BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Review of Florida Power Corporation's Earnings, Including Effects of Proposed Acquisition of Florida Power Corporation by Carolina Power & Light	DOCKET NO. 000824-EI Submitted for Filing: November 15, 2001

DIRECT TESTIMONY OF JOHN B. CRISP

ON BEHALF OF FLORIDA POWER CORPORATION

JAMES A. MCGEE
FLORIDA POWER CORPORATION
Post Office Box 14042
St. Petersburg, FL 33733-4042
Telephone: (727) 820-5184
Facsimile: (727) 820-5519

Gary L. Sasso
James Michael Walls
CARLTON FIELDS
Post Office Box 2861
St. Petersburg, FL 33731
Telephone: (727) 821-7000
Facsimile: (727) 822-3768
Attorneys for Florida Power Corporation

DIRECT TESTIMONY OF JOHN B. CRISP
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I. Introduction and Background

Q. Please state your name and business address.

A. My name is John B. Crisp, and my business address is Progress Energy, Inc. ("Progress Energy"), P. O. Box 1551, Raleigh, North Carolina 27602.

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

A. I am employed by Progress Energy as the Director of System Resource Planning

Q. Please describe your duties and responsibilities with Florida Power Corporation.

A. My responsibilities include the development of integrated resource plans ("IRPs") for the Florida Power Corporation ("Florida Power" or the "Company") on an ongoing basis. The IRP process consists of reviewing and analyzing load forecasts and examining supply-side and demand-side resources available to the Company on its existing system, and potentially available to the Company over its planning horizon, to determine and recommend to the Company's management changes or additions to those resources to enable the Company to fulfill its obligation to serve.

Q. Please summarize your educational background and employment experience.

A. I attended the Georgia Institute of Technology in Atlanta, Georgia. I received a Bachelor of Science degree in Industrial and Systems Engineering in 1975. As part of the requirements for my job at Oglethorpe Power Corporation, I also completed Georgia Tech's International Management Executive Program in 1990.

My power industry employment began with Oglethorpe Power Corporation in 1988, where I was involved in the management of peaking generation, generation planning, operations planning, load forecasting, integrated resource planning, and strategic and business planning. I also developed and implemented strategies for asset leasing and fixed price contract supply and implemented an operations resource planning and marketing system for sales of excess generation capacity and energy.

After leaving Oglethorpe Power in 1995, I joined an independent power producer, Tenaska Inc., as its Manager of Power Services Development. In this position, I was responsible for developing and marketing proposals for peaking and combined cycle facilities that served wholesale requirements and cogeneration functions. In February 1997, I joined Dynegy Marketing and Trade (then known as Electric Clearinghouse) in a start-up position in their Atlanta field office. In this position, I coordinated the development and implementation of power marketing strategies in SERC and FRCC. In May 1999, I joined Florida Power as its Director of Integrated Resource Planning and Load Forecasting. In

this capacity, I directly supervised the group responsible for developing the load forecast. In connection with the recent merger, I became the Director of System Resource Planning at Progress Energy.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe the development and results of FPC's load forecast used in the preparation of this rate case. As I use the term "load forecast" in my testimony, I intend for it to include 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 several exhibits, as follows:

JBC-1 - Customer, Energy Sales & Seasonal Demand Forecast

JBC-2 – FPC Short Term Forecast Performance Review

JBC-3 – FPC Energy and Customer Forecasting Models

JBC-4 – FPC Historical Forecast Accuracy

JBC-5 – Comparison of Lowered Economic Expectations

JBC-6 – Revised projections based on the events of September 11, 2001

JBC-7 – Updated Load Forecast following the events of September 11, 2001

Q. What minimum filing requirements ("MFRs") schedules do you sponsor?

A. I sponsor all or portions of the MFR schedules F-9, F-10, F-11, F-12, F-14, F-17. I have reviewed them and they are true and correct, subject to their being updated in the course of this proceeding.

II. Load Forecast

Q. What is the purpose of a load forecast?

A. In order to serve its customers in a cost-effective and reliable manner, Florida Power 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. The load forecast enables Florida Power to do just that. Specifically, the load forecast allows the Company to estimate into the future the likely number of customers it will serve, 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. Florida Power then uses this forecast in both its planning and budgeting process.

Q. Does the Company prepare more than one type of load forecast.

A. The Company normally prepares two forecasts each year. One is a long-range, 10-year trend forecast that is used for resource planning studies and other similar purposes. The second forecast is a shorter (typically 5-year) forecast that takes into account current business and economic conditions. This forecast is used for developing the revenue forecast and for short-term financial planning. In a rate case such as this, the Company's 5 year forecast serves as the basis for the development of the MFRs.

Q. When was the forecast utilized in this case developed?

A. The forecast used for this filing and for the development of the 2002 budget was completed in June 2001 and is titled "June 2001 Short Term Forecast - Customers -

Sales - Demand." It is a 5-year (2002-2006) projection that seeks to capture the short-term impacts of economic and demographic fluctuations in Florida and the nation upon customer, energy sales, and peak demand growth. The Company's forecast of customers, energy sales, and demand for the test year (2002) is reflected in Exhibit JBC-1.

III. Forecast Methodology

Q. Would you please give us an overview of the methodology used to develop the load forecast?

A. There are four main steps in the development of a load forecast: the assembly of the forecast assumptions, the derivation of forecast model parameters, the calculation of the forecast, and adjustments to the forecast based upon the educated judgment of the forecaster.

- **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 organizations like the WEFA group, Standard & Poor's DRI, Inc., and the University of Florida's Bureau of Economic and Business Research ("BEBR"). Each of these groups develops forecasts of national and regional economic and demographic data. These forecasts are purchased by the

Company. Some of the assumptions are derived from historical data like normal weather conditions. The assumptions utilized in the June 2001 forecast are set forth in Schedule F-17 of the MFRs. It is important to note that in all cases the assumptions made are based upon a "most-likely" forecast. This means that the forecast has a 50 percent probability of being too high and a 50 percent probability of being too low.

- **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 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 Florida Power's service territory. For example, there are typically 12 months of additional "actual" data between each short-term forecast. Thus, each short-term model will incorporate this additional information into the regression model along with any additional economic data reported since the previous short-term forecast was produced. In addition, when deriving model parameters the forecaster incorporates historical data from the 10 most recent years into the model sample.
- **Development of the Load Forecast** – The forecaster then proceeds to develop the new forecast. Florida Power'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 - Florida Power'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 Florida Power'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 also reviews the performance of the current forecast in light of the latest actual data available. This permits Florida Power to evaluate the performance of its most recent forecast to aid in the development of its new forecast. For the June 2001 forecast, a comparative analysis was performed in May 2001. As shown in JBC-2, the June 2000 Short-Term Forecast of customers is compared to actual year-to-date results through April 2001. In this case, the system customer count was 0.7 percent higher than forecast through the first four months of the year. This variance may be explained in part by Florida Power's institution of Seasonal Service Rates that have been utilized by more customers than originally predicted as described in greater detail in my exhibit. Nonetheless, based on this variance, Florida Power adjusted its customer growth rate upward in preparing the June 2001 forecast used in this proceeding.

Energy Sales Forecast – Florida Power's energy sales forecast is developed using monthly econometric models. These short-term models project monthly energy sales by revenue class 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

energy usage per customer, driver variables such as weather and economic conditions are utilized to capture the statistical relationship to changes in kWh consumption. 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 model) are set forth in JBC-3.

The result of this customer and energy sales forecast is shown in JBC-1. This forecast is the one used in developing the revenue forecast that is incorporated into the Company's budgeting process and serves as the basis for the 2002 energy sales revenue forecast in this rate proceeding.

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 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/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-date projections used in the models. Even historical economic data are revised sometimes 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/she understands is influencing company sales or customer growth levels. Other times, events such as rate migrations may require special adjustments to the forecast that cannot possibly be captured by an econometric model.

IV. Forecast Performance

Q. Historically, how accurate has Florida Power's forecast been of customers and energy sales when compared to actual data?

A. In order to respond to this question, I conducted a study of the Company's accuracy in forecasting customers and energy sales, which is presented in JBC-4. In this study, I included every forecast used in FPC's corporate budget since 1990.

As shown on JBC-4, I compared each year's actual retail energy sales and customer data to the budget projection made during the prior year. For example, actual 1990 retail sales of 24,878 GWh are compared to the forecast completed in 1989 which projected 25,087 GWh for 1990. The percent forecast variance is shown for each year. A review of the 11-year period 1990-2000 shows that the average forecast error was a respectable – 0.11 percent with the year 2000 variance at –1.78 percent. The magnitude of the energy sales variances as measured by the mean absolute percent error ("MAPE") for the 11-year period is 1.96 percent. A similar review of the retail customer forecast at Sheet 2 of JBC-4 reveals an average forecast variance over the past eleven years (1990-2000) of – 0.16 percent. The MAPE of these customer forecasts is 0.45 percent.

At bottom, this study shows that Florida Power is forecasting customers and energy sales very accurately. Notably, as reflected in the Commission's Staff Review of Florida Utilities 2000 10-year site plans, Florida Power's energy sales forecast accuracy for the period considered in Staff's study out performed every other Florida utility on an average absolute forecast error basis.

V. June 2001 Forecast Summary

Q. Can you briefly summarize the conclusions to be drawn from FPC's June 2001 load forecast?

A. Yes. Based on the June 2001 forecast, FPC expects that its customer base, energy sales, and peak demand will continue to grow but at somewhat more moderate rates

than the Company has experienced in the recent past. In the forecast, we see that the rapid sales and customer growth of the latter 1990s and 2000 gives way to slower growth in 2001 and 2002 for most sales and customer classes.

This slowdown arises out of both specific circumstances unique to Florida Power as well as national economic conditions. First, Florida Power specifically expected a slowdown in energy sales because the rapid growth rate of FPC's total system energy sales since 1999 was related to new wholesale contracts that, for the most part, are scheduled to terminate at the end of 2001. Thus, the Company anticipates a drop-off in total system energy sales at the expiration of these contracts that will not be incrementally replaced by increases in other classes.

At the same time, national economic indicators strongly suggest that the country is headed for a period of recession or in the very least a significant economic slowdown that will impact energy sales. For instance, the Federal Reserve Board increased interest rates several times in 1999 and 2000 to slow down an overheated economy. The impact of this policy was to kick-in in 2001. National energy prices escalated to unprecedented rates, and the recent collapse in stock prices through 2001 along with declining consumer confidence forced most projections of growth in the economy to slide significantly. The downturn in economic projections by outside agencies can be seen clearly in exhibit JBC-5. This exhibit shows the economic projections of real gross domestic product and real disposable personal income from the two leading economic consulting firms (Data Resources

Incorporated and the WEFA Group) made in the January/February 2001 time period and their respective revisions made only three months later. Both firms lowered their expectations for growth in 2001 and 2002 significantly.

For purposes of Florida Power's forecast, the national economic slowdown is reflected in several areas. For example, the forecast evidences declining rates of retail customer growth in late 2001 and 2002. Likewise, commercial customer growth shows a significant slowdown. Based on anecdotal evidence, this may be attributable to the dot-com failures and service-oriented business slowdowns that have resulted in an increase in vacant office floor space on the real estate market.

On the energy side, the forecast shows that industrial sales are expected to decline in 2001 for the third year in a row. This arises predominantly from a total collapse in the phosphate mining sector. The phosphate energy sector has historically represented 35 percent of Florida Power's industrial energy sales. Florida Power's forecast reflects a drop off in phosphate mining related energy sales that will reduce this percentage to 27 percent of total industrial energy sales. This significant reduction in sales arises out of weak farm commodity prices worldwide. Phosphate is primarily mined for use in fertilizer products. Weak farm commodity prices translate into lower crop production, which, in turn, translates into a decreased need for fertilizer.

Overall, the forecast shows that Florida Power expects retail customer growth of 1.9 percent and retail energy sales growth of 3.0 percent.

VI. September 11th Impact on Forecast

Q. Has FPC revised its load forecast to reflect a weaker economic environment following the September 11, 2001 attack on America?

A. Yes. Based in light of the most recent economic projections and anecdotal evidence of a further sliding economy in the days following the September 11th attack, FPC reviewed and modified its assumptions to reflect waning consumer confidence. Specifically, for the re-forecast, Florida Power assumed a recession scenario that neared the recession levels of 1990-1991 and correspondingly projected reduced levels of Florida real personal income, commercial/manufacturing sector employment, and industrial production. This scenario is supported by the October 2001 economic projections prepared by DRI and WEFA as also reflected in JBC-5. Likewise, reported reductions in tourism and theme park attendance, national layoffs, and a marked increase in unemployment compensation claims in Florida to levels not seen since the 1990-91 recession, caused Florida Power to reconsider its forecast and make appropriate adjustments to its 2002 energy sales projections.

The details of the revised projections of these variables are set forth in JBC-6, Sheets 1-3. The incorporation of these weaker projections into the short-term regression models resulted in lower residential, commercial and industrial class energy sales. In addition, an estimated impact on wholesale sales was made as well.

The updated forecast shows a reduction of nearly 614,000 MWh in energy sales for 2002. (See JBC-7). This is a reduction in 2002 projected energy sales of 1.5 percent from the level of MWh sales reported in the June 2001 forecast. Accordingly, Florida Power has made appropriate corresponding changes to the 2002 test year revenue forecast reported in the MFRs. (See Mark A. Myers testimony filed on November 15, 2001 and attached Exhibit MAM-5).

Q. Does this conclude your testimony?

A. Yes.

LIST OF EXHIBITS

TITLE	
Minimum Filing Requirements Sponsored	Part A
June 2001 Short Term Forecast - Customer, Energy Sales and Coincident Demand Forecast	JBC-1
Short Term Forecast Performance – Actual Customers versus Previous Forecast – YTD 2001	JBC-2, Sheet 1
Short Term Forecast Performance – Actual Sales versus Previous Forecast – YTD 2001	JBC-2, Sheet 2
FPC Energy & Customer Forecasting Models	JBC-3, Sheets 1 to 3
Historical Forecast Accuracy - Retail Sales	JBC-4, Sheet 1
Historical Forecast Accuracy - Retail Customers	JBC-4, Sheet 2
Comparison of Lowered Economic Expectations	JBC-5
Revised Florida Economic Variables	JBC-6, Sheets 1 to 4
Revised Forecast of Energy Sales	JBC-7

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

Schedule #		Schedule Title
F-9	--	Forecasting Models
F-10	--	Forecasting Models - Sensitivity of Output to Changes in Input Data
F-11	--	Forecasting Models - Historical Data
F-12	--	Heating Degree Days
F-13	--	Cooling Degree Days
F-14	--	Temperature at Time of Monthly Peaks
F-17	--	Assumptions

DOCKET NO. 000824-EI
JBC 1
WITNESS: JOHN B. CRISP

FLORIDA POWER CORPORATION
JUNE 2001 FORECAST SALES - CUSTOMERS - DEMAND

PROJECTED MONTHLY MWH ENERGY SALES

YEAR	M	RESID	COML	INDUST	SHL	SPA	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM
2002	1	1,525,101	853,413	329,128	2,235	204,879	2,914,756	385,052	3,299,808
2002	2	1,456,246	801,374	297,361	2,284	208,427	2,765,692	227,420	2,993,112
2002	3	1,291,525	816,395	329,536	2,302	211,623	2,651,381	182,391	2,833,772
2002	4	1,235,806	856,025	323,801	2,322	218,638	2,636,592	187,663	2,824,255
2002	5	1,279,276	912,451	327,642	2,327	232,222	2,753,918	172,843	2,926,761
2002	6	1,695,722	1,053,908	361,912	2,324	265,078	3,378,944	208,394	3,587,338
2002	7	1,843,868	1,060,855	338,033	2,309	257,881	3,502,946	256,686	3,759,632
2002	8	1,971,218	1,112,485	351,211	2,312	268,961	3,706,187	279,622	3,985,809
2002	9	1,983,350	1,127,243	364,748	2,336	285,623	3,763,300	295,888	4,059,188
2002	10	1,689,800	1,032,753	346,647	2,351	263,693	3,335,244	248,250	3,583,494
2002	11	1,327,467	943,880	345,640	2,353	241,147	2,860,487	207,464	3,067,951
2002	12	1,363,468	906,806	341,559	2,307	232,521	2,846,661	163,791	3,010,452

PROJECTED MONTHLY BILLED ACCOUNTS

YEAR	M	RESID	COML	INDUST	SHL	SPA	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM
2002	1	1297005	147353	2567	2028	18931	1467884	20	1467904
2002	2	1301654	147446	2567	2028	18978	1472673	20	1472693
2002	3	1303333	147770	2567	2028	19021	1474719	20	1474739
2002	4	1297850	147809	2567	2028	19069	1469323	20	1469343
2002	5	1289977	148215	2567	2028	19115	1461902	20	1461922
2002	6	1287437	148256	2567	2028	19162	1459450	20	1459470
2002	7	1287387	148380	2567	2028	19207	1459569	20	1459589
2002	8	1288538	148450	2567	2028	19255	1460838	20	1460858
2002	9	1290328	148524	2567	2028	19302	1462749	20	1462769
2002	10	1294399	148734	2567	2028	19348	1467076	20	1467096
2002	11	1303088	148969	2567	2028	19396	1476048	20	1476068
2002	12	1310248	149262	2567	2028	19442	1483547	20	1483567

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
2002	1	8248	1185	7063	24	1449.2	7.3	1441.9	9721	8529
2002	2	7144	1051	6093	24	1350.3	10.3	1340.0	8518	7457
2002	3	6276	884	5392	24	913.6	4.7	908.9	7214	6325
2002	4	5884	536	5348	24	521.4	7.0	514.4	6429	5886
2002	5	6787	605	6182	24	765.0	10.8	754.2	7576	6960
2002	6	7092	655	6437	24	937.0	6.7	930.3	8053	7391
2002	7	7368	648	6720	24	959.2	10.1	949.1	8351	7693
2002	8	7423	687	6736	24	1004.3	13.0	991.3	8451	7751
2002	9	6872	629	6243	24	865.4	11.2	854.2	7761	7121
2002	10	6287	507	5780	24	580.5	4.4	576.1	6891	6380
2002	11	5809	717	5092	24	681.2	12.7	668.5	6514	5784
2002	12	6761	832	5929	24	1277.6	12.8	1264.8	8063	7218

FPC SHORT TERM FORECAST PERFORMANCE REVIEW

ACTUAL BILLED ACCOUNTS VS JUNE 2000 FORECAST
YEAR-TO-DATE APRIL 2001

CLASS OF BUSINESS	ACTUAL	FORECAST	DIFF	% DIFF
RESIDENTIAL	1,272,323	1,261,707	10,616	0.8%
COMMERCIAL	145,531	145,906	-375	-0.3%
INDUSTRIAL	2,600	2,560	40	1.6%
ST & HIGHWAY	2,035	2,082	-47	-2.2%
PUBLIC AUTHORITY	18,447	18,392	55	0.3%
TOTAL RETAIL	1,440,935	1,430,646	10,290	0.7%
REA	4	4	0	0.0%
MUNICIPAL	14	14	0	0.0%
TOTAL WHOLESALE	18	18	0	0.0%
TOTAL SYSTEM	1,440,953	1,430,664	10,290	0.7%

Note:
The forecast error in the Residential class is mainly attributed to an underestimation of the number of customers taking advantage of the residential seasonal service rate (SSR). This rate allows a seasonal customer to remain connected to the FPC grid rather than disconnect for the summer season. The customer continues to receive a bill each month but with a reduced fixed customer charge.

FPC SHORT TERM FORECAST PERFORMANCE REVIEW

ACTUAL BILLED MWH VS JUNE 2000 FORECAST
YEAR-TO-DATE APRIL 2001

CLASS OF BUSINESS	ACTUAL	WEATHER ADJUSTED	FORECAST	ACTUAL % DIFF	ADJUSTED % DIFF
RESIDENTIAL	5,592,927	5,297,148	5,219,953	7.1%	1.5%
COMMERCIAL	3,294,930	3,285,085	3,239,599	1.7%	1.4%
INDUSTRIAL	1,314,419	1,314,862	1,441,806	-8.8%	-8.8%
ST & HIGHWAY	9,462	9,462	9,421	0.4%	0.4%
PUBLIC AUTHORITY	821,739	826,945	809,529	1.5%	2.2%
TOTAL RETAIL	11,033,477	10,733,502	10,720,308	2.9%	0.1%
REA	741,612	741,612	754,865	-1.8%	-1.8%
MUNICIPAL	339,761	339,761	302,438	12.3%	12.3%
TOTAL WHOLESALE	1,081,373	1,081,373	1,057,303	2.3%	2.3%
TOTAL SYSTEM	12,114,850	11,814,875	11,777,611	2.9%	0.3%

FPC ENERGY AND CUSTOMER FORECASTING MODELS

RESIDENTIAL CLASS SALES

RUPC = F (CON, ABDAYS, LRP2, RHDD, CDD, LRFPI2)

where:

RUPC	=	Residential KWh use per customer adjusted for historical DSM program impacts
CON	=	Intercept term
ABDAYS	=	Average number of billing days in sales month
HDD	=	Heating degree days - system-weighted using St. Pete, Orlando, and Tallahassee weather stations
CDD	=	Residential cooling degree days - system-weighted using St. Pete, Orlando, and Tallahassee weather stations
LRFPI2	=	Log of Florida Total Personal Income - deflated by the PCE Implicit Price Deflator - 2 month average in millions of 1996 dollars
DSSR	=	Intercept shift variable to account for UPC impact due to Seasonal Service Rate
AR(1)	=	1st order autoregressive error term
SAR(1)	=	1st order seasonal autoregressive error term

RESIDENTIAL CLASS CUSTOMERS

RCUSTG = F (CON, POPG)

where:

RCUSTG	=	Average annual change in residential billed customers
CON	=	Intercept term
POPG	=	Service territory population growth (Univ. of Florida Forecast)

COMMERCIAL CLASS SALES

CUPC = F (CON, ABDAYS, HDD, CCDD, EMPCOM2 RCP2)

where:

CUPC	=	Commercial kWh use per customer adjusted for historical DSM program impacts
CON	=	Intercept term
ABDAYS	=	Average number of billing days in sales month
HDD	=	Heating degree days
CCDD	=	Commercial cooling degree days
EMPCOM2	=	Florida commercial sector employment - 2 month average in thousands
RCP2	=	Real price of electricity to commercial sector – 2 month moving average
AR(1)	=	1st order autoregressive error term

COMMERCIAL CLASS CUSTOMERS

CCUST = F (CON, RCCUST)

where:

CCUST	=	Average annual commercial billed customers
CON	=	Intercept term
RCUST	=	Average annual residential billed customers

INDUSTRIAL CLASS SALES

NONPHOSPHATE SUBSECTOR

IWO = F(CON, ABDAYS, HDDS, CDDS, RIP, EMPMAN3)

where:

IWO	=	Industrial MWh sales excluding industrial phosphate sector energy sales
CON	=	Intercept term
ABDAYS	=	Average number of billing days in sales month
HDD	=	Heating degree days
CDD	=	Cooling degree days
RIP	=	Real industrial electric price
EMPMAN3	=	Florida manufacturing employment - 3 month moving average in thousands
SAR(1)	=	1st order seasonal autoregressive error term

IWO = F(CON, ABDAYS, HDDS, CDDS, RIP, LnFLIPM2)

where:

IWO	=	Industrial MWh sales excluding industrial phosphate sector energy sales
CON	=	Intercept term
ABDAYS	=	Average number of billing days in sales month
HDD	=	Heating degree days
CDD	=	Cooling degree days
RIP	=	Real industrial electric price - cents per kWh
LnFLIPM2	=	Log of Florida Industrial Production Index (1992=100) - 3 month moving average
SAR(1)	=	1st order seasonal autoregressive error term

INDUSTRIAL CLASS SALES

PHOSPHATE SUBSECTOR

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:

- White Springs AGR Chem Inc.
- IMC Agrico Company
- Cargill Fertilizer Inc.
- C.F. Industries Inc.
- U.S. Agri Chemicals

STREET & HIGHWAY LIGHTING CLASS SALES

SHL = F(CON, LAG(SHL))

where:

SHL	=	Street Lighting MWh energy sales
CON	=	Intercept term
Lag(SHL)	=	Street Lighting MWh energy sales lagged one period
SAR(1)	=	1st order seasonal autoregressive error term
SAR(2)	=	2nd order seasonal autoregressive error term
SAR(3)	=	3rd order seasonal autoregressive error term

PUBLIC AUTHORITY CLASS SALES

SUPC = F(CON, ABDAYS, EGOV2, RPAL2, HDD, CCDD, DPAC, SCH_VAC)

where:

SUPC	=	Public Authority average KWh use per customer
CON	=	Intercept term
ABDAYS	=	Average number of billing days in sales month
EGOV2	=	Florida governmental employment in thousands - 2 month moving average
RPAL2	=	Real price of electricity to Public Authority class in cents per KWh - 2 month lag
HDD	=	Heating degree days
CCDD	=	Commercial cooling degree days
DPAC	=	Intercept shift variable to account for restructuring of class after last ratecase
SCH_VAC	=	Intercept shift variable to account for seasonal shutdown of school facilities
AR(1)	=	1st order autoregressive error term
AR(2)	=	2nd order autoregressive error term

FPC HISTORICAL FORECAST ACCURACY

TOTAL RETAIL GWH

VARIANCE FROM FORECAST PERFORMED IN PRIOR YEAR

Year	Actual	Prior Yr. Forecast	Actual % Variance	Absolute Variance
1990	24,878	25,087	-0.83%	0.83%
1991	25,179	25,893	-2.76%	2.76%
1992	25,414	26,230	-3.11%	3.11%
1993	26,528	26,606	-0.29%	0.29%
1994	27,675	27,861	-0.67%	0.67%
1995	29,499	28,802	2.42%	2.42%
1996	30,785	30,056	2.43%	2.43%
1997	30,850	31,462	-1.95%	1.95%
1998	33,387	32,088	4.05%	4.05%
1999	33,441	33,018	1.28%	1.28%
2000	34,832	35,465	-1.78%	1.78%
1990-2000	3.42%	3.52%	-0.11%	1.96%

FPC HISTORICAL FORECAST ACCURACY

TOTAL RETAIL CUSTOMERS

VARIANCE FROM FORECAST PERFORMED IN PRIOR YEAR

Year	Actual Customers	Prior Yr. Forecast	% Variance	Absolute % Chg.
1990	1,135,481	1,137,162	-0.15%	0.15%
1991	1,159,221	1,171,531	-1.05%	1.05%
1992	1,182,154	1,184,898	-0.23%	0.23%
1993	1,214,637	1,209,638	0.41%	0.41%
1994	1,243,876	1,256,976	-1.04%	1.04%
1995	1,271,768	1,276,187	-0.35%	0.35%
1996	1,292,057	1,295,339	-0.25%	0.25%
1997	1,314,492	1,318,550	-0.31%	0.31%
1998	1,340,835	1,335,837	0.37%	0.37%
1999	1,376,579	1,369,519	0.52%	0.52%
2000	1,400,281	1,396,312	0.28%	0.28%
1990-2000	2.12%	2.07%	-0.16%	0.45%

Comparison of Lowered Economic Expectations - 2001 & 2002

Real GDP % Growth

	DRI Projections		WEFA Projections		DRI*WEFA Projections	
Year	Feb '01F	May '01F	Mar '01F	Apr '01F	Jul '01	Oct '01F
2000	5.0	5.0	5.0	5.0	5.0	4.1
2001	2.1	2.0	1.8	1.8	1.6	1.0
2002	4.0	2.4	3.1	2.9	2.6	1.3

Real Disp. Personal Income % Growth

	DRI Projections		WEFA Projections		DRI*WEFA Projections	
Year	Feb '01F	May '01F	Mar '01F	Apr '01F	Jul '01	Oct '01F
2000	2.8	2.8	2.8	2.8	2.8	3.5
2001	2.9	2.8	2.3	2.1	3.2	3.7
2002	4.4	3.2	2.9	2.8	2.8	2.2

Projections made after DRI & WEFA merged in May 2001.

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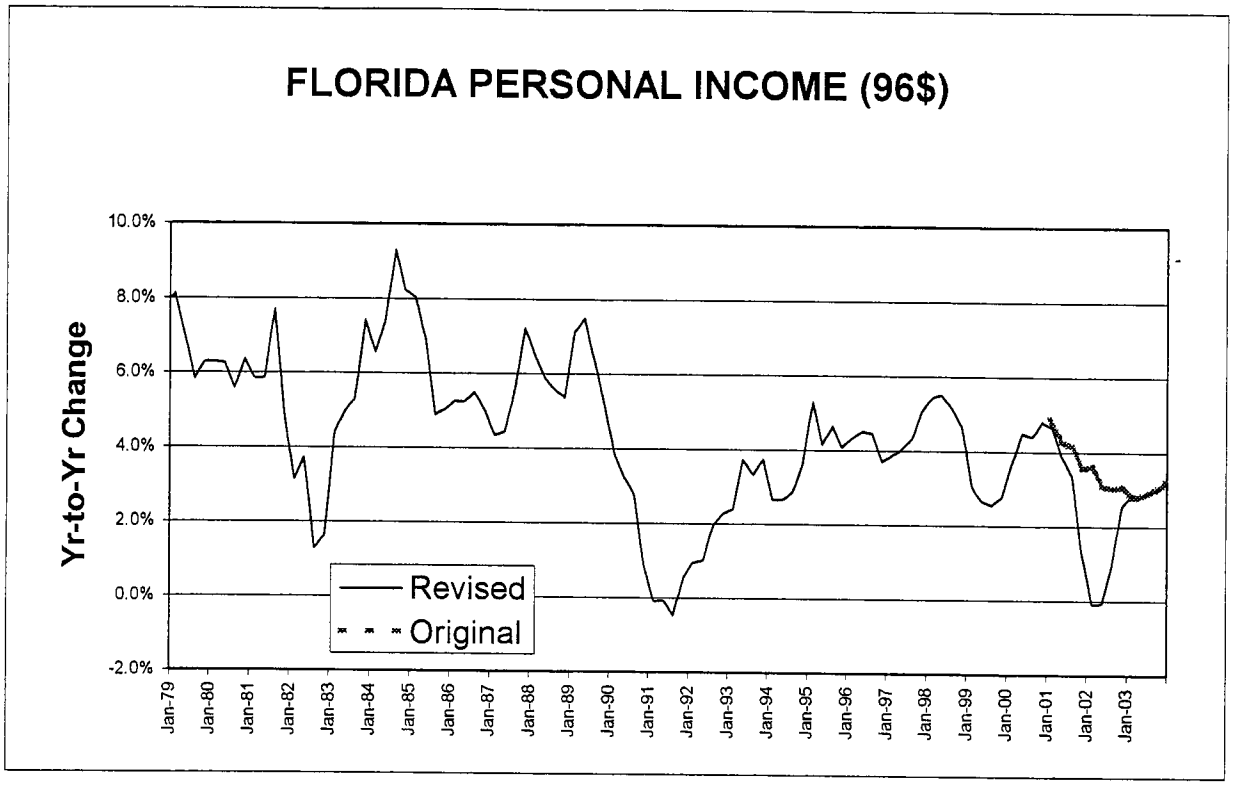
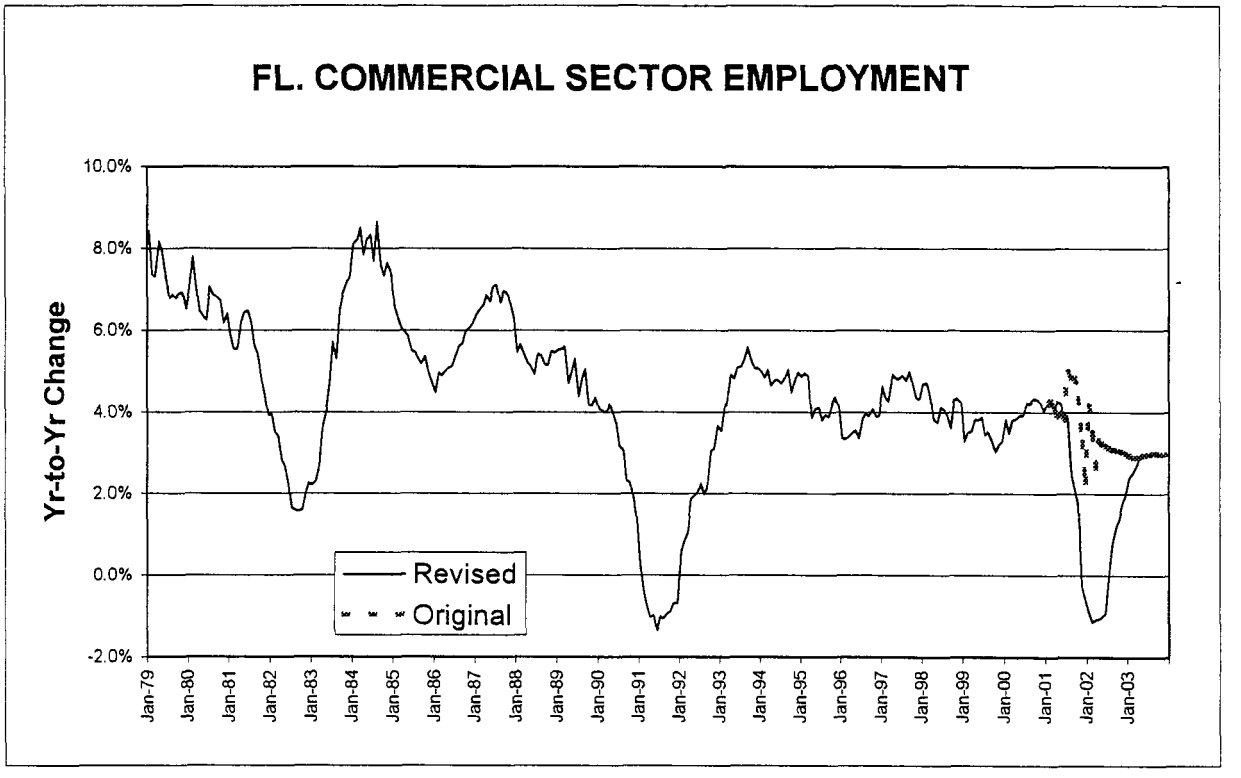
Sheet 1

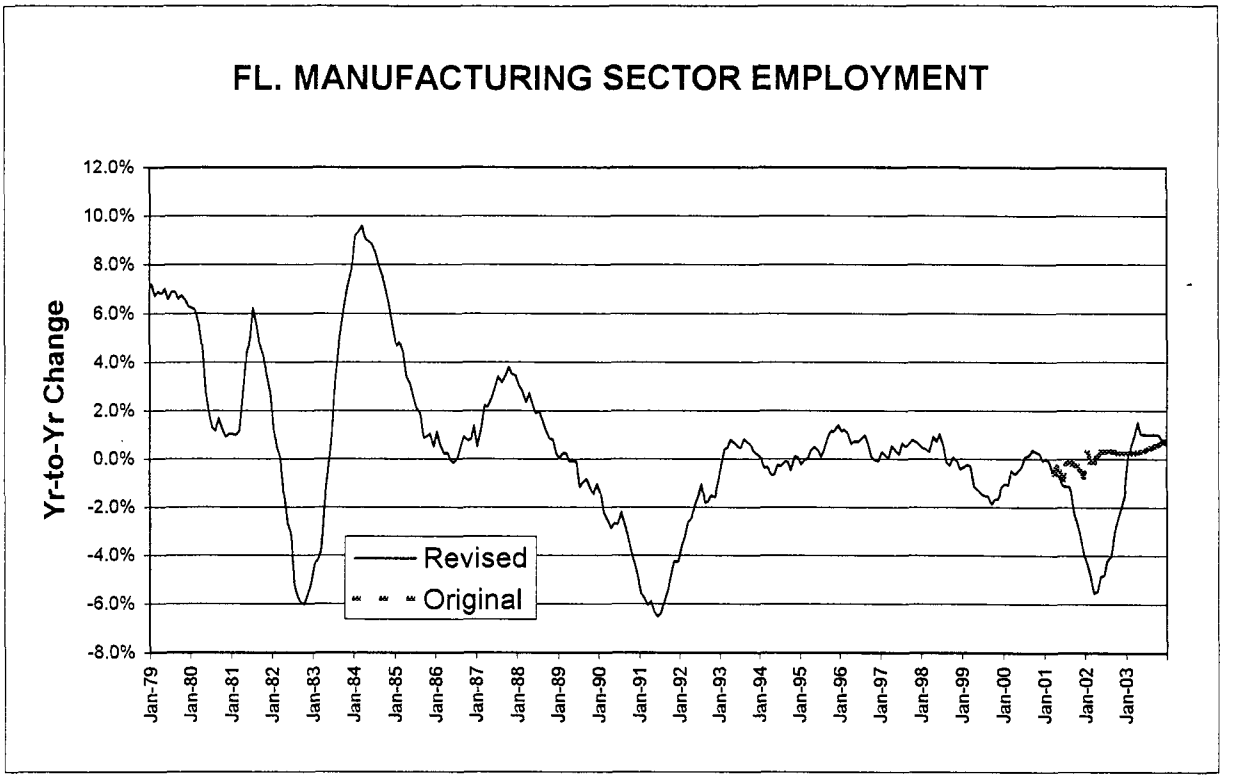
Revised Florida Economic Variables



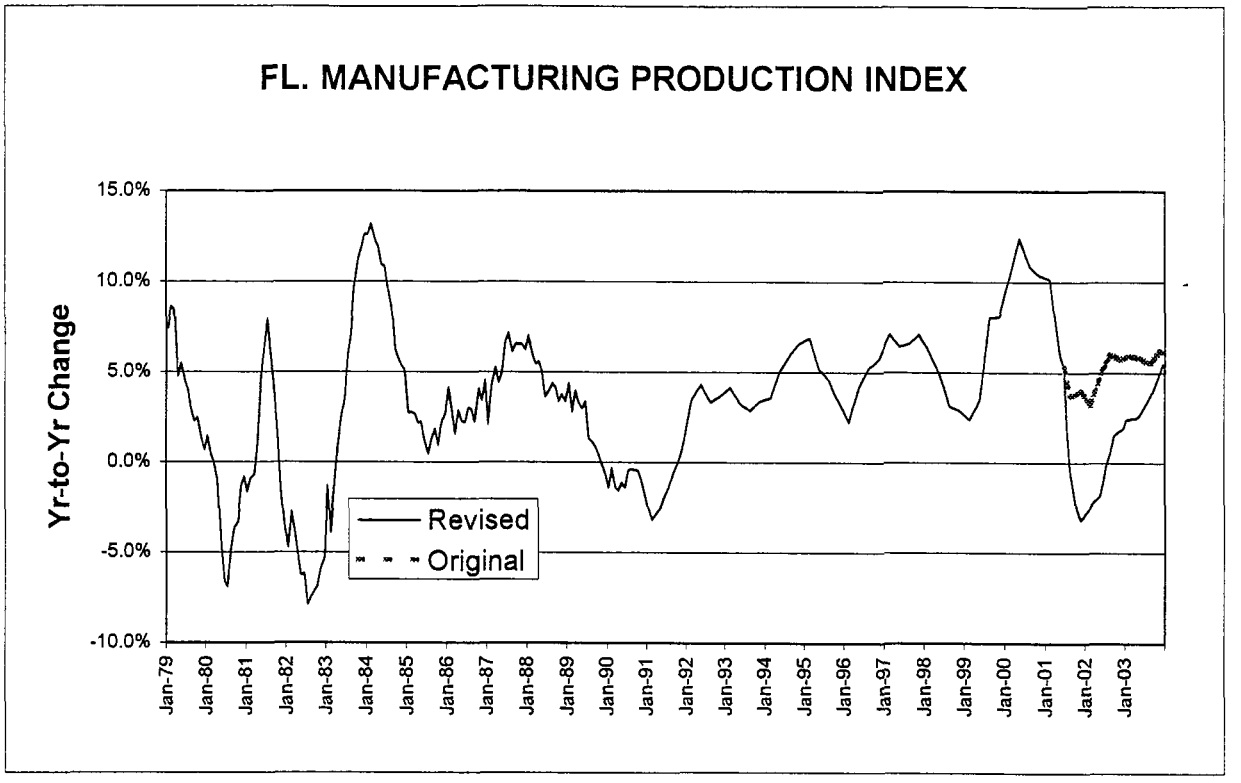
	SEPT 2001 REVISION			JUNE 2001 ORIGINAL			SEP '01 vs JUN '01	
(Mill $)	FORECAST	DIFF	% CHG	FORECAST	DIFF	% CHG	DIFF	%
Last Recession:								
1989	293,910	17,772	6.4%					
1990	301,779	7,870	2.7%					
1991	301,812	33	0.0%					
1992	306,460	4,648	1.5%					
2000	417,764	17,258	4.3%	418,938	18,416	4.6%	-1,174	-0.3%
2001	431,341	13,577	3.2%	436,486	17,548	4.2%	-5,145	-1.2%
2002	435,135	3,794	0.9%	450,387	13,901	3.2%	-15,252	-3.4%
2003	447,790	12,654	2.9%	463,586	13,198	2.9%	-15,796	-3.4%



	SEPT 2001 REVISION			JUNE 2001 ORIGINAL			SEP '01 vs JUN '01	
	FORECAST	DIFF	% CHG	FORECAST	DIFF	% CHG	DIFF	%
(000)								
Last Recession:								
1989	3,573	166	4.9%					
1990	3,687	113	3.2%					
1991	3,657	-29	-0.8%					
1992	3,732	75	2.0%					
2000	5,200	200	4.0%	5,200	200	4.0%	0	0.0%
2001	5,348	148	2.8%	5,411	211	4.1%	-63	-1.2%
2002	5,352	4	0.1%	5,584	173	3.2%	-231	-4.1%
2003	5,505	153	2.9%	5,748	165	3.0%	-243	-4.2%



	SEPT 2001 REVISION			JUNE 2001 ORIGINAL			SEP '01 vs JUN '01	
	FORECAST	DIFF	% CHG	FORECAST	DIFF	% CHG	DIFF	%
(000)								
Last Recession:								
1989	537.9	-1.7	-0.3%					
1990	522.1	-15.8	-2.9%					
1991	492.8	-29.3	-5.6%					
1992	482.9	-9.9	-2.0%					
2000	486.6	-1.1	-0.2%	486.6	-1.1	-0.2%	0.0	0.0%
2001	479.5	-7.0	-1.4%	484.8	-1.7	-0.4%	-5.3	-1.1%
2002	460.6	-18.9	-3.9%	485.9	1.1	0.2%	-25.3	-5.2%
2003	464.7	4.1	0.9%	488.0	2.1	0.4%	-23.3	-4.8%



	SEPT 2001 REVISION			JUNE 2001 ORIGINAL			SEP '01 vs JUN '01	
	FORECAST	DIFF	% CHG	FORECAST	DIFF	% CHG	DIFF	%
INDEX 1992=100								
Last Recession:								
1989	98.9	1.9	2.0%					
1990	97.9	-1.0	-1.0%					
1991	96.5	-1.4	-1.4%					
1992	100.0	3.5	3.6%					
2000	155.5	15.3	10.9%	155.5	15.3	10.9%	0.0	0.0%
2001	160.9	5.4	3.4%	164.7	9.1	3.4%	-3.8	-2.3%
2002	159.9	-1.0	-0.6%	173.0	8.3	-0.6%	-13.1	-7.6%
2003	165.8	5.9	3.7%	183.2	10.2	3.7%	-17.4	-9.5%

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FLORIDA POWER CORPORATION
REVISED FORECAST OF ENERGY SALES - SEPTEMBER 2001

PROJECTED MONTHLY MWH ENERGY SALES

YEAR	M	RESID	COML	INDUST	SHL	SPA	TOTAL RETAIL	TOTAL WHOLESALE	TOTAL SYSTEM
2002	1	1,512,832	838,722	320,417	2,235	204,879	2,879,085	383,683	3,262,768
2002	2	1,442,117	783,426	287,401	2,284	208,427	2,723,655	220,297	2,943,952
2002	3	1,276,593	800,723	318,001	2,302	211,623	2,609,242	173,350	2,782,592
2002	4	1,221,181	841,406	311,307	2,322	218,638	2,594,854	180,922	2,775,776
2002	5	1,265,021	897,263	314,701	2,327	232,222	2,711,534	170,337	2,881,871
2002	6	1,681,977	1,038,579	348,840	2,324	265,078	3,336,798	198,109	3,534,907
2002	7	1,830,836	1,045,259	324,743	2,309	257,881	3,461,028	242,272	3,703,300
2002	8	1,958,893	1,095,967	337,478	2,312	268,961	3,663,611	259,870	3,923,481
2002	9	1,971,469	1,110,096	350,923	2,336	285,623	3,720,447	277,625	3,998,072
2002	10	1,678,059	1,016,346	332,965	2,351	263,693	3,293,414	229,471	3,522,885
2002	11	1,315,775	926,904	332,336	2,353	241,147	2,818,515	202,699	3,021,214
2002	12	1,351,239	890,433	328,768	2,307	232,521	2,805,268	161,609	2,966,877