BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 010007-EI

IN RE:

ENVIRONMENTAL COST RECOVERY FACTORS

PROJECTIONS

JANUARY 2002 THROUGH DECEMBER 2002

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 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 Environmental and Fuels 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 are activities that are necessary for the company to comply with environmental requirements.

Specifically, I will describe any changes to the conditions of the Consent Final Judgment ("CFJ") entered into with the Florida Department of Environmental Protection ("DEP") and the Consent Decree ("CD") lodged with the U.S. Environmental Protection Agency ("EPA") and the Department of Justice ("DOJ") since the last filing. In addition, I will provide an overview of ongoing environmental compliance activities that are the result of the CFJ and CD ("the Orders"), some of which Tampa Electric has included in its 2002 ECRC projection filing.

Q. Please provide an overview of the environmental compliance requirements of the Orders and any amendments to the Orders since their entry dates.

A. The requirements of the Orders include repowering Gannon Station and further reductions of sulfur dioxide ("SO_2"), nitrogen oxides ("NO_x") and particulate matter ("PM") emissions at Big Bend Station. In early 2001, Tampa Electric submitted a request to the EPA to amend the SO_2 and NO_x requirements of the CD.

Regarding the SO_2 provisions of the Orders, Tampa Electric requested that the EPA amend the CD to provide Big Bend Unit 3 with 30 days of additional deintegration time, for

a total of 60 unscrubbed days in 2001, without penalty. In addition, Tampa Electric sought clarification on the definition of a deintegration day. The original CD specified that any portion of a day constituted a deintegration day. Tampa Electric and EPA ultimately agreed that a deintegration day could span up to 24 hours - on a rolling basis - before another deintegration day was entered.

Regarding CD NO_X requirements, Tampa Electric also received agreement from the EPA to allow Big Bend Unit 4 to be used as a creditable unit for the early NO_X reduction program. Tampa Electric entered into these amendments on May 21, 2001, thereby incorporating these modifications into the CD.

Q. Please describe the progress of the compliance requirements associated with the reduction of SO_2 emissions at Big Bend Station.

A. Beginning in October 2000, compliance with the flue gas desulfurization ("FGD") system operational requirements of the Orders resulted in reduction on SO_2 emissions from Big Bend Station. These reductions were achieved by operating the Big Bend Units 1 and 2 FGD system and the

Big Bend Unit 3 integrated FGD system, whenever their respective units are in-service, with certain exceptions. Those exceptions include a specific amount of allowances of unscrubbed days for each FGD system. To date, Tampa Electric has estimated that 50 unscrubbed days have been avoided based on these practices.

Tampa Electric was also required by the Orders to submit a plan addressing all operation and maintenance changes to be made that would maximize the availability and removal efficiency of the existing FGDs treating emissions of SO_2 from Big Bend Units 1, 2 and 3. The plan was submitted in two phases. The Phase I and Phase II plans were approved by the EPA on May 18, 2000 and June 9, 2001, respectively. Tampa Electric also began to implement improvements to provide the needed FGD reliability in 2000 and 2001, and will continue to make upgrades in 2002 and beyond. Details of the improvements are included in the direct testimony of Tampa Electric's witness Darryl H. Scott.

Q. Please describe the progress of the compliance requirements associated with the reduction of NO_x emissions at Big Bend Station.

A. The amended Orders require that Tampa Electric spend a

minimum of $3 million to perform projects on Big Bend Units 1, 2, 3 and/or 4 that are intended to provide early NO_x emissions reductions when compared to 1998 levels. These early NO_x emissions reduction projects must be implemented on or before December 31, 2002. Tampa Electric submitted an *Early NO_x Emissions Reduction Plan* ("Plan") to the EPA on February 23, 2001 and obtained EPA approval on March 8, 2001. An additional $5 to $6 million must be spent to demonstrate innovative NO_x control technologies on any of its units or boilers at Gannon or Big Bend Station and/or reduce the NO_x emission rate for any Big Bend coal-combusting unit.

To date, Tampa Electric has investigated several commercially available NO_x reduction technologies, and has elected to modify the burners serving Big Bend Unit 1 and install a neural network on Big Bend Unit 2. These modifications began in the first quarter of 2001 and are more fully defined witness Scott's testimony. Once Tampa Electric evaluates the impact of each technology on the NO_x emissions from each boiler, the company will submit to the EPA a report detailing their effectiveness and will recommend future modifications to reduce NO_x emissions from the Big Bend Units.

In addition, should new technologies become available that could provide additional NO_X emissions reductions from the Big Bend units, Tampa Electric will investigate their feasibility and cost effectiveness for potential inclusion in the current plan.

Q. Please describe the progress of the compliance requirements associated with the reduction of PM emissions at Big Bend Station.

A. The Orders require Tampa Electric to complete an optimization study that recommends the best operational practices to minimize PM emissions from each electrostatic precipitator ("ESP") at Big Bend within 12 months after entry into the CD and implement the recommendations within 60 days after EPA has approved them. Tampa Electric is in the process of finalizing the Best Operations Practices ("BOP") study and anticipates submitting this document to the EPA in early October 2001. The BOP study examines the performance of the Big Bend ESP to determine if changes to the equipment could be made to improve collection efficiency and to evaluate and revise, where necessary, existing operating and maintenance procedures.

The Orders also required Tampa Electric to complete a Best Available Control Technology ("BACT") analysis of the ESPs at Big Bend Station and submit it to the EPA for review and approval. This BACT analysis will be submitted in early October 2001. The BACT analysis reviews the results of the BOP study, which identifies changes that could be made to the ESP equipment that would result in PM emissions reductions, and compares the options on a performance and economic basis.

Although neither the BOP study nor the BACT analysis is complete, the company notified EPA of its intent and began implementation of several of the identified recommendations for Big Bend Unit 1 during the second quarter of 2001. This was done in advance of the submittal of the plans in an effort to take advantage of the Unit 1 spring outage. The completion of this work should achieve early PM reductions from Unit 1. This work is identified in witness Scott's prepared direct testimony.

Tampa Electric is also required to install and operate a PM continuous emission monitor ("CEM") by March 2002 and evaluate the possibility for Tampa Electric to install a second PM CEM. Tampa Electric has investigated and

selected the PM CEM technology for Big Bend Station and will perform the engineering in late 2001 with installation to follow in 2002.

Q. What benefits will the requirements of the Orders bring by way of reduced emissions?

A. Repowering with natural gas at Gannon Station along with high-efficiency, state-of-the-art controls at Big Bend Station, will enable Tampa Electric to reduce SO_2 emissions by almost 90 percent, reduce NO_x by more than 85 percent and PM emissions by more than 20 percent by the year 2010. Since Tampa Electric is in the first phases of implementing the requirements of the CD, the greater part of the emissions reductions have not yet been achieved. However, due to the installation of the FGD system on Big Bend Units 1 and 2 and implementation of the FGD operational limitations defined in the CD, reductions of SO_2 emissions have already been achieved in 2001. Tampa Electric projects that SO_2 emissions in 2001 will be reduced by approximately 50 percent from the previous year.

Q. Please summarize your testimony.

A. Tampa Electric has entered into settlement agreements with DEP and EPA which require significant reductions in emissions from Tampa Electric's Big Bend and Gannon Stations. The Orders establish 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 identifies the projects which are legally required by the Orders and describes the progress Tampa Electric has made towards meeting the more stringent environmental standards.

Q. Does this conclude your testimony?

A. Yes it does.