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November 17, 1997

HAND DELIVERED

Ms. Blanca S. Bayo, Director  
Division of Records and Reporting  
Florida Public Service Commission  
101 East Gaines Street  
Tallahassee, Florida 32399-0850

Re: Environmental Cost Recovery Clause  
FPSC Docket No. 970007-EI

Dear Ms. Bayo:

Enclosed for filing in the above docket, on behalf of Tampa Electric Company, are ten (10) copies of Tampa Electric Company's Prepared Direct Testimony and Exhibit (KOZ-1) of Karen O. Zwolak regarding Environmental Cost Recovery final true-ups for the period April 1997 - September 1997.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,

  
James D. Beasley

JDB/pp  
Enclosures

cc: All Parties of Record (w/enc.)

DOCUMENT RECEIVED DATE

11765 NOV 17 5

FPSC RECORDS SECTION

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Ms. Blanca S. Bayo  
November 17, 1997  
Page Two

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing testimony and exhibit, filed on behalf of Tampa Electric Company, has been furnished by hand delivery (\*) or U. S. Mail on this 17<sup>th</sup> day of November, 1997 to the following:

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\_\_\_\_\_  
ATTORNEY

**TAMPA ELECTRIC COMPANY  
DOCKET NO. 970007-EI  
FILED: NOVEMBER 17, 1997**

**BEFORE THE  
FLORIDA PUBLIC SERVICE COMMISSION  
TAMPA ELECTRIC COMPANY  
DOCKET NO. 970007-EI  
ENVIRONMENTAL COST RECOVERY  
FINAL TRUE-UPS  
APRIL 1997 - SEPTEMBER 1997  
TESTIMONY AND EXHIBIT OF  
KAREN O. ZWOLAK**

DOCKET NUMBER DATE

11765 NOV 17 97

NEPSC-REGULATORY REPORTING



1 treatment and disposal. In 1995, I transferred to Tampa  
2 Electric's Energy Supply Department and assumed the duties  
3 of the plant chemical engineer at the F. J. Gannon Station.  
4 In this position, I was responsible for boiler chemistry,  
5 water management, and maintenance of environmental  
6 equipment and general engineering support. In 1997, I was  
7 promoted to Manager, Energy Issues in the Electric  
8 Regulatory Affairs Department. My present responsibilities  
9 include the areas of fuel adjustment, capacity cost  
10 recovery, environmental filings and rate design.

11  
12 **Q.** What is the purpose of your testimony in this proceeding?

13  
14 **A.** The purpose of my testimony is to present, for Commission  
15 review and approval, the actual true-up amount and the  
16 calculations thereof associated with the environmental  
17 compliance activities for the period April 1997 through  
18 September 1997.

19  
20 **Q.** Do you wish to sponsor exhibits in support of your  
21 testimony?

22  
23 **A.** Yes. My Exhibit No. \_\_\_ (KOZ-1) consists of 8 documents  
24 which were prepared under my direction and supervision.  
25 Form 42-1A (Document No. 1) reflects the final true-up for

1 the April 1997 - September 1997 period; Form 42-2A  
2 (Document No. 2), consists of the final true-up calculation  
3 for the period; Form 42-3A (Document No. 3), consists of  
4 the calculation of the Interest Provision for the period;  
5 Form 42-4A (Document No. 4), reflects the calculation of  
6 variances between actual and projected costs for O & M  
7 Activities; Form 42-5A (Document No. 5), presents a summary  
8 of actual monthly costs for the period for O & M  
9 Activities; Form 42-6A (Document No. 6), reflects the  
10 calculation of variances between actual and projected costs  
11 for Capital Investment Projects; Form 42-7A (Document No.  
12 7), presents a summary of actual monthly costs for the  
13 period for Capital Investment Projects and Form 42-8A  
14 (Document No. 8), consists of the calculation of  
15 depreciation expense and return on capital investment.

16  
17 Q. What is the source of the data which you will present by  
18 way of testimony or exhibits in this processing?

19  
20 A. Unless otherwise indicated, the actual data is taken from  
21 the books and records of Tampa Electric Company. The books  
22 and records are kept in the regular course of our business  
23 in accordance with generally accepted accounting principles  
24 and practices, and provisions of the Uniform System of  
25 Accounts as prescribed by this Commission.

- 1 Q. Have the incremental costs for SO2 emission allowances  
2 incurred by Tampa Electric's wholesale sales to the Florida  
3 Municipal Power Agency (FMPA) and the City of Lakeland  
4 (Lakeland) been identified and included in this true-up  
5 filing?  
6
- 7 A. Yes, they have. As per Commission Order No. PSC-97-1273-  
8 FOF-EU, Docket No. 970171-EU, the incremental SO2  
9 allowance costs incurred by the FMPA and Lakeland wholesale  
10 sales have been identified and are included on line 10b of  
11 Schedule 42-2A of this true-up filing.  
12
- 13 Q. What are the incremental SO2 allowance costs of these two  
14 wholesale sales and how are they being treated?  
15
- 16 A. Tampa Electric has calculated the incremental SO2 allowance  
17 costs incurred from making the FMPA and Lakeland wholesale  
18 sales to be \$188,383 for the period December 1996 through  
19 September 1997. This amount was then adjusted by \$29,013  
20 to take into account the amount retail ratepayers were  
21 being credited due to the FMPA and Lakeland wholesale sales  
22 being included in the calculation of the jurisdictional  
23 separation factor. A net amount of \$159,370 will be  
24 credited to the retail ratepayers as shown on schedule 42-  
25 2A, line 10b.

1 Q. How were the costs calculated?

2

3 A. As shown in my Exhibit No. \_\_\_\_ (KOZ-1) (Document No. 9), the  
4 tons of SO2 emissions caused by the additional generation  
5 from Tampa Electric's system for the FMPA and Lakeland  
6 wholesale sales for the period December 1996 through  
7 September 1997 were calculated based on that percentage of  
8 generation which served these sales. That percentage was  
9 applied to the total tonnage of SO2 emitted by Tampa  
10 Electric's system. The dollar per megawatt-hour (\$/Mwh)  
11 was determined by applying the monthly incremental cost of  
12 an allowance to that portion of emissions calculated for  
13 each sale.

14

15 Q. How was the adjusted amount of \$29,013 calculated?

16

17 A. The total monthly Mwh for the FMPA and Lakeland sales as a  
18 percentage of total sales was determined. This percent was  
19 applied to total monthly emission expense to determine the  
20 amount of emission expense related to these sales.

21

22 Q. Is this method of calculation the same method that will be  
23 used on a go-forward basis?

24

25 A. No, it is not. In the future, Tampa Electric will use the



1 actual data for the incremental SO2 allowance cost captured  
2 on an hourly basis for these sales.  
3  
4 Q. Has Tampa Electric made the necessary adjustments to its'  
5 Environmental Cost Recovery Clause (ECRC) in order to  
6 comply with Audit Disclosure No. 3 of the Florida Public  
7 Service Commission's (FPSC) Environmental Compliance Cost  
8 Adjustment Audit Report for the period ending March 31,  
9 1997?  
10  
11 A. Yes. As per Commission Order No. PSC-97-1047-FOF-EJ,  
12 Docket No. 970007-EI, Tampa Electric has agreed to remove  
13 payroll charges associated with modifications and  
14 expansions to employee workload due to the Big Bend Unit 3  
15 Flue Gas Desulfurization Integration Project through the  
16 ECRC. (See line 10a of Schedule 42-2A).  
17  
18 Q. What is the actual true-up amount which Tampa Electric is  
19 requesting for the six-month period April 1997 through  
20 September 1997?  
21  
22 A. Tampa Electric has calculated and is requesting approval of  
23 an over/(under) - recovery of (\$230,720) as the actual  
24 true-up amount for the six-month period.  
25

- 1 Q. What is the adjusted net true up amount which Tampa  
2 Electric is requesting for the April 1997 through September  
3 1997 period which is to be carried over and refunded/  
4 recovered in the next projection period?  
5
- 6 A. Tampa Electric has calculated and is requesting approval of  
7 an over/(under) recovery of \$612,826 as the adjusted net  
8 true-up amount for the six-month period. This adjusted net  
9 true-up amount is the difference between the actual  
10 over/(under) recovery of (\$230,720) for the period April  
11 1997 through September 1997 and the actual/estimated true-  
12 up for the same period of an over/(under) recovery of  
13 (\$843,546) approved in FPSC Order No. PSC-97-1047-FOF-EI.  
14 This is shown on form 42-1A.  
15
- 16 Q. Is this true-up calculation consistent with the true-up  
17 methodology used for other cost recovery clauses?  
18
- 19 A. Yes, it is. The calculation of the true-up amount follows  
20 the procedures established by this Commission as set forth  
21 on Commission Schedule A-2 "Calculation of True-Up and  
22 Interest Provisions" for the Fuel Cost Recovery Clause.  
23
- 24 Q. Are all costs listed in Forms 42-4A through 42-8A  
25 attributable to Environmental Compliance projects approved

1 by the Commission?  
2  
3 **A.** Yes, they are.  
4  
5 **Q.** How did actual expenditures for April 1997 through  
6 September 1997 compare with Tampa Electric's  
7 actual/estimated projections as presented in previous  
8 testimony and exhibits?  
9  
10 **A.** Overall costs were \$102,790 lower than actual/estimated  
11 projections. The variance created by the removal of  
12 payroll expenses from the ECRC for the Big Bend 3 FGD  
13 system was offset by increased O & M expenses due to  
14 unplanned outages and additional maintenance expense for  
15 the Big Bend 3 FGD system.  
16  
17 **Q.** Does this conclude your testimony?  
18  
19 **A.** Yes, it does.  
20  
21  
22  
23  
24  
25

**EXHIBIT NO. \_\_\_\_\_**  
**DOCKET NO. 970007-EI**  
**TAMPA ELECTRIC COMPANY**  
**(KOZ-1)**

**FINAL TRUE - UP**

**ENVIRONMENTAL COST RECOVERY**

**COMMISSION FORMS 42-1A THROUGH 42-8A**

**APRIL 1997 - SEPTEMBER 1997**

EXHIBIT NO \_\_\_\_\_  
DOCKET NO. 970007-EI  
TAMPA ELECTRIC COMPANY  
(KOZ-1)

**FINAL TRUE UP**  
**ENVIRONMENTAL COST RECOVERY**  
**COMMISSION FORMS 42-1A THROUGH 42-8A**  
**APRIL 1997 - SEPTEMBER 1997**  
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Tampa Electric Company  
Environmental Cost Recovery Clause (ECRC),  
Calculation of the Final True-Up Amount for the Period  
April 1997 to September 1997

Line	Period Amount
1 End of Period Actual True-Up for the Period April 1997 to September 1997 (Form 42-2A, Lines 5 + 6 + 10a + 10b)	(3230,720)
2 Estimated/Actual True-Up Amount approved for the Period April 1997 to September 1997 (Order No. P5C-97-1047-FOF-E)	<u>843,546</u>
3 Final True-Up Amount to be refunded/recovered in the projection period April 1998 to September 1998 (Lines 1 - 2)	<u>\$612,828</u>

( ) Reflects Underrecovery

**Tampa Electric Company**  
 Environmental Cost Recovery Clause (ECRC)  
 Calculation of the Final True-Up Amount for the Period  
 April 1997 to September 1997

Form 42-2A

End-of-Period True-Up Amount  
 (in Dollars)

Line	April 1997	May 1997	June 1997	July 1997	August 1997	September 1997	End of Period Total
1 ECRC Revenues (net of Revenue Taxes)	\$372,541	\$387,363	\$456,888	\$478,249	\$459,168	\$483,733	\$2,637,942
2 True-Up Provision (Order No. 97-2093-FOF-EI)	(39,882)	(39,882)	(39,882)	(39,882)	(39,882)	(39,884)	(239,294)
3 ECRC Revenues Applicable to Period (Lines 1 + 2)	332,659	347,481	417,006	438,367	419,286	443,849	2,398,648
4 Jurisdictional ECRC Costs							
a. O & M Activities (Form 42-5A, Line 9)	218,647	286,164	373,317	311,933	478,117	534,110	2,202,288
b. Capital Investment Projects (Form 42-7A, Line 9)	149,596	149,529	148,746	145,424	145,945	147,990	887,230
c. Total Jurisdictional ECRC Costs	368,243	435,693	522,063	457,357	624,062	682,100	3,089,513
5 Over/Under Recovery (Line 3 - Line 4c)	(35,584)	(88,212)	(105,057)	(18,990)	(204,776)	(238,251)	(690,870)
6 Interest Provision (Form 42-3A, Line 10)	1,025	915	654	552	217	115	3,478
7 Beginning Balance True-Up & Interest Provision	(239,294)	63,331	15,916	(48,605)	(27,161)	(191,838)	(239,294)
a. Deferred True-Up from October 1996 to March 1997 (Order No. PSC-97-1047-FOF-EI)	156,449	156,449	156,449	156,449	156,449	156,449	156,449
8 True-Up Collected/(Refunded) (see Line 2)	39,882	39,882	39,882	39,882	39,882	39,884	239,294
9 End of Period Total True-Up (Lines 5+6+7+7a+8)	(77,522)	172,365	107,844	129,288	(35,369)	(233,641)	(530,943)
10 Adjustments to Period Total True-Up							
a. Payroll Adjustment due to Audit	297,302	0	0	0	0	0	297,302
b. SO2 Credit Differential - FMIPA/Lakeland (12/96 - 9/97)	0	0	0	0	0	159,370	159,370
11 End of Period Total True-Up (Lines 9 + 10a + 10b)	\$219,780	\$172,365	\$107,844	\$129,288	(\$35,369)	(\$74,271)	(\$74,271)

EXHIBIT NO. \_\_\_\_\_  
 DOCKET NO. 970007-EI  
 TAMPA ELECTRIC COMPANY  
 (K02-1)  
 DOCUMENT NO. 2  
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Tampa Electric Company  
 Environmental Cost Recovery Clause (ECRC)  
 Calculation of the Final True-Up Amount for the Period  
 April 1997 to September 1997

Interest Provision  
 (in Dollars)

Line	April 1997	May 1997	June 1997	July 1997	August 1997	September 1997	End of Period Total
1	\$214,457	\$219,780	\$171,365	\$107,844	\$129,288	\$123,981	\$123,981
2	218,755	171,450	107,190	128,738	(35,608)	(74,388)	(74,388)
3	433,212	391,230	279,555	236,580	93,682	49,595	49,595
4	216,608	195,615	139,778	118,290	48,841	24,798	24,798
5	5.74%	5.62%	5.80%	5.62%	5.58%	5.56%	5.56%
6	5.62%	5.60%	5.62%	5.58%	5.56%	5.53%	5.53%
7	11.36%	11.22%	11.22%	11.20%	11.14%	11.09%	11.09%
8	5.600%	5.610%	5.610%	5.600%	5.570%	5.545%	5.545%
9	0.473%	0.468%	0.468%	0.467%	0.464%	0.462%	0.462%
10	\$1,025	\$915	\$654	\$552	\$217	\$115	\$3,478

3



Tampa Electric Company  
 Environmental Cost Recovery Clause (ECRC)  
 Calculation of the Final True-Up Amount for the Period  
 April 1997 to September 1997

Variance Report of O&M Activities  
 (in Dollars)

Line	(1) Actual		(2) Actual / Estimated		(3) Variance		(4) Percent	
	Actual	Estimated	Actual	Estimated	Amount	Percent	Amount	Percent
1	Description of O&M Activities							
	\$694,588	\$771,778	\$771,778	\$771,778	(\$77,190)	-10.0%	(\$77,190)	-10.0%
	11,664	20,908	20,908	20,908	(15,144)	-56.5%	(15,144)	-56.5%
	0	0	0	0	0	0.0%	0	0.0%
	1,672,663	1,683,119	1,683,119	1,683,119	(10,456)	-0.6%	(10,456)	-0.6%
2	\$2,378,915	\$2,481,705	\$2,481,705	\$2,481,705	(\$102,790)	-4.1%	(\$102,790)	-4.1%
3	Recoverable Costs Allocated to Energy							
4	Recoverable Costs Allocated to Demand				\$0			

Notes:

Column(1) is the End of Period Totals on Form 42-5A.  
 Column(2) is the approved Estimated/Actual amount in accordance with  
 FPSC Order No. PSC-97-1047-FOF-EI  
 Column(3) = Column(1) - Column(2)  
 Column(4) = Column(3) / Column(2)

Form 42-3A

**Tampa Electric Company**  
**Environmental Cost Recovery Clause (ECRC)**  
**Calculation of the Actual Period Amount**  
**April 1977 to September 1987**

O&M Activities  
(in Dollars)

Line	April 1987	May 1987	June 1987	July 1987	August 1987	September 1987	End of Period Total
1 Description of O&M Activities							
1a Big Bend Unit 3 Flue Gas Desulfurization Integration	\$132,541	\$25,568	\$133,071	\$31,911	\$109,150	\$182,317	\$694,588
1b Big Bend Units 1 and 2 Flue Gas Conditioning	3,407	2,907	43	2,883	2,812	32	11,894
1c Big Bend Unit 4 Continuous Emissions Monitors	0	0	0	0	0	0	0
1d SO2 Allowances	98,837	208,011	268,014	307,533	409,828	360,839	1,672,863
2 Total Investment Projects - Recoverable Costs	234,585	306,516	401,128	342,107	521,291	573,188	2,378,915
3 Recoverable Costs Allocated to Energy	234,585	306,516	401,128	342,107	521,291	573,188	2,378,915
4 Recoverable Costs Allocated to Demand	0	0	0	0	0	0	0
5 Retail Energy Jurisdictional Factor	0.9320584	0.9336034	0.9306675	0.9117989	0.9170034	0.9318235	
6 Retail Demand Jurisdictional Factor	N/A	N/A	N/A	N/A	N/A	N/A	
7 Jurisdictional Energy Recoverable Costs (A)	218,647	286,164	373,317	311,933	478,117	534,110	2,202,268
8 Jurisdictional Demand Recoverable Costs (B)	0	0	0	0	0	0	0
9 Total Jurisdictional Recoverable Costs for O&M Activities (Lines 7 + 8)	\$218,647	\$286,164	\$373,317	\$311,933	\$478,117	\$534,110	\$2,202,268

Notes:

- (A) Line 3 x Line 5
- (B) Line 4 x Line 6

Form 42-6A

Tampa Electric Company  
 Environmental Cost Recovery Clause  
 Calculation of the Final True-Up Amount for the Period  
 April 1987 to September 1997

Variance Report of Capital Investment Projects - Recoverable Costs  
 (in Dollars)

Line	(1) Actual	(2) Actual Estimated	(3) Variance		(4) Percent
			Amount	Percent	
1 Description of Investment Projects					
1 Big Bend Unit 3 Flue Gas Desulfurization Integration	\$568,804	\$568,804	\$0	0.0%	0.0%
2 Big Bend Units 1 & 2 Flue Gas Conditioning	344,948	344,948	0	0.0%	0.0%
3 Big Bend Unit 4 Continuous Emissions Monitors	44,203	44,203	0	0.0%	0.0%
2 Total Investment Projects - Recoverable Costs	\$957,953	\$957,953	\$0	0.0%	0.0%
3 Recoverable Costs Allocated to Energy	\$957,953				
4 Recoverable Costs Allocated to Demand	\$0				

6

Notes:  
 Column(1) is the End of Period Totals on Form 42-7A  
 Column(2) is the approved Estimated/Actual amount in accordance with  
 FPCC Order No. PSC-87-1047-FOF-EI  
 Column(3) = Column(1) - Column(2)  
 Column(4) = Column(3) / Column(2)

**Tampa Electric Company**  
**Environmental Cost Recovery Clause (ECRC)**  
**Calculation of the Actual Period Amount**  
**April 1997 to September 1997**

**Capital Investment Projects-Recoverable Costs**  
 (in Dollars)

Line	April 1997	May 1997	June 1997	July 1997	August 1997	September 1997	End of Period Total
1 Description of Investment Projects (A)							
1a Big Bend Unit 3 Flue Gas Desulfurization Integration	\$95,267	\$95,060	\$94,094	\$94,708	\$94,521	\$94,334	\$568,804
1b Big Bend Units 1 and 2 Flue Gas Conditioning	57,821	57,689	57,557	57,425	57,293	57,161	344,948
1c Big Bend Unit 4 Continuous Emissions Monitors	7,413	7,364	7,376	7,358	7,340	7,322	44,203
2 Total Investment Projects - Recoverable Costs	160,501	160,163	159,827	159,491	159,154	158,817	867,953
3 Recoverable Costs Allocated to Energy	160,501	160,163	159,827	159,491	159,154	158,817	867,953
4 Recoverable Costs Allocated to Demand	0	0	0	0	0	0	0
5 Retail Energy Jurisdictional Factor	0.9320584	0.9339034	0.9306975	0.9117969	0.9170034	0.9318235	
6 Retail Demand Jurisdictional Factor	N/A	N/A	N/A	N/A	N/A	N/A	
7 Jurisdictional Energy Recoverable Costs (B)	149,598	149,529	148,748	145,424	145,945	147,990	867,230
8 Jurisdictional Demand Recoverable Costs (C)	0	0	0	0	0	0	0
9 Total Jurisdictional Recoverable Costs for Investment Projects (Lines 7 + 8)	\$149,598	\$149,529	\$148,748	\$145,424	\$145,945	\$147,990	\$867,230

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

EXHIBIT NO. \_\_\_\_\_  
 DOCKET NO. 970007-EI  
 TAMPA ELECTRIC COMPANY  
 (KOZ-1)  
 DOCUMENT NO. 8  
 PAGE 1 OF 3

Form 42-3A  
 Page 1 of 3

Tampa Electric Company  
 Environmental Cost Recovery Clause (ECRC)  
 Calculation of the Actual Period Amount  
 April 1987 to September 1997

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	April 1997	May 1997	June 1997	July 1997	August 1997	September 1997	End of Period Total
1	Investments								
a.	Expenditures/Additions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
b.	Clearings to Plant	0	0	0	0	0	0	0	0
c.	Retirements	0	0	0	0	0	0	0	0
d.	Other	0	0	0	0	0	0	0	0
2	Plant-in-Service/Depreciation Base	\$0,239,658	8,239,658	8,239,658	8,239,658	8,239,658	8,239,658	8,239,658	8,239,658
3	Less: Accumulated Depreciation	(380,300)	(412,529)	(431,755)	(450,981)	(470,207)	(489,433)	(508,659)	(508,659)
4	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0
5	Net Investment (Lines 2 + 3 + 4)	\$7,859,358	7,827,129	7,807,903	7,788,677	7,769,451	7,750,225	7,730,999	7,730,999
6	Average Net Investment		7,836,742	7,817,516	7,798,290	7,779,064	7,759,838	7,740,612	7,740,612
7	Return on Average Net Investment								
a.	Equity Component Grossed Up For Taxes (A)		57,625	57,483	57,342	57,201	57,059	56,918	56,918
b.	Debt Component (Line 6 x 2.82% x 1/12)		19,416	18,371	18,328	18,281	18,238	18,190	18,190
8	Investment Expenses								
a.	Depreciation		19,228	19,228	19,228	19,228	19,228	19,228	19,228
b.	Amortization		0	0	0	0	0	0	0
c.	Dismantlement		0	0	0	0	0	0	0
d.	Property Taxes		0	0	0	0	0	0	0
e.	Other		0	0	0	0	0	0	0
9	Total System Recoverable Expenses (Lines 7 + 8)		95,267	95,080	94,894	94,708	94,521	94,334	94,334
10	Energy Jurisdictional Factor		95,267	95,080	94,894	94,708	94,521	94,334	94,334
a.	Recoverable Costs Allocated to Energy		0	0	0	0	0	0	0
b.	Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0
11	Demand Jurisdictional Factor		0.9330594	0.9339034	0.9306675	0.9117969	0.9170034	0.9318235	0.9318235
a.	Recoverable Costs Allocated to Energy		N/A	N/A	N/A	N/A	N/A	N/A	N/A
b.	Recoverable Costs Allocated to Demand		68,794	68,767	68,315	68,355	68,678	67,903	67,903
12	Retail Energy-Related Recoverable Costs (B)		0	0	0	0	0	0	0
13	Retail Demand-Related Recoverable Costs (C)		68,794	68,767	68,315	68,355	68,678	67,903	67,903
14	Total Jurisdictional Recoverable Costs (Lines 12 + 13)		\$68,794	\$68,767	\$68,315	\$68,355	\$68,678	\$67,903	\$67,903

Notes:  
 (A) Lines 6 x 8.8230% x 1/12. Based on ROE of 11.75% and weighted income tax rate of 38.575% (expansion factor of 1.628002)  
 (B) Line 9a x Line 10  
 (C) Line 9b x Line 11

Tampa Electric Company  
 Environmental Cost Recovery Clause (ECRC)  
 Calculation of the Actual Period Amount  
 April 1987 to September 1987

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	April 1987	May 1987	June 1987	July 1987	August 1987	September 1987	End of Period Total
1	Investments								
a.	Expenditures/Additions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
b.	Clearings to Plant	0	0	0	0	0	0	0	0
c.	Retirements	0	0	0	0	0	0	0	0
d.	Other	0	0	0	0	0	0	0	0
2	Plant-in-Service/Depreciation Base	\$5,017,734	5,017,734	5,017,734	5,017,734	5,017,734	5,017,734	5,017,734	5,017,734
3	Less: Accumulated Depreciation	(454,010)	(467,614)	(481,218)	(494,822)	(508,426)	(522,030)	(535,634)	(535,634)
4	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0
5	Net Investment (Lines 2 + 3 + 4)	\$4,563,724	4,550,120	4,536,516	4,522,912	4,509,308	4,495,704	4,482,100	4,482,100
6	Average Net Investment	4,556,922	4,543,318	4,529,714	4,516,110	4,502,506	4,488,902	4,488,902	4,488,902
7	Return on Average Net Investment								
a.	Equity Component Grossed Up For Taxes (A)	33,508	33,508	33,408	33,308	33,208	33,108	33,008	\$199,548
b.	Debt Component (Line 6 x 2.62% x 1/12)	10,708	10,877	10,877	10,845	10,813	10,581	10,549	83,774
8	Investment Expenses								
a.	Depreciation	13,604	13,604	13,604	13,604	13,604	13,604	13,604	81,624
b.	Amortization	0	0	0	0	0	0	0	0
c.	Disarmament	0	0	0	0	0	0	0	0
d.	Property Taxes	0	0	0	0	0	0	0	0
e.	Other	0	0	0	0	0	0	0	0
9	Total System Recoverable Expenses (Lines 7 + 8)	57,821	57,689	57,557	57,425	57,293	57,161	57,029	344,948
a.	Recoverable Costs Allocated to Energy	57,821	57,689	57,557	57,425	57,293	57,161	57,029	344,948
b.	Recoverable Costs Allocated to Demand	0	0	0	0	0	0	0	0
10	Energy Jurisdictional Factor	0.9320584	0.9336034	0.9350675	0.9365316	0.9379957	0.9394598	0.9409239	0.9318235
11	Demand Jurisdictional Factor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	Retail Energy-Related Recoverable Costs (B)	53,863	53,859	53,568	53,360	53,152	52,944	52,736	319,480
13	Retail Demand-Related Recoverable Costs (C)	0	0	0	0	0	0	0	0
14	Total Jurisdictional Recoverable Costs (Lines 12 + 13)	\$53,863	\$53,859	\$53,568	\$53,360	\$52,944	\$52,736	\$52,536	\$319,480

Notes:  
 (A) Lines 6 x 8.8238% x 1/12. Based on ROE of 11.75% and weighted income tax rate of 38.575% (expansion factor of 1.628002)  
 (B) Line 9a x Line 10  
 (C) Line 9b x Line 11

Tampa Electric Company  
 Environmental Cost Recovery Clause (ECRC)  
 Calculation of the Actual Period Amount  
 April 1997 to September 1997

Return on Capital Investments, Depreciation and Taxes  
 For Project: Big Bend Four Continuous Emissions Monitor  
 (in Dollars)

Line	Description	Beginning of Period Amount	April 1997	May 1997	June 1997	July 1997	August 1997	September 1997	End of Period Total
1	Investments								
a.	Expenditures/Additions		\$0	\$0	\$0	\$0	\$0	\$0	\$0
b.	Clearings to Plant		0	0	0	0	0	0	0
c.	Retirements		0	0	0	0	0	0	0
d.	Other		0	0	0	0	0	0	0
2	Plant-In-Service/Depreciation Base	\$666,211	666,211	666,211	666,211	666,211	666,211	666,211	666,211
3	Less: Accumulated Depreciation	(58,364)	(60,241)	(62,118)	(63,995)	(65,872)	(67,749)	(69,626)	(69,626)
4	Other (A)	(236,409)	(236,409)	(236,409)	(236,409)	(236,409)	(236,409)	(236,409)	(236,409)
5	Net Investment (Lines 2 + 3 + 4)	\$571,439	569,562	567,685	565,806	563,931	562,054	560,177	560,177
6	Average Net Investment		570,501	568,624	566,747	564,870	562,993	561,116	
7	Return on Average Net Investment								
a.	Equity Component Grossed Up For Taxes (B)		4,195	4,181	4,167	4,154	4,140	4,126	\$24,963
b.	Debt Component (Line 6 x 2.82% x 1/12)		1,341	1,336	1,332	1,327	1,323	1,318	7,978
8	Investment Expenses								
a.	Depreciation		1,877	1,877	1,877	1,877	1,877	1,877	11,262
b.	Amortization		0	0	0	0	0	0	0
c.	Disarmament		0	0	0	0	0	0	0
d.	Property Taxes		0	0	0	0	0	0	0
e.	Other (D)		0	0	0	0	0	0	0
9	Total System Recoverable Expenses (Lines 7 + 8)		7,413	7,394	7,378	7,358	7,340	7,322	44,203
a.	Recoverable Costs Allocated to Energy		7,413	7,394	7,378	7,358	7,340	7,322	44,203
b.	Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0
10	Energy Jurisdictional Factor		0.5020594	0.5039034	0.5056675	0.5117969	0.5170034	0.5318235	
11	Demand Jurisdictional Factor		N/A	N/A	N/A	N/A	N/A	N/A	
12	Retail Energy-Related Recoverable Costs (C)		6,909	6,903	6,895	6,708	6,731	6,823	40,940
13	Retail Demand-Related Recoverable Costs (D)		0	0	0	0	0	0	0
14	Total Jurisdictional Recoverable Costs (Lines 12 + 13)		\$6,909	\$6,903	\$6,895	\$6,708	\$6,731	\$6,823	\$40,940

Notes:  
 (A) Represents the Net Book Value of the replaced Big Bend Unit 4 CEMs which is currently recovered through base rates.  
 (B) Line 6 x 8.8238% x 1/12. Based on ROE of 11.75% and weighted income tax rate of 38.575% (expansion factor of 1.628002)  
 (C) Line 9a x Line 10  
 (D) Line 9b x Line 11

**SYSTEM SO2 EMISSIONS FOR FMPA**  
 (DECEMBER 1996 THROUGH SEPTEMBER 1997)

SYSTEM SO2 EMISSIONS				FMPA ALLOCATION COSTS FOR SO2 EMISSION ALLOWANCES					
MONTH	BB2 SO2 EMISSIONS (TONS)	BB3 SO2 EMISSIONS (TONS)	GAN5 & GAN6 SO2 EMISSIONS (TONS) *	EMISSION ALLOCATION FOR FMPA (BB2)	EMISSION ALLOCATION FOR FMPA (BB3)	EMISSION ALLOCATION FOR FMPA (GAN5 & GAN6)	TOTAL MONTHLY SO2 EMISSIONS FOR FMPA (TONS)	ALLOWANCE COST (\$/TON)	ALLOWANCE COST FOR FMPA (\$/MWH)
Dec-96	1,791	369	0	56	6	0	62	\$91.50	\$5,673.00
Jan-97	3,519	1,389	0	147	53	0	200	\$90.50	\$18,100.00
Feb-97	3,102	1,770	0	123	87	0	210	\$97.00	\$20,370.00
Mar-97	4,175	936	0	101	27	0	128	\$104.00	\$13,312.00
Apr-97	4,221	890	0	102	20	0	122	\$112.50	\$13,725.00
May-97	3,925	1,474	0	100	37	0	137	\$114.00	\$15,618.00
Jun-97	3,629	843	0	219	47	0	266	\$96.00	\$25,536.00
Jul-97	4,212	139	0	227	43	0	270	\$89.50	\$24,165.00
Aug-97	3,791	1,073	0	225	58	0	283	\$89.75	\$25,399.25
Sep-97	3,847	603	0	207	48	0	255	\$90.31	\$23,029.05
<b>TOTAL</b>	<b>36,212</b>	<b>9,486</b>	<b>0</b>	<b>1,507</b>	<b>426</b>	<b>0</b>	<b>1,933</b>		<b>\$184,922.40</b>

\* GANNON UNITS NOT AFFECTED BY PHASE I COMPLAINEE; NO SO2 EMISSION ALLOWANCES APPLY.



**SO2 ALLOWANCE COST FOR LAKELAND**  
 (DECEMBER, 1996 THROUGH SEPTEMBER, 1997)

	A	B	C	D	E	F	G
MONTH	TOTAL SYSTEM GENERATION (MWH)	LAKELAND MONTHLY GENERATION (MWH)	LAKELAND % OF TOTAL SYSTEM GENERATION	TOTAL EMISSIONS BB STATION (TONS)	TOTAL EMISSIONS FROM LAKELAND (TONS) (C x D)	ALLOWANCE COST (\$/TON)	ALLOWANCE COST FOR LAKELAND (\$/TON) (E x F)
Dec-96	1,389,062	500	0.04%	6,938	2.50	\$91.50	\$228.51
Jan-97	1,615,185	540	0.03%	8,430	2.82	\$90.50	\$255.06
Feb-97	1,313,551	240	0.02%	8,254	1.51	\$97.00	\$146.29
Mar-97	1,362,250	0	0.00%	8,400	0.00	\$104.00	\$0.00
Apr-97	1,364,202	0	0.00%	5,684	0.00	\$112.50	\$0.00
May-97	1,556,151	0	0.00%	7,287	0.00	\$114.00	\$0.00
Jun-97	1,522,350	1,020	0.07%	9,380	6.28	\$96.00	\$603.34
Jul-97	1,538,501	2,000	0.13%	9,485	12.33	\$89.50	\$1,103.55
Aug-97	1,423,578	830	0.06%	9,361	5.46	\$89.75	\$489.84
Sep-97	1,589,249	1,290	0.08%	8,704	7.07	\$90.31	\$638.05
<b>TOTAL</b>	<b>14,674,079</b>	<b>6,420</b>		<b>81,923</b>	<b>37.96</b>		<b>\$3,464.63</b>

SO2 ALLOWANCE COST FOR FMPA / LAKELAND  
 (DECEMBER, 1996 THROUGH SEPTEMBER, 1997)

MONTH	FMPA	LAKELAND	TOTAL
Dec-96	\$5,658.00	\$228.51	
Jan-97	\$18,127.68	\$255.06	
Feb-97	\$20,407.71	\$146.29	
Mar-97	\$13,292.55	\$0.00	
Apr-97	\$13,785.29	\$0.00	
May-97	\$15,655.21	\$0.00	
Jun-97	\$25,477.92	\$603.34	
Jul-97	\$24,127.69	\$1,103.55	
Aug-97	\$25,356.41	\$489.84	
Sep-97	\$23,029.70	\$638.05	
SUBTOTAL	\$184,918.16	\$3,464.64	\$188,382.80
Adjusted to account for separation factor			(\$29,013.00)
TOTAL			\$159,369.80