BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 110138-EI

TESTIMONY AND EXHIBIT

OF

ROBERT L. MCGEE

GULF POWER

A SOUTHERN COMPANY

COM 5
APA 1
ECR 10
GCL 1
RAD 1
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GULF POWER COMPANY

Before the Florida Public Service Commission
Prepared Direct Testimony of
Robert L. McGee
Docket No. 110138-EI
In Support of Rate Relief
Date of Filing: July 8, 2011

Q. Please state your name and business address.
A. My name is Bob McGee. 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 Manager of Market Research and Planning.

Q. What are your responsibilities as Gulf's Manager of Market Research and Planning?
A. As Manager of Market Research and Planning, I am responsible for forecasting, load research, Energy Conservation Cost Recovery (ECCR) filings, economic evaluations, pricing, customer research, market research, technology research and customer-sited renewables.

Q. Please state your prior work experience and responsibilities.
A. I began my career in 1984 as a research engineer with Harry Diamond Laboratories, now part of the Army Research Lab, investigating missile fuzing techniques and digital signal processors. Subsequently, I served eight years in the United States Navy as an F-14 Naval Flight Officer,

ultimately serving in combat during Desert Storm in 1991. I joined Gulf in 1994 as a Market Analyst working on the forecast, load research, Real Time Pricing (RTP) and customized metering projects. I have served as a field sales representative to large industrial customers, assistant to a previous Power Generation Vice President, Supervisor of the Instrument & Control team at Plant Crist, and Operations Supervisor at Plant Crist. I have been in my current role since 2001.

Q. What is your educational background?

A. I received a Bachelor of Science degree in Electrical Engineering from the University of Maryland at College Park in 1984. In 1993, I received a Master's degree in Business Administration from the University of West Florida.

Q. What are the purposes of your testimony?

A. My testimony presents Gulf's forecast methodologies and forecast results for customers, energy sales, peak demands and base rate revenues. The forecast is provided to Corporate Planning for use in the budgeting and planning process as discussed by Gulf Witness Buck. My testimony also addresses the load research performed by Gulf and used in this proceeding.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring Exhibit RLM-1, Schedules 1 through 4. Exhibit RLM-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.

Q. How are you familiar with Gulf's forecast process?

A. For most of my career at Gulf, I have been involved in developing Gulf's forecasts. As a forecaster at Gulf in the mid-1990s, I assisted the lead forecaster in developing all aspects of the forecast. I was particularly involved in the forecast of customers, outdoor lighting energy and wholesale energy. For the past ten years, I have been the manager of the department responsible for the forecast. 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.

I. OVERVIEW

Q. Please describe the economic conditions and outlook 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 encompasses 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 nation-wide recession. Often referred to as the "Great Recession," this was the worst national economic and financial crisis since the Great Depression of the 1930s. According to the National Bureau of Economic Research, the official source for declaring when recessions begin and end, this most recent recession began in December 2007 and ended in June 2009. However, the effects of the Great Recession were felt in Gulf's service area well before the nation-wide 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 leveled off at a low point through 2008, 2009 and 2010. As it is used in my testimony hereafter, the term "Great Recession" will refer to the four year period 2007 through 2010. One result of the recent economic downturn in Gulf's service area was a decline in average kilowatt hour (kWh) use per residential customer. This historical fact was observed by Gulf, factored into the forecast, and projected to turn around as the economy was projected to recover.

The Deepwater Horizon oil spill in the Gulf of Mexico (April 20, 2010 through July 15, 2010) had some impact on Gulf's local economy, mostly affecting tourism and recreation from May through August 2010. Gulf assumed in its forecast that the Deepwater Horizon oil spill would not affect energy sales in future years.

Gulf projects that the economy in our service area will begin recovery in 2011, and continue until the economic indicators discussed earlier either return to or exceed pre-recession levels by the end of 2012. Overall, Gulf's forecast relies on relatively optimistic economic projections in the near term.

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 new non-lighting customers it expects to add in each customer class – residential, commercial and industrial. 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 customer (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 future base rate revenues. Outdoor lighting customers, energy and revenue are projected by rate and class. 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 since I joined the Company seventeen years ago. Refinements in the methodology have been made over those years as will be described in my testimony below, but the fundamental methods have remained unchanged and continue to produce reliable forecasts.

Q Has the previously described forecast methodology for customers, energy, peak demand and 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 of customers, energy and revenue is used by the Company for financial planning, budgeting, distribution planning and transmission planning. The forecast of peak demand and energy is utilized by the Company for generation planning, fuel procurement planning and transmission planning.

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

A. Yes. This forecast methodology has 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; annual cost recovery filings for Gulf's fuel, purchased power, environmental and conservation cost recovery clauses; and previous rate proceedings.

II. GULF'S CUSTOMER FORECAST

Q. What are the 2012 results of Gulf's customer forecast?

A. Gulf projects that it will have a total of 438,278 retail customers by December 2012, an increase of 5,094 customers over projections for December 2011. This represents an anticipated annual growth rate of 1.2 percent for the test year. By comparison, historical growth rates of 2.1 percent, 0.1 percent, 0.1 percent and 0.6 percent were experienced in 2007, 2008, 2009 and 2010, respectively. Current projections for year-end 2011 indicate an annual growth rate of 0.6 percent.

Q. How many new retail customers will Gulf have added between the last base rate proceeding and the end of the test year?

A. By the end of the test year, Gulf will have added 49,438 retail customers to its system in the nearly ten years since our last base rate proceeding, representing a cumulative growth of 12.8 percent, which yields a 1.26 percent compound annual growth rate (CAGR) over that period.

Q. How were Gulf's forecasts of customers and customer growth for 2011 and 2012 developed?

A. The short-term forecasts of residential, commercial and industrial non-lighting customers were based primarily on input from Gulf's field Energy Sales and Efficiency 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 which the field managers reviewed and modified as necessary. In this iterative process, forecasters challenged and field managers defended the projections until all were satisfied that the projections reflected an unbiased, most-likely estimate.

The strength of the near-term customer projection methodology, which Gulf has employed for more than 30 years, is that information is gathered at a local level and built up to the whole. 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 near term.

Gulf projected the number of outdoor lighting customers by rate and class based on historical growth rates. Forecasters reviewed historical outdoor lighting data with Gulf's lighting team to gain insight into future trends before finalizing outdoor lighting growth rate projections.

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, with one minor exception. Gulf previously projected outdoor lighting customers by fixture type, rate and class, which resulted in over 150 separate forecasts of outdoor lighting fixtures. Several years ago, Gulf consolidated fixture types by lumen output, reducing the number of separate outdoor lighting forecasts to 56. Gulf further simplified the process in 2010 by reducing the number of separate outdoor lighting forecasts to seven – one for each rate and class. These refinements saved time and had no significant impact on forecast accuracy.

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

A. Yes. Over the four years 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 Great Recession, Gulf slightly over-forecast the residential customer count one year out and two years out by 1.0 percent and 2.4 percent, respectively.

The commercial class is smaller and more diverse than the residential class, which makes projections more difficult. During the four years prior to the recession Gulf minimally over-forecast the commercial customer count one year out and two years out by 0.9 percent and 1.0 percent, respectively. During the Great Recession, Gulf slightly over-forecast the commercial customer count one year out and two years out by 1.8 percent and 4.7 percent, respectively.

This 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 twelve months of the forecast period for which we have actual data to compare to the forecast (June 2010 through May 2011), residential customers were minimally under-forecast by 0.1 percent and commercial customers were minimally over-forecast by 0.6 percent.

III. GULF'S ENERGY SALES FORECAST

Q. What are the 2012 results of Gulf's retail energy sales forecast?

A. Retail energy sales are expected to total 11,768,265 megawatt hours in the test year, representing an increase of 3.0 percent over projections for the twelve months ending in December 2011. This healthy growth is consistent with the relatively optimistic economic projections Gulf incorporated in this forecast as discussed in the Overview section of my testimony.

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

Residential: 5,633,215 MWH, comprising 47.9 percent;
Commercial: 4,083,041 MWH, comprising 34.7 percent;
Industrial: 2,023,502 MWH, comprising 17.2 percent; and
Street Lighting: 28,507 MWH, comprising 0.2 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. Each regression model estimated energy use per customer per day on a billing cycle basis. Multiplying 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 accounted for. 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. My testimony below further describes Gulf's retail energy sales forecast methodology.

Q. How was Gulf's forecast of 2012 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 April through November; billing cycle residential heating degree hours per billing day for the months November through April; indicator variables (also called binary variables) to capture seasonal variations for the months January, July and August; twelve month moving average of real residential price; real disposable income per household; and residential vacancy rate (also called housing stock vacancy rate). Also included in the model were an indicator variable for the month of September 2004 to account for the impact of Hurricane Ivan, one 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 2 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 2 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 ranges 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 2 of my exhibit, all variables used in the residential regression model were statistically significant (p-values were less than 5 percent) 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 2.01, indicating no 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," "residential vacancy rate," and "GDP price deflator" were purchased from Moody's Analytics, formerly known as

Moody's Economy.com, 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, 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 70 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 65 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.

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. Gulf had previously used a Typical Meteorological Year (TMY) to develop residential class normal weather but switched two years ago to this 20-year average in order to simplify the process of updating Gulf's normal weather.

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 the DSM plan filed on March 30, 2010 and revised on June 14, 2010 in Docket No. 100154-EG to adjust forecast sales and annual system peak demand for projected conservation impacts. Because the DSM plan was pending approval at the time the forecast was developed, energy reductions initially planned for 2010 were assumed to occur in 2011 in the forecast. In years 2012 and following, the forecast reflects energy reductions as filed in the June 14, 2010 revised DSM 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 to the residential class were projected to be 67 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 50 million kWh, which reduced total retail energy sales by 0.4 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 5 percent of new vehicle sales in the test year, resulting in an exogenous adjustment for charging electric vehicles of 8 million kWh in the test year. The penetration rate assumption was based on the July 2007 joint study performed by the Electric Power Research Institute (EPRI) and the Natural Resources Defense Council (NRDC). 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 the recently approved DSM plan that will encourage customers who purchase electric vehicles to charge them during off-peak hours.

Q. How was Gulf's forecast of 2012 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 20 kilowatts (kW)), 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. Each regression included a constant term and 20 years of historical data for the following variables: billing cycle commercial cooling degree hours per billing day for the months April through November; billing cycle commercial heating degree hours per billing day for the months December through March; twelve month moving average of real commercial price; and non-manufacturing employment. Also included in both models was an indicator variable for the month of September 2004 to account for the impact of Hurricane Ivan. The small commercial model included one autoregressive term lagged one month to address first-order residual autocorrelation over time. The large commercial model included indicator variables to capture seasonal variations for the months January and May as well as one indicator variable for the combined months of July 2005, August 2005 and September 2005 to account for the impacts of Hurricanes Dennis and Katrina. These variables were carefully chosen to make the commercial models 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 3 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 3 of my exhibit is a list of statistics associated with the small commercial regression model.

Page 1 of Schedule 4 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 4 of my exhibit is a list of statistics associated with the large commercial regression model.

Q. Why do all three regression models use a variable to account for Hurricane Ivan, but only the large commercial model requires a variable to account for Hurricanes Dennis and Katrina?

A. 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. Dennis and Katrina did, however, have 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. Since a majority of Gulf's tourism and recreation kWh sales are to large commercial businesses, a Dennis-Katrina indicator variable appropriately fit the large commercial regression model but was not needed in the residential or small commercial regression model.

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

A. As presented on page 2 of Schedule 3 of my exhibit, all variables used in the small commercial regression model were statistically significant (p-values were less than 5 percent) and each coefficient had the expected sign. The model's adjusted R-squared was 94.1 percent, indicating that all but 5.9 percent of the variance in the historical data was explained by the model. The model's Durbin-Watson d-statistic was 2.29, 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 4 of my exhibit, all variables used in the large commercial regression model were statistically significant (p-values were less than 5 percent) and each coefficient had the expected sign. The model's adjusted R-squared was 97.7 percent, indicating that all but 2.3 percent of the variance in the historical data was explained by the model. The model's Durbin-Watson d-statistic was 1.79, 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 May 2010 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 62 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. 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.

As was the case for residential, Gulf had previously used a Typical Meteorological Year (TMY) to develop commercial class normal weather but switched two years ago to this 20 year average in order to simplify the process of updating Gulf's normal weather.

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 to the commercial class were projected to be 14 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 6 million kWh, which reduced total retail energy sales by 0.05 percent.

Q. How was Gulf's 2012 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 three of Gulf's largest industrial customers, representing over 90 percent of the industrial class sales, were interviewed by Gulf's industrial segment administrators 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 1.4 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 estimates to sum to the industrial class calendar month totals.

Q. How was Gulf's 2012 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 an historical growth rate applied to the one rate (OS-I/II) applicable to the street lighting classification.

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. The overall methodology that Gulf currently uses to forecast energy sales is substantially the same as that employed in the last base rate proceeding. Gulf has made four minor changes to its forecast methodology in the past ten years that have either improved accuracy or simplified processes. First, Gulf improved the forecast of commercial energy sales by splitting the class into two components, large and small, before developing regression models for commercial energy sales. Second, Gulf added applicable economic variables to the residential and commercial regression models to better capture the effects of economic cycles on energy purchases. Third, Gulf switched to a 20-year average normal weather to improve our ability to update it. Fourth, Gulf simplified the outdoor lighting energy forecasts, reducing the number of separate projections to seven when we switched from projecting energy sales for each outdoor lighting fixture type individually to the simpler method of projecting outdoor lighting energy sales by rate and class.

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

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 years prior to the recession, Gulf slightly under-forecast retail energy sales one year out and two years out by 3.1 percent and 3.6 percent, respectively. (Under-forecast means Gulf forecast less energy than our customers actually purchased over that time period). During the Great Recession, Gulf slightly over-forecast retail energy sales one year out and two years out by 2.5 percent and 5.7 percent, respectively. (Over-forecast means Gulf forecast more energy than our customers actually purchased over that time period).

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

A. Over the twelve months of the forecast period for which we have actual data to compare to the forecast (June 2010 through May 2011), total retail energy sales were slightly over-forecast by 1.5 percent.

Q. How was Gulf's forecast of 2012 territorial wholesale energy sales developed?

A. The forecast of energy sales to Gulf's two wholesale customers was developed using a multiple linear regression model for each wholesale customer.

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

A. Monthly energy purchases per day for each of Gulf's wholesale customers 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 models?

A. All variables used in the wholesale regression models were statistically significant (p-values were less than 5 percent) and each coefficient had the expected sign. The models' adjusted R-squared values were both 95.5 percent, indicating that all but 4.5 percent of the variance in the historical data was explained by each model. The models' Durbin-Watson d-statistics were 2.06 and 2.17 respectively, indicating no significant autocorrelation in the residuals. Overall, these are excellent statistical results.

Q. How were the wholesale model outputs used to develop the total wholesale energy forecast?

A. The model outputs, monthly energy purchases per day, were multiplied by the projected number of days by month to expand to the individual customer totals, which were then summed to develop the wholesale class total.

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

A. Gulf's 2012 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 wholesale and retail jurisdictions.

IV. GULF'S PEAK DEMAND FORECAST

Q. What is Gulf's forecasted peak demand for 2012?

A. Gulf's territorial system peak demand is projected to be 2,642 megawatts (MW) in the test year, representing an increase of 50 MW or 1.9 percent over projections for the twelve months ended December 2011. This peak is expected to occur in the summer month of July 2012.

Q. How was this forecast of peak demand developed?

A. The forecast of annual system peak demands was developed using an historical load factor analysis and territorial supply projections. The annual system peak demand projection for 2011 was based on the average of the historical annual load factors for the period 2007 through 2009 (the last full year available at the time the forecast was developed) to reflect the continuing impact of the recession. The annual system peak demand projection for 2012 reflects a gradual, linear return to pre-recessionary annual load factor levels by 2013. Gulf's annual system peak demand typically occurs in the month of July. Monthly system peak demands were developed using monthly-peak to annual-peak ratios. 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 28 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 19 MW, which reduced system peak demand by 0.7 percent.

V. GULF'S FORECAST OF RETAIL BASE RATE REVENUES

Q. What are the 2012 results of Gulf's retail base rate revenue forecast?

A. Retail base rate revenues are forecasted to total $451,228,000 in the test year. Using current rates, the base rate revenue forecast by class consists of the following:

Residential:	$267,534,000
Commercial:	$139,614,000
Industrial:	$ 40,993,000
Street Lighting:	$ 3,087,000

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

A. Current rate schedules were applied to monthly projections of customers, energy sales and aggregate billing demands, as applicable by rate, for each customer classification. Outdoor lighting revenue was estimated by class and rate using historical average revenue per kWh applied to the appropriate outdoor lighting energy forecast.

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

A. The residential monthly billing components consisted of the customer (base) charge and the energy charge. The residential time-of-use rate (RSVP) energy charge included a low, medium and high tier. The commercial and industrial billing components consisted of the customer (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 53 largest industrial customers and the 16 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 an 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 an 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 an historical year's monthly reactive demand to monthly max demand.
- The historical year in these calculations was June 2009 through May 2010, the most recent 12 months of billing data available at the time the forecast was developed.

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

A. Yes, with one minor exception. Gulf previously projected each outdoor lighting fixture type individually and, therefore, could apply fixture charges by type as part of the revenue forecast. Several years ago Gulf switched to the simpler method of projecting outdoor lighting revenue by rate and class using average revenue per kWh. This refinement saved time and had no significant impact on forecast accuracy.

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

A. Yes. Over the four years prior to the recession, Gulf slightly under-forecast retail revenues one year out and two years out by 2.4 percent and

3.2 percent, respectively. (Under-forecast means Gulf forecast less retail revenue than we actually received over that time period). During the Great Recession, Gulf slightly over-forecast retail revenues one year out and two years out by 2.1 percent and 5.1 percent, respectively. (Over-forecast means Gulf forecast more retail revenue than we actually received over that time period).

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

A. Over the twelve months of the forecast period for which we have actual data to compare to the forecast (June 2010 through May 2011), total retail base rate revenue was slightly over-forecast by 1.0 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 2011-2020 Ten Year Site Plan which was filed with the Commission on April 1, 2011. 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, 2011 and approved by the Commission on June 14, 2011 in Docket No. 110095-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, 2011.

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. GULF'S LOAD RESEARCH

Q. Please provide an overview of Gulf's Cost of Service Load Research.

A. Gulf routinely performs Cost of Service Load Research every three years in accordance with FPSC Rule 25-6.0437. This Load Research is designed to estimate the monthly coincident peak demand (CPKW) and non-coincident peak demand (NCPKW) of Gulf's customers, grouped by rate class. Gulf collects this data using sophisticated load research meters that record a customer's energy use every 15 minutes. To keep the expense of this task down, Gulf designs a statistical sampling plan that will provide an accurate estimate of the peak demands using a minimal number of these sophisticated meters. That sampling plan is filed with the Commission for review and approval in the year prior to data collection. Gulf then collects data for one calendar year. In the months following the data collection year, Gulf analyzes the collected load research data and submits a report to the Commission for review. That report contains the monthly coincident peak demands, monthly non-coincident peak demands, annual energy, and number of customers for each rate class, as well as other details regarding sample sizes and statistical accuracies.

Q. What are the primary purposes of Gulf's Cost of Service Load Research studies routinely filed in accordance with the requirements of the Cost of Service Load Research Rule 25-6.0437?

A. As is stated in the Cost of Service Load Research Rule 25-6.0437,

> The primary purpose of this rule is to require that load research that supports cost of service studies used in ratemaking proceedings is of sufficient precision to reasonably assure that tariffs are equitable and reflect the true costs of serving each class of customer. Load research data gathered and submitted in accordance with this rule will also be used by the Commission to allocate costs to the customer classes in cost recovery clause proceedings, in evaluating proposed and operating conservation programs, for research, and for other purposes consistent with the Commission's responsibilities.

Q. What are the accuracy requirements of the Cost of Service Load Research Rule 25-6.0437?

A. The Cost of Service Load Research Rule 25-6.0437 states:

> The sampling plan shall be designed to provide estimates of the averages of the 12 monthly coincident peaks for each class within plus or minus 10 percent at the 90 percent confidence level. The sampling plan shall also be designed to provide estimates of the summer and winter peak demands for each rate class within plus or minus 10 percent at the 90 percent confidence level, except for the General Service Non-Demand rate class. The sampling plan shall be designed to provide estimates of the summer and winter peak demands for the General Service Non-Demand rate class within plus or minus 15 percent at the 90 percent confidence level.

Q. What load research results are being used in these proceedings?

A. Gulf's 2009 Cost of Service Load Research Study, filed with the Commission on June 21, 2010 pursuant to Rule 25-6.0437, is the basis of the cost of service study in this proceeding.

Q. Does Gulf's 2009 Cost of Service Load Research sample design meet the requirements of the Cost of Service Load Research Rule 25-6.0437?

A. Yes. The sample design meets or exceeds the requirements of the referenced rule.

Q. How were Gulf's Cost of Service Load Research results used in this proceeding?

A. Gulf's 2009 Cost of Service Load Research Study results were used by Mr. O'Sheasy in the cost of service study to develop NCPKW and CPKW allocators.

VII. 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 the recently approved DSM goals 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. The Cost of Service Load Research study used in this proceeding has been previously filed and reviewed by the Commission, meets the Commission's requirements in Rule 25-6.0437, and is appropriate for use by Mr. O'Sheasy in the cost of service study.

Q. Does this conclude your testimony?
A. Yes.

AFFIDAVIT

STATE OF FLORIDA)
)
COUNTY OF ESCAMBIA)

Docket No. 110138-EI

Before me, the undersigned authority, personally appeared Robert L. McGee, who being first duly sworn, deposes, and says that he is the Manager of Market Research and Planning for Gulf Power Company, a Florida corporation, that the foregoing is true and correct to the best of his knowledge, information, and belief. He is personally known to me.

Robert L. McGee

Robert L. McGee
Manager of Market Research and Planning

Sworn to and subscribed before me this 6th day of July, 2011.

Linda C. Webb

Notary Public, State of Florida at Large

(SEAL)

NOTARY PUBLIC STATE OF FLORIDA
LINDA C. WEBB
Notary Public, State of Florida
Comm. Expi. May 31, 2014
Comm. No. DD 964189

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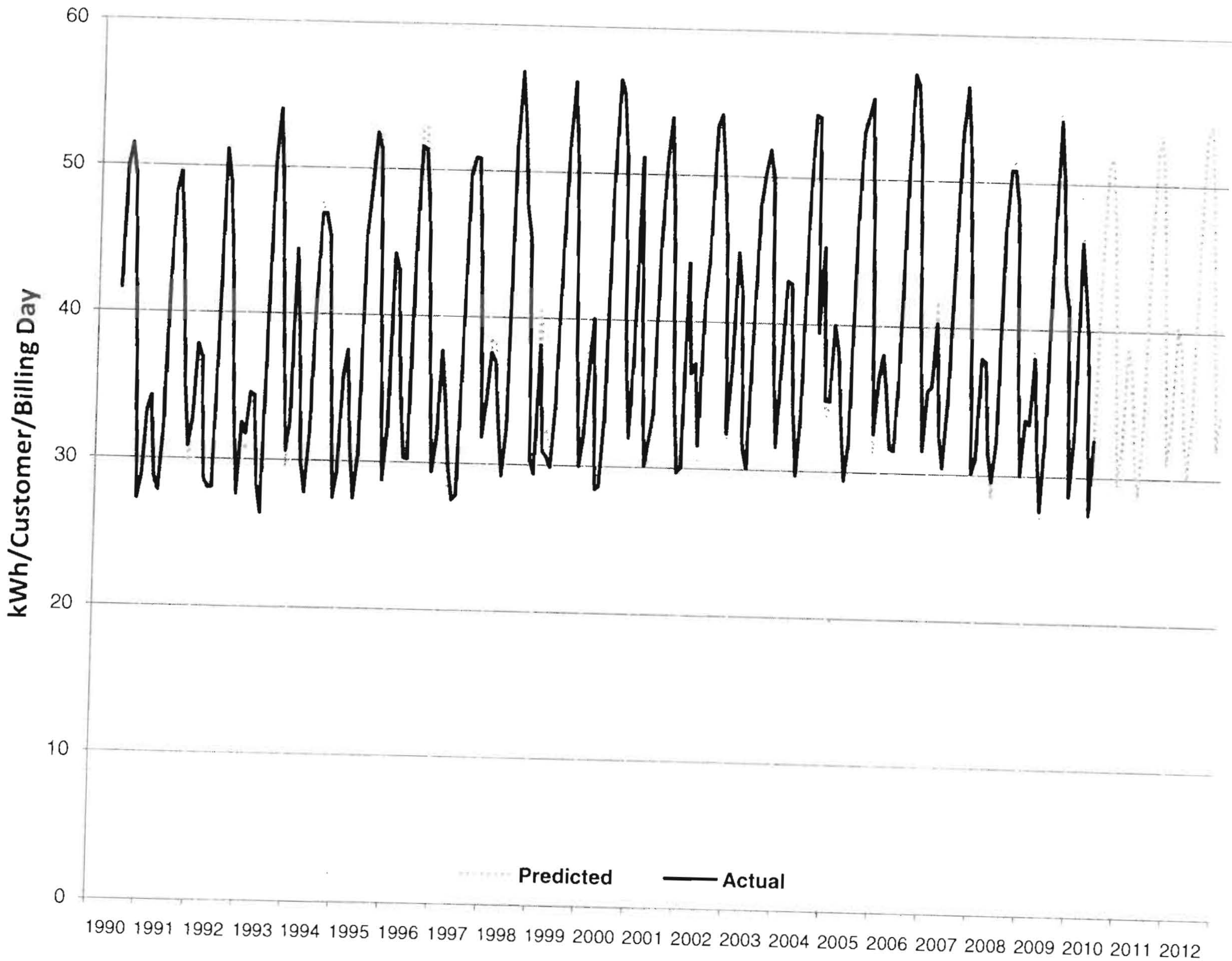
Schedule 1

Responsibility for Minimum Filing Requirements

Schedule	Title
C – 34	Statistical Information
E – 9	Cost of Service Load Data
E – 11	Development of Coincident and Noncoincident Demands for Cost Study
E – 15	Projected Billing Determinants Derivation
E – 16	Customers by Voltage Level
E – 17	Load Research Data
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

Residential Regression Model

Predicted vs. Actual



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Residential Regression Model Summary

Software:	MetrixND Version 4.3
Model:	B2011_Res
Dependent Variable:	Monthly Billing Cycle Residential kWh per Customer per Billing Day
Estimation Dates:	June 1990 - May 2010

Residential Regression Statistics

Iterations	9
Adjusted Observations	239
Degrees of Freedom for Error	215
R-Squared	0.986
Adjusted R-Squared	0.985
Durbin-Watson Statistic	2.010
Durbin-H Statistic	N/A
AIC	0.203
BIC	0.553
F-Statistic	682.303
Prob (F-Statistic)	0.0000
Log-Likelihood	-338.02
Model Sum of Squares	17491
Sum of Squared Errors	240
Mean Squared Error	1.11
Standard Error of Regression	1.06
Mean Absolute Deviation (MAD)	0.79
Mean Absolute Percentage Error (MAPE)	2.07%
Ljung-Box Statistic	75.54
Prob (Ljung-Box)	0.0000

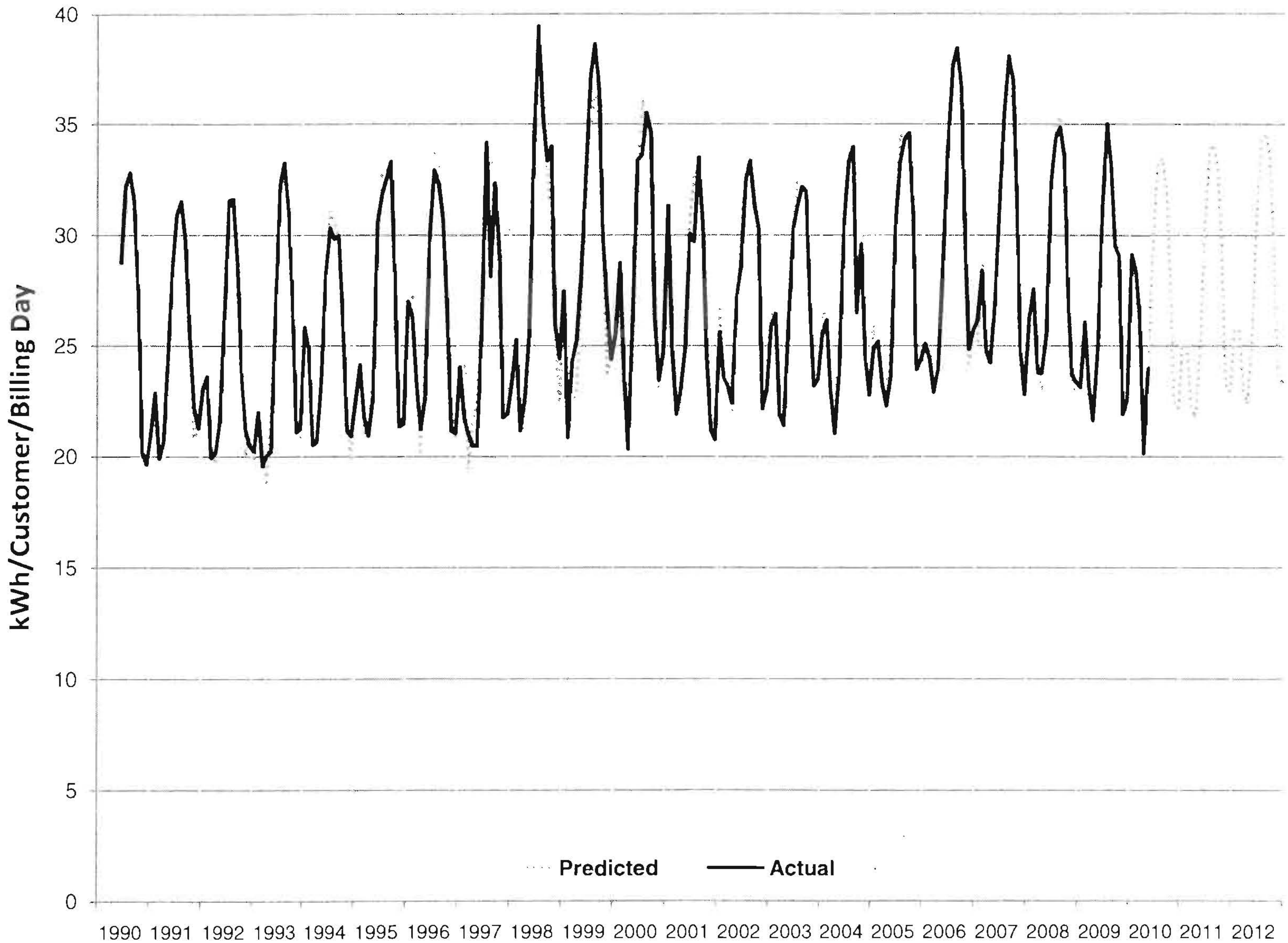
Residential Regression Model Coefficients

Variable	Coefficient	Standard Error	t-Statistic	p-Value	Mean	Elasticity
Constant	17.104	1.710	10.003	0.00%	N/A	N/A
12-Month Average of Real Residential Price	-0.694	0.173	-4.018	0.01%	8.598	-0.1516
Real Disposable Personal Income per Household	0.289	0.034	8.540	0.00%	63.918	0.4684
Housting Stock Vacancy Rate	-37.338	11.132	-3.354	0.09%	0.161	-0.1531
Billing Cycle Residential HDH per Billing Day - January	0.058	0.003	19.385	0.00%	25.908	0.0384
Billing Cycle Residential HDH per Billing Day - February	0.048	0.002	30.455	0.00%	24.950	0.0306
Billing Cycle Residential HDH per Billing Day - March	0.044	0.002	18.793	0.00%	16.421	0.0182
Billing Cycle Residential HDH per Billing Day - April	0.036	0.005	7.669	0.00%	8.121	0.0074
Billing Cycle Residential HDH per Billing Day - November	0.035	0.005	6.923	0.00%	8.325	0.0075
Billing Cycle Residential HDH per Billing Day - December	0.043	0.002	20.227	0.00%	18.396	0.0201
Billing Cycle Residential CDH per Billing Day - April	0.081	0.015	5.325	0.00%	2.175	0.0045
Billing Cycle Residential CDH per Billing Day - May	0.104	0.005	19.662	0.00%	7.388	0.0195
Billing Cycle Residential CDH per Billing Day - June	0.106	0.002	43.195	0.00%	16.704	0.0448
Billing Cycle Residential CDH per Billing Day - July	0.076	0.008	9.842	0.00%	22.796	0.0437
Billing Cycle Residential CDH per Billing Day - August	0.075	0.009	8.485	0.00%	23.071	0.0437
Billing Cycle Residential CDH per Billing Day - September	0.101	0.002	51.838	0.00%	20.863	0.0536
Billing Cycle Residential CDH per Billing Day - October	0.109	0.003	33.890	0.00%	12.358	0.0343
Billing Cycle Residential CDH per Billing Day - November	0.071	0.011	6.303	0.00%	3.896	0.0070
Monthly Binary - January	-2.149	1.025	-2.095	3.73%	0.083	-0.0045
Monthly Binary - July	7.991	2.128	3.755	0.02%	0.083	0.0169
Monthly Binary - August	8.667	2.453	3.533	0.05%	0.083	0.0183
Hurricane Ivan Binary	-9.015	1.038	-8.681	0.00%	0.004	-0.0010
June-July-August 2008 Binary	-3.557	0.789	-4.509	0.00%	0.013	-0.0011
First Order Auto-Regressive Term, AR(1)	0.301	0.067	4.500	0.00%	N/A	N/A

HDH = Heating Degree Hours
CDH = Cooling Degree Hours

Small Commercial Regression Model

Predicted vs. Actual



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Small Commercial Regression Model Summary

Software:	MetrixND Version 4.3
Model:	B2011_Com_Sm
Dependent Variable:	Monthly Billing Cycle Small Commercial kWh per Customer per Billing Day
Estimation Dates:	June 1990 - May 2010

Small Commercial Regression Statistics

Iterations	5
Adjusted Observations	239
Degrees of Freedom for Error	222
R-Squared	0.945
Adjusted R-Squared	0.941
Durbin-Watson Statistic	2.293
Durbin-H Statistic	N/A
AIC	0.409
BIC	0.656
F-Statistic	237.228
Prob (F-Statistic)	0.0000
Log-Likelihood	-369.44
Model Sum of Squares	5335
Sum of Squared Errors	312
Mean Squared Error	1.41
Standard Error of Regression	1.19
Mean Absolute Deviation (MAD)	0.82
Mean Absolute Percentage Error (MAPE)	3.11%
Ljung-Box Statistic	83.42
Prob (Ljung-Box)	0.0000

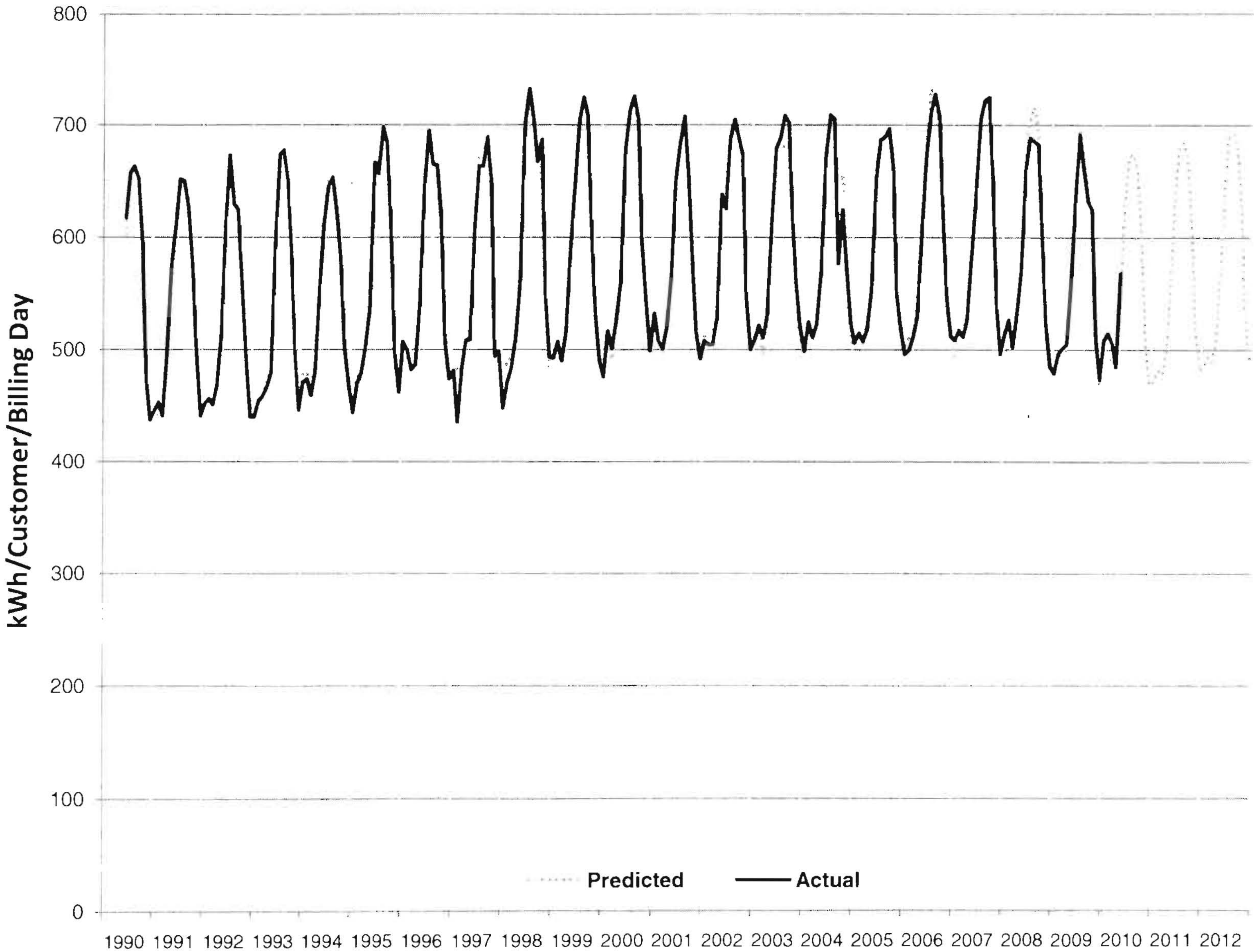
Small Commercial Regression Model Coefficients

Variable	Coefficient	Standard Error	t-Statistic	p-Value	Mean	Elasticity
Constant	12.491	1.847	6.762	0.00%	N/A	N/A
12-Month Average of Real Commercial Price	-0.412	0.173	-2.386	1.79%	7.194	-0.1104
Non-Manufacturing Employment	0.039	0.005	7.461	0.00%	273.108	0.4002
Billing Cycle Commercial HDH per Billing Day - January	0.037	0.003	13.719	0.00%	10.846	0.0151
Billing Cycle Commercial HDH per Billing Day - February	0.041	0.003	13.069	0.00%	9.700	0.0148
Billing Cycle Commercial HDH per Billing Day - March	0.032	0.005	6.019	0.00%	5.129	0.0062
Billing Cycle Commercial HDH per Billing Day - December	0.028	0.005	5.758	0.00%	6.179	0.0065
Billing Cycle Commercial CDH per Billing Day - April	0.012	0.003	3.705	0.03%	9.458	0.0044
Billing Cycle Commercial CDH per Billing Day - May	0.018	0.002	10.241	0.00%	19.463	0.0133
Billing Cycle Commercial CDH per Billing Day - June	0.026	0.001	22.679	0.00%	32.025	0.0312
Billing Cycle Commercial CDH per Billing Day - July	0.029	0.001	29.569	0.00%	38.792	0.0413
Billing Cycle Commercial CDH per Billing Day - August	0.029	0.001	29.935	0.00%	39.050	0.0419
Billing Cycle Commercial CDH per Billing Day - September	0.028	0.001	27.505	0.00%	36.738	0.0381
Billing Cycle Commercial CDH per Billing Day - October	0.026	0.001	18.792	0.00%	25.867	0.0250
Billing Cycle Commercial CDH per Billing Day - November	0.017	0.003	6.130	0.00%	11.946	0.0076
Hurricane Ivan Binary	-5.904	1.078	-5.475	0.00%	0.004	-0.0009
First Order Auto-Regressive Term, AR(1)	0.516	0.058	8.978	0.00%	N/A	N/A

HDH = Heating Degree Hours
CDH = Cooling Degree Hours

Large Commercial Regression Model

Predicted vs. Actual



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Large Commercial Regression Model Summary

Software:	MetrixND Version 4.3
Model:	B2011_Com_Lg
Dependent Variable:	Monthly Billing Cycle Large Commercial kWh per Customer per Billing Day
Estimation Dates:	June 1990 - May 2010

Large Commercial Regression Statistics

Iterations	1
Adjusted Observations	240
Degrees of Freedom for Error	221
R-Squared	0.979
Adjusted R-Squared	0.977
Durbin-Watson Statistic	1.793
Durbin-H Statistic	N/A
AIC	5.190
BIC	5.466
F-Statistic	570.516
Prob (F-Statistic)	0.0000
Log-Likelihood	-944.40
Model Sum of Squares	1709193
Sum of Squared Errors	36783
Mean Squared Error	166.44
Standard Error of Regression	12.90
Mean Absolute Deviation (MAD)	9.62
Mean Absolute Percentage Error (MAPE)	1.69%
Ljung-Box Statistic	47.67
Prob (Ljung-Box)	0.0028

Large Commercial Regression Model Coefficients

Variable	Coefficient	Standard Error	t-Statistic	p-Value	Mean	Elasticity
Constant	384.206	10.218	37.601	0.00%	N/A	N/A
12-Month Average of Real Commercial Price	-10.231	0.934	-10.953	0.00%	7.194	-0.1290
Non-Manufacturing Employment	0.599	0.028	21.484	0.00%	273.108	0.2865
Billing Cycle Commercial HDH per Billing Day - January	0.287	0.056	5.134	0.00%	10.846	0.0055
Billing Cycle Commercial HDH per Billing Day - February	0.171	0.040	4.244	0.00%	9.700	0.0029
Billing Cycle Commercial HDH per Billing Day - March	0.233	0.068	3.412	0.08%	5.129	0.0021
Billing Cycle Commercial HDH per Billing Day - December	0.121	0.061	1.993	4.75%	6.179	0.0013
Billing Cycle Commercial CDH per Billing Day - April	0.292	0.042	6.926	0.00%	9.458	0.0048
Billing Cycle Commercial CDH per Billing Day - May	0.785	0.086	9.118	0.00%	19.463	0.0268
Billing Cycle Commercial CDH per Billing Day - June	0.443	0.013	34.306	0.00%	32.025	0.0249
Billing Cycle Commercial CDH per Billing Day - July	0.458	0.011	42.711	0.00%	38.792	0.0311
Billing Cycle Commercial CDH per Billing Day - August	0.460	0.011	43.147	0.00%	39.050	0.0315
Billing Cycle Commercial CDH per Billing Day - September	0.456	0.011	40.017	0.00%	36.738	0.0293
Billing Cycle Commercial CDH per Billing Day - October	0.459	0.016	28.909	0.00%	25.867	0.0208
Billing Cycle Commercial CDH per Billing Day - November	0.340	0.034	10.047	0.00%	11.946	0.0071
Monthly Binary - January	-25.889	8.839	-2.929	0.38%	0.083	-0.0038
Monthly Binary - May	-96.513	20.732	-4.655	0.00%	0.083	-0.0141
Hurricane Ivan Binary	-107.397	13.243	-8.110	0.00%	0.004	-0.0008
Hurricanes Dennis and Katrina Binary	-21.721	7.752	-2.802	0.55%	0.013	-0.0005

HDH = Heating Degree Hours

CDH = Cooling Degree Hours