	1,970	1,961	\$6,796 1,951	\$6,764 1,942	\$6,731 1,933	1,924	1,914	\$6,634 1,905	\$6,601 1,896	\$81,357 23,362
8.	Investment Expenses														
	a. Depreciation (D)		\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$5,497	\$65,964
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other			0			0	0			0		0	0	
9.	Total System Recoverable Expenses (Line	es 7 + 8)	14,453	14,412	14,369	14,328	14,286	14,244	14,203	14,161	14,120	14,077	14,036	13,994	170,683
	 Recoverable Costs Allocated to Energy 		14,453	14,412	14,369	14,328	14,286	14,244	14,203	14,161	14,120	14,077	14,036	13,994	170,683
	b. Recoverable Costs Allocated to Demai	nd	0	0	0	0	0	0	0	0	0	0	0	0	0 г
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	2
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	Ī
12.	Retail Energy-Related Recoverable Costs	(E)	14,453	14,412	14,369	14,328	14,286	14,244	14,203	14,161	14,120	14,077	14,036	13,994	170,683
13.	Retail Demand-Related Recoverable Cost		0	. 0	0	0	0	. 0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lin	nes 12 + 13)	\$14,453	\$14,412	\$14,369	\$14,328	\$14,286	\$14,244	\$14,203	\$14,161	\$14,120	\$14,077	\$14,036	\$13,994	\$170,683
															l l

- (A) Applicable depreciable base for Big Bend; account 312.41
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 4.0%
 (E) Line 9a x Line 10
- (F) Line 9b x Line 11

Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount
January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 2 Pre-SCR (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	 b. Clearings to Plant 		0	0	0	0	0	0	0	0	0	0	0	0	
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	\$1,581,887	
3.	Less: Accumulated Depreciation	(418,748)	(423,625)	(428,502)	(433,379)	(438,256)	(443,133)	(448,010)	(452,887)	(457,764)	(462,641)	(467,518)	(472,395)	(477, 272)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$1,163,139	1,158,262	1,153,385	1,148,508	1,143,631	1,138,754	1,133,877	1,129,000	1,124,123	1,119,246	1,114,369	1,109,492	1,104,615	
6.	Average Net Investment		1,160,701	1,155,824	1,150,947	1,146,070	1,141,193	1,136,316	1,131,439	1,126,562	1,121,685	1,116,808	1,111,931	1,107,054	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Tax		\$6,852	\$6,824	\$6,795	\$6,766	\$6,737	\$6,708	\$6,680	\$6,651	\$6,622	\$6,593	\$6,564	\$6,536	\$80,328
	b. Debt Component Grossed Up For Taxe	es (C)	1,968	1,959	1,951	1,943	1,935	1,926	1,918	1,910	1,902	1,893	1,885	1,877	23,067
8.	Investment Expenses														
	a. Depreciation (D)		\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$4,877	\$58,524
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Line	es 7 + 8)	13,697	13,660	13,623	13,586	13,549	13,511	13,475	13,438	13,401	13,363	13,326	13,290	161,919
	a. Recoverable Costs Allocated to Energy	y .	13,697	13,660	13,623	13,586	13,549	13,511	13,475	13,438	13,401	13,363	13,326	13,290	161,919
	b. Recoverable Costs Allocated to Demar	nd	0	0	0	0	0	0	0	0	0	0	0	0	0 п
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	2
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	Ē
40	Datail Engrave Dalated Daggeraphic Costs	(F)	10.007	12.000	40.000	40 F0C	12.540	10 511	40.475	40 400	40 404	40.000	40.000	12 200	101.010
12. 13.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost		13,697	13,660	13,623	13,586 0	13,549 0	13,511	13,475 0	13,438 0	13,401 0	13,363 0	13,326	13,290 0	161,919 Z
14.	Total Jurisdictional Recoverable Costs (Lin		\$13,697	\$13,660	\$13,623	\$13,586	\$13.549	\$13.511	\$13.475	\$13,438	\$13,401	\$13,363	\$13,326	\$13,290	\$161,919
	. Can		φ.0,007	ψ.0,000	ψ.0,020	ψ.0,000	ψ.υ,υ-ιυ	ψ.ο,οιι	ψ.υ, πιο	ψ.5,400	ψ10,401	ψ.0,000	ψ.0,020	Ψ.0,200	ψ.σ.,σισ

- (A) Applicable depreciable base for Big Bend; account 312.42
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.7%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 3 Pre-SCR (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0 0 0	\$0 0 0	\$0 0 0	\$0								
2. 3. 4.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing	\$2,706,507 (545,894) 0	\$2,706,507 (553,847) 0	\$2,706,507 (561,800) 0	\$2,706,507 (569,753) 0	\$2,706,507 (577,706) 0	\$2,706,507 (585,659) 0	\$2,706,507 (593,612) 0	\$2,706,507 (601,565) 0	\$2,706,507 (609,518) 0	\$2,706,507 (617,471) 0	0	\$2,706,507 (633,377) 0	\$2,706,507 (641,330) 0	
5. 6.	Net Investment (Lines 2 + 3 + 4) Average Net Investment	\$2,160,613	2,152,660	2,144,707	2,136,754	2,128,801	2,120,848	2,112,895 2,116,872	2,104,942 2,108,919	2,096,989	2,089,036	2,081,083	2,073,130	2,065,177	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Ta b. Debt Component Grossed Up For Tax		\$12,732 3,656	\$12,685 3,643	\$12,638 3,629	\$12,591 3,616	\$12,544 3,602	\$12,497 3,589	\$12,450 3,575	\$12,403 3,562	\$12,356 3,548	\$12,309 3,535	\$12,263 3,521	\$12,216 3,508	\$149,684 42,984
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$7,953 0 0 0 0	\$7,953 0 0 0 0	\$7,953 0 0 0 0	\$7,953 0 0 0 0	\$95,436 0 0 0 0								
9.	Total System Recoverable Expenses (Linea. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demai	y	24,341 24,341 0	24,281 24,281 0	24,220 24,220 0	24,160 24,160 0	24,099 24,099 0	24,039 24,039 0	23,978 23,978 0	23,918 23,918 0	23,857 23,857 0	23,797 23,797 0	23,737 23,737 0	23,677 23,677 0	288,104 288,104 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000									
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Li	ts (F)	24,341 0 \$24,341	24,281 0 \$24,281	24,220 0 \$24,220	24,160 0 \$24,160	24,099 0 \$24,099	24,039 0 \$24,039	23,978 0 \$23,978	23,918 0 \$23,918	23,857 0 \$23,857	23,797 0 \$23,797	23,737 0 \$23,737	23,677 0 \$23,677	288,104 0 \$288,104

- (A) Applicable depreciable base for Big Bend; account 312.43 (\$1,995,677) and 315.43 (\$710,830)
 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12. Based of ROE of 16. (D) Applicable depreciation rate is 3.5% and 3.6%
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 1 SCR (in Dollars)

Lina	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected	Projected September	Projected October	Projected November	Projected December	End of Period Total
Line	Description	Period Amount	January	February	iviarch	Aprii	iviay	June	July	August	September	October	November	December	rotai
1.	Investments														
	a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	0	
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	\$85.719.215	\$85.719.215	\$85.719.215	\$85.719.215	\$85.719.215	\$85,719,215	\$85.719.215	\$85.719.215	\$85,719,215	\$85.719.215	\$85.719.215	\$85.719.215	\$85.719.215	
3.	Less: Accumulated Depreciation	(17,719,659)	(18,028,825)	(18,337,991)	(18,647,157)	(18,956,323)	(19,265,489)	(19,574,655)	(19,883,821)	(20,192,987)	(20,502,153)	(20,811,319)	(21,120,485)	(21,429,651)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$67,999,556	67,690,390	67,381,224	67,072,058	66,762,892	66,453,726	66,144,560	65,835,394	65,526,228	65,217,062	64,907,896	64,598,730	64,289,564	
6.	Average Net Investment		67,844,973	67,535,807	67,226,641	66,917,475	66,608,309	66,299,143	65,989,977	65,680,811	65,371,645	65,062,479	64,753,313	64,444,147	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Taxes (B)		\$400,534	\$398,709	\$396,884	\$395,058	\$393,233	\$391,408	\$389,583	\$387,758	\$385,932	\$384,107	\$382,282	\$380,457	\$4,685,945
	b. Debt Component Grossed Up For Taxes (C)		115,014	114,490	113,966	113,442	112,918	112,394	111,870	111,345	110,821	110,297	109,773	109,249	1,345,579
8	Investment Expenses														
٥.	a. Depreciation (D)		\$309,166	\$309,166	\$309,166	\$309,166	\$309,166	\$309,166	\$309.166	\$309,166	\$309.166	\$309,166	\$309,166	\$309,166	\$3,709,992
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Lines 7 + 8)		824,714	822,365	820,016	817,666	815,317	812,968	810,619	808,269	805,919	803,570	801,221	798,872	9,741,516
	a. Recoverable Costs Allocated to Energy		824,714	822,365	820,016	817,666	815,317	812,968	810,619	808,269	805,919	803,570	801,221	798,872	9,741,516
	b. Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
12.	Retail Energy-Related Recoverable Costs (E)		824,714	822,365	820,016	817,666	815,317	812,968	810,619	808,269	805,919	803,570	801,221	798,872	9,741,516
13.	Retail Demand-Related Recoverable Costs (F)		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lines 12 +	13)	\$824,714	\$822,365	\$820,016	\$817,666	\$815,317	\$812,968	\$810,619	\$808,269	\$805,919	\$803,570	\$801,221	\$798,872	\$9,741,516
										·		·		·	<u></u>

- Notes:

 (A) Applicable depreciable base for Big Bend; account 311.51 (\$22,278,982), 312.51 (\$48,529,785), 315.51 (\$14,063,245), and 316.51 (\$847,203).

 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).

 (C) Line 6 x 2.0343% x 1/12.

 - (D) Applicable depreciation rate is 4.1%, 4.3%, 4.8% and 4.1%
 - (E) Line 9a x Line 10
 - (F) Line 9b x Line 11

Tampa Electric Company Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 2 SCR (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$93,776,097 (19,774,484) 0 \$74,001,613	\$93,776,097 (20,077,654) 0 73,698,443	\$93,776,097 (20,380,824) 0 73,395,273	\$93,776,097 (20,683,994) 0 73,092,103	\$93,776,097 (20,987,164) 0 72,788,933	\$93,776,097 (21,290,334) 0 72,485,763	\$93,776,097 (21,593,504) 0 72,182,593	\$93,776,097 (21,896,674) 0 71,879,423	\$93,776,097 (22,199,844) 0 71,576,253	\$93,776,097 (22,503,014) 0 71,273,083	\$93,776,097 (22,806,184) 0 70,969,913	\$93,776,097 (23,109,354) 0 70,666,743	\$93,776,097 (23,412,524) 0 70,363,573	
6.	Average Net Investment	ψ/4,001,013	73,850,028	73,546,858	73,243,688	72,940,518	72,637,348	72,334,178	72,031,008	71,770,233	71,424,668	71,121,498	70,818,328	70,515,158	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Ta b. Debt Component Grossed Up For Tax		\$435,986 125,194	\$434,196 124,680	\$432,406 124,166	\$430,617 123,652	\$428,827 123,138	\$427,037 122,625	\$425,247 122,111	\$423,457 121,597	\$421,667 121,083	\$419,878 120,569	\$418,088 120,055	\$416,298 119,541	\$5,113,704 1,468,411
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other	_	\$303,170 0 0 0 0	\$3,638,040 0 0 0											
9.	Total System Recoverable Expenses (Lin a. Recoverable Costs Allocated to Energ b. Recoverable Costs Allocated to Dema	y	864,350 864,350 0	862,046 862,046 0	859,742 859,742 0	857,439 857,439 0	855,135 855,135 0	852,832 852,832 0	850,528 850,528 0	848,224 848,224 0	845,920 845,920 0	843,617 843,617 0	841,313 841,313 0	839,009 839,009 0	10,220,155 10,220,155 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000												
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (L	ts (F)	864,350 0 \$864,350	862,046 0 \$862,046	859,742 0 \$859,742	857,439 0 \$857,439	855,135 0 \$855,135	852,832 0 \$852,832	850,528 0 \$850,528	848,224 0 \$848,224	845,920 0 \$845,920	843,617 0 \$843,617	841,313 0 \$841,313	839,009 0 \$839,009	10,220,155 0 \$10,220,155

- Notes:
 (A) Applicable depreciable base for Big Bend; account 311.52 (\$25,208,869), 312.52(\$51,694,185), 315.52 (\$15,914,427), and 316.52 (\$958,616).
 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
 (C) Line 6 x 2.0343% x 1/12.

 - (D) Applicable depreciation rates are 3.5%, 4.0%, 4.1% and 3.7%.
 - (E) Line 9a x Line 10
 - (F) Line 9b x Line 11

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 3 SCR (in Dollars)

Line	Description	Beginning of Period Amount	Jan-00 Jan-00	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0 0 0	\$0 0 0	\$0 0 0	\$2,000,000 0 0	\$0 0 0	\$2,000,000						
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$80,369,887 (18,986,041) 0 \$61,383,846	\$80,369,887 (19,233,582) 0 61,136,305	\$80,369,887 (19,481,123) 0 60,888,764	\$80,369,887 (19,728,664) 0 60,641,223	\$80,369,887 (19,976,205) 0 60,393,682	\$80,369,887 (20,223,746) 2,000,000 62,146,141	\$80,369,887 (20,471,287) 2,000,000 61,898,600	\$80,369,887 (20,718,828) 2,000,000 61,651,059	\$80,369,887 (20,966,369) 2,000,000 61,403,518	\$80,369,887 (21,213,910) 2,000,000 61,155,977	\$80,369,887 (21,461,451) 2,000,000 60,908,436	\$80,369,887 (21,708,992) 2,000,000 60,660,895	\$80,369,887 (21,956,533) 2,000,000 60,413,354	
6.	Average Net Investment		61,260,075	61,012,534	60,764,993	60,517,452	61,269,911	62,022,370	61,774,829	61,527,288	61,279,747	61,032,206	60,784,665	60,537,124	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Ta b. Debt Component Grossed Up For Taxe		\$361,659 103,851	\$360,198 103,431	\$358,736 103,012	\$357,275 102,592	\$361,717 103,868	\$366,159 105,143	\$364,698 104,724	\$363,237 104,304	\$361,775 103,884	\$360,314 103,465	\$358,852 103,045	\$357,391 102,626	\$4,332,011 1,243,945
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other	_	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$247,541 0 0 0 0	\$2,970,492 0 0 0
9.	Total System Recoverable Expenses (Linea. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demai	y	713,051 713,051 0	711,170 711,170 0	709,289 709,289 0	707,408 707,408 0	713,126 713,126 0	718,843 718,843 0	716,963 716,963 0	715,082 715,082 0	713,200 713,200 0	711,320 711,320 0	709,438 709,438 0	707,558 707,558 0	8,546,448 8,546,448 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	1.0000000 1.0000000	ŗ
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Li	ts (F)	713,051 0 \$713,051	711,170 0 \$711,170	709,289 0 \$709,289	707,408 0 \$707,408	713,126 0 \$713,126	718,843 0 \$718,843	716,963 0 \$716,963	715,082 0 \$715,082	713,200 0 \$713,200	711,320 0 \$711,320	709,438 0 \$709,438	707,558 0 \$707,558	8,546,448 0 \$8,546,448

- (A) Applicable depreciable base for Big Bend; account 311.53 (\$21,689,422), 312.53 (\$44,164,828), 315.53 (\$13,690,954), and 316.53 (\$824,683). (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rates are 3.1%, 3.9%, 4.0%, and 3.4% (E) Line 9a x Line 10
- (F) Line 9b x Line 11

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Unit 4 SCR (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$63,316,594 (15,866,135) 0 \$47,450,459	\$63,316,594 (16,047,532) 0 47,269,062	\$63,316,594 (16,228,929) 0 47,087,665	\$63,316,594 (16,410,326) 0 46,906,268	\$63,316,594 (16,591,723) 0 46,724,871	\$63,316,594 (16,773,120) 0 46,543,474	\$63,316,594 (16,954,517) 0 46,362,077	\$63,316,594 (17,135,914) 0 46,180,680	\$63,316,594 (17,317,311) 0 45,999,283	\$63,316,594 (17,498,708) 0 45,817,886	\$63,316,594 (17,680,105) 0 45,636,489	\$63,316,594 (17,861,502) 0 45,455,092	\$63,316,594 (18,042,899) 0 45,273,695	
6.	Average Net Investment		47,359,761	47,178,364	46,996,967	46,815,570	46,634,173	46,452,776	46,271,379	46,089,982	45,908,585	45,727,188	45,545,791	45,364,394	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Tax b. Debt Component Grossed Up For Taxe		\$279,596 80,287	\$278,525 79,979	\$277,454 79,672	\$276,384 79,364	\$275,313 79,057	\$274,242 78,749	\$273,171 78,442	\$272,100 78,134	\$271,029 77,827	\$269,958 77,519	\$268,887 77,212	\$267,816 76,904	\$3,284,475 943,146
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$181,397 0 0 0	\$181,397 0 0 0	\$181,397 0 0 0	\$181,397 0 0 0 0	\$181,397 0 0 0	\$181,397 0 0 0 0	\$181,397 0 0 0 0	\$181,397 0 0 0	\$181,397 0 0 0	\$181,397 0 0 0 0	\$181,397 0 0 0	\$181,397 0 0 0 0	\$2,176,764 0 0 0
9.	Total System Recoverable Expenses (Line a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demar	, ,	541,280 541,280 0	539,901 539,901 0	538,523 538,523 0	537,145 537,145 0	535,767 535,767 0	534,388 534,388 0	533,010 533,010 0	531,631 531,631 0	530,253 530,253 0	528,874 528,874 0	527,496 527,496 0	526,117 526,117 0	6,404,385 6,404,385 -
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000	5											
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Li	ts (F)	541,280 0 \$541,280	539,901 0 \$539,901	538,523 0 \$538,523	537,145 0 \$537,145	535,767 0 \$535,767	534,388 0 \$534,388	533,010 0 \$533,010	531,631 0 \$531,631	530,253 0 \$530,253	528,874 0 \$528,874	527,496 0 \$527,496	526,117 0 \$526,117	6,404,385 0 \$6,404,385

- (A) Applicable depreciable base for Big Bend; account 311.54 (\$16,857,250), 312.54 (\$34,665,822), 315.54 (\$10,642,027), 316.54 (\$687,934), and 315.40 (\$463,561). (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 2.4%, 3.8%. 3.9%, 3.3%, and 3.7%. (E) Line 9a x Line 10
- (F) Line 9b x Line 11

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend FGD System Reliability (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$24,336,707 (2,753,538) 0 \$21,583,169	\$24,336,707 (2,804,847) 0 21,531,860	\$24,336,707 (2,856,156) 0 21,480,551	\$24,336,707 (2,907,465) 0 21,429,242	\$24,336,707 (2,958,774) 0 21,377,933	\$24,336,707 (3,010,083) 0 21,326,624	\$24,336,707 (3,061,392) 0 21,275,315	\$24,336,707 (3,112,701) 0 21,224,006	\$24,336,707 (3,164,010) 0 21,172,697	\$24,336,707 (3,215,319) 0 21,121,388	\$24,336,707 (3,266,628) 0 21,070,079	\$24,336,707 (3,317,937) 0 21,018,770	\$24,336,707 (3,369,246) 0 20,967,461	
6.	Average Net Investment		21,557,515	21,506,206	21,454,897	21,403,588	21,352,279	21,300,970	21,249,661	21,198,352	21,147,043	21,095,734	21,044,425	20,993,116	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Taxes b. Debt Component Grossed Up For Taxes		\$127,268 36,545	\$126,965 36,458	\$126,663 36,371	\$126,360 36,284	\$126,057 36,197	\$125,754 36,110	\$125,451 36,023	\$125,148 35,937	\$124,845 35,850	\$124,542 35,763	\$124,239 35,676	\$123,936 35,589	\$1,507,228 432,803
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$51,309 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0	\$51,309 0 0 0 0	\$51,309 0 0 0 0	\$615,708 0 0 0
9.	Total System Recoverable Expenses (Lines a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demand	7 + 8)	215,122 215,122 0	214,732 214,732 0	214,343 214,343 0	213,953 213,953 0	213,563 213,563 0	213,173 213,173 0	212,783 212,783 0	212,394 212,394 0	212,004 212,004 0	211,614 211,614 0	211,224 211,224 0	210,834 210,834 0	2,555,739 2,555,739 0
10. 11.	Energy Jurisdictional Factor Demand Jurisdictional Factor		1.0000000 1.0000000												
12. 13. 14.	Retail Energy-Related Recoverable Costs (E Retail Demand-Related Recoverable Costs (Total Jurisdictional Recoverable Costs (Lines	F)	215,122 0 \$215,122	214,732 0 \$214,732	214,343 0 \$214,343	213,953 0 \$213,953	213,563 0 \$213,563	213,173 0 \$213,173	212,783 0 \$212,783	212,394 0 \$212,394	212,004 0 \$212,004	211,614 0 \$211,614	211,224 0 \$211,224	210,834 0 \$210,834	2,555,739 0 \$2,555,739

- (A) Applicable depreciable base for Big Bend; account 312.44 (\$1,456,209) and 312.45 (\$22,880,498)
 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.0% and 2.5%.(E) Line 9a x Line 10
- (F) Line 9b x Line 11

Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount
January 2015 to December 2015

Return on Capital Investments, Depreciation and Taxes For Project: Mercury Air Toxics Standards (MATS) (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$160,000	\$0	\$0	\$160,000
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	160,000	\$160,000
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other - AFUDC (excl from CWIP)		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,356,699	\$8,516,699	
3.	Less: Accumulated Depreciation	(373,797)	(394,841)	(415,885)	(436,929)	(457,973)	(479,017)	(500,061)	(521,105)	(542,149)	(563,193)	(584,237)	(605,281)	(626,325)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	160,000	160,000	0	
5.	Net Investment (Lines 2 + 3 + 4)	\$7,982,902	7,961,858	7,940,814	7,919,770	7,898,726	7,877,682	7,856,638	7,835,594	7,814,550	7,793,506	7,932,462	7,911,418	7,890,374	
6.	Average Net Investment		7,972,380	7,951,336	7,930,292	7,909,248	7,888,204	7,867,160	7,846,116	7,825,072	7,804,028	7,862,984	7,921,940	7,900,896	
7.	Return on Average Net Investment														
	 a. Equity Component Grossed Up For Tax 		\$47,066	\$46,942	\$46,818	\$46,694	\$46,569	\$46,445	\$46,321	\$46,197	\$46,072	\$46,420	\$46,768	\$46,644	\$558,956
	b. Debt Component Grossed Up For Taxe	es (C)	13,515	13,480	13,444	13,408	13,372	13,337	13,301	13,265	13,230	13,330	13,430	13,394	160,506
8.	Investment Expenses														
	Depreciation (D)		\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$21,044	\$252,528
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0_
9.	Total System Recoverable Expenses (Line	es 7 + 8)	81,625	81,466	81,306	81,146	80,985	80,826	80,666	80,506	80,346	80,794	81,242	81,082	971,990
	a. Recoverable Costs Allocated to Energy	,	81,625	81,466	81,306	81,146	80,985	80,826	80,666	80,506	80,346	80,794	81,242	81,082	971,990
	b. Recoverable Costs Allocated to Demar	nd	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	ĺ
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	2
12.	Retail Energy-Related Recoverable Costs	(E)	81,625	81,466	81,306	81,146	80,985	80,826	80,666	80,506	80,346	80,794	81,242	81,082	971,990
13.	Retail Demand-Related Recoverable Cost		0	0	0	0	0	0	0	0	0	0	0	0	0 -
14.	Total Jurisdictional Recoverable Costs (Lir	nes 12 + 13)	\$81,625	\$81,466	\$81,306	\$81,146	\$80,985	\$80,826	\$80,666	\$80,506	\$80,346	\$80,794	\$81,242	\$81,082	\$971,990
	•														

- (A) Applicable depreciable base for Big Bend and Polk; accounts 315.40 (\$1,223,677), 312.46 (\$1,256,220), 315.45 (\$45,217) and 315.46 (\$77,522), 345.81 (\$44,732), 311.40 (\$13,216), 312.45 (\$2,314,935), 315.42 (\$128,600), 315.44 (\$3,177,830) 341.80 (\$26,150), 315.41 (\$128,600), 315.43 (\$40,000), 315.44 (\$40,000)
- (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).
- (C) Line 6 x 2.0343% x 1/12.
- (D) Applicable depreciation rate is 3.7%, 3.3%, 3.1%, 3.5%, 3.3%, 2.9%, 2.5%, 3.3%, 3.0%, 2.2%, 3.5%, 3.6% and 3.2%
- (E) Line 9a x Line 10

Environmental Cost Recovery Clause (ECRC) Calculation of the Projected Period Amount January 2015 to December 2015

For Project: SO₂ Emissions Allowances (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Purchases/Transfers		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	b. Sales/Transfers		0	0	0	0	0	0	0	0	0	0	0	0	
	c. Auction Proceeds/Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Working Capital Balance														
	a. FERC 158.1 Allowance Inventory	\$0	0	0	0	0	0	0	0	0	0	0	0	0	
	 b. FERC 158.2 Allowances Withheld 	0	0	0	0	0	0	0	0	0	0	0	0	0	
	c. FERC 182.3 Other Regl. Assets - Losses	0	0	0	0	0	0	0	0	0	0	0	0	0	
	 d. FERC 254.01 Regulatory Liabilities - Gains 	(35,765)	(35,693)	(35,632)	(35,577)	(35,516)	(35,451)	(35,379)	(35,306)	(35,236)	(35,179)	(35,124)	(35,061)	(34,997)	
3.	Total Working Capital Balance	(\$35,765)	(35,693)	(35,632)	(35,577)	(35,516)	(35,451)	(35,379)	(35,306)	(35,236)	(35,179)	(35,124)	(35,061)	(34,997)	
4.	Average Net Working Capital Balance		(\$35,729)	(\$35,663)	(\$35,605)	(\$35,547)	(\$35,484)	(\$35,415)	(\$35,343)	(\$35,271)	(\$35,208)	(\$35,152)	(\$35,093)	(\$35,029)	
5.	Return on Average Net Working Capital Balance														
	a. Equity Component Grossed Up For Taxes (A)		(211)	(211)	(210)	(210)	(209)	(209)	(209)	(208)	(208)	(208)	(207)	(207)	(2,507)
	b. Debt Component Grossed Up For Taxes (B)		(61)	(60)	(60)	(60)	(60)	(60)	(60)	(60)	(60)	(60)	(59)	(59)	(719)
6.	Total Return Component	=	(272)	(271)	(270)	(270)	(269)	(269)	(269)	(268)	(268)	(268)	(266)	(266)	(3,226)
7.	Expenses:														
	a. Gains		0	0	0	0	0	0	0	0	0	0	0	0	0
	b. Losses		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. SO ₂ Allowance Expense		2,140	2,078	2,152	2,200	2,202	2,193	2,199	2,207	2,206	2,227	2,187	2,137	26,128
8.	Net Expenses (D)	_	2,140	2,078	2,152	2,200	2,202	2,193	2,199	2,207	2,206	2,227	2,187	2,137	26,128
9.	Total System Recoverable Expenses (Lines 6 + 8)		1.868	1.807	1.882	1.930	1.933	1,924	1.930	1.939	1.938	1.959	1.921	1.871	22.902
	a. Recoverable Costs Allocated to Energy		1,868	1,807	1,882	1,930	1,933	1,924	1,930	1,939	1,938	1,959	1,921	1,871	22,902
	b. Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
11.	Demand Jurisdictional Factor		1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	1.0000000	
12.	Retail Energy-Related Recoverable Costs (E)		1,868	1,807	1,882	1,930	1,933	1,924	1,930	1,939	1,938	1,959	1,921	1,871	22,902
13.	Retail Demand-Related Recoverable Costs (F)		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Juris. Recoverable Costs (Lines 12 + 13)	_	\$1,868	\$1,807	\$1,882	\$1,930	\$1,933	\$1,924	\$1,930	\$1,939	\$1,938	\$1,959	\$1,921	\$1,871	\$22,902

- $\frac{\textbf{Notes:}}{\textbf{(A) Line 6 x 7.0844\% x1/12.}} \textbf{ Based on ROE of 10.25\% and weighted income tax rate of 38.575\% (expansion factor of 1.632200).} \textbf{(B) Line 6 x 2.0343\% x 1/12.}$
- (C) Line 6 is reported on Schedule 3P.
- (D) Line 8 is reported on Schedule 2P.
- (E) Line 9a x Line 10
- (F) Line 9b x Line 11

^{*} Totals on this schedule may not foot due to rounding.

End of

Return on Capital Investments, Depreciation and Taxes For Project: Big Bend Gypsum Storage Facility (in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	Period Total
1.	Investments a. Expenditures/Additions b. Clearings to Plant c. Retirements d. Other - AFUDC (excl from CWIP)		\$0 0 0	\$0											
2. 3. 4. 5.	Plant-in-Service/Depreciation Base (A) Less: Accumulated Depreciation CWIP - Non-Interest Bearing Net Investment (Lines 2 + 3 + 4)	\$22,289,132 (137,404) 0 \$22,151,728	22,289,132 (206,129) 0 22,083,003	22,289,132 (274,854) 0 22,014,278	22,289,132 (343,579) 0 21,945,553	22,289,132 (412,304) 0 21,876,828	22,289,132 (481,029) 0 21,808,103	22,289,132 (549,754) 0 21,739,378	22,289,132 (618,479) 0 21,670,653	22,289,132 (687,204) 0 21,601,928	22,289,132 (755,929) 0 21,533,203	22,289,132 (824,654) 0 21,464,478	22,289,132 (893,379) 0 21,395,753	22,289,132 (962,104) 0 21,327,028	
6.	Average Net Investment		22,117,366	22,048,641	21,979,916	21,911,191	21,842,466	21,773,741	21,705,016	21,636,291	21,567,566	21,498,841	21,430,116	21,361,391	
7.	Return on Average Net Investment a. Equity Component Grossed Up For Taxes (B) b. Debt Component Grossed Up For Taxes (C)		\$130,574 37,494	\$130,168 37,378	\$129,762 37,261	\$129,356 37,145	\$128,951 37,028	\$128,545 36,912	\$128,139 36,795	\$127,733 36,679	\$127,328 36,562	\$126,922 36,446	\$126,516 36,329	\$126,111 36,213	\$1,540,105 442,242
8.	Investment Expenses a. Depreciation (D) b. Amortization c. Dismantlement d. Property Taxes e. Other		\$68,725 0 0 0 0	\$824,700 0 0 0 0											
9.	Total System Recoverable Expenses (Lines 7 + 8) a. Recoverable Costs Allocated to Energy b. Recoverable Costs Allocated to Demand		236,793 236,793 0	236,271 236,271 0	235,748 235,748 0	235,226 235,226 0	234,704 234,704 0	234,182 234,182 0	233,659 233,659 0	233,137 233,137 0	232,615 232,615 0	232,093 232,093 0	231,570 231,570 0	231,049 231,049 0	2,807,047 2,807,047 0
10. 11.	3,		1.0000000 1.0000000	[2											
12. 13. 14.	Retail Energy-Related Recoverable Costs Retail Demand-Related Recoverable Cost Total Jurisdictional Recoverable Costs (Lin	s (F)	236,793 0 \$236,793	236,271 0 \$236,271	235,748 0 \$235,748	235,226 0 \$235,226	234,704 0 \$234,704	234,182 0 \$234,182	233,659 0 \$233,659	233,137 0 \$233,137	232,615 0 \$232,615	232,093 0 \$232,093	231,570 0 \$231,570	231,049 0 \$231,049	2,807,047 0 \$2,807,047

<u>Tampa Electric Company</u> Environmental Cost Recovery Clause (ECRC)

Calculation of the Projected Period Amount January 2015 to December 2015

- Notes:

 (A) Applicable depreciable base for Big Bend; accounts 315.40

 (B) Line 6 x 7.0844% x1/12. Based on ROE of 10.25% and weighted income tax rate of 38.575% (expansion factor of 1.632200).

 - (C) Line 6 x 2.0343% x 1/12.

 (D) Applicable depreciation rate is 3.7%

 (E) Line 9a x Line 10

 - (F) Line 9b x Line 11

Project Title: Big Bend Unit 3 Flue Gas Desulfurization Integration

Project Description:

This project involved the integration of Big Bend Unit 3 flue gases into the Big Bend Unit 4 Flue Gas Desulfurization ("FGD") system. The integration was accomplished by installing interconnecting ductwork between Unit 3 precipitator outlet ducts and the Unit 4 FGD inlet duct. The Unit 4 FGD outlet duct was interconnected with the Unit 3 chimney via new ductwork and a new stack breaching. New ductwork, linings, isolation dampers, support steel, and stack annulus pressurization fans were procured and installed. Modifications to the materials handling systems and controls were also necessary.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014, is \$1,196,675 compared to the original projection of

\$1,253,366, resulting in an insignificant variance.

The actual/estimated O&M expense for the period January 2014 through December 2014 is \$5,127,113 compared to the original projection of \$5,624,000, resulting in a variance of 8.8 percent. This variance is due to a major outage that was scheduled for Big Bend Unit 4 in 2014 being rescheduled for 2015, resulting in a reduction of maintenance needed for this

project in 2014.

Progress Summary: This project was approved by the Commission in Docket No. 960688-EI, Order

No. PSC-96-1048-FOF-EI, issued August 14, 1996. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015, is expected to be \$1,163,997.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$6,245,680.

Project Title: Big Bend Units 1 & 2 Flue Gas Conditioning

Project Description:

The existing electrostatic precipitators were not designed for the range of fuels needed for compliance with the Clean Air Act Amendments ("CAAA"). Flue gas conditioning was required to assure operation of the generating units in accordance with applicable permits and regulations. This equipment is still required to ensure compliance with the CAAA in the event the FGD system on Units 1 & 2 is not operating.

The project involved the addition of molten sulfur unloading, storage and conveying to sulfur burners and catalytic converters where SO₂ is converted to SO₃. The control and injection system then injects this into the ductwork ahead of the electrostatic precipitators.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$334,436 compared to the original projection of

\$336,751, resulting in an insignificant variance.

The actual/estimated O&M expense for this project for the period January 2014 through December 2014 is \$0 and did not vary from the original

projection.

Progress Summary: This project was approved by the Commission in Docket No. 960688-EI, Order

No. PSC-96-1048-FOF-EI, issued August 14, 1996. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$314,305.

There are no estimated O&M costs projected for the period of January 2015

through December 2015.

Project Title: Big Bend Unit 4 Continuous Emissions Monitors

Project Description:

Continuous emissions monitors ("CEMs") were installed on the flue gas inlet and outlet of Big Bend Unit 4 to monitor compliance with the CAAA requirements. The monitors are capable of measuring, recording and electronically reporting SO₂, NO_x and volumetric gas flow out of the stack. The project consisted of monitors, a CEM building, the CEMs control and power cables to supply a complete system.

40 CFR Part 75 includes the general requirements for the installation, certification, operation and maintenance of CEMs and specific requirements for the monitoring of pollutants, opacity and volumetric flow. These regulations are very comprehensive and specific as to the requirements for CEMs, and in essence, they define the components needed and their configuration.

Project Accomplishment:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$66,791 compared to the original projection of

\$67,444, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 960688-EI, Order

No. PSC-96-1048-FOF-EI, issued August 14, 1996. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$63,588.

Tampa Electric Company Environmental Cost Recovery Clause January 2015 through December 2015 Description and Progress Report for

Environmental Compliance Activities and Projects

Project Title: Big Bend Unit 1 Classifier Replacement

Project Description:

The boiler modifications at Big Bend Unit 1 are part of Tampa Electric's NO_X compliance strategy for Phase II of the CAAA. The classifier replacements optimize coal fineness by providing a uniform particle size. This finer classification, combined with the equalized distribution of coal to outlet pipes and furnaces, enables a uniform, staged combustion. As a result, firing systems operate at lower NO_X levels.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$106,361 compared to the original projection of

\$107,253, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 980007-EI, Order

No. PSC-98-1764-FOF-EI, issued December 31, 1998. The project is

complete and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$100,625.

Tampa Electric Company Environmental Cost Recovery Clause January 2015 through December 2015 Description and Progress Report for

Environmental Compliance Activities and Projects

Project Title: Big Bend Unit 2 Classifier Replacement

Project Description:

The boiler modifications at Big Bend Unit 2 are part of Tampa Electric's NO_X compliance strategy for Phase II of the CAAA. The classifier replacements optimize coal fineness by providing a more uniform particle size. This finer classification, combined with the equalized distribution of coal to outlet pipes and furnaces, enables a uniform, staged combustion. As a result, firing systems operate at lower NO_X levels.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$76,653 compared to the original projection of

\$77,323, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 980007-EI, Order

No. PSC-98-1764-FOF-EI, issued December 31, 1998. The project is

complete and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$72,634.

Project Title: Big Bend Units 1 & 2 FGD

Project Description:

The Big Bend Units 1 & 2 FGD system consists of equipment capable of removing SO₂ from the flue gas generated by the combustion of coal. The FGD was installed in order to comply with Phase II of the CAAA. Compliance with Phase II is required by January 1, 2000. The CAAA impose SO₂ emission limits on existing steam electric units with an output capacity of greater than 25 megawatts and all new utility units. Tampa Electric conducted an exhaustive analysis of options to comply with Phase II of the CAAA that culminated in the selection of the FGD project to serve Big Bend Units 1 & 2.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$7,605,280 compared to the original projection of

\$7,631,382, resulting in an insignificant variance.

The actual/estimated O&M expense for the period January 2014 through December 2014 is \$11,132,440 compared to the original estimate of

\$10,965,200, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 980693-EI, Order

No. PSC-99-0075-FOF-EI, issued January 11, 1999. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is expected to be \$7,503,897.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$10,189,162.

Project Title: Big Bend Section 114 Mercury Testing Platform

Project Description:

The Mercury Emissions Information Collection Effort is mandated by the EPA. The EPA asserts that Section 114 of the CAAA grants to the EPA the authority to request the collection of information necessary for it to study whether it is appropriate and necessary to develop performance or emission standards for electric utility steam generating units.

In a letter dated November 25, 1998, Tampa Electric was notified by the EPA that, pursuant to Section 114 of the CAAA, the company was required to periodically sample and analyze coal shipments for mercury and chlorine content during the period January 1, 1999 through December 31, 1999.

In addition to coal sampling, stack testing and analyses are also required. Tampa Electric received a second letter from EPA, dated March 11, 1999, requiring Tampa Electric to perform specialized mercury testing of the inlet and outlet of the last emission control device installed for Big Bend Units 1, 2 or 3, and Polk Unit 1 as part of the mercury data collection. Part of the cost incurred to perform the stack testing is due to the need to construct special test facilities at the Big Bend stack testing location to meet EPA's testing requirements.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014, is \$11,028 compared to the original projection of

\$11,155, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 990976-EI, Order No.

PSC-99-2103-PAA-EI, issued October 25, 1999. The project was placed in-

service in December 1999 and completed in May 2000.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is expected to be \$10,579.

Project Title: Big Bend FGD Optimization and Utilization

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to optimize the SO₂ removal efficiency and operations of the Big Bend Units 1, 2 and 3 FGD systems. Tampa Electric performed activities in three key areas to improve the performance and reliability of the Big Bend Units 1, 2 and 3 FGD systems. The majority of the improvements required on the Unit 3 tower module included the tower piping, nozzle and internal improvements, ductwork improvements, electrical system reliability improvements, tower control improvements, dibasic acid system improvements, booster fan reliability, absorber system improvements, quencher system improvements, and tower demister improvements. Big Bend Units 1 and 2 FGD system improvements included additional preventative maintenance, oxidation air control improvements, and tower water, air reagent and start-up piping upgrades. In order to ensure reliability of the FGD systems, improvements to the common limestone supply, gypsum de-watering stack reliability and wastewater treatment plant were also being performed.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$1,921,092 compared to the original projection of

\$1,944,311, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 000685-EI, Order

No. PSC-00-1906-PAA-EI, issued October 18, 2000. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is expected to be \$1,847,903.

Project Title: Big Bend PM Minimization and Monitoring

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric is required to develop a Best Operational Practices ("BOP") study to minimize emissions from each electrostatic precipitator ("ESP") at Big Bend, as well as perform a best available control technology ("BACT") analysis for the upgrade of each existing ESP. The company is also required to install and operate particulate matter continuous emission monitors on Big Bend Units 1, 2 and 3 FGD systems. Tampa Electric identified improvements that were necessary to optimize ESP performance such as modifications to the turning vanes and precipitator distribution plates, and upgrades to the controls and software system of the precipitators. Tampa Electric incurred costs associated with the recommendations of the BOP study and the BACT analysis in 2001 and continues to experience O&M and capital expenditures.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$1,733,781 compared to the original projection of \$1,866,134, resulting in a variance of 7.1 percent. This variance is due to a change in the in-service date for the precipitator upgrades. The new in-service

date is expected to be November 2015 rather than December 2014.

The actual/estimated O&M expense the period January 2014 through December 2014 is \$834,530 compared to the original projection of \$900,000

resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 001186-EI, Order

No. PSC-00-2104-PAA-EI, issued November 6, 2000. The project is

complete and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is expected to be \$1,792,308.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$840,000.

Project Title: Big Bend NO_x Emissions Reduction

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to spend up to \$3 million with the goal to reduce NO_x emissions at Big Bend Station. By 2002, the Consent Decree required the company to achieve at least a 30 percent reduction beyond 1998 NO_x emission levels for Big Bend Units 1 and 2 and at least a 15 percent reduction in NO_x emissions from Big Bend Unit 3. Tampa Electric identified and completed projects that were the first steps to decrease NO_x emissions in these units such as burner and windbox modifications and the installation of a neural network system on each of the Big Bend units.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$631,587 compared to the original projection of

\$640,203, resulting in an insignificant variance.

The actual/estimated O&M expense the period January 2014 through December 2014 is \$93,609 compared to the original projection of \$375,000, resulting in a variance of 75 percent. This variance is due to the chemical consumption, maintenance and inspection costs originally projected for the Big Bend NO_x Emissions Reduction project are now being recorded in unit-specific projects. These actual/estimated costs are now shown in the following projects: Big Bend Unit 4 SOFA, Big Bend Unit 1 Pre-SCR, Big Bend Unit 2

Pre-SCR and Big Bend Unit 3 Pre-SCR.

Progress Summary: This project was approved by the Commission in Docket No. 001186-EI, Order

No. PSC-00-2104-PAA-EI, issued November 6, 2000. The project is

complete and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is expected to be \$611,733.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$120,000.

Project Title: Big Bend Fuel Oil Tank No. 1 Upgrade

Project Description:

The Big Bend Fuel Oil Tank No. 1 Upgrade is a 500,000 gallon field-erected fuel storage tank that is required to meet the requirements of FDEP Rule 62-762 as an existing field-erected above ground storage tank containing a regulated pollutant (diesel fuel). The rule required various modifications and a complete internal inspection by the end of 1999.

The scope of work for this project included cleaning and inspecting the tank in accordance with API 653 specifications, coating the internal floor plus 30 inches up the tank wall, installing an AEI Segundo bottom to the tank as well as installing a leak detection system, installing a spill containment for piping fittings and valves surrounding the tank, installing a new truck unloading facility and spill containment for the truck unloading facility, installing level instrumentation for overfill protection, installing secondary containment for below ground piping or reroute to above ground, and conducting a tank closure assessment.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$43,164 compared to the original projection of

\$43,605, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 980007-EI, Order

No. PSC-98-0408-FOF-EI, issued March 18, 1998. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$41,168.

Project Title: Big Bend Fuel Oil Tank No. 2 Upgrade

Project Description:

The Big Bend Fuel Oil Tank No. 2 Upgrade is a 4,200,000 gallon field-erected fuel storage tank that is required to meet the requirements of FDEP Rule 62-762 as an existing field-erected above ground storage tank containing a regulated pollutant (diesel fuel). The rule required various modifications and a complete internal inspection by the end of 1999.

The scope of work for this project included cleaning and inspecting the tank in accordance with API 653 specifications, coating the internal floor plus 30 inches up the tank wall, installing an AEI Segundo bottom to the tank as well as installing a leak detection system, installing a spill containment for piping fittings and valves surrounding the tank, installing a new truck unloading facility and spill containment for the truck unloading facility, installing level instrumentation for overfill protection, installing secondary containment for below ground piping or reroute to above ground, and conducting a tank closure assessment.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$70,995 compared to the original projection of

\$71,718, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 980007-EI, Order No.

PSC-98-0408-FOF-EI, issued March 18, 1998. The project is complete and in-

service

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$67,712.

Project Title: SO₂ Emission Allowances

Project Description:

The acid rain control title of the CAAA sets forth a comprehensive regulatory mechanism designed to control acid rain by limiting sulfur dioxide emissions by electric utilities. The CAAA requires reductions in SO₂ emissions in two phases. Phase I began on January 1, 1995 and applies to 110 mostly coal-fired utility plants containing about 260 generating units. These plants are owned by some 40 jurisdictional utility systems that are expected to reduce annual SO₂ emissions by as much as 4.5 million tons. Phase II began on January 1, 2000, and applies to virtually all existing steam-electric generating utility units with capacity exceeding 25 megawatts and to new generating utility units of any size. The EPA issues to the owners of generating units allowances (defined as an authorization to emit, during or after a specified calendar year, one ton of SO₂) equal to the number of tons of SO₂ emissions authorized by the CAAA. EPA does not assess a charge for the allowances it awards.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated return on average net working capital for the period

January 2014 through December 2014 is (\$3,356) compared to the original

projection of (\$3,414), resulting in an insignificant variance.

The actual/estimated O&M for the period January 2014 through December 2014 is \$11,331 compared to the original projection of \$27,114, resulting in a variance of 58.2 percent. The variance is driven by less cogeneration purchases than expected and the application of a lower emission allowance

rate than originally projected.

Progress Summary: SO₂ emission allowances are being used by Tampa Electric to meet

compliance standards for Phase I of the CAAA.

Project Projections: Estimated return on average net working capital for the period January 2015

through December 2015 is projected to be (\$3,226).

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$26,128.

Tampa Electric Company Environmental Cost Recovery Clause January 2015 through December 2015 Description and Progress Report for

Environmental Compliance Activities and Projects

Project Title: National Pollutant Discharge Elimination System ("NPDES") Annual Surveillance

Fees

Project Description:

Chapter 62-4.052, Florida Administrative Code ("F. A. C."), implements the annual regulatory program and surveillance fees for wastewater permits. These fees are in addition to the application fees described in Rule 62-4.050, F. A. C. Tampa Electric's Big Bend, Polk Power and Bayside Stations are affected by this rule.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated O&M expense for the period January 2014 through

December 2014 is \$34,500 and did not vary from the original projection.

Progress Summary: NPDES Surveillance fees are paid annually for the prior year.

Projections: Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$34,500.

Project Title: Gannon Thermal Discharge Study

Project Description:

This project was a direct requirement from the FDEP in conjunction with the renewal of Tampa Electric's Industrial Wastewater Facility Permit under the provisions of Chapter 403, Florida Statutes, and applicable rules of the Florida Administrative Code, which constitute authorization for the company's Gannon Station facility to discharge to waters of the State under the NPDES. The FDEP permit is Permit No. FL0000809. Specifically, Tampa Electric was required to perform a 316(a) determination for Gannon Station to ensure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife with in the primary area of study. The project had two facets: 1) developing a plan of study and identified the thermal plume, and 2) implemented the plan of study through appropriate sampling to make the determination if any adverse impacts are occurring.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated O&M expense for the period January 2014 through

December 2014 is \$0 and did not vary from the original projection.

Progress Summary: This project was approved by the Commission in Docket No. 010593-EI, Order

No. PSC-01-1847-PAA-EI on September 4, 2001. The project is complete

and in-service.

Projections: There are no estimated O&M costs projected for the period of January 2015

through December 2015.

Project Title: Polk NO_x Emissions Reduction

Project Description:

This project was designed to meet a lower NO_x emissions limit established by the FDEP for Polk Unit 1 by July 1, 2005. The lower limit of 15 parts per million by volume dry basis at 15 percent O_2 is specified in FDEP Permit No. PSD-FL-194F issued February 5, 2002. The project consisted of two phases: 1) the humidification of syngas through the installation of a syngas saturator; and 2) the modification of controls and the installation of additional guide vanes to the diluent nitrogen compressor.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$146,881 compared to the original projection of

\$148,456, resulting in an insignificant variance.

The actual/estimated O&M for the period January 2014 through December 2014 is \$24,404 compared to the original projection of \$29,370, which represents a variance of 16.9 percent. This variance is due to greater water usage by the saturator that is used to reduce NO_x emissions than originally projected. The Polk Power Station is expected to operate for a greater

number of hours than originally projected.

Progress Summary: This project was approved by the Commission in Docket No. 020726-EI, Order

No. PSC-02-1445-PAA-EI on October 21, 2002. The project is complete and

in-service.

Project Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$140,423.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$20,000.

Project Title: Bayside SCR Consumables

Project Description:

This project is necessary to achieve the NO_x emissions limit of 3.5 parts per million established by the FDEP Consent Final Judgment and the EPA Consent Decree for the natural gas-fired Bayside Power Station. To achieve this NO_x limit, the installation of selective catalytic reduction (SCR) systems is required. An SCR system requires consumable goods – primarily anhydrous ammonia – to be injected into the catalyst bed in order to achieve the required NO_x emissions limit. Principally, the project was designed to capture the cost of consumable goods necessary to operate the SCR systems.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated O&M expense for the period January 2014 through

December 2014 is \$129,943, compared to the original projection of \$150,000, resulting in a variance of 13.4 percent. This variance is due to a decrease in chemical consumption. The decrease in consumption is driven by the extension

of Bayside Unit 1 planned outage.

Progress Summary: This project was approved by the Commission in Docket No. 021255-El, Order

No. PSC-03-0469-PAA-EI, issued April 4, 2003. As an O&M project,

expenses are ongoing annually.

Projections: Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$145,000.

Project Title: Big Bend Unit 4 Separated Overfire Air ("SOFA")

Project Description:

This project is necessary to assist in achieving the NO_x emissions limit established by the FDEP Consent Final Judgment and the EPA Consent Decree for Big Bend Unit 4. A SOFA system stages secondary combustion air to prevent NO_x formation that would otherwise require removal by post-combustion technology. In-furnace combustion control through a SOFA system is the most cost-effective means to reduce NO_x emissions prior to the application of these technologies. Costs associated with the SOFA system entailed capital expenditures for equipment installation and subsequent annual maintenance.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$254,713 compared to the original projection of

\$257,711, resulting in an insignificant variance.

The actual/estimated O&M expense for this project for the period January 2014 through December 2014 is \$131,273, compared to the original projection of \$0, resulting in a variance. This variance is due to project costs being recorded on a unit-specific basis opposed to being recorded to the Big Bend

NO_x Emissions Reduction project.

Progress Summary: This project was approved by the Commission in Docket No. 030226-EI, Order

No. PSC-03-0684-PAA-EI, issued June 6, 2003. The project is complete and

in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$244,659.

Estimated O&M costs for the period of January 2015 through December 2015

are projected to be \$48,000.

Project Title: Big Bend Unit 1 Pre-SCR

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to make additional reductions of NO_x emissions at Big Bend Station on a per unit basis at prescribed times from 2014 through 2015. Based on a comprehensive study, Tampa Electric has declared the future fuel for Big Bend Station to be coal which necessitated the installation of cost-effective SCR technology on the generating units to meet NO_x emissions requirements. Therefore, this project was a necessary precursor to an SCR system designed to reduce inlet NO_x concentrations to the SCR system thereby mitigating overall capital and O_x costs. The Big Bend Unit 1 Pre-SCR technologies included a neural network system, secondary air controls and windbox modifications.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$178,642 compared to the original projection of

\$180,531, resulting in an insignificant variance.

The actual/estimated O&M expense for this project for the period January 2014 through December 2014 is \$36,792, compared to the original projection of \$0, resulting in a variance. This variance is due to project costs being recorded on a unit-specific basis opposed to being recorded to the Big Bend

NO_x Emissions Reduction project.

Progress Summary: This project was approved by the Commission in Docket No. 040750-EI, Order

No. PSC-04-1080-CO-EI, issued November 4, 2004. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$170,683.

Estimated O&M costs for the period of January 2015 through December 2015

is are projected to be \$138,000.

Project Title: Big Bend Unit 2 Pre-SCR

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to make additional reductions of NO_x emissions at Big Bend Station on a per unit basis at prescribed times from 2014 through 2015. Based on a comprehensive study, Tampa Electric has declared the future fuel for Big Bend Station to be coal which necessitated the installation of cost-effective SCR technology on the generating units to meet NO_x emissions requirements. Therefore, this project was a necessary precursor to an SCR system designed to reduce inlet NO_x concentrations to the SCR system thereby mitigating overall capital and O_x costs. The Big Bend Unit 2 Pre-SCR technologies included secondary air controls and windbox modifications.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$169,162 compared to the original projection of

\$171,023, resulting in an insignificant variance.

The actual/estimated O&M expense for this project for the period January 2014 through December 2014 is \$55,125, compared to the original projection of \$0, resulting in a variance. This variance is due to project costs being recorded on a unit-specific basis opposed to being recorded to the Big Bend

NO_x Emissions Reduction project.

Progress Summary: This project was approved by the Commission in Docket No. 040750-EI, Order

No. PSC-04-1080-CO-EI, issued November 4, 2004. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$161,919.

Estimated O&M costs for the period of January 2015 through December 2015

is are projected to be \$48,000.

Project Title: Big Bend Unit 3 Pre-SCR

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to make additional reductions of NO_x emissions at Big Bend Station on a per unit basis at prescribed times from 2014 through 2015. Based on a comprehensive study, Tampa Electric has declared the future fuel for Big Bend Station to be coal, which necessitated the installation of cost-effective SCR technology on the generating units to meet NO_x emissions requirements. Therefore, this project was a necessary precursor to an SCR system designed to reduce inlet NO_x concentrations to the SCR system thereby mitigating overall capital and O_x costs. The Big Bend Unit 3 Pre-SCR technologies included a neutral network system, secondary air controls, windbox modifications and primary coal/air flow controls.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$300,329 compared to the original projection of

\$303,777, resulting in an insignificant variance.

The actual/estimated O&M for the period January 2014 through December 2014 is \$53,761 compared to the original projection of \$0, resulting in a variance. This variance is due to project costs being recorded on a unit-specific basis opposed to being recorded to the Big Bend NO_x Emissions

Reduction project.

Progress Summary: This project was approved by the Commission in Docket No. 040750-EI, Order

No. PSC-04-1080-CO-EI, issued November 4, 2004. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$288,104.

Estimated O&M costs for the period of January 2015 through December 2015

is are projected to be \$48,000.

Project Title: Clean Water Act Section 316(b) Phase II Study

Project Description:

This project was a direct requirement from the EPA to reduce impingement and entrainment of aquatic organisms related to the withdrawal of waters for cooling purposes through cooling water intake structures. The Phase II Rule requires that power plants meeting certain criteria to comply with national performance standards for impingement and entrainment. Accordingly, Tampa Electric must develop its compliance strategies for its H. L. Culbreath Bayside Power and the Big Bend Power Stations and then submit these strategies for approval through a Comprehensive Demonstration Study to the FDEP.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated O&M for the period January 2014 through December

2014 is \$50,023 compared to the original projection of \$0 resulting, resulting in a variance. On May 19, 2014, the EPA issued a prepublication copy of the final rule, and now the consulting work can begin to meet the requirements

and schedule included in the May 19, 2014 rule.

Progress Summary: This project was approved by the Commission in Docket No. 041300-EI, Order

No. PSC-05-0164-PAA-EI, issued February 10, 2005. The project is

complete and in-service.

Projections: Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$960,000.

Project Title: Big Bend Unit 1 SCR

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to make additional reductions of NO_x emissions at Big Bend Station on a per unit basis at prescribed times from 2014 through 2015. Based on a comprehensive study, Tampa Electric declared the future fuel for Big Bend Station to be coal, which necessitated the installation of cost-effective SCR technology on the generating units to meet NO_x emissions requirements.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$10,160,785 compared to the original projection of

\$10,315,438, resulting in an insignificant variance.

The actual/estimated O&M for the period January 2014 through December 2014 is \$2,636,572 compared to the original projection of \$2,407,142, resulting in a variance of 9.5 percent. This variance is due to greater ammonia consumption is expected to because Big Bend Unit 1 is expected to

operate for a greater number of hours than originally projected.

Progress Summary: This project was approved by the Commission in Docket No. 041376-EI, Order

No. PSC-05-0616-CO-EI, issued June 3, 2005. The project is complete and

in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$9,741,516.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$2,164,529.

Project Title: Big Bend Unit 2 SCR

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to make additional reductions of NO_x emissions at Big Bend Station on a per unit basis at prescribed times from 2014 through 2015. Based on a comprehensive study, Tampa Electric declared the future fuel for Big Bend Station to be coal, which necessitated the installation of cost-effective SCR technology on the generating units to meet NO_x emissions requirements.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$10,672,977 compared to the original projection of

\$10,791,227, resulting in an insignificant variance.

The actual/estimated O&M for the period January 2014 through December 2014 is \$2,605,955 compared to the original projection of \$2,949,679, resulting in a variance of 11.7 percent. This variance is due to the actual consumption of ammonia being less than originally projected. Additionally, the cost per ton of consumable ammonia is expected to be less than originally

projected.

Progress Summary: This project was approved by the Commission in Docket No. 041376-EI, Order

No. PSC-05-0616-CO-EI, issued June 3, 2005. The project is complete and

in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$10,220,155.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$2,499,555.

Tampa Electric Company Environmental Cost Recovery Clause January 2015 through December 2015 Description and Progress Report for

Environmental Compliance Activities and Projects

Project Title: Big Bend Unit 3 SCR

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to make additional reductions of NO_x emissions at Big Bend Station on a per unit basis at prescribed times from 2014 through 2015. Based on a comprehensive study, Tampa Electric declared the future fuel for Big Bend Station to be coal which necessitated the installation of cost-effective SCR technology on the generating units to meet NO_x emissions requirements.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$8,803,715 compared to the original projection of

\$8,901,751, resulting in an insignificant variance.

The actual/estimated O&M for the period January 2014 through December

2014 is \$1,910,119 compared to the original projection of \$1,974,842,

resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 041376-EI, Order

No. PSC-05-0616-CO-EI, issued June 3, 2005. The project is complete and

in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$8,546,448.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$2,023,711.

Tampa Electric Company Environmental Cost Recovery Clause January 2015 through December 2015 Description and Brogress Report for

Description and Progress Report for Environmental Compliance Activities and Projects

Project Title: Big Bend Unit 4 SCR

Project Description:

In order to meet the requirements of the FDEP Consent Final Judgment and the EPA Consent Decree, Tampa Electric was required to make additional reductions of NO_x emissions at Big Bend Station on a per unit basis at prescribed times from 2014 through 2015. Based on a comprehensive study, Tampa Electric declared the future fuel for Big Bend Station to be coal which necessitated the installation of cost-effective SCR technology on the generating units to meet NO_x emissions requirements.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$6,658,597 compared to the original projection of

\$6,858,460, resulting in an insignificant variance.

The actual/estimated O&M for the period January 2014 through December 2014 is \$851,578 compared to the original projection of \$1,141,275, resulting in a variance of 25.4 percent. This variance is due to the consumption of

in a variance of 25.4 percent. This variance is due to the consumption of ammonia being less than projected as a result of Big Bend unit 4 being

expected to operate fewer hours than originally projected.

Progress Summary: This project was approved by the Commission in Docket No. 040750-EI, Order

No. PSC-04-0986-PAA-EI, issued October 11, 2004. The project is complete

and in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$6,404,385.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$1,111,949.

Project Title: Arsenic Groundwater Standard Program

Project Description:

The Arsenic Groundwater Standard Program that is required by the Environmental Protection Agency and the Department of Environmental Protection became effective January 1, 2005. It requires regulated entities of the State of Florida to monitor the drinking water and groundwater Maximum Contaminant Level ("MCL") for arsenic under the federal rule known as the Safe Drinking Water Act.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated O&M for the period January 2014 through December

2014 is \$942,705 compared to the original projection of \$422,000, resulting in a variance of 123.4 percent. This variance is due to several factors. There was an increase in consulting costs due to work extending 12 days past the original date. An additional groundwater pilot test is scheduled to begin in August, and lastly, additional labor costs were incurred to remove railroad ties in excavation

areas.

Progress Summary: This project was approved by the Commission in Docket No. 050683-EI, Order

No. PSC-06-0138-PAA-EI, issued February 23, 2006. The project is

complete and in-service.

Projections: Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$300,000.

Project Title: Big Bend Flue Gas Desulfurization ("FGD") System Reliability

Project Description:

The Big Bend FGD Reliability project is necessary to maintain the FGD system operations that are required by the Consent Decree. Tampa Electric is required to operate the FGD systems at Big Bend Station whenever coal is combusted in the units with few exceptions. The compliance dates for the strictest operational characteristics were January 1, 2011 for Big Bend Unit 3 and January 1, 2014 for Big Bend Units 1 and 2.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated depreciation plus return for the period January 2014

through December 2014 is \$2,646,671 compared to the original projection of

\$2,675,788, resulting in an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 050598-EI, Order

No. PSC-06-0602-PAA-EI, issued July 10, 2006. The project is complete and

in-service.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$2,555,739.

Project Title: Mercury Air Toxics Standards ("MATS")

Project Description:

In March 2005, the Environmental Protection Agency ("EPA") promulgated the Clean Air Mercury Rule ("CAMR") and was later challenged in court. On February 8, 2008, the Circuit Court of Appeals for the District of Columbia vacated CAMR and ordered a new rule by March 2011. On December 11, 2011, the EPA issued a final version of the rule that applies to all coal and oil-fired electric generating units with a capacity of 25 MW or more and with a compliance deadline is April 16, 2015. The rule sets forth hazardous air pollutant standards ("HAP") for mercury, non-mercury metal HAPs and acid gasses.

Project Accomplishments:

Fiscal Expenditures:

The actual/estimated depreciation plus return for the period January 2014 through December 2014 is \$725,207 compared to the original projection of \$1,097,496, resulting in a variance of 33.9 percent. This variance is due to two factors. First, some capital expenditures were projected to receive CWIP accounting treatment; however, the capital expenditures are receiving AFUDC treatment and will be included in the project costs when it goes into commercial service. The second factor is that additional equipment that was originally projected to be purchased in 2014 is not needed at this time because the existing equipment has been sufficient to comply with current regulations.

The actual/estimated O&M for the period January 2014 through December 2014 is \$115,055 compared to the original projection of \$218,500, resulting in a variance of 47.3 percent. This variance is due to Tampa Electric using internal labor resources for stack testing. The original projection included costs for contract labor to complete testing.

Progress Summary:

This project was approved by the Commission in Docket No. 120302-EI, Order No. PSC-13-0191-PAA-EI, issued May 6, 2013. This project, in total, is

expected to be placed in-service by April 2015.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$971,990.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$230,000.

Project Title: Greenhouse Gas Reduction Program

Project Description:

On September 22, 2009, the EPA enacted a new rule for reporting Greenhouse Gas ("GHG") emissions from large sources and suppliers effective January 1, 2010 in preparation for the first annual GHG report, due March 31, 2011. The new rule is intended to collect accurate and timely emissions data to inform future policy decisions as set forth in the final rule for GHG emission reporting pursuant to the Florida Climate Protection Act, Chapter 403.44 of the Florida Statutes and the docket EPA-HQ-OAR2008-0508-054. The nationwide GHG emissions reduction rule will impact Tampa Electric's generation fleet, components of its transmission and distribution system as well as company service vehicles. According to the rule, the company began collecting greenhouse gas emissions data effective January 1, 2010 to establish a baseline inventory to report to the EPA.

Project Accomplishments:

Fiscal Expenditures: The actual/estimated O&M for the period January 2014 through December

2014 is \$110,991 compared to the original projection of \$114,097, resulting in

an insignificant variance.

Progress Summary: This project was approved by the Commission in Docket No. 090508-EI, Order

No. PSC-10-0157-PAA-EI, issued March 22, 2010. The project is complete

and in-service.

Projections: Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$90,000.

Project Title: Big Bend Gypsum Storage Facility

Project Description:

The Big Bend New Gypsum Storage Facility is necessary to maintain the FGD system operations that are required by the Consent Decree. Tampa Electric is required to operate the FGD systems in order to comply with the CAAA. Gypsum is a by-product of the FGD operations and Tampa Electric had been managing its gypsum inventory through marketing efforts to sell gypsum an existing storage facility. However, the existing storage facility is no longer sufficient to hold the entire gypsum inventory. As such, Tampa Electric needed an additional storage facility that will allow the company to continue managing its gypsum inventory while continuing its marketing efforts to sell the gypsum. The new storage facility will cover approximately 27 acres and will hold approximately 870,000 tons of gypsum.

Project Accomplishments:

Fiscal Expenditures:

The actual/estimated depreciation plus return for the period January 2014 through December 2014 is \$559,680 compared to the original projection of \$1,664,973, resulting in a variance of 66.4 percent. The in-service date was changed from the original projection of June 2014 to October 2014. Cost recovery of ROI and depreciation are delayed, resulting in lower expected project costs for 2014.

The actual/estimated O&M for the period January 2014 through December 2014 is \$795,000 compared to the original projection of \$1,051,232, resulting in a variance of 24.4 percent. This variance is due to the project entering commercial service later than originally projected. Big Bend Gypsum Storage Facility's original projected in-service date was June 2014; however, it is now scheduled to begin commercial service in October 2014.

Progress Summary: This project was approved by the Commission in Docket No. 110262-EI, Order

No. PSC-12-0493-PAA-EI, issued September 26, 2012. The project is nearing

completion and scheduled to be placed in-service October 2014.

Projections: Estimated depreciation plus return for the period January 2015 through

December 2015 is projected to be \$2,807,047.

Estimated O&M costs for the period January 2015 through December 2015

are projected to be \$1,284,000.

73

Tampa Electric Company

Environmental Cost Recovery Clause (ECRC) Calculation of the Energy & Demand Allocation % By Rate Class January 2015 to December 2015

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Rate Class	Average 12 CP Load Factor at Meter (%)	Projected Sales at Meter (MWh)	Effective Sales at Secondary Level (MWh)	Projected Avg 12 CP at Meter (MW)	Demand Loss Expansion Factor	Energy Loss Expansion Factor	Projected Sales at Generation (MWh)	Projected Avg 12 CP at Generation (MW)	U	Percentage of 12 CP Demand at Generation (%)	12 CP & 1/13 Allocation Factor (%)
RS	54.04%	8,713,087	8,713,087	1,841	1.07665	1.05525	9,194,470	1,982	46.92%	56.37%	55.64%
GS, TS	60.65%	1,047,683	1,047,683	197	1.07665	1.05523	1,105,551	212	5.64%	6.03%	6.00%
GSD, SBF	77.25%	7,702,553	7,689,255	1,138	1.07236	1.05157	8,099,778	1,220	41.33%	34.70%	35.21%
IS	113.14%	949,661	933,214	96	1.02745	1.01946	968,139	99	4.94%	2.82%	2.98%
LS1	808.37%	217,416	217,416	3	1.07665	1.05525	229,428	3	1.17%	0.09%	0.17%
TOTAL *		18,630,400	18,600,655	3,275			19,597,366	3,516	100.00%	100.00%	100.00%

Notes: (1) Average 12 CP load factor based on 2014 Projected calendar data

- (2) Projected MWh sales for the period January 2015 to December 2015
- (3) Effective sales at secondary level for the period January 2015 to December 2015.
- (4) Column 2 / (Column 1 x 8760)
- (5) Based on 2014 projected demand losses.
- (6) Based on 2014 projected energy losses.
- (7) Column 2 x Column 6
- (8) Column 4 x Column 5
- (9) Column 7 / Total Column 7
- (10) Column 8 / Total Column 8
- (11) Column 9 x1/13 + Column 10 x 12/13

^{*} Totals on this schedule may not foot due to rounding

DOCKET NO. 140007-EI ECRC 2015 PROJECTION, FORM 42-7P EXHIBIT NO. _____ (PAR-2), DOCUMENT NO. 7

Tampa Electric Company

Environmental Cost Recovery Clause (ECRC) Calculation of the Energy & Demand Allocation % By Rate Class January 2015 to December 2015

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Rate Class	Percentage of MWh Sales at Generation (%)	12 CP & 1/13 Allocation Factor (%)	Energy- Related Costs (\$)	Demand- Related Costs (\$)	Total Environmental Costs (\$)	Projected Sales at Meter (MWh)	Effective Sales at Secondary Level (MWh)	Environmental Cost Recovery Factors (¢/kWh)	
RS	46.92%	55.64%	34,845,605	724,506	35,570,111	8,713,087	8,713,087	0.408	
GS, TS	5.64%	6.00%	4,188,602	78,128	4,266,730	1,047,683	1,047,683	0.407	
GSD, SBF Secondary Primary Transmissio	41.33% on	35.21%	30,694,136	458,480	31,152,616	7,702,553	7,689,255	0.405 0.401 0.397	
IS Secondary Primary Transmissio	4.94% on	2.98%	3,668,740	38,804	3,707,544	949,661	933,214	0.397 0.393 0.389	
LS1	1.17%	0.17%	868,912	2,214	871,126	217,416	217,416	0.401	
TOTAL *	100.00%	100.00%	74,265,996	1,302,131	75,568,127	18,630,400	18,600,655	0.406	

^{*} Totals on this schedule may not foot due to rounding

Notes:

- (1) From Form 42-6P, Column 9
- (2) From Form 42-6P, Column 11
- (3) Column 1 x Total Energy Jurisdictional Dollars from Form 42-1P, line 5
- (4) Column 2 x Total Demand Jurisdictional Dollars from Form 42-1P, line 5
- (5) Column 3 + Column 4
- (6) From Form 42-6P, Column 2
- (7) From Form 42-6P, Column 3
- (8) Column 5 / Column 7 x 10

Tampa Electric Company

Form 42 - 8P

Environmental Cost Recovery Clause (ECRC)
Calculation of the Current Period Estimated Amount

January 2015 to December 2015

Calculation of Revenue Requirement Rate of Return (In Dollars)

	(1)	(2)	(3)	(4)	
Long Term Debt Short Term Debt Preferred Stock Customer Deposits Common Equity Deferred ITC - Weighted Cost Accumulated Deferred Income Taxes Zero Cost ITCs	107,78 1,707,77 8,02	% 1 35.37% 2 0.62% 0 0.00% 5 2.67% 6 42.26% 7 0.20%	Cost Rate % 5.55% 0.61% 0.00% 2.25% 10.25% 8.05% 0.00%	Weighted Cost Rate % 1.9630% 0.0038% 0.0000% 0.0601% 4.3317% 0.0161% 0.0000%	
Total	\$ 4,041,50	<u>4</u> <u>100.00%</u>		<u>6.37%</u>	
ITC split between Debt and Equity: Long Term Debt Short Term Debt Equity - Preferred Equity - Common	\$ 1,429,55 25,22 1,707,77	2 :	Long Term Debt Short Term Debt Equity - Preferred Equity - Common		
Total	\$ 3,162,54	<u>9</u>	Total		<u>100.00%</u>
Deferred ITC - Weighted Cost: Debt = .0161% * 46.00% Equity = .0161% * 54.00% Weighted Cost	0.0074 <u>0.0087</u> <u>0.0161</u>	<u>%</u>			
Total Equity Cost Rate: Preferred Stock Common Equity Deferred ITC - Weighted Cost Times Tax Multiplier Total Equity Component	0.0000 4.3317 <u>0.0087</u> 4.3404 1.63220 <u>7.0844</u>	% <u>%</u> % 0			
Total Debt Cost Rate: Long Term Debt Short Term Debt Customer Deposits Deferred ITC - Weighted Cost	1.9630 0.0038 0.0601 <u>0.0074</u>	% % <u>%</u>			

Notes

Column (1) - Per WACC Stipulation & Settlement Agreement Dated July 17, 2012, and 2013 Base Rates Settlement Agreement Dated September 6, 2013.

2.0343%9.1187%

Column (2) - Column (1) / Total Column (1)

Total Debt Component

Column (3) - Per WACC Stipulation & Settlement Agreement Dated July 17, 2012, and 2013 Base Rates Settlement Agreement Dated September 6, 2013.

Column (4) - Column (2) x Column (3)



BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 140007-EI

ENVIRONMENTAL COST RECOVERY FACTORS

PROJECTIONS

JANUARY 2015 THROUGH DECEMBER 2015

TESTIMONY

OF

PAUL L. CARPINONE

FILED: AUGUST 22, 2014

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION 1 PREPARED DIRECT TESTIMONY 2 3 OF PAUL CARPINONE 4 5 Please state your name, address, occupation and employer. Q. 6 7 My name is Paul L. Carpinone. My business address is 702 Α. 8 North Franklin Street, Tampa, Florida 33602. Ι 9 am employed by Tampa Electric Company ("Tampa Electric" or 10 "company") as Director, Environmental Health & Safety in 11 the Environmental Health and Safety Department. 12 13 Please provide a brief outline of your educational 14 Q. background and business experience. 15 16 I received a Bachelor of Science degree in Water 17 Α. Resources Engineering Technology from the Pennsylvania 18 State University in 1978. I have been a Registered 19 Professional Engineer in the states of Florida and 20 Pennsylvania since 1984. Prior to joining Tampa Electric, 21 I worked for Seminole Electric Cooperative as a Civil 22 23 Engineer in various positions and in environmental consulting. In February 1988, I joined Tampa Electric as 24 a Principal Engineer, and I have primarily worked in the 25

area of Environmental Health and Safety. In 2006, became Director of Environmental Health and Safety. Му responsibilities include the development and administration of the company's environmental, health and safety policies and goals. I am also responsible for ensuring resources, procedures and programs meet surpass compliance with applicable environmental, health and safety requirements, and that rules and policies are in place and functioning appropriately and consistently throughout the company.

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Q. What is the purpose of your testimony in this proceeding?

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The purpose of my testimony is to demonstrate that the Α. activities for which Tampa Electric seeks cost recovery through the Environmental Cost Recovery Clause ("ECRC") for the January 2015 through December 2015 projection period are activities necessary for the company to comply with various environmental requirements. Specifically, I will describe the ongoing activities that are associated with the Consent Final Judgment ("CFJ") entered into with the Florida Department of Environmental Protection ("FDEP") and the Consent Decree ("CD") lodged with the Environmental Protection Agency ("EPA") U.S. Department of Justice. I will also discuss other programs

previously approved by the Commission for recovery through the ECRC.

Q. Please provide an overview of the environmental compliance requirements that are the result of the CFJ and the CD ("the Orders").

A. The general requirements of the Orders provide for further reductions of sulfur dioxide (" SO_2 "), particulate matter ("PM") and nitrogen oxides (" NO_x ") emissions at Big Bend Station.

Q. What do the Orders require for SO_2 emission reductions?

A. The Orders require Tampa Electric to create a plan for optimizing the availability and removal efficiency of the flue gas desulfurization systems ("FGD" or "scrubbers").

The plans were submitted to the EPA in two phases, and were approved in July 2000, and February 2001, respectively.

Phase I required Tampa Electric to work scrubber outages around the clock and to utilize contract labor, when necessary, to speed the return of a malfunctioning scrubber to service. In addition, Phase I required Tampa

Electric to review all critical scrubber spare parts and increase the number and availability of spare parts to ensure a speedy return to service of a malfunctioning scrubber.

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Phase II outlined capital projects Tampa Electric was to perform to upgrade each scrubber at Big Bend Station. It also addressed the use of environmental dispatching in the event of a scrubber outage. All of the SO_2 emission reduction projects have been completed.

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Q. What do the Orders require for PM emission reductions?

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Orders require Tampa Electric to develop Α. and implement a best operational practices ("BOP") study to minimize PMemissions from each electrostatic precipitator ("ESP") and complete and implement a best available control technology ("BACT") analysis of the ESPs at Big Bend Station. The Orders also require the company to demonstrate the operation of a PM continuous emission monitoring system ("CEM") on Big Bend Units 3 and 4 and demonstrate the operation of a second PM CEM on another Big Bend unit. The first PM CEM was installed in February 2002. The installation and certification of the second PM CEM was completed in August 2009. Over time,

however, the first PM CEM did not perform satisfactorily and replacement was required. Installation and certification of the replacement was completed in December 2010.

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Q. Please describe the Big Bend PM Minimization and Monitoring program activities and provide the estimated capital and O&M expenditures for the period of January 2015 through December 2015.

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The Big Bend PM Minimization and Monitoring program was Α. approved by the Commission in Docket No. 001186-EI, Order No. PSC-00-2104-PAA-EI, issued November 6, 2000. In the Order, the Commission found that the program met requirements for recovery through the ECRC. Tampa Electric had previously identified various projects to improve precipitator performance and reduce PMemissions required by the Orders. For 2015, capital expenditures are anticipated to be \$6,668,646 for BOP and BACT equipment while O&M expenses associated with existing and recently installed BOP and BACT equipment and continued implementation of the BOP procedures are expected to be \$840,000.

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Q. What do the Orders require for NO_x reductions?

The Orders require Tampa Electric to perform NO_x emission reduction projects on Big Bend Units 1, 2 and 3. Pursuant to amendment, Biq Bend Unit projects were substituted for Big Bend Unit 3 projects. The NO_x emission reductions use the $1998\ NO_x$ emissions as the baseline year for determining the level of reduction achieved. Tampa Electric was also required by the Orders to demonstrate innovative technologies provide or additional NO_{x} technologies beyond those required by the early NO_x emission reduction activities.

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Q. Please describe the Big Bend NO_x Emission Reduction program activities and provide the estimated capital and O&M expenses for the period of January 2015 through December 2015.

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The Big Bend NO_x Emission Reduction program was approved Α. by the Commission in Docket No. 001186-EI, Order No. PSC-00-2104-PAA-EI, issued November 6, 2000. In the Order, the Commission found that the program met the requirements for recovery through the ECRC. Tampa Electric does anticipate any capital expenditures in 2015; however, the company will perform maintenance on the previously installed NO_x reduction approved and equipment. This activity is expected to result in approximately \$120,000

of O&M expenses during 2015.

Q. Please describe long-term $NO_{\rm x}$ requirements associated with the Orders and Tampa Electric's efforts to comply with the requirements.

A. The Orders require Big Bend Unit 4 to begin operating with a Selective Catalytic Reduction ("SCR") system or other NO_x control technology, be repowered, or shut down and scheduled for dismantlement by June 1, 2007. Thus, Big Bend Units 3, 2 and/or 1 must operate with an SCR system or other NO_x control technology, be repowered, or be shut down and scheduled for dismantlement one unit per year by May 1, 2008, May 1, 2009 and May 1, 2010, respectively.

In order to meet the NO_x emission rates and timing requirements of the Orders, Tampa Electric engaged an experienced consulting firm, Sargent and Lundy, to assist with the performance of a comprehensive study designed to identify the long-range plans for the generating units at Big Bend Station. The results of the study clearly indicated that the option to remain coal-fired at Big Bend Station and install the necessary NO_x reduction technologies was the most cost-effective alternative to satisfy the NO_x emission reductions required by the

Orders. This decision was communicated to the EPA and FDEP in August 2004. Tampa Electric also apprised the Commission of this decision in its filing made in Docket No. 040750-EI in August 2004.

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Q. Please describe the Big Bend Units 1 through 3 Pre-SCR and the Big Bend Units 1 through 4 SCR projects and provide estimated capital and O&M expenditures for the period of January 2015 through December 2015.

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In Docket No. 040750-EI, Order No. PSC-04-0986-PAA-EI, Α. issued October 11, 2004, the Commission approved cost recovery of the Big Bend Units 1 through 3 Pre-SCR and the Big Bend Unit 4 SCR projects. The Big Bend Units 1 through 3 SCR projects were approved by the Commission in Docket No. 041376-EI, Order No. PSC-05-0502-PAA-EI, issued May 9, 2005. The purpose of the Pre-SCR technologies is to reduce inlet NO_x concentrations to the SCR systems, thereby mitigating overall SCR capital and O&M costs. These Pre-SCR technologies include windbox modifications, secondary air controls and coal/air flow controls. The SCR projects at Big Bend Units 1 through 4 encompass the design, procurement, installation and annual O&M expenses associated with an SCR system for each unit. The SCRs for Big Bend Units 1 through 4 were placed in-service April

2010, September 2009, July 2008 and May 2007, respectively.

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For the period of January 2015 through December 2015, there are not any capital expenditures anticipated for the Big Bend Units 1 through 3 Pre-SCR projects. The O&M expenditures for Big Bend Pre-SCR projects are projected to be \$138,000 for Big Bend Unit 1 Pre-SCR, \$48,000 for Big Bend Unit 2 Pre-SCR and \$48,000 for Big Bend Unit 3 Pre-SCR for equipment maintenance. Additionally, there are not any anticipated capital expenditures for Big Bend Units 1, 2, and 4 SCRs. However, the capital expenditures for the Big Bend Unit 3 SCR are projected to be \$2,000,000 for a catalyst replacement. Additionally, the 2015 SCR O&M expenses are projected to be \$2,164,529 for Big Bend Unit 1 SCR, \$2,499,255 for Big Bend Unit 2 SCR, \$2,023,711 for Big Bend Unit 3 SCR and \$1,111,949 for Big Bend Unit 4 SCR. These expenses are primarily associated with ammonia purchases.

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Q. Please identify and describe the other Commission-approved programs you will discuss.

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A. The programs previously approved by the Commission that I will discuss include the following projects:

- 1 l) Big Bend Unit 3 FGD Integration
 - 2) Big Bend Units 1 and 2 FGD
 - 3) Gannon Thermal Discharge Study
 - 4) Bayside SCR Consumables
 - 5) Clean Water Act Section 316(b) Phase II Study
 - 6) Big Bend FGD System Reliability
 - 7) Arsenic Groundwater Standard
 - 8) Mercury and Air Toxics Standards ("MATS")
 - 9) Greenhouse Gas ("GHG") Reduction Program
 - 10) Big Bend Gypsum Storage Facility

Q. Please describe the Big Bend Unit 3 FGD Integration and the Big Bend Units 1 and 2 FGD activities and provide the estimated capital and O&M expenditures for the period of January 2015 through December 2015.

A. The Big Bend Unit 3 FGD Integration program was approved by the Commission in Docket No. 960688-EI, Order No. PSC-96-1048-FOF-EI, issued August 14, 1996. The Big Bend Units 1 and 2 FGD program was approved by the Commission in Docket No. 980693-EI, Order No. PSC-99-0075-FOF-EI, issued January 11, 1999. In those Orders, the Commission found that the programs met the requirements for recovery through the ECRC. The programs were implemented to meet the SO₂ emission requirements of the Phase I and II Clean

Air Act Amendments ("CAAA") of 1990.

There are not any anticipated capital expenditures during January 2015 through December 2015 for the Big Bend Unit 3 FGD Integration project; however, O&M expenses are projected to be \$6,245,680 for consumables, primarily anhydrous ammonia, and ongoing maintenance. There are not any anticipated capital expenditures for the Big Bend FGD Units 1 and 2 project during January 2015 through December 2015. O&M expenses are projected to be \$10,189,162 for consumables, primarily anhydrous ammonia, and ongoing maintenance.

Q. Please describe the Gannon Thermal Discharge Study program activities and provide the estimated O&M expenditures for the period of January 2015 through December 2015.

A. The Gannon Thermal Discharge Study program was approved by the Commission in Docket No. 010593-EI, Order No. PSC-01-1847-PAA-EI, issued September 14, 2001. In that Order, the Commission found that the program met the requirements for recovery through the ECRC. For the period of January 2015 through December 2015, there are not any projected O&M expenditures for this program. In the intent to issue the permit renewal, dated August 9, 2013, FDEP indicated that

the proposed NPDES permit authorizes a thermal variance under 316(a) for the permit period. It is anticipated that no additional study will be required.

Q. Please describe the Bayside SCR Consumables program activities and provide the estimated O&M expenditures for the period of January 2015 through December 2015.

A. The Bayside SCR Consumables program was approved by the Commission in Docket No. 021255-EI, Order No. PSC-03-0469-PAA-EI, issued April 4, 2003. For the period of January 2015 through December 2015, Tampa Electric projects O&M expenses associated with the consumable goods (primarily anhydrous ammonia) to be approximately \$145,000 for the period.

Q. Please describe the Clean Water Act Section 316(b) Phase II Study program activities and provide the estimated O&M expenditures for the period of January 2015 through December 2015.

A. The Clean Water Act Section 316(b) Phase II Study program was approved by the Commission in Docket No. 041300-EI, Order No. PSC-05-0164-PAA-EI, issued February 10, 2005.

On March 20, 2007 the EPA announced that the rule adopted

pursuant to Section 316(b) be considered suspended. final rule was suspended on July 9, 2007. On April 20, 2012, the EPA published a proposed rule for existing steam electric generators, with the final rule expected in July 2012. However, in July 2012, the final rule was postponed again, until June 2013. In June 2013, the final rule was postponed until November 4, 2013. publication version of the final rule was made available in May 2014, and the final rule was published on August 15, 2014. Tampa Electric does not anticipate any capital expenditures related to these activities for 2015. However, Tampa Electric projects O&M expenditures to be \$960,000 for the period January 2015 through December 2015 for engineering studies.

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Q. Please describe the Big Bend FGD System Reliability program activities and provide the estimated capital expenses for the period of January 2015 through December 2015.

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A. Tampa Electric's Big Bend FGD System Reliability program was approved by the Commission in Docket No. 050598-EI, Order No. PSC-06-0602-PAA-EI, issued July 10, 2006. The Commission granted cost recovery approval for prudent costs associated with this project. The Big Bend FGD

System Reliability project has been running concurrently with the installation of SCR systems on the generating units. For the period of January 2015 through December 2015, there are not any anticipated capital expenditures for this project.

Q. Please describe the Arsenic Groundwater Standard program activities and provide the estimated O&M expenditures for the period of January 2015 through December 2015.

A. The Arsenic Groundwater Standard program was approved by the Commission in Docket No. 050683-EI, Order No. PSC-06-0138-PAA-EI, issued February 23, 2006. In that Order, the Commission found that the program met the requirements for recovery through the ECRC and granted Tampa Electric cost recovery approval for prudently incurred costs. The new groundwater standard applies to Tampa Electric's H.L. Culbreath Bayside, Big Bend and Polk Power Stations.

For the period of January 2015 through December 2015, Tampa Electric projects O&M expenses associated with the sampling activities to be approximately \$300,000.

Q. Please describe the MATS program activities and provide the estimated capital and O&M expenditures for the period

of January 2015 through December 2015.

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A. The MATS program was approved by the Commission in Docket No. 120302-EI, Order No. PSC-13-0191-PAA-EI, issued May 6, 2013. In that Order, the Commission found that the program met the requirements for recovery through the ECRC and granted Tampa Electric cost recovery approval for prudently incurred costs. Additionally, the Commission granted the subsumption of the previously approved CAMR program into the MATS program.

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On February 8, 2008, the Washington D.C. Circuit Court vacated EPA's rule removing power plants from the Clean Act list of regulated sources of hazardous pollutants under section 112. At the same time, the Court vacated the Clean Air Mercury Rule. On May 3, 2011, the EPA published a new proposed rule for mercury and other National hazardous air pollutants according to the Emissions Standards for Hazardous Air Pollutants section of the Clean Air Act. The proposed rule calls for continued mercury monitoring requirements comparable to CAMR and additional monitoring and testing of other pollutants by 2014. On February 16, 2012, published the final rule for MATS. The rule revised the mercury limits and provided more flexible monitoring and recordkeeping requirements. Additionally, monitoring of acid gases and particulate matter will be required. Existing sources will have through February 16, 2015 to comply with the rule. Tampa Electric must conduct extensive emissions testing and engineering studies at Big Bend Station and Polk Power Station to determine what actions are required to meet the proposed standards.

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For 2015, the projected capital expenditures are \$160,000 for replacement of required equipment for mercury monitoring and upgrades to the FGD systems to meet the emission standards required the rule. The by O&M expenditures are projected to be \$230,000 for testing requirements and maintenance of equipment.

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Q. What is the impact of the remand of the CAIR and vacatur of the CAMR on Tampa Electric's ECRC projects?

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A. On July 6, 2010, the EPA proposed a new rule, the Clean Air Transport Rule to replace CAIR. On July 6, 2011, the EPA issued the final CAIR replacement rule, now called the Cross State Air Pollution Rule ("CSAPR"). CSAPR is focused on reducing SO_2 and NO_X in 27 eastern states that contribute to ozone and/or fine particle pollution in other states. In the final rule, Florida is subject to

the ozone season control program (May through September). In December 2011, the final rule was stayed by the United States Court of Appeals District of Columbia Circuit. The stay on the finalized CSAPR and the remand of CAIR have minimal Electric's impact on Tampa **ECRC** projects associated with NOx and SO2 abatement. These projects were initiated as a result of the CD signed between the EPA and Tampa Electric; therefore, the company anticipates continuing its efforts to complete and maintain the projects. The completed ECRC projects support compliance with CSAPR.

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The vacatur of CAMR occurred after Tampa Electric had begun the procurement of equipment necessary to meet the intent of the original rule; however, the company was able to stop a significant portion of the total equipment purchase. Subsequent to the vacatur, the company has continued utilizing the resources already secured to establish a baseline of mercury emissions.

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On May 3, 2011, the EPA proposed rules under National Emission Standards for Hazardous Air Pollutants pursuant to a court order referred to as the Utility Maximum Achievable Control Technology ("U MACT"). The proposed rules are to replace CAMR and are expected to reduce not

only mercury but acid gas, organics and certain non-mercury metals emissions. The final U MACT rules were released in February 2012 and require implementation by May 2015. The company continues to utilize the resources already secured to establish a baseline on mercury and other emissions subject to the proposed rule and expects to purchase other equipment that will be required to comply with the rules.

Q. Please describe the GHG Reduction Program activities and provide the estimated capital and O&M expenditures for the period of January 2015 through December 2015.

A. Tampa Electric's GHG Reduction Program approved by the Commission in Docket No. 090508-EI, Order No. PSC-10-0157-PPA-EI, issued March 22, 2010 is a result of the EPA's Mandatory Reporting Rule requiring annual reporting of greenhouse gas emissions. Tampa Electric was required to report greenhouse gas emissions to the EPA for the first time in 2011. Reporting for the EPA's Greenhouse Gas Mandatory Reporting Rule will continue in 2015. For 2015, this activity is not anticipated to require any capital expenditures; however, it is projected to result in approximately \$90,000 of O&M expenditures.

Q. Please describe the Big Bend Gypsum Storage Facility activities and provide the estimated capital and O&M expenditures for the period of January 2015 through December 2015.

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The Big Bend Gypsum Storage Facility program was approved Α. by the Commission in Docket No. 110262-EI, Order No. 12-0493-PAA-EI, issued September 26, 2012. In that Order, found the Commission that the program meets the requirements for recovery through ECRC. The completion of the project and in-service date is projected to be October 2014. The total installed capital cost at that time is estimated to be approximately \$22,000,000 and the O&M for 2015 is projected to be \$1,284,000.

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Q. Please summarize your testimony.

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Α. Tampa Electric's settlement agreements with FDEP and EPA require significant reductions in emissions from Tampa Electric's Big Bend and Gannon Stations. The Orders established definite requirements and time frames in which air quality improvements must be made and result in reasonable and fair outcomes for Tampa Electric, its community and customers, and the environmental agencies. testimony identified projects that Му are legally

required by these Orders. I described the progress Tampa 1 Electric has made to achieve the more 2 environmental standards. I identified estimated costs, by 3 project, which the company expects to incur in 2015. 4 Additionally, my testimony identified other projects that 5 are required for Tampa Electric to meet environmental 6 requirements, provided the associated 7 and Ι activities and projected expenditures. 8 10

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Does this conclude your testimony? Q.

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Α. Yes.

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