BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for rate increase by Progress Energy Florida, Inc.	DOCKET NO. 090079-EI Submitted for filing: March 20, 2009

DIRECT TESTIMONY OF JOHN B. CRISP

On behalf of PROGRESS ENERGY FLORIDA

14721739.1

In re: Petition for increase in rates by Progress Energy Florida
Docket No. 090079-EI

DIRECT TESTIMONY OF
JOHN B. CRISP

I. **Introduction and Purpose.**

Q. Please state your name and business address.

A. My name is John Benjamin (Ben) Crisp. My business address is 6565 38th Avenue North, St. Petersburg, Florida 33710.

Q. By whom are you employed and in what position?

A. I am employed by Progress Energy Florida, Inc. ("PEF" or the "Company) as the Director of System Planning and Regulatory Performance for PEF.

Q. Please describe your duties and responsibilities.

A. My responsibilities include the development and implementation of energy system expansion plans and generation asset optimization plans for PEF. These expansion and optimization plans, otherwise known as integrated resource plans ("IRPs"), include detailed review and analysis of system load forecasts, and the corresponding determination of supply-side and demand-side resources available to meet the load requirements identified in the system load forecasts. The supply side and demand side resources include assets currently available on the existing system, and assets potentially available to the Company over its planning horizon.

These analyses result in recommended action to the Company's management for asset changes or additions that fulfill the Company's obligation to serve.

Q. Please summarize your educational background and employment experience.

A. I attended the Georgia Institute of Technology in Atlanta, Georgia, where I received a Bachelor of Science degree in Industrial and Systems Engineering. I have over twenty (20) years of electric utility experience in generation, transmission, and fuels planning, load forecasting, generation construction, power plant operations, system operations, fuels and power trading, and energy efficiency systems.

I have worked for both regulated and non-regulated utilities in a variety of management positions. My management responsibilities with PEF have included system dispatch, load and energy forecasting, integrated resource planning, and energy efficiency programs. In my current management position, and in previous management positions, I have provided testimony to several different state utility regulatory bodies, including the Florida Public Service Commission ("FPSC" or the "Commission"), on issues involving load forecasts and the most effective means for utilities to meet their obligation to serve the respective load forecast.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe the development and results of PEF's load forecast used in the preparation of this rate case. As I use the term "load

forecast" in my testimony, it means the Company's individual projections of customers, energy sales, and coincident peak demand.

Q. Have you prepared any exhibits to your testimony?

A. Yes, I have prepared or supervised the preparation of several exhibits, as follows:

- Exhibit No. ____ (JBC-1), a list of the Minimum Filing Requirements (MFRs) schedules I sponsor or co-sponsor;
- Exhibit No. ___ (JBC-2), Customer, Energy Sales & Seasonal Demand Forecast;
- Exhibit No. ____ (JBC-3), Forecast Process Flow Chart;
- Exhibit No. ____ (JBC-4), PEF Energy and Customer Forecasting Models;
- Exhibit No. ____ (JBC-5), U.S. & Florida Economic Assumptions – 2006 – 2010; and
- Exhibit No. ___ (JBC-6), PEF Historic & Projected Growth Rates.

These exhibits are true and accurate.

Q. What Minimum Filing Requirements ("MFRs") schedules do you sponsor?

A. I sponsor all or portions of the MFR schedules identified in Exhibit No. ____ (JBC-1). I have reviewed them and they are true and accurate, subject to being updated during the course of this proceeding.

II. Load Forecast.

Q. What is the purpose of a load forecast?

A. The load forecast is used in both the Company's planning and budget processes. The load forecast enables the Company to estimate the likely number of customers it will serve in the future, the amount of electric energy it will sell to those customers, and the time(s) at which the customers demand for electric energy will be greatest. PEF must estimate or project how much energy its customers (old and new) will consume in the future and when that consumption is likely to take place to serve customers in a cost-effective and reliable manner.

Q. When did the Company prepare its load forecast?

A. The Company prepared its current load forecast in late September and early October 2008. This forecast replaced a load forecast prepared earlier in 2008. The current load forecast accounts for the impact of current economic conditions on the Company's anticipated future customer, energy, and peak demand by including the most recent economic and demographic inputs available. The current load forecast was used to develop the revenue forecast and resulting 2009 and 2010 Company budgets. It serves as the basis for the development of the Company's MFRs. It will also be used for the Company's long-range forecast for resource planning studies and other similar purposes. The Company's current load forecast (customers, energy sales, and demand) for 2009 and the test year (2010) is reflected in Exhibit No. ____ (JBC-2).

III. Forecast Methodology.

Q. Please provide us with an overview of the forecasting methodology used to develop the load forecast.

A. There are four main steps in the development of a load forecast: (1) the assembly of the forecast assumptions, (2) the derivation of forecast model parameters, (3) the calculation of the forecast, and (4) adjustments to the forecast based upon the educated judgment of the forecaster. These steps are reflected in Exhibit No. ___ (JBC-3).

• **Assembly of the Forecast Assumptions.** The first step in any forecasting procedure is to assemble a set of assumptions upon which the forecast is based. The assumptions describe the forecaster's educated prediction about how the future will unfold with respect to influences upon company energy sales, customer growth, and system peak. In developing these assumptions, the forecaster relies in part on the opinions of professional economists at Economy.Com, the University of Florida's Bureau of Economic and Business Research ("BEBR"), as well as other sources. Each of these groups develops forecasts of national and regional economic and demographic data. These forecasts are purchased by the Company. Other assumptions are derived from historical data like normal weather conditions. The assumptions utilized in the Company's current September-October load forecast are set forth in Schedule F-8 of the MFRs. It is important to note that in all cases the assumptions made are based upon a "most-likely" forecast. Forecasted values of these forecast assumptions become inputs to the forecast models that lead to customer, energy and peak demand projections.

• **Derivation of Forecast Parameters.** Next, based on the assumptions, the forecaster derives the parameters for the forecast model. The parameters of a forecast model quantify the statistical relationship between the economic and demographic environment impacting a utility service area and the latest energy usage (and customer growth) patterns of its customers. These parameters are updated each time a forecast is produced to ensure that the resulting forecasts reflect current energy consumption patterns in the Company's service territory. In addition, when deriving model parameters the forecaster incorporates (to the extent possible) historical data from the ten most recent years into the model sample.

• **Development of the Forecast.** The forecaster then proceeds to develop the new forecast. The Company's load forecast actually consists of three separate forecasts as follows:

- a customer forecast
- an energy sales forecast
- a coincident-peak demand forecast (primarily used for resource planning purposes)

Customer forecast – The Company's customer forecast (i.e., the number of customers it expects to serve during the forecast period) is developed primarily from county population projections produced by the University of Florida's Bureau of Economic and Business Research. In a service area like PEF's, where nearly 98.4 percent of the Company's customers are residential and commercial customers, these population projections serve as the best predictor of the Company's total customers. This is because an increasing service area population translates directly

into a greater number of homes and commercial establishments to service these homes. An annual econometric model is used to measure the historical relationship between service area population and residential customer growth. The resulting parameter becomes a "multiplier" that, when applied to the population growth forecast, results in a projection of new residential customers. Once the residential customer forecast is finalized, it is used as the "driving" variable in the commercial customer regression model. The customer forecasts for the remaining retail sectors are forecast using trend analysis because of their relatively stable historical patterns.

In producing the customer forecast, the Company used the most recent BEBR update from July 2008 together with the September 2008 Economy.com update for the State of Florida. PEF observed in this data declining year-over-year customer growth reflecting the economic downturn experienced in the Florida economy after 2006 and continuing through 2008. As a result of this data, PEF adjusted its load forecast and currently projects flat to weak retail customer growth for 2009 and 2010.

Energy Sales Forecast – The Company's energy sales forecast is developed using monthly econometric models. These short-term models project monthly energy sales by revenue class (residential, commercial, industrial, street lighting and public authority) and require the forecaster to have a thorough understanding of each variable to be projected (i.e., residential customer growth or average residential use per customer) and the influences or events that create monthly variation or movement in those variables. Sales are regressed using "driver" variables that best explain monthly fluctuations over a sample period. For example, in order to project

average KWh energy usage per customer, driver variables such as weather and economic conditions are utilized to capture the statistical relationship to changes in kWh consumption per customer. This approach enables the forecaster to incorporate the most recent historical data as well as the most current outlook on the economy. The modeling specifications for each retail class energy model (and residential and commercial customer models) are set forth in Exhibit No. ___ (JBC-4).

The results of this customer and energy sales forecast are shown in Exhibit No. ____ (JBC-2). This forecast is used to develop the revenue forecast that is incorporated into the Company's 2009 and 2010 budgeting process. It also serves as the basis for the 2010 revenue forecast in this rate proceeding.

Two additional procedures are required before the final billing determinants are created for input into the Company's financial model. The first procedure transforms the monthly energy forecast from a "billing month" basis to a "calendar month" basis. This involves forecasting the amount of "unbilled retail energy" in a calendar month and allocating it down to each retail revenue class. The forecast of monthly retail unbilled energy is derived using ten years of historical monthly averages of "billed energy generated in prior month" divided by "total billed in current month." Each retail class receives its respective share of total retail unbilled energy sales according to the percentage share it makes up of total retail billed month energy sales.

The second procedure required to finalize the billing determinants takes the calendar month revenue class energy and customer projections and disaggregates them to the major rate class level. This is made possible by determining the revenue

class to rate class proportions for the most recent calendar year available. Allocating the forecast to this more detailed level allows monthly revenues to be generated in the PEF revenue model. For rate classes that have a "billing KW" charge as part of its billing determinant, a historic load factor is also developed at this time which, when applied to the rate class projection of energy, derives the class projection of billing KW. Customer, energy and billing KW projections are shown in MFR E-15.

Coincident Peak Demand Forecast – The coincident peak demand forecast (used for resource planning as opposed to revenue forecasts) is developed using a disaggregation technique followed by econometrically modeling several of the disaggregated components. The disaggregation technique separates monthly system demand into four major components: potential firm retail demand, nondispatchable and dispatchable direct load control (MW) capability, sales for resale demand, and Company use. Each of the peak demand components is then separately forecast and added arithmetically to the next or, in the case of demand side management ("DSM"), subtracted, to arrive at total system firm peak demand.

- **Forecaster's Judgment.** Finally, after all of the parts of the load forecast are complete, the forecaster evaluates the cumulative modeling results and makes adjustments as appropriate based on his or her professional judgment, as well as such adjustments as may be reasonably necessary to capture the impact of events that the model is unable to capture.

For example, econometric models develop parameters ("beta coefficients") that are applied to projections of "driver" variables that are purchased from an economic forecasting firm and may be three or more months old. Occasionally,

economic events unfold very rapidly and sometimes out-of-date projections are used in the models. Even historical economic data get revised by government agencies and can paint a picture that differs subtly from what is reflected in the original economic data. When this occurs, the forecaster will incorporate the latest information he or she understands is influencing company sales or customer growth levels. Other times, events such as rate migrations may require special adjustments to the rate schedule level forecast that cannot possibly be captured by an econometric model.

Q. Is the forecasting methodology used to develop the load forecast consistent with PEF's load forecasting policy and practice?

A. Yes, it is. PEF followed its standard forecasting methodology in developing its load forecast. This forecasting methodology has been used for years at PEF to forecast load with substantially accurate past results when actual load is compared to prior forecasts, excluding anomalous, unpredictable events such as the post-9/11 and current global financial crises. PEF's load forecasting methodology is also consistent with generally accepted, utility industry standard methodologies for load forecasts. As a result, PEF is confident that its load forecast is a reasonably accurate projection of future load in 2009 and 2010.

IV. Load Forecast Summary.

Q. What conclusions can be drawn from PEF's load forecast?

A. PEF expects that its customer base, energy sales, and peak demand will grow at flat to weak growth rates for 2009 and 2010. With the decline in the housing market, restrictions on credit, and difficulties in the financial and retail sales industries, the Florida economy has been adversely impacted and witnessed slower to reduced growth and increasing unemployment. As a result of these economic conditions, PEF's customer growth declined and energy sales slowed in the late 2006 to 2008 time period. Similar economic conditions are expected in 2009 with a gradual improvement in economic conditions in 2010. Accordingly, the forecast shows weak retail customer growth for 2009 (+0.1%) and 2010 (+0.6%). Retail energy growth projections gradually improve in 2010 (+0.4%) following a period of falling retail energy sales in 2008 and 2009. The forecast does not call for a more normal level of net new customer growth and energy sales until after 2010.

The U.S. and Florida economies are not expected to return to more normal rates of expansion until 2010. A list of U.S. and Florida economic variables with historic and projected growth rates is shown in Exhibit No. ___ (JBC-5). As you can see from Exhibit No. ___ (JBC-5), several of these economic indicators call for higher average rates of change in 2010 compared to 2008 and 2009. PEF weather normalized retail energy sales reflect this same pattern and will return to an increasing growth pattern only in 2010. PEF historic and projected growth rates for weather normalized billed sales and customers are shown in Exhibit No. ___ (JBC-6).

Q. What are the resulting impacts on PEF?

A. PEF's sluggish retail sales growth in 2010 following a period of recession means that retail sales are not adequately covering PEF's fixed costs of serving its customers. PEF's retail sales growth will not return to pre-recessionary levels in 2010, in fact, PEF's expected retail megawatt-hour ("MWh") sales in 2010 are below PEF's retail sales in 2005, the year of its last base rate proceeding, by in excess of 350,000 MWh. At the same time, PEF expects to serve over 66,000 more customers in 2010 than PEF served in 2005. PEF's total number of customers has increased each year since 2005, even during 2008, although not at the levels PEF expected back in 2005. More customers on the system means more cost to serve them by providing the capacity and energy production, and transmission, distribution, and customer account assets and services, to meet the needs of their households and businesses. With declining sales in 2008 and expected flat to slower growth in retail sales in 2009 and 2010, PEF's expected retail sales simply are not covering the fixed costs to serve PEF's additional customers.

An illustration of this impact is the cost to meet peak demand. Peak load forecasts are driven by the number of customers. Having more customers on the system means more households and businesses that must have fixed production, transmission, and distribution assets in place to serve their needs at the time of their peak demand on the system. This is true even though they buy less energy on a yearly basis today than they did in the past -- which is the case for PEF's customers when the yearly retail sales for the period 2008 to 2010 are compared to the yearly retail sales in 2005 and 2006. Despite PEF's customers' reduced energy purchases today continuing through 2010 compared to their energy purchases in these prior

periods, their peak demand requirements have increased from the beginning of the period to 2010, and remained relatively constant throughout that time period. Indeed, on February 6, 2009, PEF customer demand established a new system winter peak both before and after weather adjustment to the peak load.

The Company must meet the peak demands of this increased number of customers on its system and exceed those peak demands with required reserves to provide customers with reliable electric service. This obligation to reliably meet its customers' peak demand needs requires the Company to invest in the fixed assets necessary to provide customers peak load service and maintain them, regardless of the level of their yearly energy purchases.

Q. Does this conclude your testimony?

A. Yes.

MINIMUM FILING REQUIREMENT SCHEDULES
Sponsored, All or In Part, by J. Ben Crisp

Schedule #		Schedule Title
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

PROGRESS ENERGY FLORIDA CORPORATION
OCTOBER 2008 FORECAST SALES - CUSTOMERS - COINCIDENT DEMAND

PROJECTED MONTHLY MWH ENERGY SALES - BILLING MONTH

YEAR	M	RESID	COML	INDUST	SHL	SPA	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM
2009	1	1,668,825	917,099	317,235	2,106	254,615	3,159,880	433,940	3,593,820
2009	2	1,524,567	838,577	311,474	2,103	249,835	2,926,556	542,054	3,468,610
2009	3	1,328,155	849,502	317,599	2,217	264,819	2,762,293	497,164	3,259,457
2009	4	1,325,357	893,930	326,245	2,129	255,439	2,803,100	586,562	3,389,662
2009	5	1,446,551	976,651	331,062	2,071	273,515	3,029,850	593,511	3,623,361
2009	6	1,794,351	1,059,834	337,109	2,151	269,679	3,463,125	640,256	4,103,381
2009	7	2,017,057	1,110,823	327,271	2,109	286,070	3,743,330	654,184	4,397,514
2009	8	2,037,751	1,128,896	331,133	2,115	289,775	3,789,670	731,970	4,521,640
2009	9	2,053,682	1,133,574	330,288	2,106	324,536	3,844,185	731,237	4,575,422
2009	10	1,732,334	1,027,725	319,889	2,062	315,302	3,397,312	659,887	4,057,199
2009	11	1,347,243	969,490	321,185	1,965	290,831	2,930,714	584,566	3,515,280
2009	12	1,365,227	904,736	319,239	2,069	279,228	2,870,499	488,301	3,358,800
2009 Budget		19,641,102	11,810,837	3,889,729	25,202	3,353,644	38,720,514	7,143,632	45,864,146
2010	1	1,646,467	895,567	312,306	2,043	256,617	3,112,999	521,868	3,634,867
2010	2	1,522,711	834,325	308,032	2,040	251,689	2,918,797	549,865	3,468,662
2010	3	1,310,082	845,981	312,978	2,151	266,696	2,737,887	483,500	3,221,387
2010	4	1,286,095	900,054	332,042	2,065	257,222	2,777,479	574,036	3,351,515
2010	5	1,415,329	984,322	332,436	2,009	275,415	3,009,511	599,643	3,609,154
2010	6	1,815,005	1,076,840	343,715	2,087	271,607	3,509,254	654,440	4,163,694
2010	7	2,018,922	1,127,149	332,857	2,046	288,191	3,769,165	662,964	4,432,129
2010	8	2,046,696	1,147,525	331,463	2,051	292,039	3,819,774	726,034	4,545,808
2010	9	2,057,328	1,152,036	340,086	2,043	327,215	3,878,707	725,627	4,604,334
2010	10	1,727,161	1,046,771	319,624	2,000	318,135	3,413,691	659,799	4,073,490
2010	11	1,345,150	987,523	338,305	1,906	293,666	2,966,550	601,653	3,568,203
2010	12	1,371,678	922,748	326,386	2,007	282,217	2,905,036	502,842	3,407,878
2010 Budget		19,562,624	11,920,841	3,930,230	24,446	3,380,709	38,818,850	7,262,271	46,081,121

PROJECTED MONTHLY BILLED ACCOUNTS

YEAR	M	RESID	COML	INDUST	SHL	SPA	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM	
2009	1	1,448,980	162,473	2,576	1,630	23,176	1,638,835	23	1,638,858	
2009	2	1,449,966	162,247	2,575	1,627	23,234	1,639,649	23	1,639,672	
2009	3	1,451,638	162,586	2,574	1,624	23,337	1,641,759	23	1,641,782	
2009	4	1,450,897	163,031	2,573	1,621	23,320	1,641,442	23	1,641,465	
2009	5	1,448,984	162,798	2,572	1,618	23,407	1,639,379	23	1,639,402	
2009	6	1,448,342	162,993	2,571	1,615	23,366	1,638,887	23	1,638,910	
2009	7	1,448,111	163,049	2,570	1,612	23,315	1,638,657	23	1,638,680	
2009	8	1,448,176	163,231	2,569	1,609	23,370	1,638,955	23	1,638,978	
2009	9	1,447,502	163,104	2,568	1,606	23,368	1,638,148	23	1,638,171	
2009	10	1,447,479	162,612	2,567	1,603	23,279	1,637,540	23	1,637,563	
2009	11	1,449,206	162,762	2,566	1,600	23,266	1,639,400	23	1,639,423	
2009	12	1,449,667	163,121	2,565	1,597	23,307	1,640,257	23	1,640,280	
2009 Budget=		1,449,079	162,834	2,571	1,614	23,312	1,639,409	23	1,639,432	
2010	1	1,453,730	163,538	2,565	1,594	23,361	1,644,788	23	1,644,811	
2010	2	1,455,315	163,433	2,565	1,591	23,410	1,646,314	23	1,646,337	
2010	3	1,457,607	163,900	2,565	1,588	23,507	1,649,167	23	1,649,190	
2010	4	1,457,498	164,477	2,565	1,585	23,487	1,649,612	23	1,649,635	
2010	5	1,456,231	164,382	2,565	1,582	23,574	1,648,334	23	1,648,357	
2010	6	1,456,252	164,720	2,565	1,579	23,537	1,648,653	23	1,648,676	
2010	7	1,456,698	164,926	2,565	1,576	23,492	1,649,257	23	1,649,280	
2010	8	1,457,456	165,262	2,565	1,573	23,556	1,650,412	23	1,650,435	
2010	9	1,457,488	165,295	2,565	1,570	23,565	1,650,483	23	1,650,506	
2010	10	1,458,187	164,968	2,565	1,567	23,492	1,650,779	23	1,650,802	
2010	11	1,460,652	165,290	2,565	1,564	23,496	1,653,567	23	1,653,590	
2010	12	1,461,865	165,826	2,565	1,561	23,558	1,655,375	23	1,655,398	
2010 Budget=		1,457,415	164,668	2,565	1,578	23,503	1,649,728	23	1,649,751	0.63%

PROJECTED MONTHLY MW COINCIDENT DEMANDS

		RETAIL			COMPANY	WHOLESALE			TOTAL SYSTEM	
YEAR	M	PRE DLC	ALL DLC	FIRM	USE	PRE DLC	IS	FIRM*	PRE DLC	FIRM
2009	1	9,285	1,320	7,965	25	2,017	15	1,997	11,327	9,986
2009	2	7,630	1,159	6,471	25	1,432	15	1,412	9,087	7,907
2009	3	6,583	988	5,595	25	1,319	15	1,299	7,927	6,918
2009	4	6,944	558	6,386	25	1,292	15	1,272	8,261	7,682
2009	5	8,011	608	7,403	25	1,377	15	1,357	9,413	8,784
2009	6	8,397	668	7,729	25	1,462	15	1,442	9,884	9,195
2009	7	8,569	665	7,904	25	1,577	15	1,557	10,171	9,485
2009	8	8,606	681	7,925	25	1,611	15	1,591	10,242	9,540
2009	9	8,130	664	7,466	25	1,381	15	1,361	9,536	8,851
2009	10	7,560	537	7,023	25	1,274	15	1,254	8,859	8,301
2009	11	6,109	848	5,261	25	1,203	15	1,183	7,337	6,468
2009	12	6,942	941	6,001	25	1,311	15	1,291	8,278	7,316
2010	1	9,275	1,357	7,918	25	2,100	15	2,080	11,400	10,022
2010	2	7,618	1,191	6,427	25	1,425	15	1,405	9,068	7,856
2010	3	6,577	1,016	5,561	25	1,288	15	1,268	7,890	6,853
2010	4	6,973	585	6,388	25	1,275	15	1,255	8,273	7,667
2010	5	8,049	636	7,413	25	1,326	15	1,306	9,400	8,743
2010	6	8,442	698	7,744	25	1,410	15	1,390	9,877	9,158
2010	7	8,619	695	7,924	25	1,515	15	1,495	10,159	9,443
2010	8	8,662	710	7,952	25	1,534	15	1,514	10,221	9,490
2010	9	8,183	690	7,493	25	1,355	15	1,335	9,563	8,852
2010	10	7,623	556	7,067	25	1,285	15	1,265	8,933	8,356
2010	11	6,140	865	5,275	25	1,209	15	1,189	7,374	6,488
2010	12	6,973	958	6,015	25	1,358	15	1,338	8,356	7,377

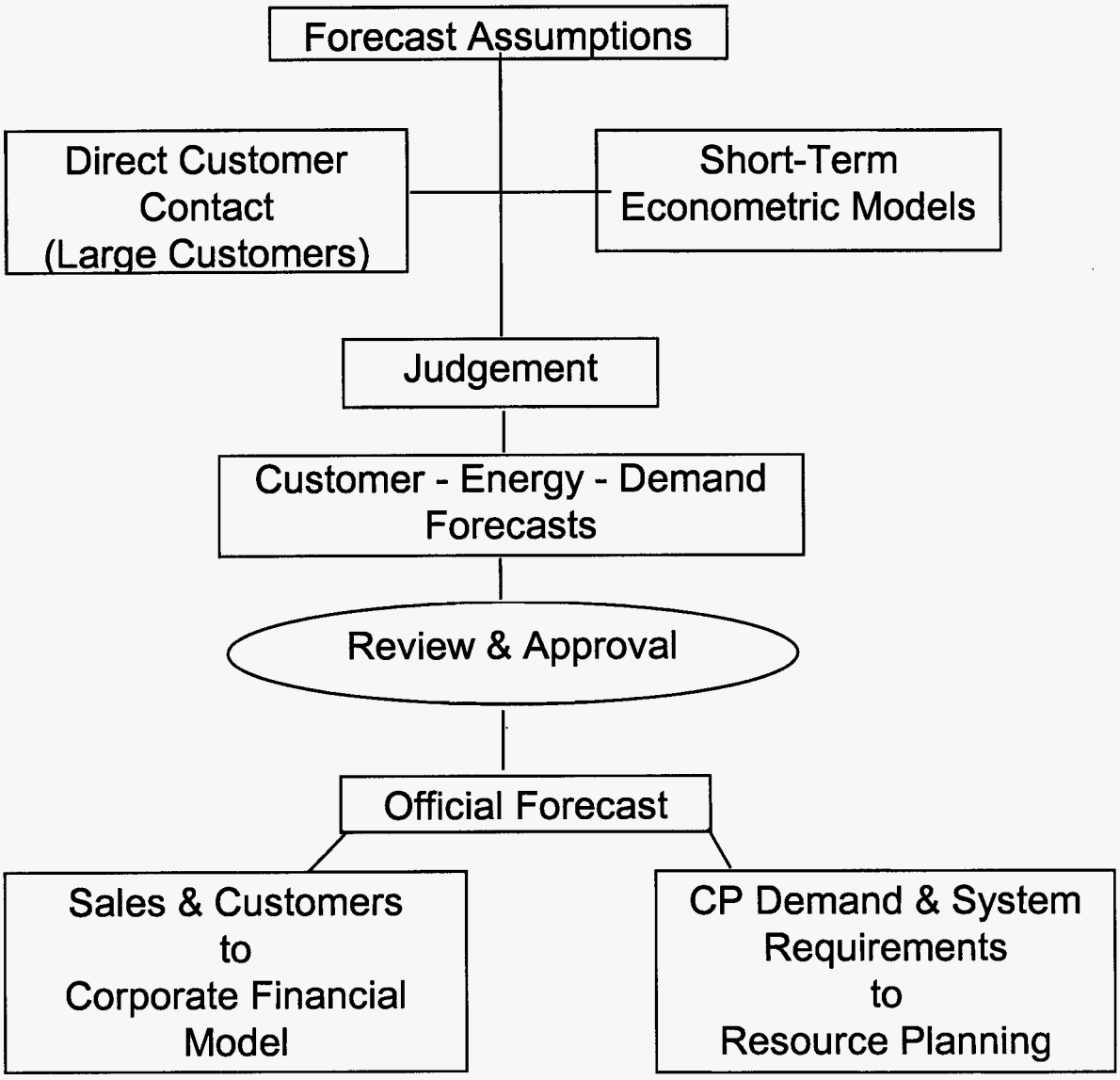
* Includes 5.25 MW Standby generator at City of Chattahoochee.

PROGRESS ENERGY FLORIDA CORPORATION
OCTOBER 2008 FORECAST SALES - CUSTOMERS - COINCIDENT DEMAND

PROJECTED MONTHLY MWH ENERGY SALES - CALENDAR MONTH

YEAR	M	RESID	COML	INDUST	SHL	SPA	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM	
2009	1	1,742,986	868,885	294,655	1,985	227,591	3,136,102	551,286	3,687,388	
2009	2	1,392,624	766,469	297,919	2,032	238,873	2,697,917	482,784	3,180,701	
2009	3	1,316,646	914,804	343,099	2,434	291,337	2,868,320	589,033	3,457,353	
2009	4	1,321,984	919,544	331,036	2,073	249,466	2,824,103	596,993	3,421,096	
2009	5	1,629,321	1,100,587	359,119	2,193	305,165	3,396,385	646,957	4,043,342	
2009	6	1,950,520	1,069,329	326,313	2,111	255,171	3,603,444	661,281	4,264,725	
2009	7	2,106,133	1,114,539	312,636	2,028	289,089	3,824,425	747,798	4,572,223	
2009	8	2,102,881	1,168,989	342,019	2,173	299,499	3,915,561	736,089	4,651,650	
2009	9	1,891,776	1,041,603	302,093	1,924	319,355	3,556,751	633,625	4,190,376	
2009	10	1,566,071	975,645	316,059	2,049	312,085	3,171,909	575,677	3,747,586	
2009	11	1,139,450	941,427	323,314	1,919	278,527	2,684,637	486,175	3,170,812	
2009	12	1,459,608	924,397	337,868	2,255	289,984	3,014,112	524,676	3,538,788	
2009 Budget		19,620,000	11,806,218	3,886,130	25,176	3,356,142	38,693,666	7,232,374	45,926,040	
2010	1	1,740,603	846,063	292,723	1,926	230,020	3,111,335	564,040	3,675,375	
2010	2	1,385,883	763,111	292,232	1,950	237,957	2,681,133	466,469	3,147,602	
2010	3	1,293,458	914,021	338,485	2,367	294,139	2,842,470	578,675	3,421,145	
2010	4	1,272,151	932,950	343,646	2,015	251,618	2,802,380	604,745	3,407,125	
2010	5	1,617,984	1,121,884	361,989	2,152	310,661	3,414,670	660,358	4,075,028	
2010	6	1,978,779	1,074,149	330,253	2,012	252,185	3,637,378	667,638	4,305,016	
2010	7	2,104,605	1,135,039	319,020	1,976	292,548	3,853,188	737,807	4,590,995	
2010	8	2,116,417	1,189,535	339,174	2,108	301,917	3,949,151	727,150	4,676,301	
2010	9	1,885,775	1,055,058	316,077	1,860	321,142	3,579,912	641,564	4,221,476	
2010	10	1,567,746	1,002,013	312,344	2,001	317,061	3,201,165	594,107	3,795,272	
2010	11	1,131,846	954,588	348,812	1,853	280,043	2,717,142	495,103	3,212,245	
2010	12	1,474,286	945,570	340,606	2,192	293,873	3,056,527	541,276	3,597,803	
2010 Budget		19,569,533	11,933,981	3,935,361	24,412	3,383,164	38,846,451	7,278,932	46,125,383	0.39%

FORECAST PROCESS FLOW CHART



PEF ENERGY AND CUSTOMER FORECASTING MODELS

RESIDENTIAL CLASS SALES

RUPC Nonseasonal = F (CONSTANT, METER, RHDD, RCDD, WtrCDD, RRP12MA, LnRFLPY2, DFEB,...DDEC, DHURR, AR(1))

where:

RUPC	=	Residential KWh use per customer (non seasonal customers) adjusted for historical DSM program impacts
CONSTANT	=	Intercept term
METER	=	Average number of billing days in sales month
RHDD	=	Residential heating degree days - System-weighted
RCDD	=	Residential cooling degree days - System-weighted
WtrCDD	=	Winter residential CDDs - System-weighted; Months of Dec-Apr only
RRP12MA	=	Real residential electric price - cents per KWh deflated by U.S. CPI - 12 month moving average
LnRFLPY2	=	Log of Florida Total Personal Income - deflated by the PCE Implicit Price Deflator - 2 month average in millions of 2000 dollars
DFEB,...,DDEC	=	Indicator variables to account for seasonal impacts on RUPC
DHURR	=	Indicator variable to account for 2004 Hurricane impacts on usage
AR(1)	=	1st order autoregressive error term

RUPC Seasonal = **Historic ratio of Seasonal RUPC-to-nonseasonal RUPC x RUPC nonseasonal forecast**
Historic relationship is developed using monthly seasonal to nonseasonal RUPC data from 9/2000 to 8/2008

RESIDENTIAL CLASS CUSTOMERS

RCUSTG = F (CONSTANT, POPG, POPG Shift, DOverbuilding)

where:

RCUSTG	=	Average annual change in residential billed customers
CONSTANT	=	Intercept term
POPG	=	Service territory population growth (Univ. of Florida Forecast)
POPG Shift	=	Intercept Shift, Service territory population growth (1991-2007)
Overbuilding	=	Indicator variable to account for overbuilding in residential construction

COMMERCIAL CLASS SALES

CMWH = F (CONSTANT, METER, CHDD, CCDD, LnECOM2, RCP6, DFEB,...DDEC, A02, DHURR, AR(1), AR(2))

where:

CMWH	=	Commercial MWh adjusted for historical DSM program impacts
CONSTANT	=	Intercept term
METER	=	Average number of billing days in sales month
CHDD	=	Commercial heating degree days - system-weighted
CCDD	=	Commercial cooling degree days - system-weighted
LnECOM2	=	Log of Florida commercial sector employment - 2 month average in thousands
RCP6	=	Real commercial electric price - cents per KWh deflated by U.S. CPI - 6 month moving average
DFEB,...,DDEC	=	Indicator variables to account for seasonal impacts on CMWH
A02	=	Intercept shift variable to account for billing anomaly in April 2002
DHURR	=	Indicator variable to account for 2004 Hurricane impacts on CMWH
AR(1)	=	1st order autoregressive error term
AR(2)	=	2nd order autoregressive error term

COMMERCIAL CLASS CUSTOMERS

CCUST = F (CONSTANT, ResCUST, DTELECOM, DRECESSION)

where:

CCUST	=	Average annual commercial billed customers
CONSTANT	=	Intercept term
ResCUST	=	Average annual residential billed customers
DTELECOM	=	Indicator variable to account for rapid customer growth in telecom repeater accounts
DRECESSION	=	Indicator variable to account for FL recession impact upon Commercial customer growth

INDUSTRIAL CLASS SALES

NONPHOSPHATE SUBSECTOR MWh

IWO-MWh = F(CONSTANT, METER, CCDD, RIP6, LnFLIP2, DFEB,...DDEC, O03, AR(1), AR(2))

where:

IWO-MWh	=	Industrial MWh sales (excluding industrial phosphate sector energy sales) adjusted for historical DSM program impacts
CONSTANT	=	Intercept term
METER	=	Average number of billing days in sales month
CCDD	=	Commercial cooling degree days - system-weighted
RIP6	=	Real Industrial electric price - cents per KWh deflated by U.S. CPI - 6 month moving average
LnFLIP2	=	Log of Florida Industrial Production index - 2002=100 - 2 month moving average
DFEB,...,DDEC	=	Indicator variables to account for seasonal impacts on IWO-MWh
O02	=	Intercept shift variable to account for unknown influence on sales in October 2003

PHOSPHATE SUBSECTOR MWh

FPC industrial representatives survey several large energy users to determine their planned operating schedules as well as their expected power consumption. All Phosphate mining customers electric consumption are projected individually. They are:

- PCS White Springs Inc.
- Mosaic Corp
- C.F. Industries Inc.
- U.S. Agri Chemicals

STREET & HIGHWAY LIGHTING CLASS SALES

SHL = Constant SHLUPC X SHLC

where:

SHL	=	Street Lighting MWh energy sales
SHLUPC	=	SHL use per customer - projected to be constant at current levels
SHLC	=	SHL customers - projected to continue to decline

PUBLIC AUTHORITY CLASS (SPA) SALES

SUPC = F(CONSTANT, METER, SHDD, SCDD, LnEGOV2, RSP6, SCH_VAC, DFEB,...DNOV, DHURR)

where:

SUPC	=	Public Authority average KWh use per customer
CONSTANT	=	Intercept term
METER	=	Average number of billing days in sales month
SHDD	=	SPA heating degree days - system-weighted
SCDD	=	SPA cooling degree days - system-weighted
LnEGOV2	=	Log of Florida governmental employment - 2 month moving average in thousands
RSP6	=	Real Public Authority electric price - cents per KWh deflated by U.S. CPI - 6 month moving average
SCH_VAC	=	Intercept shift variable to account for seasonal shutdown of school facilities
DFEB,...DNOV	=	Indicator variables to account for seasonal impacts on SUPC
DHURR	=	Indicator variable to account for 2004 Hurricane impacts on SUPC

PUBLIC AUTHORITY CLASS (SPA) CUSTOMERS

SPACUST = F (CONSTANT, RCUST, RCUST_SHIFT)

where:

CCUST	=	Average annual commercial billed customers
CONSTANT	=	Intercept term
RCUST	=	Residential customers
RCUST SHIFT	=	Residential customers Slope Shift in 1993

U.S & Florida Economic Assumptions - 2006 - 2010
(Source - Economy.Com)

Variable	2006	2007	2008	2009	2010
U.S. Economy:					
U.S. Real GDP (Bill $)	11,294.9	11,523.9	11,739.3	11,945.3	12,362.3
Annual % Change	2.8%	2.0%	1.9%	1.8%	3.5%
U.S CPI-U (1982-84=100)	201.6	207.3	215.3	222.0	225.2
Annual % Change	3.2%	2.9%	3.8%	3.1%	1.5%
U.S. Industrial Production - Manufacturing	109.6	111.4	111.7	112.7	115.3
Annual % Change	2.2%	1.7%	0.3%	0.9%	2.3%
Florida Economy:	**2006**	**2007**	**2008**	**2009**	**2010**
FL Nonagricultural Employment (000)	8,002.4	8,041.4	7,941.6	7,865.6	8,018.1
Annual % Change	2.6%	0.5%	-1.2%	-1.0%	1.9%
FL Commercial Employment (000)	5,839.1	5,923.7	5,913.3	5,884.0	6,013.8
Annual % Change	2.4%	1.4%	-0.2%	-0.5%	2.2%
FL Governmental Employment (000)	1,099.3	1,124.4	1,130.9	1,114.5	1,115.6
Annual % Change	1.7%	2.3%	0.6%	-1.4%	0.1%
FL Manufacturing Employment (000)	405.1	388.7	366.9	359.2	359.7
Annual % Change	0.2%	-4.1%	-5.6%	-2.1%	0.1%
FL Personal Income (2000$ In Mill.)	582,570	594,292	587,390	583,958	602,501
Annual % Change	5.8%	2.0%	-1.2%	-0.6%	3.2%
FL Industrial Production Index (2002=100)	112.1	114.9	116.4	117.6	120.3
Annual % Change	2.8%	2.6%	1.3%	1.0%	2.3%

PEF HISTORIC & PROJECTED GROWTH RATES

Percent Change from Prior Year

Weather Normalized Billed Sales Growth

YEAR	RESID	COML	IND	STREET & HWAY	PUBLIC AUTH'Y	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM
History:								
1998	2.8%	5.5%	4.5%	0.0%	3.5%	3.9%	33.1%	5.4%
1999	2.9%	5.1%	-1.0%	-0.8%	4.6%	3.1%	39.6%	5.6%
2000	3.8%	5.0%	-2.0%	4.7%	4.7%	3.5%	14.2%	4.4%
2001	3.7%	2.5%	-8.9%	0.8%	3.7%	1.8%	2.9%	1.9%
2002	3.2%	1.7%	-1.0%	0.6%	2.4%	2.2%	-17.4%	0.3%
2003	4.0%	1.9%	4.3%	1.2%	5.4%	3.5%	5.9%	3.7%
2004	2.6%	2.7%	2.0%	-1.8%	3.0%	2.6%	29.3%	4.8%
2005	1.3%	1.3%	1.5%	-2.6%	4.4%	1.6%	19.6%	3.4%
2006	1.9%	0.4%	0.5%	-2.7%	2.9%	1.4%	-18.8%	-1.0%
2007	0.4%	1.2%	-8.2%	-2.1%	2.1%	-0.1%	32.6%	3.0%
2008	-2.9%	0.2%	-0.9%	0.6%	-1.1%	-1.6%	18.2%	0.9%
Forecast:								
2009	-0.9%	-3.2%	2.7%	-4.1%	2.0%	-1.0%	7.9%	0.3%
2010	-0.4%	0.9%	1.0%	-3.0%	0.8%	0.3%	1.7%	0.5%
2006-2008	-1.2%	0.7%	-4.6%	-0.7%	0.5%	-0.8%	25.2%	2.0%
2008-2010	-0.7%	-1.1%	1.9%	-3.5%	1.4%	-0.4%	4.7%	0.4%

Customer Bills Growth

YEAR	RESID	COML	IND	STREET & HWAY	PUBLIC AUTH'Y	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM
History:								
1998	1.8%	2.8%	-4.5%	-4.1%	3.3%	1.9%	-3.1%	1.9%
1999	2.2%	3.0%	-3.0%	-2.2%	3.5%	2.3%	10.0%	2.3%
2000	2.6%	2.7%	-2.9%	-0.4%	3.1%	2.6%	-4.3%	2.6%
2001	2.6%	1.8%	0.2%	-2.7%	3.9%	2.6%	-1.5%	2.6%
2002	2.2%	2.5%	-0.7%	-2.5%	2.5%	2.2%	-2.5%	2.2%
2003	2.4%	2.6%	4.5%	-2.4%	3.0%	2.4%	-3.1%	2.4%
2004	2.4%	2.8%	3.3%	-3.2%	4.1%	2.5%	5.4%	2.5%
2005	2.0%	1.2%	-1.1%	-3.3%	1.5%	1.9%	-0.5%	1.9%
2006	2.4%	1.1%	-0.3%	-2.7%	2.5%	2.2%	2.6%	2.2%
2007	1.6%	0.3%	-1.0%	-3.1%	4.3%	1.4%	3.0%	1.4%
2008	0.0%	-0.2%	-3.1%	-2.4%	3.5%	0.0%	2.9%	0.0%
Forecast:								
2009	0.1%	0.2%	-0.6%	-2.3%	1.1%	0.1%	-8.3%	0.1%
2010	0.6%	1.1%	-0.2%	-2.2%	0.8%	0.6%	4.3%	0.6%
2006-2008	0.8%	0.0%	-1.8%	-2.8%	3.8%	0.8%	3.0%	2.1%
2008-2010	0.3%	0.7%	-0.6%	-2.2%	1.0%	0.4%	0.0%	2.6%