



BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 010007-EI

IN RE:

ENVIRONMENTAL COST RECOVERY FACTORS

PROJECTIONS

JANUARY 2002 THROUGH DECEMBER 2002

TESTIMONY

OF

DARRYL H. SCOTT

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FPSC-COMMISSION CLERK

BEFORE THE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

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

A. My name is Darryl H. Scott. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "the company") as General Manager, Big Bend Station.

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

A. I earned a Bachelor of Arts degree in Business Administration from the University of Kentucky in 1983 and a Master of Public Affairs from Kentucky State University in 1986. I completed studies in 1999 and was awarded a Doctorate in Administration and Management from Walden University. I began my professional career in management positions at United Parcel Services in 1981. In 1988, I joined General

1 American Transportation Corporation and held various
2 positions including managing the storage and handling
3 of refined bulk liquid products. In 1997, I joined
4 TECO Energy and managed bulk products for TECO
5 Transport in Devant, Louisiana. In 1998, I was
6 promoted to General Manager of TECO Stevedoring and in
7 2001, I was promoted to General Manager of Tampa
8 Electric's Big Bend Station.

9
10 **Q.** What is the purpose of your testimony?

11
12 **A.** The purpose of my testimony is to present, for the
13 Florida Public Service Commission's ("Commission")
14 review and approval, a brief description of the
15 Environmental Cost Recovery Clause ("ECRC") projects
16 occurring at Big Bend Station, some of which are
17 required as a result of the Consent Final Judgment
18 ("CFJ") entered into with the Florida Department of
19 Environmental ("DEP") and the Consent Decree ("CD")
20 lodged with the U. S. Environmental Protection Agency
21 ("EPA") and the Department of Justice ("DOJ"). I will
22 also describe specific activities relating to the CFJ
23 and CD ("the Orders"), and identify the reasons for
24 the variances between the actual/estimated projections
25 filed on August 20, 2001 and the original projections

1 approved in Order No. PSC-00-2391-FOF-EI, issued
2 December 13, 2000 for recovery through the ECRC.
3 Finally, I will describe the activities that will be
4 undertaken in calendar year 2002.

5
6 Q. What are the environmental compliance projects
7 approved by this Commission for recovery through the
8 ECRC that you will address and are underway at Big
9 Bend Station?

10
11 A. I will address five ECRC approved projects underway at
12 Big Bend Station. They are the Big Bend Flue Gas
13 Desulfurization ("FGD") Optimization and Utilization,
14 the Big Bend Particulate Matter ("PM") Minimization
15 and Monitoring, the Big Bend NO_x Emissions Reduction,
16 the Big Bend Unit 3 FGD Integration, and the Big Bend
17 Units 1 and 2 FGD.

18
19 Flue Gas Desulfurization Optimization and Utilization
20 Project

21 Q. Briefly describe the Big Bend FGD Optimization and
22 Utilization Project.

23
24 A. The Big Bend FGD Optimization and Utilization Project
25 was approved by the Commission in Docket No. 00685-EI,

1 Order No. PSC-00-1906-PAA-EI, issued October 18, 2000.
2 In this order the Commission found that the FGD
3 Optimization and Utilization Project met the
4 requirements for recovery through the ECRC.

5
6 The Orders require the optimization of Big Bend Units
7 1, 2 and 3 FGD sulfur dioxide ("SO₂") removal
8 efficiency and availability. As described in the
9 direct testimony of Tampa Electric's witness Greg
10 Nelson, the Orders require increased removal of SO₂ and
11 require essentially continuous operation of the FGD
12 systems or scrubbers when their respective units are
13 operating. To ensure the increased reliability and
14 removal efficiency, Tampa Electric identified critical
15 work that had to be performed to maintain Tampa
16 Electric's system reliability and meet the
17 requirements of the Orders.

18
19 **Q.** Please describe the FGD Optimization and Utilization
20 activities that Tampa Electric projected to be done in
21 2000 to meet the reliability and efficiency
22 requirements of the Orders.

23
24 **A.** Tampa Electric estimated in its 2000 ECRC filing that
25 necessary improvements to the FGD systems are to be

1 divided into three major areas: 1)the FGD system
2 which scrubs Big bend Unit 3; 2) the FGD system
3 serving Units 1 and 2; and 3) the FGD equipment and
4 auxiliary equipment common to both FGD systems. This
5 work was further divided into specific improvements on
6 tower components, ductwork, electrical controls, fans,
7 absorber systems, quencher systems, oxidation air and
8 the common support systems.

9
10 **Q.** Please describe the status of the Big Bend FGD
11 Optimization and Utilization Project.

12
13 **A.** Tampa Electric, in its original filing made for this
14 project in May 2000, submitted modest preliminary cost
15 estimates for recovery beginning in 2000. As Tampa
16 Electric began identifying the FGD tasks and the
17 available time frames in which to perform these tasks,
18 the work scope became more detailed and specific. The
19 tasks identified still fell into the same general
20 categories as originally described in the earlier ECRC
21 filings; however, the actual tasks were more precisely
22 engineered and the necessary time frames to accomplish
23 the improvements were increased.

24
25

1 As described in witness Nelson's testimony, early in
2 2001 Tampa Electric began negotiations with EPA to
3 allow additional deintegration time on Unit 3 to give
4 Tampa Electric a total of 60 unscrubbed days allowed
5 without penalty. The company requested this
6 additional deintegration time, on a one-time basis, to
7 perform the improved scope of work and to take
8 advantage of a planned outage on Big Bend Unit 4 in
9 May of 2001. This outage enabled Tampa Electric to
10 perform the identified additional efficiency and
11 reliability activities previously determined without
12 the potential loss of significant generation. This
13 allowed both Unit 4 and the FGD system to be down for
14 the required work while continuing to run Unit 3
15 during this 30 day outage without penalty and without
16 depleting the additional contingency days allowed in
17 the amended Consent Decree. The capital expenditures
18 which are requested for recovery through the ECRC
19 which will be completed by the end of 2001 and will
20 provide a higher degree of reliability and compliance.

21
22 As a result of the more detailed work scope of the
23 activities described above, and more significantly,
24 the additional deintegration time allowed under the
25 Orders, Tampa Electric seized the opportunity to

1 perform this necessary work on the FGD system.
2 Therefore, the capital expenditures incurred in 2001
3 increased significantly. The capital expenditure
4 variance between the 2001 actual/estimated projection
5 and the original projection was an increase of
6 \$464,440 or 41.9 percent. As a result of the more
7 defined work scope and additional outage time, the
8 original O&M expenses allocated for repairs translated
9 into capital improvements thus resulting in a decrease
10 in O&M expenses of \$428,485 or 38.3 percent.

11

12 Q. What are the estimated capital and O&M expenditures
13 for 2002 related to the Big Bend FGD Optimization and
14 Utilization project?

15

16 A. No additional capital expenditures are being requested
17 for 2002. Tampa Electric expects to incur \$437,000
18 for O&M expenses necessary to ensure compliance with
19 the Orders. The O&M expenses are primarily for pump
20 and piping maintenance.

21

22 Q. Are these expenditures included in Tampa Electric's
23 ECRC projections for 2002?

24

25 A. Yes they are.

1 Particulate Matter Minimization

2 Q. Please describe the requirements of the Orders
3 regarding PM minimization.

4
5 A. The Big Bend PM Minimization and Monitoring Project
6 was approved by the Commission in Docket No. 001186-
7 EI, Order No. PSC-00-2104-PAA-EI, issued November 6,
8 2000. In this order the Commission found that the Big
9 Bend PM Minimization and Monitoring Project met the
10 requirements for recovery through the ECRC.

11
12 The Orders require Tampa Electric to complete a Best
13 Operational Practices ("BOP") Study to minimize
14 emissions from each electrostatic precipitator ("ESP")
15 at Big Bend and complete a Best Available Control
16 Technology ("BACT") analysis of the ESPs at Big Bend
17 by October 2001. The company must also install and
18 operate a PM continuous emission monitor ("CEM") by
19 March 2002 and evaluate the possibility of installing
20 a second PM CEM.

21
22 Q. Please describe the status of the Big Bend PM
23 Minimization and Monitoring Project.

1 **A.** Although the BOP study and BACT analysis have not been
2 finalized, Tampa Electric has implemented several of
3 the anticipated BOP modifications for Big Bend Unit 1
4 as recommended by the study consultants and with
5 concurrence by EPA. These improvements include
6 performing flow balancing within the ductwork to
7 provide the proper flow to each ESP, installing air
8 flow modifications to evenly distribute the gas within
9 each ESP, and making modifications to the ash
10 transport system valves. The company will also
11 complete the Solvera precipitator management and
12 ESPert Monitoring system in 2001.

13
14 Tampa Electric is continuing its work in 2001 on
15 installing the required PM CEM to demonstrate its
16 effectiveness and will complete the installation in
17 2002.

18
19 **Q.** Please describe the variances between the
20 actual/estimated projections filed August 20, 2001 and
21 the original projections of expenditures for the Big
22 Bend PM Minimization and Monitoring Project approved
23 in Order No. PSC-00-2391-FOF-EI issued December 13,
24 2000.

25

1 **A.** The Big Bend PM Minimization and Monitoring Project
2 O&M variance for the year 2001 indicates that Tampa
3 Electric is \$17,002 or 14.8 percent greater than
4 originally projected. This is attributed to the early
5 recommendations of the BACT analysis which indicated
6 fly ash hopper gate valve improvements on all units
7 would significantly assist in PM reductions. The
8 variance occurred due to the installation of fly ash
9 gate valves on Unit 1 that were not anticipated at the
10 time of the original projection.

11
12 The Big Bend PM Minimization and Monitoring Project
13 capital expenditures for 2001 varied by \$38,060 or 37
14 percent less than originally projected primarily due
15 to timing of the PM CEM project. The technology has
16 only recently been selected; therefore, minimal
17 capital expenditures have occurred to date for the
18 installation of this monitoring equipment.

19
20 **Q.** What are the estimated capital and O&M expenditures
21 for 2002 related to the Big Bend PM Minimization and
22 Monitoring Project?

23
24 **A.** During the upcoming Big Bend Unit 2 outage in 2002,
25 Tampa Electric plans to perform gas flow balancing,

1 precipitator plate replacements with wide plate
2 spacing, new electrical controls, increased electrical
3 sectionalization, and modify the fly ash hopper gate
4 valves. Also in 2002, the fly ash hopper gate valves
5 will be replaced on Big Bend Units 3 and 4, new
6 controls will be installed on Big Bend Units 1 and 4,
7 the PM CEM will be completed on Big Bend Unit 4, and
8 contracted ESP specialists will be utilized to inspect
9 and improve the Big Bend ESPs. These projects are
10 expected to result in \$1,361,000 of O&M expenses and
11 approximately \$4,854,000 of capital expenditures.

12
13 Q. Are these expenditures included in Tampa Electric's
14 ECRC projections for 2002?

15
16 A. Yes they are.

17
18 **NO_x Emissions Reduction**

19 Q. Please describe the requirements of the Orders
20 regarding the Big Bend NO_x Emissions Reduction Project.

21
22 A. The Big Bend NO_x Emissions Reduction Project was
23 approved by the Commission in Docket No. 001186-EI,
24 Order No. PSC-00-2104-PAA-EI, issued November 6, 2000.
25 In this order the Commission found that the Reduction

1 of NO_x Emissions Project met the requirements for
2 recovery through the ECRC.

3
4 The Orders require Tampa Electric to perform projects
5 on Big Bend Units 1 through 3, and potentially Big
6 Bend Unit 4, that are intended to provide early
7 reduction in NO_x emissions as measured against 1998 NO_x
8 emission levels. Tampa Electric must also demonstrate
9 innovative NO_x technologies beyond those required by
10 the early reduction activities.

11
12 **Q.** Please describe the status of the actual/estimated
13 projections filed by the company on August 20, 2001.

14
15 **A.** To meet the early NO_x emissions reduction requirements
16 of the Orders, Tampa Electric has installed and will
17 complete tests of advanced burner nozzles on Big Bend
18 Unit 1 and will complete installation of a neural
19 network system on Big Bend Unit 2. Since Big Bend
20 Units 1 and 2 are identical boilers, utilizing these
21 two different technologies on each boiler will allow
22 Tampa Electric to evaluate the effectiveness of each
23 technology independently. Based on the demonstrated
24 NO_x reduction effectiveness of these two technologies,
25 either separately or in combination, Tampa Electric

1 may elect to apply one, both or pursue alternative
2 control measures on the affected Big Bend units.

3
4 In 2001, Tampa Electric expects only capital
5 expenditures for NO_x reductions. These activities
6 include: 1) burner and windbox modifications on Unit
7 1; 2) installation of a neural network combustion
8 optimization system on Unit 2; and 3) burner and
9 windbox modifications Big Bend Unit 3. In addition,
10 Tampa Electric has applied to the Department of Energy
11 ("DOE") to begin a joint project to minimize NO_x
12 emissions through a neural network intelligent
13 sootblowing program. Tampa Electric's total capital
14 expenditures for these activities are expected to be
15 \$1,341,000 in 2001.

16
17 **Q.** Please describe the variances between the
18 actual/estimated projections filed August 20, 2001 and
19 the original projections of expenditures for the Big
20 Bend NO_x Emissions Reduction approved in Order No. PSC-
21 00-2391-FOF-EI issued December 13, 2000.

22
23 **A.** No O&M expenses were incurred in 2001. The
24 optimization of the wind box modifications were
25 included in the project's capital expenditures.

1 The capital expenditures for the Big Bend NO_x Emissions
2 Reduction Project are also under budget by \$11,764 or
3 11.8 percent. This variance is primarily due to the
4 timing of expenditures that will occur later in 2001
5 and in 2002.

6
7 Q. What are the estimated capital and O&M expenditures
8 for 2002 related to the Big Bend NO_x Emissions
9 Reduction Project?

10
11 A. Tampa Electric expects to spend approximately
12 \$3,243,000 of capital to continue the DOE neural
13 network sootblowing project on Unit 1, complete the
14 neural network combustion optimization on Unit 2,
15 install burner and windbox modifications on Units 2
16 and 3, install a coal/air monitoring system on Unit 1,
17 and install water cannons on Unit 3.

18
19 **Big Bend Units 1 and 2 FGD and the Big Bend Unit 3 FGD**
20 **Integration Projects**

21 Q. Please describe the Big Bend Units 1 and 2 FGD Project
22 and the Big Bend Unit 3 FGD Integration Project.

23
24 A. These projects were both approved by the Commission as
25 appropriate projects for recovery through the ECRC.

1 The Big Bend Unit 3 FGD Integration Project was
2 approved in Docket No. 960688-EI, Order No. PSC-96-
3 1048-FOF-EI, issued August 14, 1996. The Big Bend
4 Units 1 and 2 FGD Project was approved in Docket No.
5 980693-EI, Order No. PSC-99-0075-FOF-EI, issued
6 January 11, 1999. These projects were implemented to
7 meet the SO₂ emissions requirements of the Phase I and
8 II Clean Air Act Amendments of 1990.

9
10 **Q.** Please describe the status of the Big Bend Units 1 and
11 2 FGD Project and the Big Bend Unit 3 FGD Integration
12 Project.

13
14 **A.** Tampa Electric has not expended any capital on these
15 projects in 2001; however, the company has incurred
16 O&M cost variances of \$571,837 dollars on the Big Bend
17 Units 1 and 2 FGD Project and \$203,125 on the Big Bend
18 Unit 3 FGD Integration Project resulting in costs
19 increases of 15.3 percent and 10.7 percent,
20 respectively. These increased costs are attributable
21 to an increase in the amount of SO₂ removed on all
22 units which results directly in an increase in reagent
23 costs. O&M expenses related to consumables for Unit 3
24 were less than the Units 1 and 2 FGD system due to the
25 30 day outage in May.

1 Q. What are the estimated capital and O&M expenditures
2 for 2002 related to the Big Bend Units 1 and 2 FGD
3 Project and the Big Bend Unit 3 FGD Integration
4 Project?

5
6 A. No new capital costs for these projects are requested
7 for recovery; however, Tampa Electric anticipates O&M
8 costs incurred for the Big Bend Units 1 and 2 FGD
9 Project and the Big Bend Unit 3 FGD Integration
10 Project will be \$4,136,128 and \$4,102,872,
11 respectively.

12
13 Q. Please summarize your testimony.

14
15 A. My testimony identifies the environmental compliance
16 activities at Big Bend Station previously approved by
17 the Commission for ECRC recovery in various dockets.
18 It also provides the expenditures Tampa Electric
19 projects to incur in 2001 as well as the variances
20 between the actual/estimated projections for 2001 and
21 the original projections with an explanation for their
22 occurrences. This detail gives the necessary support
23 to demonstrate each activity's cost effectiveness and
24 prudence. Finally, my testimony provides the
25 activities and expenditures projected to occur in

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2002.

Q. Does this conclude your testimony?

A. Yes, it does.