Progress Energy

March 28, 2013

130000-OT

Ms. Ann Cole, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Ten-Year Site Plan as of December 31, 2012

Dear Ms. Cole:

Pursuant to Rule 25-22.071, F.A.C., please find enclosed for filing the original and twenty-five (25) copies of Progress Energy Florida, Inc.'s 2013 Ten-Year Site Plan.

Thank you for your assistance in this matter. Please feel free to call me at (727) 820-4692 should you have any questions.

Sincerely,

Dianne Triplett

DT/emc
Enclosures

COM ____
AFD ____
APA ____
ECO ____
ENG 24
GCL 1
IDM ____
TEL ____
CLK ____

Progress Energy Florida, Inc.
Ten-Year Site Plan

April 2013

2013-2022

Submitted to:
Florida Public Service Commission

Progress Energy

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF REQUIRED SCHEDULES

LIST OF
TABLES AND FIGURES

CODE IDENTIFICATION SHEET

Generating Unit Type

ST - Steam Turbine - Non-Nuclear
NP - Steam Power - Nuclear
GT - Gas Turbine
CT - Combustion Turbine
CC - Combined Cycle
SPP - Small Power Producer
COG - Cogeneration Facility

Fuel Type

NUC - Nuclear (Uranium)
NG - Natural Gas
RFO - No. 6 Residual Fuel Oil
DFO - No. 2 Distillate Fuel Oil
BIT - Bituminous Coal
MSW - Municipal Solid Waste
WH - Waste Heat
BIO - Biomass

Fuel Transportation

WA - Water
TK - Truck
RR - Railroad
PL - Pipeline
UN - Unknown

Future Generating Unit Status

A - Generating unit capability increased
D – Generating unit capability decreased
FC - Existing generator planned for conversion to another fuel or energy source
P - Planned for installation but not authorized; not under construction
RP - Proposed for repowering or life extension
RT - Existing generator scheduled for retirement
T - Regulatory approval received but not under construction
U - Under construction, less than or equal to 50% complete
V - Under construction, more than 50% complete

INTRODUCTION

Section 186.801 of the Florida Statutes requires electric generating utilities to submit a Ten-Year Site Plan (TYSP) to the Florida Public Service Commission (FPSC). The TYSP includes historical and projected data pertaining to the utility's load and resource needs as well as a review of those needs. Florida Power Corporation doing business as (d/b/a) Progress Energy Florida, Inc.'s (PEF) TYSP is compiled in accordance with FPSC Rules 25-22.070 through 22.072, Florida Administrative Code.

PEF's TYSP is based on the projections of long-term planning requirements that are dynamic in nature and subject to change. These planning documents should be used for general guidance concerning PEF's planning assumptions and projections, and should not be taken as an assurance that particular events discussed in the TYSP will materialize or that particular plans will be implemented. Information and projections pertinent to periods further out in time are inherently subject to greater uncertainty.

This TYSP document contains four chapters as indicated below:

- **CHAPTER 1 - DESCRIPTION OF EXISTING FACILITIES**

  This chapter provides an overview of PEF's generating resources as well as the transmission and distribution system.

- **CHAPTER 2 - FORECAST OF ELECTRICAL POWER DEMAND AND ENERGY CONSUMPTION**

  Chapter 2 presents the history and forecast for load and peak demand as well as the forecast methodology used. Demand-Side Management (DSM) savings and fuel requirement projections are also included.

- **CHAPTER 3 - FORECAST OF FACILITIES REQUIREMENTS**

  The resource planning forecast, transmission planning forecast as well as the proposed generating facilities and bulk transmission line additions status are discussed in Chapter 3.

- **CHAPTER 4 - ENVIRONMENTAL AND LAND USE INFORMATION**

  Preferred and potential site locations along with any environmental and land use information are presented in this chapter.

CHAPTER 1

DESCRIPTION OF EXISTING FACILITIES

CHAPTER 1

DESCRIPTION OF EXISTING FACILITIES

EXISTING FACILITIES OVERVIEW

OWNERSHIP

Florida Power Corporation d/b/a Progress Energy Florida, Inc. (PEF or the Company) is a wholly owned subsidiary of Duke Energy Corporation (Duke Energy). Congress enacted legislation in 2005 repealing the Public Utilities Holding Company Act of 1935 (PUHCA) effective February 8, 2006. Subsequent to that date, Duke Energy is no longer subject to regulation by the Securities and Exchange Commission as a public utility holding company.

AREA OF SERVICE

PEF has an obligation to serve approximately 1.6 million customers in Florida. Its service area covers approximately 20,000 square miles in west central Florida and includes the densely populated areas around Orlando, as well as the cities of Saint Petersburg and Clearwater. PEF is interconnected with 22 municipal and nine rural electric cooperative systems. PEF is subject to the rules and regulations of the Federal Energy Regulatory Commission (FERC), the Nuclear Regulatory Commission (NRC), and the Florida Public Service Commission (FPSC). PEF's Service Area is shown in Figure 1.1.

TRANSMISSION/DISTRIBUTION

The Company is part of a nationwide interconnected power network that enables power to be exchanged between utilities. The PEF transmission system includes approximately 5,000 circuit miles of transmission lines. The distribution system includes approximately 18,000 circuit miles of overhead distribution conductors and approximately 13,000 circuit miles of underground distribution cable.

ENERGY MANAGEMENT and ENERGY EFFICIENCY

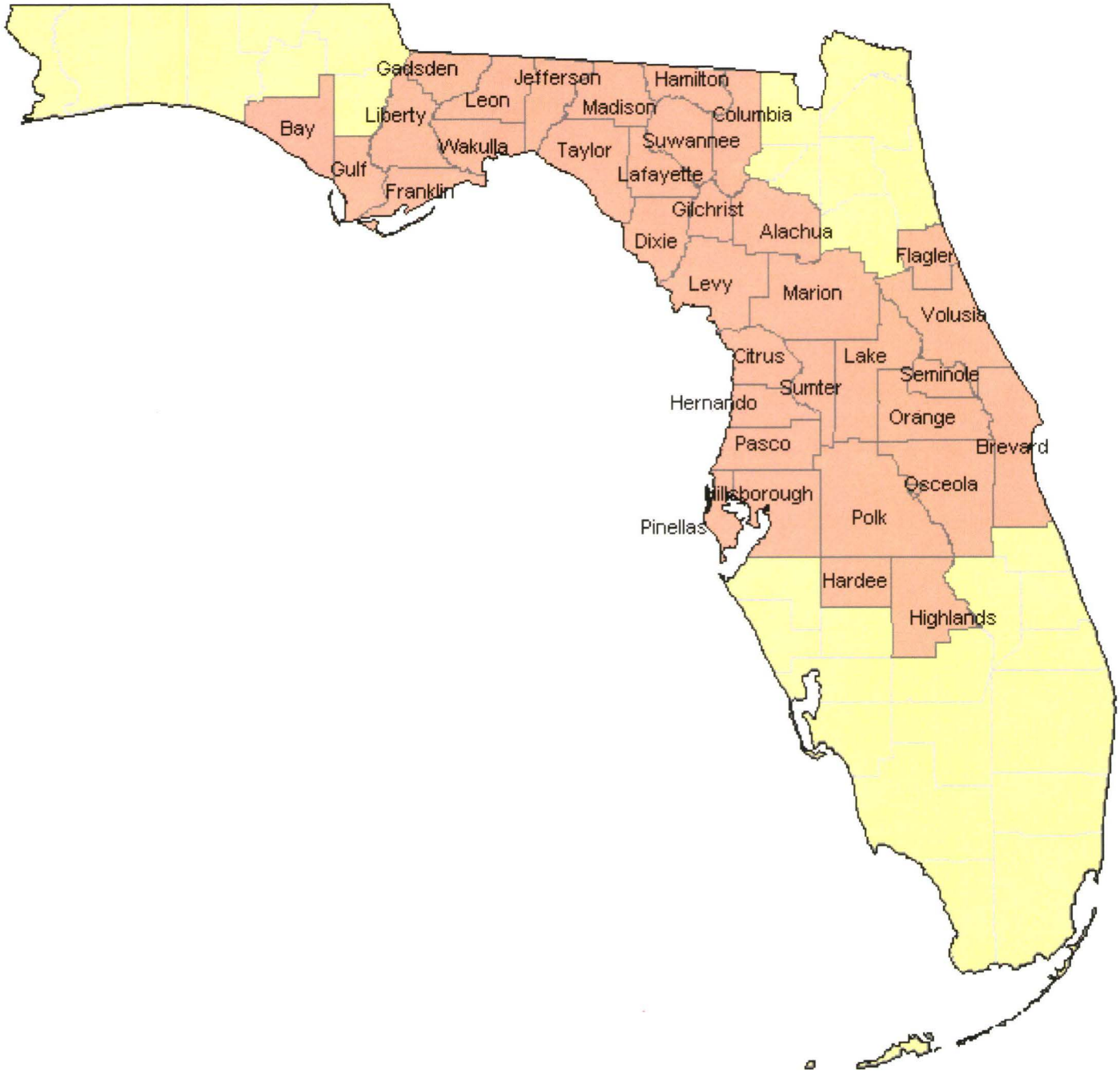
The Company's residential Energy Management program represents a demand response type of program where participating customers help manage future growth and costs. Approximately 405,000 customers participated in the residential Energy Management program at the end of

2012, contributing about 639 MW of winter peak-shaving capacity for use during high load periods. PEF's currently approved DSM programs consist of six residential programs, eight commercial and industrial programs, one research and development program and six solar pilot programs.

TOTAL CAPACITY RESOURCE

As of December 31, 2012, PEF had total summer capacity resources of 12,092 MW consisting of installed capacity of 9,884 MW (excluding Crystal River Unit 3 joint ownership) and 2,208 MW of firm purchased power. Additional information on PEF's existing generating resources can be found in Schedule 1 and Table 3.1.

FIGURE 1.1
PROGRESS ENERGY FLORIDA
County Service Area Map



PROGRESS ENERGY FLORIDA

SCHEDULE I
EXISTING GENERATING FACILITIES

AS OF DECEMBER 31, 2012

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	UNIT	LOCATION	UNIT	FUEL		FUEL TRANSPORT		ALT. FUEL	COM'L IN-SERVICE	EXPECTED RETIREMENT	GEN. MAX. NAMEPLATE	NET CAPABILITY SUMMER	NET CAPABILITY WINTER
PLANT NAME	NO.	(COUNTY)	TYPE	PRI.	ALT.	PRI.	ALT.	DAYS USE	MO/YEAR	MO/YEAR	KW	MW	MW
STEAM													
ANCLOTE	1	PASCO	ST	RFO	NG	PL	PL	***	10/74		556,200	501	517
ANCLOTE	2	PASCO	ST	RFO	NG	PL	PL	***	10/78		556,200	510	530
CRYSTAL RIVER	1	CITRUS	ST	BIT		RR	WA		10/66	****	440,550	370	372
CRYSTAL RIVER	2	CITRUS	ST	BIT		RR	WA		11/69	****	523,800	499	503
CRYSTAL RIVER	3 *	CITRUS	NP	NUC		TK			3/77	1/2013	890,460	789	805
CRYSTAL RIVER	4	CITRUS	ST	BIT		WA	RR		12/82		739,260	712	721
CRYSTAL RIVER	5	CITRUS	ST	BIT		WA	RR		10/84		739,260	710	721
SUWANNEE RIVER	1	SUWANNEE	ST	NG	RFO	PL	TK/RR	***	11/53	*****	34,500	28	28
SUWANNEE RIVER	2	SUWANNEE	ST	NG	RFO	PL	TK/RR	***	11/54	*****	37,500	30	30
SUWANNEE RIVER	3	SUWANNEE	ST	NG	RFO	PL	TK/RR	***	10/56	*****	75,000	71	73
												4,220	**4,300**
COMBINED-CYCLE													
BARTOW	4	PINELLAS	CC	NG	DFO	PL	TK	***	6/09		1,253,000	1,074	1,235
HINES ENERGY COMPLEX	1	POLK	CC	NG	DFO	PL	TK	***	4/99		546,500	462	528
HINES ENERGY COMPLEX	2	POLK	CC	NG	DFO	PL	TK	***	12/03		548,250	490	563
HINES ENERGY COMPLEX	3	POLK	CC	NG	DFO	PL	TK	***	11/05		561,000	488	564
HINES ENERGY COMPLEX	4	POLK	CC	NG	DFO	PL	TK	***	12/07		610,000	472	544
TIGER BAY	1	POLK	CC	NG		PL			8/97		278,100	205	231
												3,191	**3,665**
COMBUSTION TURBINE													
AVON PARK	P1	HIGHLANDS	GT	NG	DFO	PL	TK	***	12/68	******	33,790	24	35
AVON PARK	P2	HIGHLANDS	GT	DFO		TK		***	12/68	******	33,790	24	35
BARTOW	P1, P3	PINELLAS	GT	DFO		WA		***	5/72, 6/72		111,400	85	108
BARTOW	P2	PINELLAS	GT	NG	DFO	PL	WA	***	6/72		55,700	43	57
BARTOW	P4	PINELLAS	GT	NG	DFO	PL	WA	***	6/72		55,700	49	61
BAYBORO	P1-P4	PINELLAS	GT	DFO		WA		***	4/73		226,800	174	232
DEBARY	P1-P6	VOLUSIA	GT	DFO		TK		***	12/75-4/76		401,220	309	381
DEBARY	P7-P9	VOLUSIA	GT	NG	DFO	PL	TK	***	10/92		345,000	247	287
DEBARY	P10	VOLUSIA	GT	DFO		TK		***	10/92		115,000	80	95
HIGGINS	P1-P2	PINELLAS	GT	NG	DFO	PL	TK	***	3/69, 4/69	******	67,580	45	45
HIGGINS	P3-P4	PINELLAS	GT	NG	DFO	PL	TK	***	12/70, 1/71	******	85,850	60	71
INTERCESSION CITY	P1-P6	OSCEOLA	GT	DFO		PL,TK		***	5/74		340,200	286	372
INTERCESSION CITY	P7-P10	OSCEOLA	GT	NG	DFO	PL	PL,TK	***	10/93		460,000	328	379
INTERCESSION CITY	P11 **	OSCEOLA	GT	DFO		PL,TK		***	1/97		165,000	143	161
INTERCESSION CITY	P12-P14	OSCEOLA	GT	NG	DFO	PL	PL,TK	***	12/00		345,000	229	276
RIO PINAR	P1	ORANGE	GT	DFO		TK		***	11/70	******	19,290	12	15
SUWANNEE RIVER	P1, P3	SUWANNEE	GT	NG	DFO	PL	TK	***	10/80, 11/80		122,400	104	127
SUWANNEE RIVER	P2	SUWANNEE	GT	DFO		TK		***	10/80		61,200	51	66
TURNER	P1-P2	VOLUSIA	GT	DFO		TK		***	10/70	******	38,580	20	26
TURNER	P3	VOLUSIA	GT	DFO		TK		***	8/74		71,200	53	77
TURNER	P4	VOLUSIA	GT	DFO		TK		***	8/74		71,200	61	78
UNIV. OF FLA.	P1	ALACHUA	GT	NG		PL			1/94		43,000	46	47
												2,473	**3,031**
										TOTAL RESOURCES (MW)		**9,884**	**10,996**

* REPRESENTS PEF OWNERSHIP OF UNIT WHICH IS APPROXIMATELY 91.8%. IN FEBRUARY 2013, PEF ANNOUNCED PLANS TO RETIRE CR3 AND NOT RETURN THE UNIT TO SERVICE FROM AN EXTENDED OUTAGE.

** THE 143 MW SUMMER CAPABILITY (JUNE THROUGH SEPTEMBER) IS OWNED BY GEORGIA POWER COMPANY

*** APPROXIMATELY 2 TO 8 DAYS OF OIL USE TYPICALLY TARGETED FOR ENTIRE PLANT. RFO TO BE PHASED OUT WITH UNIT RETIREMENTS OR UNIT GAS CONVERSIONS.

**** CRYSTAL RIVER UNITS 1&2 ESTIMATED TO BE SHUTDOWN BY 4/2016; PEF CONTINUES TO EVALUATE OPTION FOR CONTINUED OPERATIONS, SEE CHAPTER 3.

***** SUWANNEE STEAM UNITS ESTIMATED TO BE SHUTDOWN BY 6/2018.

****** PEAKERS at AVON PARK, HIGGINS, RIO PINAR, TURNER P1& P2 ARE ESTIMATED TO BE PUT IN COLD STAND-BY OR RETIRED BY 6/2016.

CHAPTER 2

FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

Progress Energy

CHAPTER 2
FORECAST OF ELECTRIC POWER DEMAND
AND
ENERGY CONSUMPTION

OVERVIEW

The information presented in Schedules 2, 3, and 4 represents PEF's history and forecast of customers, energy sales (GWh), and peak demand (MW). PEF's customer growth is expected to average 1.5 percent between 2013 and 2022, which is more than the ten-year historical average of 1.0 percent. County population growth rate projections from the University of Florida's Bureau of Economic and Business Research (BEBR) were incorporated into this projection. The severe housing crisis witnessed both nationwide and in Florida since 2007 has dampened the PEF historical ten-year growth rate significantly as total customer growth turned negative for a twenty-one month period during 2008, 2009 and 2010. Economic conditions going forward look more amenable to improved customer growth due to lower housing prices, improved housing affordability and a large retiring baby-boomer population.

Net energy for load (NEL) dropped by an average -0.7 percent per year between 2003 and 2012 due primarily to the economic recession and the weak economic recovery that followed. Milder than normal weather conditions during 2012 also contributed to the weak results. The 2013 to 2022 period is expected to improve by an average growth rate of 1.5 percent per year due to expected higher economic growth that drives the retail jurisdiction back to more normal NEL growth rates. Going forward, projected NEL growth continues to reflect the FPSC approved DSM energy savings targets. Wholesale NEL is expected to nearly double over this time period.

Summer net firm demand grew an average 0.8 percent per year during the last ten years. The projected ten year period summer net firm demand growth rate of 1.5 percent is primarily driven by a stronger economy improving net firm retail demand.

ENERGY CONSUMPTION AND DEMAND FORECAST SCHEDULES

The below schedules have been provided on the following pages:

SCHEDULE	DESCRIPTION
2.1, 2.2 and 2.3	History and Forecast of Energy Consumption and Number of Customers by Customer Class
3.1	History and Forecast of Summer Peak Demand (MW)
3.2	History and Forecast of Winter Peak Demand (MW)
3.3	History and Forecast of Annual Net Energy for Load (GWh)
4	Previous Year Actual and Two-Year Forecast of Peak Demand and Net Energy for Load by Month

PROGRESS ENERGY FLORIDA

SCHEDULE 2.1
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	RURAL AND RESIDENTIAL					COMMERCIAL		
YEAR	PEF POPULATION	MEMBERS PER HOUSEHOLD	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER
HISTORY:								
2003	3,264,521	2.451	19,429	1,331,914	14,587	11,553	154,294	74,876
2004	3,339,365	2.447	19,347	1,364,677	14,177	11,734	158,780	73,898
2005	3,428,268	2.454	19,894	1,397,012	14,240	11,945	161,001	74,190
2006	3,504,907	2.448	20,021	1,431,743	13,983	11,975	162,774	73,568
2007	3,532,104	2.448	19,912	1,442,853	13,800	12,184	162,837	74,821
2008	3,561,743	2.458	19,328	1,449,041	13,339	12,139	162,569	74,669
2009	3,564,397	2.473	19,399	1,441,325	13,459	11,883	161,390	73,632
2010	3,621,408	2.495	20,524	1,451,466	14,140	11,896	161,674	73,579
2011	3,623,873	2.495	19,238	1,452,454	13,245	11,892	162,071	73,374
2012	3,636,514	2.493	18,251	1,458,690	12,512	11,723	163,297	71,792
FORECAST:								
2013	3,683,572	2.490	18,959	1,479,346	12,816	11,569	165,511	69,899
2014	3,719,750	2.480	19,405	1,499,899	12,938	11,776	168,050	70,074
2015	3,770,309	2.475	19,877	1,523,357	13,048	11,956	171,170	69,849
2016	3,818,679	2.470	20,287	1,546,024	13,122	12,068	174,439	69,182
2017	3,868,716	2.465	20,700	1,569,459	13,189	12,145	177,706	68,343
2018	3,919,678	2.460	21,107	1,593,365	13,247	12,202	181,060	67,392
2019	3,970,810	2.455	21,514	1,617,438	13,301	12,263	184,458	66,481
2020	4,029,595	2.455	21,904	1,641,383	13,345	12,328	187,857	65,624
2021	4,087,465	2.455	22,303	1,664,955	13,396	12,393	191,218	64,811
2022	4,144,418	2.455	22,712	1,688,154	13,454	12,458	194,526	64,043

PROGRESS ENERGY FLORIDA

SCHEDULE 2.2
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		INDUSTRIAL					
YEAR	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	RAILROADS AND RAILWAYS GWh	STREET & HIGHWAY LIGHTING GWh	OTHER SALES TO PUBLIC AUTHORITIES GWh	TOTAL SALES TO ULTIMATE CONSUMERS GWh
HISTORY:							
2003	4,001	2,643	1,513,810	0	29	2,946	37,958
2004	4,069	2,733	1,488,840	0	28	3,016	38,194
2005	4,140	2,703	1,531,632	0	27	3,171	39,176
2006	4,160	2,697	1,542,455	0	27	3,249	39,432
2007	3,819	2,668	1,431,409	0	26	3,341	39,282
2008	3,786	2,587	1,463,471	0	26	3,276	38,555
2009	3,285	2,487	1,320,869	0	26	3,230	37,824
2010	3,219	2,481	1,297,461	0	26	3,260	38,925
2011	3,243	2,408	1,346,761	0	25	3,200	37,598
2012	3,160	2,372	1,332,209	0	25	3,221	36,381
FORECAST:							
2013	3,294	2,343	1,405,890	0	25	3,137	36,984
2014	3,270	2,340	1,397,436	0	25	3,207	37,683
2015	3,300	2,340	1,410,256	0	25	3,312	38,470
2016	3,308	2,340	1,413,675	0	25	3,381	39,069
2017	3,341	2,340	1,427,778	0	24	3,433	39,643
2018	3,413	2,340	1,458,547	0	24	3,484	40,230
2019	3,490	2,340	1,491,453	0	24	3,532	40,823
2020	3,568	2,340	1,524,786	0	24	3,580	41,404
2021	3,596	2,340	1,536,752	0	24	3,612	41,928
2022	3,575	2,340	1,527,778	0	24	3,641	42,410

PROGRESS ENERGY FLORIDA

SCHEDULE 2.3
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS

(1)	(2)	(3)	(4)	(5)	(6)
YEAR	SALES FOR RESALE GWh	UTILITY USE & LOSSES GWh	NET ENERGY FOR LOAD GWh	OTHER CUSTOMERS (AVERAGE NO.)	TOTAL NO. OF CUSTOMERS
HISTORY:					
2003	3,359	2,594	43,911	21,665	1,510,516
2004	4,301	2,773	45,268	22,437	1,548,627
2005	5,195	2,507	46,878	22,701	1,583,417
2006	4,220	2,389	46,041	23,182	1,620,396
2007	5,598	2,753	47,633	24,010	1,632,368
2008	6,619	2,484	47,658	24,738	1,638,935
2009	3,696	2,604	44,124	24,993	1,630,195
2010	3,493	3,742	46,160	25,212	1,640,833
2011	2,712	2,180	42,490	25,228	1,642,161
2012	826	4,007	41,214	25,480	1,649,839
FORECAST:					
2013	1,410	2,392	40,786	25,818	1,673,018
2014	1,474	2,408	41,565	26,193	1,696,482
2015	1,627	2,452	42,549	26,664	1,723,531
2016	1,822	2,530	43,421	27,205	1,750,008
2017	1,705	2,476	43,824	27,744	1,777,249
2018	1,675	2,547	44,452	28,351	1,805,116
2019	1,630	2,584	45,037	28,966	1,833,202
2020	1,637	2,613	45,654	29,582	1,861,162
2021	1,609	2,642	46,179	30,191	1,888,704
2022	1,610	2,669	46,689	30,792	1,915,812

PROGRESS ENERGY FLORIDA

SCHEDULE 3.1
HISTORY AND FORECAST OF SUMMER PEAK DEMAND (MW)
BASE CASE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(OTH)	(10)
YEAR	TOTAL	WHOLESALE	RETAIL	INTERRUPTIBLE	RESIDENTIAL LOAD MANAGEMENT	RESIDENTIAL CONSERVATION	COMM. / IND. LOAD MANAGEMENT	COMM. / IND. CONSERVATION	OTHER DEMAND REDUCTIONS	NET FIRM DEMAND
HISTORY:										
2003	8,881	887	7,994	300	355	169	44	161	75	7,776
2004	9,583	1,071	8,512	531	331	185	39	163	110	8,224
2005	10,350	1,118	9,232	448	310	203	38	166	110	9,074
2006	10,147	1,257	8,890	329	307	222	37	170	66	9,016
2007	10,931	1,544	9,387	334	291	239	45	177	110	9,735
2008	10,592	1,512	9,080	500	284	255	66	192	110	9,186
2009	10,853	1618	9,235	262	291	271	84	211	110	9,624
2010	10,238	1272	8,966	271	304	296	96	232	110	8,929
2011	9,968	934	9,034	227	317	327	97	255	110	8,636
2012	9,783	402	9,381	267	326	355	100	278	124	8,333
FORECAST:										
2013	10,462	937	9,525	271	330	382	103	287	124	8,964
2014	10,572	871	9,702	274	335	408	107	298	124	9,026
2015	10,773	873	9,901	277	340	432	110	306	124	9,185
2016	11,066	977	10,089	276	345	452	113	314	124	9,441
2017	11,189	894	10,295	286	368	470	116	320	124	9,504
2018	11,391	894	10,497	288	373	486	120	326	124	9,674
2019	11,607	894	10,713	303	378	501	123	332	124	9,846
2020	11,823	894	10,929	318	383	518	126	337	124	10,017
2021	11,928	794	11,134	326	388	533	129	341	124	10,086
2022	12,121	794	11,327	326	393	548	133	345	124	10,252

Historical Values (2003 - 2012):
Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.
Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.
Col. (OTH) =Customer-owned self-service cogeneration.
Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).
Projected Values (2013 - 2022):
Cols. (2) - (4) = forecasted peak witiout load control, conservation, and customer-owned self-service cogeneration.
Cols. (5) - (9) = cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.
Col. (OTH) = customer-owned self-service cogeneration.
Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

PROGRESS ENERGY FLORIDA

SCHEDULE 3.2
HISTORY AND FORECAST OF WINTER PEAK DEMAND (MW)
BASE CASE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(OTH)	(10)
YEAR	TOTAL	WHOLESALE	RETAIL	INTERRUPTIBLE	RESIDENTIAL LOAD MANAGEMENT	RESIDENTIAL CONSERVATION	COMM. / IND. LOAD MANAGEMENT	COMM. / IND. CONSERVATION	OTHER DEMAND REDUCTIONS	NET FIRM DEMAND
HISTORY:										
2002/03	11,553	1,538	10,015	271	795	312	27	122	191	9,833
2003/04	9,323	1,167	8,156	498	788	342	26	123	262	7,284
2004/05	10,830	1,600	9,230	575	779	371	26	123	283	8,673
2005/06	10,698	1,467	9,231	298	762	413	26	124	239	8,835
2006/07	9,896	1,576	8,320	304	671	453	26	126	262	8,055
2007/08	10,964	1,828	9,136	234	763	487	34	132	278	9,036
2008/09	12,092	2,229	9,863	268	759	522	71	147	291	10,034
2009/10	13,698	2,189	11,509	246	651	567	80	162	322	11,670
2010/11	11,347	1,625	9,722	271	661	633	94	179	214	9,295
2011/12	9,715	905	8,810	186	639	681	96	202	210	7,702
FORECAST:										
2012/13	11,203	909	10,294	254	672	735	100	216	239	8,987
2013/14	11,386	942	10,445	256	681	786	103	230	240	9,090
2014/15	12,081	1,445	10,636	259	690	836	106	239	242	9,709
2015/16	12,274	1,447	10,828	258	699	877	109	246	243	9,841
2016/17	12,423	1,394	11,029	267	717	917	113	254	245	9,910
2017/18	12,624	1,394	11,230	269	750	947	116	260	247	10,036
2018/19	12,840	1,394	11,446	283	759	975	119	267	250	10,188
2019/20	13,055	1,394	11,661	297	768	1,009	122	273	252	10,335
2020/21	13,263	1,394	11,869	305	777	1,040	126	276	254	10,485
2021/22	13,459	1,394	12,065	305	786	1,069	129	279	256	10,635

Historical Values (2003 - 2012):
Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.
Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.
Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.
Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).
Projected Values (2013 - 2022):
Cols. (2) - (4) forecasted peak without load control and conservation.
Cols. (5) - (9) = Represent cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.
Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.
Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

PROGRESS ENERGY FLORIDA

SCHEDULE 3.3
HISTORY AND FORECAST OF ANNUAL NET ENERGY FOR LOAD (GWh)
BASE CASE

(1)	(2)	(3)	(4)	(OTH)	(5)	(6)	(7)	(8)	(9)
YEAR	TOTAL	RESIDENTIAL CONSERVATION	COMM. / IND. CONSERVATION	OTHER ENERGY REDUCTIONS*	RETAIL	WHOLESALE	UTILITY USE & LOSSES	NET ENERGY FOR LOAD	LOAD FACTOR (%) **
HISTORY:									
2003	45,234	402	357	564	37,957	3,359	2,595	43,911	47.7
2004	46,834	426	360	780	38,193	4,301	2,774	45,268	56.5
2005	48,475	455	363	779	39,177	5,195	2,506	46,878	52.3
2006	47,399	484	365	509	39,432	4,220	2,389	46,041	52.1
2007	49,310	511	387	779	39,282	5,598	2,753	47,633	52.3
2008	49,208	543	442	565	38,556	6,619	2,483	47,658	53.1
2009	45,978	583	492	779	37,824	3,696	2,604	44,124	44.5
2010	48,135	638	558	779	38,925	3,493	3,742	46,160	45.3
2011	44,580	687	624	779	37,597	2,712	2,181	42,490	46.7
2012	43,396	733	669	780	36,381	826	4,007	41,214	51.7
FORECAST:									
2013	43,146	778	718	864	36,984	1,410	2,392	40,786	51.8
2014	43,995	821	745	864	37,683	1,474	2,408	41,565	52.2
2015	45,039	857	769	864	38,470	1,627	2,452	42,549	50.0
2016	45,970	891	792	866	39,069	1,822	2,530	43,421	50.2
2017	46,418	918	812	864	39,643	1,705	2,476	43,824	50.5
2018	47,091	944	831	864	40,230	1,675	2,547	44,452	50.6
2019	47,720	969	850	864	40,823	1,630	2,584	45,037	50.5
2020	48,384	996	868	866	41,404	1,637	2,613	45,654	50.3
2021	48,950	1,021	886	864	41,928	1,609	2,642	46,179	50.3
2022	49,500	1,044	903	864	42,410	1,610	2,669	46,689	50.1

* Column (OTH) includes Conservation Energy For Lighting and Public Authority Customers, Customer-Owned Self-service Cogeneration.

** Load Factors for historical years are calculated using the actual winter peak demand except the 2004, 2007 & 2012 historical load factors which are based on the actual summer peak demand which became the annual peak for the year.
Load Factors for future years are calculated using the net firm winter peak demand (Schedule 3.2)

PROGRESS ENERGY FLORIDA

SCHEDULE 4
PREVIOUS YEAR ACTUAL AND TWO-YEAR FORECAST OF PEAK DEMAND
AND NET ENERGY FOR LOAD BY MONTH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ACTUAL 2012		FORECAST 2013		FORECAST 2014	
MONTH	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh
JANUARY	8,722	3,097	10,128	3,060	10,246	3,152
FEBRUARY	8,519	2,799	8,741	2,722	8,836	2,774
MARCH	6,135	3,128	7,708	2,959	7,804	2,990
APRIL	7,004	3,164	8,022	3,050	8,075	3,080
MAY	7,942	3,780	8,973	3,661	9,036	3,706
JUNE	8,185	3,699	9,389	4,006	9,456	4,093
JULY	9,026	4,278	9,564	4,123	9,636	4,212
AUGUST	8,850	4,218	9,669	4,213	9,742	4,296
SEPTEMBER	8,103	3,797	8,969	3,866	9,026	3,958
OCTOBER	7,790	3,478	8,473	3,265	8,544	3,342
NOVEMBER	5,749	2,739	7,081	2,812	7,104	2,855
DECEMBER	6,555	3,036	8,038	3,051	8,658	3,107
TOTAL		41,213		40,788		41,565

NOTE: Recorded Net Peak demands and System requirements including off-system wholesale contracts.

FUEL REQUIREMENTS AND ENERGY SOURCES

PEF's actual and projected nuclear, coal, oil, and gas requirements (by fuel unit) are shown in Schedule 5. PEF's two-year actual and ten-year projected energy sources by fuel type are presented in Schedules 6.1 and 6.2, in GWh and percent (%) respectively. PEF's fuel requirements and energy sources reflect a diverse fuel supply system that is not dependent on any one fuel source. Near term natural gas consumption is projected to increase as plants and purchases with tolling agreements are added to meet future load growth and natural gas generation costs reflect relatively attractive natural gas commodity pricing.

PROGRESS ENERGY FLORIDA

SCHEDULE 5
FUEL REQUIREMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
				-ACTUAL-											
	FUEL REQUIREMENTS		UNITS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
(1)	NUCLEAR		TRILLION BTU	0	0	0	0	0	0	0	0	0	0	0	0
(2)	COAL		1,000 TON	4,663	4,543	5,381	5,369	5,484	4,925	4,951	4,726	4,497	4,030	3,843	3,814
(3)	RESIDUAL	TOTAL	1,000 BBL	380	89	0	0	0	0	0	0	0	0	0	0
(4)		STEAM	1,000 BBL	380	89	0	0	0	0	0	0	0	0	0	0
(5)		CC	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(6)		CT	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(7)		DIESEL	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(8)	DISTILLATE	TOTAL	1,000 BBL	256	160	316	325	402	846	835	517	458	236	168	241
(9)		STEAM	1,000 BBL	61	60	63	39	39	18	12	11	14	10	10	10
(10)		CC	1,000 BBL	8	1	0	0	0	0	0	0	0	0	0	0
(11)		CT	1,000 BBL	187	99	253	286	363	827	823	506	444	226	157	231
(12)		DIESEL	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(13)	NATURAL GAS	TOTAL	1,000 MCF	183,363	187,251	177,253	188,213	192,618	185,192	174,966	194,327	206,682	230,055	241,711	245,067
(14)		STEAM	1,000 MCF	23,033	26,837	25,055	32,353	35,813	31,908	29,034	26,936	28,087	25,910	26,650	25,709
(15)		CC	1,000 MCF	151,176	155,717	142,259	145,347	144,571	138,185	131,519	155,331	167,608	195,979	207,251	209,755
(16)		CT	1,000 MCF	9,154	4,697	9,939	10,512	12,234	15,100	14,413	12,060	10,986	8,167	7,810	9,603
	OTHER (SPECIFY)														
(17)	OTHER, DISTILLATE	ANNUAL FIRM INTERCHANGE	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(18)	OTHER, NATURAL GAS	ANNUAL FIRM INTERCHANGE, CC	1,000 MCF	0	0	8,494	9,464	10,165	31,831	45,266	32,360	25,945	14,297	9,113	9,411
(18.1)	OTHER, NATURAL GAS	ANNUAL FIRM INTERCHANGE, CT	1,000 MCF	0	0	6,773	6,681	8,633	12,078	11,481	9,360	10,294	6,000	5,592	6,018
(19)	OTHER, COAL	ANNUAL FIRM INTERCHANGE, STEAM	1,000 TON	0	0	229	223	244	80	0	0	0	0	0	0

PROGRESS ENERGY FLORIDA

SCHEDULE 6.1
ENERGY SOURCES (GWh)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
				-ACTUAL-											
	ENERGY SOURCES		UNITS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
(1)	ANNUAL FIRM INTERCHANGE 1/		GWh	1,917	1,558	663	654	845	4,490	6,449	4,231	3,175	1,252	409	458
(2)	NUCLEAR		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(3)	COAL		GWh	10,809	10,003	11,761	11,758	12,003	10,882	10,952	10,456	9,926	8,777	8,336	8,288
(4)	RESIDUAL	TOTAL	GWh	187	46	0	0	0	0	0	0	0	0	0	0
(5)		STEAM	GWh	187	46	0	0	0	0	0	0	0	0	0	0
(6)		CC	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(7)		CT	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(8)		DIESEL	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(9)	DISTILLATE	TOTAL	GWh	81	104	84	95	123	281	273	167	146	81	57	88
(10)		STEAM	GWh	2	63	0	0	0	0	0	0	0	0	0	0
(11)		CC	GWh	4	1	0	0	0	0	0	0	0	0	0	0
(12)		CT	GWh	75	39	84	95	123	281	273	167	146	81	57	88
(13)		DIESEL	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(14)	NATURAL GAS	TOTAL	GWh	23,571	23,997	23,159	24,423	24,855	23,478	22,124	25,481	27,531	31,592	33,532	33,946
(15)		STEAM	GWh	1,826	2,175	2,075	2,849	3,198	2,744	2,433	2,307	2,465	2,244	2,327	2,251
(16)		CC	GWh	20,775	21,469	20,204	20,644	20,580	19,504	18,539	22,168	24,140	28,612	30,498	30,818
(17)		CT	GWh	970	353	879	931	1,077	1,230	1,152	1,006	926	736	707	878
(18)	OTHER 2/														
	QF PURCHASES		GWh	2,423	2,767	2,174	1,571	1,565	1,657	1,656	1,652	1,640	1,577	1,522	1,523
	RENEWABLES		GWh	1,243	1,183	1,286	1,290	1,243	1,267	1,265	1,262	1,252	1,182	1,107	1,131
	IMPORT FROM OUT OF STATE		GWh	2,275	1,559	1,659	1,775	1,917	1,365	1,104	1,202	1,368	1,193	1,216	1,255
	EXPORT TO OUT OF STATE		GWh	-16	-4	0	0	0	0	0	0	0	0	0	0
(19)	NET ENERGY FOR LOAD		GWh	42,490	41,213	40,786	41,565	42,549	43,421	43,824	44,452	45,037	45,654	46,179	46,689

1/ NET ENERGY PURCHASED (+) OR SOLD (-) WITHIN THE FRCC REGION.
2/ NET ENERGY PURCHASED (+) OR SOLD (-).

PROGRESS ENERGY FLORIDA

SCHEDULE 6.2

ENERGY SOURCES (PERCENT)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
				-ACTUAL-											
	ENERGY SOURCES		UNITS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
(1)	ANNUAL FIRM INTERCHANGE 1/		%	4.5%	3.8%	1.6%	1.6%	2.0%	10.3%	14.7%	9.5%	7.1%	2.7%	0.9%	1.0%
(2)	NUCLEAR		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(3)	COAL		%	25.4%	24.3%	28.8%	28.3%	28.2%	25.1%	25.0%	23.5%	22.0%	19.2%	18.1%	17.8%
(4)	RESIDUAL	TOTAL	%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(5)		STEAM	%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(6)		CC	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(7)		CT	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(8)		DIESEL	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(9)	DISTILLATE	TOTAL	%	0.2%	0.3%	0.2%	0.2%	0.3%	0.6%	0.6%	0.4%	0.3%	0.2%	0.1%	0.2%
(10)		STEAM	%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(11)		CC	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(12)		CT	%	0.2%	0.1%	0.2%	0.2%	0.3%	0.6%	0.6%	0.4%	0.3%	0.2%	0.1%	0.2%
(13)		DIESEL	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(14)	NATURAL GAS	TOTAL	%	55.5%	58.2%	56.8%	58.8%	58.4%	54.1%	50.5%	57.3%	61.1%	69.2%	72.6%	72.7%
(15)		STEAM	%	4.3%	5.3%	5.1%	6.9%	7.5%	6.3%	5.6%	5.2%	5.5%	4.9%	5.0%	4.8%
(16)		CC	%	48.9%	52.1%	49.5%	49.7%	48.4%	44.9%	42.3%	49.9%	53.6%	62.7%	66.0%	66.0%
(17)		CT	%	2.3%	0.9%	2.2%	2.2%	2.5%	2.8%	2.6%	2.3%	2.1%	1.6%	1.5%	1.9%
(18)	OTHER 2/														
	QF PURCHASES		%	5.7%	6.7%	5.3%	3.8%	3.7%	3.8%	3.8%	3.7%	3.6%	3.5%	3.3%	3.3%
	RENEWABLES		%	2.9%	2.9%	3.2%	3.1%	2.9%	2.9%	2.9%	2.8%	2.8%	2.6%	2.4%	2.4%
	IMPORT FROM OUT OF STATE		%	5.4%	3.8%	4.1%	4.3%	4.5%	3.1%	2.5%	2.7%	3.0%	2.6%	2.6%	2.7%
	EXPORT TO OUT OF STATE		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(19)	NET ENERGY FOR LOAD		%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

1/ NET ENERGY PURCHASED (+) OR SOLD (-) WITHIN THE FRCC REGION.

2/ NET ENERGY PURCHASED (+) OR SOLD (-).

FORECASTING METHODS AND PROCEDURES

INTRODUCTION

Accurate forecasts of long-range electric energy consumption, customer growth, and peak demand are essential elements in electric utility planning. Accurate projections of a utility's future load growth require a forecasting methodology with the ability to account for a variety of factors influencing electric consumption over the planning horizon. PEF's forecasting framework utilizes a set of econometric models to achieve this end. This section will describe the underlying methodology of the customer, energy, and peak demand forecasts including the principal assumptions incorporated within each. Also included is a description of how DSM impacts the forecast and a review of DSM programs.

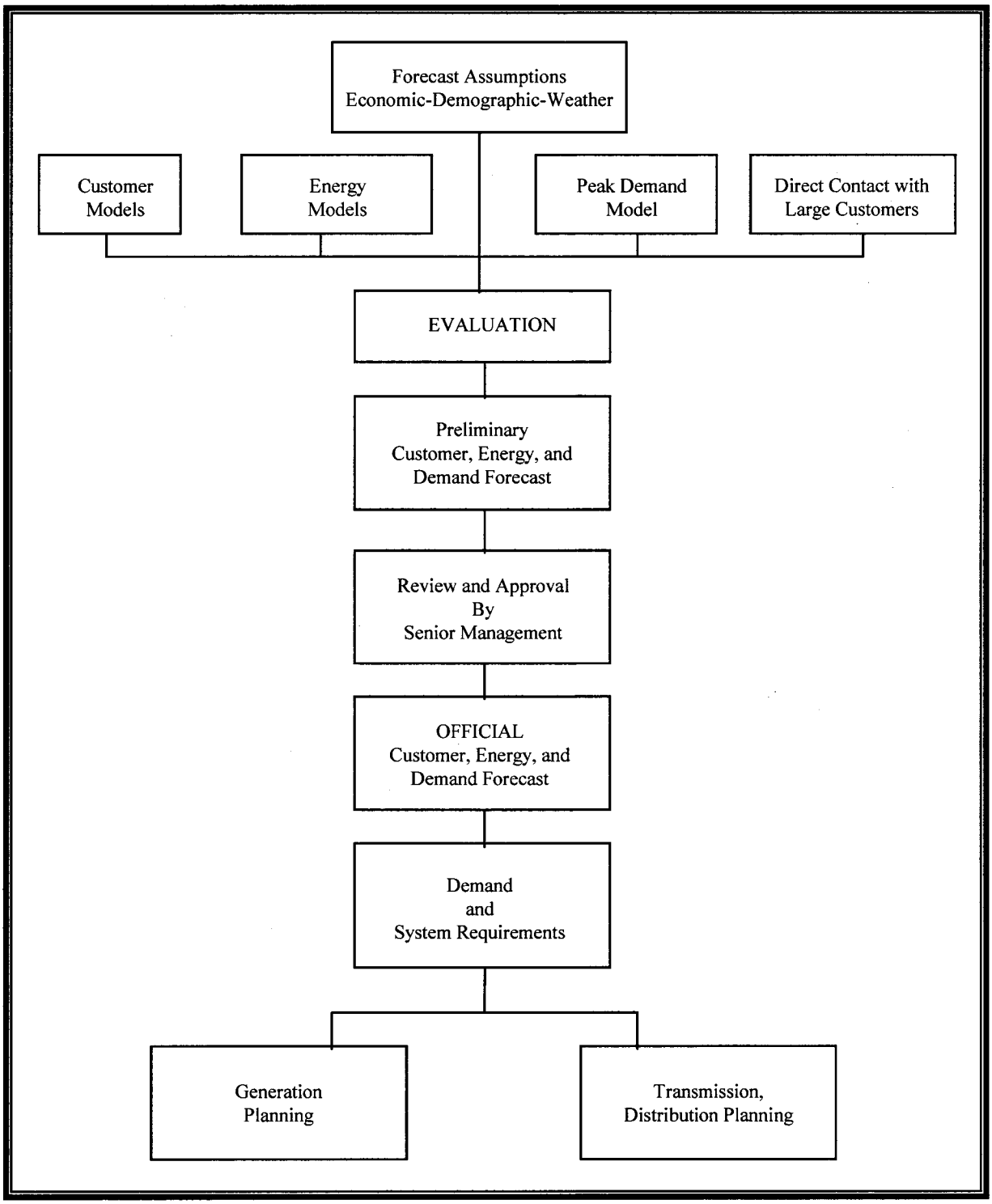
Figure 2.1, entitled "Customer, Energy and Demand Forecast," gives a general description of PEF's forecasting process. Highlighted in the diagram is a disaggregated modeling approach that blends the impacts of average class usage, as well as customer growth, based on a specific set of assumptions for each class. Also accounted for is some direct contact with large customers. These inputs provide the tools needed to frame the most likely scenario of the Company's future demand.

FORECAST ASSUMPTIONS

The first step in any forecasting effort is the development of assumptions upon which the forecast is based. A collaborative internal Company effort develops these assumptions including the research efforts of a number of external sources. These assumptions specify major factors that influence the level of customers, energy sales, or peak demand over the forecast horizon. The following set of assumptions forms the basis for the forecast presented in this document.

FIGURE 2.1

Customer, Energy, and Demand Forecast



GENERAL ASSUMPTIONS

1. Normal weather conditions for energy sales are assumed over the forecast horizon using a sales-weighted "modified" 20-year average of conditions at seven weather stations across Florida (Saint Petersburg, Tampa, Orlando, Winter Haven, Gainesville, Daytona Beach, and Tallahassee). For kilowatt-hour (kWh) sales projections, the normal weather calculation begins with a historical 20-year average of the service area weighted billing month degree-days then removes the two largest outliers from this average for each of the 12 months for both the heating season and cooling season. Seasonal peak demand projections are based on a 30-year historical average of system-weighted temperatures at time of seasonal peak at the Tampa, Orlando, and Tallahassee weather stations; the other weather stations are not used in developing the historic average because they lack the historic hourly data needed for peak-weather normalization.

2. The population projections produced by the BEBR at the University of Florida as published in "Florida Population Studies," Bulletin No. 162 (March 2012) provided the basis for development of the customer forecast. The projection incorporated the results of the 2010 decennial census for Florida counties which includes a historical review of the years 1991-2009 for each county. The PEF methodology aggregates a 29 county area representative of the retail service territory. National and Florida economic projections produced by Moody's Analytics in their August 2012 forecast provided the basis for development of the energy forecast.

3. Within the PEF service area, the phosphate mining industry is the dominant sector in the industrial sales class. Four major customers accounted for over 30 percent of the industrial class MWh sales in 2012. These energy intensive customers mine and process phosphate-based fertilizer products for the global marketplace. The supply and demand (price) for their products are dictated by global conditions that include, but are not limited to, foreign competition, national/international agricultural industry conditions, exchange-rate fluctuations, and international trade pacts. The price of the raw mined commodity often dictates production levels. Load and energy consumption at the PEF-served mining or chemical processing sites depend heavily on plant operations, which are heavily influenced by these global as well as the local conditions, including environmental regulations. Going forward, a weaker U.S. currency

value on the foreign exchange is expected to help the industry in two ways. First, American farm commodities have become more competitive overseas which has contributed to higher crop production at home. Second, a weak U.S. dollar results in U.S. fertilizer producers to become more price competitive relative to foreign producers. The PEF forecast calls for an increase in annual electric energy consumption levels for fertilizer producers. A risk to this projection lies in the price of energy, which is a major cost of both mining and producing phosphoric fertilizers. Fuel charges embedded in PEF's rates versus competitors' rates play a role as to where a mining customer directs output from self-owned generation facilities. This can reduce load for the utility.

4. PEF supplies load and energy service to wholesale customers on a "full," "partial," and "supplemental" requirement basis. Full requirements (FR) customers' demand and energy are assumed to grow at a rate that approximates their historical trend. However, the impact of the current recession has reduced short term growth expectations. Contracts for this service include the cities of Chattahoochee, Mt. Dora and Williston. Partial requirements (PR) customer load is assumed to reflect the current contractual obligations reflected by the nature of the stratified load they have contracted for, plus their ability to receive dispatched energy from power marketers any time it is more economical for them to do so. Contracts for PR service included in this forecast are with the Reedy Creek Improvement District (RCID), Seminole Electric Cooperative, Inc. (SECI), and the cities of New Smyrna Beach, Gainesville, Homestead and Winter Park.

   PEF has negotiated several power sales agreements with SECI beginning in various years over the ten-year horizon. An existing contractual arrangement is a "supplemental" service contract providing energy over and above stated levels they commit to supply themselves. This contract terminates in December 2013. Stratified partial requirements agreements over the next ten years include base strata, intermediate strata, a seasonal peaking strata and a system average sale. Finally, an agreement to provide interruptible service at a SECI metering site has also been included in this projection.

5. This forecast assumes that PEF will successfully renew all future franchise agreements.

6. This forecast incorporates demand and energy reductions expected to be realized through currently offered DSM programs.

7. Expected energy and demand reductions from customer-owned self-service cogeneration facilities are also included in this forecast. This projection assumes an increase of over 15 MW of self-service generation beginning in 2013 from two customers. PEF will supply the supplemental load of self-service cogeneration customers. While PEF offers "standby" service to all cogeneration customers, the forecast does not assume an unplanned need for power at time of peak.

8. This forecast assumes that the regulatory environment and the obligation to serve our retail customers will continue throughout the forecast horizon. Regarding wholesale customers, the forecast does not plan for generation resources unless a long-term contract is in place. FR customers are typically assumed to renew their contracts with PEF except those who have termination provisions and have given their notice to terminate. PR contracts are typically projected to terminate as terms reach their expiration date.

SHORT-TERM ECONOMIC ASSUMPTIONS

The economic outlook for this forecast was developed in the summer of 2012 as the nation displayed positive signs of growth. Most economic indicators pointed to better days ahead but Washington policy-makers continued to debateover pro-growth versus deficit reduction strategies which prolong uncertainty for consumers, employers and capital investment decision-makers. Consumer confidence and sentiment surveys have bounced back as the unemployment rate has dropped and stock market indexes are at double the levels reached at the trough of the recession.

This forecast tried to weigh two opposing opinions of future economic outlooks. One view sees continued improvement in several economic series. This view suggests that eventually, a de-leveraging American consumer will begin to spend again, feeling more secure about the outlook. The newfound abundance of American energy supplies, creating additional job growth and low

natural gas prices, is expected to improve the country's competitive advantage in several manufacturing sectors. Manufacturing activities returning to the U.S. have been reported. An alternative view anticipates an increasingly weaker national picture driven by weak demand from the debt-laden Euro-Zone economies. Policies requiring severe austerity measures to reduce sovereign debt levels are expected to lead to weak growth in Europe as well as in the U.S. This view suggests that a continued de-leveraging of the American consumer, lower job growth and tight credit standards dim hopes for a healthy short-term recovery. The commencement of the Affordable Care Act in 2014 continues to drive uncertainty for employers as a lack of understanding still remains.

The Federal Reserve Board policy of "quantitative easing" can claim some success for the improved housing market. Low mortgage rates have led to very low inventories of homes for sale and prices have begun to rise. Higher home prices help both homeowners and lenders by improving their financial security. Probably the best test that the economy has turned the corner will come as job growth reaches over 200,000 jobs per month and gains in "earned" income out-grow inflation.

In summary, the short term assumptions underlying this forecast are based on an economic outlook that involves a slower than normal recovery. Financial instability, whether it is called the "Fiscal Cliff", "sequestration" or "deficit reduction", will likely reduce economic growth from the public sector as well as stifle private sector decision-making in the near term.

LONG-TERM ECONOMIC ASSUMPTIONS

The long term economic outlook assumes that changes in economic and demographic conditions, as well as technological change impacting the electric utility industry, will follow a historical behavior pattern. The main focus involves identifying these trends. No attempt is made to predict business cycle fluctuations or rapid penetration of a significant technological breakthrough impacting electric utility energy sales during this period.

Population Growth Trends

This forecast assumes Florida will experience higher near-term population growth as economic

recovery takes hold, as reflected in the BEBR projections. Florida's climate and low cost of living have historically attracted a major share of the retirement population from the eastern half of the United States. Florida is expected to continue to be an attractive state for the increasing population of baby-boom generation retirees. Working against this significant trend will be several aesthetic and economic factors. First, the enormous growth in population and corresponding development of the 1980s, 1990s, and early 2000s made portions of Florida less desirable and less affordable for retirement living. This perceived diminished quality of retiree life, along with increasing competition from neighboring states, will cause a slight decline in Florida's share of these prospective new residents over the long term. Second, and to a lesser extent, there is a lingering fear for safety and expense from hurricane damage.

Economic Growth Trends

The Florida economy has always relied upon agriculture, tourism and development to serve as its economic growth engine. Recent efforts have been made to further diversify into the bioscience-related industries with some success. Setbacks, such as the severe financial crisis and the ending of a large piece of NASA's space flight industry, however, have left Florida significantly challenged. Declining revenues have forced budget cutbacks in most government departments and delays or cancelation of many state-supported projects. As with every previous recession, however, conditions are anticipated to improve and economic growth is assumed to return.

As a state with growing energy needs and a rapidly increasing average-aged population, Florida stands to benefit from strides currently being made in the health, technology and energy sectors. The nation has also realized the economic benefits that come from trade. Several Florida ports are being expanded to handle larger shipping vessels that will travel through an expanded Panama Canal. Florida has developed close trading ties with South America which has several countries that have developed into major emerging markets. Renewing economic ties with Cuba is now a reasonable possibility that could benefit the state. These trends along with an eventual turnaround in the state housing sector will lead to the assumed level of economic growth in the forecast.

FORECAST METHODOLOGY

The PEF forecast of customers, energy sales, and peak demand is developed using customer class-specific econometric models. These models are expressly designed to capture class-specific variation over time. By modeling customer growth and average energy usage individually, subtle changes in existing customer usage are better captured as well as growth from new customers. Peak demand models are projected on a disaggregated basis as well. This allows for appropriate handling of individual assumptions in the areas of wholesale contracts, load management, interruptible service and changes in self-service generation capacity.

ENERGY AND CUSTOMER FORECAST

In the retail jurisdiction, customer class models have been specified showing a historical relationship to weather and economic/demographic indicators using monthly data for sales models and annual data for customer models. Sales are regressed against "driver" variables that best explain monthly fluctuations over the historical sample period. Forecasts of these input variables are either derived internally or come from a review of the latest projections made by several independent forecasting concerns. The external sources of data include Moody's Analytics and the University of Florida's BEBR. Internal company forecasts are used for projections of electricity price, weather conditions, and the length of the billing month. Normal weather, which is assumed throughout the forecast horizon, is based on a twenty-year modified average of heating and cooling degree-days by month as measured at several weather stations throughout Florida for energy projections and temperatures around the hour of peak for the firm retail demand forecast. Projections of PEF's demand-side management (conservation) programs are also incorporated as reductions to the forecast. Specific sectors are modeled as follows:

Residential Sector

Residential kWh usage per customer is modeled as a function of real median household income, cooling degree-days, heating degree-days, the real price of electricity to the residential class and the average number of billing days in each sales month. This equation captures significant variation in residential usage caused by economic cycles, weather fluctuations, electric price movements, and sales month duration. Projections of kWh usage per customer combined with the customer forecast provide the forecast of total residential energy sales. The residential customer forecast is developed

by correlating annual customer growth with PEF service area population growth. County level population projections for counties in which PEF serves residential customers are provided by the BEBR.

Commercial Sector

Commercial MWh energy sales are forecast based on commercial sector (non-agricultural, non-manufacturing and non-governmental) employment, the real price of electricity to the commercial class, the average number of billing days in each sales month and heating and cooling degree-days. The measure of cooling degree-days utilized here differs slightly from that used in the residential sector reflecting different temperature base sensitivities, when heating and cooling load become observable. Commercial customers are projected as a function of the number of residential customers served.

Industrial Sector

Energy sales to this sector are separated into two sub-sectors. A significant portion of industrial energy use is consumed by the phosphate mining industry. Because this one industry is such a large share of the total industrial class, it is separated and modeled apart from the rest of the class. The term "non-phosphate industrial" is used to refer to those customers who comprise the remaining portion of total industrial class sales. Both groups are impacted significantly by changes in economic activity. However, adequately explaining sales levels requires separate explanatory variables. Non-phosphate industrial energy sales are modeled using Florida manufacturing employment and a Florida industrial production index, the real price of electricity to the industrial class, and the average number of sales month billing days.

The industrial phosphate mining industry is modeled using customer-specific information with respect to expected market conditions. Since this sub-sector is comprised of only four customers, the forecast is dependent upon information received from direct customer contact. PEF industrial customer representatives provide specific phosphate customer information regarding customer production schedules, inventory levels, area mine-out, start-up predictions, and changes in self-service generation or energy supply situations over the forecast horizon.

Street Lighting

Electricity sales to the street and highway lighting class have remained flat for years but have declined recently. A continued decline is expected as improvements in lighting efficiency are projected. The number of accounts, which has dropped by more than one-third since 1995 due to most transferring to public authority ownership, is expected to decline further before leveling off in the intermediate term. A simple time-trend was used to project energy consumption and customer growth in this class.

Public Authorities

Energy sales to public authorities (SPA), comprised mostly of government operated services, is also projected to grow with the size of the service area. The level of government services, and thus energy, can be tied to the population base, as well as to the state of the economy. Factors affecting population growth will affect the need for additional governmental services (i.e. public schools, city services, etc.) thereby increasing SPA energy consumption. Government employment has been determined to be the best indicator of the level of government services provided. This variable, along with heating and cooling degree-days (class specific), the real price of electricity and the average number of sales month billing days, results in a significant level of explained variation over the historical sample period. Adjustments are also included in this model to account for the large change in school-related energy use in the billing months of January, July, and August. The SPA customer forecast is projected linearly as a function of a time-trend. Recent budget issues have also had an impact on the near-term pace of growth.

Sales for Resale Sector

The Sales for Resale sector encompasses all firm sales to other electric power entities. This includes sales to other utilities (municipal or investor-owned) as well as power agencies (rural electric authority or municipal).

Seminole Electric Cooperative, Inc. (SECI) is a wholesale, or sales for resale, customer of PEF on both a supplemental contract basis and contract demand basis. Under the supplemental contract, PEF provides service for those energy requirements above the level of generation capacity served by either SECI's own facilities or its firm purchase obligations. Monthly

supplemental energy is developed using an average historical load shape of total SECI load in the PEF control area, subtracting out the level of SECI "committed" capacity from each hour. Beyond supplemental service, PEF has several agreements with SECI to serve various types of stratified demand levels deemed by their resource planners as necessary to meet their load characteristics and reserve requirements.

The municipal sales for resale class includes a number of customers, divergent not only in scope of service, (i.e. full or partial requirement), but also in composition of ultimate consumers. Each customer is modeled separately in order to accurately reflect its individual profile. Three customers in this class, Chattahoochee, Mt. Dora and Williston are municipalities whose full energy requirements are supplied by PEF. The full requirement customers' energy projections grow at a rate that approximates their historical trend with additional information coming from the respective city officials. PEF serves partial requirement service (PR) to municipalities such as New Smyrna Beach, Homestead, Gainesville and Winter Park, and another power provider Reedy Creek Improvement District (RCID). In each case, these customers contract with PEF for a specific level and type of demand needed to provide their particular electrical system with an appropriate level of reliability. The energy forecast for each contract is derived using its historical load factors where enough history exists, or typical load factors for a given type of contracted stratified load.

PEAK DEMAND FORECAST

The forecast of peak demand also employs a disaggregated econometric methodology. For seasonal (winter and summer) peak demands, as well as each month of the year, PEF's coincident system peak is separated into five major components. These components consist of potential firm retail load, conservation and load management program capability, wholesale demand, company use demand, and interruptible demand.

Potential firm retail load refers to projections of PEF retail hourly seasonal net peak demand (excluding the non-firm interruptible/curtailable/standby services) before any historical cumulative effects of company-aided conservation activity or the activation of PEF's General Load Reduction Plan. The historical values of this series are constructed to show the size of PEF's firm retail net peak demand assuming no utility induced conservation or load control had ever taken place. The

value of constructing such a "clean" series enables the forecaster to observe and correlate the underlying trend in retail peak demand to total system customer levels and coincident weather conditions at the time of the peak without the impacts of year-to-year variation in conservation activity or load control reductions. Seasonal peaks are projected using historical seasonal peak data regardless of which month the peak occurred. The projections become the potential retail demand projection for the months of January (winter) and August (summer) since this is typically when the seasonal peaks occur. The non-seasonal peak months are projected the same as the seasonal peaks, but the analysis is limited to the specific month being projected.

Energy conservation and direct load control estimates are consistent with PEF's DSM goals that have been established by the FPSC. These estimates are incorporated into the MW forecast. Projections of dispatchable and cumulative non-dispatchable DSM impacts are subtracted from the projection of potential firm retail demand resulting in a projected series of retail monthly peak demand figures.

Sales for Resale demand projections represent load supplied by PEF to other electric suppliers such as SECI, RCID, and other electric transmission and distribution entities. The SECI supplemental demand projection is based on SECI's projection of total load in the PEF control area. The level of MW to be served by PEF is dependent upon the amount of generation resources SECI supplies itself or contracts from others. For Partial Requirement demand projections, contracted MW levels dictate the level of monthly demands. The Full Requirement municipal demand forecast is estimated for individual cities using historically trended growth rates adjusted for current economic conditions.

PEF "company use" at the time of system peak is estimated using load research metering studies and is assumed to remain stable over the forecast horizon as it has historically. The interruptible and curtailable service (IS and CS) load component is developed from historic trends, as well as the incorporation of specific information obtained from PEF's large industrial accounts by account executives.

Each of the peak demand components described above is a positive value except for the DSM program MW impacts and IS and CS load. These impacts represent a reduction in peak demand and are assigned a negative value. Total system firm peak demand is then calculated as the arithmetic sum of the five components.

CONSERVATION

On August 16, 2011, the PSC issued Order No. PSC-11-0347-PAA-EG, Modifying and Approving the Demand Side Management Plan of PEF. In this Order, the FPSC modified PEF's DSM Plan to consist of those existing programs in effect as of the date of the Order.

The following tables show the 2010, 2011 and 2012 achievements from PEF's existing set of DSM programs.

Residential Conservation Savings Cumulative Achievements

Year	Summer MW	Winter MW	GWh Energy
	Achieved	Achieved	Achieved
2010	43	85	58
2011	82	160	110
2012	115	229	156

Commercial Conservation Savings Cumulative Achievements

Year	Summer MW	Winter MW	GWh Energy
	Achieved	Achieved	Achieved
2010	36	32	66
2011	65	61	132
2012	92	81	196

Total Conservation Savings Cumulative Achievements

Year	Summer MW	Winter MW	GWh Energy
	Achieved	Achieved	Achieved
2010	79	116	124
2011	148	221	242
2012	208	310	352

PEF's currently approved DSM programs consist of six residential programs, eight commercial and industrial programs, one research and development program, and six solar pilot programs. The programs are subject to periodic monitoring and evaluation for the purpose of ensuring that all demand-side resources are acquired in a cost-effective manner and that the program savings are durable. The following is a brief description of these programs. In 2012, PEF received administrative approval of revisions to four programs as a result of changes to the Florida Building Code: Home Energy Improvement, Residential New Construction, Business New Construction and Better Business. The Building Code changes resulted in increased minimum efficiency levels which resulted in an increase in the baseline efficiency level from which PEF provides incentives. The revisions to the programs are incorporated in the descriptions below.

RESIDENTIAL PROGRAMS

Home Energy Check

This energy audit program provides customers with an analysis of their current energy use and recommendations on how they can save on their electricity bills through low-cost or no-cost energy-saving practices and measures. The Home Energy Check program offers PEF customers the following types of audits: Type 1: Free Walk-Through Audit (Home Energy Check); Type 2: Customer-Completed Mail-In Audit (Do It Yourself Home Energy Check); Type 3: Online Home Energy Check (Internet Option)-a customer-completed audit; Type 4: Phone Assisted Audit – a customer assisted survey of structure and appliance use; Type 5: Computer Assisted Audit; Type 6: Home Energy Rating Audit (Class I, II, III); Type 7: Student Mail In Audit - a student-completed audit. The Home Energy Check program serves as the foundation of the

Home Energy Improvement program in that the audit is a prerequisite for participation in the energy saving measures offered in the Home Energy Improvement program.

Home Energy Improvement

This is the umbrella program to increase energy efficiency for existing residential homes. It combines efficiency improvements to the thermal envelope with upgrades to electric appliances. The program provides incentives for attic insulation upgrades, duct testing and repair, and high efficiency electric heat pumps. Additional measures within this program include spray-in wall insulation, central AC 14 Seasonal Energy Efficiency Ratio (SEER) non-electric heat, and proper sizing of high efficiency Heating, Ventilation and Air Conditioning (HVAC) systems, HVAC commissioning, reflective roof coating for manufactured homes, reflective roof for single-family homes, window film or screen, and replacement windows.

Residential New Construction

This program promotes energy efficient new home construction in order to provide customers with more efficient dwellings combined with improved environmental comfort. The program provides education and information to the design and building community on energy efficient equipment and construction. It also facilitates the design and construction of energy efficient homes by working directly with the builders to comply with program requirements. The program provides incentives to the builder for high efficiency electric heat pumps and high performance windows. The highest level of the program incorporates the U.S. Environmental Protection Agency's Energy Star Homes Program and qualifies participants for cooperative advertising. Additional measures within the Residential New Construction program include HVAC commissioning, window film or screen, reflective roof for single-family homes, attic spray-on foam insulation, conditioned space air handler, and energy recovery ventilation.

Low Income Weatherization Assistance

This umbrella program seeks to improve energy efficiency for low-income customers in existing residential dwellings. It combines efficiency improvements to the thermal envelope with upgrades to electric appliances. The program provides incentives for attic insulation upgrades,

duct testing and repair, reduced air infiltration, water heater wrap, HVAC maintenance, high efficiency heat pumps, heat recovery units, and dedicated heat pump water heaters.

Neighborhood Energy Saver

This program consists of 12 measures including compact fluorescent bulb replacement, water heater wrap and insulation for water pipes, water heater temperature check and adjustment, low-flow faucet aerator, low-flow showerhead, refrigerator coil brush, HVAC filters, and weatherization measures (i.e. weather stripping, door sweeps, etc.). In addition to the installation of new conservation measures, an important component of this program is educating families on energy efficiency techniques and the promotion of behavioral changes to help customers control their energy usage.

Residential Energy Management (EnergyWise)

This program allows PEF to reduce peak demand and thus defer generation construction. Peak demand is reduced by interrupting service to selected electrical equipment with radio-controlled switches installed on the customer's premises. These interruptions are at PEF's option, during specified time periods, and coincident with hours of peak demand. Participating customers receive a monthly credit on their electricity bills prorated above 600 kWh per month.

COMMERCIAL/INDUSTRIAL (C/I) PROGRAMS

Business Energy Check

This energy audit program provides commercial and industrial customers with an assessment of the current energy usage at their facilities, recommendations on how they can improve the environmental conditions of their facilities while saving on their electricity bills, and information on low-cost energy efficiency measures. The Business Energy Check consists of a free walk-through audit and a paid walk-through audit. Small business customers also have the option to complete a Business Energy Check online at Progress Energy's website. In most cases, this program is a prerequisite for participation in the other C/I programs.

Better Business

This is the umbrella efficiency program for existing commercial and industrial customers. The program provides customers with information, education, and advice on energy-related issues as well as incentives on efficiency measures. The Better Business program promotes energy efficient HVAC, building retrofit measures (in particular, ceiling insulation upgrade, duct leakage test and repair, energy-recovery ventilation, and Energy Star cool roof coating products), demand-control ventilation, efficient compressed air systems, efficient motors, efficient indoor lighting, green roof, occupancy sensors, packaged AC steam cleaning, roof insulation, roof-top unit recommissioning, thermal energy storage and window film or screen.

Commercial/Industrial New Construction

The primary goal of this program is to foster the design and construction of energy efficient buildings. The new construction program: 1) provides education and information to the design community on all aspects of energy efficient building design; 2) requires that the building design, at a minimum, surpass the State of Florida energy code; 3) provides financial incentives for specific energy efficient equipment; and 4) provides energy design awards to building design teams. Incentives are available for high efficiency HVAC equipment, energy recovery ventilation, Energy Star cool roof coating products, demand-control ventilation, efficient compressed air systems, efficient motors, efficient indoor lighting, green roof, occupancy sensors, roof insulation, thermal energy storage and window film or screen.

Innovation Incentive

This program promotes a reduction in demand and energy by subsidizing energy conservation projects for PEF customers. The intent of the program is to encourage legitimate energy efficiency measures that reduce peak demand and/or energy, but are not addressed by other programs. Energy efficiency opportunities are identified by PEF representatives during a Business Energy Check audit. If a candidate project meets program specifications, it may be eligible for an incentive payment, subject to PEF approval.

Commercial Energy Management (Rate Schedule GSLM-1)

This direct load control program reduces PEF's demand during peak or emergency conditions. As described in PEF's DSM Plan, this program is currently closed to new participants. It is applicable to existing program participants who have electric space cooling equipment suitable for interruptible operation and are eligible for service under the Rate Schedule GS-1, GST-1, GSD-1, or GSDT-1. The program is also applicable to existing participants who have any of the following electrical equipment installed on permanent structures and utilized for the following purposes: 1) water heater(s), 2) central electric heating systems(s), 3) central electric cooling system(s), and or 4) swimming pool pump(s). Customers receive a monthly credit on their bills depending on the type of equipment in the program and the interruption schedule.

Standby Generation

This demand control program reduces PEF's demand based upon the indirect control of customer generation equipment. This is a voluntary program available to all commercial, industrial, and agricultural customers who have on-site generation capability of at least 50 kW, and are willing to reduce their demand when PEF deems it necessary. Customers participating in the Standby Generation program receive a monthly credit on their electric bills according to their demonstrated ability to reduce demand at PEF's request.

Interruptible Service

This direct load control program reduces PEF's demand at times of capacity shortage during peak or emergency conditions. The program is available to qualified non-residential customers with an average billing demand of 500 kW or more, who are willing to have their power interrupted. PEF will have remote control of the circuit breaker or disconnect switch supplying the customer's equipment. In return for the ability to interrupt load, customers participating in the Interruptible Service program receive a monthly credit applied to their electric bills.

Curtailable Service

This load control program reduces PEF's demand at times of capacity shortage during peak or emergency conditions. The program is available to qualified non-residential customers with an average billing demand of 500 kW or more, who are willing to curtail 25 percent of their average

monthly billing demand. Customers participating in the Curtailable Service program receive a monthly credit applied to their electric bills.

RESEARCH AND DEVELOPMENT PROGRAMS

Technology Development

The primary purpose of this program is to establish a system to "Aggressively pursue research, development and demonstration projects jointly with others as well as individual projects" (Rule 25-17.001(5)(f), Florida Administration Code). In accordance with the rule, the Technology Development program facilitates the research of innovative technologies and continued advances within the energy industry. PEF will undertake certain development, educational and demonstration projects that have potential to become DSM programs. Examples of such projects include the evaluation of Premise Area Networks that provide an increase in customer awareness of efficient energy usage while advancing demand response capabilities. Additional projects include the evaluation of off-peak generation with energy storage for on-peak demand consumption, small-scale wind and smart charging for plug-in hybrid electric vehicles. In most cases, each demand reduction and energy efficiency project that is proposed and investigated under this program requires field-testing with customers.

DEMAND-SIDE RENEWABLE PORTFOLIO

Solar Water Heating for the Low-income Residential Customers Pilot

This pilot program is designed to assist low-income families with energy costs by incorporating a solar thermal water heating system in their residence while it is under construction. PEF will collaborate with non-profit builders to provide low-income families with a residential solar thermal water heater. The solar thermal system will be provided at no cost to the non-profit builders or the residential participants.

Solar Water Heating with Energy Management

This program represents an updated version of the previous residential Renewable Energy Program. It encourages residential customers to install new solar thermal water heating systems on their residence with the requirement for customers to participate in our residential Energy

Management program (EnergyWise). Participants will receive a one-time $550 rebate designed to reduce the upfront cost of the renewable energy system, plus a monthly bill credit associated with their participation in the residential Energy Management program.

Residential Solar Photovoltaic Pilot

This pilot encourages residential customers to install new solar photovoltaic (PV) systems on their home. A PEF audit is required prior to system installation to qualify for this rebate. Participating customers will receive a one-time rebate of up to $20,000 to reduce the initial investment required to install a qualified renewable solar PV system. The rebate is based on the wattage of the PV (DC) power rating.

Commercial Solar Photovoltaic Pilot

This pilot encourages commercial customers to install new solar PV systems on their facilities. A PEF energy audit is required prior to system installation to qualify for this rebate. The program provides participating commercial customers with a tiered rebate to reduce the initial investment in a qualified solar PV system. The rebate is based on the PV (DC) power rating of the unit installed. The total incentives per participant will be limited to $130,000, based on a maximum installation of 100 kW.

Photovoltaic For Schools Pilot

This pilot is designed to assist schools with energy costs while promoting energy education. This program provides participating public schools with new solar photovoltaic systems at no cost to the school. The primary goals of the program are to:

- Eliminate the initial investment required to install a solar PV system
- Increase renewable energy generation on PEF's system
- Increase participation in existing residential Demand Side Management measures through energy education
- Increase solar education and awareness in PEF communities and schools

The program will be limited to an annual target of one system with a rating up to 100 KW installed on a post secondary public school and ten 10 KW systems with battery backup option installed on public K-12 schools, preferably serving as emergency shelters.

Research and Demonstration Pilot

The purpose of this program is to research technology and establish Research and Design initiatives to support the development of renewable energy pilot programs. Demonstration projects will provide real-world field testing to assist in the development of these initiatives. The program will be limited to a maximum annual expenditure equal to 5% of the total Demand-Side Renewable Portfolio annual expenditures.

CHAPTER 3

FORECAST OF FACILITIES REQUIREMENTS

Progress Energy

CHAPTER 3

FORECAST OF FACILITIES REQUIREMENTS

RESOURCE PLANNING FORECAST

OVERVIEW OF CURRENT FORECAST

Supply-Side Resources

As of December 31, 2012 PEF had a summer total capacity resource of 12,092 MW (see Table 3.1). This capacity resource includes nuclear (in February 2013 PEF announced the retirement of CR3, 789 MW), fossil steam (3,431 MW), combined-cycle plants (3,191 MW), combustion turbines (2,473 MW; 143 MW of which is owned by Georgia Power for the months June through September), utility purchased power (412 MW), independent power purchases (1,113 MW), and non-utility purchased power (683 MW). Table 3.2 presents PEF's firm capacity contracts with Renewable and Cogeneration Facilities.

Demand-Side Programs

Total DSM resources are presented in Schedules 3.1 and 3.2 of Chapter 2. These programs include Non-Dispatchable DSM, Interruptible Load, and Dispatchable Load Control resources.

Capacity and Demand Forecast

PEF's forecasts of capacity and demand for the projected summer and winter peaks can been found in Schedules 7.1 and 7.2, respectively. PEF's forecasts of capacity and demand are based on serving expected growth in retail requirements in its regulated service area and meeting commitments to wholesale power customers who have entered into supply contracts with PEF. In its planning process, PEF balances its supply plan for the needs of retail and wholesale customers and endeavors to ensure that cost-effective resources are available to meet the needs across the customer base.

Base Expansion Plan

PEF's planned supply resource additions and changes are shown in Schedule 8 and are referred to as PEF's Base Expansion Plan. This plan includes the retirement of Crystal River 3 in 2013, expected retirement of Crystal River 1 & 2 in 2016, planned power purchases from 2016 through 2020 and planned installation of combined cycle facilities in 2018 and 2020 at undesignated sites. The addition of Levy Unit 1 and Unit 2 are not included in this ten-year planning horizon but have planned in-service dates of 2024 and 2025, respectively. These additions depend, in part, on projected load growth, and obtaining all necessary state and federal permits under current schedules. Changes in these or other factors could impact PEF's Base Expansion Plan.

PEF's Base Expansion Plan projects the need for additional capacity with proposed in-service dates during the ten-year period from 2013 through 2022. The planned capacity additions, together with purchases from Qualifying Facilities (QF), Investor Owned Utilities, and Independent Power Producers help the PEF system meet the energy requirements of its customer base. The capacity needs identified in this plan may be impacted by PEF's ability to extend or replace existing purchase power, cogeneration and QF contracts and to secure new renewable purchased power resources in their respective projected timeframes. Status reports and specifications for the planned new generation facilities are included in Schedule 9. The planned transmission lines associated with PEF Bulk Electric System (BES) are shown in Schedule 10.

PEF announced the retirement of Crystal River Unit 3 effective January 31, 2013. This has been reflected in this TYSP.

The promulgation of the Mercury and Air Toxics Standards (MATS) by EPA in April of 2012 presents new environmental requirements for the PEF units at Anclote, Suwannee and Crystal River.

- The three steam units at Suwannee are capable of operation on both natural gas and residual oil. These units will be able to comply with the MATS rule by ceasing operation on residual oil prior to the April 2015 compliance date.
- PEF has begun a project at the Anclote facility to convert the two residual oil fired units there to 100% firing on natural gas. This project is expected to be complete by early second quarter of 2014. The project will result in no change to the output of the two units.

- NOx and SO_2 control equipment was added to Units 4 and 5 at Crystal River in 2009 and 2010. These environmental control upgrades are expected to enable these two units to operate in compliance with the requirements of the MATS, but PEF is conducting tests to confirm expected performance levels.
- Crystal River Units 1 and 2 are not capable of meeting the emissions requirements for MATS in their current configuration and using the current fuel. In addition, under the terms of the revised air permit, subject to approval of the State Implementation Plan for compliance with the requirements of the Clean Air Visible Haze Rule, these units are required to cease coal fired operation by the end of 2020 unless scrubbers are installed prior to the end of 2018. PEF anticipates retiring these units prior to 2020.
    - In this TYSP, PEF anticipates retiring these units in April of 2016 following the receipt of a one year MATS compliance extension from the Florida Department of Environmental Protection due to the need to make transmission grid upgrades to maintain reliability. PEF continues to evaluate alternatives that would allow these units to operate in compliance with MATS during the period 2015 – 2020.

Additional details regarding PEF's compliance strategies in response to the MATS rule are provided in PEF's annual update to the Integrated Clean Air Compliance Plan filed in Docket No. 130007-EI.

PEF continues to look ahead to the projected retirements of several of the older units in the fleet, particularly combustion turbines at Higgins, Avon Park, Turner and Rio Pinar as well as the three steam units at Suwannee. The Suwannee units are anticipated to have their operational lives extended to the spring of 2018. The other units continue to show anticipated retirement dates in 2016.

Given the retirements and anticipated retirements discussed above, particularly at the Crystal River Energy Complex, along with expected load growth, PEF is preparing to add additional resources in the period beginning in 2016.

- PEF is currently negotiating with a number of counterparties including cogenerators, independent power producers and neighboring utilities to purchase energy and firm capacity to supplement PEF's current owned generation and contracted resources. Based on PEF's current projected needs, these contracts will vary in capacity and length, projected to be principally 2, 4 and 5 year contracts. Anticipated energy and capacity supplied by these

contracts are reflected in this TYSP. Specific counterparties are not identified as commercial negotiations are ongoing.

- PEF is preparing for the addition of two new combined cycle units, one in service beginning in 2018 and the other in 2020. Early development of the 2018 unit including site selection and preliminary engineering is currently underway. A preferred site for this unit has not yet been selected and thus is not reflected in Chapter 4.

TABLE 3.1

PROGRESS ENERGY FLORIDA

**TOTAL CAPACITY RESOURCES OF
POWER PLANTS AND PURCHASED POWER CONTRACTS**

AS OF DECEMBER 31, 2012

PLANTS	NUMBER OF UNITS	SUMMER NET DEPENDABLE CAPABILITY (MW)	
Nuclear Steam			
Crystal River	1	789	*(1)*
Total Nuclear Steam	1	789	
Fossil Steam			
Crystal River	4	2,291	
Anclote	2	1,011	
Suwannee River	3	129	
Total Fossil Steam	9	3,431	
Combined Cycle			
Bartow	1	1,074	
Hines Energy Complex	4	1,912	
Tiger Bay	1	205	
Total Combined cycle	6	3,191	
Combustion Turbine			
DeBary	10	636	
Intercession City	14	986	*(2)*
Bayboro	4	174	
Bartow	4	177	
Suwannee	3	155	
Turner	4	134	
Higgins	4	105	
Avon Park	2	48	
University of Florida	1	46	
Rio Pinar	1	12	
Total Combustion Turbine	47	2,473	
Total Units	**63**		
Total Net Generating Capability		**9,884**	

(1) Adjusted for sale of approximately 8.2% of total capacity

(2) Includes 143 MW owned by Georgia Power Company (Jun-Sep)

Purchased Power			
Firm Qualifying Facility Contracts	13	683	
Investor Owned Utilities	2	412	
Independent Power Producers	2	1,113	
TOTAL CAPACITY RESOURCES		**12,092**	

TABLE 3.2

PROGRESS ENERGY FLORIDA
FIRM RENEWABLES
AND COGENERATION CONTRACTS

AS OF DECEMBER 31, 2012

Facility Name	Firm Capacity (MW)
Dade County Resource Recovery	43
El Dorado	114.2
Lake Cogen	110
Lake County Resource Recovery	12.8
LFC Jefferson	8.5
LFC Madison	8.5
Mulberry	115
Orange Cogen (CFR-Biogen)	74
Orlando Cogen	79.2
Pasco County Resource Recovery	23
Pinellas County Resource Recovery 1	40
Pinellas County Resource Recovery 2	14.8
Ridge Generating Station	39.6
TOTAL	**682.6**

PROGRESS ENERGY FLORIDA

SCHEDULE 7.1
FORECAST OF CAPACITY, DEMAND AND SCHEDULED MAINTENANCE
AT TIME OF SUMMER PEAK

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TOTAL[a] INSTALLED CAPACITY	FIRM[b] CAPACITY IMPORT	FIRM CAPACITY EXPORT	QF[c]	TOTAL CAPACITY AVAILABLE	SYSTEM FIRM SUMMER PEAK DEMAND	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE	RESERVE MARGIN AFTER MAINTENANCE	
YEAR	MW	MW	MW	MW	MW	MW	MW	% OF PEAK	MW	MW	% OF PEAK
2013	8,952	1,926	0	173	11,052	8,965	2,087	23%	0	2,087	23%
2014	8,952	1,831	0	177	10,960	9,026	1,935	21%	0	1,935	21%
2015	8,952	1,871	0	177	11,000	9,185	1,816	20%	0	1,816	20%
2016	7,898	3,340	0	177	11,415	9,442	1,974	21%	0	1,974	21%
2017	7,898	3,340	0	177	11,415	9,504	1,911	20%	0	1,911	20%
2018	8,958	2,840	0	177	11,975	9,674	2,301	24%	0	2,301	24%
2019	8,958	2,840	0	177	11,975	9,846	2,129	22%	0	2,129	22%
2020	10,147	1,860	0	177	12,185	10,017	2,168	22%	0	2,168	22%
2021	10,147	1,860	0	177	12,185	10,086	2,099	21%	0	2,099	21%
2022	10,334	1,860	0	177	12,371	10,252	2,119	21%	0	2,119	21%

Notes:

a. Total Installed Capacity does not include the 143 MW to Southern Company from Intercession City, P11.

b. FIRM Capacity Import includes Cogeneration, Utility and Independent Power Producers, and Short Term Purchase Contracts.

c. QF includes Firm Renewables

PROGRESS ENERGY FLORIDA

SCHEDULE 7.2
FORECAST OF CAPACITY, DEMAND AND SCHEDULED MAINTENANCE
AT TIME OF WINTER PEAK

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TOTAL INSTALLED CAPACITY	FIRM[a] CAPACITY IMPORT	FIRM CAPACITY EXPORT	QF[b]	TOTAL CAPACITY AVAILABLE	SYSTEM FIRM WINTER PEAK DEMAND	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE	RESERVE MARGIN AFTER MAINTENANCE	
YEAR	MW	MW	MW	MW	MW	MW	MW	% OF PEAK	MW	MW	% OF PEAK
2012/13	10,996	2,121	0	173	13,290	8,987	4,303	48%	805	3,498	39%
2013/14	10,191	1,915	0	190	12,297	9,090	3,207	35%	0	3,207	35%
2014/15	10,191	1,915	0	177	12,284	9,710	2,574	27%	0	2,574	27%
2015/16	10,191	1,945	0	177	12,314	9,842	2,472	25%	0	2,472	25%
2016/17	9,089	3,424	0	177	12,691	9,910	2,781	28%	0	2,781	28%
2017/18	9,089	3,424	0	177	12,691	10,036	2,655	26%	0	2,655	26%
2018/19	10,265	2,924	0	177	13,366	10,188	3,178	31%	0	3,178	31%
2019/20	10,265	2,924	0	177	13,366	10,335	3,031	29%	0	3,031	29%
2020/21	11,571	1,944	0	177	13,693	10,485	3,208	31%	0	3,208	31%
2021/22	11,571	1,944	0	177	13,693	10,635	3,058	29%	0	3,058	29%

Notes:

a. FIRM Capacity Import includes Cogeneration, Utility and Independent Power Producers, and Short Term Purchase Contracts.

b. QF includes Firm Renewables

PROGRESS ENERGY FLORIDA

SCHEDULE 8
PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

AS OF JANUARY 1, 2013 THROUGH DECEMBER 31, 2022

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
								CONST.	COM'L IN-	EXPECTED	GEN. MAX.	NET CAPABILITY[a]			
	UNIT	LOCATION	UNIT	FUEL		FUEL TRANSPORT		START	SERVICE	RETIREMENT	NAMEPLATE	SUMMER	WINTER		
PLANT NAME	NO.	(COUNTY)	TYPE	PRI.	ALT.	PRI.	ALT.	MO. / YR	MO. / YR	MO. / YR	KW	MW	MW	STATUS[b]	NOTES[c]
CRYSTAL RIVER	3	CITRUS	NP	BIT		RR	WA		10/1966	1/2013		(789)	(805)	RT	(1)
ANCLOTE	1	PASCO	ST	NG		PL			4/2013			0	0	FC	(1)
ANCLOTE	2	PASCO	ST	NG		PL			12/2013			0	0	FC	(1)
CRYSTAL RIVER	1	CITRUS	ST	BIT		RR	WA		10/1966	4/2016		(370)	(372)	RT	(1)
CRYSTAL RIVER	2	CITRUS	ST	BIT		RR	WA		11/1969	4/2016		(499)	(503)	RT	(1)
HIGGINS	P1-4	PINELLAS	GT							d.		(105)	(116)	P	(1)
TURNER	P1-2	VOLUSIA	GT							d.		(20)	(26)	P	(1)
AVON PARK	P1-2	HIGHLANDS	GT							d.		(48)	(70)	P	(1)
RIO PINAR	P1	ORANGE	GT							d.		(12)	(15)	P	(1)
SUWANNEE RIVER	1-3	SUWANNEE	ST							e		(129)	(131)	P	(1)
UNKNOWN	1	UNKNOWN	CC					01/2015	06/2018			1189	1307	P	(1)
UNKNOWN	2	UNKNOWN	CC					01/2017	06/2020			1189	1307	P	(1)
UNKNOWN	1	UNKNOWN	CT					06/2020	06/2022			187	214	P	(1)

a. Net capability of Crystal River 3 represents approximately 91.8% PEF Ownership.
b. See page v. for Code Legend of Future Generating Unit Status.
c. NOTES
(1) Planned, Prospective, or Committed project.
d. Higgins P1-4, Turner P1-2, Avon Park P1-2, Rio Pinar P1 are expected to be shut down by 6/2016.
e. Suwannee 1-3 are expected to be shut down by 5/2018.

PROGRESS ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2013

(1)	Plant Name and Unit Number:		**Undesignated CC1**	
(2)	Capacity			
	a. Summer:		1189	
	b. Winter:		1307	
(3)	Technology Type:		COMBINED CYCLE	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		1/2015	
	b. Commercial in-service date:		6/2018	(EXPECTED)
(5)	Fuel			
	a. Primary fuel:		NATURAL GAS	
	b. Alternate fuel:		DISTILLATE FUEL OIL	
(6)	Air Pollution Control Strategy:		SCR and CO Catalyst	
(7)	Cooling Method:		Cooling Tower	
(8)	Total Site Area:		UNKNOWN	ACRES
(9)	Construction Status:		PLANNED	
(10)	Certification Status:		PLANNED	
(11)	Status with Federal Agencies:		PLANNED	
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		6.66	%
	b. Forced Outage Factor (FOF):		6.36	%
	c. Equivalent Availability Factor (EAF):		87.40	%
	d. Resulting Capacity Factor (%):		86.1	%
	e. Average Net Operating Heat Rate (ANOHR):		6,703	BTU/kWh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		25	
	b. Total Installed Cost (In-service year $/kW):		1,403.25	
	c. Direct Construction Cost ($/kW):	($2013)	1,181.33	
	d. AFUDC Amount ($/kW):		127.95	
	e. Escalation ($/kW):		93.97	
	f. Fixed O&M ($/kW-yr):	($2013)	4.89	
	g. Variable O&M ($/MWh):	($2013)	4.19	
	h. K Factor:		NO CALCULATION	

NOTES
. Total Installed Cost includes gas expansion, transmission interconnection and integration
. $/kW values are based on Summer capacity
. Fixed O&M cost does not include firm gas transportation costs

PROGRESS ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2013

(1)	Plant Name and Unit Number:	**Undesignated CC2**	
(2)	Capacity		
	a. Summer:	1189	
	b. Winter:	1307	
(3)	Technology Type:	COMBINED CYCLE	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	1/2017	
	b. Commercial in-service date:	6/2020	(EXPECTED)
(5)	Fuel		
	a. Primary fuel:	NATURAL GAS	
	b. Alternate fuel:	DISTILLATE FUEL OIL	
(6)	Air Pollution Control Strategy:	SCR and CO Catalyst	
(7)	Cooling Method:	Cooling Tower	
(8)	Total Site Area:	UNKNOWN	ACRES
(9)	Construction Status:	PLANNED	
(10)	Certification Status:	PLANNED	
(11)	Status with Federal Agencies:	PLANNED	
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	6.66	%
	b. Forced Outage Factor (FOF):	6.36	%
	c. Equivalent Availability Factor (EAF):	87.40	%
	d. Resulting Capacity Factor (%):	81.5	%
	e. Average Net Operating Heat Rate (ANOHR):	6,720	BTU/kWh
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	25	
	b. Total Installed Cost (In-service year $/kW):	1,066.64	
	c. Direct Construction Cost ($/kW): ($2013)	858.74	
	d. AFUDC Amount ($/kW):	97.53	
	e. Escalation ($/kW):	110.37	
	f. Fixed O&M ($/kW-yr): ($2013)	1.84	
	g. Variable O&M ($/MWh): ($2013)	4.19	
	h. K Factor:	NO CALCULATION	

NOTES
. Total Installed Cost includes gas expansion, transmission interconnection and integration
. $/kW values are based on Summer capacity
. Fixed O&M cost does not include firm gas transportation costs

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2013

(1)	Plant Name and Unit Number:		**Undesignated CT1**	
(2)	Capacity			
	a. Summer:		187	
	b. Winter:		214	
(3)	Technology Type:		SIMPLE CYCLE	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		1/2020	
	b. Commercial in-service date:		6/2022	(EXPECTED)
(5)	Fuel			
	a. Primary fuel:		NATURAL GAS	
	b. Alternate fuel:		DISTILLATE FUEL OIL	
(6)	Air Pollution Control Strategy:		Dry Low NOx Combustion	
(7)	Cooling Method:		N/A	
(8)	Total Site Area:		UNKNOWN	ACRES
(9)	Construction Status:		PLANNED	
(10)	Certification Status:		PLANNED	
(11)	Status with Federal Agencies:		PLANNED	
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		3.85	%
	b. Forced Outage Factor (FOF):		2.05	%
	c. Equivalent Availability Factor (EAF):		94.18	%
	d. Resulting Capacity Factor (%):		10.9	%
	e. Average Net Operating Heat Rate (ANOHR):		10,649	BTU/kWh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		25	
	b. Total Installed Cost (In-service year $/kW):		715.02	
	c. Direct Construction Cost ($/kW):	($2013)	567.83	
	d. AFUDC Amount ($/kW):		30.95	
	e. Escalation ($/kW):		116.24	
	f. Fixed O&M ($/kW-yr):	($2013)	3.00	
	g. Variable O&M ($/MWh):	($2013)	10.13	
	h. K Factor:		NO CALCULATION	

NOTES
. Total Installed Cost includes gas expansion, transmission interconnection and integration
. $/kW values are based on Summer capacity
. Fixed O&M cost does not include firm gas transportation costs

PROGRESS ENERGY FLORIDA

SCHEDULE 10
STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

PEF has not designiated a site for this CC1, CC2 or CT1 in Schedule 8 and therefore does not have any Directly Associated Lines with these units.

INTEGRATED RESOURCE PLANNING OVERVIEW

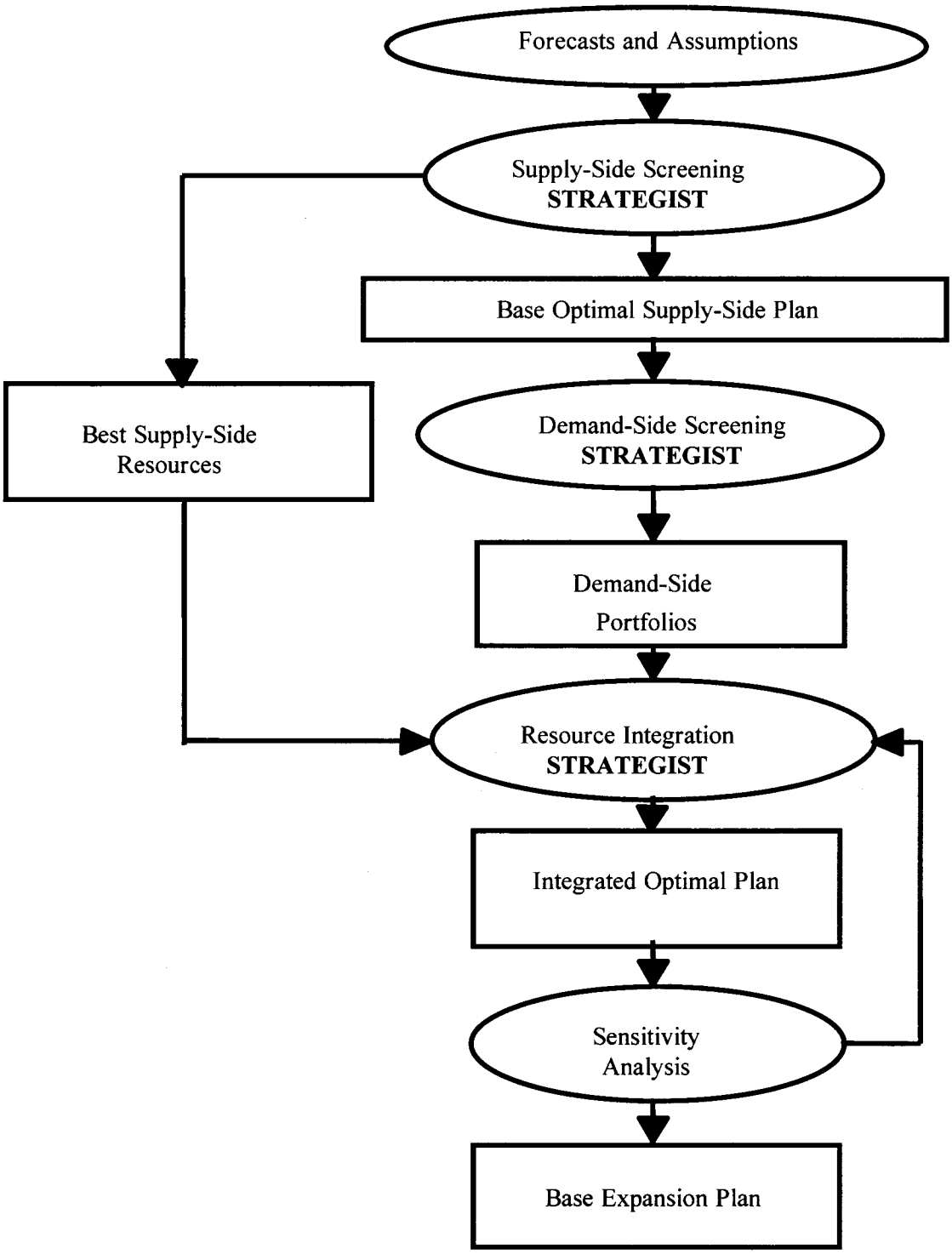
PEF employs an Integrated Resource Planning (IRP) process to determine the most cost-effective mix of supply- and demand-side alternatives that will reliably satisfy our customers' future demand and energy needs. PEF's IRP process incorporates state-of-the-art computer models used to evaluate a wide range of future generation alternatives and cost-effective conservation and dispatchable demand-side management programs on a consistent and integrated basis.

An overview of PEF's IRP Process is shown in Figure 3.1. The process begins with the development of various forecasts, including demand and energy, fuel prices, and economic assumptions. Future supply- and demand-side resource alternatives are identified and extensive cost and operating data are collected to enable these to be modeled in detail. These alternatives are optimized together to determine the most cost-effective plan for PEF to pursue over the next ten years to meet the Company's reliability criteria. The resulting ten-year plan, the Integrated Optimal Plan, is then tested under different relevant sensitivity scenarios to identify variances, if any, which would warrant reconsideration of any of the base plan assumptions. If the plan is judged robust and works within the corporate framework, it evolves as the Base Expansion Plan. This process is discussed in more detail in the following section titled "The Integrated Resource Planning (IRP) Process".

The IRP provides PEF with substantial guidance in assessing and optimizing the Company's overall resource mix on both the supply side and the demand side. When a decision supporting a significant resource commitment is being developed (e.g. plant construction, power purchase, DSM program implementation), the Company will move forward with directional guidance from the IRP and delve much further into the specific levels of examination required. This more detailed assessment will typically address very specific technical requirements and cost estimates, detailed corporate financial considerations, and the most current dynamics of the business and regulatory environments.

FIGURE 3.1

Integrated Resource Planning (IRP) Process Overview



THE INTEGRATED RESOURCE PLANNING (IRP) PROCESS

Forecasts and Assumptions

The evaluation of possible supply- and demand-side alternatives, and development of the optimal plan, is an integral part of the IRP process. These steps together comprise the integration process that begins with the development of forecasts and collection of input data. Base forecasts that reflect PEF's view of the most likely future scenario are developed. Additional future scenarios along with high and low forecasts may also be developed. Computer models used in the process are brought up-to-date to reflect this data, along with the latest operating parameters and maintenance schedules for PEF's existing generating units. This establishes a consistent starting point for all further analysis.

Reliability Criteria

Utilities require a margin of generating capacity above the firm demands of their customers in order to provide reliable service. Periodic scheduled outages are required to perform maintenance and inspections of generating plant equipment and to refuel nuclear plants. At any given time during the year, some capacity may be out of service due to unanticipated equipment failures resulting in forced outages of generation units. Adequate reserve capacity must be available to accommodate these outages and to compensate for higher than projected peak demand due to forecast uncertainty and abnormal weather. In addition, some capacity must be available for operating reserves to maintain the balance between supply and demand on a moment-to-moment basis.

PEF plans its resources in a manner consistent with utility industry planning practices, and employs both deterministic and probabilistic reliability criteria in the resource planning process. A Reserve Margin criterion is used as a deterministic measure of PEF's ability to meet its forecasted seasonal peak load with firm capacity. PEF plans its resources to satisfy a 20 percent Reserve Margin criterion.

Loss of Load Probability (LOLP) is a probabilistic criterion that measures the probability that a company will be unable to meet its load throughout the year. While Reserve Margin considers the peak load and amount of installed resources, LOLP takes into account generating unit sizes, capacity mix, maintenance scheduling, unit availabilities, and capacity assistance available from other utilities. A standard probabilistic reliability threshold commonly used in the electric utility

industry, and the criterion employed by PEF, is a maximum of one day in ten years loss of load probability.

PEF has based its resource planning on the use of dual reliability criteria since the early 1990s, a practice that has been accepted by the FPSC. PEF's resource portfolio is designed to satisfy the 20 percent Reserve Margin requirement and probabilistic analyses are periodically conducted to ensure that the one day in ten years LOLP criterion is also satisfied. By using both the Reserve Margin and LOLP planning criteria, PEF's resource portfolio is designed to have sufficient capacity available to meet customer peak demand, and to provide reliable generation service under expected load conditions. PEF has found that resource additions are typically triggered to meet the 20 percent Reserve Margin thresholds before LOLP becomes a factor.

Supply-Side Screening

Potential supply-side resources are screened to determine those that are the most cost-effective. Data used for the screening analysis is compiled from various industry sources and PEF's experiences. The wide range of resource options is pre-screened to set aside those that do not warrant a detailed cost-effectiveness analysis. Typical screening criteria are costs, fuel source, technology maturity, environmental parameters (e.g. possible climate legislation), and overall resource feasibility.

Economic evaluation of generation alternatives is performed using the Strategist® optimization program. This optimization tool evaluates revenue requirements for specific resource plans generated from multiple combinations of future resource additions that meet system reliability criteria and other system constraints. All resource plans are then ranked by system revenue requirements.

Demand-Side Screening

Like supply-side resources, data for large numbers of potential demand-side resources are also collected. These resources are pre-screened to eliminate those alternatives that are still in research and development, addressed by other regulations (e.g. building code), or not applicable to PEF's customers. Strategist® is updated with cost data and load impact parameters for each potential DSM measure to be evaluated.

The Base Optimal Supply-Side Plan is used to establish avoidable units for screening future demand-side resources. Each future demand-side alternative is individually tested in this plan over the ten-year planning horizon to determine the benefit or detriment that the addition of this demand-side resource provides to the overall system. Strategist® calculates the benefits and costs for each demand-side measure evaluated and reports the appropriate ratios for the Rate Impact Measure (RIM), the Total Resource Cost Test (TRC), and the Participant Test.

Resource Integration and the Integrated Optimal Plan

The cost-effective generation alternatives and the demand-side portfolios developed in the screening process can then be optimized together to formulate integrated optimal plans. The optimization program considers all possible future combinations of supply- and demand-side alternatives that meet the Company's reliability criteria in each year of the ten-year study period and reports those that provide both flexibility and reasonable revenue requirements (rates) for PEF's ratepayers.

Developing the Base Expansion Plan

The integrated optimized plan that provides the lowest revenue requirements may then be further tested using sensitivity analysis. The economics of the plan may be evaluated under high and low forecast scenarios for fuel, load and financial assumptions, or any other sensitivities which the planner deems relevant. From the sensitivity assessment, the plan that is identified as achieving the best balance of flexibility and cost is then reviewed within the corporate framework to determine how the plan potentially impacts or is impacted by many other factors. If the plan is judged robust under this review, it would then be considered the Base Expansion Plan.

KEY CORPORATE FORECASTS

Load Forecast

The assumptions and methodology used to develop the base case load and energy forecast are described in Chapter 2 of this TYSP.

Fuel Forecast

The base case fuel price forecast was developed using short-term and long-term spot market price projections from industry-recognized sources. The base cost for coal is based on the existing

contracts and spot market coal prices and transportation arrangements between PEF and its various suppliers. For the longer term, the prices are based on spot market forecasts reflective of expected market conditions. Oil and natural gas prices are estimated based on current and expected contracts and spot purchase arrangements as well as near-term and long-term market forecasts. Oil and natural gas commodity prices are driven primarily by open market forces of supply and demand. Natural gas firm transportation cost is determined primarily by pipeline tariff rates.

Financial Forecast

The key financial assumptions used in PEF's most recent planning studies were 47 percent debt and 53 percent equity capital structure, projected cost of debt of 3.05 percent, and an equity return of 10.5 percent. The assumptions resulted on a weighted average cost of capital of 7.00 percent and an after-tax discount rate of 6.47 percent.

TEN-YEAR SITE PLAN (TYSP) RESOURCE ADDITIONS

The planned units in this TYSP result in a robust plan that includes the retirement of the Crystal River Nuclear Unit No. 3 in January 2013, retirement of Crystal River Units 1 & 2 in 2016, the installation of combined cycle units in 2018 and 2020 at locations that has not yet been chosen, as well as purchases in years 2016 through 2020. Levy Units 1 & 2 are beyond this ten-year planning horizon but are planned for the years 2024 and 2025, respectively. Additionally, PEF anticipates the retirements of older, smaller combustion turbines and steam units in the year 2016 and 2018, respectively.

Through its ongoing planning process, PEF will continue to evaluate the timetables for all projected resource additions and assess alternatives for the future considering, among other things, projected load growth, fuel prices, and lead times in the construction marketplace, project development timelines for new fuels and technologies, and environmental compliance considerations. The Company will continue to examine the merits of new generation alternatives and adjust its resource plans accordingly to ensure optimal selection of resource additions based on the best information available.

RENEWABLE ENERGY

PEF continues to make purchases from the following facilities listed by fuel type:

Municipal Solid Waste Facilities:

Lake County Resource Recovery (12.8 MW)

Metro-Dade County Resource Recovery (43 MW)

Pasco County Resource Recovery (23 MW)

Pinellas County Resource Recovery (54.8 MW)

Waste Heat from Exothermic Processes:

PCS Phosphate (As Available)

Waste Wood, Tires, and Landfill Gas:

Ridge Generating Station (39.6 MW)

Photovoltaics

PEF owned installations (approximately 930 kW)

PEF's Net Metering Tariff includes over 12.5 MW of solar PV

In addition, PEF has contracts with U.S. EcoGen (60 MW), TransWorld Energy (40 MW), and FB Energy (60 MW). U.S. Ecogen will utilize an energy crop, while the FB Energy facility and the TransWorld Energy facility will utilize wood products as their fuel source.

PEF has also signed several As-Available contracts utilizing biomass and solar PV technologies. A summary of renewable energy resources is below.

Supplier	Size (MW)	Currently Delivering?	Anticipated In-Service Date
Lake County Resource Recovery	12.8	Yes	
Metro-Dade Resource Recovery	43	Yes	
Pasco County Resource Recovery	23	Yes	
Pinellas County Resource Recovery	54.8	Yes	
Ridge Generating Station	39.6	Yes	
PCS Phosphate	As Avail	Yes	
FB Energy	60	No	12/1/13
U.S. EcoGen Polk	60	No	1/1/14

Trans World Energy	40	No	7/1/13
PEF owned Photovoltaics	1	Yes	
Net Metered Customers (1,118)	12.5	Yes	
Blue Chip Energy - Sorrento	As Avail	No	See Note Below
National Solar - Gadsden	As Avail	No	See Note Below
National Solar - Hardee	As Avail	No	See Note Below
National Solar - Highlands	As Avail	No	See Note Below
National Solar - Osceola	As Avail	No	See Note Below
National Solar - Suwannee	As Avail	No	See Note Below

Note: As Available purchases are made on an hour-by-hour basis for which contractual commitments as to the quantity, time, or reliability of delivery are not required.

PEF continues to seek out renewable suppliers that can provide reliable capacity and energy at economic rates. PEF continues to keep an open Request for Renewables (RFR) soliciting proposals for renewable energy projects. PEF's open RFR continues to receive interest and to date has logged over 310 responses. PEF will continue to submit renewable contracts in compliance with FPSC rules.

Depending upon the mix of generators operating at any given time, the purchase of renewable energy may reduce PEF's use of fossil fuels. Non-intermittent renewable energy sources also defer or eliminate the need to construct more conventional generators.

PLAN CONSIDERATIONS

Load Forecast

In general, higher-than-projected load growth would shift the need for new capacity to an earlier year and lower-than-projected load growth would delay the need for new resources. The Company's resource plan provides the flexibility to shift certain resources to earlier or later in-service dates should a significant change in projected customer demand begin to materialize.

TRANSMISSION PLANNING

PEF's transmission planning assessment practices are developed to test the ability of the planned system to meet the reliability criteria as outlined in the FERC Form 715 filing, and to assure the system meets PEF, Florida Reliability Coordinating Council, Inc. (FRCC), and North American Reliability Corporation (NERC) criteria. This involves the use of load flow and transient stability programs to model various contingency situations that may occur, and determining if the system response meets the reliability criteria. In general, this involves running simulations for the loss of any single line, generator, or transformer. PEF normally runs this analysis for system peak and off-peak load levels for possible contingencies, and for both summer and winter. Additional studies are performed to determine the system response to credible, but less probable criteria. These studies include the loss of multiple generators, lines or combinations of each (some load loss is permissible under the more severe disturbances). These credible, but less probable scenarios are also evaluated at various load levels, since some of the more severe situations occur at average or minimum load conditions. In particular, critical fault clearing times are typically the shortest (most severe) at minimum load conditions, with just a few large base load units supplying the system needs.

As noted in the PEF reliability criteria, some remedial actions are allowed to reduce system loadings, in particular, sectionalizing is allowed to reduce loading on lower voltage lines for bulk system contingencies, but the risk to load on the sectionalized system must be reasonable (it would not be considered prudent to operate for long periods with a sectionalized system). In addition, the number of remedial action steps and the overall complexity of the scheme are evaluated to determine overall acceptability.

PEF presently uses the following reference documents to calculate and manage Available Transfer Capability (ATC), Total Transfer Capability (TTC) and Transmission Reliability Margin (TRM) for required transmission path postings on the Florida Open Access Same Time Information System (OASIS):

- http://www.oatioasis.com/FPC/FPCdocs/ATCID.docx.

- http://www.oatioasis.com/FPC/FPCdocs/TRMID.docx

PEF uses the following reference document to calculate and manage Capacity Benefit Margin (CBM):

- http://www.oatioasis.com/FPC/FPCdocs/CBMID.docx

PEF proposed bulk transmission line additions are summarized in the following Table 3.3. PEF has listed only the larger transmission projects. These projects may change depending upon the outcome of PEF's final corridor and specific route selection process.

TABLE 3.3
PROGRESS ENERGY FLORIDA
LIST OF PROPOSED BULK TRANSMISSION LINE ADDITIONS
2013 - 2022

MVA RATING WINTER	LINE OWNERSHIP	TERMINALS		LINE LENGTH (CKT-MILES)	COMMERCIAL IN-SERVICE DATE (MO./YEAR)	NOMINAL VOLTAGE (kV)
1370	PEF	INTERCESSION CITY	Gifford	13	5/31/2013	230
1000	PEF	KATHLEEN	ZEPHYRHILLS N	12	5/31/2013	230

CHAPTER 4

ENVIRONMENTAL AND LAND USE INFORMATION

Progress Energy

CHAPTER 4
ENVIRONMENTAL AND LAND USE INFORMATION

PREFERRED SITES

PEF's expansion plan beyond this TYSP planning horizon includes nuclear power at the Levy County greenfield site with the first unit planned for in 2024 and a second unit in 2025. PEF continues to evaluate available options for future supply alternatives. Appropriate permitting requirements for PEF's preferred Levy Site are discussed in the following site description.

LEVY COUNTY NUCLEAR POWER PLANT – LEVY COUNTY

PEF has named a site in southern Levy County as the preferred location for construction of new generation. The Company is planning the construction of nuclear generation at this site with the first unit planned in 2024 and a second unit in 2025 which are both beyond the planning horizon for this TYSP.

The Levy County site (see Figures 4.1 a & b) is approximately 3,100 acres and located eight miles inland from the Gulf of Mexico and roughly ten miles north of the existing PEF Crystal River Energy Complex.

The site is about 2.5 miles from the Cross Florida Barge Canal, from which the Levy units may draw their makeup water to supply the on-site cooling water system. The Levy County Plant, together with the necessary associated site facilities, will occupy approximately ten percent of the 3,100 acre site and the remaining acreage will be preserved as an exclusionary boundary around the developed plant site and a buffer preserve. PEF purchased an additional 2,100 acre tract contiguous with the southern boundary of the Levy site that secures access to a water supply for the site from the Cross Florida Barge Canal as well as transmission corridors from the plant site. The property for many years had been used for cultivation of forest trees and was designated as Forestry/Rural Residential. The surrounding area land use is predominantly vacant, commercial forestry lands.

This site was chosen based on several considerations including availability of land and water resources, access to the electric transmission system, and environmental considerations. First, the Levy County site had access to an adequate water supply. Second, the site is at a relatively high elevation, which provides additional protection from wind damage and flooding. Third, unlike a number of other sites considered, the Levy site has more favorable geotechnical qualities, which are critical to siting a nuclear power plant. Fourth, the Levy site provides geographical separation from other electrical generating facilities. This site separation decreases the likelihood of a significant generation loss from a single event and a potential large-scale impact on the PEF system. The Levy County location also would assist in avoiding a potential loss from a single significant transmission system event that might result in a large-scale impact on the PEF system.

PEF's assessment of the Levy County site addressed whether any threatened and endangered species or archeological and cultural resources would be adversely impacted by the development of the site for nuclear generation units and related facilities. No significant issues were identified in PEF's evaluations of the property.

The Levy unit will be located on a greenfield site where site and transmission infrastructure must be constructed along with the buildings necessary for the power units. The site will include cooling towers, intake and discharge structures, containment buildings, auxiliary buildings, turbine buildings, diesel generators, warehouses, related site work and infrastructure, including roads, transmission lines, and a transmission substation. The proximity of the Levy County site to the PEF's existing Crystal River Site may provide opportunities for efficiencies in support functions with the existing Crystal River infrastructure. The Company submitted a Site Certification Application (SCA) to the Florida Department of Environmental Protection (FDEP) on June 2, 2008, for the entire site, including plants and associated facilities for the units. Site certification hearings were completed in March 2009, and the Siting Board approved the final certification in August 2009.

Nuclear power is a clean source of electric power generation. Electric power generation from nuclear fuel produces no sulfur dioxide (SO_2), nitrogen oxide (NO_x), green house gases (GHG), or other emissions. Therefore, it will have a positive effect on the surrounding air quality.

Water discharged from nuclear plants must meet federal Clean Water Act requirements and state water-quality standards. Before operating, a nuclear plant's licensing process requires an environmental impact statement that carefully examines and resolves all potential impacts to water quality from the operation of the plant. These issues include concerns about the discharge of waste water and the impacts on aquatic life in cooling water used by the plant.

Transmission modifications will be required to accommodate the Levy County Nuclear Power Plant.

FIGURE 4.1.a.

Levy County Nuclear Power Plant (Levy County)

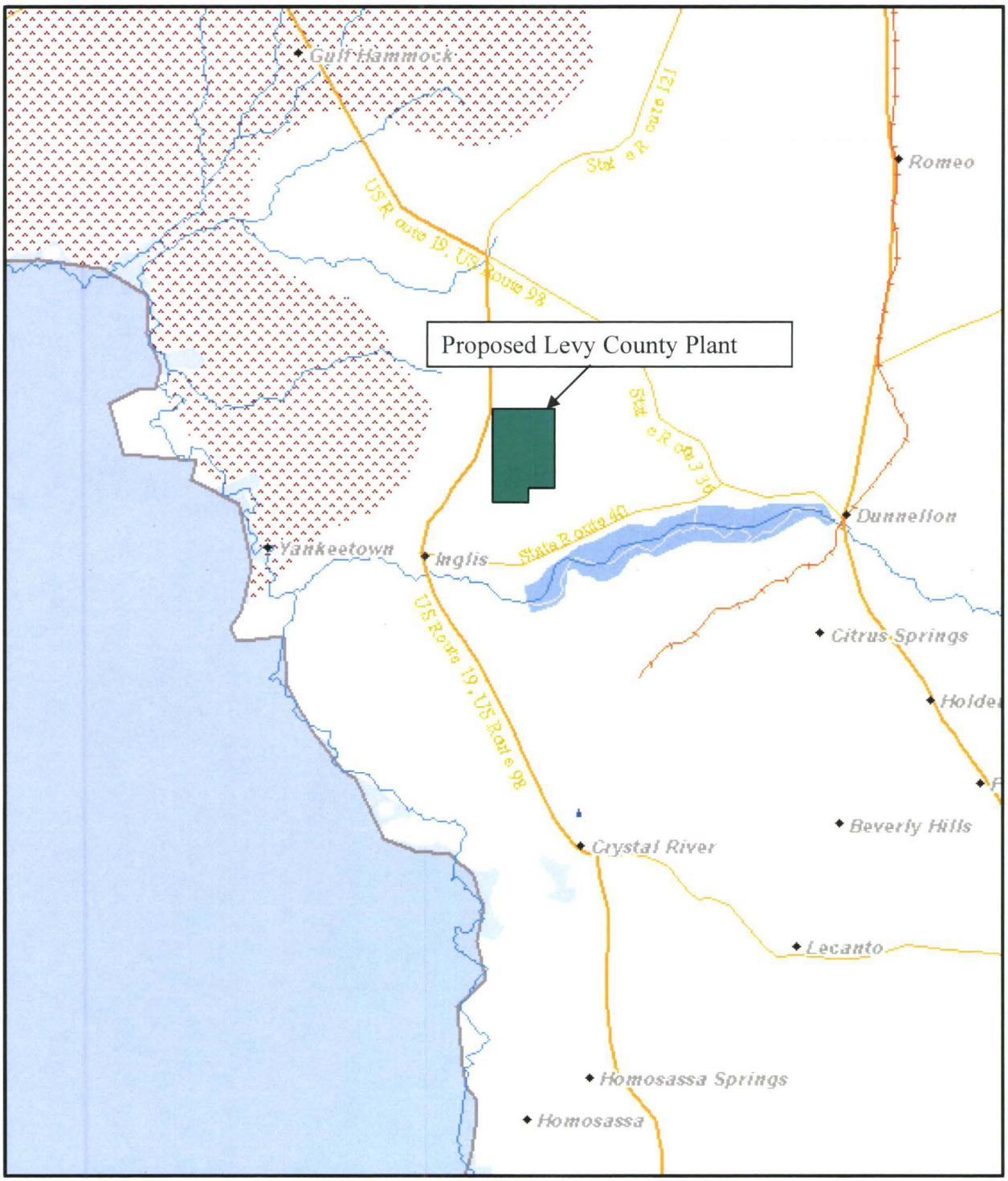


FIGURE 4.1.b.

Levy County Nuclear Power Plant (Levy County) – Aerial View