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TAMPA ELECTRIC

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 060007-EI

IN RE:

ENVIRONMENTAL COST RECOVERY FACTORS

PROJECTIONS

JANUARY 2007 THROUGH DECEMBER 2007

TESTIMONY AND EXHIBITS

OF

GREG M. NELSON

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

GREGORY M. NELSON

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

A. My name is Gregory M. Nelson. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director, Environmental, Health and Safety in the Generation Services.

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

A. I received a Bachelors Degree in Mechanical Engineering from the Georgia Institute of Technology in 1982 and a Masters of Business Administration from the University of South Florida in 1987. I am a registered Professional Engineer in the State of Florida. I began my engineering career in 1982 in Tampa Electric's Engineering Development Program. In 1983, I worked in the Production Department where I was responsible for power plant performance projects. Since 1986, I have held various environmental permitting and compliance positions. In 1997, I was promoted to Administrator - Air Programs in the Environmental Planning Department. In this position, I was responsible for all air permitting and compliance programs. In 1998, I was promoted to Manager, Environmental Planning and in 2000 I became Director, Environmental Affairs. In 2003, I became Director, Environmental, Health and Safety and my present responsibilities include the management of Tampa Electric's environmental permitting and compliance programs as well as generation safety programs.

Q. Have you previously testified before the Florida Public Service Commission ("Commission")?

A. Yes, I have provided testimony regarding environmental projects and their associated environmental requirements in various Environmental Cost Recovery Clause ("ECRC") proceedings before this Commission.

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

A. The purpose of my testimony is to demonstrate that the activities for which Tampa Electric seeks cost recovery through the ECRC for the January 2007 through December

2007 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 U.S. Environmental Protection Agency ("EPA") and the Department of Justice. I will also discuss other programs previously approved by the Commission for recovery through the ECRC; as well as the Clean Air Mercury Rule ("CAMR") program, a new program the company is currently seeking Commission approval to recover the costs of the program activities through the ECRC. Finally, I will discuss the sulfur dioxide ("SO_2") emission allowance sales for 2007 and how the company is positioned for future allowance needs.

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

A. The general ongoing requirements of the Orders provide for further reductions for SO_2, particulate matter ("PM") and nitrous 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 plan was submitted to the EPA in two phases, and both were approved.

Phase I required that Tampa Electric work scrubber outages around the clock and with contract labor, when necessary, 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.

Phase II outlined capital projects that 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 preliminary SO_2 emissions reduction projects have been completed. However, additional work will occur in 2007 associated with the Big Bend Units 1 and 2 FGD and Big Bend FGD Reliability programs to comply with the elimination of the allowed scrubber outage days for 2010 and 2013.

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

A. The Orders require Tampa Electric to develop and implement a best operational practices ("BOP") study to minimize PM emissions from each electrostatic precipitator ("ESP"), complete and implement a best available control technology ("BACT") analysis of the ESPs at Big Bend Station, demonstrate the operation of a PM continuous emissions monitoring system ("CEM") on Big Bend Units 3 and 4 and demonstrate the operation of a second PM CEM on Big Bend Units 1 and 2. Per the Orders, the installation of the second PM CEM is required on or before May 1, 2007, if the first PM CEM has been shown to be feasible and remains in operation and if Tampa Electric advises the EPA that it has elected to continue to combust coal in Big Bend Units 1, 2 and 3. Since the aforementioned conditions have been met, Tampa Electric is required to install the second PM CEM in 2007. In addition, some required BOP projects will occur in the future which is expected to primarily consist of limited wide plate spacing upgrades for Big Bend Units 1 and 3.

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 2007 through December 2007.

A. The Big Bend PM Minimization and Monitoring program was 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 the requirements for recovery through the ECRC. Tampa Electric had previously identified various projects to improve precipitator performance and reduce PM emissions as required by the Orders. In 2007, there will be capital expenditures associated with the installation of a second PM CEM, O&M expenses associated with existing and recently installed BOP and BACT equipment and continued implementation of the BOP procedures. These activities are expected to result in approximately $450,000 and $450,000 of capital and O&M expenses, respectively.

Q. What do the Orders require for NO_x reductions?

A. The Orders require Tampa Electric to perform NO_x emissions reduction projects on Big Bend Units 1, 2 and 3 and pursuant to an amendment, for Big Bend Unit 4 to be substituted for Big Bend Unit 3. The NO_x emissions 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 or provide additional NO_x technologies beyond those required by the early NO_x emissions reduction activities.

Q. Please describe the Big Bend NO_x Emissions Reduction program activities and provide the estimated capital and O&M expenses for the period of January 2007 through December 2007.

A. The Big Bend NO_x Emissions Reduction program was 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 the requirements for recovery through the ECRC. Tampa Electric will perform the requisite capital replacement and maintenance on the previously approved NO_x reduction projects. These activities are expected to result in approximately $300,000 and $350,000 of capital and O&M expenses, respectively.

Q. Please describe long-term NO_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 be shut down and scheduled for dismantlement by June 1, 2007. Big Bend Units 1, 2 and/or 3 must either begin operating 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 installing the necessary NO_x reduction technologies is the most cost-effective alternative to satisfy the NO_x emissions 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.

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 2007 through December 2007.

A. In Docket No. 040750-EI, Order No. PSC-04-0986-PAA-EI, 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 neural networks, 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 projected costs for the period of January 2007 through December 2007 for which Tampa Electric is seeking ECRC recovery are for the Big Bend Units 1 through 3 Pre-SCR and Big Bend Unit 4 SCR capital and O&M expenditures associated with the engineering, procurement, construction, start-up, tuning, operation and ongoing maintenance for the projects. Specifically, the projected capital and O&M expenditures for the Big Bend Unit 1 Pre-SCR are $300,000 and $75,000, respectively. The projected O&M expenses for the Big Bend Unit 2 Pre-SCR are $75,000. No capital expenditures are anticipated in 2007 for this project. The projected capital expenditures for Big Bend Unit 3 Pre-SCR are $1,999,397. No O&M expenses are expected for this project in 2007. Big Bend Unit 4 SCR will be placed in-service May 2007. The projected capital expenditures for 2007 are $5,939,686. Including these 2007 capital expenditures, the total projected plant in-service amount for 2007 is estimated to be $63,815,761, inclusive of allowance for funds used during construction. The 2007 projected O&M expenses are $1,256,000.

The projected capital expenditures for Big Bend Units 1 through 3 SCR projects are $22,991,714, $24,934,917 and $37,302,469, respectively. However, as stated in Tampa Electric Witness, Howard T. Bryant's Prepared Direct Testimony in this docket, the company will not seek recovery of capital expenditures until the in-service date for each project has occurred.

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

A. The programs previously approved by the Commission include Big Bend Unit 3 FGD Integration, Big Bend Units 1 and 2 FGD, Gannon Thermal Discharge Study, Bayside SCR Consumables, Big Bend Unit 4 Separated Over-fired Air ("SOFA"), Clean Water Act Section 316(b) Phase II Study, Big Bend FGD Reliability, Arsenic Groundwater Standard and CAMR.

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 2007 through December 2007.

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 SO_2 emissions requirements of the Phase I and II Clean Air Act Amendments ("CAA") of 1990.

The projected January 2007 through December 2007 O&M expenses for the Big Bend Unit 3 FGD Integration project are $4,013,300. No capital expenditures are anticipated for this project. The projected January 2007 through December 2007 capital and O&M expenditures for the Big Bend Units 1 and 2 FGD project are $297,500 and $6,621,900, respectively. The major component of the expenses is projected to be reagents utilized in the scrubbing process with the balance of expenses being incurred for normal maintenance.

Q. Please describe the Gannon Thermal Discharge Study program activities and provide the estimated capital and O&M expenditures for the period of January 2007 through December 2007.

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 2007 through December 2007, there will be no capital expenditures for this program. Tampa Electric anticipates O&M expenses will be approximately $10,000 for the period.

Q. Please describe the Bayside SCR Consumables program activities and provide the estimated capital and O&M expenditures for the period of January 2007 through December 2007.

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 2007 through December 2007, there will be no capital expenditures for this program. Tampa Electric anticipates O&M expenses associated with the consumable goods (primarily anhydrous ammonia) will be approximately $76,000 for the period.

Q. Please describe the Big Bend Unit 4 SOFA program activities and provide the capital and O&M expenditures for the period of January 2007 through December 2007.

A. The Big Bend Unit 4 SOFA program was approved by Commission for ECRC recovery in Docket No. 030226-EI, Order No. PSC-03-0684-PAA-EI, issued June 6, 2003. In the Order the Commission found that the program met the requirements for recovery through the ECRC, contingent upon Big Bend Unit 4 remaining coal fired. On August 19, 2004, Tampa Electric submitted a letter to the EPA declaring the intent for Big Bend Units 1 through 4 to remain coal fired and, as such, complied with the applicable provisions of the CD associated with the decision. The SOFA project was completed in 2004. For the period of January 2007 through December 2007, there will be no capital expenditures for this program. Tampa Electric anticipates annual O&M expenses will be approximately $250,000 for the period.

Q. Please describe the Clean Water Act Section 316(b) Phase II Study program activities and provide the estimated capital and O&M expenditures for the period of January 2007 through December 2007.

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. For the period of January 2007 through December 2007, there will be no capital expenditures for this program. Tampa Electric anticipates O&M expenses associated with the sampling activities will be approximately $736,192 for the period.

Q. Please describe the Big Bend FGD Reliability program activities and provide the estimated capital and O&M expenses for the period of January 2007 through December 2007.

A. Tampa Electric's Big Bend FGD 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 Reliability project will run concurrently with the installation of SCR systems on the generating units.

As stated in Tampa Electric witness Howard T. Bryant's 2006 Actual/Estimated True-up Testimony filed on August 4, 2006, the Office of Public Counsel ("OPC") filed a protest to the aforementioned Commission order on July 21, 2006. Pending the outcome of the protest, the company will proceed with the inclusion of the prudently incurred FGD costs in the ECRC and respond accordingly to OPC's protest.

For the period of January 2007 through December 2007, Tampa Electric will perform work associated with upgrading the mist eliminator systems for Big Bend Units 1 through 4, upgrading the booster fan for Big Bend Units 3 and 4, electrically isolating the FGD systems on Big Bend Units 3 and 4 and other related activities. These activities are expected to result in approximately $6,500,600 of capital expenditures. No O&M expenses are anticipated for the period.

Q. Please describe the Arsenic Groundwater Standard program activities and provide the estimated capital and O&M expenditures for the period of January 2007 through December 2007.

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 2007 through December 2007, there will be no capital expenditures for this program;

however, Tampa Electric anticipates O&M expenses associated with the sampling activities will be approximately $105,000.

Q. Please describe the CAMR program activities and provide the estimated capital and O&M expenditures for the period of January 2007 through December 2007.

A. Tampa Electric submitted a petition seeking Commission approval for cost recovery for the CAMR program on August 30, 2006. The EPA established standards of performance for mercury emissions for new and existing coal-fired electric utility steam generating units as defined in the federal CAA Section 111, known as CAMR, effective January 2009. CAMR will permanently cap and reduce mercury emissions nation-wide in two phases: Phase I cap is 38 tons per year with a compliance date of 2010 and Phase II cap is 15 tons per year with a compliance date of 2018. The FDEP administers the CAMR as delineated in Chapter 62-204, 62-210 and 62-296, Florida Administrative Code ("F.A.C.").

Tampa Electric's Big Bend and Polk Power Stations will be affected by the nation-wide mercury emissions reduction rule. The company will install CEMs or sorbent trap monitoring systems that sample mercury found in flue gas.

For the period of January 2007 through December 2007, Tampa Electric anticipates capital expenditures $560,000 for this program. No O&M expenses are expected for this program for 2007.

Q. Please describe how Tampa Electric reached the decision to sell SO_2 emission allowances in 2007 and discuss the company's allowance needs for 2007 and beyond.

A. After the completion of the repowering project at Bayside Power Station, Tampa Electric performed a thorough evaluation of SO_2 emission allowance needs based on current system conditions and those projected to occur over the next 20 years. Current system conditions included the reduction in coal usage due to repowering and the impacts of the CD and CFJ on SO_2 emission allowances. Future conditions took into account generation expansion and the impact of new federal environmental regulations on SO_2 emission allowances, such as the Clean Air Interstate Rule. At the conclusion of the evaluation, it became evident that the company had a significant surplus of allowances that could be sold in the allowance marketplace. Furthermore, there will be an adequate remaining allowance inventory that will meet the company's needs for the next 20 years.

The decision to sell surplus SO_2 allowances was enhanced by the sustained high allowance prices available in the marketplace due to increased industry demand. In balancing the appropriate quantity to sell with the company's expected future needs, Tampa Electric anticipates selling approximately 105,000 allowances in early 2007. The company will continue to evaluate potential sales opportunities of any future quantities of surplus allowances.

Q. Please summarize your testimony.

A. 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. My testimony identified projects which are legally required by the Orders. I described the progress Tampa Electric has made to achieve the more stringent environmental standards. I have identified estimated costs, by project, which the company expects to incur in 2007. Additionally, my testimony identified other projects which are required for Tampa Electric to meet environmental requirements and I provided associated 2007 activities and projected expenditures. Finally, I addressed the prudent sales of SO_2 emissions allowances that are anticipated to occur in 2007 and demonstrated that Tampa Electric's approach toward the allowance quantity contained in the sales will not jeopardize the company's long-term future allowance needs.

Q. Does this conclude your testimony?

A. Yes it does.