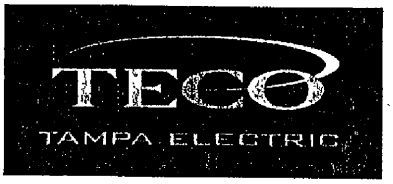

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030007-EI

IN RE:

ENVIRONMENTAL COST RECOVERY FACTORS

PROJECTIONS

JANUARY 2004 THROUGH DECEMBER 2004

TESTIMONY

OF

GREG M. NELSON

DOCUMENT NUMBER-DATE
08437 SEP-8 8
FPSC-COMMISSION CLERK

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 mailing address is P.O. Box 111, Tampa, Florida 33601, and my business address is 6944 U.S. Highway 41 North, Apollo Beach, Florida 33572. I am employed by Tampa Electric Company ("Tampa Electric" or "the company") as Director, Environmental Affairs in the Energy Supply Department.

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. My present responsibilities include the management of Tampa Electric's environmental permitting and compliance 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 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 2004 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 as well as the Big Bend Unit 4 Separated Overfire Air ("SOFA") Low NO_x Retrofit that was recently approved in Docket No. 030226-EI. Finally, I will discuss the study that is underway at Big Bend Station which will ultimately identify the direction the company will take to meet the long-term requirements of the CFJ and the CD.

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 further reductions of sulfur dioxide ("SO_2"), NO_x and particulate matter ("PM") emissions at Big Bend Station. The repowering of Gannon Station is projected for completion by early 2004 and will be

renamed Bayside Power Station.

The NO_x reduction activity is ongoing. The Orders require Tampa Electric to perform NO_x reduction projects on Big Bend Units 1 through 3; however, Big Bend Unit 4 may 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 must also demonstrate innovative NO_x technologies beyond those required by the early reduction activities.

Concerning the 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. All of the PM emissions reduction projects are well underway and the work necessary to reduce PM emissions will be largely completed in 2004.

Q. Please describe the Big Bend NO_x Emissions Reduction

program activities and provide the estimated O&M and capital expenditures for 2004.

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 2004, 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 NO_x reduction projects installed in prior years pursuant to the Orders, continuing the DOE neural network sootblowing project on Big Bend Unit 2, and continuing the coal and air-flow monitoring and balancing projects on Big Bend Units 1 and 2. These projects are expected to result in approximately $545,000 of O&M expenses and $437,000 of capital expenditures.

Q. Please describe the Big Bend PM Minimization and Monitoring program activities and provide the estimated O&M and capital expenditures for 2004.

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. For 2004, Tampa Electric has identified various projects that will improve precipitator performance and reduce PM emissions as required under the Orders. These projects include the implementation of the BOP and BACT studies and activities associated with 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 continuing the work on Big Bend Unit 1 slag vent fans and Big Bend Unit 2 flyash controls. These projects are expected to result in approximately $980,000 of O&M expenses and $1.5 million of capital expenditures.

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

A. The programs previously approved by the Commission that I will discuss include Big Bend Unit 3 Flue Gas Desulfurization Integration, Big Bend Units 1 and 2 Flue Gas Desulfurization, Gannon Thermal Discharge Study, Bayside Selective Catalytic Reduction ("SCR") Consumables and Big Bend Unit 4 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 2004.

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 2004, 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 $2.2 million and $4.3 million, respectively. The dominant component of these expenses is projected to be reagents utilized in the flue gas desulfurization 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 2004.

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 2003 with commencement of the work immediately thereafter. For 2004, there will be no capital expenditures for this program; however, Tampa Electric anticipates O&M expenses will be approximately $250,000.

Q. Please describe the Bayside SCR Consumables program activities and provide the estimated O&M and capital expenditures for 2004.

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 2004, 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 $243,000.

Q. 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. Please provide an overview of the environmental compliance requirements associated with the project.

A. The Big Bend Unit 4 SOFA program satisfies two requirements of the Consent Decree. First, an SCR system or other approved NO_x reduction technologies must ultimately be utilized for Big Bend Unit 4 to achieve a NO_x emission rate of 0.10 lbs. per mmBTU by 2007. However, in-furnace combustion control through a SOFA system is the most cost effective means to reduce NO_x emissions prior to the application of these technologies. Therefore, the application of SOFA technology at this stage of the company's NO_x abatement effort will reduce the cost of future technologies, such as an SCR system, on Big Bend Unit 4 as Tampa Electric works to achieve the ultimate requirements of the Orders. Second, the application of a SOFA system will be integral to meeting

the requirements of Paragraph 52.C.(1) of the CD which requires Tampa Electric to invest in innovative technologies or otherwise better the NO_x emission limits set forth elsewhere in the CD.

Q. What are the estimated capital and O&M expenditures for 2004 related to the Big Bend Unit 4 SOFA program?

A. For 2004, Tampa Electric anticipates that the capital expenditures for the Big Bend Unit 4 SOFA will be about $575,000 and O&M expenses will be about $50,000.

Q. Please describe the purpose of the study occurring at Big Bend Station and what is expected from the study?

A. The Orders require Big Bend Unit 4 to either 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. The comprehensive study is a wide-ranging evaluation of each of these options relative to the life of Big Bend

Station. Tampa Electric anticipates completing this evaluation no later than the first quarter 2004. After completion of the study, the company will keep the Commission informed of its decision.

Q. Please summarize your testimony.

A. Tampa Electric entered into 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, that the company expects to incur in 2004. Finally, my testimony identified other projects which are required for Tampa Electric to meet environmental requirements and I provided associated 2004 activities and projected expenditures.

Q. Does this conclude your testimony?

A. Yes it does.