BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 040007-EI

IN RE:

ENVIRONMENTAL COST RECOVERY FACTORS

PROJECTIONS

JANUARY 2005 THROUGH DECEMBER 2005

TESTIMONY

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 "the 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 2005 projection period are activities necessary for the company to comply with 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. Finally, I will discuss four new environmental compliance programs to control nitrogen oxides ("NO_x") emissions: Big Bend Unit 4 Selective Catalytic Reduction ("SCR"), Big Bend Unit 1 Pre-SCR, Big Bend Unit 2 Pre-SCR and Big Bend Unit 3 Pre-SCR. These compliance programs were submitted to the Commission for ECRC cost recovery approval on July 15, 2004 and assigned Docket No. 040750-EI.

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 requirements of the Orders include repowering Gannon Station and provide further reductions for sulfur dioxide ("SO_2"), particulate matter ("PM") and NO_x

emissions at Big Bend Station. The repowering of Gannon Station was completed in early 2004 and the plant has been renamed the H. L. Culbreath Bayside Power Station.

Regarding SO_2 emissions reductions at Big Bend Station, 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") at Big Bend Station. The plan was submitted to EPA in two phases, and both were approved. Phase I of the plan 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 of the plan outlined capital projects that Tampa Electric performed to upgrade each scrubber at Big Bend and 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. There will be additional work required in 2009 and 2012 coincident with the elimination of the scrubber outage days.

Concerning PM emissions reduction, 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") and evaluate the possibility of installing a second PM CEM. Nearly all of the BOP and BACT PM emission reduction projects will be completed in 2004 and there are no projects scheduled for 2005. There will be some required BOP projects in the future which are expected to primarily consist of limited wide plate spacing upgrades for Big Bend Units 1 and 3.

The early NO_x reduction activities are ongoing and will continue into 2005. The Orders require Tampa Electric to perform NO_x reduction projects on Big Bend Units 1 through 3 and allowed, pursuant to an amendment, for Big Bend Unit 4 to be substituted for Big Bend Unit 3. These early NO_x reductions use 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 or provide additional NO_x technologies beyond those required by the early reduction activities.

Q. Please describe the Big Bend Early NO_x Emissions Reduction program activities and provide the estimated O&M and capital expenditures for 2005.

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. For 2005, Tampa Electric has identified the projects that will reduce NO_x emissions as required under the Orders. These include performing the requisite maintenance on the previously approved NO_x reduction projects, completion of the Department of Energy neural network sootblowing project and continuing the coal and air-flow monitoring and balancing projects, both on Big Bend Unit 2. These projects are expected to result in approximately $165,000 of capital expenditures and $484,000 of O&M expenses.

Q. Please describe the Big Bend PM Minimization and Monitoring program activities and provide the estimated O&M and capital expenditures for 2005.

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. For 2004, the BOP and BACT projects included the installation and demonstration of a PM CEM system, the installation of flyash controls on Big Bend Units 2 and 3, thermal flow corrections on Big Bend Unit 3 and completion of the work on Big Bend Unit 1 slag vent fans. No new capital improvement projects are planned for 2005. However, there will be O&M expenses associated with existing and newly installed BOP and BACT equipment and continued implementation of the BOP procedures. These projects are expected to result in approximately $1,050,000 of O&M expenses.

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

A. The programs previously approved by the Commission that I will describe include Big Bend Unit 3 Flue Gas Desulfurization Integration, Big Bend Units 1 and 2 Flue

Gas Desulfurization, Gannon Thermal Discharge Study, Bayside SCR Consumables and Big Bend Unit 4 Separated Over-fired Air ("SOFA").

Q. Please describe the Big Bend Unit 3 Flue Gas Desulfurization Integration and the Big Bend Units 1 and 2 Flue Gas Desulfurization activities and provide the estimated O&M and capital expenditures for 2005.

A. The Big Bend Unit 3 Flue Gas Desulfurization 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 Flue Gas Desulfurization 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 of 1990.

For 2005, there will be no capital expenditures for these programs; however, Tampa Electric anticipates O&M expenses for the Big Bend Unit 3 Flue Gas Desulfurization Integration program and the Big Bend Units 1 and 2 Flue

Gas Desulfurization program to be approximately $2,240,000 and $4,400,000, respectively. The dominant component of the expenses is projected to be reagents utilized in the scrubbing process with the balance of expenses being incurred for maintenance.

Q. Please describe the Gannon Thermal Discharge Study program activities and provide the estimated O&M and capital expenditures for 2005.

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. The FDEP is currently reviewing the sampling plan submitted by Tampa Electric. Approval is expected in late 2004 with commencement of the work immediately thereafter. For 2005, there will be no capital expenditures for this program; however, Tampa Electric anticipates O&M expenses will be approximately $500,000.

Q. Please describe the Bayside SCR Consumables program activities and provide the estimated capital and O&M expenditures for 2005.

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 2005, there will be no capital expenditures for this program; however, Tampa Electric anticipates O&M expenses associated with the consumable goods (primarily anhydrous ammonia) will be $115,000.

Q. Please describe the Big Bend Unit 4 SOFA program activities and provide the O&M and capital expenditures for 2005?

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 that 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, will comply with the applicable provisions of the CD associated with this decision. The SOFA project was completed in 2004 and the annual O&M expense for 2005 is anticipated to be approximately $50,000.

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 an 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 by May 1, 2008, May 1, 2009 and May 1, 2010, respectively, one unit per year.

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. Attached as Exhibit A to Tampa Electric's July 15, 2004 petition for cost recovery to the Commission is a document entitled "The Big Bend Technology Assessment Study and NO_x Compliance Plan" ("Study"), which contains the results of the evaluation. The Study evaluated the options of: 1) remaining coal-fired, 2) repowering the facility, or 3) shutting down the station and replacing it with new generation. The results of the Study clearly indicate 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 option will require Tampa Electric to install SCR reduction technologies to meet future NO_x emission rates as required by the Orders.

Q. Please describe the Big Bend Unit 4 SCR, Big Bend Unit 1 Pre-SCR, Big Bend Unit 2 Pre-SCR and Big Bend Unit 3 Pre-SCR programs and provide estimated capital and O&M expenditures for 2005.

A. Tampa Electric's July 15, 2004 petition to the Commission seeks approval of recovery through the ECRC for the costs associated with the projects identified in the Study, namely, Big Bend Unit 4 SCR, Big Bend Unit 1 Pre-SCR, Big Bend Unit 2 Pre-SCR and Big Bend Unit 3 Pre-SCR, as necessary to begin to cost-effectively meet the NO_x emissions requirements of the Orders. The Big Bend Unit 4 SCR project encompasses the design, procurement, installation and annual O&M expenses associated with an SCR system for the unit. The Pre-SCR Big Bend Units 1 through 3 projects are cost-effective precursors to SCR systems. These Pre-SCR technologies include a neural network system, secondary air controls and windbox modifications for Big Bend Unit 1; secondary air controls and windbox modifications for Big Bend Unit 2; and a neural network system, secondary air controls, windbox modifications and primary coal/air flow controls for Big Bend Unit 3. The purpose of the Pre-SCR technologies on Big Bend Units 1 through 3 is to reduce inlet NO_x concentrations to the SCR systems thereby mitigating overall SCR capital and O&M costs. The installation of these Pre-SCR technologies is accepted throughout the industry as the more prudent, cost-effective decision over simply installing larger SCR systems.

The 2005 projected costs for which Tampa Electric is seeking ECRC recovery are for the capital and O&M expenditures associated with the engineering, procurement, construction, start-up, tuning, operation and ongoing maintenance for three of the four programs. The 2005 projected capital and O&M expenditures for Big Bend Unit 1 Pre-SCR are $1,705,000 and $27,000, respectively. The 2005 projected capital and O&M expenditures for Big Bend Unit 2 Pre-SCR are $1,000,000 and $23,000, respectively. Finally, the 2005 projected capital and O&M expenditures for Big Bend Unit 3 Pre-SCR are $2,135,000 and $66,000, respectively.

The 2005 projected capital expenditure for Big Bend Unit 4 SCR is $9,500,000. However, as previously stated in Tampa Electric witness Bryant's Prepared Direct Testimony in the 2004 ECRC Actual/Estimated True-Up filed August 3, 2004, the company will not seek recovery of the capital expenditures until mid-2007, the expected in-service date for the project. At that time, the associated depreciation expense and allowance for funds used during construction for the program will be requested for ECRC recovery.

Q. Please summarize your testimony.

A. Tampa Electric's settlement agreements with FDEP and EPA which 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 2005. Finally, my testimony identified other projects which are required for Tampa Electric to meet environmental requirements and I provided associated 2005 activities and projected expenditures.

Q. Does this conclude your testimony?

A. Yes it does.