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BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 130140-EI

GULF POWER

A SOUTHERN COMPANY

TESTIMONY AND EXHIBIT

OF

RHONDA J. ALEXANDER

GULF POWER COMPANY

Before the Florida Public Service Commission
Prepared Direct Testimony of
Rhonda J. Alexander
Docket No. 130140-EI
In Support of Rate Relief
Date of Filing: July 12, 2013

Q. Please state your name and business address.

A. My name is Rhonda Alexander. My business address is One Energy Place, Pensacola Florida, 32520.

Q By whom are you employed?

A. I am employed by Gulf Power Company (Gulf or the Company). I serve as Gulf's Supervisor of Forecasting.

Q. What are your responsibilities as Gulf's Supervisor of Forecasting?

A. As Supervisor of Forecasting, I am responsible for leading a team of analysts to produce Gulf's forecast of customers, energy sales, peak demand, and base revenue. In this role, I direct and review the forecast each year as it is developed from beginning to end, provide guidance to the forecast team at important decision points, direct forecast-related analyses and process improvements, brief executive management on forecast development progress, and oversee workflow and staffing.

Q. Please state your prior work experience and responsibilities.

A. In 1994, I began my career with Gulf as an accountant and advanced to the position of Team Leader of Corporate Accounting in which I was

primarily responsible for the Company's monthly closing and reporting of financial data. Subsequently, I served as the Supervisor of Financial Planning for four years and managed the development of the Company's financial forecast and performed as needed financial and economic project analyses. In 2006, I became the Supervisor of Rates and Regulatory Matters where I served as the Company's financial witness in the environmental, fuel, and capacity clause dockets and was responsible for tariff administration, cost-of-service activities, calculation of cost recovery factors, and the regulatory filing function. From 2008 through 2010, I served as Gulf's Nuclear Development Manager and coordinated Gulf's efforts to investigate a potential nuclear site and to begin the processes for licensing and permitting a potential nuclear plant. I have been in my current role since 2010.

Q. What is your educational background?

A. I graduated from the University of West Florida in Pensacola, Florida in 1994 with a Bachelor of Arts Degree in Accounting. I am also a licensed Certified Public Accountant.

Q. What is the purpose of your testimony?

A. My testimony presents Gulf's forecast methodologies and forecast results for customers, energy sales, peak demand and base rate revenue. The forecast is provided to Corporate Planning for use in the budgeting and planning process as discussed by Gulf Witness Ritenour.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring Exhibit RJA-1, Schedules 1 through 5. Exhibit RJA-1 was prepared under my direction and control, and the information contained therein is true and correct to the best of my knowledge and belief.

Q. Are you sponsoring any of the Minimum Filing Requirements (MFRs) filed by Gulf?

A. Yes. The MFRs I sponsor or co-sponsor are listed in Schedule 1 of my exhibit. The information contained in the MFRs I sponsor or co-sponsor is true and correct to the best of my knowledge and belief.

I. OVERVIEW

Overview of Economic Conditions and Historical Sales Growth

Q. Please describe the economic conditions for Gulf's service area.

A. Gulf's retail service area covers eight counties in Northwest Florida: Bay, Escambia, Holmes, Jackson, Okaloosa, Santa Rosa, Walton, and Washington. Our service area is generally represented by three Metropolitan Statistical Areas (MSAs): Pensacola-Ferry Pass-Brent, Crestview-Fort Walton Beach-Destin, and Panama City-Lynn Haven-Panama City Beach.

Like the rest of the country and state, Gulf's service area experienced the effects of the most recent nationwide recession. Often referred to as the

"Great Recession," this was the worst national economic and financial crisis since the Great Depression of the 1930s. The effects of the Great Recession were felt in Gulf's service area well before the nationwide downturn and have lingered beyond the official end date of the national recession. A number of economic indicators for Gulf's service area, namely income, employment, housing starts and population, were in decline at the end of 2006 or beginning of 2007 and either continued to decline or remained weak through 2012. Although many economists believed that the low point of the recession had been reached in 2010 and recovery would begin in 2011, the effects of the Great Recession continued through 2012 in Gulf's service area.

Q. How did the recent recession impact Gulf's customer growth?

A. Gulf's customer growth dropped dramatically after 2007. Since 2007, Gulf's retail customer base has grown at a compound annual growth rate (CAGR) of only 0.3 percent, which compares to 2.1 percent growth prior to the recession.

Q. During the recent recession, did Gulf experience a change in the amount of energy consumed by Gulf's customers?

A. Yes. Another result of the economic downturn in Gulf's service area was a decline in average kilowatt hour (kWh) use per residential and commercial customer. Since 2006, average residential and commercial kWh use per customer has declined on a cumulative basis almost 10 percent and 0.3 percent, respectively. This compares to cumulative growth in average

residential and commercial kWh use per customer for the 6 years prior to the recession of 2.8 percent and 1.1 percent, respectively.

Q. Please discuss Gulf's recent historical sales experience.

A. Gulf has experienced a decline in retail sales in every year but one since 2007. Retail sales peaked in 2006 prior to the recession and declined at a CAGR of 0.9 percent for the period 2007 to 2012.

Q. How did the energy sales forecast used in Gulf's last base rate proceeding compare to actual results?

A. For the 2012 test year used in Gulf's last base rate proceeding, Gulf over-forecast retail energy sales by 8.4 percent, resulting in actual retail base revenue being $32.5 million less than forecasted. (Over-forecast means Gulf forecast more energy than our customers actually purchased during that time). For the prior year of 2011, Gulf over-forecast retail energy sales by 4.5 percent.

Q. What caused the shortfall in actual retail energy sales for 2011 and 2012 compared to the forecast used in the Company's last base rate proceeding?

A. The effects of the Great Recession continued through 2012 in the nation and in Gulf's service area, whereas the forecast had assumed that recovery would begin in 2011. During 2010 and the first half of 2011, many economists had projected recovery during 2011 and 2012. As shown on Schedule 2 of my exhibit, Moody's Analytics and the Federal Reserve Federal Open Market Committee's (FOMC) projections of U.S. real gross

domestic product (GDP) growth released through the first half of 2011 for the 2011 and 2012 period were strong based on the expectation that the economy would recover from the recession. However, economic projections for this period changed significantly in the third quarter of 2011 primarily due to the U.S. debt ceiling crisis and the European sovereign debt crisis, along with greater economic policy uncertainty. Actual growth in U.S. real GDP for the 2011 to 2012 period turned out to be even lower than revised projections, reflecting a stalled recovery from the recession. In short, between the time Gulf's forecast was developed and the last base rate case concluded, intervening events impacted the economy that were not anticipated or reasonably foreseeable in the forecast.

Q. What was the source of economic variables used by Gulf in its last base rate case?

A. Gulf's source of economic variables used in its forecast for its last base rate case was Moody's Analytics, a well-respected economic forecasting firm which has supplied data to Gulf for over 15 years. Gulf used the May 2010 vintage of Moody's economic projections in the forecast for its 2012 test year, which was the most recent data available at the time the forecast was developed.

As shown on Schedule 2 of my exhibit, Moody's projections of U.S. real GDP growth for the 2011 to 2012 period, which were released during 2010 and 2011, were in line with the Federal Reserve FOMC's Central Tendency projections. However, actual results were much weaker than Moody's

projections and projections made by other economists, including the Federal Reserve FOMC, due to continued effects of the recession. Although Gulf's service area saw some economic growth during 2011, recovery stalled during 2012.

Q. How does Gulf's historical forecast accuracy for total energy sales compare to other utilities in Florida?

A. Gulf's historical forecast accuracy compares favorably to other utilities in Florida. In the Florida Public Service Commission's (FPSC or the Commission) "Review of the 2012 Ten-Year Site Plans for Florida's Electric Utilities" issued in December 2012, the Commission presents the historical forecast accuracy of total energy sales for each utility filing a Ten Year Site Plan (TYSP) for the five-year period 2007 to 2011. The FPSC report states,

> Analysis of Gulf's historic forecast accuracy for total retail energy sales from 2007 through 2011 shows that Gulf's average forecast error is 5.44 percent. This value indicates that the company tends to over-forecast its retail energy sales by 5.44 percent, the lowest of the TYSP utilities. Gulf's forecast error is favorable when compared to the average forecast error for all eleven of the TYSP utilities, which was 11.38 percent in 2012.

The Commission's report recognized that the high error rate for the TYSP utilities represents the impact of the recession on energy usage in Florida.

Economic Outlook and Sales Growth Expectations

Q. Please describe the economic outlook for Gulf's service area used to develop this forecast.

A. Moody's projects that the economy in our service area will begin recovery in 2013 and will return to or exceed 2006 pre-recession levels by the end of 2015. This outlook is presented in Moody's November 2012 economic projections, which was the most recent data available to Gulf at the time the forecast used in this rate case was developed.

Q. Please discuss Gulf's sales growth expectations.

A. Retail sales are expected to grow at a CAGR of 1.4 percent over the next two years. This forecasted growth in retail sales compares to a CAGR of 0.3 percent for the last 2 years and -0.9 percent over the last 6 years.

Q. Is there a risk that Gulf's actual sales over the next two years might differ from Gulf's forecast for the same period?

A. Yes. There is always an element of risk in forecasting. Economic uncertainty contributes greatly to risk in forecasting energy sales. In fact, given the prolonged recessionary effects and the continued uncertainty surrounding economic recovery nationally and regionally, the risk associated with economic uncertainty is higher now than has historically been the case. But despite the challenging economic conditions experienced over the past several years, Gulf is confident that our forecast methodology is fundamentally sound and is the most accurate tool available for forecasting the Company's future energy sales.

Overview of Forecast Methodology

Q. Please provide an overview of Gulf's forecast methodology.

A. Each year, Gulf produces a new forecast. Gulf starts with a projection of the number of customers it expects to add in each customer class. Next, Gulf estimates how much energy these customers will use under normal weather conditions. For customers on demand rates, Gulf then estimates monthly billing demands. Finally, the base charge, energy charge, and demand charge from the appropriate rate schedules are applied to the number of customers, monthly energy and monthly billing demands to estimate base rate revenue. Gulf also forecasts total Company peak demand using total energy projections and historical relationships between energy and demand. This same methodology has been used by Gulf to develop the forecast for almost 20 years. Minor refinements in the methodology have been made over those years, but the fundamental methods have remained unchanged and continue to produce reliable forecasts. Refinements in the forecast methodology made since Gulf's last base rate case are described in my testimony below.

Q Has the previously described forecast methodology for customers, energy, peak demand and base revenue been used by Gulf in its regular course of business?

A. Yes. Gulf produces a forecast annually using this same methodology. The annual forecast is routinely utilized for business planning and operations. This forecast is used by the Company for financial planning; budgeting;

generation, distribution and transmission planning; and fuel procurement planning.

Q. Has the previously described forecast methodology for customers, energy, peak demand and base revenue been used by Gulf in other proceedings or filings where the Commission has accepted, approved or relied upon Gulf's forecast?

A. Yes. This forecast methodology was used by Gulf in its last base rate proceeding and was stipulated to by the parties and approved by the Commission. This methodology has also been used by the Company over the years for various purposes including: Ten Year Site Plan filings; need determination proceedings; Renewable Standard Offer Contract filings; and annual cost recovery filings for Gulf's clauses.

II. GULF'S CUSTOMER FORECAST

Q. What are the 2014 results of Gulf's customer forecast?

A. Gulf projects that it will have a total of 445,187 retail customers by December 2014, an increase of 5,577 customers over projections for December 2013. This represents an anticipated annual growth rate of 1.3 percent for the test year. By comparison, historical growth rates of 0.1 percent, 0.6 percent, 0.4 percent and 0.5 percent were experienced in 2009, 2010, 2011 and 2012, respectively. Current projections for year-end 2013 indicate an annual growth rate of 1.2 percent.

Q. How were Gulf's forecasts of customers and customer growth for 2013 and 2014 developed?

A. The short-term forecasts of residential, commercial and industrial non-lighting customers were based primarily on input from Gulf's field Marketing Managers with the assistance of their field employees. These field managers and their employees have frequent and consistent interaction with our customers as part of their daily job tasks. The three managers' combined direct experience with Gulf's customers and markets exceeds three quarters of a century. The projections prepared by these managers reflect recent historical trends in net customer gains as well as anticipated effects of changes in the local economy, the real estate market, planned construction projects, and factors affecting population such as military personnel movements and changes in local industrial production.

Forecasters supplied field managers with historical customer gains by rate schedule and summary economic outlooks for the appropriate MSA. After collecting initial input from field managers, forecasters reviewed the one-year-out customer projections by rate schedule, checking for consistency with historical trends, consistency with economic outlooks, and consistency across MSAs. Forecasters then supplied field managers with draft second-year-out customer projections based on number of households from Moody's, which the field managers reviewed and modified as necessary. In this iterative process, forecasters and field managers reviewed the projections until all were satisfied that the projections reflected an unbiased, most-likely estimate.

The strength of the short-term customer projection methodology, which Gulf has employed for more than 30 years, is that information is gathered at the district level and built up to total company. Because Gulf is a relatively small company, it can manage such a localized process without needing to rely primarily on macro-economic projections to estimate residential and commercial customer growth in the short term.

Gulf projected the number of outdoor lighting customers by rate and class based on historical growth rates and input from Gulf's lighting team to gain insight into future trends.

Q. Is this the same forecast methodology for customers and customer growth that Gulf used and the Commission accepted in Gulf's last base rate proceeding?

A. Yes.

Q. Has this forecast methodology provided reliable forecasts of customers in the past?

A. Yes. Over the four-year period ending 2006, prior to the recession, Gulf minimally over-forecast the residential customer count one year out and two years out by 0.5 percent and 0.4 percent, respectively. (Over-forecast means Gulf forecast more customers than we actually gained over that time period). During the six-year period since 2006, Gulf slightly over-forecast the residential customer count one year out and two years out by 0.6 percent and 1.6 percent, respectively.

The commercial class is smaller and more diverse than the residential class, which makes projections more difficult. During the four-year period ending 2006, prior to the recession, Gulf slightly over-forecast the commercial customer count one year out and two years out by 0.9 percent and 1.0 percent, respectively. During the six-year period since 2006, Gulf over-forecast the commercial customer count one year out and two years out by 1.3 percent and 3.6 percent, respectively.

Q. How did the forecast of residential and commercial customers used in Gulf's last base rate proceeding compare to actual results?

A. Gulf's forecast of residential and commercial customers in the last base rate proceeding was very accurate. For residential, Gulf minimally under-forecast the customer count one year out by 0.1 percent for 2011, and minimally over-forecast the customer count two years out by 0.3 percent for 2012. For commercial, Gulf minimally over-forecast the customer count one year out by 0.8 percent for 2011, and slightly over-forecast the customer count two years out by 1.5 percent for 2012.

Gulf's customer forecast methodology, which relies on the experience and knowledge of our field managers and their employees, has produced reliable, accurate results, even during the recent recession.

Q. How accurate have the residential and commercial customer forecasts which have been proposed for use in this proceeding been?

A. Over the seven months of the forecast period for which we have actual data

to compare to the forecast (November 2012 through May 2013), residential customers were minimally over-forecast by 0.1 percent. Our forecast of commercial customers was on target.

III. GULF'S ENERGY SALES FORECAST

Overall Retail Energy Sales Forecast

Q. What are the 2014 results of Gulf's retail energy sales forecast?

A. Retail energy sales are expected to total 11,154,278 megawatt hours in the test year, representing an increase of 0.6 percent over projections for the twelve months ending in December 2013. This growth is being driven by projected sales to new customers and the anticipated economic recovery from the recession, which is expected to begin in 2013.

The retail megawatt hour (MWh) sales forecast by class consists of the following:

Residential: 5,285,608 MWh, comprising 47.4 percent;
Commercial: 4,109,438 MWh, comprising 36.8 percent;
Industrial: 1,733,618 MWh, comprising 15.5 percent; and
Street Lighting: 25,614 MWh, comprising 0.3 percent.

Q. Please provide a brief overview of the methodology Gulf used to develop its retail energy sales forecast.

A. Gulf used three multiple linear regression models to estimate residential and

commercial non-lighting energy sales, one for residential and two for commercial. For forecasting purposes, the commercial class was split into two groups (small and large).

The primary independent variables used in the models are twelve month moving average electricity price, real disposable income per household for the residential model, and non-manufacturing employment for the commercial models. Historical and projected data for these independent variables are incorporated into the models to capture how customers behave in response to changes in these variables. Typically when price goes up, customers use less energy, and when price goes down, customers use more energy. Typically when income and employment go up, customers use more energy, and when they go down, customers use less energy.

Each regression model estimated energy use per customer per day on a billing cycle basis. Multiplying use per customer per day by the appropriate number of billing cycle days in a month and the number of customers produced total energy. The impacts of demand-side management (DSM) efforts and electric vehicle (EV) charging were then incorporated. The resulting energy projection was then adjusted for unbilled sales to yield calendar month projections.

As is standard industry practice, Gulf's residential and commercial energy forecasts assumed normal weather conditions for future projections.

Likewise, forecast accuracy calculations compared these normal weather forecasts of energy sales to weather-normalized actual energy sales.

The forecast of sales to small industrial customers was produced in a similar manner using historical growth rates rather than a regression model. Projections of sales to the largest industrial customers were based on field surveys. Outdoor lighting energy sales were projected by rate and class using historical growth rates and input from Gulf's lighting team. My testimony below further describes Gulf's retail energy sales forecast methodology.

Residential Energy Sales Forecast

Q. How was Gulf's forecast of 2014 residential energy sales developed?

A. The short-term, non-lighting residential energy sales forecast was developed using a multiple linear regression model.

Q. What variables were employed by Gulf in the regression model used to develop the residential energy sales forecast?

A. The dependent variable, the quantity being estimated, in the residential energy regression equation was monthly billing cycle energy per customer per billing day. The regression included a constant term and 20 years of historical data for the following variables: billing cycle residential cooling degree hours per billing day for the months March through December; billing cycle residential heating degree hours per billing day for the months November through April; twelve month moving average of real residential

electricity price (decline and increase indices); and real disposable income per household. Also included in the model was an indicator variable for the month of September 2004 to account for the impact of Hurricane Ivan, one indicator variable for the months of August 2012 and September 2012 to account for the impact of Hurricane Isaac, an autoregressive term lagged one month to address first-order residual autocorrelation over time and one indicator variable for the combined months of June 2008, July 2008, and August 2008 to address residuals in those months. These variables were carefully chosen to make the model both simple and statistically robust. Variables were required to have a logical connection to residential electricity sales, substantial data history, dependable projections of future values, limited overlap with other variables (i.e. limited multicollinearity), and good statistical significance (i.e. low p-value).

Page 1 of Schedule 3 of my exhibit is a graph comparing the residential regression model's predicted values with actual historical data. It shows how well the model's output "fits" history. Page 2 of Schedule 3 of my exhibit is a list of statistics associated with the residential regression model.

Q. Please describe the primary statistical tests Gulf used to evaluate each regression model for reasonableness.

A. Time series multiple linear regression models and their components are typically evaluated for reasonableness using the following statistics: p-value, adjusted R-squared, and the Durbin-Watson d-statistic. Standard statistical software packages routinely provide these statistics as part of their output.

A p-value is computed for each independent variable in a regression model indicating the level of statistical significance of that variable. The p-value can range from 0 to 100 percent. A low p-value indicates a desired result, meaning that the variable is statistically significant.

An adjusted R-squared value, also called a "goodness of fit" test, is calculated for each regression model. A model is considered a "good fit" if its adjusted R-squared is high. R-squared values range from 0 to 100 percent. A regression model that fits the historical data perfectly would have an R-squared value of 100 percent.

The Durbin-Watson d-statistic is calculated for each regression model. The calculation results in a number ranging in value between zero and four. A d-statistic value near two indicates a desired result and implies no autocorrelation in the regression model residuals, i.e. residuals in one time period are not related to residuals in the previous time period.

Q. What statistical results did Gulf attain with the residential regression model?

A. As presented on page 2 of Schedule 3 of my exhibit, all variables used in the residential regression model were statistically significant (p-values were low) and each coefficient had the expected sign. The model's adjusted R-squared was 98.5 percent, indicating that all but 1.5 percent of the variance in the historical data was explained by the model. The model's Durbin-Watson d-statistic was 2.09, indicating no significant autocorrelation in the residuals. Overall, these are excellent statistical results.

Q. What data sources were employed for the economic variables used in Gulf's residential regression model?

A. Historical values and forecast projections of the economic variables "real disposable income per household" and "GDP price deflator" were purchased from Moody's Analytics. Gulf used the November 2012 vintage of Moody's economic projections, which was the most recent data available at the time the forecast was developed.

Q. How was the number of cycle billing days per month determined?

A. Gulf's customers are divided among 21 bill groups. Each bill group has a different scheduled read date, which varies from month to month and is staggered from bill group to bill group. Monthly cycle billing days were calculated as follows. For a given month, the number of billing days in a bill group was the sum of the days from the day after the prior month's scheduled read date through the current month's scheduled read date. These summed days for each of the 21 bill groups were then totaled and divided by 21 to get the month's cycle billing days.

Q. How was historical residential weather calculated?

A. Cooling and heating degree hours were calculated using the National Oceanic and Atmospheric Administration's (NOAA) Pensacola weather station's hourly temperatures. Residential cooling degree hours are the result of taking the number of degrees Fahrenheit that each hourly temperature is above a 67 degree baseline, and summing over a given time period. Residential heating degree hours are the result of taking the

number of degrees Fahrenheit that each hourly temperature is below a 59 degree baseline, and summing over a given time period. These residential cooling and heating degree hour temperature baselines reflect the observed correlation between hourly temperatures and hourly energy purchases by Gulf's residential customers. Gulf did an analysis during 2012 to refine the baseline temperatures used to calculate degree hours to be more reflective of actual energy sales response to temperatures experienced over the most recent 20 years.

Monthly billing cycle residential weather was calculated as follows. For each bill group, the total residential cooling (heating) degree hours were summed over the period from the day after the prior month's scheduled read date through the current month's scheduled read date. These summed residential cooling (heating) degree hours for each of the 21 bill groups were then totaled and divided by 21 to get the monthly billing cycle residential cooling (heating) degree hours.

Q. Given the strong dependence of residential energy use on weather, what weather forecast was used in the residential energy projection?

A. As is standard practice in the industry, Gulf used "normal" weather in its energy forecasts, where "normal" is defined as a long-term average of historical weather. Monthly normal weather for the residential class was developed using historical monthly cycle residential cooling (heating) degree hours per billing day averaged by month over the past 20 years.

Q. How was the residential regression model output used to develop the residential energy forecast?

A. The residential regression model output, monthly billing cycle energy per customer per billing day, was multiplied by the projected number of non-lighting residential customers and projected cycle billing days by month. The residential class outdoor lighting energy projection was then added to produce the total residential class energy projection. The total residential class energy projection was then adjusted to reflect the anticipated impacts of Gulf's DSM plan and the introduction of electric vehicles to the market. A projection of unbilled energy was then added to the resulting billed energy projection to develop a calendar month projection of total residential class energy. Residential energy sales by rate were developed using average historical use per customer by rate.

Q. What DSM plan assumptions were included in Gulf's forecast?

A. Gulf utilized its most recent DSM plan, which was approved by the Commission in Order No. PSC-11-0114-PAA-EG on February 11, 2011, to adjust forecasted sales and annual system peak demand for projected conservation impacts. These assumptions for conservation impacts are reasonable and in line with actual achievement as results for 2012 show energy savings by Gulf's customers exceeded the plan.

Q. Please address the anticipated impacts of Gulf's DSM plan on the residential energy forecast.

A. The anticipated impacts of Gulf's DSM plan on the residential class were

projected to be 110 million kWh in the test year. The forecast reflects all expected impacts of the DSM plan – some of those impacts were embedded in the regression model output and some of those impacts were included through an exogenous adjustment to the regression model output. Gulf utilized data from ITRON (the vendor used by parties in the DSM goals docket to develop technical and achievable potential levels of DSM for Gulf and other utilities) as well as Gulf's experience in the energy efficiency market and knowledge of existing programs to determine, by program, the amount of energy savings embedded in the historical regression data. The remaining impacts, those not embedded in the historical data, formed the exogenous DSM adjustment. The exogenous DSM adjustment to residential class energy in the test year was 94 million kWh, which reduced total retail energy sales by 0.8 percent.

Q. How did Gulf project the impact of electric vehicles in its residential energy forecast?

A. Gulf assumed an electric and plug-in-hybrid electric vehicle penetration of 2 percent of new vehicle sales in the test year, resulting in an exogenous adjustment for charging electric vehicles of 6 million kWh in the test year. The penetration rate assumption was based on a purchased study published by Pike Research in the 1st quarter of 2011 entitled "Electric Vehicle Geographic Forecasts." All charging was assumed to occur off-peak in the residential class. As customer behavior patterns emerge in the electric vehicle charging market, Gulf will refine this estimate based on load research and customer surveys. Gulf has implemented a pilot program

through its approved DSM plan that will encourage customers who purchase electric vehicles to charge them during off-peak hours.

Commercial Energy Sales Forecast

Q. How was Gulf's forecast of 2014 commercial energy sales developed?

A. The short-term, non-lighting commercial energy sales forecast was developed using two multiple linear regression models. One modeled "small commercial" customer energy purchases (less than 25 kilowatts), and the other modeled energy purchases of the remainder of the commercial class, the latter being referred to as "large commercial." Both models were similar in specification.

Q. What variables were employed by Gulf in the two regression models used to develop the commercial energy sales forecast?

A. In each commercial regression model the dependent variable, the quantity being estimated, was monthly billing cycle energy per customer per billing day. The small commercial model included a constant term and 20 years of historical data for the following variables: billing cycle cooling degree hours per billing day for the months of April through November; billing cycle heating degree hours per billing day for the months of December through March; twelve month moving average of real commercial electricity price; and non-manufacturing employment. Also included in the small commercial model was an indicator variable for the month of September 2004 to account for the impact of Hurricane Ivan; an indicator variable for the month of August 1997 to address a large residual in that month; and one

autoregressive term lagged one month to address first-order residual autocorrelation over time.

The large commercial model included a constant term and 20 years of historical data for the following variables: billing cycle cooling degree hours per billing day for the months of March through November; billing cycle heating degree hours per billing day for the months of December through March; an indicator variable to capture the seasonal variation for the month of January; twelve month moving average of real commercial electricity price; and non-manufacturing employment. Also included in the large commercial model was an indicator variable for the month of September 2004 to account for the impact of Hurricane Ivan; an indicator variable for the months of July 2005, August 2005 and September 2005 to account for the impacts of Hurricanes Dennis and Katrina; an indicator variable for the months of August 2012 and September 2012 to account for the impacts of Hurricane Isaac; and one autoregressive term lagged one month to address first-order residual autocorrelation over time.

These variables were carefully chosen to make the commercial model both simple and statistically robust. Variables were required to have a logical connection to commercial electricity sales, substantial data history, dependable projections of future values, limited overlap with other variables (i.e. limited multicollinearity), and good statistical significance (i.e. low p-value).

Page 1 of Schedule 4 of my exhibit is a graph comparing the small commercial regression model's predicted values with actual historical data. It shows how well the model's output "fits" history. Page 2 of Schedule 4 of my exhibit is a list of statistics associated with the small commercial regression model.

Page 1 of Schedule 5 of my exhibit is a graph comparing the large commercial regression model's predicted values with actual historical data. It shows how well the model's output "fits" history. Page 2 of Schedule 5 of my exhibit is a list of statistics associated with the large commercial regression model.

Q. Why do the indicator variables for hurricanes differ in the three regression models?

A. Hurricane indicator variables are used to account for the significant, non-recurring impact of hurricanes on historical energy sales. An indicator variable for Hurricane Ivan is included in all three regression models due to the scale and magnitude of the damage and its impact on sales. An indicator variable for Hurricanes Dennis and Katrina is included in the large commercial model because those hurricanes significantly affected the tourism industry, and a majority of Gulf's tourism and recreation kWh sales are to large commercial businesses. Hurricanes Dennis and Katrina caused significantly fewer outages in Gulf's service area than Hurricane Ivan, so they had a smaller impact on residential and small commercial customers. However, they had a larger impact on tourism than Ivan primarily because

they made landfall earlier in the tourist season (July and August versus September). Dennis and Katrina also caused gasoline prices to rise to a new high, which further impacted tourism in 2005. Therefore, a Dennis-Katrina indicator variable appropriately fit the large commercial regression model but was not needed in the residential or small commercial regression model. An indicator variable for Hurricane Isaac is included in the residential and large commercial models because the heavy rainfall with localized flooding and preemptive closures of schools and businesses primarily affected the residential and large commercial customers.

Q. What statistical results did Gulf attain with the small commercial regression model?

A. As presented on page 2 of Schedule 4 of my exhibit, all variables used in the small commercial regression model were statistically significant (p-values were low) and each coefficient had the expected sign. The model's adjusted R-squared was 94.9 percent, indicating that all but 5.1 percent of the variance in the historical data was explained by the model. The model's Durbin-Watson d-statistic was 2.27, indicating no significant autocorrelation in the residuals. Overall, these are excellent statistical results.

Q. What statistical results did Gulf attain with the large commercial regression model?

A. As presented on page 2 of Schedule 5 of my exhibit, all variables used in the large commercial regression model were statistically significant (p-values were low) and each coefficient had the expected sign. The

model's adjusted R-squared was 97.4 percent, indicating that all but 2.6 percent of the variance in the historical data was explained by the model. The model's Durbin-Watson d-statistic was 2.03, indicating no significant autocorrelation in the residuals. Overall, these are excellent statistical results.

Q. What data sources were employed for the economic variables used in Gulf's commercial regression models?

A. Historical values and forecast projections of the economic variables "non-manufacturing employment" and "GDP price deflator" were purchased from Moody's Analytics. Gulf used the November 2012 vintage of Moody's economic projections, which was the most recent data available at the time the forecast was developed.

Q. How was historical commercial weather calculated?

A. Cooling and heating degree hours were calculated using the NOAA Pensacola weather station's hourly temperatures. Commercial cooling degree hours are the result of taking the number of degrees Fahrenheit that each hourly temperature is above a 63 degree baseline, and summing over a given time period. Commercial heating degree hours are the result of taking the number of degrees Fahrenheit that each hourly temperature is below a 54 degree baseline, and summing over a given time period. These commercial cooling and heating degree hour temperature baselines reflect the observed correlation between hourly temperatures and hourly energy purchases by Gulf's commercial customers. Gulf did an analysis during

2012 to refine the baseline temperatures used to calculate degree hours to be more reflective of actual energy sales response to temperatures experienced over the most recent 20 years. Observed commercial customer temperature breakpoints are lower than residential customer temperature breakpoints because commercial buildings typically contain more heat producing equipment and people than residential buildings. Thus, commercial Heating Ventilating and Air Conditioning (HVAC) equipment typically begins heating later (below a lower temperature) and begins cooling sooner (above a lower temperature) than residential HVAC equipment.

Monthly billing cycle commercial weather was calculated as follows. For each bill group, the total commercial cooling (heating) degree hours were summed over the period from the day after the prior month's scheduled read date through the current month's scheduled read date. These summed commercial cooling (heating) degree hours for each of the 21 bill groups were then totaled and divided by 21 to get the monthly billing cycle commercial cooling (heating) degree hours.

Q. How was forecast commercial weather calculated?

A. As is standard practice in the industry, Gulf used "normal" weather in its energy forecasts, where "normal" is defined as a long-term average of historical weather. Monthly normal weather for the commercial class was developed using historical monthly cycle commercial cooling (heating) degree hours per billing day averaged by month over the past 20 years.

Q. How were the outputs of the two commercial regression models used to develop the commercial energy forecast?

A. The small commercial regression model output was multiplied by the projected number of non-lighting small commercial customers and projected cycle billing days by month. The large commercial regression model output was multiplied by the projected number of non-lighting large commercial customers and projected cycle billing days by month. These small commercial and large commercial results were then summed. The commercial class outdoor lighting energy projection was then added to produce the total commercial class energy projection. The total commercial class energy projection was then adjusted to reflect the anticipated impacts of Gulf's DSM plan. A projection of unbilled energy was then added to the resulting billed energy projection to develop a calendar month projection of total commercial class energy. Commercial energy sales by rate were developed using average historical use per customer by rate.

Q. Please address the anticipated impacts of Gulf's DSM plan on the commercial energy forecast.

A. The anticipated impacts of Gulf's DSM plan on the commercial class were projected to be 25 million kWh in the test year. The forecast reflects all expected impacts of the DSM plan – some of those impacts were embedded in the regression model output and some of those impacts were included through an exogenous adjustment to the regression model output. Gulf utilized data from ITRON as well as Gulf's experience in the energy efficiency market and knowledge of existing programs to determine, by

program, the amount of energy savings embedded in the historical regression data. The remaining impacts, those not embedded in the historical data, formed the exogenous DSM adjustment. The exogenous DSM adjustment to commercial class energy in the test year was 12 million kWh, which reduced total retail energy sales by 0.1 percent.

Industrial Energy Sales Forecast

Q. How was Gulf's 2014 forecast of industrial energy sales developed?

A. The short-term industrial energy sales forecast was developed using a combination of on-site surveys of major industrial customers and historical average consumption per customer per billing day.

Fifty-two of Gulf's largest industrial customers, representing over 90 percent of the industrial class sales, were interviewed by Gulf's industrial account representatives to identify expected load changes due to equipment additions and replacements or changes in operating schedules and characteristics. The short-term forecast of monthly sales to these major industrial customers was a synthesis of this survey information and historical monthly to annual energy ratios.

The forecast of short-term sales to the remaining smaller industrial customers, which represent 1.3 percent of total retail energy sales, was developed by rate schedule and month using historical averages. The resulting estimates of energy purchases per customer per billing day were multiplied by the expected number of customers and billing days by month

to expand to the rate level totals. These projections were then added to the results for the major industrial customers, the industrial class outdoor lighting energy projections and the industrial class unbilled energy estimates to sum to the industrial class calendar month totals.

Street Lighting Energy Sales Forecast

Q. How was Gulf's 2014 forecast of street lighting energy sales developed?

A. Similar to the outdoor lighting projections for the residential, commercial and industrial classes, Gulf's forecast of street lighting energy sales was developed using a projected growth rate, based on input from Gulf's lighting team, applied to the one rate (OS-I/II) applicable to the street lighting classification.

Total Retail Energy Sales Forecast and Forecast Methodology

Q. How was the total retail energy sales forecast developed?

A. Gulf's total retail energy sales forecast was the result of summing residential, commercial, industrial and street lighting energy sales together.

Q. Is this the same forecast methodology for energy sales that Gulf used and the Commission accepted in Gulf's last base rate proceeding?

A. Yes. The overall methodology that Gulf currently uses to forecast energy sales is substantially the same as that employed in the last base rate proceeding, which was stipulated to by the parties and approved by the Commission. Gulf made two minor changes to its residential forecast methodology during 2012. Both changes were made to the residential

regression model to improve the forecast of residential energy sales.

The first change was to remove from the model the variable for residential vacancy rate. If included in the model, this variable has a p-value of over 20 percent. A low p-value indicates a desired result, meaning that the variable is statistically significant. Therefore, a p-value of over 20 percent indicates that the variable is not statistically significant, i.e. not meaningful to the model.

The second change was to split the residential electricity price variable into two variables: a price decline index and a price increase index. The elasticities were significantly different for the two price variables showing that historically residential customer response to price has been asymmetrical. In other words, based on Gulf's historical data, when price has increased, residential customers have reduced their energy usage by a larger amount than their increase in energy usage when price has decreased by the same amount. Therefore, this change was incorporated into the residential regression model to capture the difference in price response in the forecast. With this change, the statistical results of the model were excellent, as shown on page 2 of Schedule 3 of my exhibit.

Q. Why were two price variables used in the residential regression model, but not in the small and large commercial regression models?

A. In the small commercial model, a test was performed using price decline and increase variables similar to those used in the residential model.

However, in the small commercial model, the price decline index had a high p-value indicating it was not statistically significant. A similar test was performed for the large commercial model, which showed that the elasticities for the price decline index and price increase index were not significantly different. This means that historically large commercial customers have not responded significantly differently to price increases versus price decreases. Therefore, only one price variable was used in the large commercial model to keep the model simple, since two price variables were not necessary.

Q. Did you make any adjustments to the forecast besides those already described for DSM, EV charging, and unbilled energy?

A. No. Because the regression equations fit the historical data well, there was no need to adjust the regression outputs.

Q. Has this forecast methodology provided reliable forecasts of retail energy sales in the past?

A. Yes. Over the four-year period ending 2006, prior to the recession, Gulf under-forecast retail energy sales one year out and two years out by 3.1 percent and 3.5 percent, respectively. (Under-forecast means Gulf forecast less energy than our customers actually purchased over that time period). During the six-year period since 2006, Gulf over-forecast retail energy sales one year out and two years out by 2.9 percent and 5.7 percent, respectively. (Over-forecast means Gulf forecast more energy than our customers actually purchased over that time period).

Gulf's retail energy sales forecasts during the recent recession have been higher than actual results because the economy took a downturn and did not perform as expected. Some of these forecasts were developed before the recession began and before the effects of the recession were even known. More recently, forecasts assumed a turnaround in the economy and a recovery from the recession; however, the recovery stalled and effects of the recession continued in Gulf's service area through the end of 2012.

Q. How accurate has the retail energy sales forecast which has been proposed for use in this proceeding been?

A. Over the seven months of the forecast period for which we have actual data to compare to the forecast (November 2012 through May 2013), total retail energy sales were slightly over-forecast by 1.0 percent.

Territorial Wholesale Energy Sales Forecast

Q. How was Gulf's forecast of 2014 territorial wholesale energy sales developed?

A. The forecast of territorial wholesale energy sales was developed using a multiple linear regression model.

Q. What variables were employed by Gulf in the regression models used to develop the wholesale energy sales forecast?

A. Monthly wholesale energy purchases per day were estimated based on historical energy sales, residential weather (heating and cooling degree hours), real disposable income per household, an indicator variable

corresponding to the wholesale price level, and an autoregressive term lagged one month to address first-order residual autocorrelation over time.

Q. What statistical results did Gulf attain with the wholesale regression model?

A. All variables used in the wholesale regression model were statistically significant (p-values were low) and each coefficient had the expected sign. The model's adjusted R-squared value was 95.5 percent, indicating that all but 4.5 percent of the variance in the historical data was explained by the model. The model's Durbin-Watson d-statistic was 2.03, indicating no significant autocorrelation in the residuals. Overall, these are excellent statistical results.

Q. How was the wholesale model output used to develop the total wholesale energy forecast?

A. The model output, monthly energy purchases per day, was multiplied by the projected number of days per month to expand to the total wholesale energy forecast.

Q. What is the importance of the wholesale energy projection in this proceeding?

A. Gulf's 2014 wholesale energy projection was used by Gulf Witness O'Sheasy in the cost-of-service study to develop allocators that help determine the jurisdictional split between the wholesale and retail jurisdictions.

IV. GULF'S PEAK DEMAND FORECAST

Q. What is Gulf's forecasted peak demand for 2014?

A. Gulf's territorial system peak demand is projected to be 2,522 megawatts (MW) in the test year, representing an increase of 8 MW or 0.3 percent over projections for the twelve months ended December 2013. This peak is expected to occur in the summer month of July 2014.

Q. How was this forecast of peak demand developed?

A. The forecast of annual system peak demands was developed using historical load shapes and projections of net energy for load. Net energy for load is the total supply of energy from the generator available to serve territorial customers' load requirements including an estimate for losses. Projected net energy for load was based on the forecasted energy sales described previously in my testimony. Forecasted energy sales were spread using historical hourly load shapes to determine the single highest hour of demand for each month. Gulf's annual system peak demand typically occurs in the month of July. The resulting monthly system peak demand projections were then adjusted to reflect the anticipated impacts of conservation programs from Gulf's DSM plan.

Q. Please address the anticipated impacts of Gulf's DSM plan on the Company's annual system peak demand forecast.

A. The anticipated impact of Gulf's DSM plan on the Company's annual system peak demand was projected to be 45 MW in the test year. The

forecast reflects all expected impacts of the DSM plan – some of those impacts were embedded in historical peak demand levels and some of those impacts were included through an adjustment. As with DSM adjustments to energy, data from ITRON as well as Gulf's experience in the energy efficiency market and knowledge of existing programs were used to determine, by program, the amount of demand savings embedded in the historical data. The remaining impacts, those not embedded in the historical data, formed the DSM adjustment. The DSM adjustment to system peak demand in the test year was 33 MW, which reduced system peak demand by 1.3 percent.

V. GULF'S FORECAST OF RETAIL BASE RATE REVENUE

Q. What are the 2014 results of Gulf's retail base rate revenue forecast?

A. Retail base rate revenue is forecasted to total $498,489,000 in the test year. Using rates approved in Gulf's last base rate case in FPSC Order No. PSC-12-0179-FOF-EI, the base rate revenue forecast by class consists of the following:

Residential:	$299,814,000
Commercial:	$157,413,000
Industrial:	$ 38,141,000
Street Lighting:	$ 3,121,000

Q. Please address how the base rate revenue forecast was developed.

A. Rate schedules approved in Gulf's last base rate case were applied to monthly projections of customers, energy sales and aggregate billing demands, as applicable by rate, for each customer classification. Outdoor lighting base revenue was estimated by class and rate using the most recent actual base revenue per kWh, adjusted for the FPSC-approved increase for lighting rates in January 2013, applied to the appropriate outdoor lighting energy forecast.

Q. What billing components were used to develop the base revenue forecast?

A. The residential monthly billing components consisted of the base charge and the energy charge. The commercial and industrial billing components consisted of the base charge, the energy charge and, where applicable, the demand charge. The non-residential energy-only time-of-use rate (GSTOU) energy charge included an on-peak, intermediate and off-peak tier by season. The commercial and industrial demand charge consisted of the max demand charge and, where applicable, the on-peak demand charge and the reactive demand charge. Primary and transmission voltage level discounts were applied to energy and demand charges as appropriate.

Q. How were forecast monthly billing determinants developed for each of these billing components?

A. Forecast year billing determinants were developed for each rate schedule and, where applicable, each voltage discount level as follows:

- Monthly number of customers was derived from the customer forecast.
- Monthly energy was derived from the energy forecast.
    - Monthly time of use (TOU) energy was based on monthly energy from the forecast allocated to tier based on monthly historical averages by tier.
- Monthly aggregate max demands for commercial and small industrial customers by rate were derived from monthly historical average max demand to energy ratios multiplied by forecast year monthly energy.
- Monthly aggregate on-peak demands for commercial and small industrial customers by rate were derived from monthly historical average on-peak demand to energy ratios multiplied by forecast year monthly energy.
- Monthly max demands, monthly on-peak demands and monthly reactive demands for the 52 largest industrial customers and the 18 largest commercial customers were derived from historical ratios applied to projected annual max demands which are collected through the large customer survey.
    - Monthly max demands for each of these customers were calculated as the product of the forecast year's annual peak demand times the ratio of a historical year's monthly max demand to annual max demand.
    - Monthly on-peak demands for each of these customers were calculated as the product of the forecast year's monthly max demand times the ratio of a historical year's monthly on-peak demand to monthly max demand.

- Monthly reactive demands for each of these customers were calculated as the product of the forecast year's monthly max demand times the ratio of a historical year's monthly reactive demand to monthly max demand.

- The historical year in the billing demand calculations was May 2011 through April 2012, the most recent 12 months of billing data available at the time the billing determinants forecast was developed.

Q. Is this the same forecast methodology for retail base revenue that Gulf used and the Commission accepted in Gulf's last base rate proceeding?

A. Yes.

Q. Has this forecast methodology provided reliable forecasts of retail base revenue in the past?

A. Yes. Over the four-year period ending 2006, prior to the recession, Gulf under-forecast retail base revenue one year out and two years out by 2.3 percent and 3.0 percent, respectively. (Under-forecast means Gulf forecast less retail base revenue than we actually received over that time period). During the six-year period since 2006, Gulf over-forecast retail base revenue one year out and two years out by 2.3 percent and 4.1 percent, respectively. (Over-forecast means Gulf forecast more retail base revenue than we actually received over that time period). Consistent with the retail energy sales forecasts, Gulf's retail base revenue forecasts were also higher than actual results during the recent recession due primarily to the economic downturn and the delayed recovery from the recession.

Q. How accurate has the retail base revenue forecast which has been proposed for use in this proceeding been?

A. Over the seven months of the forecast period for which we have actual data to compare to the forecast (November 2012 through May 2013), total retail base rate revenue was minimally under-forecast by 0.7 percent.

Q. Has the particular forecast proposed in this proceeding been used by Gulf in other recent proceedings or filings before the Commission?

A. Yes. This forecast of customers, energy, and peak demand was the foundation for and was included in Gulf's 2013-2022 Ten Year Site Plan which was filed with the Commission on April 1, 2013. This forecast of energy and demand was also the basis for calculations used in Gulf's Renewable Standard Offer Contract which was filed with the Commission on April 1, 2013 and approved by the Commission on June 25, 2013 in Docket No. 130070-EQ. This forecast of customers and energy was included in Gulf's Forecasted Earnings Surveillance Report which was submitted to the Commission staff on March 14, 2013.

Q. Is the forecast prepared by and relied upon by Gulf in this proceeding appropriate for the Commission to use in setting Gulf's base rates?

A. Yes. It is based upon an established and proven methodology. It employed reliable data from well-respected sources. The methodology and forecast are routinely used by Gulf in its regular course of business and were not developed just for this rate case. The methodology and the resulting

forecast have been relied upon by Gulf and the Commission in a number of proceedings.

VI. SUMMARY

Q. Please summarize your testimony.

A. Gulf's forecast methodologies are rigorous, statistically significant and logically connected to the marketplace. Gulf's forecast methodologies are well established. They have been consistently used for many years in substantially the same form and have been reviewed and approved by the Commission in other proceedings. Gulf's methodologies appropriately incorporate adjustments for Gulf's approved DSM plan as well as emerging electric vehicle charging loads. Gulf's forecast methodologies consistently produce accurate results which are routinely used by many departments throughout the Company in the regular course of business. The specific forecast proposed in this proceeding, which has been relied on by the Commission in other filings, is appropriate for use in this base rate proceeding.

Q. Does this conclude your testimony?

A. Yes.

AFFIDAVIT

STATE OF FLORIDA)
)
COUNTY OF ESCAMBIA)

Docket No. 130140-EI

Before me the undersigned authority, personally appeared Rhonda J. Alexander, who being first duly sworn, deposes, and says that she is the Supervisor of Forecasting for Gulf Power Company, a Florida corporation, that the foregoing is true and correct to the best of her knowledge, information, and belief. She is personally known to me.

Rhonda J. Alexander
Supervisor of Forecasting

Sworn to and subscribed before me this 8th day of July, 2013.

Melissa A. Darnes
Notary Public, State of Florida at Large

Commission No. EE 150873

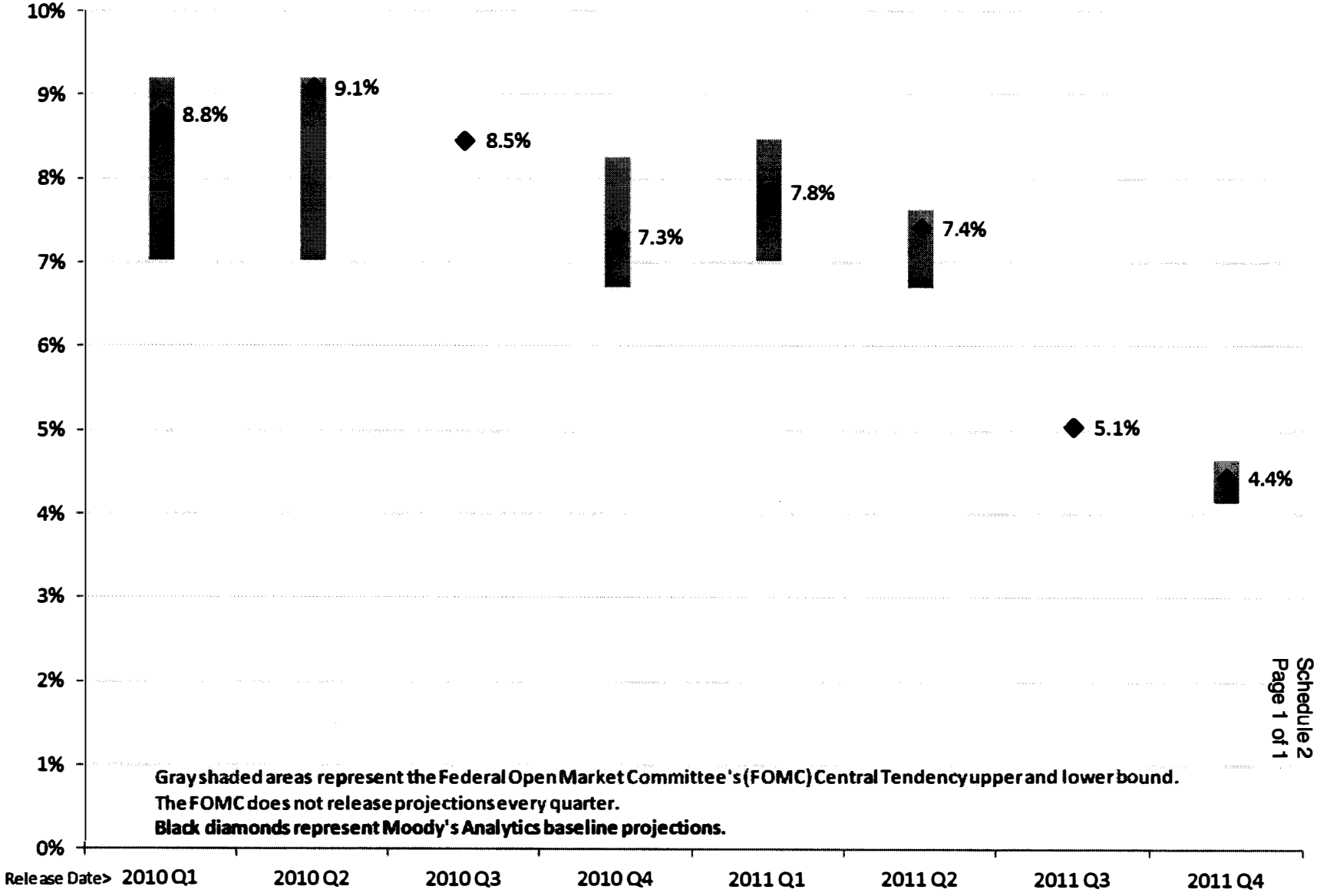
My Commission Expires December 17, 2015

MELISSA A. DARNES
MY COMMISSION # EE 150873
EXPIRES: December 17, 2015
Bonded Thru Budget Notary Services

Responsibility for Minimum Filing Requirements

Schedule	Title
C-34	Statistical Information
E-15	Projected Billing Determinants – Derivation
E-18	Monthly Peaks
F-5	Forecasting Models
F-6	Forecasting Models – Sensitivity of Output to Changes in Input Data
F-7	Forecasting Models – Historical Data
F-8	Assumptions

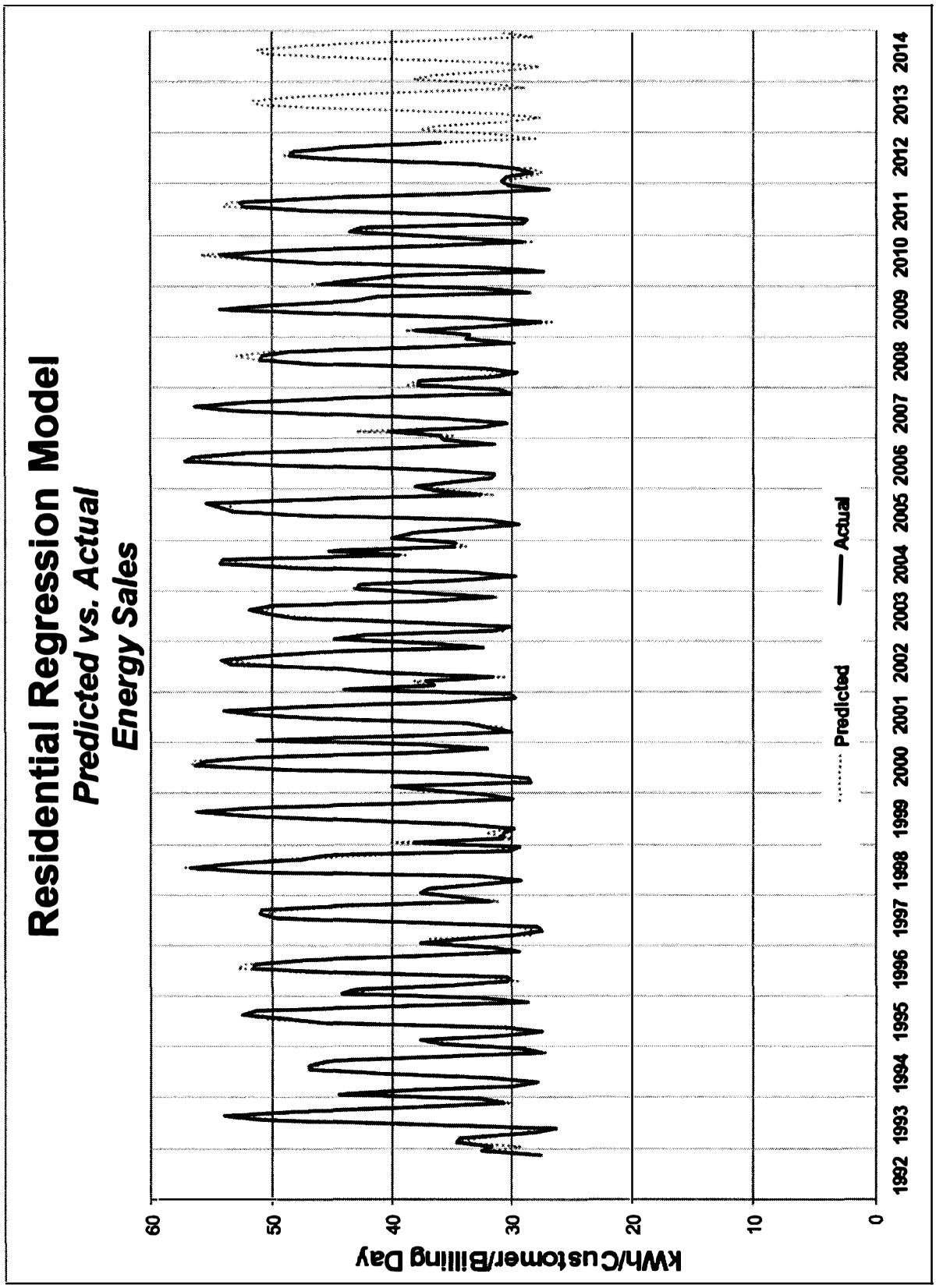
Forecast 2011 & 2012 Cumulative Annual Growth in U.S. Real GDP



Gray shaded areas represent the Federal Open Market Committee's (FOMC) Central Tendency upper and lower bound.
The FOMC does not release projections every quarter.
Black diamonds represent Moody's Analytics baseline projections.

Florida Public Service Commission
Docket No. 130140-EI
GULF POWER COMPANY
Witness: Rhonda J. Alexander
Exhibit No. ____ (RJA-1)
Schedule 2
Page 1 of 1

Florida Public Service Commission
Docket No. 130140-EI
GULF POWER COMPANY
Witness: Rhonda J. Alexander
Exhibit No. ____ (RJA-1)
Schedule 3
Page 1 of 2



Residential Regression Model Summary

Software:	MetrixND Version 4.4
Dependent Variable:	Monthly Billing Cycle Residential kWh per Customer per Billing Day
Estimation Dates:	November 1992-October 2012

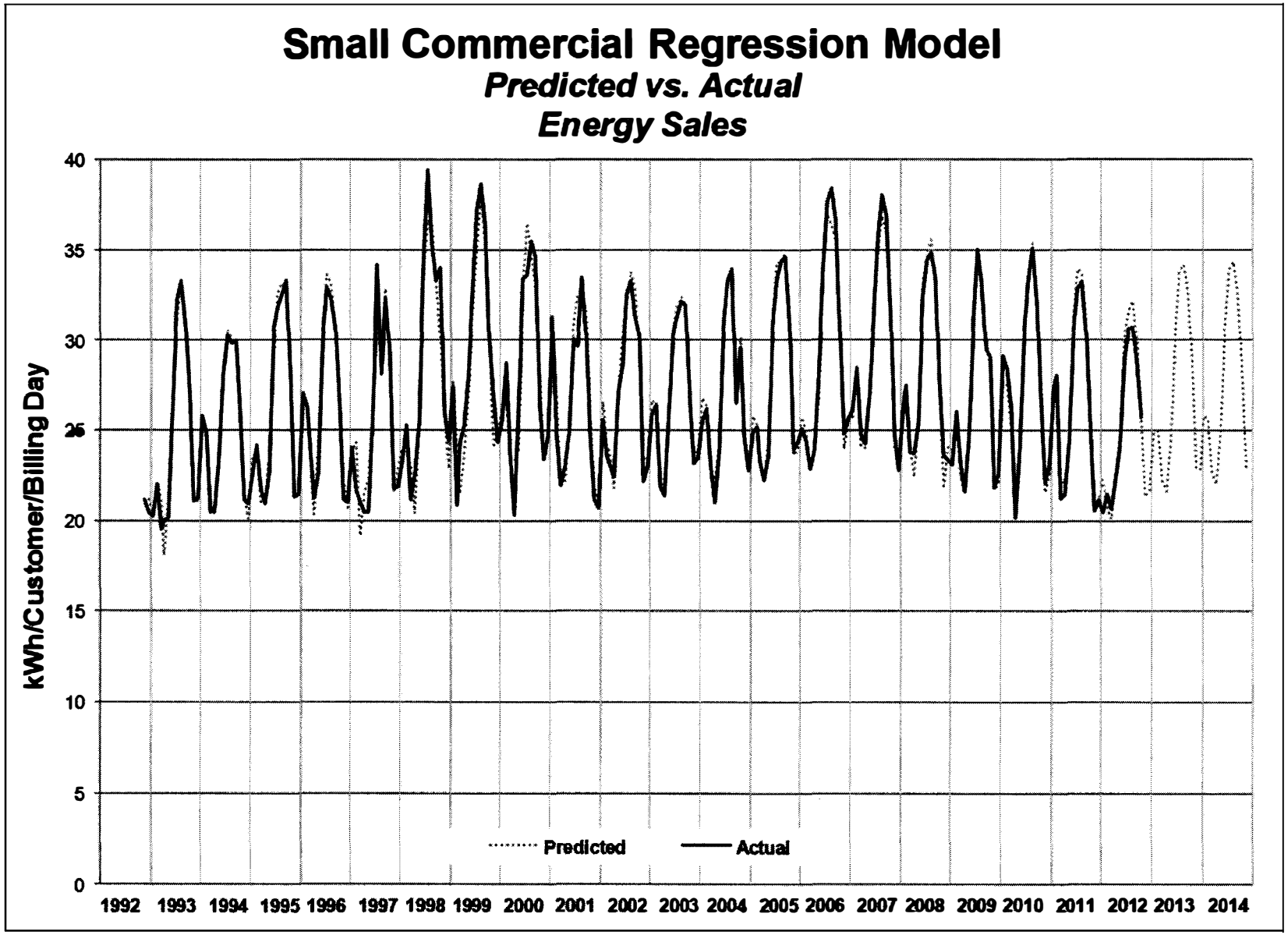
Residential Regression Statistics

Iterations	12
Adjusted Observations	239
Deg. of Freedom for Error	215
R-Squared	0.986
Adjusted R-Squared	0.985
Durbin-Watson Statistic	2.090
Standard Error of Regression	1.07
Mean Absolute Percentage Error (MAPE)	2.07%
Skewness	0.178
Kurtosis	3.762

Residential Regression Model Coefficients

Variable	Coefficient	Standard Error	p-Value	Mean	Elasticity
Constant	27.548	5.384	0.00%	N/A	N/A
Real Disposable Personal Income per Household	0.263	0.054	0.00%	67.397	0.449
12-Month Average of Real Residential Price - Decline Index	-0.700	0.403	8.36%	6.984	-0.124
12-Month Average of Real Residential Price - Increase Index	-1.532	0.153	0.00%	10.993	-0.426
Billing Cycle Residential CDH per Billing Day - March	0.047	0.017	0.55%	1.592	0.002
Billing Cycle Residential CDH per Billing Day - April	0.058	0.008	0.00%	4.504	0.007
Billing Cycle Residential CDH per Billing Day - May	0.070	0.004	0.00%	11.567	0.020
Billing Cycle Residential CDH per Billing Day - June	0.080	0.002	0.00%	22.892	0.046
Billing Cycle Residential CDH per Billing Day - July	0.082	0.001	0.00%	29.050	0.061
Billing Cycle Residential CDH per Billing Day - August	0.084	0.001	0.00%	29.500	0.062
Billing Cycle Residential CDH per Billing Day - September	0.079	0.002	0.00%	26.842	0.054
Billing Cycle Residential CDH per Billing Day - October	0.080	0.002	0.00%	17.042	0.034
Billing Cycle Residential CDH per Billing Day - November	0.055	0.007	0.00%	6.350	0.009
Billing Cycle Residential CDH per Billing Day - December	0.060	0.016	0.02%	1.796	0.003
Billing Cycle Residential HDH per Billing Day - January	0.078	0.002	0.00%	17.117	0.034
Billing Cycle Residential HDH per Billing Day - February	0.077	0.002	0.00%	15.667	0.030
Billing Cycle Residential HDH per Billing Day - March	0.071	0.004	0.00%	8.954	0.016
Billing Cycle Residential HDH per Billing Day - April	0.070	0.010	0.00%	3.254	0.006
Billing Cycle Residential HDH per Billing Day - November	0.057	0.010	0.00%	3.721	0.005
Billing Cycle Residential HDH per Billing Day - December	0.064	0.003	0.00%	10.963	0.018
Binary Variable for Hurricane Ivan September 2004	-9.998	1.004	0.00%	0.004	-0.001
Binary Variable for June-August 2008	-3.787	0.836	0.00%	0.013	-0.001
Binary Variable for Hurricane Isaac August-September 2012	-2.234	0.906	1.45%	0.008	-0.000
First Order Auto-Regressive Term, AR(1)	0.435	0.062	0.00%	N/A	N/A

HDH = Heating Degree Hours
CDH = Cooling Degree Hours



Florida Public Service Commission
Docket No. 130140-EI
GULF POWER COMPANY
Witness: Rhonda J. Alexander
Exhibit No. ____ (RJA-1)
Schedule 4
Page 1 of 2

Small Commercial Regression Model Summary

Software:	MetrixND Version 4.4
Dependent Variable:	Monthly Billing Cycle Small Commercial kWh per Customer per Billing Day
Estimation Dates:	November 1992-October 2012

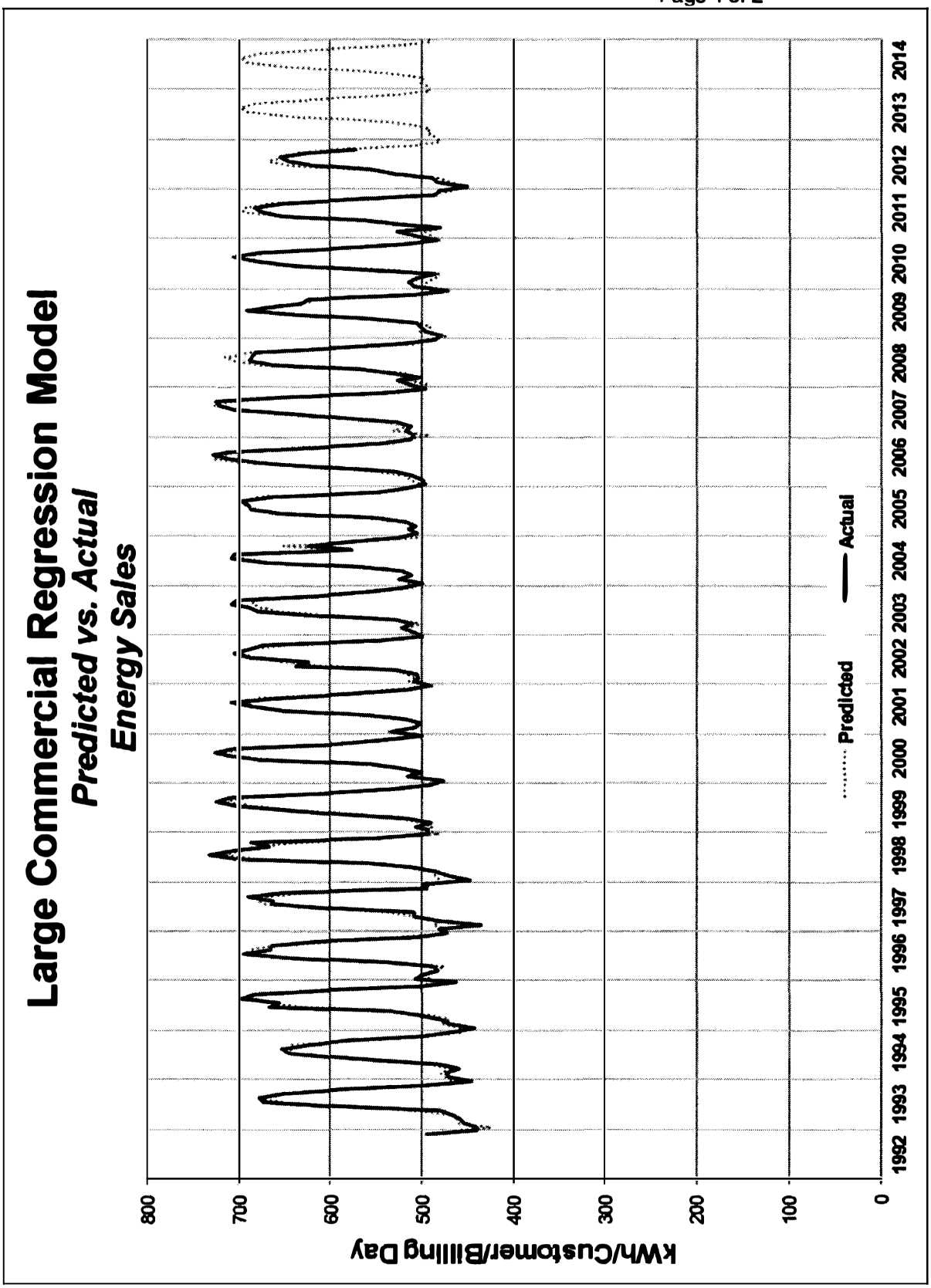
Small Commercial Regression Statistics

Iterations	8
Adjusted Observations	239
Deg. of Freedom for Error	221
R-Squared	0.953
Adjusted R-Squared	0.949
Durbin-Watson Statistic	2.271
Standard Error of Regression	1.09
Mean Absolute Percentage Error (MAPE)	2.94%
Skewness	0.336
Kurtosis	4.476

Small Commercial Regression Model Coefficients

Variable	Coefficient	Standard Error	p-Value	Mean	Elasticity
Constant	14.286	2.102	0.00%	N/A	N/A
Non-Manufacturing Employment	0.040	0.008	0.00%	281.479	0.413
12-Month Average of Real Commercial Price	-0.711	0.159	0.00%	7.392	-0.195
Billing Cycle Small Commercial CDH per Billing Day - April	0.030	0.006	0.00%	4.504	0.005
Billing Cycle Small Commercial CDH per Billing Day - May	0.032	0.003	0.00%	11.567	0.014
Billing Cycle Small Commercial CDH per Billing Day - June	0.038	0.001	0.00%	22.892	0.032
Billing Cycle Small Commercial CDH per Billing Day - July	0.038	0.001	0.00%	29.050	0.041
Billing Cycle Small Commercial CDH per Billing Day - August	0.039	0.001	0.00%	29.500	0.043
Billing Cycle Small Commercial CDH per Billing Day - September	0.038	0.001	0.00%	26.842	0.038
Billing Cycle Small Commercial CDH per Billing Day - October	0.040	0.002	0.00%	17.042	0.025
Billing Cycle Small Commercial CDH per Billing Day - November	0.033	0.005	0.00%	6.350	0.008
Billing Cycle Small Commercial HDH per Billing Day - January	0.026	0.002	0.00%	17.117	0.017
Billing Cycle Small Commercial HDH per Billing Day - February	0.028	0.002	0.00%	15.667	0.016
Billing Cycle Small Commercial HDH per Billing Day - March	0.021	0.003	0.00%	8.954	0.007
Billing Cycle Small Commercial HDH per Billing Day - December	0.018	0.003	0.00%	10.963	0.008
Binary Variable for Hurricane Ivan September 2004	-5.477	0.953	0.00%	0.004	-0.001
Binary Variable for August 1997	-5.400	0.956	0.00%	0.004	-0.001
First Order Auto-Regressive Term, AR(1)	0.607	0.054	0.00%	N/A	N/A

HDH = Heating Degree Hours
CDH = Cooling Degree Hours


Large Commercial Regression Model
Predicted vs. Actual
Energy Sales
kWh/Customer/Billing Day
800
700
600
500
400
300
200
100
0
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
Predicted
Actual

Large Commercial Regression Model Summary

Software:	MetrixND Version 4.4
Dependent Variable:	Monthly Billing Cycle Large Commercial kWh per Customer per Billing Day
Estimation Dates:	November 1992-October 2012

Large Commercial Regression Statistics

Iterations	12
Adjusted Observations	239
Deg. of Freedom for Error	218
R-Squared	0.976
Adjusted R-Squared	0.974
Durbin-Watson Statistic	2.025
Standard Error of Regression	13.67
Mean Absolute Percentage Error (MAPE)	1.75%
Skewness	0.057
Kurtosis	4.509

Large Commercial Regression Model Coefficients

Variable	Coefficient	Standard Error	p-Value	Mean	Elasticity
Constant	381.984	12.661	0.00%	N/A	N/A
Non-Manufacturing Employment	0.620	0.045	0.00%	281.479	0.304
12-Month Average of Real Commercial Price	-11.603	0.952	0.00%	7.392	-0.150
Billing Cycle Large Commercial CDH per Billing Day - March	0.219	0.100	3.01%	3.825	0.001
Billing Cycle Large Commercial CDH per Billing Day - April	0.395	0.051	0.00%	8.696	0.006
Billing Cycle Large Commercial CDH per Billing Day - May	0.435	0.026	0.00%	17.967	0.014
Billing Cycle Large Commercial CDH per Billing Day - June	0.481	0.015	0.00%	30.667	0.026
Billing Cycle Large Commercial CDH per Billing Day - July	0.487	0.013	0.00%	37.046	0.031
Billing Cycle Large Commercial CDH per Billing Day - August	0.498	0.013	0.00%	37.496	0.033
Billing Cycle Large Commercial CDH per Billing Day - September	0.496	0.014	0.00%	34.792	0.030
Billing Cycle Large Commercial CDH per Billing Day - October	0.505	0.020	0.00%	23.996	0.021
Billing Cycle Large Commercial CDH per Billing Day - November	0.418	0.043	0.00%	10.638	0.008
Billing Cycle Large Commercial HDH per Billing Day - January	0.320	0.056	0.00%	11.142	0.006
Billing Cycle Large Commercial HDH per Billing Day - February	0.241	0.045	0.00%	9.754	0.004
Billing Cycle Large Commercial HDH per Billing Day - March	0.215	0.071	0.27%	4.975	0.002
Billing Cycle Large Commercial HDH per Billing Day - December	0.211	0.067	0.17%	6.313	0.002
Binary Variable for Hurricane Ivan September 2004	-101.991	13.827	0.00%	0.004	-0.001
Binary Variable for Hurricanes Dennis and Katrina July-September 2005	-19.883	9.087	2.97%	0.013	-0.000
Binary Variable for Hurricane Isaac August-September 2012	-28.325	10.774	0.92%	0.008	-0.000
Monthly Binary Variable for January	-24.570	9.041	0.71%	0.083	-0.004
First Order Auto-Regressive Term, AR(1)	0.157	0.068	2.27%	N/A	N/A

HDH = Heating Degree Hours
CDH = Cooling Degree Hours