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BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

DOCKET NO. 130040-EI

PETITION FOR RATE INCREASE
BY TAMPA ELECTRIC COMPANY.
_____/

VOLUME 3

Pages 292 through 506

PROCEEDINGS: HEARING

COMMISSIONERS PARTICIPATING: CHAIRMAN RONALD A. BRISÉ
COMMISSIONER LISA POLAK EDGAR
COMMISSIONER ART GRAHAM
COMMISSIONER EDUARDO E. BALBIS
COMMISSIONER JULIE I. BROWN

DATE: Monday, September 9, 2013

TIME: Commenced at 9:37 a.m.
Concluded at 10:01 a.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: LINDA BOLES, CRR, RPR
Official FPSC Reporter
(850) 413-6734

APPEARANCES: (As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

NUMBER:	ID.	ADMTD.

NO EXHIBITS MARKED OR ADMITTED IN THIS VOLUME

P R O C E E D I N G S

(Transcript follows in sequence from Volume 2.)

TAMPA ELECTRIC COMPANY
DOCKET NO. 130040-EI
FILED: 04/05/2013

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

LORRAINE L. CIFUENTES

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

A. My name is Lorraine L. Cifuentes. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Manager, Load Research and Forecasting in the Regulatory Affairs Department.

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

A. In 1986, I received a Bachelor of Science degree in Management Information Systems from the University of South Florida. In 1992, I received a Masters of Business Administration degree from the University of Tampa. In October 1987, I joined Tampa Electric as a Generation Planning Technician, and I have held various positions within the areas of Generation Planning, Load Forecasting and Load Research. In October 2002, I was promoted to

Manager, Load Research and Forecasting. My present responsibilities include the management of Tampa Electric's customer, peak demand, energy sales and revenue forecasts, as well as management of Tampa Electric's load research program and other related activities.

Outside of Tampa Electric, I am also actively involved in several forecasting-related organizations. I am actively involved in the Electric Utilities Forecaster Forum ("EUFF"), which is an organization made up of electric utility forecasters from across the nation that meet twice a year to discuss forecasting issues and challenges. I have held the position of President of the EUFF since 2008. In addition, I am the chairperson for the Florida Reliability Coordinating Council Load Forecast Working Group and coordinate the review of Florida utilities' load forecasting methodologies and demand and energy forecasts that support the Peninsular Florida Load and Resource Plan and reliability assessments.

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to describe Tampa

Electric's load forecasting process, describe the methodologies and assumptions and present the load forecast used in Tampa Electric's test year budget that supports its request for a base rate increase. Additionally, I will demonstrate how the forecasts are appropriate and reasonable based on the assumptions provided.

Q. Have you prepared an exhibit to support your direct testimony?

A. Yes. I am sponsoring Exhibit No. ____ (LLC-1) consisting of eleven documents, prepared under my direction and supervision. These consist of:

Document No. 1	List of Minimum Filing Requirement Schedules Sponsored Or Co-Sponsored By Lorraine L. Cifuentes
Document No. 2	Comparison of 2008 Forecasts Versus Current Forecast of Customer Growth And Energy sales
Document No. 3	Economic Assumptions Average Annual Growth Rate
Document No. 4	Billing Cycle Based Degree Days
Document No. 5	Customer Forecast
Document No. 6	Per-Customer Energy Consumption

Document No. 7	Retail Energy Sales
Document No. 8	Per-Customer Peak Demand
Document No. 9	Peak Demand
Document No. 10	Firm Peak Demand
Document No. 11	Firm Peak Load Factor

Q. Are you sponsoring any sections of Tampa Electric's Minimum Filing Requirements ("MFRs")?

A. Yes. I sponsor or co-sponsor the MFRs shown in Document No. 1 of my exhibit.

FORECAST RESULTS

Q. Please summarize your forecast results.

A. The forecasts presented in my direct testimony are the same forecasts I recently presented in Docket No. 120234-EI and reflect the recent growth trends in the company's service territory. The sales trends experienced by the company are consistent with the sales trends of other utilities in Florida and in the South Atlantic region.

As discussed below, the period of unusual uncertainty and economic disruption referred to by some as the "Great

Recession" appears to be over. The company expects customer growth to ramp up, to an average annual growth rate ("AAGR") of 1.5 percent over the next ten years (2013-2022); however, average customer use is projected to decline. Since 2007, per-customer consumption has declined at an AAGR of 1.7 percent and it is expected to decline at an AAGR of 0.3 percent over the next ten years. With 1.5 percent customer growth and 0.3 percent average per-customer use decline, the company expects retail energy sales to increase at an AAGR of 1.2 percent during the forecast horizon.

Q. Please explain the company's experience with revenues, load growth and customer growth since the last rate proceeding was filed in 2008.

A. The company's experience over the past five years has been anything but normal, at least compared to history. From 1994 to 2007, the number of customers served by the company grew at an annual average rate of 2.5 percent and average consumption per customer increased at an annual average rate of 0.2 percent, for an overall annual average increase of 2.7 percent in retail energy sales. During this period, the company's annual peak demand increased from 2,754 MW to 4,123 MW or by an average of

3.2 percent per year. The company's base revenues also grew an average annual rate of 2.9 percent or approximately $19 million a year.

The company began seeing the first hint that customer usage and load growth were changing in 2008, when the 2009 load forecast was prepared. At that time, the company started to see signs that the number of new customers connecting to the system was slowing and the average amount of energy used per customer was declining from its historical patterns. While the company reflected this slower growth in its 2009 load forecast, the company expected this slower growth to last only a short time before returning to historical levels. As it turns out, the unusual growth data and uncertainty initially identified in 2008 turned out to be the beginning of a trend experienced by utilities in Florida and around the country, namely slower customer growth and lower average usage per customer. Document No. 2 of my exhibit shows the trends in customer growth and retail energy sales compared to the projections from the company's last base rate proceeding and for the forecasts presented in my direct testimony.

Since 2007, customer growth increased at an average

annual rate of 0.6 percent, however, total retail energy sales declined by an average of 1.2 percent per year, which was alarming and unprecedented. As a result, a significant portion of the retail energy sales and base revenues projected in the company's last base rate proceeding never materialized. To illustrate this point, when the company looks back on the load forecast it prepared and filed in 2008 and applies the base rates approved by the Florida Public Service Commission ("Commission" or "FPSC") in the 2009 rate proceeding and compares these forecasted revenues to actual revenues, there is an estimated revenue shortfall of $50 million in 2009, increasing to a shortfall of $129 million by 2012.

On a projected basis for the year 2014, the 2008 load forecast with the 2009 base rates applied would produce revenues of $1.071 billion, which is $163 million greater than the $908 million in revenues forecasted for the current 2014 test year.

In short, customer growth and usage rates have changed from historical levels and the load growth the company expected in its last base rate proceeding never materialized. The current retail energy sales forecast of 18,370 GWH for the 2014 test year is 8 percent lower

than the 2009 test year projection of 19,993 GWH provided in the last base rate proceeding. In 2009, the Commission approved total base revenues for the company of $970 million including step increase revenues. However, since then the company's annual base revenues averaged about $900 million and have never exceeded $933 million. The company's forecasted base revenues for the 2014 test year are $908 million, or about $62 million less than the revenue approved in the company's last base rate proceeding.

Like the other utilities in Florida, the company has finally come to terms with the changing growth and usage patterns and the period of unusual uncertainty has passed. The company is now experiencing steady growth in customers, albeit at a slower rate, and expects customer and energy sales growth to continue improving over the next few years. The average annual growth rates over the forecast horizon for customers and energy sales are 1.5 percent and 1.2 percent, respectively. The process Tampa Electric uses to prepare its load forecast and the steps it has taken to ensure it is reasonable are discussed below in my direct testimony.

TAMPA ELECTRIC'S FORECASTING PROCESS

Q. Please describe Tampa Electric's load forecasting process.

A. Tampa Electric uses econometric models and statistically adjusted engineering ("SAE") models, which are integrated to develop projections of customer growth, energy consumption and peak demands. The econometric models measure past relationships between economic variables, such as population, employment and customer growth. The SAE models, which incorporate end-use structure into an econometric model, are used for projecting average per-customer consumption. These models have consistently been used by Tampa Electric for generation planning purposes and the modeling results have been submitted to the Commission for review and approval in past regulatory proceedings. MFR Schedule F-5, which I am co-sponsoring, provides a more detailed description of the forecasting process.

Q. Which assumptions were used in the base case analysis of customer growth?

A. The primary economic drivers for the customer forecast are Hillsborough County and Florida population estimates, service area households and Hillsborough County

employment. The population forecast is the starting point for developing the customer and energy projections. Both the University of Florida's Bureau of Economic and Business Research ("BEBR") and Moody's Analytics provide population projections. The population forecast is based upon the projections of BEBR in the short-term and is a blend of BEBR and Moody's Analytics for the long-term forecast. Moody's Analytics provides projections of employment by major sectors. Service area households and Hillsborough County employment assumptions are utilized in estimating non-residential customer growth. For example, an increase in the number of households results in a need for additional services, restaurants and retail establishments. Additionally, projections of employment in the construction sector are a good indicator of expected increases and decreases in local construction activity. Similarly, commercial and industrial employment growth is a good indicator of expected activity in their respective sectors. The ten-year historical and forecasted average annual growth rates for these economic indicators are shown in Document No. 3 of my exhibit.

Q. Which assumptions were used in the base case analysis of energy sales growth?

A. Customer growth and per-customer consumption growth are the primary drivers for growth in energy sales. The average per-customer consumption for each revenue class is based on the SAE modeling approach. The SAE models have three components. The first component includes assumptions of the long-term saturation and efficiency trends in end-use equipment. The second component captures changes in economic conditions, such as increases in real household income, changes in number of persons per household, the price of electricity and how these factors affect a residential customer's consumption level. A complete list of the critical economic assumptions used in developing these forecasts is shown in Document No. 3 of my exhibit. The third component captures the seasonality of energy consumption. Heating and cooling degree-day assumptions allocate the appropriate monthly weather impacts and are based on weather patterns over the past 20 years. Historical and projected degree days are shown in Document No. 4 of my exhibit. MFR Schedule F-7 and F-8 provide a description and the historical and projected values of each assumption used in the development of the 2014 test year retail energy sales.

Q. Which assumptions were used in the base case analysis of

peak demand growth?

A. Peak demand growth is affected by long-term appliance trends, economic conditions and weather conditions. The end-use and economic conditions are integrated into the peak demand model from the energy sales' forecast. The weather variables are heating and cooling degree days at the time of the peak and for the 24-hour period of the peak day and the day prior to the peak. Weather variables provide the seasonality to the monthly peaks. By incorporating both temperature variables, the model accounts for cold or heat buildup that contributes to determining the peak day. The temperature assumptions used are based on an analysis of 20 years of peak day temperatures. For the peak demand forecast, the design temperature at the time of winter and summer peaks is 31 and 92 degrees Fahrenheit, respectively.

Q. Does Tampa Electric assess the reasonableness of these base assumptions?

A. Yes. The base case economic assumptions have been evaluated based on a comparison of the data series' historical average annual growth rates to the projected average annual growth rates for the forecast period. In

addition, each economic data series is compared to an alternate source and evaluated for consistency. Moody's Analytics' projections for Florida employment by major sectors and Florida real household income are compared to the projections from the Office of Economic and Demographic Research, which is part of the Florida Legislature. The projections for Florida employment growth were consistent between the two sources; therefore, it is reasonable to conclude that Moody's Analytics' projections for Hillsborough County employment growth were also reasonable.

Q. Were the forecasts for population growth also evaluated for reasonableness?

A. Yes. County and state level projections are compared and evaluated for consistency. Moody's Analytics and BEBR's population forecasts were also compared and evaluated for consistency. A blend of the two sources was used and provides a reasonable population projection.

Q. Historically, what has been the accuracy of the company's retail energy sales forecasts?

A. Over the past ten years, the average accuracy of the

retail energy sales forecasts, excluding the phosphate sector (which varies significantly from year to year), is a 3.3 percent overstatement compared to actuals. Industry-wide forecasts of electricity consumption have been overstated due to the unprecedented depth and duration of the Great Recession. With the period of unusual uncertainty behind us now, accuracy levels should fall back to typical levels of within 1.0 percent. The current forecast is tracking actual sales quite well. The forecast (excluding phosphate sales), which was completed in June of 2012, is 0.6 percent above 2012 actual energy sales and year-to-date actual results through February. The results indicate that the forecast provides reasonable estimates for the 2014 test-year.

Q. Have Tampa Electric's forecasting models and assumptions used in developing the customer, demand and energy forecasts been reviewed for reasonableness?

A. Yes. Itron, Inc. ("Itron"), an industry leader that provides utility forecasting software and methodologies to more than 160 utilities and energy companies, reviewed Tampa Electric's forecasting models and assumptions. Itron concluded that the forecast models were theoretically sound with excellent model statistics and

modeling errors were reasonable and consistent with other utilities.

TAMPA ELECTRIC'S FORECASTED GROWTH

Q. What is Tampa Electric's customer base?

A. Tampa Electric's current customer base is shown in Document No. 5 of my exhibit. Tampa Electric's customer base averaged 684,235 retail accounts in 2012.

Q. What is Tampa Electric's projected customer growth?

A. Customer growth in 2012 was 1.2 percent, projections for 2013 and 2014 are 1.2 percent and 1.3 percent, respectively. Tampa Electric is projecting an average annual increase of 10,729 new customers over the next ten years (2013-2022). This average annual increase of 1.5 percent is slightly higher than the average annual growth rate of 1.4 percent during the past ten years (2003-2012), as reflected in Document No. 5 of my exhibit.

Q. How do Tampa Electric's projected customer growth rates compare with historical growth rates?

A. Customer growth rates are lower than those experienced prior to the recent recession; however, customer growth is considerably higher than it was in the recession period between 2007 and 2009. Customer growth was flat to declining during that recession period. Customer growth rates are currently back up to 1.2 percent.

Q. What is Tampa Electric's energy sales forecast?

A. The primary driver behind the increase in the energy sales forecast is customer growth. Offsetting some of the customer growth is the impact of per-customer consumption, which is expected to decrease at an average annual rate of 0.3 percent over the next ten years (2013-2022), as shown in Document No. 6 of my exhibit. Combining the customer growth and per-customer consumption, retail energy sales are expected to increase at an average annual rate of 1.2 percent over the next ten years (2013-2022). Historical and forecasted energy sales are shown in Document No. 7 of my exhibit.

Q. What are the primary drivers behind the projected decline in average usage?

A. The primary drivers are improvements in end-use

efficiency resulting from appliance and equipment replacement, new end-use standards (such as the new lighting standards that are expected to have significant impact on residential sales), economy-induced conservation and demand-side management ("DSM") program activity.

Q. How do the 2014 test year projections for retail energy sales compare to the same year's projections that were prepared and filed in Tampa Electric's 2008 petition to increase base rates?

A. Projections for retail energy sales for the current 2014 test year are approximately 17 percent lower than the projections for the year 2014 that were filed in the 2008 petition. The sudden reductions in customer growth, economy-induced conservation, business closures and improvements in appliance and lighting energy efficiencies are primarily responsible for the significant changes in energy consumption patterns across the electric industry.

Q. What is Tampa Electric's peak demand forecast?

A. Summer and winter peak usage per-customer are projected

to decline at an average annual rate of 0.4 percent and 0.3 percent, respectively. Document No. 8 of my exhibit shows historical and forecasted peak usage per-customer for summer and winter peaks. The increase in customers and the decrease in per-customer demand results in an average annual growth rate of 1.1 percent over the next ten years for both the winter and summer peaks, as shown in Document No. 9 of my exhibit. Summer and winter firm peak demands, which have been reduced by curtailable load such as load management and interruptible loads, are shown in Document No. 10 of my exhibit.

Q. Are conservation and demand-side management impacts accounted for in the energy sales and peak demand forecasts?

A. Yes. Tampa Electric develops energy and demand forecasts for each conservation and DSM program. The aggregated incremental energy savings and demand impact projections are then subtracted from the forecasts.

Q. Are the impacts of solar generation accounted for in the energy sales and peak demand forecasts?

A. Yes. The impacts of solar generation are included in

Tampa Electric's portfolio of conservation programs.

Q. Are electric vehicle impacts accounted for in the energy sales and peak demand forecasts?

A. No. Tampa Electric does not currently make long-term projections of the number of electric vehicle charging stations within its service area. The market for such devices is not sufficiently mature to accurately project such counts. Also, the recent change in Florida Statutes making public charging a non-utility service has just gone into effect and its impact on the number of charging stations is unknown. At this point, the impacts of electric-powered vehicles on Tampa Electric's demand and energy forecasts is not significant. The company will continue to monitor trends in this area and incorporate them into the forecast when there is more certainty as to the impacts on the company's loads.

Q. Has the forecast which you support in this proceeding been presented in prior filings with the Commission?

A. Yes. This forecast was recently reviewed and used by the Commission in Docket No. 120234-EI: Petition to Determine Need for Polk 2-5 Combined Cycle Conversion; Order No.

PSC-13-0014 issued on January 8, 2013.

My direct testimony in that docket and extensive discovery thoroughly vetted all relevant issues. The load forecasts were not rebutted and there were no disputes, which resulted in the stipulation of my direct testimony into the record.

Q. Has the company performed any sensitivity analyses on its load forecast?

A. Yes. The base case scenario was tested for sensitivity to varying economic conditions and customer growth rates. The high and low peak demand and energy scenarios represent an alternative to the company's base case outlook. The high scenario represents more optimistic economic conditions in the areas of customers, employment and income. The low band represents less optimistic scenarios in the same areas. Compared to the base case, the expected customer and economic growth rates are 0.5 percent higher in the high scenario and 0.5 percent lower in the low scenario.

Q. Does Tampa Electric conclude that the forecasts of customers, energy sales and demand are appropriate and

reasonable?

A. Yes. The customer, demand and energy sales forecasts are based on assumptions that were developed by industry experts and are the most recent assumptions available at the time the forecasts were developed. The forecasting methods used to develop the forecasts are theoretically and statistically sound and were previously reviewed and accepted by the Commission. In addition, the average annual growth rates for per-customer demand and energy usage are compared for consistency and compared to historical growth rates. Summer and winter load factors are reviewed to ensure proper integration of the peak and energy models. The results show that the load factors are reasonable when compared to historical years. Load factors have dropped slightly due to the loss of phosphate load. The load factors are shown in Document No. 11 of my exhibit.

Q. Have the customer, demand and energy sales forecasts been reviewed by external consultants?

A. Yes. Tampa Electric witness Eric Fox who is Director, Forecast Solutions at Itron, Inc. has reviewed the forecast results. Witness Fox has filed direct testimony

in support of the customer, demand and energy sales forecasts and concludes that the forecasting results are reasonable and appropriate and the methodologies used for developing the forecasts represent best industry practice. The forecasts are consistent with historical trends, Energy Information Administration projections at the South Atlantic and national level, as well as with other utility forecasts.

SUMMARY

Q. Please summarize your direct testimony.

A. Tampa Electric's service area will continue to grow at a steady pace over the forecast horizon. The company expects an average increase in customers of 1.5 percent a year, which is an increase of almost 105,000 by 2022. Per-customer demand and energy consumption is expected to continue to decline slightly over the next ten years. As a result, retail energy sales are expected to increase at an average annual rate of 1.2 percent over the next ten years. Up-to-date reviews of actual results confirm that the company's forecast is a reliable representation of projected sales and any adjustments to reflect updated results would likely result in a slight reduction to the retail energy sales projections. The methods used for

developing the customer, demand and energy forecasts presented in my direct testimony represent best practices and are based on appropriate and reasonable assumptions.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY

OF

LORRAINE L. CIFUENTES

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

A. My name is Lorraine L. Cifuentes. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as manager of Load Research and Forecasting.

Q. Are you the same Lorraine L. Cifuentes who filed direct testimony in this proceeding?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address errors and shortcomings in the prepared direct testimony of witness Michael P. Gorman, testifying on behalf of Federal Executive Agencies ("FEA") and Donna Ramas, testifying on behalf of the Office of Public Counsel ("OPC").

Q. Have you prepared an exhibit supporting your rebuttal testimony?

A. Yes, I have. My Exhibit No.__ (LLC-2), consisting of five documents, was prepared by me or under my direction and supervision. These consist of:

Document No. 1	Residential Average Consumption from 2005-2012 and Projected 2013-2014
Document No. 2	Residential Energy Sales and Economic Growth
Document No. 3	Total Energy Sales and Economic Growth
Document No. 4	2012 Degree Days versus Normal
Document NO. 5	Witness Gorman's Proposed Methodology Revised to Include 2012

Q. Please summarize the key concerns and disagreements you have regarding the substance of witness Gorman's and witness Ramas' testimony.

A. My key concerns and disagreements are as follows:

1. I disagree with witness Gorman's assessment that Tampa Electric has understated the amount of energy sales and revenues for the 2014 test year. Specifically, witness Gorman's use of the 2005 to

2012 average residential sales per customer as the basis for computing a 14.25 MWH projected annual sales per customer in the 2014 test year is not appropriate.

2. I disagree with witness Gorman's opinion that projected sales use per customer in 2014 is inconsistent with the explanatory assumptions and data outlined in my direct testimony and is not consistent with conditions utilities like Tampa Electric are experiencing in the real world.

3. I disagree with witness Gorman's statement that the 2014 load characteristics appear to be rather pessimistic given the level of heating and cooling degree days used for estimating residential sales use per customer in 2014.

4. I disagree with witness Gorman's assertion that the 2005 to 2012 historical average of 14.87 MWH sales per customer is skewed downward by 2012 data.

5. Concerning witness Ramas's testimony, if an adjustment to industrial revenues is made as she suggests, a corresponding adjustment downward for the projected decrease in commercial base revenues should also be made.

2014 RESIDENTIAL SALES PER CUSTOMER

Q. What is the residential sales revenue for 2014 at present rates forecasted by Tampa Electric?

A. Tampa Electric has forecasted 2014 residential sales revenue to be $489.6 million based on residential energy sales of 8,563,003 MWH.

Q. Is the 2014 residential revenue at present rates projected by Tampa Electric reasonable?

A. Yes. Tampa Electric projected a reasonable level of residential sales revenue at present rates based on the assumptions outlined in my direct testimony and supported in the direct testimony of witness Eric Fox on behalf of Tampa Electric Company.

Q. Is the 2014 residential revenue at present rates projected by witness Gorman reasonable?

A. No. Witness Gorman erroneously suggests that the residential class's 2014 base revenues are understated by $12.5 million at present rates. His methodology for arriving at projected revenues for 2014 overlooks important facts, has severe shortcomings and is

inaccurate.

Q. Please describe these shortcomings.

A. Using the 2005 to 2012 historical average of 14.87 MWH residential sales per customer as the basis to project 2014 residential energy sales and revenues is not appropriate or reasonable. This methodology ignores the impacts that weather, economic conditions, improvements in appliance/lighting efficiencies and conservation have had on residential consumption per customer during the period between 2005 and 2012 and the impacts that these factors will have in 2013 and 2014.

During 2005 to 2012, residential sales per customer declined by an average of 1.1 percent a year and they declined an average of 1.2 percent a year on a weather normalized basis. Taking into account the factors that witness Gorman overlooks in his analysis the correct projection of 2014 sales per residential customer should be approximately 13.86 MWH. Document No. 1 of my exhibit compares witness Gorman's projection of 2014 residential sales per customer to Tampa Electric's projection. From this comparison, it is clear that witness Gorman's 14.25 MWH is out of line with the historical trend and is

unreasonable.

Q. Is witness Gorman's forecast consistent with the company's recent actual experience?

A. No. Document No. 1 of my exhibit also shows the company's most current (as of June 2013) projections for year-end 2013 and 2014. As can be seen from the graph, 2013 weather normalized sales, which includes six months of actual results, is performing slightly below budget. This means that the forecast the company used for its 2014 test year slightly overstates expected revenues - not the opposite as suggested by witness Gorman.

Q. Is it a common forecasting practice to use historical averages as the basis for projecting per customer electricity consumption?

A. No. It is not common or accepted forecasting practice to project sales per customer by applying an adjustment to a historical average. I am not aware of any utility in Florida that estimates future per customer electricity consumption in that manner.

Q. How do you know that other Florida utilities do not use

historical averages to project future electricity consumption?

A. As chairman of the Florida Reliability Coordinating Council's ("FRCC") Load Forecasting Working Group, I facilitate the annual forecast methodology review workshop. Each FRCC member utility presents their load forecast models, assumptions and forecast results. During the workshops held annually from 2008 to present, there has not been a single utility that presented a per customer consumption model that was based on historical averages.

Q. How has the economy impacted residential sales per customer during 2005-2012?

A. The economic downturn that began in 2007 and the resulting high unemployment rate has impacted the income levels of many households, forcing many of them to find ways to cut discretionary expenses such as electricity consumption. Economy-induced conservation has contributed to the declining trend in sales per customer; however, this trend is not accurately reflected in witness Gorman's analysis of 2014 sales per customer.

Q. How have improved appliance and lighting efficiencies impacted residential sales per customer during 2005 to 2012?

A. As stated in my direct testimony, appliance efficiency standards that have been put in place over the past few years are primarily responsible for the significant changes in energy consumption patterns across the electric utility industry. These standards will continue to put downward pressure on growth as new and more efficient appliances and lighting are added to replace existing stock.

In 2012, a new lighting standard from the U.S. Department of Energy went into effect. As of January 2012, the traditional 100 watt incandescent light bulb will not meet the energy efficiency standards and will no longer be available at most stores. Similar standards will be phased in for the 75 watt bulbs in 2013 and for the 60 and 40 watt bulbs in 2014.

To illustrate the impact that lighting alone has on residential base revenues, assume that each of the company's 613,000 residential customers replace one 75 watt incandescent light bulb with a compact florescent

light bulb ("CFL"). This would result in an energy savings of 0.5 percent for each customer and a reduction in the company's residential base revenues of approximately $2 million a year. If each residential customer replaces 10 bulbs, the estimated energy savings per customer is almost 5.0 percent a year and a reduction in the company's residential base revenues of $20 million a year.

Witness Gorman's analysis fails to consider the effect of the new energy efficiency standards on energy consumption; however, these effects are clearly showing in the company's actual results.

Q. Are there any other factors that witness Gorman excludes from his analysis that would contribute to lower sales per customer in 2014?

A. Yes, there are several other factors. There has been a strong emphasis by many organizations, including electric companies, on the benefits of conserving energy and that has started to resonate with customers particularly during the economic downturn. It is not realistic to assume that consumers will abandon what they have learned about conservation and reverse their behavior as the economy

improves. Energy conservation habits will be a permanent behavioral change for many.

Changing customer mix and the lower energy intensity of new residential customers will also put downward pressure on the overall residential system average sales per customer. New homes use less energy due to mandated federal energy efficiency guidelines and state building codes that encourage more energy efficiency. In addition to this, recent data shows most of the new customers requesting electric service are living in multi-family units which on average use just over half of the amount of electricity that a single-family home uses.

All these factors and conditions are real, are occurring in the company's service territory and will continue to put downward pressure on sales per customer. A new customer today will consume less energy than the average customer on the system and this will have a downward effect on average customer usage. Witness Gorman's failure to consider these factors makes his estimate inappropriate for use in this proceeding.

Q. Does Tampa Electric's residential sales per customer forecast reflect the improvement in economic conditions

and the increased efficiency of appliances and lighting?

A. Yes. Unlike witness Gorman's calculation of 2014 sales per customer, the company's forecasting models take into account the primary drivers that impact per customer electricity consumption. MFR Schedules F-6, F-7 and F-8 provide a description and values associated with the assumptions used in the development of the 2014 test year residential energy sales.

Q. How accurate is the projection for this year's residential sales per customer?

A. Year to date, residential sales per customer are 2.8 percent below budget, in part due to milder winter weather. Removing the impacts of weather, normalized sales per customer are 1.4 percent below budget. This suggests that the company's 2014 forecast is probably slightly overstated, which in turn understates the company's revenue requirement in 2014.

Q. Does the company have a more recent forecast of residential sales per customer than the forecast presented in this proceeding?

A. Yes. In June of 2013 the annual forecast process was completed. Combining six months of actuals and six months of updated projections for 2013, year-end residential sales per customer are 13.83 MWH. This is 0.6 percent lower than the forecast for 2013 presented in my direct testimony and the MFRs.

Tampa Electric's most current projection for 2014 of 13.81 MWH is 0.4 percent lower than the forecast present in my rebuttal testimony. Document No. 1 of my exhibit shows the most current forecasts compared to the forecast presented in my direct testimony. From this graph, it is evident that 2013 sales per customer declined as initially projected. This confirms that the projections for 2014, although slightly higher than the company's recently completed projections, are still reasonable, unlike witness Gorman's projection.

EXPLANITORY ASSUMPTIONS

Q. Do you agree with witness Gorman's assertion that projected electrical usage per customer in 2014 is inconsistent with the explanatory data outlined in your direct testimony?

A. No. The per-customer consumption projected for 2014 is

very consistent with data outlined in my direct testimony. Witness Gorman only discusses economic assumptions and suggests that future residential sales per customer should follow a similar trend. Witness Gorman's observations ignore the other significant drivers, mentioned above, that have contributed to the downward trend in sales per customer.

Q. Do you agree with witness Gorman, that the projected economic activity for the Tampa Electric service territory is quite robust for the 2014 test year relative to the historical period 2009 to 2012?

A. No. Although the economy is showing signs of improvement, the recovery can hardly be called robust. Moreover, witness Gorman is incorrect in assuming residential per customer usage should be equal to or more robust in the 2014 test year relative to the historical period 2009 to 2012.

Q. Do you agree with witness Gorman that the economic assumptions for the 2014 test year indicate that customers are going to be spending more on discretionary items such as electricity?

A. There is a relationship between the economy and electricity sales, but recent trends show that the relationship has been changing; residential sales per customer are not growing with the economy as they have in the past. Document No. 8 of witness Gorman's exhibit shows the relationship between gross domestic product and energy sales from 1988 to 2009. However, the graph ignores 2010, 2011 and 2012 and therefore, fails to show how this relationship has been changing in recent years. As such, witness Gorman's suggested correlation is no longer accurate.

In an effort to supply the data for 2010 through 2012 that witness Gorman omitted from his Document No. 8, Document Nos. 2 and 3 of my exhibit show the correlation between Tampa Electric's residential energy sales and household income and between Gross Regional Product and total energy sales. The historical trends from 1994 to 2009 show a strong correlation, however, by 2010 and through the present it becomes evident that this relationship is changing and is no longer as strong as it once was.

Q. Why is this trend changing?

A. Economic growth has been outpacing electricity consumption

in recent years due to changes in customer consumption patterns brought on by the economy and increasing efficiencies for lighting and appliances. This phenomenon has diminished the correlation between economic growth and electricity consumption. As a result, a sharp rebound in electricity demand is not expected, even if the economy continues to improve.

HEATING AND COOLING DEGREE DAYS

Q. Do you agree with witness Gorman that the 2014 load characteristics appear to be rather pessimistic?

A. No. As explained below, witness Gorman is incorrect in suggesting that the projected level of heating degree-days ("HDD") and cooling degree-days ("CDD") likely explains the projected decline in average use per residential customer.

Q. Do you agree with witness Gorman that you have not adequately justified the lowering of heating and cooling degree days used for estimating residential energy sales in 2014?

A. No. The lower HDD and CDD that witness Gorman is referring to are the results of Monte Carlo simulations

using actual HDD and CDD over the most recent 20 year period. They will not exactly equal the 20 year average because the Monte Carlo simulation produces results that are probabilistic in nature.

Q. Are normal degree-days updated every year with the company's forecasting process?

A. Yes. The most current 20 year period is always used, which means the oldest year drops off and the most current year is added to the period for determining normal degree-days.

Q. What is the impact on residential base revenues if the 20 year average of 515 HDD and 3,667 CDD are used in 2014, rather than the Monte Carlo results?

A. Using the actual 20 year averages of 515 HDD and 3,667 CDD to project residential energy sales for 2014, the impact on base revenues is less than $1 million. Since normal degree-days are based on a rolling 20 year period, it is not uncommon for normal degree-days to fluctuate up or down from year to year resulting in insignificant increases or decreases in base revenues.

IMPACT OF 2012 ON THE 2005-2012 HISTORICAL AVERAGE

Q. Do you agree with witness Gorman that the 2005 to 2012 historical average of 14.87 MWH is skewed downward by 2012 data, which reflects weak economic activity, and abnormally low heating degree days?

A. No. Witness Gorman states that "2012 did not reflect normal residential heating loads". He goes on to discuss that as a result, 2012 residential consumption was abnormally low and skews the 2005 to 2012 average downward. What witness Gorman failed to mention was the offsetting effect that higher than normal cooling appliance loads had on the results.

March of 2012 had CDD that were more than double the normal levels and CDD in April of 2012 were higher than they have been in over 25 years. This hotter than normal weather resulted in more energy sales which contributed to offsetting most of the energy sales lost during the winter months. Document No. 4 of my exhibit shows actual 2012 degree-days compared to normal degree-days. In total, the degree-days for the year were not abnormal. In addition, Document No. 1 of my exhibit shows that actual 2012 sales were not significantly different when weather adjusted. In 2012, weather reduced residential sales per customer by

only 0.8 percent.

Also, witness Gorman fails to point out that the year 2010 was one of the coldest winters on record. 2010 has the greatest impact on skewing the average, and 2010 skews the average up, not down. The extreme weather in 2010 increased residential sales per customer by 7.6 percent. Document No. 1 of my exhibit shows the significant difference in actual and weather normalized sales per customer in 2010.

Q. Was witness Gorman's exclusion of 2012 data from his adjustment to the 2005 to 2012 historical average justified?

A. No. Given that 2012 was not abnormal as witness Gorman suggests, if witness Gorman's calculation was revised to include the year 2012, his estimate of sales per customer for 2014 would be 13.51 MWH, even lower than the company's estimate of 13.86 MWH for 2014. Table 1 and 2 in Document No. 5 of my exhibit show a comparison of witness Gorman's proposed calculation and the revised calculation including 2012. If the calculation made by witness Gorman is updated to include 2012, then witness Gorman would be proposing that the residential base revenues for 2014 as

filed by Tampa Electric should be reduced by $9.7 million, not increased by $12.5 million as his testimony proposes.

Witness Gorman's failure to take into account both the heating and cooling impacts that Tampa Electric experienced in 2012 invalidates his recommended exclusion of 2012 data.

INDUSTRIAL REVENUES

Q. Do you agree with witness Ramas' proposed adjustment to industrial revenues of $35,000 for stronger customer growth in the General Service rate class in 2012 than expected?

A. No. While there was a slight increase in the Industrial General Service rate class revenues there were also offsetting decrease in the commercial revenues. As such, if any adjustment should be made it would be a net downward adjustment to revenues.

INFLATION FACTORS USED IN THE 2014 TEST YEAR BUDGET

Q. How is Tampa Electric's inflation assumption, which is used in its operations and maintenance ("O&M") budget, developed?

A. Tampa Electric uses the Consumer Price Index ("CPI") projections provided by Moody's Analytics, a leading provider of economic forecasting services, in developing its inflation forecast for budgeting purposes. CPI is the most widely utilized indicator of changes in the price of goods and services. MFR Schedules C-33 and C-40 provide historical and projected annual percent changes in CPI. I provided Moody's projected CPI values as a guide in the development of the projected 2014 test year O&M budget.

Q. What are the appropriate inflation factors for use in forecasting the test year budget?

A. The appropriate inflation factors for use in forecasting the 2014 test year budget are a CPI of 240.7 and an annual CPI percentage increase of 2.7. A variety of other price indices, that better reflect the costs related to specific products or services, were also used in the budgeting process.

Q. What are the most current CPI inflation forecasts for 2013 and 2014 as projected by Moody's Analytics?

A. The most current CPI projections for 2013 and 2014 are 232.9 and 237.4, respectively, or a 1.9 percent annual

increase.

SUMMARY OF REBUTTAL TESTIMONY

Q. Please summarize your rebuttal testimony.

A. Tampa Electric's estimate of 2014 residential energy sales per customer and base revenues are appropriate and reasonable. This year's average sales per customer continued to decline as projected, which means that the company's projections for 2014 are still reasonable. Updated forecasts show residential sales per customer that are 0.4 percent lower in 2014, which is not much different than the forecast presented in my direct testimony. Based on these current trends, it would be inappropriate and unreasonable to expect that 2014 sales per customer would sharply rebound to a level higher than those experienced during the past three years. For this reason, I disagree with witness Gorman's analysis and proposed increase in residential base revenues of $12.5 million.

Also, while the number of industrial customers is slightly above budget, commercial customers are below budget by a greater amount. Growth in the commercial sector is still sluggish and offsets any upside in the industrial sector. Based on this current trend, the company does not agree

with witness Ramas' proposed adjustment to industrial revenues of $35,000 for stronger customer growth in the industrial General Service rate class.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

DOCKET NO. 130040-EI
FILED: 04/05/2013

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

ERIC FOX

ON BEHALF OF TAMPA ELECTRIC COMPANY

Q. Please state your name and business address.

A. My name is Eric Fox. My business address is 20 Park Plaza, Suite 910, Boston, Massachusetts 02116. I am employed by Itron, Inc. ("Itron"), as Director, Forecast Solutions.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of Tampa Electric Company ("Tampa Electric" or the "company").

Q. Please state your education, professional and work experience.

A. I received my M.A. in Economics from San Diego State University in 1984 and my B.A. in Economics from San Diego State University in 1981. While attending graduate school, I worked for Regional Economic Research, Inc.

("RER") as a SAS programmer. After graduating, I worked as an Analyst in the Forecasting Department of San Diego Gas & Electric. Later I was promoted to Senior Analyst in the Rate Department. I also taught statistics in the Economics Department of San Diego State University on a part-time basis.

In 1986, I became employed by RER as a Senior Analyst. I worked at RER for three years before moving to Boston and taking a position with New England Electric as a Senior Analyst in the Forecasting Group. I was later promoted to Manager of Load Research. In 1994, I left New England Electric to open the Boston office for RER, which Itron acquired in 2002.

Over the last twenty-five years, I have provided support for a wide range of utility operations and planning requirements including forecasting, load research, weather normalization, rate design, financial analysis, and conservation and load management program evaluation. Clients include traditional integrated utilities, distribution companies, Independent System Operators, generation and power trading companies and energy retailers. I have presented various forecasting and energy analysis topics at numerous forecasting

conferences and forums. I also direct electric and gas forecasting workshops that focus on estimating econometric models and using statistical-based models for monthly sales and customer forecasting, weather normalization and calculation of billed and unbilled sales. Over the last twenty years, I have provided forecast training to several hundred utility analysts and analysts in other businesses.

I have directly assisted numerous utilities with developing budget and long-term sales, energy and demand forecast models and processes for tracking and evaluating forecast performance. I have been working with Tampa Electric over the last ten years, to help improve the company's sales, customer and load forecast models, assess sales and customer trends and fine-tune weather normalization, load research and revenue modeling. My resume and list of past project work is provided in Document No. 1 of my Exhibit No. ____ (EF-1).

Q. Please describe Itron.

A. Itron is a leading technology provider and critical source of knowledge to the global energy and water industries. More than 3,000 utilities worldwide rely on

Itron technology to deliver the knowledge they require to optimize the delivery and use of energy and water. Itron provides industry-leading solutions for electricity metering; meter data collection; energy information management; demand response; load forecasting, analysis and consulting services; distribution system design and optimization; web based workforce automation; and enterprise and residential energy management.

Q. What are your responsibilities as Director, Forecast Solutions?

A. I am responsible for directing forecast and load analysis work to support electric and gas utility operations and planning. I manage the day-to-day work of Itron's Boston office. I work with utilities and regulatory organizations across the country and in Canada to address a range of long-term and short-term forecasting and load analysis issues. My work also includes directing the activity of Itron's Energy Forecasting Group (a long-term energy forecasting data and analysis service with over 50 participating utilities), conducting forecast workshops and web-based presentations on specific forecasting and analysis topics. I am an active participant in forecasting and load analysis conferences and forums

across the country.

Q. Have you previously testified before a regulatory commission?

A. Yes. I have provided testimony to support rate cases, site plan filings, and Integrated Resource Plans, in several states including Florida. My regulatory experience is also summarized in Document No. 1 of my exhibit.

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to support the load forecast that the company used to prepare the 2014 test year revenue forecast. Tampa Electric witness Lorraine L. Cifuentes sponsors the company's demand and energy forecast for 2014, which was completed in June 2012, and explains how it was developed. I was asked by Tampa Electric to review the forecast models and results of their current sales forecast. I will be referring to the forecast for 2014, completed in June 2012, as the *2013 Budget-Year Forecast*.

As part of my assessment, I also compared the 2013

Budget-Year Forecast against current sales forecasts for the South Atlantic Census Division derived from the U.S. Energy Information Administration's ("EIA") 2012 Annual Energy Outlook and recent sales projections reported by other utilities.

Q. Have you reviewed Tampa Electric's current energy sales forecasts?

A. Yes. I have reviewed the individual customer class models and find that they are statistically strong. I have also reviewed the forecasts produced by these models and they are appropriate and reasonable given the expected improvements in population, economic growth and improvements in end-use efficiencies. In total, 2014 growth rates for customers and energy sales of 1.3 percent and 0.9 percent, respectively, are reasonable. Over the forecast horizon (2013-2022) the average annual customer and energy sales growth rate of 1.5 percent and 1.2 percent, respectively, are also reasonable and consistent with the sales growth projections for the South Atlantic Census Region.

Q. Please describe Tampa Electric's forecasting approach.

A. Tampa Electric has adopted a Statistically Adjusted End-Use ("SAE") modeling framework for forecasting residential and commercial customer class sales. This approach entails estimating monthly regression average use models that explicitly incorporate expected impacts of end-use energy intensity trends as well as the impact of economic activity, price, and weather conditions. Monthly end-use variables are constructed by appropriately weighting the economic drivers through imposed elasticities and combining the economic drivers with end-use intensity trends, monthly Heating Degree Days and Cooling Degree Days, and billing days. Monthly average-use regression models are then estimated as a function of heating (XHeat), cooling (XCool), and other use (XOther).

A monthly sales forecast is derived by combining the class average use forecast with a customer forecast. The residential customer forecast is based on a monthly regression model that relates residential customers to population projections. The commercial customer forecast is in turn driven by the residential customer forecast.

Both the small industrial customer class and public authority sales are also forecasted using a commercial

SAE model specification; though classified as industrial, the small industrial load profile looks very much like commercial load. A more generalized monthly econometric forecast model is used for forecasting large industrial and street lighting sales.

Q. Does the SAE model generate reasonable sales forecasts?

A. Yes. The SAE model is a theoretically sound approach for forecasting electric sales. The SAE model integrates the theoretical strength of the end-use model (such as the EPRI residential (REEPS) and commercial (COMMEND) end-use models) into an econometric framework. The model captures the impact of end-use energy-intensity trends as well as economic, weather and short-term price impacts by incorporating constructed end-use variables into an estimated monthly average use regression model. Itron has been developing and improving the SAE model framework and model inputs for over ten years. The SAE model has been adopted by numerous utilities and approved by regulatory commissions across the United States and Canada. Itron's Energy Forecasting Group (EFG) was started to support utility implementation and updates of the SAE models and model inputs. There are currently fifty-one utility EFG members. Itron works closely with

the EIA in updating SAE end-use data inputs with the objective of developing regional and utility-level forecasts that are consistent with the EIA Annual Energy Outlook and expected impact of new end-use standards and technology on electric and gas sales.

Q. What software program does Tampa Electric use for sales and customer forecasting?

A. Tampa Electric uses the MetrixND software program developed by Itron. MetrixND is an energy modeling and analysis software package developed and supported by Itron. MetrixND is an integrated application that includes several statistical modeling options including regression analysis, model simulations, statistical reports, data transformation capabilities and reports that link to external reporting and other forecasting and analysis applications. The initial version was released in 1997. Since then, there have been several updates with each new release incorporating improved modeling and analysis capabilities. MetrixND is used by energy companies around the world; this includes most major utilities in the United States and Canada. Users include independent system operators, gas and electric distribution companies, generation and power traders and

energy retail companies. Currently there are over 150 companies using MetrixND. Itron's forecasting staff provides support for MetrixND and other related forecasting products through the annual user group meeting, forecast workshops, product training sessions and direct staff assistance.

Q. Do the company's models perform well?

A. Yes. Monthly regression models are estimated using billed sales and customer data from January 2002 to May 2012; this represents 125 monthly observations. The estimated residential and commercial models are statistically strong as measured by the coefficient, in-sample and out-of-sample model statistics. In both the residential and commercial average use models, the primary end-use variables (as measured by the model variable T statistics) are all statistically significant at the 95 percent level of significance. The Adjusted R2 (which measures the proportion of the monthly variation the model is able to explain) indicates strong model fits with a 0.978 Adjusted R2 in the residential average use model and a 0.971 Adjusted R2 in the commercial average use model. The model mean absolute percent errors ("MAPE") show a similar strong fit. The MAPE measures

the average absolute forecast error on a percent basis. For the estimation period, the residential average use model MAPE is 2.11 percent and the commercial average use MAPE is 1.20 percent. The residential and commercial customer forecast models have in-sample MAPEs of less than 0.2 percent. Plots comparing actual and predicted average use and actual and predicted customers also show that the models do an excellent job of capturing usage and customer trends and month-to-month variation.

One way of testing the performance of the forecast models is to hold some of the actual sales and customer data out of the estimation period, re-estimate the model with the shorter data set and then compare the model-predicted results with actual usage and customers. This is known as an out-of-sample test. Ideally, the out-of-sample performance statistics will be close to that of the in-sample model fit statistics. To perform this test, the last twelve months (June 2011 to May 2012) are held out of the estimation period. The models are re-estimated and the predicted values for this period are compared with the actual monthly average use and monthly customer counts. The residential average use out-of-sample MAPE is 3.07 percent and the commercial average use out-of-sample MAPE is 1.36 percent. The

residential and commercial customer out-of-sample MAPEs are 0.07 percent and 0.12 percent, respectively. The out-of-sample MAPEs are reasonable and similar to results from other utility residential and commercial average use models that I have evaluated or directly estimated. The Tampa Electric out-of-sample tests indicate that the models will yield reasonable forecasts given forecast assumptions.

Q. Is the near-term forecast consistent with recent sales and customer trends?

A. Yes. The recent recession and slow recovery has had a significant impact on Tampa Electric's residential and commercial electric sales. This lower sales level sets the basis for future sales growth. Since 2007, weather-normalized Tampa Electric residential average use has declined 1.3 percent per year. Tampa Electric's normalized commercial average use has declined 1.6 percent per year. With little customer growth, 2012 normalized residential sales are 3.7 percent lower than normalized 2007 sales; commercial sales are 5.4 percent lower than 2007 normalized commercial sales.

It now appears that customer growth and sales are

beginning to recover. Tampa Electric added close to 7,700 new residential customers and 500 new commercial customers in 2012. Normalized 2012 residential sales turned positive for the first time since 2006; normalized 2012 sales residential sales are up 0.3 percent over 2011. While 2012 normalized commercial sales growth is still negative (down 0.3 percent), it is the smallest decline in sales since 2007.

The economy and population is expected to show slow, but positive growth in 2013 and slightly stronger growth in 2014. Tampa Electric expects residential customer growth of 1.2 percent in 2013 and 1.3 percent in 2014. Normalized residential sales after adjusting for demand-side management ("DSM"), increases 0.4 percent in 2013 and 1.0 percent in 2014. Residential sales improve over the longer term with increasing population growth and improving economic conditions.

New federal lighting standards will have a significant impact on residential usage. Residential average use before DSM adjustments declines 0.6 percent in 2013 and another 0.1 percent in 2014. Traditional 75-watt incandescent light bulbs are phased out beginning in 2013 and 60-watt and 40-watt incandescent light bulbs are

phased out in 2014. The 100-watt incandescent light bulb was phased out in 2012. By the end of 2014, EIA estimates that the new lighting standards will reduce residential lighting intensity (kWh per household) by nearly 20 percent. New residential and commercial end-use standards that cover a wide range of end-uses also start phasing in beginning in 2014.

Commercial normalized sales (after adjusting for DSM) are expected to increase 1.1 percent in 2013 and 2014. The near-term forecast is consistent with the continuing economic improvement projected by Moody Analytics.

Q. Are the forecast results reasonable?

A. Yes. The 2013 Budget-Year Forecast is reasonable given the expected improvements in population and economic growth and improvements in end-use efficiencies. While the economy is improving, new lighting and other new end-use standards, natural-occurring efficiency improvements and strong DSM program activity will limit customer usage growth well into the future.

Tampa Electric projects flat residential average usage over the next ten years and a 0.2 percent average annual

decline when adjusted for DSM savings. This is consistent with expected sales growth for the South Atlantic Census Region. In comparison, Itron's residential SAE model for the South Atlantic Census Division (based on EIA's 2012 Annual Energy Outlook), shows average residential use declining 0.1 percent annually through 2022.

The 2013 Budget-Year commercial customer usage averages 0.3 percent annual growth over the next ten years before DSM adjustments and averages a 0.1 percent decline when adjusted for DSM savings. This is also consistent with EIA's 2012 commercial end-use intensity projection for the South Atlantic Census Division, which shows commercial energy intensity (use per square ft.) averaging 0.1 percent annual growth through 2022.

With flat to declining average customer use, residential and commercial sales growth is largely driven by customer growth. The key customer forecast driver is the Tampa Electric population forecast. Population projections drive the residential customers based on an estimated monthly econometric model that relates monthly customer counts to monthly population. The resulting residential customer forecast in turn drives the commercial customer

forecast through an estimated monthly commercial customer forecast model. The correlation between residential customers and the population estimates is extremely strong with a correlation coefficient of 0.992 (1.0 is a perfect correlation). Similarly, the correlation between the number of commercial customers and residential customers is also nearly perfect with a correlation coefficient of 0.992. Population averages 1.5 percent annual growth through 2022. With a 1.5 percent population forecast, the estimated customer regression model results in annual residential customer growth of 1.5 percent per year. Residential customer growth coupled with DSM adjusted average use decline of 0.2 percent yields long-term residential sales growth of 1.3 percent. The commercial customer base expands 1.4 percent annually over the next ten years resulting in long-term commercial sales growth (adjusted for DSM) of 1.3 percent per year.

Q. How does Tampa Electric sales forecasts compare with other utilities?

A. Tampa Electric's sales forecasts are similar to what other utilities are reporting and to forecasts that I have evaluated and developed for other utilities. The

general expectation is that sales will be flat to showing some growth in 2013 with stronger growth in 2014 and 2015 as the economy improves.

In Itron's annual utility forecast survey (completed March 2012), respondents from the southern states (there were 25 utility respondents from the southern states) on average reported expected residential annual sales growth (2012 to 2021) of 1.0 percent and commercial annual sales growth of 1.2 percent. This is consistent with Tampa Electric's long-term projected residential and commercial annual sales growth of 1.3 percent. Tampa Electric should see slightly higher sales growth than other utilities, as the Tampa area population and economy is projected to grow faster than the country and most other regions.

Q. The 2013 Forecast is significantly lower than the 2009 Test-Year Forecast submitted in 2008. Is there a good reason for this?

A. Yes. The primary reason for the lower 2013 Forecast is that the economic and population growth forecasted in 2008 never materialized; by 2012, actual sales (the starting point for the 2013 Budget-Year Forecast) were

already 13 percent below the 2009 Budget-Year Forecast. The 2009 Forecast was based on economic and population forecasts that reflected a much milder recession than what actually occurred. Moody Analytics (formerly Economy.com) forecasted slow, but positive real regional output growth for 2008 of 0.9 percent. Actual output that year fell 3.5 percent. For 2009 real output was forecasted to increase 3.0 percent, but actually fell another 2.0 percent. Real output was projected to average 3.0 percent annual growth between 2007 and 2012. Actual output over this period averaged a 0.3 percent decline. Where the number of system customers was expected to increase 1.7 percent annually between 2007 and 2012 based on 2008 population projections, actual customer growth averaged just 0.6 percent.

Document No. 2 of my exhibit compares the current economic recovery with past recessions and recoveries. For each of the major recessions (back to 1960), Document No. 2 of my exhibit shows the number of months before total employment recovers to pre-recession peak level. In general, the recovery from a recession has been taking longer over time. Prior to 2000, it took less than 2 years for employment to recover to pre-recession levels. In 2001 it took nearly five years for employment to

recovery. We are now five years out from the start of the 2008 Great Recession and employment has still not recovered. In December 2012 (60 months out) national employment was still 2.4 percent below peak 2008 employment-level, while Florida employment was 1.6 percent below 2008 peak employment level in August 2012.

Going forward, the economic forecast that drives the 2013 Forecast is also significantly lower than that in the 2009 Forecast. Real output is now projected to average 3.0 percent growth over the next ten years compared with the 2009 Forecast of 3.6 percent annual growth. Employment is forecasted to increase 1.8 percent per year compared with the 2009 Forecast of 2.2 percent. The most current population forecast is also lower than that used in the 2009 Forecast. In the current forecast, population growth averages 1.5 percent per year through 2022. This compares with 2.1 percent average population growth forecast used in the 2009 Forecast.

Q. How did other utility near-term forecasts perform?

A. The majority of utilities that responded to the Itron 2012 survey, also over forecasted near-term sales. The reported average residential forecast error for 2011 was

0.6 percent higher than actual 2011 sales and the average 2011 commercial sales forecast was 0.7 percent higher than what actually occurred. For those utilities in the South, residential and commercial 2011 sales forecasts were on average 1.0 percent higher than what actually occurred.

Q. Is the approach used to adjust the sales forecast for DSM impacts reasonable?

A. Yes. Tampa Electric adjusted the sales forecast for future DSM impacts using an approach adopted by most utilities. Tampa Electric assumes that the impact of all past DSM savings is embedded in the estimated model and resulting forecast. The forecast is adjusted for DSM savings by subtracting off the DSM savings forecast from the starting, unadjusted forecast. DSM adjustments reduce residential sales growth by 0.2 percent in 2013 and 0.3 percent in 2014. DSM adjustments reduce commercial sales growth by 0.5 percent in 2013 and 2014.

Q. Could you summarize your direct testimony?

A. I have reviewed the 2013 Budget Year individual customer class sales forecasts and find the forecast for the 2014

test-year and following years to be reasonable given economic, population and expected end-use intensity trends. The average annual growth rates for total customers of 1.5 percent and total sales of 1.2 percent over the forecast horizon are appropriate and reasonable. Tampa Electric has adopted an SAE modeling framework for forecasting its residential and commercial sales. The Tampa Electric SAE model represents the "best-in-class" forecasting approach as the models are theoretically strong, explain residential and commercial sales growth, as well as measured by estimated in-sample and out-of-sample model statistics and generates reasonable forecasts. The forecasts are consistent with Tampa Electric's historical sales trends, EIA projections at the regional and national level, expected impacts of new end-use standards and Moody Analytics' forecast for continuing economic improvements and population growth. The Tampa Electric forecasts are also consistent with other utility forecasts as reported in Itron's annual utility forecast survey. The company's forecasts are appropriately adjusted for future DSM using an approach adopted by most utilities.

Q. Does this conclude your direct testimony?

A. Yes.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130040-EI
FILED: 04/05/2013

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

MARK J. HORNICK

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

A. My name is Mark J. Hornick. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") in the position of Director of Engineering and Project Management.

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

A. I received a Bachelor of Science Degree in Mechanical Engineering in 1981 from the University of South Florida. I am a registered professional engineer in the state of Florida. I began my career with Tampa Electric in 1981 as an Engineer Associate in the Production Department. I have held a number of engineering and management positions at Tampa Electric's power generating stations. From 1991 to 1998, I was a manager

at Big Bend Power Station with various responsibilities including serving as Manager of Operations from 1995 to 1998. In July 1998, I was promoted to Director - Fuels where I was responsible for managing Tampa Electric's fuel procurement and transportation activities.

In March 2000, I transferred to General Manager - Polk and Phillips Power Stations, where I was responsible for the overall operation of these two generating facilities. I have broad experience in the engineering and operation of power generation equipment using oil, natural gas, coal and other solid fuels and technologies including conventional steam cycle, combustion turbine in simple cycle and combined cycle as well as integrated gasification combined cycle ("IGCC"). I am a past Chairman of the Gasifier Users Association, an international group of users and potential users of gasification technology.

In my current role as Director of Engineering and Project Management, I am responsible for centralized engineering support for all operating power stations and for the management of large Energy Supply capital projects including new generating units.

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

A. Yes. I have previously testified before this Commission in Docket No. 080317-EI related to the company's previous base rate proceeding, in Docket No. 110262-EI for the Big Bend gypsum storage facility and more recently in Docket No. 120234-EI associated with the Polk 2-5 Combined Cycle Conversion project.

PURPOSE AND BACKGROUND

Q. What is the purpose of your direct testimony?

A. My direct testimony supports the company's budgeted construction capital and operation and maintenance ("O&M") expenses related to generation facilities included in the 2014 test year and the company's generation expansion plan. I show that the amounts budgeted for these items are reasonable and prudent. My direct testimony discusses the capital expenditures that are needed for generation expansion and continued operations of the company's generating system. I describe various major capital projects the company has completed or will be completing by 2014 to improve operational performance for the benefit of customers and

to support compliance in safety, environmental, cyber security and reliability requirements. I also describe the incremental O&M activities budgeted for 2014 and why those incremental activities are required. I also discuss the recurring or base O&M activities and resources needed for continued operations of the company's generating assets. Finally, my direct testimony discusses the favorable variance between the O&M benchmark and the test year for production.

Q. Have you prepared an exhibit for presentation in this proceeding?

A. Yes, Exhibit No. _____ (MJH-1) entitled "Exhibit of Mark J. Hornick" was prepared under my direction and supervision. It consists of the following six documents:

Document No. 1	List Of Minimum Filing Requirement Schedules Sponsored Or Co-Sponsored By Mark J. Hornick
Document No. 2	Energy Supply Capital $3+ Million Projects (Through 2014)
Document No. 3	Energy Supply 2007-2014 Capital Expenditures Excluding AFUDC
Document No. 4	Energy Supply 2007-2014 O&M Net of

		ECRC Recovery
	Document No. 5	Total System Equivalent Availability Factor
	Document No. 6	Total System Heat Rate

Q. Please provide a brief overview of Tampa Electric's generating unit portfolio.

A. Tampa Electric maintains a diverse portfolio of electric generating facilities to safely provide reliable, cost-effective electric power for its customers in an environmentally sensitive manner. The portfolio consists of 16 generating units with a total capacity of approximately 4,700 MW (winter) at three major sites within the company's service territory. The electric generating units include fossil steam units, combined cycle units, combustion turbine peaking units, an IGCC unit and internal combustion diesel units.

Fuel diversity is important for supply reliability and price stability. Tampa Electric's generating system has roughly 1,800 MW of coal-fired capacity and 2,900 MW of natural-gas fired capacity. In addition, the company can use distillate oil as a back-up fuel in 670 MW of the above capacity. The environmental performance of the

fleet is very good with significant emission reduction technologies in place at each generating site.

Q. Describe Tampa Electric's business and operating plan for the electric generating assets.

A. Tampa Electric's first responsibility is for the safety of its team members (employees), other personnel working or visiting at company facilities and the local communities where the company operates the assets. Safety management involves numerous proactive and corrective activities and programs that include all levels of the organization. Tampa Electric has a strong safety culture and an outstanding record of continuous improvement in safe operations, and has established company records for near miss reports and achieving the company's lowest recordable injuries (incident rate) in 2012.

Adherence and compliance with all environmental, contractual and other regulatory requirements is uncompromised, while multiple options are considered and the best one selected based on cost-effectiveness. Beyond compliance, the company identifies opportunities and implements solutions to prudently reduce the

environmental impact of generating unit operation by recycling combustion byproducts whenever possible, minimizing fresh water use and maximizing the use of recycled water, selecting low emissions technology and employing emission control technologies when needed. Tampa Electric has implemented initiatives that has enabled it to become one of the cleanest coal-fired electric generating utilities in the nation.

Generating units are long-term investments, typically operating for many decades. The company believes that maintaining a diverse mix of both fuel types and generating technologies mitigates long-term operational and economic risks and is in the best interest of its customers.

Being efficient and cost-effective in producing electric power is important to customers and to the company. The Energy Supply area manages its capital and O&M spending to achieve appropriate levels of generating system reliability and efficiency over the long term.

Q. Please describe some of the challenges currently facing generating utilities and how Tampa Electric has, and is, addressing those challenges.

A. The operation of electric generating units is a highly regulated activity. Environmental, safety, reliability and security regulations are continually changing and may negatively impact operational performance and increase the cost to operate the generating system. Utilities must not only comply with regulations as they are enacted, but also analyze what changes may occur in the future. Environmental regulations, in particular, can have a significant impact on the cost profile and the long-term viability of generating units.

While changing environmental regulations are challenging to predict, forecasting the long-term availability and price of the fuels used to produce electricity is perhaps even more challenging. Fuel cost is the largest operating expense in power generation and often comprises over half of total production cost. Coal and natural gas are the primary fuels used by Tampa Electric for power generation, and they account for approximately 70 percent of United States electricity production. The percentage of gas and coal-fired generation is even higher in Florida. Coal is widely available in the U.S., and prices have historically been stable. In the last decade, coal has become increasingly a global commodity, so coal prices are affected by worldwide demand. Natural

gas remains, for the time being, mostly a regional market; and the significant driver for pricing has been the increased use of hydraulic fracturing, which has increased gas supply in the United States and reduced natural gas pricing.

Given the backdrop of increasing environmental regulations and changes in the relative pricing and power generation efficiency between coal and natural gas, many utilities are now facing the choice of either retrofitting existing coal-fired units with additional emission controls or retiring them and replacing the capacity with new, primarily natural-gas fired units. Utilities across the nation are now announcing plans to shut down older, less efficient coal-fired units and retrofit the newer units with emission controls.

Tampa Electric has already addressed these issues and has positioned its generating fleet to be successful in a wide range of future scenarios. In the mid-1990s the company added Polk Unit 1, which is a state-of-the-art IGCC coal-fueled unit with world-class environmental and operational performance. Approximately fifteen years ago, the company embarked on a $1.2 billion environmental improvement plan which involved a decision to replace the

older, less efficient coal-fired units at Gannon Power Station with new gas-fired combined cycle units that were integrated with the existing generating assets at the renamed H.L. Culbreath Bayside Power Station ("Bayside Power Station"), as well as completing environmental control retrofits on the newer, more efficient coal-fired units at Big Bend Power Station.

The result of these efforts has been the transformation of the company's generating portfolio (on a capacity basis) from over 95 percent coal-fired, with dated emission control technologies, to a fleet that is now approximately 60 percent natural gas and 40 percent coal with up-to-date emission controls. The air emissions from the generating fleet has been dramatically and significantly reduced for sulfur and nitrogen oxides ("NO_x"), carbon dioxide ("CO_2") and mercury. The company's generating portfolio is well positioned to meet the challenges of increasing environmental regulations and fuel price variations.

Q. What are Tampa Electric's operational goals and objectives in the Energy Supply area?

A. Energy Supply maintains a balanced approach to operations

that includes a focus on safety, availability and reliability of the generating units, expenditure control for O&M and capital, continuous improvement activities as well as community involvement and environmental stewardship. The company establishes departmental goals to help focus team members' efforts on activities that support these objectives.

Q. How have these goals and objectives changed since the company's last rate case proceeding?

A. The basic goals and objectives for Energy Supply have not changed significantly. There has been a focus on controlling O&M expenses, particularly since 2009, as a result of revenue and load shortfalls that are discussed in the direct testimony of Tampa Electric witnesses Gordon L. Gillette and Lorraine L. Cifuentes. Expense spending budgets have been held essentially flat, which has required the company to offset increases in labor, materials and other costs with reduced spending and efficiency measures across the company.

Q. Is it reasonable to continue to hold overall Energy Supply expense spending flat in the face of continuing increases in labor, materials and other costs?

A. No. Energy Supply must increase its O&M spending levels to a more sustainable level in order to maintain the reliability, and cost-effectiveness of the generating system. The company has maintained a strong focus on efficient spending and continuous improvement. There are no unnecessary activities or contingencies in the spending plans and authorizations. Holding total spending flat has resulted in deferral or elimination of needed activities. While overall the operational performance of the generating units have improved since the last base rate proceeding, there is an indication of a slight degradation in unit availability and heat rates, which can be attributed to the recent and current flat spending levels. If the company continues to hold expense levels flat, performance of the generating units will continue to decline resulting in higher long-term production costs and erosion of generating system reliability. This would lead to the acceleration of new generating plant construction or additional purchased power.

Q. Please provide some examples of O&M spending reductions and any negative impacts that have resulted or will result.

A. Spending reductions have been broadly applied across the Energy Supply area. Allowable spending targets were established for each area based in large part on a weighing of previous annual spending levels. The spending targets were also impacted by prior or planned capital improvements, and expected impact of environmental and other regulatory requirements. Each location is responsible for allocating available resources according to need. In most situations, safety, compliance and fixing known problems takes priority over inspecting for incipient failures or improving operational performance. If this continues, unforeseen problems may develop, resulting in more costly corrective maintenance from forced or unplanned outages that have a greater impact on generating system availability than planned or preventive maintenance.

At Big Bend Power Station, full-time operating, maintenance and staff positions have been reduced through attrition. Contractor staffing has also been reduced to lower operating costs. With fewer resources, lower priority work (preventive maintenance, operational performance improvements) is being deferred or eliminated. This lower priority work includes: corrosion coatings, structural steel maintenance, piping

inspections and valve maintenance. Planned outage O&M spending has been reduced by scope reductions. In particular, the scope of Big Bend Unit 3 planned outages scope was limited from 2009 to 2012 resulting in the deferment of boiler component maintenance. Unit performance, availability and heat rate, did degrade slightly, and needed repairs are being made in 2013. Major equipment inspections on other generating units have been deferred during recent unit outages to reduce costs. Deferred inspections included boiler feed pump turbine inspections, high energy piping inspections and boiler mapping. This increases the risk of future breakdown maintenance which reduces availability and increases costs.

At Bayside Power Station, O&M spending reductions resulted in deferral of planned maintenance of corrosion control coatings on heat recovery steam generators ("HRSG"), combustion turbine ("CT") compartments and air inlet structures. In 2012, the company reduced the scope of work for the Bayside Unit 2 major outage.

At Polk Power Station, O&M spending reductions resulted in the deferral of planned maintenance of corrosion control coatings throughout the facility. In addition,

the company reduced the amount of inspection work during outages.

The cost-saving measures described above were taken to deal with an uncertain economy and lower than expected revenues and load. Regular inspections and preventive maintenance must be conducted on generating unit equipment to maintain acceptable operating performance. The proposed test year generation O&M expenses will allow the company to increase the current levels of inspection and maintenance in order to operate the generating fleet in a more cost-effective and sustainable manner.

CHANGES TO GENERATING SYSTEM

Q. Please describe the changes to the Tampa Electric generating system since the company's last base rate case proceeding in 2008.

A. There have been several changes to the Tampa Electric generating system since 2008.

The five aero-derivative CT peaking units that were placed in-service during 2009 have been in operation for nearly four years. These units have been used to meet the peak demands of the company's customers and as

economic generating resources particularly valued for their quick start capability. O&M costs for these units are now part of the Energy Supply ongoing expense budget. The O&M expenses for the aero-derivative CTs are forecasted to be over $1.2 million in 2014.

The Big Bend rail system that was placed in-service December 2009 has been performing as intended. Solid fuel deliveries are split between barge and rail transport, which provides greater system reliability and access to more coal source locations and stimulates competitive pricing among transportation service providers. These fuel savings, as well as improved reliability associated with bi-modal transportation, will continue to benefit customers over the life of the facility. The final cost for the rail facility was $59.4 million compared to the $46 million included in the company's original forecast for the construction costs associated with the rail facilities and in the rate base during the last base rate proceeding. The incremental O&M costs associated with the rail facility is approximately $300,000 per year.

The selective catalytic reduction ("SCR") additions were completed on Big Bend Unit 2 in September 2009 and Big

Bend Unit 1 in April 2010. The SCR additions were part of a 10-year, $1.2 billion environmental improvement plan signed in 1999 with the United States Environmental Protection Agency. The SCRs are performing as expected, and NO_x emissions have been reduced by 94 percent compared to 1998 levels.

The small generating units at the Phillips Station in Sebring (36 MW) and the City of Tampa Wastewater Treatment Plant, Partnership Station (6 MW) have been placed into long term reserve steady status. These units are not currently cost effective to operate due to their higher fuel cost relative to other units.

CONSTRUCTION PROGRAM AND CAPITAL BUDGET

Q. How does Tampa Electric determine the construction program and capital budget for additional generation facilities?

A. Tampa Electric uses an Integrated Resource Planning ("IRP") process. The IRP process determines the timing, type and amount of additional resources required to maintain system reliability in a cost-effective manner. The process considers expected growth in customer demand, existing and future demand-side management

("DSM"), and renewable or supply-side resources needed to meet reliability requirements.

Q. Please describe the criteria that Tampa Electric uses in its IRP process to determine both the minimum amount and timing of additional resources required to maintain system reliability.

A. Tampa Electric uses a 20 percent firm reserve margin reliability criteria above the system firm peak, as required by the Commission in Order No. PSC-99-2507-S-EU, issued on December 22, 1999, and a minimum 7 percent supply reserve margin. The firm reserve margin consists of both supply and non-firm (customer) demand resources to maintain an allowance for unexpected variances in system demand, generating unit availability, purchased power availability, and deliverability. The minimum supply reserve margin criterion maintains an important qualitative component of firm reserves for reliability purposes to minimize the impact of the loss of supply resource at the time of peak. If the firm reserve margin consisted of only non-firm demand reserves (whereby total firm supply equals total load), then the frequency of use of these non-firm demand resources in a given year would increase significantly. The firm

system peak is determined by including all firm wholesale agreements and excluding non-firm customer demand from the total system demand. Non-firm demand includes all interruptible service customers and customer load reduction programs. Customers who continue to participate in these voluntary programs help defer the need for additional supply resources by reducing firm peak demands. These customers may request to become a firm customer or be excluded from a DSM program with appropriate notification.

Q. How does the company plan and manage its generation and other major capital improvement expansion projects?

A. The company utilizes long-range planning tools to determine its future capital projects and generating plant additions. In very simple terms, once a need for future generating capacity is identified, a project team is assigned to begin project evaluations. The priorities in the evaluation process include the need to determine feasible alternatives, costs, schedules and execution plans for the project. After a specific project is identified as being the most cost-effective alternative, it must be approved by the company's management and board of directors. Most generating

plant additions are reviewed by the Commission and other regulatory agencies. Once regulatory approval is granted, the project team executes the project to design the plant, obtain permits, procure the equipment, construct, start-up and commission the plant until it achieves commercial operation. Throughout this process, the company manages the project to meet costs, schedule and performance goals.

Another phase of long range planning is the development of a five-year construction budget, which identifies other near term projects necessary to achieve or maintain safety and environmental compliance, while managing fuel and purchased power. The capital projects in the five-year plan include maintenance projects to replace and modify existing plant equipment in order to achieve or maintain compliance and/or improve the generating system reliability, capacity or efficiency.

The company modifies the business plan as new information is obtained. Each year the company determines the capital plan for the following fiscal year period. Information regarding generating unit availability, operating conditions, new regulations and environmental needs are reviewed and considered for

inclusion in the capital plan. Some projects are required because of environmental or safety considerations or new regulations. Other projects are prioritized based upon their relative benefits. Through a review process, the projects are selected for inclusion in the next year's budget. Similarly to how new generation projects are managed, these projects are also initiated and executed by a project team. Each project goes through an estimating and approval process to ensure its benefit and need. These projects are monitored for cost, schedule and desired performance throughout the process until they are completed and in-service.

Q. What are Tampa Electric's major generation construction requirements through 2014?

A. The company's forecasted capital additions and retirements are listed in MFR Schedule B-11. Tampa Electric's 2013 Ten-Year Site Plan indicates the need for additional capacity in 2017. This need will be met by the conversion of four simple cycle CTs at the Polk Power Station into a combined cycle system by the addition of four HRSGs and a single steam turbine. The project has numerous benefits including the capture of

waste heat from the existing combustion turbine for production of electricity with no additional fuel consumption, supplemental HRSG duct firing for additional peaking capacity, significant reduction in unit emission rates, additional dual fuel capacity, use of recycled versus fresh water and the capability to add solar thermal energy to the process. The Commission approved the need for this project in Order No. PSC-13-0014-FOF-EI, issued on January 8, 2013, and the unit is planned to be placed into commercial operation by January 1, 2017.

The project is proceeding on schedule and on budget. Engineering and procurement activities are underway with contracts signed for the supply of the steam turbine and detailed engineering efforts. The contract for supply of the HRSGs is nearing completion. Construction at the site is scheduled to begin in early 2014. The construction costs of the Polk 2-5 Combined Cycle Conversion will be capitalized in construction work in progress, will accrue allowance for funds used during construction ("AFUDC") and will not be included in rate base for the 2014 test year. Tampa Electric witness Jeffrey S. Chronister explains the accounting and ratemaking treatment of the Polk 2-5 Combined Cycle

Conversion Project in his direct testimony.

Q. What other major generation-related capital projects were, or will be, placed in-service between 2010 and 2014?

A. There are a number of major projects including the following items:

The Polk Power Station Reclaim Water Project - This activity began in 2009, and Phase I will be completed in the first quarter of 2014. The project provides for the supply, treatment and use of recycled wastewater from the City of Lakeland (and in Phase II from both the City of Mulberry and Polk County) at Polk Power Station. This project is needed to maintain acceptable reservoir quality for the continued use of the existing cooling reservoir and to provide the additional cooling water needed for future generating units at the site.

Phase I of this project (City of Lakeland) is expected to cost $106.9 million. The Southwest Florida Water Management District is co-funding this effort with $35.3 million. The net cost to the company will be $71.6 million. Phase 1 is comprised of three major units of property: pipeline, treatment system and disposal wells.

The disposal wells are essentially complete and are expected to be placed in-service in the third quarter of 2013 at a net cost of $21.6 million. The pipeline is expected to be completed and placed in-service in December 2013 at a net cost of $17.7 million. The treatment system is expected to be completed and placed in-service in the first quarter of 2014 at a net cost of $32.3 million. The O&M expenses associated with this new activity are estimated to be $3.0 million per year.

Completion of the Big Bend Solid Fuel Handling System project - This project started in 2007 and will be complete in 2014. The Big Bend solid fuel handling system has been in-service since 1970. The system includes all of the equipment to receive solid fuel by water, rail or truck; blend various fuels to meet operational and environmental requirements; convey the fuel to storage piles; reclaim the fuel from storage piles and convey it to plant operations for further processing. In 2007 and 2008, the company completed a set of comprehensive studies which determined that much of the equipment had reached the end of its useful life and that significant equipment and structural failures were likely in the near future. Rather than incur equipment downtime and rapidly escalating maintenance

expenses, the company determined that numerous components for the system required replacement or refurbishment to ensure that the solid fuel handling system would be viable for at least an additional 20 years. Thirty separate components of the system were identified and the maintenance work has been ongoing since 2011. The system must continue to operate to support plant operation during this project which requires prudent scheduling and sequence of project activities. Units of property are being placed in-service as the work is completed, and the total cost of this project is expected to be $62.1 million.

Completion of the Big Bend Flue Gas Desulfurization ("FGD") reliability and gypsum storage program - This program was necessary to ensure that the FGD system will continue to operate in a reliable fashion and maintain compliance with environmental regulations for the four coal units at Big Bend Power Station. The FGD reliability activities are expected to be completed in 2014 at a total cost of $59.2 million. This program also included the addition of a second gypsum storage area that was needed to effectively manage the production, quality and storage of high grade gypsum. This gypsum is marketed and sold for beneficial reuse to

create products such as wallboard or cement or for use in agricultural applications. The company elected to modify the gypsum storage area project scope after several discussions with the FPSC in 2011 and 2012. This project is expected to be completed in 2014 at a cost of $21.7 million. The majority of cost of these projects are included in the Environmental Cost Recovery Clause and are not included as part of this base rate request.

Completion of system wide Arc Flash Hazard Mitigation projects - The National Fire Protection Association standard NFPA-70E defines safety regulations involving the analysis and management of the energy that could be released from electrical equipment experiencing a fault. Tampa Electric undertook a comprehensive study of all power plant electrical equipment operating at 480 volts and above. The study indicated many instances of potential arc flash energy risks. A series of projects have been completed at each power station which implemented cost-effective solutions to provide adequate safety for personnel working in proximity to electrical equipment. The last of these projects will be completed in 2014 at a total program cost of about $20 million.

Replacement of capital units of property (recurring capital maintenance) - There are a number of projects involving the replacement of generating equipment components (units of property) that have reached the end of their useful lives. Generating units that are properly maintained can operate as long as sixty-five years. Specific equipment such as foundations, structural steel, piping and wiring can function effectively for the operating life of the unit with proper maintenance. Other plant equipment has shorter life cycles due to corrosion, erosion, metal fatigue and other wear mechanisms. In many cases, it is more cost-effective to replace a piece of equipment in its entirety than repair it in place. There are numerous recurring capital projects that have been completed, or will be completed, between 2009 and 2014. Examples of these projects include boiler tubing replacements (superheaters, reheaters and waterwalls), pump and fan replacements, feedwater heater replacements, generator rewinds, precipitator upgrades and others. Many large units of property only require replacement after 20 or 30 years of service. Several of these have been, or will be replaced, between 2010 and 2014. A listing of representative capital projects which exceed $3 million is shown on Document No. 2 of my exhibit.

Q. What is Tampa Electric's construction capital budget for Energy Supply in 2014?

A. As shown in Document No. 3 of my exhibit, the construction capital budget for the Energy Supply department totals $391.7 million for 2014. This total is comprised of $192.2 million for recurring, non-expansion projects and $199.5 million for non-recurring, expansion projects. The latter component includes $147.8 million for the Polk 2-5 Combined Cycle Conversion in 2014. The accounting and ratemaking treatment of the Polk 2-5 Combined Cycle Conversion Project is described in the direct testimony of witness Chronister.

PRODUCTION O&M EXPENSES

Q. What are Tampa Electric's production O&M and non-recoverable fuel expenses budgeted for 2014 and how has the amount varied over time?

A. Document No. 4 of my exhibit shows the Tampa Electric Energy Supply department expenses (excluding all costs recovered from various cost recovery clauses) from 2007 to 2014. The budgeted amount in 2014 is $138.8 million.

Q. How do these spending levels compare with what would be expected using the Consumer Price Index for Urban Consumers ("CPI-U") escalation factors using 2007 as a benchmark?

A. Document No. 4 of my exhibit shows that the actual expenses have generally been below what would be expected using the CPI-U as a cost escalator. This is the measure used by the Commission to benchmark O&M expenses for production plant. The cost control measures implemented in 2010 through 2012 resulted in spending being held below the levels expected with inflation. Budgeted expenses in the 2014 test year are over $2.8 million less than the 2007 benchmark with escalation.

Q. How does the adjusted 2014 test year total production O&M costs per company books compare with the Commission O&M benchmark?

A. As described in witness Chronister' s direct testimony, the company's adjusted 2014 total production O&M costs are expected to be under the benchmark by $6.8 million. Specifically, the adjusted test year total production O&M per company books in 2014 is $136,006,000. The

adjusted test year total production O&M benchmark in 2014 is $142,809,000. The production O&M benchmark calculation is shown in MFR Schedule C-37.

Q. How has the company managed to stay below the O&M benchmark for 2014 production expenses?

A. Tampa Electric has focused on managing costs and ensuring that O&M dollars were spent in a prudent fashion. The cost management measures implemented since the last base rate proceeding were a prudent response to revenue shortfalls. That level of spending, however, is not sustainable for the long term. Beyond the imposition of reduced spending budgets, the company has, and is, focused on continuous improvement, innovation and finding ways to operate more efficiently and at lower costs.

There are numerous examples of improvement projects and activities that have been implemented throughout Energy Supply. At Big Bend Power Station, team members completed 62 projects in 2012 alone that totaled almost $1 million in savings or avoided cost increases. Many of these initiatives in 2012 and in prior years have produced savings that extend beyond the year of

implementation and have a cumulative effect. Similar efforts at Bayside and Polk Power Stations in 2012 totaled nearly another $1 million in savings or avoided cost increases. The culture of continuous improvement across all Energy Supply areas is a major reason the company has been able to hold O&M spending below benchmark levels.

Q. What are the major factors that have contributed to an increase in total O&M spending needed to maintain Tampa Electric's fleet of generating units?

A. The company's continuous improvement efforts have been significant; however, the total cost for O&M activities has increased. There are three major factors that necessitate an increase in O&M expenses.

The first factor is the inflationary pressure on the costs of labor, materials and services needed to run the business. Although inflation has slowed, it still exists, and this creates upward pressure on costs. From the 2007 historical base year to the 2014 test year, the CPI-U shows an expected increase of 16.07 percent, or approximately 2.3 percent per year.

The second major factor for increasing O&M costs is aging equipment. As mechanical and electrical equipment ages and is used to produce electricity, it generally requires an increasing amount of maintenance to perform satisfactorily. This effect can be minimized by good operation and maintenance practices, but it cannot be totally eliminated.

The third major factor for increasing O&M costs is new regulatory requirements. The business of power production is highly regulated, and new requirements continue to be imposed. Since the 2007 historical base year, requirements have been added in the areas of personnel safety, physical security, cyber security, system reliability, water use and others. Compliance with these regulations inevitably takes resources and increases costs. The company endeavors to comply with new regulations in the most prudent and cost-effective ways, but compliance is mandatory.

Q. Please define planned outages versus other types of outages.

A. Planned outages, as the name suggests, are defined as those outage periods that are anticipated and planned

for well in advance of the actual outage period, typically at least one year in advance. Forced outages, on the other hand, are not planned for or scheduled and can be the result of an in-service failure or imminent failure of some generating unit component. In addition, forced outages are typically short in duration and have greatly reduced scope-of-work versus planned outages. Maintenance conducted during planned outages consists of large tasks that are performed infrequently and have a long duration. Typical examples are steam turbine inspections and repairs, replacement of large heat transfer surfaces in the boiler and refurbishment of large motors and pumps. The maintenance performed during these outages is required to ensure the safe and reliable operation of the generating units.

Q. What is the impact of planned outages on Tampa Electric's generating units in the 2014 test year?

A. The 2014 planned unit maintenance durations are shown for each unit in MFR Schedule F-8, page 11 of 24. There are 16 generating units with planned maintenance outages scheduled in 2014. A total of 62.7 planned outage weeks is scheduled across the system. The planned outage schedule varies from year to year based on the

maintenance requirements of each generating unit and the need for adequate generating capacity in service to reliably meet demand throughout the year. The planned maintenance for 2014 is typical of the past and expected future planned outage requirements, with one exception. The company is in the process of engineering and procurement activities for the four HRSGs and one steam turbine that will convert Polk Units 2-5 from simple cycle to combined cycle operation. In 2014, the project schedule requires an outage on each of these units to modify the exhaust stacks to enable the subsequent construction of the HRSGs without interfering with the operation of these units. The work performed during these outages is primarily associated with the Polk 2-5 conversion capital project and will be accounted for as such. No costs related to the Polk 2-5 Conversion project are included in the test year expenses sought in this rate request.

After accounting for the 22 weeks of outages associated with the Polk 2-5 Conversion project, the planned outage schedule for 2014 has a total of 40.7 outage weeks across the system, which is typical of past and future planned outage needs.

Q. What has been the reliability of Tampa Electric's generating units over time?

A. The overall generating unit equivalent availability factor ("EAF") has been approximately 81 to 83 percent since 2007. This overall system availability represents the combination of newer, highly reliable combustion turbines and older coal fired units. Continued capital expenditures and O&M spending are needed to maintain unit availability and, in particular, the availability of the coal-fired units. Reductions in O&M spending levels in 2010, 2011 and 2012 have begun to adversely affect unit availability. Maintenance efforts taking place in 2013 and planned for 2014 and beyond are intended to maintain availability at acceptable levels. The company has continued to replace capital units of property, when economically justified, in order to maintain availability without excessive O&M spending. Document No. 5 of my exhibit shows the total system EAF from 2007 to 2012.

Q. What has been the thermal efficiency of Tampa Electric's generating units over time?

A. The heat rate of Tampa Electric's units has ranged from

approximately 9,100 Btu/kWh to approximately 9,350 Btu/kWh from 2007 to 2012. Document No. 6 of my exhibit shows the total system heat rate from 2007 to 2012. This trend shows efficiency degrading somewhat in the last two years. Continued capital expenditures and increased O&M activities in 2013 and beyond are intended to maintain unit heat rates at acceptable levels.

Q. Has Tampa Electric taken other measures to control generation O&M costs while maintaining a safe and productive workplace?

A. Yes. Tampa Electric has taken a number of steps to ensure that its team members are safe, productive and focused on the right priorities while managing costs. Some of the key measures are in the areas of safety, staffing and productivity, and operating goals and priorities.

Tampa Electric emphasizes safety over all other considerations. The company has several programs that deal with hazard elimination and personal safety behavior improvement. The company investigates safety incidents and near miss events to determine root causes and appropriate corrective actions. The company

observes team members while performing tasks to reinforce positive safety behaviors and coach them on opportunities to improve. These efforts have reduced the Energy Supply area Occupational Safety and Health Administration recordable injury rates, which represent the annual number of recordable incidents per 100 employees, from 1.2 in 2009 to 0.6 in 2012, which is an outstanding accomplishment.

Front-line craftsmen are trained and encouraged to perform tasks outside of traditional boundaries in a safe manner. In cooperation with the collective bargaining unit at the Big Bend and Bayside Power Stations, team members now perform maintenance and operation tasks as needs dictate without barriers from prior strict work rules. A pay-for-skills system encourages team members to learn and apply key skills in addition to their primary maintenance craft at the Polk Power Station. For example, a team member who has a core skill in mechanical maintenance may learn certain skills traditionally limited to electricians. When a task involves both mechanical and electrical work elements, one team member is able to complete the work, which improves overall workforce efficiency and productivity and allows for reduced staffing levels.

Tampa Electric ensures team members' priorities are aligned with business goals by setting business goals at the company level, which are in turn supported by goals at the department and business unit level. Team members can receive incentive pay through the company's Performance Sharing Program if certain goals are met. Progress on goal achievement is regularly reviewed with team members. All of these actions have contributed to the company's ability to control costs while still providing reliable service to customers.

SUMMARY

Q. Please summarize your direct testimony.

A. Tampa Electric maintains a diverse portfolio of generating units to reliably meet the needs of its customers in an efficient and cost-effective manner. The diversity of fuels and generating unit configurations used increases system reliability and mitigates price risk for customers. The performance of the company's units has been very good, although recent reductions in spending levels have begun to result in some performance degradation.

The production capital construction and O&M expenses

projected for 2014 are reasonable, prudent and below the Commission O&M benchmark. The budgets include expenditures that will improve heat rate, reduce full and partial forced outages and help ensure the availability of clean, reasonably priced energy for customers.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY

OF

MARK J. HORNICK

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

A. My name is Mark J. Hornick. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") in the position of Director of Engineering and Project Management.

Q. Are you the same Mark J. Hornick who filed direct testimony in this proceeding?

A. Yes, I am.

Q. Have you prepared an exhibit to accompany your rebuttal testimony?

A. Yes. My Exhibit No.__ (MJH-2), consisting of one document entitled "Planned Major Outages in Weeks, 2007-2020" was prepared by me or under my direction and supervision.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address errors and shortcomings in the prepared direct testimonies of witness Helmuth W. Schultz, III testifying on behalf of the Office of Public Counsel ("OPC"), witness Jeffery Pollock, testifying on behalf of the Florida Industrial Power Users' Group ("FIPUG"), and witness Lane Kollen, testifying on behalf of the WCF Hospital Utility Alliance ("HUA"). In so doing, I explain why the Commission should not make any negative adjustments to Tampa Electric's requested level of generation maintenance expense.

Q. Please summarize the testimony of witnesses Schultz, Pollock and Kollen regarding Tampa Electric's proposed level of generation maintenance expense for the 2014 projected test year.

A. Each of these three witnesses states that Tampa Electric's $17.585 million planned outage maintenance expense for the 2014 test year is higher than previous actual expenses and recommends a reduction in the allowed amount. Witness Schultz calculates a five year average of planned outage expense for the period 2008 through 2012, and after adjusting for inflation, he recommends a

reduction of $4.088 million. Witness Pollock calculates a seven year average expense for each unit excluding peakers for the years 2008 through 2014 and recommends a reduction of $3.665 million. Witness Kollen proposes a $7.145 million reduction based on his calculated three year average expense during 2010 through 2012. The positions taken by the three witnesses are summarized in the following table:

Witness	Comparison	Recommended Reduction	Inflation Adjustment
Pollock	7 year avg. (2009-2014)	$3.665 million	No
Schultz	5 year avg. (2008-2012)	$4.088 million	Yes
Kollen	3 year avg. (2010-2012)	$7.145 million	No

Q. Do you agree with the intervenor witnesses' proposed adjustments to test year generation maintenance expenses?

A. No. Each of the reductions recommended by intervenor witnesses was prepared using a simplistic accounting approach rather than an engineering analysis. These three witnesses use historical maintenance spending to judge the reasonableness of Tampa Electric's proposed generation maintenance expense for the 2014 test year. I, and the other Tampa Electric witnesses, have clearly explained in direct testimony that the company

intentionally reduced its spending during the last few years because of revenue shortfalls. Tampa Electric eliminated or deferred needed maintenance activities to prudently manage the business and defer the need to request a base rate increase, to the benefit of customers. The intervenor witnesses now attempt to use these abnormally low historical spending levels to suggest that the 2014 test year generation operation and maintenance ("O&M") expense is abnormally high. If the Commission adopts this approach, the company will find itself in a position where "no good deed goes unpunished," and Tampa Electric will be forced to continue its austerity spending levels, to the detriment of customers. As I stated in my direct testimony, the company is beginning to see the effects of reduced maintenance spending on unit performance and availability.

More importantly, each of the intervenor witnesses who proposes an adjustment to 2014 generation maintenance expense failed to consider the maintenance needs for Tampa Electric's power plants. Although I described the types of maintenance activities that the company needs to perform in 2014 in my direct testimony and discovery responses, the intervenor witnesses did not identify any

specific item of maintenance activity that the company should not perform.

Q. Do you have a specific concern with the way witness Kollen calculated his proposed adjustment?

A. Yes. Witness Kollen focuses only on the most recent three year actual expenses and did not adjust his historical average to recognize the effect of inflation. By failing to consider the effects of inflation, witness Kollen compounds the problem caused by his improper reliance on historical averages and proposes an adjustment that is unrealistic and unjustified.

Q. Do you agree with the approach used by witness Schultz to calculate his proposed adjustment?

A. No. Witness Schultz computes a historical average using five years of historical generation maintenance expense information and adjusts his average for inflation. Witness Schultz focuses on the period 2008 through 2012 and averages the expense levels, including the deliberately restricted spending during 2010 through 2012, to calculate an inflation adjusted average value of $13.497 million. He proposes an adjustment for the

difference between this amount and the $17.585 million proposed by the company for 2014, or $4.088 million.

Witness Schultz makes the same mistake that witness Kollen made, looking backward at accounting data rather than looking forward and focusing on engineering analysis, compliance, environmental and safety needs and operating plans.

Based on the work Tampa Electric must complete, including catching up on deferred maintenance items for the next several years, and as explained in the company's answer to OPC's Fifth Set of Interrogatories, No. 77, Tampa Electric's generation planned outage maintenance expense is $18.030 million and $17.450 million for 2015 and 2016, respectively. Compared to the levels of generation expense that Tampa Electric expects to incur in 2015 and 2016, the company's proposed 2014 planned outage generation maintenance expense, $17.585 million, is reasonable. Tampa Electric must return to a sustainable level of maintenance spending for its generating units, not continue to maintain the restricted levels necessitated by revenue shortfalls in previous years. The level of 2014 spending proposed by witness Schultz would result in continued suppression of needed maintenance

activities at the company's power plants and could result in the deterioration of generating unit performance.

Q. Do you agree with the negative adjustment proposed by witness Pollock?

A. No. Witness Pollock also erroneously uses a backward-looking accounting approach to evaluate the 2014 level of planned outage generation maintenance expense; and he fails to identify any particular maintenance item that the company should not perform in 2014. He computes his average using expense amounts for the years 2008 through 2014. He also excludes peaking units from his analysis, which unreasonably removes $285,000 planned maintenance expense for work on five aero-derivative combustion turbines ("CT") that were installed in 2009 and are beginning to need maintenance. In fact, the company now projects that the planned maintenance cost for these units will be higher than the $285,000 included in the test year expenses. Witness Pollock also does not perform an adjustment for inflation in his analysis. There is no rational basis to exclude the peaking units from his calculation or to ignore the effects of inflation.

Q. Is the 2014 level of spending for generation planned

maintenance, by unit, unusual or out of the ordinary?

A. No, not at all. The planned maintenance major outage expenses for Big Bend Unit 1 and Big Bend Unit 4 are budgeted at $5.4 million and $5.7 million, respectively. In 2006, the actual planned maintenance expenses for the Big Bend Unit 1 outage was $4.0 million. In 2007, the actual planned maintenance expense for Big Bend Unit 4 was $6.4 million. The projected spending for the 2014 planned major outages on these units represents a typical level needed for sustainable operating performance, as can be seen by comparing the planned expenses to the aforementioned actual major planned outage expenses for the same units.

Q. Is it unusual to have two major planned outages planned in any given year?

A. No. Tampa Electric's 2014 outage plan is a typical plan that is driven by the maintenance needs of each unit and the power demands of our customers. Major outages, which are typically eight weeks in duration, require a significant amount of long-range planning and coordination. The large coal units at Big Bend Power Station are typically on a three- to four-year major

outage cycle. With the current level of utilization, Bayside Units 1 and 2 require a major outage every four years, driven by CT manufacturer's guidelines. Polk Unit 1 is typically on a three-year major outage cycle, driven by both CT and gasifier maintenance requirements.

Document No. 1 of my exhibit shows actual and planned major outages from 2007 through 2020; the average number of planned major outages for this period is 2.2 annually. The test year is a typical year, with two major planned outages during 2014. In fact, there are three major outages planned in 2015, the year following the test year, and Tampa Electric's budgeted maintenance expense for 2015 is $18.030 million.

Q. Please describe any other relevant measures by which the Commission should judge the prudence and reasonableness of Tampa Electric's generation planned outage expenses.

A. The Commission evaluated Tampa Electric's 2009 test year planned maintenance expenses during the company's last base rate proceeding. In the Final Order No. PSC-09-0283-FOF-EI, issued on April 30, 2009 in Docket No. 080317-EI, the Commission reduced the company's planned outage expense from $20.2 million to $17.35 million, and stated

that this amount was a "justified level for the test year" (at page 59). The Commission-approved 2009 planned outage generation maintenance expense is in line with the 2014 test year expense of $17.585 million, not taking into account that the company's generating fleet is older now than it was in 2009. After considering the effects of inflation, Tampa Electric's planned outage generation maintenance expense for 2014 is $1.95 million below the level approved for 2009 in the course of the company's last base rate proceeding.

Q. What activities will Tampa Electric have to forego or defer if the Commission accepts an intervenor proposal to reduce the company's proposed level of planned generation maintenance expense for the 2014 test year?

A. If its allowed level of planned generation maintenance spending is reduced, then Tampa Electric will have to prioritize needed activities by judging which items have a lower risk of adverse impacts if deferred. Known problem areas would be high priority items for work to be completed. On the other hand, equipment inspections, such as inspecting the steam turbine on Big Bend Unit 1, which is planned for Fall 2014 and for which approximately $3 million is included in 2014 test year expense, would have

to be evaluated for deferral.

Steam turbine inspections are long duration activities that are typically on the critical path timeline for an outage and involve substantial expense. Deferring the inspection would require a re-evaluation of the unit major outage schedule and likely would postpone that outage to the following year, with cascading effects to other planned maintenance. Other work scheduled to be performed during that outage, such as boiler tube replacements, boiler feed pump maintenance and the generator rewind would also be postponed. The overall impact of these deferrals of critical work would be detrimental to the performance of the generating units. If work of this type is not completed during planned outages, an equipment failure while the unit is in service would require corrective maintenance during a forced outage, and that is less efficient and more costly than doing the work in a pre-planned manner. For these reasons, reducing the company's requested generation maintenance expense would present significant challenges to the company and may result in additional costs to both customers and the company. The adjustments to generation maintenance expense, as proposed by the intervenor witnesses, should not be made.

Q. Has Tampa Electric been faced with similar decisions to eliminate or defer work to manage expense levels and have there been negative impacts?

A. Yes. As described throughout the company's filing in the instant docket, Tampa Electric had to reduce spending in several areas due to revenue shortfalls following its last base rate case. A representative list of deferred generating unit maintenance was supplied in the company's response to OPC's Fifth Set of Interrogatories, No. 71. One of the items deferred in 2012 was the $3.5 million Big Bend Unit 3 steam turbine inspection. Due to this deferral, the major outage schedule was re-evaluated, and the Big Bend Unit 3 turbine inspection and associated major outage work were rescheduled to 2013. In this case, the steam turbine performed acceptably during the deferred inspection period from 2012 to the spring of 2013. However, if the Big Bend Unit 1 steam turbine inspection and associated outage work is deferred in 2014, Tampa Electric will experience increased risk of not only steam turbine problems, but also boiler tube failures, generator issues and high energy piping integrity concerns. As I stated in my direct testimony, Tampa Electric is beginning to see signs that further deferral of planned maintenance activities will decrease

unit performance and availability. This is why the company is so concerned about the adjustments to generation maintenance expenses proposed by the intervenors.

Q. Are there any other areas where you disagree with the conclusions reached by witness Schultz?

A. Yes. Witness Schultz has raised issues concerning the company's proposed headcount and staffing. Witness Register addresses these issues in detail from a company-wide perspective in his rebuttal testimony. I disagree with witness Schultz to the extent he asserts that the proposed test year headcount for Energy Supply is unreasonable.

Q. Are headcount changes proposed in the Energy Supply area from 2012 to the 2014 test year?

A. Yes. There are 21 new Energy Supply positions to be added during the 2012 to 2014 timeframe.

Q. What are the reasons these new positions are needed?

A. There are two main drivers for the position additions.

First, the company is actively working to design and construct the Polk 2-5 Combined Cycle Conversion Project. This is a very large project taking place over several years and will require over 1.5 million man-hours of work. It is clearly not practical or prudent to add permanent staff to cover this activity, and the majority of the work will be completed by contractors. However, seven permanent positions are required to work almost exclusively on the Polk 2-5 Combined Cycle Conversion Project. These seven positions are engineering, technical and administrative positions that are needed to oversee the design and construction of the facility. The positions will ensure that the work is done properly, that the project is on schedule and on budget and that the generating unit will meet the needs of customers. Additionally, these seven positions will have very little impact on O&M expense levels since the majority of the employees' time will be charged to capital project accounts.

The second reason that new positions are needed in Energy Supply is the construction of the water treatment facility at the Polk Power Station. In order to successfully treat the wastewater from Lakeland to meet the water quality needs of the Polk Power Station, the

new treatment plant is large and complex. The wastewater contains substantial amounts of suspended and dissolved solids, including algae from the Lakeland wetlands treatment system. The dissolved solids will be removed by a combination of a large clarifier/ reactor, with associated chemical injection, solids dewatering and multimedia filtration. The water will then be directed to large reverse osmosis assemblies for removal of dissolved solids. The concentrated effluent from the reverse osmosis units will be collected, chemically treated and passed through a final filter before being injected into the two deep disposal wells at the Polk site. The clean permeate from the reverse osmosis units will be collected and distributed for use in the Polk Power Station.

The operation and maintenance of the remote pumping station, waste water pipeline and the water treatment equipment are all new activities beginning in the test year. Tampa Electric must periodically check the pump station and pipeline for proper operation and integrity. The company must carefully monitor and control water flow rates through the system and chemical additions and dispose of solids that are removed from the system. Tampa Electric must operate and maintain the instrumentation, controls, electrical distribution systems, motors and

pumps for the new water treatment system. The company has evaluated these manpower requirements and has considered synergies with the existing workforce at Polk Power Station. While existing staff can complete some of this work, the company expects that at least 13 new positions will be required. This includes two full time operating personnel on each of the five operating teams, along with supervision and technical support. These 13 positions are included in the company's test year expenses, and it is possible that incremental staff positions beyond these 13 will be needed.

The remaining position addition in Energy Supply is for an engineer in the Planning, Strategy and Compliance Department. This position is needed to handle the new workload associated with expanded NERC/CIP reliability standards compliance.

Q. Based on the foregoing, should any adjustments be made to Tampa Electric's requested level of generation expense for the 2014 projected test year?

A. No. Tampa Electric's proposed level of generation operation and maintenance expense of $138.8 million for the 2014 projected test year is reasonable. This expense

level is based on the company's best engineering judgment regarding the levels of operation and maintenance activities needed at its power plants in 2014. This amount reflects a reasonable and appropriate level of planned outage expenses of $17.585 million and increased staffing levels to accomplish new activities and the company's maintenance plans for 2014. The proposed amount is also reasonable in light of Tampa Electric's plans for 2015 and 2016.

Q. Please summarize your rebuttal testimony.

A. My rebuttal testimony points out the serious errors and shortcomings in the testimony of witnesses Schultz, Pollock and Kollen. These witnesses used a backward looking historical spending approach to attempt to determine the appropriate level of generation planned outage maintenance expense for the company's 2014 test year expense. This "accounting style" method gives no consideration to the condition of the generating units and the real needs for maintenance spending to reasonably ensure continued safety, compliance with regulations and acceptable operating performance. Their conclusions also ignore the fact that the company intentionally reduced spending in recent years and instead recommend the

continuation of non-sustainable funding levels. None of the intervenor witnesses' recommendations are appropriate, and their adjustments to generation O&M expense should not be applied.

My rebuttal testimony also describes the new Energy Supply positions the company will add within the 2014 test year. Each of the 21 positions is associated with new and necessary activities that are incremental to the prior test year.

Q. Does this conclude your rebuttal testimony?

A. Yes it does.

TAMPA ELECTRIC COMPANY
DOCKET NO. 130040-EI
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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

J. BRENT CALDWELL

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

A. My name is J. Brent Caldwell. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director of Origination & Market Services.

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

A. I received a Bachelor Degree in Electrical Engineering from Georgia Institute of Technology in 1985 and a Master of Science in Electrical Engineering in 1988 from the University of South Florida. I have over 15 years of utility experience with an emphasis in state and federal regulatory matters, natural gas procurement and transportation, fuel logistics and cost reporting, and business systems analysis. In October 2010, I assumed responsibility for long-term fuel origination.

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

A. Yes. I have previously testified before this Commission in Docket No. 120234-EI regarding the company's fuel procurement and delivery strategy for the Polk 2-5 Combined Cycle Conversion.

Q. What is the purpose of your direct testimony?

A. My direct testimony describes Tampa Electric's fuel inventory planning process and the factors that influence the reliable supply and delivery of coal, oil and natural gas. Tampa Electric uses fuel inventory planning to determine the proposed fuel inventory working capital levels included in the rate base in this proceeding.

Q. Have you prepared an exhibit to support your direct testimony?

A. Yes. I am sponsoring Exhibit No. ___ (JBC-1), entitled "Exhibit of J. Brent Caldwell", prepared under my direction and supervision. It consists of the following documents:

Document No. 1 List of Minimum Filing Requirement Schedules Sponsored or Co-Sponsored by J. Brent Caldwell
Document No. 2 2014 Proposed Coal Inventory
Document No. 3 Coal Inventory Levels 2008-2012
Document No. 4 2014 Proposed Fuel Inventory

Q. What types of fuel does Tampa Electric use?

A. Tampa Electric uses coal and petroleum coke ("coal" or "solid fuel"), natural gas, and light oil to generate electricity. In 2012, Tampa Electric's generation mix was comprised of 58 percent coal, 41 percent natural gas and less than one percent light oil. The company's annual coal requirement is approximately five million tons and the annual natural gas requirement is about 60 million MMBTUs. A relatively small amount of light (No. 2) oil is used for the start-up of solid fuel units and as a secondary fuel for three natural gas-fired combustion turbines.

Q. What is the objective of Tampa Electric's fuel management plan?

A. The company seeks to maintain an appropriate level of

fuel inventory to minimize the risk of service interruptions due to less generating capability than the instantaneous system demand requirements. The company's overall planning process recognizes the operating factors that affect inventory levels, such as fuel supply availability, fuel delivery logistics, fuel consumption, storage capacity, fuel quality and extraordinary events. The primary goal of maintaining adequate fuel inventories is to maintain generating capacity adequacy for system reliability while managing the economic impact to our customers. Maintaining appropriate levels of fuel is less expensive than making emergency purchases of fuel at a premium price, buying replacement power or interrupting electrical service to customers. Tampa Electric uses diverse supply sources, several delivery methods and various storage sites to mitigate the multitude of issues that may interrupt fuel supply to the company's generating system.

Q. What fuel inventories are components of your overall system-wide fuel inventory?

A. Coal, natural gas and oil are components of Tampa Electric's overall system-wide inventory. For coal, inventory includes all coal that the company has

purchased and has in its control. This includes coal that is stored on-site at the power plants, stored off-site, and en route. The natural gas amount included in inventory is the amount owned by Tampa Electric and stored in underground storage caverns or stored in interstate pipelines. For oil, only quantities stored in tanks on-site is included in inventory because oil is not under Tampa Electric's ownership until it reaches the plant site.

COAL INVENTORY

Q. What are the system-wide coal inventory levels included in the company's inventory planning process?

A. Tampa Electric's coal inventory levels are included at "target" levels. Tampa Electric's overall system-wide target level for coal inventory is 98 days projected burn. While Tampa Electric targets 98 days, the actual days vary seasonally and based on various circumstances.

Document No. 2 of my exhibit shows the overall anticipated quantities of coal in inventory by station projected for 2014. This chart includes coal stored on-site at the power plants, stored off-site and en route.

Q. What is the projected average coal inventory level for 2014?

A. The projected 13-month average coal inventory level is approximately 1.4 million tons with a value for 2014 of $92.2 million.

Q. How does the proposed coal inventory level compare to Tampa Electric's historical coal inventory levels?

A. It is consistent with the company's actual coal inventory levels over the past five years. Tampa Electric's actual coal inventories have averaged 1.2 million tons, or approximately 101 days of burn, during that timeframe. In the past two years, inventory of coal for Tampa Electric represented an average of 95 days. Document No. 3 of my exhibit details the historic coal inventory levels for 2008 through 2012.

Q. Are there extenuating circumstances that have affected the coal inventory levels in the past few years?

A. Yes. Solid fuel inventories have been maintained at levels lower than the 98 days target beginning in late 2011 and continuing through 2013. The reduction is due

to a significant ongoing upgrade to the company's coal field equipment at Big Bend Power Station which temporarily reduced the space available for storing coal on-site. This multi-year, multi-million dollar project will increase reliability and functionality of the coal field and its equipment.

Q. What major factors influence the level of coal inventory Tampa Electric proposes to maintain in 2014?

A. Coal supply availability and deliverability to Tampa Electric have been affected historically by adverse weather conditions including floods, hurricanes, extreme conditions on waterways, water route blockages, work disruptions in the coal and railroad industries, consumption variations and transportation provider equipment breakdowns. The company must maintain sufficient coal inventory to mitigate the impact of these and other factors. Tampa Electric closely monitors these factors because of the dramatic impacts they can have on cost and reliability.

There are a number of considerations that influence Tampa Electric's proposed 2014 coal inventory level. These considerations are classified into four major

categories of inventory planning: 1) fuel commodity availability, 2) fuel delivery disruption, 3) fuel consumption variability, and 4) extraordinary events.

Q. Discuss some circumstances that lead to fuel supply availability.

A. Force majeure events and mine issues can influence coal production. Diminished supplier performance can also cause a supply disruption that reduces deliveries. Most importantly, though, is the changing market dynamics for coal. Tampa Electric's customers have benefitted from the low cost, abundant supply of coal from the Illinois Basin. This abundant supply has allowed Tampa Electric to acquire coal relatively quickly when needed. However, this dynamic has changed dramatically and is likely to change further. Many domestic utilities have begun switching their coal supply to the lower cost Illinois Basin. Additionally, the international market has begun buying significant quantities from the Illinois Basin. Thus, going forward, Tampa Electric will be competing with more, and much larger, entities for the same Illinois Basin supply so it will likely take more time and more cost to re-supply during a coal supply disruption event.

Q. What are some examples of fuel delivery disruptions?

A. The river and rail transportation systems used to deliver coal are subject to supply delivery disruptions. Tampa Electric faces the possibility of river closings associated with the repair of lock and dam mechanisms. These river locks raise and lower the barges for proper navigation through the Mississippi and Ohio River systems. Almost every year the river systems have high and/or low water conditions due to rain and snow or excessive drought. Fog, ice and transportation equipment breakdowns can delay or interrupt transportation on the river system as well.

Likewise, fog, hurricanes and equipment breakdowns affect the Gulf transportation system. Gulf Coast hurricanes such as Hurricanes Katrina and Isaac that strike the mouth of the Mississippi River, significantly disrupt coal and other energy commodity deliveries. Given the risks associated with hurricane activity and the problems one Gulf hurricane can cause, maintaining a 98 day coal inventory level is very reasonable. For example, due to Hurricanes Katrina and Rita in 2005, coal inventory levels were depleted to less than 20 days at Big Bend Power Station in the months following the

hurricanes because of the extended interruption of transportation. These same events caused a shutdown of gas supply due to the evacuation of and damage to gas production platforms in the Gulf of Mexico. As a result, limited gas supply due to infrastructure and transportation facility damage can create a higher demand for coal.

Even small storms can have a large impact on the logistics of transporting solid fuel. For example, Isaac, a Category 1 hurricane in 2012, caused widespread flooding and disabled several terminals at the mouth of the Mississippi River for many weeks. Similarly, in June 2012, Tropical Storm Debby constrained shipping in Tampa Bay for an extended period of time.

The rail transportation system is affected by congestion, track maintenance, rail blockings, flooding and equipment breakdowns. This results in slower turn times, which is defined as the time it takes a train to return to the coal mine for its next shipment, in turn causing reduced deliveries.

Q. How can these solid fuel supply and delivery disruptions affect Tampa Electric's inventory?

A. Tampa Electric's plants are located approximately 1,000 miles from the Illinois Basin where the vast majority of its coal is mined, and up to 50 percent of Tampa Electric's coal inventory at any given time is off-site or en-route. As mentioned above, after Hurricane Katrina, Tampa Electric's on-site inventory level fell to a low of only 20 days. Because Tampa Electric prepared for hurricane season by building sufficient storm season inventory, the company was able to maintain adequate inventory supply on-site and manage through the disruption of deliveries that lasted almost six months without disrupting service to its customers. It is important to recognize that any of these events can cause lingering issues that disrupt normal fuel supply and logistics for many months.

Q. What is meant by coal burn variability and how does it affect Tampa Electric's planning process?

A. Coal burn variability refers to the difference between the planned coal burn and the actual coal burn. Typically, in order to obtain the most cost-effective pricing, coal suppliers and transporters require consistent monthly delivery schedules, which can be inconsistent with the varying consumption needs of the

plants. Larger coal inventories allow the company to absorb swings in supply during varied times of higher or lower burn, which is caused by seasonality, weather and unit operating performance, including unit availability, heat rate and capacity factor.

The amount of burn variability affects Tampa Electric in the overall inventory planning process depending on how quickly and how completely the company can respond to unexpected fuel requirements at the electric generating plants. As previously stated, the company's power plants are located approximately 1,000 miles away from the coal supply sources; therefore, the company's coal inventory planning process must ensure that higher or lower than expected fuel consumption can be accommodated. During constrained fuel supply events, the process of procuring solid fuel can take well over 90 days from identifying the need for more coal to that coal being available for consumption at a power plant.

Q. What is meant by extraordinary events affecting coal inventory planning?

A. Other risk factors are those unidentified low probability but high consequence events that prudent

fuel inventory management must take into consideration because they could significantly affect fuel levels. These events can result in major disruptions to coal supplies by affecting suppliers, the transportation system and even fuel requirements. These other risk factors include potential legislative and regulatory changes affecting potential use of coal for electric generation. Mine Safety and Health Administration ("MSHA") regulations can influence coal production and interrupt transportation. Additional risks include mine closures, due to low demand and increased use of natural gas.

In addition, vessels can sink and have sunk in the Port of Tampa channels, blocking deliveries. Catastrophic events like damage to the Sunshine Skyway Bridge in 1980 blocked the channel and prevented coal deliveries for an extended period. While events like this are rare, the impact is immeasurable if the plant does not have adequate supply on hand.

Another example is the manner in which the events of September 11, 2001 complicated and delayed the transportation of coal due to heightened security in ports.

Tampa Electric has mitigated impacts of catastrophic events through the addition of rail facilities at Big Bend Power Station. However, there is an additional risk that multiple supply disruption events can occur in rapid succession and compound the effects of these individual risks. The prospect of running out of fuel is not an option; therefore, it is essential to have an adequate inventory to avoid such an event. It is important to recognize that any of these types of events can cause lingering issues that disrupt normal fuel supply and logistics for many months.

NATURAL GAS INVENTORY

Q. Please describe the company's need for and portfolio of natural gas supply.

A. Tampa Electric has a fleet of natural gas fired generation including simple and combined cycles units as well as aero derivative combustion turbines. Tampa Electric also has the responsibility to procure natural gas fuel for three wholesale purchase power agreements. Tampa Electric has continually enhanced its natural gas supply portfolio, including adding underground natural gas storage capacity, beginning in 2005. Due to the operational characteristic of natural gas peaking units,

natural gas storage is a key component of supply needs.

Q. Please describe Tampa Electric's natural gas supply plan.

A. The company's supply plan for natural gas is to maintain a portfolio of natural gas supply arrangements that have access to multiple supply basins, various delivery points, volume flexibility and varying term lengths. These natural gas supply arrangements are conducted through industry standard contracts with creditworthy parties. This process allows for reliability of supply, operational flexibility and lower overall cost.

In addition to secure supply arrangements, underground natural gas storage is a valuable component of maintaining reliable service for customers. Natural gas storage is used primarily to address unexpected swings in gas supply needs due to unexpected changes in utilization of natural gas-fired generating units, and to "smooth" gas supplies over weekends and holidays when consumption levels may change dramatically. Tampa Electric also maintains nearly full contracted storage levels during times of greatest uncertainty. For instance, Tampa Electric fills natural gas capacity

storage before the start of each hurricane season since supply availability may be at risk during the same period that gas consumption is at its maximum. Similarly, Tampa Electric keeps natural gas storage nearly full during major plant outages and extreme cold weather periods since gas consumption has the greatest uncertainty during those times.

Q. What natural gas storage capacity does Tampa Electric have?

A. Tampa Electric currently has a contract with Bay Gas Storage for up to 1,250,000 MMBTU of storage capacity. The 1,250,000 MMBTU of storage capacity provides Tampa Electric with approximately five summer days of gas supply. The projected 13-month average volume of natural gas in storage in 2014 is 900,000 MMBTU with a value of $3,604,000.

OIL INVENTORY

Q. What is the company's oil inventory planning process?

A. Although less than one percent of the company's generation comes from its oil-fired units, this generation is critical for peak demand periods and for

startup at its base load units. Therefore, the company is concerned with maintaining proper levels of oil inventory. The minimum desired level for light oil at each plant is an adequate supply determined to be necessary to maintain the reliability of the company's generation system during maximum demand conditions.

Q. Do the criteria for oil inventory levels differ from those applicable to coal inventory?

A. Yes. While the normal generation dispatch procedure provides for priority generation by coal and natural gas, the three oil-fired generating units must have adequate supplies of oil, not only for expected use, but also to allow for continued use in the event of unscheduled outages of major coal-fired units, limitations of natural gas supply, and/or higher than expected loads. This contingency consideration dictates that greater quantities of oil be maintained in inventory than normally would be maintained on a purely projected burn basis. Light oil is also necessary for unit startup and flame stabilization to the Big Bend coal-fired units. In 2009, Tampa Electric installed an additional aero derivative combustion turbine at Big Bend Power Station with the ability to run as a dual

fuel unit on oil. This unit is a critical asset because it has black start capabilities that would be used to "jump start" Big Bend coal units.

Q. What is Tampa Electric's inventory plan for light oil?

A. The company's light oil inventory plan is to maintain, at a minimum, the level of oil necessary to provide peaking reliability and coal unit start-up in its generating system. The company has included 81,242 barrels of light oil in inventory for 2014, which equates to a 13-month average of $10,701,000.

TOTAL FUEL INVENTORY

Q. What is the total amount of fuel inventory that Tampa Electric proposes to be included in working capital for 2014?

A. The 2014 13-month average total fuel inventory included in working capital is $106,507,000 as shown on Document No. 4 of my exhibit.

Q. Please summarize your direct testimony.

A. Tampa Electric generates energy for customer use from a

diversified fuel portfolio of coal, oil and natural gas fired units. The company utilizes a dynamic fuel inventory plan that takes into account fuel commodity supply availability uncertainty and transportation uncertainty, fuel consumption variability, and other risk factors, to provide a consistent level of system protection and reliability. Inventory levels take into account the types of fuel maintained and consumed to meet plant requirements in a cost-effective manner and to reliably serve customers.

Tampa Electric's 2014 total proposed fuel inventory of $106,507,000 is an appropriate value for the fuel inventory component of working capital. This level of inventory provides for continued reliable service at a cost that is less than the consequences of not having enough fuel to meet the customer needs. Finally, this inventory level is consistent with the company's inventory planning process and actual historic inventory levels.

Q. Does this conclude your direct testimony?

A. Yes, it does.

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

S. BETH YOUNG

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

A. My name is S. Beth Young. My business address is 820 S. 78th St, Tampa, Florida 33619. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director, Transmission.

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

A. I received my Bachelor's of Science degree in Electrical Engineering from the University of South Florida in 1983. I am a registered professional engineer in the state of Florida. I joined Tampa Electric as a co-operative education student in 1980 and became a full time team member as an associate engineer in 1983. From 1983 through 2012, I have held various positions as an engineer, manager, and director in Tampa Electric's Electric Delivery Department working in System

Operations, Substation Services, Meter Services, System Service, Project Management, Lighting and Standards. In December 2012, I became the Director, Transmission. My current responsibilities include the planning, engineering, construction, operation, maintenance and billing of the transmission system.

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

A. Yes. I testified before the Commission in Docket No. 120234-EI, Tampa Electric's Petition to Determine Need for Polk 2-5 Combined Cycle Conversion.

Q. What is the purpose of your direct testimony?

A. My direct testimony supports Tampa Electric's Energy Delivery ("ED") related capital spending and operations and maintenance ("O&M") expenses of $215,786,000 and $71,383,000, respectively, for the 2014 test year. I will also discuss storm hardening, system reliability and Tampa Electric's plan for continued safe, reliable, and cost-effective service to its customers. I will describe the impact of increased federal regulations the company is facing. Finally, I will discuss and support

the company's T&D O&M benchmark comparisons.

Q. Have you prepared an exhibit to support your direct testimony?

A. Yes. I am sponsoring Exhibit No. ___ (SBY-1) consisting of six documents, prepared under my direction and supervision. These consist of:

Document No. 1	List of Minimum Filing Requirement Schedules Sponsored or Co-Sponsored By S. Beth Young
Document No. 2	Energy Delivery O&M Budget for 2014
Document No. 3	Transmission and Distribution Capital Investment for 2014
Document No. 4	Florida Investor Owned Utility Historical SAIDI Comparison (Distribution only)
Document No. 5	2011 SAIDI Comparison - Southern Company Benchmark Consortium Study
Document No. 6	Storm Hardening Activity 2014 Projections

Q. Are you sponsoring any sections of Tampa Electric's Minimum Filing Requirements ("MFR")?

A. Yes. I am sponsoring or co-sponsoring the MFR Schedules listed in Document No. 1 of my exhibit.

Q. Describe Tampa Electric's Transmission and Distribution ("T&D") system.

A. Tampa Electric's service area covers approximately 2,000 square miles in West Central Florida, including all of Hillsborough County and portions of Polk, Pasco and Pinellas counties. Tampa Electric's transmission system consists of over 1,300 miles of overhead facilities, 25,500 towers and poles, and 15 miles of underground facilities. The company's distribution system consists of approximately 6,300 miles of overhead facilities, 393,000 poles and 4,800 miles of underground facilities. Tampa Electric's transmission and distribution system is connected through 220 substations throughout its service territory.

THE COSTS TO PROPERLY SERVE RETAIL CUSTOMERS

Cost Overview

Q. Please describe the expenditures you will be addressing in your direct testimony.

A. The expenditures I will be addressing are T&D related

O&M expenses and capital investment. I will describe why these expenditures are required and how Tampa Electric is efficiently balancing short-term operation/maintenance expenses and long-term capital investments in an effort to provide the most cost-effective reliable power to its customers, while meeting the Federal Energy Regulatory Commission ("FERC"), the North American Electric Reliability Corporation ("NERC"), the Florida Reliability Coordinating Council ("FRCC") and the FPSC requirements.

Q. What has Tampa Electric's Energy Delivery team done to minimize these expenditures?

A. As noted in the testimony of Tampa Electric witnesses Gordon L. Gillette and Lorraine L. Cifuentes, the company's revenues and load were less than expected during 2009 to 2012. Consequently, Tampa Electric's Energy Delivery ("ED") team reviewed its O&M budgets and planned capital expenditures to eliminate any outlays that were not essential to meeting the needs of our customers. In fact, T&D O&M spending has been essentially flat since the last rate proceeding despite inflationary pressures, increased costs due to aging infrastructure, and increased federal regulations.

Transmission and Distribution O&M spending will remain below the FPSC's benchmark for the projected 2014 test year. The ED team has also developed operational efficiencies in key areas to reduce overall costs. These will be outlined later in my testimony.

Q. Does Tampa Electric expect increases in O&M and capital costs in the 2014 test year?

A. Yes. Tampa Electric's Energy Delivery team has devoted significant effort to keep T&D costs flat, but must increase expenditures to a more sustainable level to maintain reliability and customer service. The increased O&M costs for T&D in the test year are driven by the following major items: increased O&M expenditures associated with the rising cost of wages, materials and services; increased and new software maintenance fees; increased activities associated with aging infrastructure and activity related to increasing federal regulations.

The incremental T&D capital activity in the test year is primarily the Polk 2-5 Conversion Project with expenses of approximately $59,500,000, which will accrue AFUDC and will not be included in total adjusted rate base for the test year. Tampa Electric witness Jeffrey S. Chronister

explains the accounting for the Polk 2-5 Conversion Project in his direct testimony.

The T&D O&M costs outlined above include the addition of several positions to address the company's aging workforce. For 2013 and 2014, the company will hire new apprentice linemen, apprentice substation journeymen, two cable splicers, and a relay tester to meet NERC requirements. These positions are needed to ensure that there is an adequate front line workforce to maintain existing service levels and to respond to an aging infrastructure and increasing federal regulations. The level of O&M spending for 2014 is reasonable and necessary to ensure the company maintains the level of service that customers expect.

Operations And Maintenance Expense

Q. What are the main drivers for the company's T&D related O&M expenses.

A. The five main drivers are maintenance expenses, vegetation management, meter services, restoration, and Grid Operations Control Center and Compliance costs. Document No. 2 of my exhibit reflects the T&D related O&M expenses.

Q. What is included in the T&D related maintenance expenses?

A. ED's maintenance expenses include the following T&D programs: an eight-year pole inspection cycle, a six-year transmission structure inspection cycle, annual substation inspections, condition-based substation preventative maintenance, and downtown Tampa network inspections. It also includes activities to correct or repair non-operable or unsafe conditions on the system that have been identified through an inspection program or as a result of another event. Aging infrastructure has increased maintenance expenses. Most T&D equipment has a thirty-year useful life. Tampa Electric installed a significant amount of T&D infrastructure to support the 216,000 customers that were added from 1965 to 1985. This infrastructure is approaching or is at the end of its useful life, which has resulted in increased failures and higher maintenance costs.

Q. Please describe Tampa Electric's vegetation management program.

A. Tampa Electric's vegetation management program includes a four-year tree trim cycle for distribution circuits, a

three-year trim cycle for 69 kV transmission circuits, a two-year trim cycle for 138 kV and 230 kV transmission circuits, and a Right-Of-Way ("ROW") maintenance program. Each of these programs is designed to maintain or improve system reliability. To ensure the company is implementing the most cost-effective program, Tampa Electric's System Reliability and Line Clearance departments take into consideration many factors in developing the annual plan for distribution tree trimming such as: multi-year circuit performance data, last trim date, circuit priorities and cost. This information is utilized in a vegetation management software application and results in the development of a multi-year vegetation management plan which optimizes activities from both a reliability-based and cost-effectiveness standpoint. Tampa Electric has devoted a great deal of effort to reduce the costs for this program while maintaining quality. The distribution tree trim cost per mile in 2008 was $6,920. Costs have been steadily reduced year over year since 2008. The forecasted cost per mile for 2014 is $4,866, a 30 percent reduction.

The transmission vegetation management program is designed based on the NERC Standard FAC-003:

"Transmission Vegetation Management Program." Its main components are a two-year trim cycle for 138 kV and 230 kV lines and a three-year trim cycle for 69 kV lines to ensure designated clearances are being maintained. The ROW maintenance program includes clearing two times per year in order to minimize vegetation growth under transmission lines.

Tampa Electric will continue to review system reliability and all pertinent field and customer information along with its annual trimming plan in order to manage its overall vegetation management program effectively.

Q. What is included in the meter services activities?

A. The meter services activities include meter reading, disconnect and reconnect services (meter credit activities), testing, service, and installation.

Q. What has Tampa Electric done since the last base rate proceeding with respect to meter reading?

A. Tampa Electric completed the installation of residential Automated Meter Reading ("AMR") meters in the first

quarter of 2012. Since the last rate proceeding, the number of required meter readers has been reduced and the cost per read has dropped. This is explained in more detail later in my direct testimony.

Q. What is included in the restoration cost category for the test year?

A. Restoration expenditures include costs required to identify and isolate facilities that have failed as a result of weather or other causes and the costs to restore service. The weather, which can vary from year-to-year, creates outages and system outage restoration activities. Restoration expenditures projected for the test year have been based on a normal weather year.

Q. Describe what is included in Grid Operations Control Center and Compliance costs?

A. The Grid Operations Control Center requires a team of NERC-certified system operators and support personnel to operate the balancing area and the bulk electric system. This is performed following rules and standards issued by FERC, NERC, and FRCC. These regulatory rules and standards have increased since the company's last rate

proceeding and the corresponding costs have increased. More detail on these changes is provided later in my testimony.

O&M Benchmark Comparison

Q. Have you made a comparison of Tampa Electric's test year T&D O&M budget to the Commission's benchmark?

A. Yes. The comparison for T&D O&M expenses is shown in MFR Schedule C-37. It demonstrates that the projected T&D O&M expenses of $65,033,000 for the test year are below the O&M benchmark by $7,113,000. Transmission expenditures are $631,000 below the benchmark and distribution expenditures are $6,482,000 below.

Q. Why is the overall 2014 T&D O&M budget below the Commission's benchmark?

A. Tampa Electric's ED team has continuously reviewed its O&M budgets and eliminated any outlays that are not essential to meeting the needs of customers. In addition to eliminating any non-essential spending, the ED team has developed operational efficiencies in key areas (e.g. vegetation management and AMR) to reduce overall costs. Additional details about the operational

efficiencies are described later in my testimony. Keeping O&M costs flat for the last five years and staying below the benchmark have been achieved despite increasing costs due to the need to replace aging infrastructure and increasing federal regulation.

Capital Investment

Q. What are the main drivers of capital spending?

A. The three main drivers are customer growth, aging infrastructure and regulatory compliance.

Q. Please describe how customer growth drives capital spending?

A. Tampa Electric's customer base has increased from 667,266 customers in 2008 to 684,235 customers in 2012 and is forecasted to be 701,415 customers in 2014. While this level of growth is modest compared to the past, the associated demand increases use of the existing T&D system and requires new construction to provide electric service to the new customers.

Q. Please explain the impact of aging infrastructure.

A. Most T&D equipment has a thirty-year useful life. Tampa Electric installed a significant amount of T&D infrastructure to support the 216,000 customers that were added to the company's system from 1965 to 1985. This infrastructure is approaching or is at the end of its useful life, which typically results in increased equipment failures and higher maintenance costs. Capital investments are required to replace equipment that is nearing the end of its useful life and equipment that fails. In addition, Tampa Electric has a program to replace some of these assets prior to failure and to upgrade the system in specific areas to maintain or, in some cases, improve existing reliability levels.

Q. Describe the impact of regulatory requirements on capital costs.

A. Regulatory requirements, including storm hardening and federal compliance costs, have increased since 2008 for both O&M and capital. FERC, NERC and FRCC have increased reliability and compliance requirements. Some of the significant changes that have impacted Tampa Electric are the NERC cyber security standards, the increased documentation required for NERC compliance, NERC Alerts and changes to standards that cause

increased work and costs to improve reliability.

Tampa Electric instituted a storm hardening program in 2006 under the direction of the Commission. The costs associated with hardening the system include replacement of poles and hardening of identified infrastructure in order to improve reliability and resiliency following a major weather event.

Q. Can you summarize Tampa Electric's T&D capital investment plans during 2014?

A. Tampa Electric plans to invest approximately $215,786,000 in T&D related capital in 2014. The company's forecasted T&D capital spending plans are listed and described in Document No. 3 of my exhibit. This T&D capital investment is required to provide reliable service to customers. In general, these expenditures include capital projects such as substation construction and upgrades, new lighting systems, new distribution construction, transmission upgrades, road widening projects, storm hardening projects, replacement of aging equipment, changes for NERC Critical Infrastructure Protection ("CIP") standards and changes for compliance with the NERC Vegetation Management

standard as required by FERC Order 777. Additional capital investments will be made to leverage technology including a Volt/VAR project (Smart Grid), a Geographic Information System ("GIS") upgrade and a Synergee (distribution modeling software) upgrade.

Q. What have the company's T&D capital expenditures been during the period 2010 through 2012?

A. Capital expenditures in the company's T&D area for the three-year period of 2010 through 2012 were $425,000,000. The expenditures represent normal recurring capital requirements to account for modest customer growth, replacement of assets, federal regulation and compliance requirements and system hardening initiatives.

Q. Are T&D capital expenditures expected to increase in 2013 and 2014?

A. Yes. The company will continue to require investments in new T&D infrastructure necessitated by the continued customer growth described in the direct testimony of witness Cifuentes. The normal replacement of aging assets, system hardening and increased capital needed for cyber security is expected to result in a slight increase

to capital expenditures in 2013 and 2014. Additionally, approximately $59,500,000 of AFUDC eligible capital associated with the Polk 2-5 conversion will occur in the 2014 test year plus $7,000,000 in 2013 resulting in $66,500,000 of capital expenditures over the two-year period.

SIGNIFICANT ACTIVITIES TO MAINTAIN AND IMPROVE SERVICE Reliability

Q. Please provide a general overview of the company's approach to providing reliable service to its customers.

A. Tampa Electric views reliability as a fundamental commitment to our customers. The company takes actions to minimize the impact of weather, including storms and lightning, damage caused by animals, and aging infrastructure. These actions reduce or eliminate the number of times a customer is out-of-service, improve how fast service is restored and reduces the number of times a customer experiences a momentary outage. There has also been an ongoing effort to improve communication to customers about outage events. To maximize the impact of each dollar spent, the company takes a long and near term view of each action in support of reliability.

Over the last five years, Tampa Electric has held its T&D O&M expenses flat while maintaining its reliability position. However, with a significant portion of infrastructure having been installed thirty to fifty years ago, the cost impact of replacing aging infrastructure is increasing and will require ongoing spending to respond.

Q. Please describe the indicators the company uses to monitor reliability and how they relate to what customers experience.

A. Tampa Electric reviews multiple reliability indices, but primarily monitors System Average Interruption Duration Index ("SAIDI") and Momentary Average Interruption Event Frequency Index ("MAIFIe"). SAIDI indicates the total minutes of interruption time the average customer experiences in a year. It is the most relevant and best overall reliability indicator because it encompasses two other standard performance metrics for overall reliability: the System Average Interruption Frequency Index ("SAIFI") and the Customer Average Interruption Duration Index ("CAIDI").

MAIFIe is reflective of the overall impact of momentary

outages on customers and is defined as the average number of times a customer experiences a momentary interruption event. Tampa Electric annually sets reliability goals for both SAIDI and MAIFIe.

Q. Please describe the company's system reliability performance.

A. Document No. 4 of my exhibit reflects Tampa Electric's performance relative to the other investor-owned utilities ("IOUs") in Florida since 2008. Tampa Electric has consistently performed better than the average SAIDI for the IOUs. In fact, the company is second in the state when looking at the five-year average. In addition, Document No. 5 of my exhibit reflects that Tampa Electric's SAIDI performance is in the top quartile when compared to other southeastern utilities.

Q. Please provide an overview of the company's reliability programs.

A. Tampa Electric uses a systematic approach to maintain and improve reliability. It monitors and assesses the system and its equipment to anticipate potential

failures. Tampa Electric identifies results from the assessments that are out of the normal range and determines whether equipment maintenance is appropriate or equipment replacement is required. Lastly, Tampa Electric has systems and personnel in place to minimize the duration of outages, if they do occur.

Q. Please describe what the company does to monitor and assess its T&D Energy Delivery system.

A. Tampa Electric monitors the system and its equipment in real time. The control center is constantly monitoring key parameters such as voltage, loading, VAR support, equipment heating and the operating condition of equipment.

In addition, the company uses onsite inspections and testing to provide information about the physical condition of the infrastructure. Examples of Tampa Electric's inspection and testing programs are: ground line pole inspections; aerial inspections of transmission structures; thermal imaging of transmission and substation equipment; transformer, load tap changer ("LTC"), and circuit breaker oil testing; transformer Doble testing and substation inspections. All of these

inspections and testing give Tampa Electric an assessment of the equipment and its health.

Q. Please describe the assessments further, explain how the company uses these assessments to prevent outages, and any other actions the company takes to prevent outages.

A. Targeted maintenance is conducted based on condition assessments to extend the life of critical T&D equipment. Substation assets are evaluated using a condition-based and interval-based program for targeted maintenance activities, such as circuit breaker maintenance, transformer maintenance, transformer LTC maintenance and switch maintenance. These maintenance programs extend the life of the equipment, thus avoiding outages to customers and more expensive replacements.

Tampa Electric's Ground-line Inspection Program for its distribution, lighting, and transmission poles is based on the requirements of the National Electrical Safety Code ("NESC") and is designed to inspect 12.5 percent or one-eighth of the pole population each year. In addition, a loading analysis is completed to ensure the pole meets Tampa Electric's wind loading criteria. If the pole fails the inspection or loading analysis, it

will be either reinforced or replaced.

Any equipment determined to be at the end of its life is replaced. Examples of these replacement programs to prevent outages include replacing transmission and distribution poles and replacing end of life circuit breakers.

Tampa Electric has taken other actions to prevent outages. Construction standards have been enhanced to improve the strength and reliability performance of the electrical system. An example is enhanced lightning arrestor designs that reduce the impact of lightning strikes. Substation design standards have been improved to provide better isolation capabilities, thus reducing the time customers are out-of-service. Animal guards have been installed on substation and distribution equipment to minimize outages caused by animals.

The company is using technology to reduce momentary outages. Tampa Electric has implemented a program utilizing the protective relay on the distribution circuit and the Energy Management System (EMS) to reduce the number of momentary outages customers experience. After implementation of the program, MAIFIe results for

2012 improved by 14 percent from 2011.

The last area of note for outage prevention is Tampa Electric's vegetation management program. A regular program of vegetation management reduces the number of momentary and sustained outages that customers experience.

Q. Please describe the company's approach to restoration.

A. Tampa Electric strives to avoid outages through the preventative measures I have described. If outages occur, Tampa Electric responds quickly to restore power. There are two key resources utilized to provide this quick response: manpower and technology. Tampa Electric's control center is manned twenty-four hours a day, seven days a week. First responders are also working the same schedule and are assigned geographic areas. Tampa Electric crews cover eighteen hours a day, seven days a week and are available to switch to restoration work if needed. This coverage ensures manpower is available to restore customers in a timely fashion.

The company also uses technology to restore customers

quickly. Switch position indication and remote control is available on most transmission switching devices and all substation circuit breakers for transmission and distribution. Alarms will chime for the dispatchers if any of this equipment is in an abnormal state. In addition, if there is an outage of distribution equipment that is not monitored, the Outage Management System ("OMS") will group customer outage calls and identify the potential failed equipment and create an electronic ticket for the first responder. The first responder uses this information, the electronic maps, and test equipment to determine the faulted equipment, isolate it and return customers to service. In addition, the first responder uses strategically placed strobe fault indicators on main line distribution circuits to pinpoint the faulted equipment.

For transmission first responders, fault location is determined by a protective relay and displayed to the dispatcher. This information enables the first responder to locate the fault and isolate it. Using both technology and the appropriate level of manpower ensures that Tampa Electric restores service in a timely fashion.

Storm Hardening Activities

Q. Is the company taking other actions to strengthen and add resiliency to its T&D system?

A. Yes. The hurricane activity of 2004 and 2005 significantly impacted customers of Tampa Electric and other Florida utilities and required extraordinary efforts to restore service. The Commission opened dockets that resulted in orders and rules requiring, among other actions, an eight-year pole inspection program and plans to address ten new storm preparedness initiatives, as well as storm hardening plans. All of these items have been addressed by Tampa Electric and have resulted in a stronger, more resilient T&D system. These initiatives have also provided benefits to the system on a day-to-day basis.

Pole Inspection Program

Tampa Electric expects to conduct approximately 49,000 distribution and 3,300 transmission pole inspections in 2014. The proposed O&M budget for pole inspections is $1.8 million in 2014. Capital replacement and upgrades associated with equipment identified through the Pole Inspection Program are budgeted at $41 million for the same period.

Ten-Point Storm Preparedness Plan

Tampa Electric's Ten-Point Storm Preparedness Plan positions the company well for major storm events as well as for day-to-day response to normal weather events. The vegetation management program has had the most significant benefit for overall system reliability. The Ten-Point Plan will cost an estimated $10.5 million in O&M and $564,000 in capital during the 2014 test year.

Storm Hardening Plan

The objective of the company's storm hardening plan is to improve system reliability and resiliency during and after extreme weather events. Projects that have been completed are: the testing and maintenance of all downtown Tampa network protectors (including the replacement of three network protectors); elimination of 4 kV distribution on Tampa Electric's system; conversion of twelve overhead distribution circuit interstate crossings to underground construction; upgrading of distribution feeding the Port of Tampa to extreme wind standards; and the upgrade of the distribution circuit feeding a Tampa hospital to extreme wind standards. Tampa Electric has not experienced a hurricane since this work has been completed, but has had some tropical

storm activity and the system has performed well. The total storm hardening cost projection for the test year is detailed in Document No. 6 of my exhibit.

Storm Preparedness

Q. You have discussed the reliability of the T&D system and steps you have taken to improve reliability and strengthen the system. What impact do these steps have on restoration after a major storm event?

A. These steps reduce the amount of damage, reduce the number of outages and reduce the overall restoration time for Tampa Electric's system for a major storm event.

Q. What other steps has Tampa Electric taken to improve response for a major storm event?

A. Annually, Tampa Electric meets with city and county emergency preparedness officials to review priorities for restoration of critical infrastructure facilities. In addition, Tampa Electric reviews its emergency preparedness plan. Prior to storm season, a "mock storm" exercise is held to review the roles and responsibilities of team members and to test the

robustness of the plan. A debriefing session is held following the exercise and action items are identified to be completed prior to storm season to improve the overall storm plan.

In addition, Tampa Electric works with other utilities to identify best practices in storm restoration and incorporates these best practices into its plan. Tampa Electric participates on the Southeastern Electric Exchange ("SEE") Mutual Assistance committee and is also participating on the Association Edison Illuminating Company's Storm Practices subcommittee.

SAFETY

Q. Please describe how safety is emphasized within ED and throughout Tampa Electric.

A. Safety is a core value at Tampa Electric and is emphasized in all areas of work. It is important to incorporate safety for team members, but it also benefits customers due to reduced costs. Since 2008, the costs for ED Worker Compensation medical claims have fallen 83 percent. The Occupational Safety & Health Administration's ("OSHA") industry-standard metric of reportable injuries per 200,000 man-hours has dropped by

61 percent since 2008. The company's absolute number of injuries has declined by 67 percent. Tampa Electric's ED department finished number one in the third quarter of 2012 in the SEE for safety when measured against its peers. The ED department finished the year in the top quartile of the SEE peer group.

REGULATORY COMPLIANCE

Q. You mentioned earlier that increased federal regulation has impacted Tampa Electric. Please describe this impact.

A. FERC, NERC, and FRCC have increased reliability and compliance requirements since 2008. Some of the significant changes that have impacted Tampa Electric are the CIP standards, the increased documentation required for NERC compliance, NERC Alerts and changes to standards that cause increased work and costs related to system reliability. Specific examples include: increased ROW clearing for transmission corridors, additional evidence and justification for transmission facility ratings utilizing Light Detection and Ranging ("LIDAR") technology to measure clearances, additional protection for an AURORA (rotating equipment connecting to the grid out of synchronization) event, and upgrades

in system protection at some locations to account for potential system protection failures.

SPECIFIC STEPS TAKEN TO IMPROVE EFFICIENCY OF SERVICE

Q. What steps has the company taken to manage its T&D related capital and O&M expenditures effectively?

A. Tampa Electric's management team has taken a number of steps to ensure that a focus is placed on the right priorities, that proposed budgets are reasonable and that all expenditures are occurring in a prudent manner. The company has implemented practices to both improve the safety and the effectiveness of its workforce, and to create an environment for continuous improvement. Improvement in practices that have favorably affected performance of the business include: Implementation of Alternate Schedule Line Crews, Vegetation Management, Automated Meter Reading, Lighting Repair, Automated Vehicle Locating ("AVL"), Planned Outage Notification and Training. These initiatives are explained below.

Alternate Schedule Line Crews

In 2010, Tampa Electric implemented a schedule that it negotiated with the union to shift the work hours that some crews work to incorporate more of the evening hours

and weekend hours as a normal "straight time" schedule. This has reduced overtime, reduced meals being paid per the union contract, and reduced non-productive time being paid to team members. All of these impacts have reduced O&M expenditures. In addition, these schedule changes allow the company to provide a higher level of customer service with faster responses to outages as crews are already on hand, reducing the need to call crews out.

Vegetation Management

Tampa Electric's vegetation management program has significantly improved over the last several years. Since implementing the Storm Hardening Plan in 2006, the company's tree trimming cost per mile has steadily declined 30 percent in six years. This can be attributed to several factors: improved workforce training and abilities, optimized planning and scheduling of the work and the impact of implementing an aggressive tree trim cycle. The abilities of the tree trimming workforce have improved through ongoing training and a steady accumulation of experience. Using software to analyze tree trim costs versus reliability has resulted in optimized planning and scheduling of crew resources. The implementation of an aggressive trim cycle has resulted

in the successful reduction of "old growth" vegetation resulting in a much lighter trim requirement. These improvements have provided better reliability to customers while reducing costs.

In 2012, Tampa Electric was recognized for the fourth straight year as a Tree Line USA Utility by the National Arbor Day Foundation for the company's tree-trimming efforts to maintain reliability without excessively cutting back vegatation. Tampa Electric has received this award by utilizing a holistic approach to vegetation management and implementing best practices into its operational model.

Automated Meter Reading

In 2003, Tampa Electric initiated an AMR project, which is the application of electronic and communication technology to enable the reading of electric meters remotely. This technology has helped to increase operational efficiencies reflected in the test year by enabling drive-by meter reads instead of walking to each meter. The deployment of the AMR residential project was completed at the beginning of 2012.

The operational benefits from AMR have been significant.

The cost to read a meter has been reduced from an average of fifty cents per read to twenty cents per read in 2012. In general, the time needed to read meters declined by approximately 70 percent. AMR also lowers the quantity of estimated meter reads.

Tampa Electric ended 2008 with fifty-eight meter readers and it is projected that only nineteen meter readers will be required at the end of 2014. Tampa Electric's displaced meter readers have been assigned to other vacant positions within the company. The company has factored in the productivity improvements gained from this initiative into its cost projections for the test year.

Lighting Repair

The Lighting Department applied process improvement practices beginning in 2011 to improve the lighting repair process. Four specific areas were analyzed, reviewed and improved: light trouble ticket accuracy, repairman routing, lighting troubleshooting standardization, and standardized truck materials and organization. The results were 16 percent more lights repaired at a 23 percent decrease in cost per light repaired.

Automatic Vehicle Location ("AVL")

The AVL Fleet software was implemented in 2011. AVL provides accurate, real-time information about the location and speed of fleet vehicles. Utilization of the management reports produced by the AVL system results in operational productivity improvements and reduces Tampa Electric's exposure to potential liabilities associated with customer property damage claims and vehicle accidents. It also leads to reduced costs related to preventive maintenance and fuel.

Planned Outage Notification

In March 2012, Tampa Electric began an automated process for planned outage notification for customers that will be affected during a planned outage-type job. Previously, a team member would fill out outage notification door hangers and go to the location in the field and physically hang the tags on all doors of customers who would be affected during the outage. Now, leveraging the technology available in our OMS and the Interactive Voice Response ("IVR") outbound dialer already in place, a request is entered in the system as a planned outage which creates a call list of the customers who will experience the outage. The call list is then staged in the IVR until the time specified for the

notification. At the specified time, the customers receive a phone call with the date and time frame they can expect their power to be out. Using this automated process for outage notification has eliminated time and effort for the field team member and has also improved customer satisfaction.

Training

In 1978, Tampa Electric developed a series of highly effective training programs for front line personnel. The series consists of the following programs: Lineman, Substation Electrician, Distribution Design Technician, Meter Mechanic and Light Repairman. These programs deliver a consistent standard curriculum to team members and helps to produce a highly qualified, safe and productive work force. Team members attend training at six-month intervals. After completing the required training modules, team members return to their work sites to immediately perform the tasks they have learned. This gives the team member the practice needed to reinforce and retain the skills they have mastered.

In the past our trainers maintained over 450 three-ring manuals, and the curriculum within these manuals were constantly revised to incorporate new OSHA directives,

new tools, methods, materials, policies, as well as any changes to state and federal laws. Along with updates, maintaining the condition of the paper documents required ongoing labor, printer and paper costs.

Beginning in January 2012, the Tampa Electric Skills Training Department began using iPads for this technical instruction. The estimated annual savings realized by transferring these word documents into the tablet library is over $15,000. In addition to these recurring savings, the trainers have the ability to quickly update any document and quickly get it into the hands of the team members. The Skills Training iPad project has created tremendous efficiencies within the department and has, through the reduced use of paper, lessened Tampa Electric's environmental footprint.

Q. How does ED ensure O&M is performed in a timely, efficient and effective manner, and that funds are spent appropriately?

A. ED verifies the status of goal achievement through budgeting, planning and tracking systems and internal business control processes. The company monitors and measures performance through work management, system

planning, project scheduling and asset tracking tools in several ways. For example, key performance indicators are used to report on the performance of distribution and transmission work. Another example is the further delineation of the O&M and capital budgets through the use of an activity-based costing tool, which tracks activities for both production units and costs per unit. ED also tracks system performance for outage analysis and for input to maintenance and capital spending decisions. Additionally, the company prioritizes the numerous capital projects considered each year and utilizes Primavera software for planning and scheduling many complex capital projects. Finally, ED has implemented new financial processes and systems to prioritize, track and monitor spending against its business plans. All of these systems and processes allow ED to perform work efficiently and effectively. These activities are aimed at providing quality service to customers at the lowest long-term cost, consistent with meeting the service standards that customers want and deserve.

SUMMARY

Q. Please summarize your direct testimony.

A. Tampa Electric forecasts that it will invest $215,786,000 in T&D-related capital and incur $71,383,000 in T&D-related O&M expenses in 2014. The ED capital budget includes system expansion/upgrades of transmission, substation and distribution facilities to support customer growth, storm hardening initiatives, replacement of aging infrastucture and regulatory requirements. The 2014 O&M budget includes those activities required for maintenance of equipment and computer systems, system operations and restoration, meter services, vegetation management, inspection programs and compliance. These capital investments and O&M expenses are necessary to preserve the company's reliable electric service. ED has worked hard to keep both O&M and capital costs flat since the last rate proceeding even with the increasing impact of aging infrastructure and increased federal regulation.

To ensure that the T&D system is reliable, Tampa Electric monitors and assesses the system, reviews assessment results to determine appropriate action to prevent outages, and has systems and personnel in place to minimize the outage time when outages may occur. Tampa Electric's five-year SAIDI average is second in the state when compared to the other IOUs and in the top

quartile when compared to Southeastern utilities.

To efficiently and effectively manage costs, Tampa Electric's management team has implemented a number of practices to improve the safety and the effectiveness of its workforce, and generally to promote an environment for continuous improvement. These practices have favorably impacted performance in various areas of the business including workforce utilization, vegetation management, lighting repairs, training and meter reading.

Overall, Tampa Electric has been able to maintain its system reliability performance and is positioned within the first quartile of comparable peer utilities, while remaining below the Commission's O&M benchmark. This represents an appropriate balance between reasonable costs and the quality of service that customers expect.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY

OF

S. BETH YOUNG

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

A. My name is S. Beth Young. My business address is 820 S. 78th Street, Tampa, Florida 33619. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director, Transmission.

Q. Are you the same S. Beth Young who filed direct testimony in this proceeding?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address errors and shortcomings in the prepared direct testimony of witness Lane Kollen, testifying on behalf of the WCF Hospital Utility Alliance ("HUA"); and witnesses Helmuth W. Schultz, III and Donna Ramas, testifying on behalf of

the Office of Public Counsel ("OPC").

Q. Have you prepared an exhibit supporting your rebuttal testimony?

A. Yes, I have. My Exhibit No.__ (SBY-2), consisting of two documents, was prepared by me or under my direction and supervision. These consist of:

Document No. 1	Distribution O&M Expense
Document No. 2	2012 Tree Trim Analysis

Q. Please explain the key concerns and disagreements you have regarding the substance of witness Shultz's testimony concerning headcount.

A. The conclusions in witness Schultz's testimony are incorrect due to fundamental flaws in his methods.

The first flaw is that his headcount analysis is done in isolation. There is no consideration for other factors that impact what the needed headcount should be, such as the actual work that needs to be done, system growth, customer growth, and maintenance and replacement needs due to age of infrastructure.

The second flaw involves witness Schultz's attempt to determine future headcount needs based on historical staffing levels. Rather than looking backwards, projected staffing needs ("headcount") should be determined based on workload requirements in the future.

The third flaw is witness Schultz's failure to consider all relevant factors when conducting his headcount analysis. Determining the appropriate headcount for workload requires a complete labor analysis, including but not limited to the following considerations: how many journeyman positions are needed, how much overtime is required at projected staffing levels, how to prepare for future journeymen retirements, and how many contractors are needed. Tampa Electric balances these factors in determining the appropriate headcount. Witness Schultz's recommendations will lead to greater labor expenses and an inability to provide adequate customer service because he does not consider all of these factors in his headcount recommendation. As a result of these flaws, the Commission should reject witness Schultz's proposed headcount adjustment.

Q. Do you agree with witness Schultz's point that an average annual compensation increase of approximately 3 percent

is appropriate?

A. Yes.

Q. Witness Schultz states that the company has not provided sufficient support or justification for additional employees in 2013 and 2014. Do you agree with his assessment?

A. No. Tampa Electric explained its plans to hire additional employees in its answers and responses to discovery sent by OPC and the Staff. The company included 46 new positions in the Transmission and Distribution areas in 2013 and 2014. Twenty-three of those positions have already been filled. All of these 46 new positions in the Transmission and Distribution organization are needed due to new activities and the incremental workload described below and to prepare for future journeymen retirements. I have described below the new activity or incremental work for each of the positions.

Apprentice Linemen (32 positions)

During the 2014 test year, Tampa Electric projects additional O&M and capital work compared to 2012. This incremental work consists of system expansion due to an

increase in new customer work, pole replacements, government-mandated relocations and distribution line maintenance. The workforce needed to complete this construction work consists of line contractors, linemen, and apprentice linemen. During the apprentice program, apprentice linemen work with line crews to develop the skills necessary to be become linemen. In doing so, apprentice linemen improve the productivity of line crews because they can complete the tasks that do not require as much skill, and the linemen can apply their higher level skillsets to higher level tasks.

The labor expense for the incremental capital work is approximately $8.1 million. Apprentice Linemen represent approximately $1.12 million of this labor expense; and the remainder of the $8.1 million is represented by a combination of Tampa Electric internal labor and contractor labor. There is also an O&M component of the Apprentice Linemen labor expenses. Apprentices work on distribution line maintenance projects and attend training, safety meetings, and informational meetings, and the test year O&M expense impact for these activities is approximately $330,000.

Cable Splicers (2 positions)

The Cable Splicer position is a specialized position that works on Tampa Electric's Network System, which provides reliable service to downtown Tampa. The company has one Network crew that conducts scheduled maintenance, replaces failed cables, installs lines to new customer load and re-works lines for building renovations and road construction work. These two new positions are needed because of increased work that the Network crew will face during the test year period. Eight new high rise buildings are planned or are in preliminary stages of construction in downtown Tampa, and renovations are planned for three additional buildings, requiring the underground lines to be re-worked.

In addition to the projects I already described, Tampa Electric's Network crew will be facing an increased level of work to replace 1950's vintage network protectors that are at the end of their useful lives. This additional work is necessary in order to avoid significant outages and maintain appropriate service levels to the company's customers. Tampa Electric is also aware of additional line relocations needed for incremental road projects and incremental cable replacements above normal workload levels. The new hires in this area will allow the company to complete this incremental work in a safe, efficient and

cost-effective manner.

Smart Grid Engineer & Radio Electrician (2 Positions)

Tampa Electric's Volt/VAR Program allows the company to use new communication infrastructure to provide real-time management of distribution capacitors. This program ensures a consistent voltage profile and will save approximately $1 million annually in fuel costs due to reduced system energy losses. The company must add one smart grid engineer position and one radio technician position to implement and maintain the Volt/VAR program. The new smart grid engineer will provide project management support during the installation of the Volt/VAR program and then oversee the communication system for optimal performance. The radio electrician will maintain the communication system and respond to any failures.

Relay Specialist (1 position)

This position is responsible for testing relays that protect both the public, the NERC-defined Bulk Electric System, and the Tampa Electric system. This work helps to ensure system integrity and to prevent damage to expensive power equipment. To complete the company's ongoing testing plan, Tampa Electric expects that the number of tests performed will increase by 32.9 percent in

the test year. Tampa Electric currently employs three Relay Specialists; adding an additional position will increase the capacity and output of the group by 33.3 percent, which will enable the company to complete the ongoing testing plan and comply with NERC requirements.

DDT Training Administrator (1 position)

As part of the 2009 restructuring described in the testimony of witness Register, Tampa Electric combined two positions, the Environmental Coordinator and the Distribution Design Technician ("DDT") Trainer positions. One person has been struggling to do the work that was done by two previously. In addition, there has been an increase in capital work as noted above in my testimony. This increase applies to the DDT's, as well as the Linemen and Apprentice Linemen. The company has already filled the DDT Administrator position, and the employee spends part of her time in the classroom and the remaining time doing fieldwork due to increased capital work.

Substation Apprentices (8 positions)

The two main drivers requiring additional Substation Apprentices are increased workload to complete the Polk 2-5 Combined Cycle Conversion Project and the impact of aging infrastructure. The company is forecasting an almost

50 percent increase in Substation work above the current workload for the 2014 test year relating to the transmission component of the Polk 2-5 Combined Cycle Conversion Project and the impact of aging infrastructure. A portion of this work will be completed by substation contractors, and the remaining incremental work will be completed by the added Substation Apprentices.

Aging infrastructure has increased substation costs and created uncertainty of future costs. One example of this is the Substation Distribution Transformer fleet. In the 2009 test year, 11.5 percent of the transformers were over 40 years old; in the 2014 test year that percentage has grown to 20.8 percent. There has been an average of two transformer failures per year from 2002 to 2010. From 2011 to 2013, the failure rate has increased to an average of six failures per year. The replacement of these additional transformer failures is incremental work for the substation organization. In addition to the increased capital work of transformer replacements, there has also been an increase in O&M work to prevent failures of other aged units. The impact of aging infrastructure in substations is an ongoing need that will be met with additional Substation Electricians who are developed through the Substation Apprentice program.

Q. Since the company has a need for additional positions due to ongoing incremental work, why does the company think that filling those positions with apprentices is the best decision for the customers?

A. In order to provide reliable, safe, and cost effective service to customers, the Transmission and Distribution organization structures the assignment of work to be done by skilled craft positions in the following fashion. Base workload is performed by Tampa Electric journeyman positions, and those positions are supported by an ongoing apprenticeship program. Peak workload is performed by contracted journeyman positions. The value in having Tampa Electric journeyman positions perform the base workload comes from greater ownership, higher quality work and the ability to quickly respond to customer needs. Additionally, maintaining source diversity for the required workforce allows the company to take advantage of market forces that help minimize labor costs for these highly skilled workers.

Having an ongoing and consistent apprentice program is both prudent and effective from a workforce management perspective. The apprentices are able to produce results and prepare for an efficient transition when journeymen

retire in the future. Planning ahead for these retirements appropriately ensures that there is no decline in customer service levels. As part of a crew, apprentices enable journeyman to apply their higher level skills to high level work tasks while apprentices complete tasks that do not require as much skill. The apprentices also learn the higher level skills while working as part of a crew. This system results in improved productivity and reduces the overall per unit labor costs.

Q. Based on his assessment, witness Schultz questions whether new positions will actually be filled, at page 8 of his testimony. Are his assessments correct?

A. No. Witness Schultz actually contradicts himself on the same page when he describes 14 positions that have already been filled. However, even the 14 positions that witness Schultz admits have been filled is an incomplete view. Tampa Electric has identified a need for 26 new positions in Transmission and Distribution in 2013, and the company has already filled 23 of those positions. The remaining three for 2013 will be filled before the end of this year.

Q. On page 8 of his testimony, witness Schultz discusses the

historical size of the Apprentice Lineman Program as 11 participants. Is historical class size an effective way to determine what the class size for 2013 and 2014 should be?

A. No. This backward looking approach is a flawed way to determine appropriate class size. The appropriate method is to look at workload and the number of positions needed to complete the work and the forecast for future retirements. Tampa Electric first determined the minimum Apprentice Linemen class size based on future retirements of linemen, troublemen, system dispatchers, and operations supervisors. In addition, workload, as described earlier in my testimony was factored in and balanced with the use of contractors to finalize the class size.

Q. Please respond to witness Schultz's point on page 8 of his testimony where he claims that an initial class size of 20 resulted in only 14 Apprentice Linemen entering the program.

A. In reading witness Schultz's statement, it conflicts with his statement on page 9, where he states that the Apprentice Linemen class size is 16. Tampa Electric's 20-

position class is made up of an Apprentice Linemen class of 16 and a Substation Apprentice class of 4. Tampa Electric has hired 14 Apprentice Linemen and have completed filling the Substation Apprentice class.

DISTRIBUTION O&M EXPENSE

Q. Please summarize the key concerns and disagreements you have regarding the substance of witness Kollen's testimony concerning O&M Expense.

A. Witness Kollen bases his Distribution O&M expense recommendation on interrogatory responses that do not include all of the Distribution O&M expense accounts. Because he did not consider all of the relevant information, his recommendation is flawed. In addition, he has raised a "red herring" by stating the Storm Hardening program should result in "continuing and growing savings through the test year."

Q. Is Tampa Electric's requested level of Distribution O&M expense in the amount of $51,285,000 for the 2014 projected test year appropriate?

A. Yes. This level of expense is reasonable and appropriate in light of the workload and staffing levels expected in

2014 and will enable the company to provide safe and reliable electric service to its customers. As discussed below, this amount is well below the O&M benchmark for 2014.

Q. Do you agree with witness Kollen's assertion that the Distribution O&M Expense for the test year is excessive and not justified?

A. No. Tampa Electric has worked hard to prudently operate and maintain its distribution system in a cost-effective manner. One measure of this success is that the Distribution O&M expense is $6,482,000 below the benchmark. The level of expense is dictated by expected workload and corresponding expenses during the test year.

Q. Did Tampa Electric change its financial system in 2012 and were there any other changes made concurrently with this change?

A. Yes. Several of the variances between years and FERC accounts are related solely to this change. Prior to changing the company's financial system in 2012, all expense charges were reviewed to ensure they were being charged to the most appropriate FERC account. The result

was a shift among FERC expense accounts, changes in some activities being more appropriately charged to O&M expense instead of capital, and some changes in IT and Telecommunication allocation of expenses.

Q. Did this result in any changes in Distribution O&M expense?

A. Yes, it did. Document No. 1 of my exhibit, summarizes the major differences between the 2012 and 2014 test year budgets. First, the IT, Telecommunications and Facilities allocations were reviewed to ensure they were allocated appropriately, resulting in a modification of the allocation between transmission and distribution. The change is $1.806 million of IT and Telecommunications expense charged to distribution instead of transmission.

Second, Tampa Electric determined that the dispatcher switching time for capital projects, that had been charged to those capital projects, should be charged to FERC Account 581. Third, the Skills Training Center trainers' time for the Distribution area was previously split between capital and O&M expense, and Tampa Electric determined that it should be charged 100 percent to O&M expense. These changes resulted in an increase of

$475,000 in Distribution O&M Expense for the 2014 test year.

Q. When comparing the 2012 actuals to the test year, what other items make up the increase in the Distribution O&M Expense?

A. The rest of the increase in Distribution O&M Expense is attributable to several items, each of which is explained below.

The first item is the effect of inflation from 2012 to 2014. Tampa Electric used a 3 percent annual inflation adjustment.

The second item is expenses for new software system maintenance fees. There were no software maintenance fees in 2012 for the Outage Management System ("OMS") and the Volt/VAR program, and the fees for these programs are included in the test year expenses. The impact is an additional $388,000. The OMS system was upgraded in 2011, and the maintenance fees were covered through 2012 with the project. The Volt/VAR Program maintenance fees are for the communication system and the operating software. The communication system and the operating

software will be implemented in 2013, and the maintenance fees begin in 2014.

The third item is fleet charges. In 2012, when Tampa Electric implemented its new financial system, the fleet costs for the Meter Department were not being captured properly. The amount that was not accounted for in 2012 was $320,000, and this was corrected for the 2014 test year costs. In addition, the fleet allocation methodology was changed to follow labor at a higher department level. This resulted in a shift from capital to Distribution O&M Expense in the amount of $420,000.

The fourth item is pole loading analyses expenses. In 2012, Tampa Electric performed fewer pole loading analyses than prescribed in its Storm Hardening Plan. In 2014, the typical number of pole loading analyses is planned. The test year budget includes an additional $100,000 for this activity which is based on the typical amount of pole analysis for a year.

The fifth item is meter reclassification. In 2012, the remaining Automated Meter Reading Program meter replacements were completed. The meter additions in 2014 will be less, resulting in less capital meter work and an

increase of meter expense of $587,000.

The last addition is due to new positions. The increased workload described earlier in my testimony necessitated the addition of 46 positions above 2012 staffing levels. The test year impact on Distribution O&M Expense is $612,000. The reasons for the new positions are explained above.

Q. Witness Kollen asserts that the Storm Hardening program expenditures "result in continuing and growing savings through the test year." Do you agree?

A. No. Witness Kollen's statement fails to recognize the reality of how a T&D system operates. The Storm Hardening program was designed to strengthen and add resiliency to the T&D system, and it has also provided some reliability benefits on a day-to-day basis. The vegetation management program and the pole inspection program may potentially reduce some outage restoration O&M expense, but there are not "continuing and growing savings" that result from the Storm Hardening program. The value of the company's Storm Hardening program will be seen when a major storm hits the company's service area - via shorter restoration times and potentially less damage.

TREE TRIM EXPENSE

Q. Please summarize the key concerns and disagreements you have regarding the substance of witness Schultz's testimony concerning tree trimming.

A. His position on this issue is wrong for two reasons. First, he improperly includes unplanned tree trimming and mowing in the distribution tree trimming cost per mile, which yields an incorrect result. Second, his recommendation requiring unexpended funds to be recorded as a regulatory liability would be a disincentive to controlling costs.

Q. Why do you think witness Schultz's method of including unplanned tree trimming and mowing with the planned tree trimming when developing a cost per mile is flawed?

A. Unplanned tree trimming is based on customer requests or a particular circumstance identified by a line clearance supervisor that needs attention. These costs are not tracked by mileage, and the amount can vary based on customer requests and the weather. Mowing costs are mostly for transmission rights-of-way, and less than one percent of the mowing is for the distribution system. Mowing is measured in acres; and therefore, a cost per

mile would not be a good measure for either of these items.

A cost per mile for the planned distribution tree trimming is appropriate based on the cyclic nature of this work.

Q. Witness Schultz notes there is a difference between your distribution tree trim cost per mile in your testimony on pages 8 and 9 and the company's response to OPC's Eighth Set of Interrogatories, No. 117. Is there a difference?

A. Yes, there is a difference. The cost per mile stated in my direct testimony included only contractor costs, which is what is filed in the Storm Hardening reports submitted to the Commission annually in March. When including all costs, the distribution tree trim cost per mile in 2008 was $7,351. The forecasted cost per mile for 2014 is $5,245, 29 percent lower than the total cost per mile.

Q. Witness Schultz recommends a test year distribution tree trim amount of $7,319,537 based on the 2012 historical actual cost per mile. Is the cost per mile for 2012 typical?

A. No, the 2012 cost per mile is not typical because 2012 tree trimming activities were not typical. Tampa Electric usually trims the mileage in the service areas on the same cycle as for the overall system. In 2012, there were variations in the cycle time in each of the service areas. The 2012 system actuals represent a 3.67 year trim cycle.

Referring to Document No. 2 of my exhibit, the actual miles trimmed and the mileage of the service areas that were trimmed on the 3.67 year trim cycle are different for each service area. Western service area has a higher than average cost per mile for tree trimming, $7,624 per mile, and Tampa Electric trimmed less than the cyclic miles for that service area. In all of the other service areas, which average a per mile cost of $3,682, Tampa Electric trimmed a greater number of miles. Not trimming the cyclic miles for Western, which has a higher than average cost per mile, and trimming more than the cyclic miles for each of the other areas, with their corresponding lower cost per mile, resulted in an atypical lower cost per mile for 2012. I recommend that the appropriate cost per mile for 2012 would be $4,563 based on contractor costs and $4,859 including all costs.

Q. Why is the tree trimming cost per mile higher in Western service area?

A. Tree trimming cost per mile is higher in the Western service area for two reasons: the density of trees along the distribution lines and the number of distribution lines that were built along the rear of homes, which the company calls "rear lot construction." These conditions require modified trimming techniques to protect the public and the tree trimmers. The tree density consists of more trees along the lines; the trees are larger than the trees in other areas as well. This results in a need for more cutting for proper clearances and a need to trim trees growing over the lines. Trimming trees above power lines requires special techniques to prevent injuries, property damage and outages.

Many lines in the Western service area are rear lot construction and most of these areas are inaccessible by a bucket truck. The cost for trimming trees around these lines is high because each tree must be climbed rather than trimmed from a bucket truck, and this takes considerably more time and results in a much higher cost per mile to trim.

Q. Is the company's proposed level of tree trimming expense for the 2014 projected test year reasonable?

A. Yes. The company's proposed level of tree trimming expense for the 2014 projected test year is reasonable based on the company's expectations about the amount of tree trimming required. Tampa Electric's per mile projected costs are also reasonable. If the $4,859 tree trim per-mile cost that I calculated as typical for 2012 is compared to the projected 2014 cost of $5,245, the resulting per mile increase is less than four percent per year. The company's requested level of tree trimming expense is necessary for Tampa Electric to provide safe and reliable service to its customers.

Q. Witness Schultz recommends that Tampa Electric record a regulatory liability for any unexpended funds and utilize that in subsequent years. Do you agree?

A. No, I do not. A requirement to record unexpended funds as a regulatory liability provides a disincentive to control costs. Tampa Electric has worked hard to reduce costs, and this cost control has helped to keep the company from initiating a base rate case proceeding before now, to the benefit of customers.

VERIZON POLE ATTACHMENT LITIGATION COSTS

Q. Please summarize the key concern you have regarding the substance of witness Ramas's testimony concerning the exclusion of $520,000 in expenses associated with the litigation against Verizon to recover unpaid joint use rental fees. These fees are referred to in Ramas's testimony as "pole attachment charges".

A. My key concern is that witness Ramas's assumptions are based on a lack of understanding of the litigation against Verizon to recover unpaid joint use rental fees.

Q. What is the purpose of the above-referenced litigation against Verizon?

A. Verizon and Tampa Electric have a contract detailing how joint use of their respective utility poles will be handled operationally and financially. Under this contract, Verizon is obligated to make monthly payments to Tampa Electric. In January 2012, Verizon unilaterally began paying a significantly reduced amount for their contractual share of the costs for jointly used poles. In October 2012, Tampa Electric filed a lawsuit against Verizon for breach of contract to recover the unpaid amounts.

Q. What was included in the test year for Tampa Electric's revenue from the Verizon joint use agreement and what would be the impact if Tampa Electric did not continue this litigation?

A. Tampa Electric included $4.8 million in revenue in the test year based on enforcement of the current contract. Verizon is paying close to $1 million. If Tampa Electric's litigation expense to recover this revenue is not allowed for recovery, then the company's projected test year revenue should be decreased by approximately $3.8 million, to the amount that Verizon is actually paying, as the company would have no chance of collecting the additional revenues that should be paid under the contract.

Q. Why did Tampa Electric pursue this litigation?

A. Tampa Electric pursued this litigation because Verizon breached, and continues to breach, its cost-sharing obligations under the joint use agreement between the parties. Under the joint use agreement, neither party makes rental payments to the other so long as each party owns an equal share of the jointly used network of poles. Verizon, though, owns far fewer jointly used poles than

Tampa Electric; therefore, Tampa Electric bears a disproportionate share of the cost of construction and maintenance of the joint use pole network. The rental payments are designed to offset these additional costs incurred by the party owning more jointly used poles than the other party. It would be unfair for Tampa Electric customers to absorb these costs that are supposed to be paid by Verizon under the joint use agreement.

Q. What action do you recommend if the litigation costs, in the amount of $520,000, are removed from the test year expenses?

A. Removing the litigation costs from the test year expenses would signal to the company that it ought to discontinue this litigation. If the litigation is discontinued, it would be fair and appropriate to decrease 2014 "Other Operating Revenues" by the corresponding revenue of $3.8 million that Tampa Electric is seeking to recover through the litigation because Verizon has no intention of paying what it owes under the contract without litigation. This adjustment would increase the company's revenue requirement to be recovered from base rates by $3.8 million, which would in turn increase the total amount of the rate increase requested by the company.

SUMMARY OF REBUTTAL TESTIMONY

Q. Please summarize your rebuttal testimony.

A. There are some serious errors in the testimony filed by witnesses Kollen, Schultz, and Ramas. Witness Schultz's assertion that the number of positions in the test year is excessive dismisses the increased workload Tampa Electric will have during the test year. Witness Schultz also has discounted the way that Tampa Electric balances this increased workload between linemen and contractors in order to provide safe, reliable and cost-effective service to customers. I have explained why the company's requested staffing and labor expenses are appropriate and necessary.

Witness Kollen takes a flawed approach to forecast the 2014 Distribution O&M Expense based on 2012 without evaluating all of the Distribution O&M Expense FERC accounts. I have detailed the reasons for increases in the company's test year Distribution O&M Expenses, compared to 2012 expenses.

Witness Schultz's distribution tree trimming cost per mile analysis is flawed by his inclusion of unplanned tree trimming and mowing expense. Neither of these is

appropriate when developing a cost per mile. In addition, the trimming mileage for 2012 was not representative of a typical split between the service areas, and the cost per mile was not typical as a result. Modifying 2012 to reflect a more typical split is appropriate. The company's expected tree trimming miles and costs are a better basis for developing the test year distribution tree trimming expense, as I have described.

And lastly, witness Ramas's testimony concerning the Verizon litigation makes a false assumption at the beginning. She assumes that Tampa Electric is working to increase revenue based on this litigation while not reflecting this potential revenue and only recording the cost of the litigation in the test year. In fact, the litigation is to preserve the joint use fee revenue that is already included in the 2014 test year revenues, which would be greatly reduced if the litigation is discontinued.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

STATE OF FLORIDA)
: CERTIFICATE OF REPORTER
COUNTY OF LEON)

I, LINDA BOLES, CRR, RPR, Official Commission Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 10th day of September 2013.

Linda Boles

LINDA BOLES, CRR, RPR
FPSC Official Commission Reporters
(850) 413-6734