

BEFORE THE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

KAREN O. ZWOLAK

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Q. Please state your name, address, occupation and employer.

A. My name is Karen O. Zwolak. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company in the position of Manager, Energy Issues in the Electric Regulatory Affairs Department.

Q. Please provide a brief outline of your educational background and business experience.

A. I received a Bachelor of Arts Degree in Microbiology in 1977 and a Bachelor of Science degree in Chemical Engineering in 1985 from the University of South Florida. I began my engineering career in 1986 at the Florida Department of Environmental Regulation and was employed as a Permitting Engineer in the Industrial Wastewater Program. In 1990, I joined Tampa Electric Company as an engineer in the Environmental Planning Department and was responsible for permitting and compliance issues relating to wastewater

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FPSC-RECORDS/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, both the calculation of the revenue  
16 requirements and the development of the environmental cost  
17 recovery factors for the billing period April 1998 through  
18 September 1998. My testimony also addresses the recovery  
19 of costs associated with the environmental compliance  
20 activities for this period as well as the actual/estimated  
21 costs for the October 1997 through March 1998 period.  
22 Finally, my testimony provides an explanation of  
23 significant project variances.

24

25 Q. Do you wish to sponsor exhibits in support of your

1 testimony?

2

3 A. Yes. My Exhibit No. \_\_\_ (KOZ-1) consisting of 38 documents,  
4 was prepared under my direction and supervision. Form 42-  
5 1P summarizes the costs being presented for recovery at  
6 this time; Form 42-2P reflects the total jurisdictional  
7 recoverable costs for O & M activities; Form 42-3P reflects  
8 the total jurisdictional recoverable costs for capital  
9 investment projects; Form 42-4P, pages 1 through 8,  
10 consists of the calculation of depreciation expense and  
11 return on capital investment for each project; Form 42-5P  
12 gives the description and progress of environmental  
13 compliance activities and projects to be recovered through  
14 the clause for the projected period; Form 42-6P reflects  
15 the calculation of the energy and demand allocation  
16 percentages by rate class and Form 42-7P reflects the  
17 calculation of the ECRC factors. In addition, Forms 42-1E  
18 through 42-8E reflect the true-up and variance calculation  
19 for the prior period.

20

21 Q. What is the source of the data which you will present by  
22 way of testimony or exhibits in this proceeding?

23

24 A. Unless otherwise indicated, the actual data is taken from  
25 the books and records of Tampa Electric Company. The books

1 and records are kept in the regular course of our business  
2 in accordance with generally accepted accounting principles  
3 and practices, and provisions of the Uniform System of  
4 Accounts as prescribed by this Commission.  
5

6 Q. What has Tampa Electric calculated as the total true-up to  
7 be applied in the period April 1998 through September 1998?  
8

9 A. The total true-up for this period is an over / (under)  
10 recovery of \$137,563. This true-up consists of a final  
11 true-up over / (under) recovery of \$616,353 as revised to  
12 include interest provisions for the FMPA SO2 allowance  
13 credit, and a two month actual/four month estimated true-up  
14 over / (under) recovery of (\$478,790) for the October 1997  
15 through March 1998 period. A detailed calculation  
16 supporting the estimated true-up is shown on Schedules 42-  
17 1E through 42-8E of my Exhibit.  
18

19 Q. How do the actual/estimated project expenditures for  
20 October 1997 through March 1998 period compare with the  
21 original projection?  
22

23 A. As shown on Form 42-4E, total O & M activities were  
24 \$549,855 greater than projected. Significant O & M project  
25 variances are explained below.

1           1.    **Big Bend Units 1 and 2 Flue Gas Conditioning Project**  
2                    Project expenditures were \$3,643 less than projected,  
3                    a variance of -14.2%, as a result of the removal of  
4                    payroll expense recovery from the ECRC (Commission  
5                    Order No. PSC-97-1047-FOF-EI, Docket No. 970007-EI).  
6

7           2.    **SO2 Emission Allowance Project** - Project expenditures  
8                    were \$568,378 greater than projected, a variance of  
9                    40.2%. This variance is due to allowance purchases in  
10                   the month of August, 1997 that were not included in  
11                   the original projection; an increased SO2 allowance  
12                   consumption for the period October 1997 to March 1998  
13                   and expenses incurred from reimbursing Qualifying  
14                   Facilities for avoided SO2 allowance costs.  
15

16    **Q.**    Have the projected incremental costs for SO2 emission  
17                   allowances incurred by Tampa Electric's wholesale sale to  
18                   the Florida Municipal Power Agency (FMPA) been identified  
19                   and included in this projection filing?  
20

21    **A.**    Yes, they have. As per Commission Order No. PSC-97-1273-  
22                   FOF-EU, Docket No. 970171-EU, the incremental SO2  
23                   allowance costs projected to be incurred by the FMPA  
24                   wholesale sale for the period April 1998 through September  
25                   1998 have been identified and are included as a credit to

- 1 the retail ratepayers on line 1j of Schedule 42-2P of this  
2 projection filing.  
3
- 4 Q. What are the projected incremental SO2 allowance costs for  
5 the FMPA wholesale sale for the period April 1998 through  
6 September 1998?  
7
- 8 A. Based on two separate analyses run with and without the  
9 FMPA sale, Tampa Electric been able to project the  
10 incremental SO2 costs for the FMPA wholesale sale for the  
11 period April 1998 through September 1998 to be \$20,000.  
12
- 13 Q. How will be these costs be determined on an actual basis?  
14
- 15 A. Tampa Electric will determine the actual incremental SO2  
16 allowance costs incurred by FMPA on an hourly, real time  
17 basis by retaining the historical dispatch data which will  
18 enable Tampa Electric to identify the units which served  
19 the sale and thus allow the allocation of SO2 costs.  
20
- 21 Q. What environmental compliance costs is Tampa Electric  
22 requesting for recovery through the Environmental Cost  
23 Recovery Clause for the period April 1998 through September  
24 1998?  
25

1 A. Tampa Electric is requesting recovery for a total of nine  
2 environmental compliance projects. Projected costs for  
3 these projects are shown on Forms 42-1P through 42-7P.

4  
5 Four of the nine projects were previously approved for cost  
6 recovery through the ECRC and are on-going compliance  
7 activities. The newly included five environmental  
8 compliance projects are the Gannon Ignition Oil Tank  
9 Upgrade, Big Bend Fuel Oil Tank Number 1 Upgrade, Big Bend  
10 Fuel Oil Tank Number 2 Upgrade, Phillips Tank Number 1  
11 Upgrade and Phillips Tank Number 4 Upgrade for FDEP.

12  
13 The costs associated with the tank upgrade projects occur  
14 as a result of compliance standards imposed by the  
15 Department of Environmental Protection (DEP) Rule 62-762,  
16 Aboveground Storage Tank Systems (AST) enacted on March 12,  
17 1991, with a compliance deadline of December 31, 1999. The  
18 rule requires various modifications to affected storage  
19 tanks which include installation of spill and secondary  
20 containment, cathodic protection and completion of tank  
21 integrity inspections by December 31, 1999. A detailed  
22 list of modifications are provided in Form 42-5P, Project  
23 Descriptions, of my Exhibit.

24  
25 Q. Are the costs associated with the five new environmental

1 compliance activities appropriate for recovery through the  
2 Environmental Cost Recovery Clause?

3

4 A. Yes, they are. As per the requirements established in  
5 Order No. PSC-94-0044-FOF-EI, these costs were incurred  
6 after April 13, 1993, were incurred on the basis of a legal  
7 requirement of the FDEP and are not currently being  
8 recovered through base rates or any other cost recovery  
9 mechanism.

10

11 A project entitled Gannon 1 - 5A Tank Underground Piping  
12 was included in Tampa Electric's last rate proceeding and  
13 was originally estimated to cost \$266,000. The project  
14 scope called for the existing piping system to be replaced  
15 with an above ground system. In order to eliminate the  
16 possibility of double recovery of the \$266,000 Tampa  
17 Electric will not include this amount in its current  
18 request for recovery.

19

20 Q. Please describe Form 42-1P.

21

22 A. Form 42-1P provides a summary of the costs being requested  
23 for recovery through the ECRC. Total recoverable revenue  
24 requirements associated with environmental activities,  
25 adjusted for taxes, are projected to be \$2,770,601 for the



1 period April 1998 through September 1998.

2

3 Q. Please describe Forms 42-2P and 42-3P.

4

5 A. Form 42-2P presents the O & M activities to be recovered in  
6 the projected period along with the calculation of total  
7 jurisdictional recoverable costs for these activities,  
8 classified as energy or demand.

9

10 Form 42-3P presents the capital investment projects to be  
11 recovered in the projected period along with the  
12 calculation of total jurisdictional recoverable costs for  
13 these projects, classified as energy or demand.

14

15 Q. Please describe Form 42-6P.

16

17 A. Form 42-6P calculates the allocation factors for demand and  
18 energy at generation. The demand allocation factors are  
19 calculated by determining the percentage each rate class  
20 contributes to the monthly system peaks. The energy  
21 allocators are calculated by determining the percentage  
22 each rate class contributes to total kWh sales, as adjusted  
23 for losses, for each rate class.

24

25 Q. Please describe Form 42-7P.

1 A. Form 42-7P presents the calculation of the proposed ECRC  
2 factors by rate class.

3

4 Q. What is the total amount of projected recoverable costs  
5 related to the period April 1998 through September 1998?

6

7 A. The total projected jurisdictional recoverable costs for  
8 the period April 1998 through September 1998 are \$2,905,858  
9 as shown on line 1c of Schedule 42-1P. This includes costs  
10 related to O & M activities of \$1,965,766 and costs related  
11 to capital projects of \$940,092 as shown on lines 1a and  
12 1b of Schedule 42-1P.

13

14 Q. What are the ECRC billing factor rates for which Tampa  
15 Electric is seeking approval?

16

17 A. The computation of the billing factors is shown on Form 42-  
18 7P of my Exhibit. In summary, the billing factors are:

19

20	<u>Rate Class</u>	<u>Factor (¢/kWh)</u>
21	RS, RST	0.033
22	GS, GST, TS	0.033
23	GSD, GSdT	0.033
24	GSLD, GSLDT, SBF	0.032
25	IS1, IST1, SBI1,	

1 SBIT1, IS3, IST3,  
2 SBI3, SBIT3 0.031  
3 SL, OL 0.032  
4  
5 Q. When should the new environmental charges go into effect?  
6  
7 A. They should go into effect commensurate with the first  
8 billing cycle in April 1998.  
9  
10 Q. Does this conclude your testimony?  
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12 A. Yes, it does.  
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**Tampa Electric Company**  
**Environmental Cost Recovery Clause (ECRC)**  
**Calculation of the Current (Actual/Estimated) Period True-Up**  
**October 1997 to March 1998**

(in Dollars)

<u>Line</u>	<u>Period Amount</u>
1. Over/(Under) Recovery for the current period (Form 42-2E, Line 5)	(\$478,901)
2. Interest Provision (Form 42-2E, Line 6)	111
3. Sum of Current Period Adjustments (Form 42-2E, Line 10)	<u>0</u>
4. Current Period True-Up Amount to be refunded/(recovered) in the projection period April 1998 to September 1998 (Lines 1 + 2 + 3)	<u>(\$478,790)</u>

**Tampa Electric Company**  
 Environmental Cost Recovery Clause (ECRC)  
 Calculation of the Actual/Estimated Period True-Up Amount  
 October 1997 to March 1998

**Current Period True-Up Amount**  
 (In Dollars)

Line	Actual October 97	Actual November 97	Estimated December 97	Estimated January 98	Estimated February 98	Estimated March 98	End of Period Total
1 ECRC Revenues (net of Revenue Taxes)	\$710,245	\$593,828	\$613,326	\$660,908	\$614,448	\$592,301	\$3,785,054
2 True-Up Provision	(114,516)	(114,516)	(114,516)	(114,516)	(114,116)	(114,517)	(687,097)
3 ECRC Revenues Applicable to Period (Lines 1 + 2)	595,729	479,310	498,810	546,392	500,332	477,784	3,097,957
4 Jurisdictional ECRC Costs							
a. O & M Activities (Form 42-5E, Line 9)	535,786	475,529	457,125	365,288	473,359	383,168	2,680,253
b. Capital Investment Projects (Form 42-7E, Line 9)	147,338	148,686	147,790	148,003	149,170	147,638	888,605
c. Total Jurisdictional ECRC Costs	683,124	622,195	604,915	513,291	622,529	530,804	3,578,858
5 Over/Under Recovery (Line 3 - Line 4c)	(87,395)	(142,885)	(106,105)	33,101	(122,597)	(53,020)	(478,901)
6 Interest Provision (Form 42-3E, Line 10)	(264)	(269)	(330)	47	396	531	111
7 Beginning Balance True-Up & Interest Provision	(687,097)	(680,240)	(688,878)	(680,797)	(533,133)	(540,818)	(687,097)
a. Deferred True-Up from October 1996 to March 1997 (Order No. PSC-97-0001-FOF-EI)	616,353	616,353	616,353	616,353	616,353	616,353	616,353
8 True-Up Collected/(Refunded) (see Line 2)	114,516	114,516	114,516	114,516	114,516	114,517	687,097
9 End of Period Total True-Up (Lines 5 + 6 + 7 + 7a + 8)	(43,887)	(72,525)	(64,444)	83,220	75,535	137,563	137,563
10 Adjustment to Period True-Up including Interest	0	0	0	0	0	0	0
11 End of Period Total Met True-Up (Lines 9 + 10)	(43,887)	(72,525)	(64,444)	83,220	75,535	137,563	137,563

**Tampa Electric Company**  
**Environmental Cost Recovery Clause (ECRC)**  
**Calculation of the Actual/Estimated Period True-Up**  
**October 1997 to March 1998**

Form 42 - 3E

**Interest Provision**  
 (in Dollars)

Line	Actual October 97	Actual November 97	Estimated December 97	Estimated January 98	Estimated February 98	Estimated March 98	End of Period Amount
1. Beginning Balance True-Up Amount (Form 42-2E, Line 7 + 7a + 10)	(\$70,746)	(\$43,867)	(\$72,525)	(\$64,444)	\$63,220	\$75,535	
2. Ending True-Up Amount Before Interest	(43,623)	(72,256)	(84,114)	83,173	75,139	137,032	
3. Total of Beginning & Ending True-Up (Lines 1 & 2)	(114,367)	(116,143)	(136,639)	18,729	158,359	212,567	
4. Average True-Up Amount (Line 3 x 1/2)	(57,184)	(58,072)	(68,320)	9,365	79,180	108,284	
5. Interest Rate (First Day of Reporting Business Month)	5.53%	5.53%	5.60%	6.00%	6.00%	6.00%	
6. Interest Rate (First Day of Subsequent Business Month)	5.53%	5.60%	6.00%	6.00%	6.00%	6.00%	
7. Total of Beginning & Ending Interest Rates (Lines 5 & 6)	11.06%	11.13%	11.60%	12.00%	12.00%	12.00%	
8. Average Interest Rate (Line 7 x 1/2)	5.53%	5.57%	5.80%	6.00%	6.00%	6.00%	
9. Monthly Average Interest Rate (Line 8 x 1/12)	0.461%	0.464%	0.483%	0.500%	0.500%	0.500%	
10. Interest Provision for the Month (Line 4 x Line 9)	(\$264)	(\$269)	(\$330)	\$47	\$398	\$531	\$111

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

For the Projected Period  
 April 1998 to September 1998

Line No.	Energy (\$)	Demand (\$)	Total (\$)
1. Total Jurisdictional Revenue Requirements for the projected period			
a. Projected O&M Activities (Form 42-2P, Lines 7, 8 & 9)	\$1,965,766	\$0	\$1,965,766
b. Projected Capital Projects (Form 42-3P, Lines 7, 8 & 9)	871,856	68,236	940,092
c. Total Jurisdictional Revenue Requirements for the projected period (Lines 1a + 1b)	<u>2,837,622</u>	<u>68,236</u>	<u>2,905,858</u>
2. True-up for Estimated Over/(Under) Recovery for the current period October 1997 to March 1998 (Form 42-2E, Line 5 + 6 + 10)	(477,570)	(1,220)	(478,790)
3. Final True-up for the period April 1997 to September 1997 (Form 42-1A, Line 3)	<u>616,353</u>	<u>0</u>	<u>616,353</u>
4. Total Jurisdictional Amount to Be Recovered/(Refunded) in the projection period April 1998 to September 1998 (Line 1 - Line 2 - Line 3)	<u>2,698,839</u>	<u>69,456</u>	<u>2,768,295</u>
5. Total Projected Jurisdictional Amount Adjusted for Taxes (Line 4 x Revenue Tax Multiplier)	<u>\$2,701,067</u>	<u>\$69,514</u>	<u>\$2,770,601</u>

## Notes:

Allocation to energy and demand in each period are in proportion to the respective period split of costs indicated on Lines 7 and 8 of Forms 42-5 and 42-7 of the estimates and actuals.

**Tampa Electric Company**  
**Environmental Cost Recovery Clause (ECRC)**  
**Calculation of the Projected Period Amount**  
**April 1998 to September 1998**

Form 42-2P

**O & M Activities**  
**(in Dollars)**

Line	Projected April 98	Projected May 98	Projected June 98	Projected July 98	Projected August 98	Projected September 98	End of Period Total	Method of Classification	
								Demand	Energy
1. Description of O&M Activities									
1a Big Bend Unit 3 Flue Gas Desulfurization Integration	\$0	\$80,832	\$121,689	\$136,417	\$137,637	\$175,848	\$652,493		\$652,493
1b Big Bend Units 1 and 2 Flue Gas Conditioning	2,750	2,750	2,750	2,750	2,750	2,750	16,500		16,500
1c Big Bend Unit 4 Continuous Emissions Monitors	0	0	0	0	0	0	0		0
1d Gorman Ignition Oil Tank	0	0	0	0	0	0	0	0	0
1e Big Bend Fuel Oil Tank #1 Upgrade	0	0	0	0	0	0	0	0	0
1f Big Bend Fuel Oil Tank #2 Upgrade	0	0	0	0	0	0	0	0	0
1g Phillips Upgrade Tank #1 for FDEP	0	0	0	0	0	0	0	0	0
1h Phillips Upgrade Tank #4 for FDEP	0	0	0	0	0	0	0	0	0
1i SO2 Emissions Allowances	136,445	248,190	246,721	270,128	276,097	253,512	1,431,093		1,431,093
1j SO2 Credit - FAPA	(4,000)	(8,000)	0	0	(7,000)	0	(20,000)		(20,000)
2. Total of O&M Activities	135,195	322,772	371,160	409,365	409,484	432,110	2,080,088	\$0	\$2,080,088
3. Recoverable Costs Allocated to Energy	135,195	322,772	371,160	409,365	409,484	432,110	2,080,088		
4. Recoverable Costs Allocated to Demand	0	0	0	0	0	0	0		
5. Retail Energy Jurisdictional Factor	0.9383695	0.9364025	0.9358334	0.9308931	0.9333671	0.9376315			
6. Retail Demand Jurisdictional Factor	0.9042212	0.9127498	0.9193269	0.9195852	0.9198889	0.9171904			
7. Jurisdictional Energy Recoverable Costs (A)	125,514	302,274	347,344	381,075	382,199	405,160	1,943,595		
7a. Add back FAPA Excess Emissions Allocation	7,400	7,400	0	0	7,400	0	22,200		
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)	\$132,914	\$309,674	\$347,344	\$381,075	\$389,599	\$405,160	\$1,965,795		

## Notes:

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