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March 29, 2013

Ms. Ann Cole, Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee FL 32399-0870

RECEIVED-FPSC  
13 APR - 1 AM 9:00  
COMMISSION  
CLERK

130000-0T

Re: 2013 Ten Year Site Plan

Dear Ms. Cole:

Enclosed is an original and twenty-five copies of Gulf Power Company's 2013 Ten Year Site Plan filed pursuant to F.P.S.C. Rule No. 25-22.071.

Sincerely,

Robert L. McGee, Jr.  
Regulatory and Pricing Manager

md

Enclosures

cc: Beggs & Lane  
Jeffrey A. Stone, Esq.

- COM \_\_\_\_\_
- AFD \_\_\_\_\_
- APA \_\_\_\_\_
- ECO \_\_\_\_\_
- ENG 24
- GCL I
- IDM \_\_\_\_\_
- TEL \_\_\_\_\_
- CLK \_\_\_\_\_

DOCUMENT NUMBER-DATE

01558 APR-1 2013

FPSC-COMMISSION CLERK

# TEN YEAR SITE PLAN 2013-2022

FOR ELECTRIC GENERATING FACILITIES  
AND  
ASSOCIATED TRANSMISSION LINES

APRIL 2013



DOCUMENT NUMBER-DATE

01558 APR-1 2013

FPSC-COMMISSION CLERK

**GULF POWER COMPANY  
TEN YEAR SITE PLAN**

**FOR ELECTRIC GENERATING FACILITIES  
AND  
ASSOCIATED TRANSMISSION LINES**

**Submitted To The  
State of Florida  
Public Service Commission**

**APRIL 1, 2013**

DOCUMENT NUMBER-DATE  
01558 APR-1 2013  
FPSC-COMMISSION CLERK

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## **GULF POWER COMPANY**

### **TEN-YEAR SITE PLAN**

#### **Executive Summary**

The Gulf Power Company (Gulf) 2013 Ten-Year Site Plan is filed with the Florida Public Service Commission (FPSC) in accordance with the requirements of Chapter 186.801, Florida Statutes, as revised by the Legislature in 1995. The revision replaced the Florida Department of Community Affairs with the FPSC as the state agency responsible for the oversight of the Ten-Year Site Plan (TYSP). Gulf's 2013 TYSP is being filed in compliance with the applicable FPSC rules.

Included in Gulf's 2013 TYSP is the documentation of assumptions used for Gulf's load forecast, fuel forecasts, the planning processes, existing resources, and future capacity needs and resources. The resource planning process utilized by Gulf to determine its future capacity needs is coordinated within the Southern electric system Integrated Resource Planning (SES IRP) process. Gulf participates in the IRP process along with other Southern electric system retail operating companies, Alabama Power Company, Georgia Power Company, and Mississippi Power Company, (collectively, the "Southern electric system" or SES), and it shares in a number of benefits gained from planning in conjunction with a large system such as the SES. These benefits include the economic sharing of SES generating reserves, the ability to install large, efficient generating units, and reduced requirements for operating reserves.

The capacity resource needs set forth in the SES IRP are driven by the demand forecast that includes the load reduction effects of projected demand-



side measures that are embedded into the forecast prior to entering the generation mix process. The generation mix process uses PROVIEW® to screen the available technologies in order to produce a listing of preferred capacity resources from which to select the most cost-effective plan for the system. The resulting SES resource needs are then allocated among the operating companies based on reserve requirements, and each company then determines the resources that will best meet its capacity and reliability needs.

During the 2013 TYSP cycle, Gulf will continue to utilize the two purchased power agreements (PPAs) that currently supply 494 megawatts (MW) of peaking power from two existing regional market facilities to serve customers' electrical needs until their expiration on May 31, 2014. To meet its capacity requirements following the expiration of the peaking PPAs, Gulf executed a PPA with Shell Energy North America (Shell PPA) on March 16, 2009 for 885 MWs from an existing gas-fired combined cycle generating unit located in Alabama. This PPA resource has been utilized by Gulf to serve its customers on a non-firm basis since November 2009, and it is scheduled to meet Gulf's firm capacity requirements no later than June 2014.

The Shell PPA capacity combined with Gulf's diverse fleet of existing coal, natural gas, oil, and renewable generating units that is shown on Schedule 1 of this TYSP will enable Gulf to meet its reserve margin requirements for the duration of the 2013-2022 planning cycle. Because Gulf and SES loads are forecasted to be significantly lower in the 2013-2022 time period than were disclosed for the previous ten year period, the timing of Gulf's next capacity need has changed from 2022 as noted in last year's TYSP to 2023. The SES IRP

indicates that Gulf will need to add combined cycle (CC) generating capacity by June 2023 to replace the 885 MWs of Shell PPA capacity following its expiration in May 2023. Gulf will need to develop a self build proposal for this potential CC addition and issue a Request for Proposals (RFP) in order to secure the most cost effective resource that satisfies this capacity need.

As early as 2015 of this ten year planning period, Gulf's existing coal-fired generation must comply with specific emission limits contained in the Environmental Protection Agency's (EPA) Mercury and Air Toxics Standards (MATS) rule. Gulf has recently finalized its MATS compliance plans for Plant Crist and Plant Daniel, but its MATS compliance plans for Plant Smith has not been finalized. Continued evaluation of various MATS compliance strategies for Plant Smith may include changing units' fuel sources, installation of emission control equipment, unit retirements, and/or transmission facility upgrades and additions. Preliminary analyses indicate that potential incremental capital expenditures for compliance may be substantial. At this point in the evaluation process, Gulf has determined that upgrades to its transmission system should be a part of any potentially viable MATS compliance strategy for Plant Smith. Future Smith analyses will also take into account the anticipated EPA land and water compliance requirements.

Evaluation of various options for Plant Scholz to comply with MATS and future environmental regulations indicates that significant investments in capital equipment will be required to meet those environmental rule requirements. Given Plant Scholz' small size and age, the required compliance expenditures for

the plant cannot be justified. Therefore, Gulf has decided to retire Plant Scholz as of April 2015.

Until the impacts of MATS and all currently proposed EPA land and water regulations on the future coal-fired operations at Plant Smith are more fully evaluated and compliance plans for this plant are finalized, Gulf will assume that the coal-fired units at Smith will be available to operate on coal throughout the 2013-2022 planning cycle. Gulf will update its environmental compliance program and submit its finalized plans for Plant Smith to the FPSC once the most cost-effective compliance options for this plant have been determined

# CHAPTER I

## DESCRIPTION OF EXISTING FACILITIES

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## DESCRIPTION OF EXISTING FACILITIES

Gulf owns and operates generating facilities at five sites in Northwest Florida (Plants Crist, Smith, Scholz, Pea Ridge, and Perdido). Gulf also owns a 50% undivided ownership interest in Unit 1 and Unit 2 at Mississippi Power Company's Daniel Electric Generating Facility. Gulf has a 25% ownership in Unit 3 at Georgia Power Company's Scherer Electric Generating Facility which is completely dedicated to wholesale power sales contracts. This fleet of generating units consists of eleven fossil steam units, one combined cycle unit, four combustion turbines, and two internal combustion engine units fueled by landfill gas. Schedule 1 shows 903 MW of steam generation located at the Crist Electric Generating Facility near Pensacola, Florida. The Lansing Smith Electric Generating Facility near Panama City, Florida, includes 357 MW of steam generation, 556 MW (summer rating) of combined cycle generation, and 32 MW (summer rating) of combustion turbine facilities. The Scholz Electric Generating Facility, near Sneads, Florida, consists of 92 MW of steam generation. Gulf's Pea Ridge Facility, in Pace, Florida, consists of three combustion turbines associated with an existing customer's cogeneration facility, which adds 12 MW (summer rating) to Gulf's existing capacity. The Perdido Landfill Gas-to-Energy Facility in Escambia County, Florida provides 3 MW from two internal combustion generating units.

Including Gulf's ownership interest in the Daniel fossil steam Units 1 and 2 and the Scherer fossil steam Unit 3, Schedule 1, as of December 31, 2012,

shows Gulf's total net summer generating capability to be 2,683 MW and its total net winter generating capability to be 2,722 MW.

The existing Gulf system in Northwest Florida, including major generating plants, substations, transmission lines, are shown on the system map on page 9 of this TYSP. Data related to Gulf's existing generating facilities is presented on Schedule 1 of this TYSP.

GULF POWER COMPANY

SCHEDULE 1  
EXISTING GENERATING FACILITIES  
AS OF DECEMBER 31, 2012

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Plant Name	Unit No.	Location	Unit Type	Fuel		Fuel Transp		Alt. Fuel Days Use	Com'l In-Service Mo/Yr	Exptd Retrmnt Mo/Yr	Gen Max Nameplate KW	Net Capability	
				Pri	Alt	Pri	Alt					Summer MW	Winter MW
Crist		Escambia County 25/1N/30W									<u>1,135,250</u>	<u>903.0</u>	<u>903.0</u>
	4		FS	C	NG	WA	PL	1	07/59	12/24	93,750	75.0	75.0
	5		FS	C	NG	WA	PL	1	06/61	12/26	93,750	75.0	75.0
	6		FS	C	NG	WA	PL	1	05/70	12/35	369,750	288.0	288.0
	7		FS	C	--	--	--	--	08/73	12/38	578,000	465.0	465.0
Lansing Smith		Bay County 36/2S/15W									<u>1,001,500</u>	<u>945.0</u>	<u>981.0</u>
	1		FS	C	--	WA	--	--	06/65	12/30	149,600	162.0	162.0
	2		FS	C	--	WA	--	--	06/67	12/32	190,400	195.0	195.0
	3		CC	NG	--	PL	--	--	04/02	12/42	619,650	556.0	584.0
	A		CT	LO	--	TK	--	--	05/71	12/27	41,850	32.0	40.0
Scholz		Jackson County 12/3N/7W									<u>98,000</u>	<u>92.0</u>	<u>92.0</u>
	1		FS	C	--	RR	WA	--	03/53	04/15	49,000	46.0	46.0
	2		FS	C	--	RR	WA	--	10/53	04/15	49,000	46.0	46.0
(A) Daniel		Jackson County, MS 42/5S/6W									<u>548,250</u>	<u>510.0</u>	<u>510.0</u>
	1		FS	C	HO	RR	TK	--	09/77	12/42	274,125	255.0	255.0
	2		FS	C	HO	RR	TK	--	06/81	12/46	274,125	255.0	255.0
(A) Scherer	3	Monroe County, GA	FS	C	--	RR	--	--	01/87	12/52	222,750	218.0	218.0
Pea Ridge		Santa Rosa County 15/1N/29W									<u>14,250</u>	<u>12.0</u>	<u>15.0</u>
	1		CT	NG	--	PL	--	--	05/98	12/18	4,750	4.0	5.0
	2		CT	NG	--	PL	--	--	05/98	12/18	4,750	4.0	5.0
	3		CT	NG	--	PL	--	--	05/98	12/18	4,750	4.0	5.0

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**GULF POWER COMPANY**

**SCHEDULE 1  
EXISTING GENERATING FACILITIES  
AS OF DECEMBER 31, 2012**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<u>Plant Name</u>	<u>Unit No.</u>	<u>Location</u>	<u>Unit Type</u>	<u>Fuel</u>		<u>Fuel Transp</u>		<u>Alt. Fuel Days Use</u>	<u>Com'l In-Service Mo/Yr</u>	<u>Exptd Retrmnt Mo/Yr</u>	<u>Gen Max Nameplate KW</u>	<u>Net Capability</u>	
				<u>Pri</u>	<u>Alt</u>	<u>Pri</u>	<u>Alt</u>					<u>Summer MW</u>	<u>Winter MW</u>
Perdido LFG		Escambia County									<u>3,200</u>	<u>3.0</u>	<u>3.0</u>
	1		IC	LFG	--	PL	--	--	10/10	12/29	1,600	1.5	1.5
	2		IC	LFG	--	PL	--	--	10/10	12/29	1,600	1.5	1.5
Total System											<u>2,683.0</u>	<u>2,722.0</u>	

∞

Abbreviations:

Fuel

FS - Fossil Steam  
 CT - Combustion Turbine  
 CC - Combined Cycle  
 NG - Natural Gas  
 C - Coal  
 LO - Light Oil  
 HO - Heavy Oil  
 IC - Internal Combustion  
 LFG - Landfill Gas

Fuel Transportation

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

NOTE: (A) Unit capabilities shown represent Gulf's portion of Daniel Units 1 & 2 (50%) and Scherer Unit 3 (25%).

# GULF POWER COMPANY TRANSMISSION & SUBSTATION SYSTEM



## Legend

- |                                |            |                        |
|--------------------------------|------------|------------------------|
| 2001 CIRCUIT MILES OF OVERHEAD |            |                        |
| — 230 KV LINES                 | 389 MILES  | ▲ GPCO SUBSTATION      |
| — 115 KV LINES                 | 1035 MILES | ■ GPCO STEAM PLANT     |
| — 46 KV LINES                  | 131 MILES  | ▲ GPCO SWITCH FACILITY |
| — AEC 115 KV LINES             |            | ● AEC SUBSTATION       |
| — AEC 46 KV LINES              |            | ■ AEC GENERATING PLANT |
| — FPC 230 KV LINES             |            |                        |



DATE: 03/20/09  
 REV: 01/14/08  
 (S): Transmission System for existing (S)



## CHAPTER II

### FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

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**GULF POWER COMPANY  
FORECASTING METHODOLOGY  
OVERVIEW**

Gulf views the forecasting effort as a dynamic process requiring ongoing activities to yield results that allow informed planning and decision-making. The total forecast is an integration of different techniques and methodologies, each applied to the task for which it is best suited. Many of the techniques take advantage of the extensive data made available through the Company's customer service efforts, which are predicated on the philosophy of knowing and understanding the needs, perceptions and motivations of our customers and actively promoting wise and efficient uses of energy which satisfy customer needs. Gulf has been a pacesetter in the energy efficiency market since the development and implementation of the GoodCents Home program in the mid-70's. This program brought customer awareness, understanding and expectations regarding energy efficient construction standards in Northwest Florida to levels unmatched elsewhere.

The Forecasting section of Gulf's Accounting, Finance, and Treasury Department is responsible for preparing forecasts of customers, energy and peak demand. A description of the assumptions and methods used in the development of these forecasts follows.

## **I. ASSUMPTIONS**

### **A. ECONOMIC OUTLOOK**

The economic assumptions used to develop Gulf's forecast of customers, energy sales and peak demand for this Ten Year Site Plan were derived from the November 2012 economic projection provided by Moody's Analytics. This economic projection incorporates the national recession which started in December 2007 and officially ended in June 2009.

The November 2012 economic projection assumed federal lawmakers would reach an agreement on fiscal policy and the U.S. economy would not fall back into another recession. U.S. real GDP was expected to grow 2.1% in 2013 and almost 4% in 2014. National job growth was projected to benefit from continued recovery in housing markets and the U.S. unemployment rate was projected to be 7% by the third quarter of 2014.

### **B. NORTHWEST FLORIDA ECONOMIC OUTLOOK**

Gulf's retail service area is generally represented by three Metropolitan Statistical Areas (MSAs): Pensacola-Ferry Pass-Brent, Crestview-Fort Walton Beach-Destin, and Panama City-Lynn Haven-Panama City Beach. The Northwest Florida economy, by comparison to the national economy, was impacted by the recession before the nation-wide downturn and beyond the official end date of the national recession. A number of economic indicators for Gulf's service area, namely income, employment, housing starts, and population, were in decline at the end of 2006 or beginning of 2007 and either continued to decline or remained weak through 2012. However, Moody's projects that the economy in our service area will begin

recovery in 2013 and will return to or exceed 2006 pre-recession levels by the end of 2015.

Northwest Florida's real disposable personal income declined 0.4% in 2012, significantly below the pre-recession average annual growth rate of 4.3%. Real disposable personal income was projected to grow over the next five years at an average annual rate of 3.4%. The region's employment, which had a pre-recession average annual growth rate of 3.4%, bottomed out in 2010 and remained weak through 2012. Employment was projected to grow at an average annual rate of 2.5% over the next five years. Single family housing starts fell to approximately 2,200 in 2012, which is almost half of the average level experienced prior to the recession and pre-recession housing boom. Housing starts are projected to return to more normal levels by 2015. Population growth in Northwest Florida was 1.2% before the recession, was nearly flat at 0.4% during the recession through 2012, and was projected to return to normal growth rates by 2013, growing at an average annual rate of 1.7% for the next five years. Over the long-run, Northwest Florida growth was projected to decelerate after recovery from the recession to an average annual rate of 1.8% for income and 1.6% for employment.

Gulf's projections incorporate electric price assumptions derived from the 2013 Gulf Power Official Long-Range Forecast. Fuel price projections for gas and oil are developed by Southern Company Services (SCS) Fuel Procurement staff with input from outside consultants. The following tables provide a 5-year summary of assumptions associated with Gulf's forecast:

**TABLE 1**

**NATIONAL ECONOMIC SUMMARY  
AVERAGE ANNUAL GROWTH RATES  
(2012-2017)**

GDP Growth	3.3 %
Interest Rate (30 Year AAA Bonds)	4.5 %
Inflation	2.4 %

**TABLE 2**

**AREA DEMOGRAPHIC SUMMARY  
(2012-2017)**

Population Gain	71,020
Net Migration	6,750
Average Annual Population Growth	1.7 %
Average Annual Labor Force Growth	2.2 %



## II. CUSTOMER FORECAST

### A. RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL CUSTOMER FORECAST

The short-term forecasts of residential, commercial and industrial non-lighting customers were based primarily on projections prepared by Gulf's field Marketing Managers with the assistance of their field employees. These projections reflect recent historical trends in net customer gains as well as anticipated effects of changes in the local economy, the real estate market, planned construction projects, and factors affecting population such as military personnel movements and changes in local industrial production. Forecasters reviewed the one-year-out customer projections by rate schedule, checking for consistency with historical trends, consistency with economic outlooks, and consistency across the three MSAs in Gulf's service area. Forecasters then supplied field managers with draft second-year-out customer projections based on number of households from Moody's Analytics, which the field managers reviewed and modified as necessary. Gulf utilized growth in the number of households to extend the short-term residential forecast of customers to the long-term horizon. Beyond the short-term period, commercial customers were forecast as a function of residential customers, reflecting the growth of commercial services to meet the needs of new residents. Long-term projections of industrial customers are based on input from Gulf's field Marketing Managers.

## **B. OUTDOOR LIGHTING CUSTOMER FORECAST**

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

## **III. ENERGY SALES FORECAST**

### **A. RESIDENTIAL SALES FORECAST**

The short-term non-lighting residential energy sales forecast was developed utilizing a multiple linear regression analysis. Monthly class energy use per customer per billing day was estimated based on historical data, normal weather, real disposable income per household, and projected price of electricity. The model output was then multiplied by the projected number of non-lighting residential customers and projected billing days by month to expand to the total residential class.

Long-term projections of residential sales were developed utilizing the Residential End-Use Energy Planning System (REEPS) model, an electric utility end-use forecasting tool. REEPS forecasts end-use or appliance-specific residential energy demand using a variety of demographic, housing, economic, energy, and weather information. Gulf utilized growth rates from the REEPS projection to extend the short-term residential sales forecast to the long-term horizon.

The residential sales forecast was adjusted to reflect the expected impacts of conservation programs approved in Gulf's most recent DSM plan. Additional information on the residential conservation programs and program features are provided in the Conservation Programs section of this document. The residential

sales forecast was also adjusted to reflect the anticipated impact of the introduction of electric vehicles to the market.

## **B. COMMERCIAL SALES FORECAST**

The short-term non-lighting commercial energy sales forecast was also developed utilizing multiple linear regression analyses. Monthly energy use per customer per billing day for small commercial customers (rates GS and Flat-GS) was estimated based on historical data, normal weather, non-manufacturing employment, and projected price of electricity. Similarly, monthly energy use per customer per billing day for large commercial customers (all other commercial rates) was estimated based on historical data, normal weather, non-manufacturing employment, and projected price of electricity. These regression model outputs were then multiplied by the projected number of small and large commercial customers, respectively, and projected billing days by month, then summed to the total commercial class.

Long-term projections of commercial sales were developed utilizing the Commercial End-Use Planning System (COMMEND) model, an electric utility end-use forecasting tool that provides a conceptual framework for organizing commercial market building-type and end-use information. Gulf utilized growth rates from the COMMEND projection to extend the short-term commercial sales forecast to the long-term horizon.

The commercial sales forecast was adjusted to reflect the expected impacts of conservation programs approved in Gulf's most recent DSM plan. Additional information on the commercial conservation programs and program features are provided in the Conservation Programs section of this document.

**C. INDUSTRIAL SALES FORECAST**

The short-term industrial energy sales forecast was developed using a combination of on-site surveys of major industrial customers and historical average consumption per customer per billing day. Gulf's largest industrial customers were interviewed to identify expected load changes due to equipment additions, replacements, or changes in operating schedules and characteristics. The short-term forecast of monthly sales to these major industrial customers was a synthesis of the detailed survey information and historical monthly to annual energy ratios. The forecast of sales to the remaining smaller industrial customers was developed by rate schedule and month using historical averages. The resulting estimates of energy purchases per customer per billing day were multiplied by the expected number of small industrial customers and projected billing days by month to expand to the rate level totals. The sum of the energy sales forecast for the major industrial customers and the remaining smaller industrial customers resulted in the total industrial energy sales forecast. Long-term projections of industrial sales were developed using historical averages.

**D. OUTDOOR LIGHTING SALES FORECAST**

Outdoor lighting energy forecasts were developed by rate and class using historical growth rates and input from Gulf's lighting team to gain insight into future trends.

**E. WHOLESALE ENERGY FORECAST**

The forecast of territorial wholesale energy sales was developed utilizing a multiple linear regression analysis. Monthly wholesale energy purchases per day

were estimated based on historical data, normal weather, and real disposable income per household. The model output was then multiplied by the projected number of days by month to expand to the total wholesale energy forecast.

#### **F. COMPANY USE FORECAST**

The forecast of company energy use was based on recent historical averages by month.

#### **IV. PEAK DEMAND FORECAST**

The annual system peak demand forecast was prepared using the Hourly Electric Load Model (HELM), developed by ICF, Incorporated, for EPRI under Project RP1955-1. HELM inputs include historical load shapes and projections of net energy for load, which were based on the forecasted energy sales described previously. HELM spreads the energy projections using the historical load shapes and the results are hourly system load shapes. The monthly forecasted system peak demands are the single highest hour of demand for each month. Gulf's annual system peak demand typically occurs in the month of July.

The resulting monthly system peak demand projections were adjusted to reflect the anticipated impacts of conservation programs approved in Gulf's most recent DSM plan. Additional information on the peak demand impacts of Gulf's conservation programs are provided in the Conservation Programs section of this document.

## **V. DATA SOURCES**

Gulf utilized historical customer, energy and revenue data by rate and class, and historical hourly load data coupled with weather information from The National Oceanic and Atmospheric Administration (NOAA) to support the energy and demand models. Individual customer historical data was utilized in developing projections for Gulf's largest industrial customers.

Gulf's models also utilized economic projections provided by Moody's Analytics, a renowned economic services provider. Moody's relies on the Bureau of Labor Statistics for data on employment, unemployment rate and labor force. Moody's obtains personal income data from the Bureau of Economic Analyses. Moody's obtains population, households and housing permit information from the U.S. Census Bureau.

## VI. CONSERVATION PROGRAMS

Gulf's forecast of energy sales and peak demand reflect the continued impacts of energy efficiency and conservation activities, including the impacts of programs proposed by Gulf in its most recent DSM plan, which was approved by the Commission in Order No. PSC-11-0114-PAA-EG on February 11, 2011. Gulf's conservation programs were designed to meet the goals established by the Commission in Order No. PSC-09-0855-FOF-EG in December of 2009. Following is a brief description of the currently approved programs and tables indicating the historical and projected conservation impacts of Gulf's ongoing conservation efforts.

### A. RESIDENTIAL CONSERVATION

1. Residential Energy Audit and Education – This program is the primary educational program to help customers improve the energy efficiency of their new or existing home through energy conservation advice and information that encourages the implementation of efficiency measures and behaviors resulting in energy and utility bill savings.
2. EnergySelect and EnergySelect LITE - This program is designed to provide the customer with a means of conveniently and automatically controlling and monitoring energy purchases in response to prices that vary during the day and by season in relation to Gulf's cost of producing or purchasing energy. The *EnergySelect* system includes field units utilizing a communication gateway, major appliance load control relays, and a programmable thermostat, all operating at the customer's home.
3. Community Energy Saver Program - This program is designed to assist low-income families with escalating energy costs through the direct

installation of conservation measures at no cost to them. The program will also educate families on energy efficiency techniques and behavioral changes to help control their energy use and reduce their utility operating costs.

4. HVAC Efficiency Improvement Program - This program is designed to increase energy efficiency and improve HVAC cooling system performance for new and existing homes through maintenance, early retirement, upgrades and duct repair.
5. Landlord/Renter Custom Incentive Program - This program will promote the installation of various energy efficiency measures available through other programs including HVAC, insulation, windows, water heating, lighting, appliances, etc. including additional incentives as appropriate to overcome the split-incentive barrier which exists in a landlord/renter situation.
6. Heat Pump Water Heater Program - This program will provide incentives directly to the customer for the installation of high-efficiency Heat Pump Water Heating equipment for domestic hot water production.
7. Ceiling Insulation Program - This program will provide incentives to encourage customers to install or increase high efficiency insulation in new or existing residential homes to reduce heat loss and heat gain from both conductive and convective means.
8. High Performance Window Program - This program will provide incentives to install high-efficiency windows or window films in existing or new



residential homes to reduce solar heat gain which, in turn, leads to reduced HVAC loads and operating costs.

9. Reflective Roof Program - This program will provide incentives to promote the installation of ENERGY STAR qualified cool/reflective roofing products when constructing a new home or replacing the roof on an existing home to decrease the amount of heat transferred through roof assemblies and into vented attic spaces which, in turn, decreases the transfer of heat into the home's conditioned living area.
10. Variable Speed/Flow Pool Pump Program - This program will provide an incentive to encourage the installation of high-efficiency variable speed or variable flow pool pumping and control equipment in both new and existing residential homes to reduce the energy, demand, and costs associated with swimming pool operation.
11. Self-Install Energy Efficiency Program - This program promotes the purchase and installation of ENERGY STAR rated appliances, lighting and other self-installed energy saving measures for residential customers by focusing on increasing customer awareness of the benefits of energy efficient technologies and products through customer education, retail partnerships, promotional distribution of compact fluorescent light bulbs (CFLs), on-line store, energy audits and seasonal promotional campaigns.
12. Refrigerator Recycling Program – This program is designed to increase customer awareness of the economic and environmental costs associated with running inefficient, older appliances in a household, and to provide

eligible customers with free refrigerator and freezer pick-up services in addition to a cash incentive.

**B. COMMERCIAL/INDUSTRIAL CONSERVATION**

1. Commercial/Industrial (C/I) Energy Analysis – This is an interactive program that provides commercial and industrial customers assistance in indentifying energy conservation opportunities. The program is a prime tool for the Gulf Power Company C/I Energy Specialists to personally introduce a customer to conservation measures, including low or no-cost improvements or new electro-technologies to replace old or inefficient equipment.
2. Commercial HVAC Retrocommissioning Program - This program offers basic retrocommissioning at a reduced cost for qualifying commercial and industrial customers designed to diagnose the performance of the HVAC cooling unit(s) with the support of an independent computerized quality control process and make improvements to the system to bring it to its full efficiency.
3. Commercial Building Efficiency Program - This program is designed as an umbrella efficiency program for existing commercial and industrial customers to increase awareness and customer demand for high-efficiency, energy-saving equipment; increase availability and market penetration of energy efficient equipment; and contribute toward long-term energy savings and peak demand reductions.

4. Occupancy Sensor HVAC Control – The purpose of this program is to promote the installation of occupancy sensors to reduce energy waste in hotel rooms by providing hotel owners the opportunity to automatically control temperature settings when the rooms are unoccupied.
5. High Efficiency Motor Program – The purpose of this program is to reduce demand and energy associated with electric motors by encouraging the replacement of worn out, inefficient motors with high efficiency motors.
6. Food Service Efficiency Program – This program encourages the installation of ENERGY STAR qualified or equivalent energy efficient commercial and industrial food service equipment to reduce energy consumption and demand as well as operating costs for the customer.
7. Commercial/Industrial Custom Incentive - This program is designed to establish the capability and process to offer advanced energy services and energy efficient end-user equipment (including comprehensive audits, design, and construction of energy conservation projects) not offered through other programs to Commercial or Industrial customers.
8. Real Time Pricing (RTP) – The objective of this program, available to large Commercial and Industrial customers of Gulf Power, is to encourage customers to reduce demand on Gulf's system during peak times when the marginal cost of generating or purchasing electricity is at its highest by providing hourly prices on a day-ahead basis.

**C. CONSERVATION RESULTS SUMMARY**

The following tables provide estimates of the reductions in peak demand and net energy for load realized by Gulf's customers as a result of participation in Gulf's conservation programs.

HISTORICAL  
TOTAL CONSERVATION PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2012	418,024	481,842	855,253,000

2013 BUDGET FORECAST  
TOTAL CONSERVATION PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2013	20,600	19,000	66,900,000
2014	23,500	21,000	76,100,000
2015	23,500	20,600	75,300,000
2016	21,900	19,100	71,300,000
2017	22,300	20,000	74,600,000
2018	21,600	19,500	72,100,000
2019	20,500	19,000	68,800,000
2020	20,500	19,000	68,800,000
2021	20,500	19,000	68,800,000
2022	20,500	19,000	68,800,000

2013 BUDGET FORECAST  
TOTAL CONSERVATION PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2013	438,624	500,842	922,153,000
2014	462,124	521,842	998,253,000
2015	485,624	542,442	1,073,553,000
2016	507,524	561,542	1,144,853,000
2017	529,824	581,542	1,219,453,000
2018	551,424	601,042	1,291,553,000
2019	571,924	620,042	1,360,353,000
2020	592,424	639,042	1,429,153,000
2021	612,924	658,042	1,497,953,000
2022	633,424	677,042	1,566,753,000

HISTORICAL  
RESIDENTIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2012	205,804	317,057	481,572,000

2013 BUDGET FORECAST  
RESIDENTIAL CONSERVATION  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2013	17,000	17,200	57,300,000
2014	19,400	19,000	65,100,000
2015	18,900	18,600	63,200,000
2016	17,000	17,000	58,500,000
2017	17,500	17,900	61,800,000
2018	16,700	17,500	59,200,000
2019	16,000	17,100	56,800,000
2020	16,000	17,100	56,800,000
2021	16,000	17,100	56,800,000
2022	16,000	17,100	56,800,000

2013 BUDGET FORECAST  
RESIDENTIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2013	222,804	334,257	538,872,000
2014	242,204	353,257	603,972,000
2015	261,104	371,857	667,172,000
2016	278,104	388,857	725,672,000
2017	295,604	406,757	787,472,000
2018	312,304	424,257	846,672,000
2019	328,304	441,357	903,472,000
2020	344,304	458,457	960,272,000
2021	360,304	475,557	1,017,072,000
2022	376,304	492,657	1,073,872,000

HISTORICAL  
COMMERCIAL/INDUSTRIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2012	212,220	164,785	373,681,000

2013 BUDGET FORECAST  
COMMERCIAL/INDUSTRIAL CONSERVATION  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2013	3,600	1,800	9,600,000
2014	4,100	2,000	11,000,000
2015	4,600	2,000	12,100,000
2016	4,900	2,100	12,800,000
2017	4,800	2,100	12,800,000
2018	4,900	2,000	12,900,000
2019	4,500	1,900	12,000,000
2020	4,500	1,900	12,000,000
2021	4,500	1,900	12,000,000
2022	4,500	1,900	12,000,000

2013 BUDGET FORECAST  
COMMERCIAL/INDUSTRIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2013	215,820	166,585	383,281,000
2014	219,920	168,585	394,281,000
2015	224,520	170,585	406,381,000
2016	229,420	172,685	419,181,000
2017	234,220	174,785	431,981,000
2018	239,120	176,785	444,881,000
2019	243,620	178,685	456,881,000
2020	248,120	180,585	468,881,000
2021	252,620	182,485	480,881,000
2022	257,120	184,385	492,881,000

## **VII. SMALL POWER PRODUCTION / RENEWABLE ENERGY**

The current forecasts also consider Gulf's active promotion of customer-sited renewable energy resources. Gulf initiated implementation of four new solar programs in 2011 in compliance with the Commission's Order No. PSC-10-0608-PAA-EG approved in October 2010. The Solar PV program, the Solar Thermal Water Heating program, the Solar for Schools program and the Solar Thermal Water Heating for Low Income Housing program are expected to result in demand and energy reductions that have been incorporated in the conservation estimates provided elsewhere in this document

Please refer to the Renewable Resources section of this TYSP for additional information concerning Gulf's existing renewable resources and its efforts to promote and develop supply-side renewable energy resources.



**GULF POWER COMPANY**

**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		
<u>Year</u>	<u>Population*</u>	<u>Members per Household*</u>	<u>GWH</u>	<u>Average No. of Customers</u>	<u>Average KWH Consumption Per Customer</u>	<u>GWH</u>	<u>Average No. of Customers</u>	<u>Average KWH Consumption Per Customer</u>
2003	762,960	2.58	5,101	338,631	15,064	3,614	50,420	71,683
2004	778,000	2.58	5,215	345,467	15,096	3,695	51,981	71,093
2005	787,530	2.58	5,320	350,404	15,181	3,736	52,916	70,599
2006	792,740	2.57	5,425	360,930	15,032	3,843	53,479	71,862
2007	791,840	2.56	5,477	371,213	14,755	3,971	53,791	73,821
2008	793,570	2.56	5,349	374,709	14,274	3,961	53,810	73,610
2009	795,760	2.55	5,254	374,010	14,049	3,896	53,414	72,942
2010	800,920	2.54	5,651	375,847	15,036	3,997	53,349	74,912
2011	807,070	2.55	5,305	378,157	14,028	3,911	53,409	73,235
2012	813,960	2.55	5,054	379,897	13,303	3,859	53,706	71,846
2013	825,810	2.54	5,286	383,073	13,799	4,040	54,129	74,633
2014	839,780	2.53	5,286	387,861	13,628	4,109	54,639	75,211
2015	854,420	2.52	5,286	394,618	13,396	4,200	55,318	75,921
2016	869,580	2.51	5,377	402,418	13,361	4,325	56,091	77,102
2017	884,980	2.50	5,386	410,080	13,133	4,395	56,853	77,305
2018	900,530	2.49	5,394	417,318	12,925	4,435	57,574	77,037
2019	916,180	2.49	5,424	424,114	12,788	4,491	58,253	77,092
2020	931,630	2.48	5,493	430,573	12,758	4,548	58,901	77,210
2021	945,960	2.48	5,565	436,448	12,751	4,606	59,493	77,418
2022	959,360	2.48	5,623	441,673	12,732	4,657	60,023	77,594
<b>CAAG</b>								
03-12	0.7%	-0.2%	-0.1%	1.3%	-1.4%	0.7%	0.7%	0.0%
12-17	1.7%	-0.4%	1.3%	1.5%	-0.3%	2.6%	1.1%	1.5%
12-22	1.7%	-0.3%	1.1%	1.5%	-0.4%	1.9%	1.1%	0.8%

\* Historical and projected figures include Pensacola, Crestview, and Panama City MSAs

**GULF POWER COMPANY**

**Schedule 2.2**

History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year	Industrial			Railroads and Railways GWH	Street & Highway Lighting GWH	Other Sales to Public Authorities GWH	Total Sales to Ultimate Consumers GWH
	GWH	Average No. of Customers	Average KWH Consumption Per Customer				
2003	2,147	285	7,526,577	0	22	0	10,885
2004	2,113	279	7,569,053	0	23	0	11,046
2005	2,161	295	7,332,898	0	23	0	11,239
2006	2,136	294	7,260,626	0	24	0	11,429
2007	2,048	303	6,769,670	0	24	0	11,521
2008	2,211	291	7,592,204	0	23	0	11,543
2009	1,727	280	6,164,567	0	25	0	10,903
2010	1,686	275	6,133,961	0	26	0	11,359
2011	1,799	273	6,586,591	0	25	0	11,040
2012	1,725	267	6,453,071	0	25	0	10,663
2013	1,732	273	6,334,175	0	26	0	11,083
2014	1,734	279	6,213,684	0	26	0	11,154
2015	1,734	280	6,194,651	0	26	0	11,246
2016	1,735	281	6,171,826	0	26	0	11,462
2017	1,777	282	6,302,831	0	26	0	11,584
2018	1,778	283	6,287,168	0	26	0	11,632
2019	1,778	284	6,261,229	0	26	0	11,718
2020	1,779	284	6,262,503	0	26	0	11,845
2021	1,778	285	6,249,235	0	26	0	11,975
2022	1,779	286	6,211,407	0	26	0	12,085
<b>CAAG</b>							
03-12	-2.4%	-0.7%	-1.7%	0.0%	1.3%	0.0%	-0.2%
12-17	0.6%	1.1%	-0.5%	0.0%	0.3%	0.0%	1.7%
12-22	0.3%	0.7%	-0.4%	0.0%	0.1%	0.0%	1.3%

**GULF POWER COMPANY**

**Schedule 2.3**

History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)
<u>Year</u>	<u>Sales for Resale GWH</u>	<u>Utility Use &amp; Losses GWH</u>	<u>Net Energy for Load GWH</u>	<u>Other Customers (Average No.)</u>	<u>Total No. of Customers</u>
2003	383	685	11,952	473	389,809
2004	389	727	12,162	474	398,200
2005	418	666	12,322	472	404,086
2006	415	743	12,586	482	415,185
2007	417	733	12,671	486	425,793
2008	398	676	12,617	493	429,302
2009	390	682	11,975	502	428,206
2010	409	750	12,518	559	430,030
2011	382	663	12,086	564	432,403
2012	339	597	11,598	572	434,441
2013	341	711	12,136	573	438,048
2014	351	714	12,220	573	443,351
2015	362	719	12,326	573	450,789
2016	374	731	12,567	573	459,363
2017	380	737	12,701	573	467,788
2018	387	739	12,758	573	475,747
2019	394	743	12,856	573	483,224
2020	404	752	13,000	573	490,331
2021	411	760	13,146	573	496,798
2022	419	767	13,271	573	502,555
<b><u>CAAG</u></b>					
03-12	-1.3%	-1.5%	-0.3%	2.1%	1.2%
12-17	2.3%	4.3%	1.8%	0.1%	1.5%
12-22	2.1%	2.5%	1.4%	0.0%	1.5%

Note: Sales for Resale and Net Energy for Load include contracted energy allocated to certain customers by Southeastern Power Administration (SEPA).

**GULF POWER COMPANY**

**Schedule 3.1**  
History and Forecast of Summer Peak Demand - MW  
Base Case

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Year</u>	<u>Total</u>	<u>Wholesale</u>	<u>Retail</u>	<u>Interruptible</u>	<u>Residential Load Management</u>	<u>Residential Conservation</u>	<u>Comm/Ind Load Management</u>	<u>Comm/Ind Conservation</u>	<u>Net Firm Demand</u>
2003	2,582	85	2,498	0	0	152	0	155	2,275
2004	2,752	89	2,663	0	0	161	0	159	2,431
2005	2,768	94	2,674	0	0	167	0	164	2,436
2006	2,828	93	2,734	0	0	171	0	173	2,483
2007	2,989	99	2,891	0	0	175	0	180	2,634
2008	2,898	91	2,807	0	0	176	0	182	2,541
2009	2,909	92	2,817	0	0	177	0	186	2,546
2010	2,896	88	2,807	0	0	178	0	192	2,525
2011	2,919	89	2,830	0	0	186	0	198	2,535
2012	2,769	76	2,693	0	0	206	0	212	2,351
2013	2,953	72	2,880	0	0	223	0	216	2,514
2014	2,984	74	2,910	0	0	242	0	220	2,522
2015	3,031	76	2,954	0	0	261	0	225	2,545
2016	3,092	78	3,013	0	0	278	0	229	2,584
2017	3,134	79	3,055	0	0	296	0	234	2,604
2018	3,163	80	3,083	0	0	312	0	239	2,612
2019	3,200	82	3,118	0	0	328	0	244	2,628
2020	3,248	83	3,165	0	0	344	0	248	2,656
2021	3,300	85	3,215	0	0	360	0	253	2,687
2022	3,344	86	3,258	0	0	376	0	257	2,711
<b>CAAG</b>									
03-12	0.8%	-1.2%	0.8%	0.0%	0.0%	3.4%	0.0%	3.5%	0.4%
12-17	2.5%	0.9%	2.6%	0.0%	0.0%	7.5%	0.0%	2.0%	2.1%
12-22	1.9%	1.3%	1.9%	0.0%	0.0%	6.2%	0.0%	1.9%	1.4%

NOTE: Wholesale and total columns include contracted capacity allocated to certain Resale customers by Southeastern Power Administration (SEPA).

**GULF POWER COMPANY**

**Schedule 3.2**  
History and Forecast of Winter Peak Demand - MW  
Base Case

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Year</u>	<u>Total</u>	<u>Wholesale</u>	<u>Retail</u>	<u>Interruptible</u>	<u>Residential Load Management</u>	<u>Residential Conservation</u>	<u>Comm/Ind Load Management</u>	<u>Comm/Ind Conservation</u>	<u>Net Firm Demand</u>
02-03	2,856	99	2,758	0	0	224	0	133	2,500
03-04	2,445	87	2,358	0	0	240	0	135	2,070
04-05	2,518	92	2,426	0	0	250	0	137	2,130
05-06	2,476	94	2,382	0	0	262	0	142	2,072
06-07	2,644	91	2,554	0	0	275	0	146	2,224
07-08	2,793	97	2,696	0	0	276	0	147	2,370
08-09	2,757	98	2,659	0	0	287	0	150	2,320
09-10	2,996	107	2,890	0	0	289	0	154	2,553
10-11	2,950	99	2,851	0	0	297	0	157	2,495
11-12	2,621	89	2,532	0	0	317	0	165	2,139
12-13	2,772	76	2,696	0	0	334	0	167	2,271
13-14	2,840	77	2,763	0	0	353	0	169	2,318
14-15	2,839	80	2,760	0	0	372	0	171	2,297
15-16	2,905	82	2,822	0	0	389	0	173	2,343
16-17	2,944	84	2,859	0	0	407	0	175	2,362
17-18	2,968	86	2,882	0	0	424	0	177	2,367
18-19	3,003	87	2,916	0	0	441	0	179	2,383
19-20	3,047	89	2,958	0	0	458	0	181	2,408
20-21	3,094	91	3,003	0	0	476	0	182	2,436
21-22	3,135	93	3,042	0	0	493	0	184	2,458
<b>CAAG</b>									
03-12	-1.0%	-1.2%	-0.9%	0.0%	0.0%	3.9%	0.0%	2.4%	-1.7%
12-17	2.3%	-1.0%	2.5%	0.0%	0.0%	5.1%	0.0%	1.2%	2.0%
12-22	1.8%	0.4%	1.9%	0.0%	0.0%	4.5%	0.0%	1.1%	1.4%

NOTE: Wholesale and total columns include contracted capacity allocated to certain Resale customers by Southeastern Power Administration (SEPA).

**GULF POWER COMPANY**

**Schedule 3.3**

History and Forecast of Annual Net Energy for Load - GWH  
Base Case

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Year</u>	<u>Total</u>	<u>Residential Conservation</u>	<u>Comm/Ind Conservation</u>	<u>Retail</u>	<u>Wholesale</u>	<u>Utility Use &amp; Losses</u>	<u>Net Energy for Load</u>	<u>Load Factor %</u>
2003	12,584	335	297	10,885	383	685	11,952	54.6%
2004	12,813	348	303	11,046	389	727	12,162	57.0%
2005	12,998	357	319	11,239	418	666	12,322	57.7%
2006	13,273	365	322	11,429	415	743	12,586	57.9%
2007	13,373	375	327	11,521	417	733	12,671	54.9%
2008	13,326	378	331	11,543	398	676	12,617	56.5%
2009	12,704	384	345	10,903	390	682	11,975	53.7%
2010	13,256	388	350	11,359	409	750	12,518	56.0%
2011	12,864	417	361	11,040	382	663	12,086	54.4%
2012	12,453	482	374	10,663	339	597	11,598	56.2%
2013	13,058	539	383	11,083	341	711	12,136	55.1%
2014	13,218	604	394	11,154	351	714	12,220	55.3%
2015	13,400	667	406	11,246	362	719	12,326	55.3%
2016	13,712	726	419	11,462	374	731	12,567	55.4%
2017	13,921	787	432	11,584	380	737	12,701	55.7%
2018	14,050	847	445	11,632	387	739	12,758	55.8%
2019	14,216	903	457	11,718	394	743	12,856	55.8%
2020	14,429	960	469	11,845	404	752	13,000	55.7%
2021	14,644	1,017	481	11,975	411	760	13,146	55.8%
2022	14,838	1,074	493	12,085	419	767	13,271	55.9%
<b><u>CAAG</u></b>								
03-12	-0.1%	4.1%	2.6%	-0.2%	-1.3%	-1.5%	-0.3%	0.3%
12-17	2.3%	10.3%	2.9%	1.7%	2.3%	4.3%	1.8%	-0.2%
12-22	1.8%	8.4%	2.8%	1.3%	2.1%	2.5%	1.4%	0.0%

NOTE: Wholesale and total columns include contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA).

**GULF POWER COMPANY**

**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)
	2012 Actual		2013 Forecast		2014 Forecast	
<u>Month</u>	<u>Peak Demand</u> <u>MW</u>	<u>NEL</u> <u>GWH</u>	<u>Peak Demand</u> <u>MW</u>	<u>NEL</u> <u>GWH</u>	<u>Peak Demand</u> <u>MW</u>	<u>NEL</u> <u>GWH</u>
January	2,139	859	2,271	955	2,318	974
February	1,917	767	2,019	796	2,057	811
March	1,579	849	1,707	825	1,742	840
April	1,901	850	1,718	825	1,748	837
May	2,260	1,094	2,268	1,053	2,289	1,062
June	2,295	1,109	2,405	1,206	2,417	1,213
July	2,337	1,258	2,514	1,328	2,522	1,333
August	2,351	1,185	2,476	1,310	2,481	1,314
September	2,186	1,066	2,325	1,137	2,329	1,140
October	1,852	907	2,023	942	2,031	944
November	1,457	796	1,751	827	1,747	826
December	1,766	858	2,132	931	2,111	927

NOTE: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA)

**Gulf Power Company**

**Schedule 5  
Fuel Requirements**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	<u>Fuel Requirements</u>		<u>Units</u>	<u>Actual 2011</u>	<u>Actual 2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
(1)	Nuclear		Trillion BTU	None	None	None	None	None	None	None	None	None	None	None	None
(2)	Coal		1000 TON	4,114	2,769	2,773	2,858	2,673	3,394	3,946	4,061	4,421	4,750	4,849	4,954
(3)	Residual	Total	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(4)		Steam	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(5)		CC	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(6)		CT	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(7)		Diesel	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(8)	Distillate	Total	1000 BBL	18	17	11	11	14	12	12	13	10	10	11	12
(9)		Steam	1000 BBL	17	15	11	11	14	12	12	13	10	10	11	11
(10)		CC	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CT	1000 BBL	1	2	0	0	0	0	0	0	0	0	0	1
(12)		Diesel	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(13)	Natural Gas	Total	1000 MCF	51,048	76,318	60,262	59,740	63,129	59,769	54,432	50,507	49,785	49,956	53,810	54,812
(14)		Steam	1000 MCF	0	4,072	0	0	0	0	0	0	0	0	0	0
(15)		CC	1000 MCF	48,800	69,552	56,925	58,300	61,933	58,570	53,236	49,311	49,785	49,956	53,810	54,812
(16)		CT	1000 MCF	2,248	2,694	3,337	1,440	1,196	1,199	1,196	1,196	0	0	0	0
(17)	Other <sup>(A)</sup>		Trillion BTU	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

(A) Perdido Units' landfill gas burn shown in Other



**GULF POWER COMPANY**

Schedule 6.1  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
<u>Energy Sources</u>			<u>Units</u>	<u>Actual 2011</u>	<u>Actual 2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
(1)	Annual Firm Interchange		GWH	(3,464)	(4,555)	(2,617)	(2,720)	(2,792)	(3,828)	(4,181)	(3,864)	(4,648)	(5,271)	(5,896)	(6,161)
(2)	Nuclear		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		GWH	8,090	5,391	6,099	6,310	5,996	7,741	8,994	9,285	10,164	10,912	11,136	11,389
(4)	Residual	Total	GWH	0	0	0	0	0	0	0	0	0	0	0	0
(5)	Steam		GWH	0	0	0	0	0	0	0	0	0	0	0	0
(6)	CC		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(7)	CT		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(8)	Diesel		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(9)	Distillate	Total	GWH	0.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
(10)	Steam		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(11)	CC		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(12)	CT		GWH	0.2	0.7	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
(13)	Diesel		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(14)	Natural Gas	Total	GWH	7,195	10,517	8,358	8,344	8,860	8,387	7,617	7,061	7,059	7,073	7,615	7,747
(15)	Steam		GWH	0	352	0	0	0	0	0	0	0	0	0	0
(16)	CC		GWH	6,885	9,813	8,073	8,238	8,779	8,305	7,536	6,980	7,059	7,073	7,615	7,747
(17)	CT		GWH	310	352	285	106	81	82	81	81	0	0	0	0
(18)	NUGs		GWH	265	244	296	286	262	267	271	276	281	286	291	296
(19)	Net Energy for Load		GWH	12,086	11,598	12,136	12,220	12,326	12,567	12,701	12,758	12,856	13,000	13,146	13,271

NOTE: Line (18) includes energy received from Non-Renewable and Renewable resources. See Schedule 6.3 for details on Gulf's renewable resources .

**GULF POWER COMPANY**

Schedule 6.2  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	<u>Energy Sources</u>		<u>Units</u>	<u>Actual 2011</u>	<u>Actual 2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
(1)	Annual Firm Interchange		%	(28.66)	(39.27)	(21.56)	(22.26)	(22.65)	(30.46)	(32.92)	(30.29)	(36.15)	(40.55)	(44.85)	(46.43)
(2)	Nuclear		%	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		%	66.94	46.48	50.26	51.64	48.65	61.60	70.81	72.78	79.06	83.94	84.71	85.82
(4)	Residual	Total	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(5)		Steam	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(6)		CC	%	None	None	None	None	None	None	None	None	None	None	None	None
(7)		CT	%	None	None	None	None	None	None	None	None	None	None	None	None
(8)		Diesel	%	None	None	None	None	None	None	None	None	None	None	None	None
(9)	Distillate	Total	%	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(10)		Steam	%	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CC	%	None	None	None	None	None	None	None	None	None	None	None	None
(12)		CT	%	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(13)		Diesel	%	None	None	None	None	None	None	None	None	None	None	None	None
(14)	Natural Gas	Total	%	59.53	90.68	68.87	68.28	71.88	66.74	59.97	55.35	54.91	54.41	57.93	58.38
(15)		Steam	%	0.00	3.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(16)		CC	%	56.97	84.61	66.52	67.41	71.22	66.09	59.33	54.71	54.91	54.41	57.93	58.38
(17)		CT	%	2.56	3.04	2.35	0.87	0.66	0.65	0.64	0.63	0.00	0.00	0.00	0.00
(18)	NUGs		%	2.19	2.10	2.44	2.34	2.13	2.12	2.13	2.16	2.19	2.20	2.21	2.23
(19)	Net Energy for Load		%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: Line (18) based on energy received from Non-Renewable and Renewable resources. See Schedule 6.3 for details on Gulf's renewable resources .

## CHAPTER III

### PLANNING ASSUMPTIONS AND PROCESSES

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## THE INTEGRATED RESOURCE PLANNING PROCESS

As previously mentioned, Gulf participates in the SES IRP process. This process begins with a team of experts from within and outside the SES that meets to discuss current and historical economic trends and conditions, as well as future expected economic conditions which would impact the SES's business over the next twenty to twenty-five years. This economic panel determines the various escalation and inflation rates that will impact the financial condition of the SES. This determination acts as a basis for developing the general inflation and escalation assumptions that will affect fuel costs, construction costs, labor rates and variable O&M.

In addition to the work of the economic panel, there are a number of activities that are conducted in parallel with one another in the IRP process. These activities include energy and demand forecasting, fuel price forecasting, technology screening analysis and evaluation, engineering cost estimation modeling, evaluation of active and passive demand-side options, and other miscellaneous activities. The SES operating companies have also remained active in offering customers programs and options which result in modified consumption patterns. An important input into the design of such demand-side programs is an assessment of their likely impact on system loads.

Gulf's forecast of energy sales and peak demand reflects the continued impacts of its conservation programs. Furthermore, an update of demand-side

measure cost and benefits is conducted in order to perform cost-effectiveness evaluations against the selected supply-side technologies from the IRP process.

A number of existing generating units on the SES are also evaluated with respect to their currently planned retirement dates, as well as the economics and appropriateness of possible repowering over the planning horizon. These evaluations are extremely important in order to maximize the benefit of existing investment from both a capital and an operations and maintenance expense perspective.

Additionally, the market for potential power purchases is analyzed in order to determine its cost-effectiveness in comparison to the available supply-side and demand-side options. Power purchases are evaluated on both a near-term and long-term basis as a possible means of meeting the system's demand requirements. These power purchases can be procured from utility sources as well as from non-utility generators.

The supply side of the IRP process focuses on the SES as a whole, which has as its planning criterion a 15% reserve margin target for the year 2016 and beyond. This reserve margin is the optimum economic point at which the system can meet its energy and demand requirements after accounting for load forecast error, abnormal weather conditions, and unit forced outage conditions. It also balances the cost of adding additional generation with the societal cost of not serving all the energy requirements of the customer.

Once the above mentioned planning assumptions are determined, generating unit technologies are screened to determine the most acceptable

candidates, the necessary planning inputs are defined and the generation mix analysis is initiated. The main optimization tool used in the generation mix analysis is the PROVIEW® model. The supply-side technology candidates are input into PROVIEW® in specific MW block sizes for selection over the planning horizon for the entire SES. Although this model uses many data inputs and assumptions in the process of optimizing system generation additions, the key assumptions are load forecasts, demand-side options, candidate units, reserve margin requirements, cost of capital, and escalation rates.

PROVIEW® uses a dynamic programming technique to develop the optimum resource mix. This technique allows PROVIEW® to evaluate for every year all of the many combinations of generation additions that satisfy the reserve margin constraint. Annual system operating costs are simulated and are added to the construction costs required to build each combination of resource additions. A least cost resource addition schedule is developed by evaluating each year sequentially and comparing the results of each combination. A least cost resource plan is developed only after reviewing many construction options.

PROVIEW® produces a number of different combinations over the planning horizon, evaluating both the capital cost components for unit additions as well as the operating and maintenance cost of existing and future supply option additions. The program produces a report which ranks all of the different combinations with respect to the total net present value cost over the entire twenty-year planning horizon. The leading combinations from the program are then evaluated for reasonableness and validity. Once again, it is important to

note that supply option additions from the PROVIEW® program output are for the entire SES and are reflective of the various technology candidates selected.

After the SES results are verified, each individual operating company's specific needs over the planning horizon are evaluated. Each company is involved in recommending the type and timing of its unit additions. When all companies are satisfied with their capacity additions, and the sum of these additions matches the system need, the system base supply-side plan is complete. The result is an individual operating company supply plan that fits within the SES planning criteria.

Once the individual operating company supply plans are determined, it is necessary to evaluate demand-side options as a cost-effective alternative to the supply plan additions. After the incorporation of the cost effective demand-side impacts, a final integrated resource plan is produced.

Finally, a financial analysis of the plan is performed to assess the impact on the system's cost. Once the plan has proven to be robust and financially feasible, it is reviewed with and presented for approval to executive management.

In summary, the SES IRP process involves a significant amount of manpower and computer resources in order to produce a truly least-cost, integrated demand-side and supply-side resource plan. During the entire process, the SES is continually looking at a broad range of alternatives in order to meet the SES's projected demand and energy requirements. The SES updates its IRP each year to account for the changes in the demand and energy



forecast, as well as the other major assumptions previously mentioned in this section. A remix is then performed to ensure that the IRP is the most economical and cost-effective plan. The resulting product of the SES IRP process is an integrated plan which meets the needs of the SES's customers in a cost-effective and reliable manner.

### **TRANSMISSION PLANNING PROCESS**

The transmission system is not studied as a part of the IRP process, but it is studied, nonetheless, for reliability purposes. Commonly, a transmission system is viewed as a medium used to transport electric power from its generation source to the point of its conversion to distribution voltages under a number of system conditions known as contingencies. The results of the IRP are factored into transmission studies in order to determine the impacts of various generation site options upon the transmission system. The transmission system is studied under different contingencies for various load levels to ensure that the system can operate adequately without exceeding conductor thermal and system voltage limits.

When the study reveals a potential problem with the transmission system that warrants the consideration of correction in order to maintain or restore reliability, a number of possible solutions are identified. These solutions and their costs are evaluated to determine which is the most cost-effective. Once a solution is chosen to correct the problem, a capital budget expenditure request is prepared for executive approval. However, not all thermal overloads or voltage

limit violations warrant correction. This may be due to the small magnitude of the problem or because the probability of occurrence is insufficient to justify the capital investment of the solution.

In prior years, Gulf has entered into a series of purchased power agreements to meet its needs, and it will continue this practice in the future when economically attractive opportunities are available. The planned transmission has proven adequate to handle these purchased power transactions during the periods when Gulf has needed additional capacity. It has been and will continue to be Gulf's practice to perform a transmission analysis of viable purchased power proposals to determine any transmission constraints. Gulf will formulate a plan, if needed, to resolve any transmission issues in a reasonable, cost effective manner prior to proceeding with negotiations for purchased power agreements.

## **FUEL PRICE FORECAST PROCESS**

### **FUEL PRICE FORECASTS**

Fuel price forecasts are used for a variety of purposes within the SES, including such diverse uses as long-term generation planning and short-term fuel budgeting. The SES fuel price forecasting process is designed to support these various uses.

The delivered price of any fuel consists of a variety of components. The main components are commodity price and transportation cost. Coal commodity domestic prices are forecast on either a mine-mouth basis or free on board (FOB) barge basis, while import coals are forecast on an FOB ship basis at the port of export. Natural gas prices are forecast at the Henry Hub, Louisiana benchmark delivery point. Because mine-mouth coal prices vary by source, sulfur content, and Btu level, SES prepares commodity price forecasts for fourteen different coal classifications used on the SES. Because natural gas does not possess the same quality variations as coal, SES prepares a single commodity price forecast for gas at Henry Hub, and applies a basis differential between Henry Hub and the various pipelines serving SES plants. Two price forecasts are developed for oil, based on grade of oil, sulfur, and heat content.

Transportation costs, to be used in the delivered price forecast, are developed for potential sites when modeling generic unit additions in the IRP process. Site-specific transportation costs are developed for existing units to produce delivered price forecasts for both the IRP process and the fuel budget

process. Similarly, when site-specific unit additions are under consideration, site-specific transportation costs are developed for each option.

## **SES GENERIC FUEL FORECAST**

SES develops short-term (current year +2) and long-term (year 4 and beyond) fuel price forecasts for coal, oil, and natural gas which extend through the Company's 10-year planning horizon. The short-term forecasts are developed by SCS Fuel Services for use in the system's fuel budgeting process and marginal pricing dispatch procedures.

The long-term forecasts are developed in the spring of each year for use in system planning activities. The long-term forecasts are governed by the SCS Executive Planning Coordination Team (Executive PCT). Charles River & Associates (CRA) is the modeling vendor used by the system to develop the long-term forecasts. This process is a collaborative effort between CRA and members of the cross-functional Planning Coordination Team (PCT) with final approval from the Executive PCT and/or Southern Company Management Council.

Fuel market assumptions, developed in collaboration between CRA and SES, are integrated into CRA's model to develop forecasted coal prices used in the IRP. These prices are developed for existing units and potential green field/brown field sites for future expansion, and include both commodity and transportation prices.

## **COAL PRICE FORECAST**

In 2012, coal production in the United States reached 1.056 billion short tons, a decrease from the 1.147 billion short tons for 2011. The Central Appalachian region in the U.S. experienced a 20% decrease in production. The Interior region (Illinois Basin) of the U.S. recorded a 9% increase in production. The Western U.S. region (Powder River Basin, Colorado, Utah and Wyoming) experienced an 8% decline in production.

The global demand for coal has been increasing, especially in India and China. Asian demand for steam coal is robust and is being supplied from South Africa, Australia, and others. It has forced Europe to look to Colombia and the U.S. for immediate coal supply.

From an overall global market perspective, coal prices decreased from levels experienced in 2011 due to lower demand. In the U.S., this decrease was due primarily to relatively lower domestic natural gas prices that contributed to displacement of coal generation by natural gas-fueled generating units.

Central Appalachian and Colombian coal prices have been steadily decreasing since the beginning of 2012. This decrease is attributable mainly to a downturn in both U.S. and European coal demand. Other factors placing downward pressure on demand, and therefore pricing, for these coals are depletion, environmental, safety and permitting issues. In recent years, the production trend from the Central Appalachian region has also been decreasing as a result of higher mining cost and the widespread installation of scrubbers at eastern power stations.

Conversely, the production trend from the Illinois Basin has been increasing as a result of these same factors. As a result, several utilities have switched from Central Appalachian coals to the higher sulfur Illinois Basin coals. In the longer term, productivity in the Illinois Basin is expected to improve as less productive mines are replaced by longwall operations.

Historically, Powder River Basin (PRB) regional coal production has grown at 5 percent per year over sustained periods, but recently production levels have decreased. Production costs have increased slightly as mining moves from East to West across the basin and deeper reserves are accessed. Increased overburden and distance to rail loadouts have put upward pressure on costs, but the economics of surface mining in the region remain favorable, particularly relative to eastern coal options.

Demand for Western Bituminous coals is expected to decline as several coal generators in Colorado that currently consume Western Bituminous coal have announced that they will cease burning coal by 2015. Also, high transportation costs make Western Bituminous coals delivered to the Southeast less economic.

#### **NATURAL GAS PRICE FORECAST**

Natural gas supply continues to outpace demand, thus 2012 continued to see low prices. Henry Hub prices averaged \$2.71 in January 2012 and steadily decreased during the first quarter and beginning of the second. Prices averaged \$2.05 in April and began to increase in May which is consistent with historical forward pricing trends during this time of year. Gas prices continued to increase

into the summer months surging in July as incremental heat surfaced and unseasonably large nuclear outages pushed up natural gas power demand expectations. In August, prices began to drop and moderated in September due to milder weather creating a low demand environment. Henry Hub prices increased at the beginning of the fourth quarter rallying to their highest levels in the early weeks of November as weather forecasts predicted below average temperatures. Weather forecasts turned significantly warmer as the month came to a close. These mild temperatures lowered natural gas demand and placed downward pressure on prices for the remainder of 2012. Because of the mild winter weather, natural gas inventories remain high and ended 2012 at an estimated 3.5 trillion cubic feet (Tcf), about 23 Bcf above ending inventory levels in 2011. The Energy Information Administration's (EIA) short-term energy outlook forecasted an annual average Henry Hub price of \$3.41 for 2013, an increase of about \$0.66 per MMBtu from the 2012 average gas price. Decreasing prices here in the U.S. led to lower liquefied natural gas (LNG) imports for 2012 as cargoes could be offloaded elsewhere for higher prices. Due to the abundant supply of shale gas through unconventional methods and the continued slump in the economy, the domestic price of natural gas is expected to remain low in the near term. The combination of higher coal prices and lower natural gas prices contributed to increased use of natural gas-fueled generating units in 2012.

Analysts' predictions for 2013 prices continue to be in the sub \$4.00 range and the long-term prices are still indicating rising prices, just at a lesser rate than previously forecasted. Although carbon legislation is not assumed in these

numbers, contributing factors for higher gas prices still include increased oil prices and unclear energy policies (especially with respect to hydraulic fracturing).

## **NATURAL GAS AVAILABILITY**

All indications point to continued oversupply in the near-term of natural gas by unconventional methods in shale regions throughout the nation. Regulatory challenges to the hydraulic fracturing technology continue to be an issue. Additional cost of production due to complying with potential “fracking” regulations could dampen the production capability within the U.S. and would increase the overall price of production. LNG imports have waxed and waned over the last several years, but 2012 import levels were down from 1.0 Bcfd in 2011 to 0.5 Bcfd in 2012. LNG imports are expected to increase slightly to 0.6 Bcfd in 2013.

Due to moderated demand and increases in gas production, sufficient gas supply remains available to meet operating needs. Pricing will remain soft in the near term as a result of the oversupply of gas relative to demand and may remain soft as demand remains relatively flat.



## STRATEGIC ISSUES

Gulf has successfully executed three PPAs that provide supply-side diversity and the flexibility for Gulf to adapt its future generation expansion plans to changing market conditions without negative financial impacts to the Company and its customers. Two of these PPAs currently supply 494 MW of firm peaking capacity from dual-fuel fired combustion turbines (CT), and they will continue to serve system load until their expiration on May 31, 2014. No later than June 2014, Gulf's third PPA, the Shell PPA, will provide 885 MW of firm capacity and energy from an existing gas-fired combined cycle (CC) generating unit that is interconnected with the SES in Alabama. The Shell PPA, approved by the FPSC in September 2009, will provide the capacity needed to meet Gulf's load service and reliability requirements through the end of the 2013 TYSP planning cycle and will expire on May 24, 2023. This strategy of supplementing Gulf's development of long-term capacity resources with shorter-term power purchases has proven to be effective over the years, and Gulf will continue to follow this strategy in the future when appropriate and cost-effective to do so.

Another important strategic advantage for Gulf is its association with the SES as it relates to integrated planning and operations. Drawing on the planning resources of Southern Company Services to perform coordinated planning and having the capacity resources of the SES available to Gulf through the Intercompany Interchange Contract's (IIC) reserve sharing mechanism in times when Gulf is temporarily short of reserves are key benefits that Gulf and its

customers realize through its association with the SES. In addition, the SES's generation organization actively pursues firm energy market products at prices that can lead to significant savings to the SES and its customers.

Over the next decade, Gulf will face significant challenges in developing a generation expansion plan that serves not only its customers' load growth but its existing base need for capacity. As discussed in the Environmental Compliance section of this TYSP, compliance with additional environmental regulations that require lower emissions from power plants may lead to retirements of Gulf's existing coal units and the addition of new gas-fired units to replace this capacity. Gulf continues to monitor the development of state and national policy in the area of air, land, and water regulations. Gulf will consider options for compliance with the resulting regulations that fulfill its obligation to serve the energy needs of its retail customers in Northwest Florida with reliable and reasonably priced electricity. With the addition of the three PPAs that provide gas-fired generating capacity during the 2013-2022 planning cycle, Gulf is well positioned to meet current and future load requirements as proposed state and federal environmental compliance standards are finalized.

## ENVIRONMENTAL COMPLIANCE

Gulf has developed and routinely updates its environmental compliance strategy to serve as a road map for a reasonable, least-cost compliance plan. This road map establishes general direction, but allows for individual decisions to be made based on specific information available at the time. The focus of the strategy updates is centered on compliance with the acid rain requirements and other significant clean air requirements, as well as potential new requirements. This approach is an absolute necessity in maintaining the flexibility to match a dynamic regulatory environment with the variety of available compliance options.

Gulf has evaluated a number of options for its coal-fired generation to comply with emission standards required by the Environmental Protection Agency's (EPA) final Mercury and Air Toxics Standards (MATS) rule and EPA's proposed land and water rules. The Company has finalized its MATS compliance strategies for Plants Crist and Daniel, and continues to evaluate compliance strategies for Plant Smith that could satisfy requirements for MATS and the EPA's proposed water quality and coal combustion by-products rules. These rules could significantly impact the operations of Gulf's existing coal-fired units and could lead to changing fuel sources for certain units, the addition of emission control equipment, unit retirements and/or transmission facility upgrades.

As described in Gulf's 2013 Environmental Compliance Program Update that is filed with the FPSC, compliance options for Gulf's Plants Crist and Daniel that address the impact of the MATS requirements were proposed and the cost

of the options were evaluated to determine the most reasonable, reliable, cost effective plan. Gulf has determined that transmission upgrades are the best option for MATS compliance for Plant Crist. For the Plant Daniel coal units, it has been determined that the best options to meet MATS limits include installing scrubbers, bromine injection, and activated carbon injection. Both injection systems will be placed in service with the scrubber during fourth quarter of 2015.

Gulf continues to analyze options for compliance with the MATS rule at Plant Smith. At a minimum, the Plant Smith MATS compliance strategy will include the construction of transmission upgrades while Gulf further evaluates the installation of emission controls that utilize activated carbon and dry sorbent injection. Gulf has determined that regardless of the decision to control the Smith coal units or retire them, transmission upgrades are a part of the Plant Smith MATS compliance strategy. Evaluation of potential compliance plans for Plant Scholz in response to MATS requirements and future land and water regulations indicates that significant capital investments in equipment to reduce emissions and meet the requirements of future environmental regulations would not be cost effective. Therefore, as previously mentioned, Plant Scholz will be retired by April 2015.

Gulf will continue to take all necessary actions to fully comply with all environmental laws and regulations as they apply to the operation of its existing generation facilities and the installation of new generation. Until the evaluation of various compliance options for Plant Smith is completed, continued operation of Smith's coal-fired units will be assumed for the 2013-2022 period. The following

is a summary of each major area of existing and emerging environmental regulations and Gulf's actions taken to comply with these regulations.

### **Clean Air Act Amendments of 1990**

In 1990, Congress passed major revisions to the Clean Air Act requiring existing coal-fired generating plants to substantially reduce air emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) by 50 percent by the end of 2000. Compliance actions for SO<sub>2</sub> have included fuel switching to lower sulfur coals coupled with the use of banked emission allowances and the acquisition of additional allowances for future year compliance. Also, Gulf completed installation and began operating flue gas de-sulfurization equipment on Plant Crist Units 4 through 7 in December 2009 which is now achieving significant reductions of SO<sub>2</sub> emissions at these coal-fired units. In addition to reducing SO<sub>2</sub> emissions, Gulf has installed low NO<sub>x</sub> burners and additional post-combustion NO<sub>x</sub> controls on all but two of its coal-fired units. The Company utilizes a system-wide NO<sub>x</sub> emissions averaging plan to meet the requirements of the Act.

### **Air Quality Standards for Ozone**

In 1997, the EPA announced a stringent new eight-hour National Ambient Air Quality Standard (NAAQS) for ozone based on an eight-hour average. In 2002, Gulf entered into an agreement with the Florida Department of Environmental Protection (FDEP) to reduce NO<sub>x</sub> emissions at Plant Crist in order to help ensure that the new ozone standard is attained in the Pensacola area. Gulf installed Selective Catalytic Reduction (SCR) controls on Crist Unit 7 in May 2005. In addition to the SCR control on Unit 7, the Company installed Selective Non-Catalytic Controls (SNCR) and over-fire air on Crist Unit 6 in February 2006.

and SNCR controls on Crist Unit 4 and Unit 5 in April 2006. These controls have achieved the overall plant-wide NO<sub>x</sub> emissions average of 0.20 lbs/mmbtu as outlined in the FDEP Agreement. Gulf also retired Crist Unit 1 in March 2003 and Crist Units 2 and 3 in May 2006. The Crist 6 SNCR was replaced with SCR technology in April 2012 in order to further reduce NO<sub>x</sub> emissions. The combined operation of the Crist SCRs and the scrubber provide co-benefits through the reduction of SO<sub>x</sub>, NO<sub>x</sub>, and mercury emissions as required by current compliance standards.

In March 2008, the EPA issued new rules establishing a more stringent eight-hour ozone standard. In January 2011 the EPA proposed further reductions in the eight-hour standard which are expected to be finalized in the 2014 timeframe. It is unknown if the revised eight-hour ozone standard will result in the designation of new non-attainment areas served by the Company.

#### **Air Quality Standards for Fine Particulate Matter**

The EPA's annual fine particulate matter non-attainment designations became effective for several geographical areas served by the Southern Company in 2005. State implementation plans that address attainment with the fine particulate standard for all areas have been submitted to the EPA. In January 2013 the EPA finalized a revision of its annual fine particulate matter standard that could require further reductions in SO<sub>2</sub> and NO<sub>x</sub> emissions and result in new non-attainment areas served by the Company.

## **Air Quality Standards for SO<sub>2</sub> and NO<sub>2</sub>**

On December 8, 2009, the EPA also proposed revisions to the NAAQS for SO<sub>2</sub>. These revisions, which include the establishment of a new one-hour standard, became effective in August 2010. Identification of potential non attainment areas are due June 2013 and could ultimately include geographical areas served by the Company. Implementation of the revised SO<sub>2</sub> standard could result in additional required reductions in SO<sub>2</sub> emissions and increased compliance and operation costs.

Revisions to the NAAQS for Nitrogen Dioxide (NO<sub>2</sub>), which established a new one-hour standard, became effective in April 2010. Although none of the geographical areas served by the Company were designated as non-attainment for the NO<sub>2</sub> standard, based on current ambient air quality monitoring data, the new NO<sub>2</sub> standard could result in significant additional compliance and operational costs for units that require new source permitting.

## **Clean Air Interstate Rule**

The EPA issued its final Clean Air Interstate Rule (CAIR) in March 2005. This cap-and-trade rule addresses power plant SO<sub>2</sub> and NO<sub>x</sub> emissions that were found to contribute to non-attainment of the eight-hour ozone and fine particulate matter standards in downwind states. Twenty-eight eastern states, including Florida and Mississippi, are subject to the requirements of the rule. The rule calls for additional reductions of NO<sub>x</sub> and/or SO<sub>2</sub> to be achieved in two phases, 2009/2010 and 2015, respectively. In 2008, the U.S. Court of Appeals for the District of Columbia Circuit issued decisions invalidating certain aspects of CAIR, but left CAIR compliance requirements in place while the EPA developed a

revised rule. The states of Florida and Mississippi have completed plans to implement CAIR, and compliance with this rule is being accomplished by the installation and operation of emission controls at Gulf's coal-fired facilities and/or by the purchase of emission allowances.

In August 2011, the EPA adopted the Cross State Air Pollution Rule (CSAPR) to replace CAIR effective January 1, 2012. Like CAIR, the CSAPR was intended to address interstate emissions of SO<sub>2</sub> and NO<sub>x</sub> that interfere with downwind states' ability to meet or maintain national ambient air quality standards for ozone and/or particulate matter. After numerous parties filed appeals and requests to stay CSAPR pending judicial review, the U.S. Court of Appeals for the District of Columbia Circuit stayed the CSAPR in its entirety in December 2011 and ordered the EPA to continue administration of CAIR pending a final decision. Before the stay was granted, the EPA published proposed technical revisions to the CSAPR, including adjustments to certain state emissions budgets and a delay in implementation of the emissions trading limitations until January 2014. In January 2013 the U.S. Court of Appeals for the District of Columbia Circuit denied requests by the EPA and other parties for rehearing. The states of Florida and Mississippi have completed plans to implement CAIR, and emissions reductions are being accomplished by the installation and operation of emission controls at the Gulf's coal-fired facilities and/or by the purchase of emission allowances. Decisions regarding Gulf's CAIR compliance strategy were made jointly with the CAVR and CAMR compliance plans due to co-benefits of proposed controls.



### **Clean Air Visibility Rule**

The Clean Air Visibility Rule (CAVR) was finalized in July 2005 in order to restore natural visibility conditions in certain areas (primarily national parks and wilderness areas) by 2064. The rule involves the application of Best Available Retrofit Technology (BART) to certain sources built between 1962 and 1977 and any additional emission reductions necessary for each designated area to achieve reasonable progress by 2018 and for each 10-year period thereafter. In June 2012 the EPA issued a final rule providing that compliance with the CSAPR satisfies BART obligations under the CAVR. Given the pending legal challenge to the CSAPR, it remains uncertain whether additional controls may be required for CAVR and BART compliance.

### **Mercury and Air Toxics Standards**

In March 2005 the EPA published the final Clean Air Mercury Rule (CAMR), a cap-and-trade program for the reduction of mercury emissions from coal-fired power plants. In February 2008, however, the U.S. Court of Appeals for the District of Columbia Circuit issued an opinion vacating the federal CAMR, thus eliminating requirements for generating facilities to install mercury controls to meet the CAMR cap and trade emission limits.

The EPA then entered into a proposed consent decree that required it to develop a Maximum Achievable Control Technologies (MACT) rule that would limit the emission of numerous hazardous air pollutants, including mercury, from power plants. On February 16, 2012, the EPA published the Mercury and Air Toxics Standards (MATS) rule which imposes stringent emissions limits for acid gases, mercury, and particulate matter on coal- and oil-fired electric utility steam

generating units. Compliance for existing sources is required by April 16, 2015 unless a one year extension is granted by the state and local air permitting agency. In November 2012 the EPA proposed a rulemaking to reconsider certain new source and startup/shutdown issues. This rulemaking may be completed by April 2013.

Gulf has finalized compliance plans for Plants Crist and Daniel, and is evaluating potential MATS compliance options for Plant Smith. Compliance is likely to require substantial capital expenditures at Gulf's facilities which could affect unit retirement decisions.

#### **Clean Water Act**

In July 2004, the EPA published final regulations under the Clean Water Act to reduce impingement and entrainment of fish, shellfish and other forms of aquatic life at existing power plant cooling water intake structures. In April 2009 the U.S. Supreme Court held that the EPA could consider costs in arriving at its standards and in providing variances from those standards for existing intake structures. This ruling allowed the EPA to proceed with its rulemaking action.

The EPA published a proposed rule in April 2011 that established standards for reducing effects on fish and other aquatic life caused by cooling water intake structures at existing power plants and manufacturing facilities. The rule also addresses cooling water intake structures for new units at existing facilities. The EPA entered into an amended settlement agreement to issue a final rule by July 27, 2013. Compliance with the final rule may require changes to existing cooling water intake structures at certain Gulf generating facilities, and new generating units constructed at existing plants would be required to install

closed cycle cooling towers. Given these requirements, the Company may be subject to significant additional compliance costs and capital expenditures that could affect future unit retirement decisions.

In 2009 the EPA determined that revision of the current effluent guidelines for steam electric power plants was warranted, and it proposes to adopt such revisions by May 2014. New wastewater treatment requirements are expected and may result in the installation of additional controls on Company facilities. In addition to this federal action, the State of Florida is finalizing nutrient water quality standards to limit the amount of nitrogen and phosphorous allowed in state waters. The ultimate impact of these federal and state guidelines and standards will depend on the studies conducted in connection with the rulemaking, as well as the specific requirements of the final rule.

### **Coal Combustion Byproducts**

The EPA is currently evaluating whether additional regulation of coal combustion byproducts is merited under federal solid and hazardous waste laws. The EPA has collected information from the electric utility industry on surface impoundment safety and conducted on-site inspections at three Southern Company system facilities as part of its evaluation. In June 2010 the EPA issued a proposal rule and requested comments on two options regarding the management and disposal of coal combustion byproducts. Adoption of either option, to further regulate coal combustion byproducts as either hazardous or non-hazardous, could have a significant impact on the Company's management, beneficial use, and disposal of such byproducts. This could result in significant additional compliance costs that could affect future unit retirement decisions.

## **Global Climate Issues**

Many proposals considered by the U.S. Congress to reduce greenhouse gas emissions and mandate renewable or clean energy have failed to be passed in past legislative sessions. Although Federal legislative proposals that would impose mandatory requirements related to greenhouse gas emissions (GHG) may continue to be considered in Congress, the EPA is moving forward with regulation of greenhouse gases under the Clean Air Act.

In April 2010 the EPA issued a final rule regulating GHG emissions from new motor vehicles under the Clean Air Act. The EPA has stated that because this rule became effective in January 2011, it causes carbon dioxide and other GHGs to become regulated pollutants under EPA programs which both apply to power plants. As a result, the construction of new facilities or the major modification of existing facilities could require the installation of the best available control technology for carbon dioxide and other GHGs.

The EPA issued its final rule, known as the Tailoring Rule, governing how these programs would be applied to stationary sources, including power plants, in May 2010. This rule establishes two phases for applying Prevention of Significant Deterioration (PSD) and Title V requirements to greenhouse gas emissions sources. In April 2012 the EPA proposed standards of performance for greenhouse gas emissions from new and modified fossil fuel-fired electric generating units. In addition to these rules, the EPA has announced plans to develop federal guidelines for states to establish greenhouse gas emissions standards for existing sources which could impact the flexibility and operations of new combined cycle units and eliminate new coal-fired generation unless carbon

capture and storage technology is used by these resources. EPA's final Clean Air Act rulemakings were challenged in the U.S. Court of Appeals for the District of Columbia Circuit, but in June 2012 the Court issued decisions to dismiss those challenges.

### **Conclusion**

Although the ultimate outcome of these federal and state rulemaking activities cannot be determined at this time, Gulf has made substantial investments in environmental controls to comply with current and pending laws and regulations. Gulf will continue its involvement in the development of strategies to address any future clean air, water, or other requirements in order to minimize the uncertainty related to the scope and cost of compliance. As new initiatives emerge, Gulf will support any proposal that would help it meet environmental goals and objectives in a logical and cost-effective way, provided that the standards are based on sound science and economics which allow for adequate time to comply without compromising the safe, reliable and affordable supply of electricity to Gulf's customers.

## **AVAILABILITY OF SYSTEM INTERCHANGE**

Gulf coordinates its operations with the other operating companies of the SES: Alabama Power Company, Georgia Power Company, Mississippi Power Company, and Southern Power Company. In any year, an individual operating company may have a temporary surplus or deficit in generating capacity, depending on the relationship of its generating capacity to its load and reserve responsibility. Each SES operating company either buys or sells its temporary deficit or surplus capacity from or to the pool in order to satisfy its reserve responsibility requirement. This is accomplished through the reserve sharing provisions of the SES Intercompany Interchange Contract (IIC) that is reviewed and updated annually.

## **OFF-SYSTEM SALES**

Gulf and other SES operating companies have negotiated the sale of firm capacity and energy from specific generating units to several utilities outside the SES. Three contracts have been executed, and became effective in June 2010. Two of the contracts end in December 2015 and December 2016, respectively, while the other contract will end in December 2019. Gulf's share of the capacity sales is included in the reserve calculation on Schedules 7.1 and 7.2, while the fuel use and the energy associated with Gulf's portion of these sales are included on Schedules 5 and 6.1 respectively.

## CHAPTER IV

### FORECAST OF FACILITIES REQUIREMENTS

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## **CAPACITY RESOURCE ALTERNATIVES**

### **POWER PURCHASES**

Gulf's use of purchased power arrangements in previous years has proven to be a successful approach to meeting its reliability needs. As Gulf considers resources that can potentially meet its future need for capacity, longer-term purchased power from the market will be factored into expansion studies in order to evaluate its effect on supply flexibility and reduced commitment risk during periods in which environmental regulations (with considerable economic impacts) and legislative initiatives focusing on generation additions are in various stages of development. Gulf will continue to utilize both short-term and longer-term purchased power in the future to balance its approach to supply side resource development.

### **CAPACITY ADDITIONS**

In conjunction with the SES, Gulf will conduct economic evaluations of its potential supply options in order to determine the most cost-effective means of meeting its future capacity obligations. Gulf will evaluate its internal construction options versus external development of capacity resources in order to determine how to best meet its future capacity obligations. All commercially available generating technologies such as gas combustion turbine and combined cycle, conventional pulverized coal, and nuclear will be included in future SES IRP mix studies. In addition, emerging Integrated Gasification Combined Cycle (IGCC) technologies, such as air blown IGCC, and generating facilities with carbon capture technology will be added to the future generation mix studies so that their

potential economic and technical viabilities may be evaluated. The SES will gain valuable knowledge of the economic and performance characteristics of full-scale air blown IGCC facilities when the Mississippi Power Company IGCC facility in Kemper County, Mississippi facility begins operation in 2014. The potential benefits of this technology include greater efficiency and lower environmental emissions.

If subsequent mix studies or RFPs identify alternative power supply technologies or purchased power options that are more economical or that deliver more desirable results, Gulf will modify its expansion plan to reflect the proposed procurement of these resources. Gulf will continue to review all available capacity resource possibilities in order to serve the energy needs of its retail customers in Northwest Florida with reliable and reasonably priced electricity.

## RENEWABLE RESOURCES

Gulf is committed to encouraging and promoting cost-effective renewable energy. Gulf believes that obtaining cost-effective renewable energy supplies for its customers can provide the benefits of fuel diversity that will effectively supplement the Company's present and future capacity and energy needs. In efforts to further diversify its generation fuel mix, Gulf has secured the supply of capacity and/or energy from several renewable facilities. Schedule 6.3 of this TYSP includes the amount of renewable energy that Gulf has produced or purchased, and the amounts projected to be produced or purchased during the 2013-2022 planning cycle.

Gulf successfully negotiated a PPA for renewable energy produced by the Bay County Resource Recovery Facility in 2008. This facility, with a maximum capacity rating of approximately 13 MW, is located in Panama City, Florida and uses municipal solid waste to produce non-firm energy for delivery to Gulf. The facility is operated and maintained by Engen, LLC. The PPA does not provide firm capacity, only energy that is purchased at fixed prices until the agreement expires in July 2014. Gulf is hopeful that it will be able to successfully negotiate a new PPA with Bay County, Florida for the output of their facility.

In 2010, Gulf constructed a landfill gas-fired generating facility that is located on leased property adjacent to Escambia County's Perdido Landfill which is just north of Pensacola, Florida. Gulf's Perdido Landfill Gas To Energy Facility consists of two Caterpillar G3520C internal combustion generating units that have a maximum capacity rating of 1.6 MW each. The facility is operated and

maintained under contract with LFG Technologies, Inc. Gulf has an agreement with Escambia County, Florida for the purchase of their landfill gas that fuels this Gulf-owned facility. The agreement has a term of 20 years and can be automatically renewed for additional, successive 12 month periods.

Initially, the landfill gas supply was proven sufficient for the operation of two engines. As the gas collection system is expanded, the supply may be sufficient for the third unit. Gulf is currently in discussions with Escambia County regarding the availability of this additional gas supply. In anticipation of the successful demonstration of this additional landfill gas supply, Gulf, as indicated on Schedule 8 of this TYSP, is currently expecting to bring a third 1.6 MW generation unit on-line at its Perdido facility in the August 2014 timeframe.

Gulf also has access to possible purchases of renewable energy through its Renewable Standard Offer Contract (RSOC) on file with the FPSC. Consistent with state law, Gulf updates its pricing for the RSOC as needed so that a standard offer for the purchase of renewable energy is continually available to developers of renewable resources. Gulf may also negotiate a PPA with a renewable energy supplier if the terms and conditions of the RSOC are not suitable for a particular renewable project.

Gulf is prepared to secure renewable resources in the future as opportunities arise. If future solicitations ultimately result in projects that are competitive with resources that Gulf would otherwise develop, the Company will secure this renewable capacity and energy through a PPA or construct the facility itself.

**GULF POWER COMPANY**

Schedule 6.3  
Renewable Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		Actuals										
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Renewable Energy Sources (A)</b>												
(1) Renewable Generating Capacity												
	Perdido MW	3.0	3.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	Perdido MWh	25,240	26,368	33,891	39,050	39,157	39,050	39,050	39,050	39,157	39,050	39,050
	Bay County MWh	4,226	54,990	32,719	0	0	0	0	0	0	0	0
	Total MWh	29,466	81,358	66,610	39,050	39,157	39,050	39,050	39,050	39,157	39,050	39,050
	% of Capacity Mix	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	% of NEL	0.3	0.7	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	% of Fuel Mix	0.2	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
(2) Self-Service Generation By Renewable Generation												
	MW	68	68	68	68	68	68	68	68	68	68	68
	MWh (B)	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies

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## **PREFERRED AND POTENTIAL SITES FOR CAPACITY ADDITIONS**

Gulf Power Company will not need to construct new generating facilities or purchase additional generating capacity during the 2013-2022 planning cycle due to the firm capacity provided by its 885 MW Shell PPA. Because the Company's next need for capacity does not occur until 2023, Gulf will consider its existing Florida sites at Plant Crist in Escambia County and Plant Smith in Bay County, as well as its greenfield sites in Florida at Caryville in Holmes County and near Century in North Escambia County as potential sites for locating future generating unit(s) in Northwest Florida.

Each of these potential sites has unique characteristics that offer construction and/or operational advantages related to the potential installation of natural gas-fired CCs, which is the next potential type of capacity needed. Please note that the sites discussed herein are not listed in any particular order based on their attributes. Site selection for Gulf's next generating unit addition will be based on existing infrastructure, available acreage and land use, transmission, fuel facilities, environmental factors including evolving ozone standards, and overall project economics. The required environmental and land use information for each potential site is set forth below. The estimated peak water usage for the proposed CC should be identical for each site mentioned below. Gulf projects that approximately 5000 gallons per minute (gpm) would be required for industrial cooling water needs, while 250 gpm would be required for domestic, irrigation, and other potable and non-potable water uses.

### **Potential Site #1: Plant Crist, Escambia County**

The project site would be located on Gulf's existing Plant Crist property in Escambia County, Florida. If a future project is ultimately located on this property, detailed studies must first be completed to determine the exact size and location of the project site within the plant property's boundaries in order to meet Gulf's needs while ensuring full compliance with local, state, and federal requirements. The plant property, approximately 10 miles north of Pensacola, Florida, can be accessed via county roads from nearby U. S. Highway 29. As shown on Schedule 1, the existing Plant Crist facility consists of 903 MW of steam generation.

#### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the Plant Crist property is found on page 77 of this chapter.

#### **Land Uses and Environmental Features**

The Plant Crist property is dedicated to industrial use. The land adjacent to the property is currently being used for residential, commercial, and industrial purposes. General environmental features of the undeveloped portion of the property include mixed scrub, mixed hardwood/pine forest, and some open grassy areas. This property is located on the Escambia River. There are no unique or significant environmental features on the property that would substantially affect project development.



### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use a combination of groundwater from on-site wells, available surface water, and reclaimed water sources.

### **Potential Site #2: Plant Smith, Bay County**

The project site would be located on Gulf's existing Plant Smith property in Bay County, Florida. If a future project is ultimately located on this property, detailed studies must first be completed to determine the exact size and location of the project site within the plant property's boundaries in order to meet Gulf's needs while ensuring full compliance with local, state, and federal requirements. The plant property, approximately 10 miles northwest of Panama City, Florida, is located on North Bay and can be accessed via a county road from nearby State Road 77. As shown on Schedule 1, the existing Plant Smith facility consists of 357 MW of steam generation, 556 MW of combined cycle generation, and 32 MW of CT generation.

### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the Plant Smith property is found on page 78 of this chapter.

### **Land Uses and Environmental Features**

The Plant Smith property is dedicated to industrial use. The land adjacent to the property is rural and consists of planted pine plantations. General environmental features of the property include a mixture of upland and

wetland areas. This property is located on North Bay, which connects to St. Andrews Bay. The property has no unique or significant environmental features that would substantially affect project development.

### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use a combination of groundwater from on-site wells and available surface water.

### **Potential Site #3: Caryville Property, Holmes County**

The project site would be located on undeveloped Gulf property that is bisected by the Holmes/Washington County, Florida line. If the project is ultimately located on this property, detailed studies will be required to determine the exact size and location of the project site within the property's boundaries in order to meet Gulf's needs while ensuring full compliance with local, state, and federal requirements. This property is approximately 1.5 miles northeast of Caryville, Florida. It is located just east of the Choctawhatchee River and can be accessed via County Road 179 from nearby U. S. Highway 90.

### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the Caryville property is found on page 79 of this chapter.

### **Land Uses and Environmental Features**

The Caryville property is certified under the Power Plant Siting Act for two 500 MW coal-fired units, but is also suitable for CC generating units. The site is approximately 2,200 acres in size and is adjacent to a major railroad line on its southern boundary. The land surrounding the property is primarily rural and is used mainly for agriculture and timber harvesting. General environmental features of the property mainly include wooded upland areas, with areas of wetlands. There are no other unique or significant environmental features on the property that would substantially affect project development.

### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use groundwater from on-site wells and available surface water.

### **Potential Site #4: North Escambia Property, Escambia County, Florida**

The project site would be located on undeveloped Gulf property that is located in the northern part of Escambia County, Florida, approximately 5 miles southwest of Century, Florida. It is located just west of the Escambia River and can be accessed via County Road 4 from nearby U. S. Highway 29. If the project is ultimately located on this property, detailed studies will be required to determine the exact size and location of the project site within the property's boundaries in order to meet Gulf's needs while ensuring full compliance with local, state, and federal requirements.

### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the North Escambia property is found on page 80 of this chapter.

### **Land Uses and Environmental Features**

The North Escambia property is primarily dedicated to timber harvesting and agricultural use. The property is in close proximity to transmission, natural gas pipelines, railroad, major highways and access to water, all suitable to accommodate new generation needs. The site is currently 2728 acres and includes property located directly on the Escambia River to support the water supply needs for any future generating facility. The land surrounding the property is primarily rural and is used mainly for timber harvesting and agriculture. General environmental features of the property mainly include wooded upland areas, with areas of hardwood/pine forest and wetlands. There are no other unique or significant environmental features on the property that would substantially affect future project development.

### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use a combination of groundwater from on-site wells and available surface water.



Notes:

1. Grid lines shown are based on the Florida North Zone (#903), NAD83-90 H.A.R.N. State Plane Coordinate System.
2. Taken from U.S.G.S. Quadrangle Maps "Pace, FL and Cantonment, FL."

1000 0 1000 2000

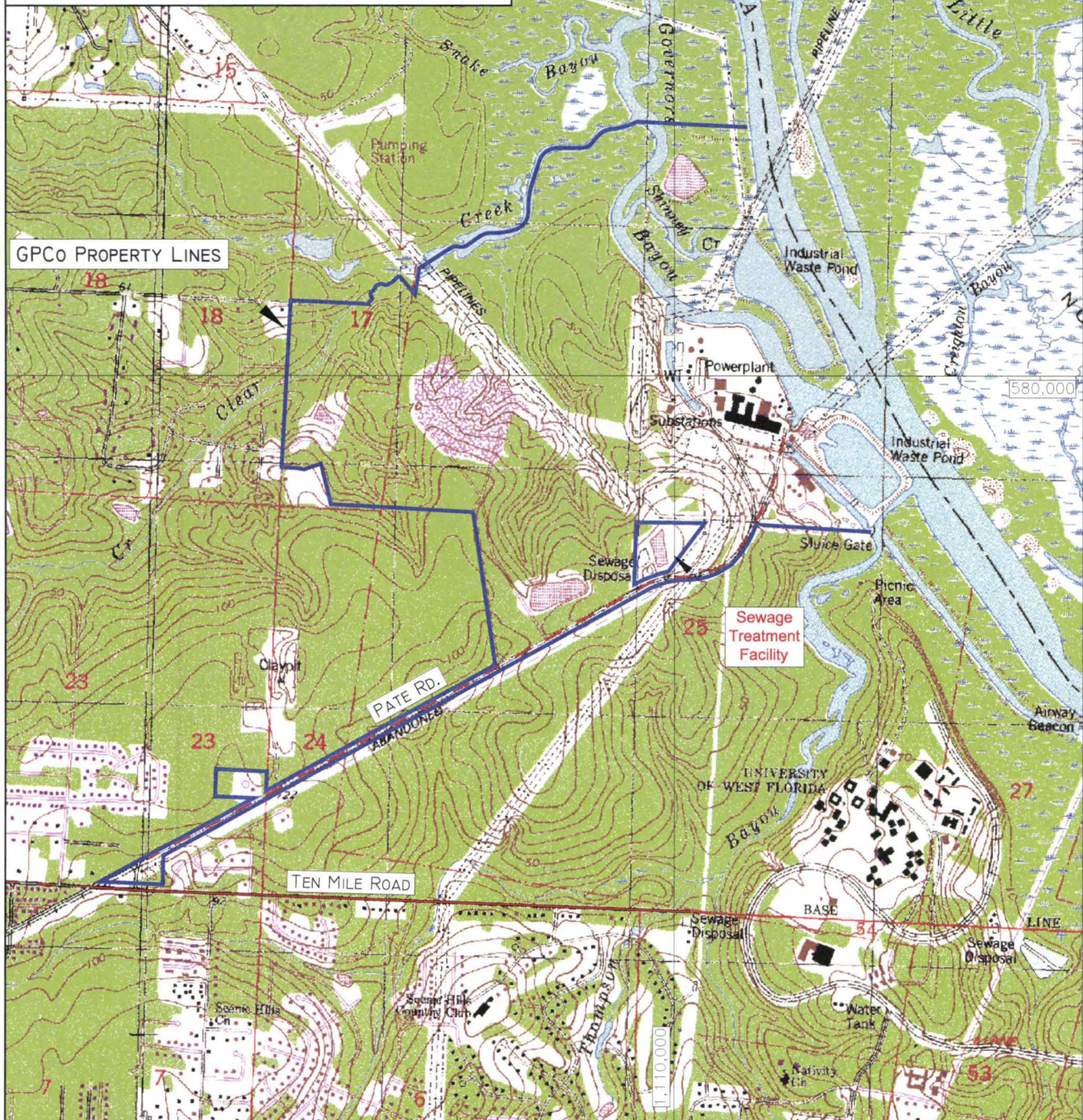


SCALE: 1 INCH = 2000 FEET



ONE ENERGY PLACE  
PENSACOLA, FL 32520-0323

# PLANT CRIST





# PLANT SMITH



ONE ENERGY PLACE  
PENSACOLA, FL 32502-0323



### Notes:

1. Grid lines shown are based on the Florida North Zone (#903), NAD83-90 H.A.P.N. State Plane Coordinate System.
2. indicates G.P.C.'s Property Lines.
3. Taken from U.S.G.S. Quadrangle Map "Southport"

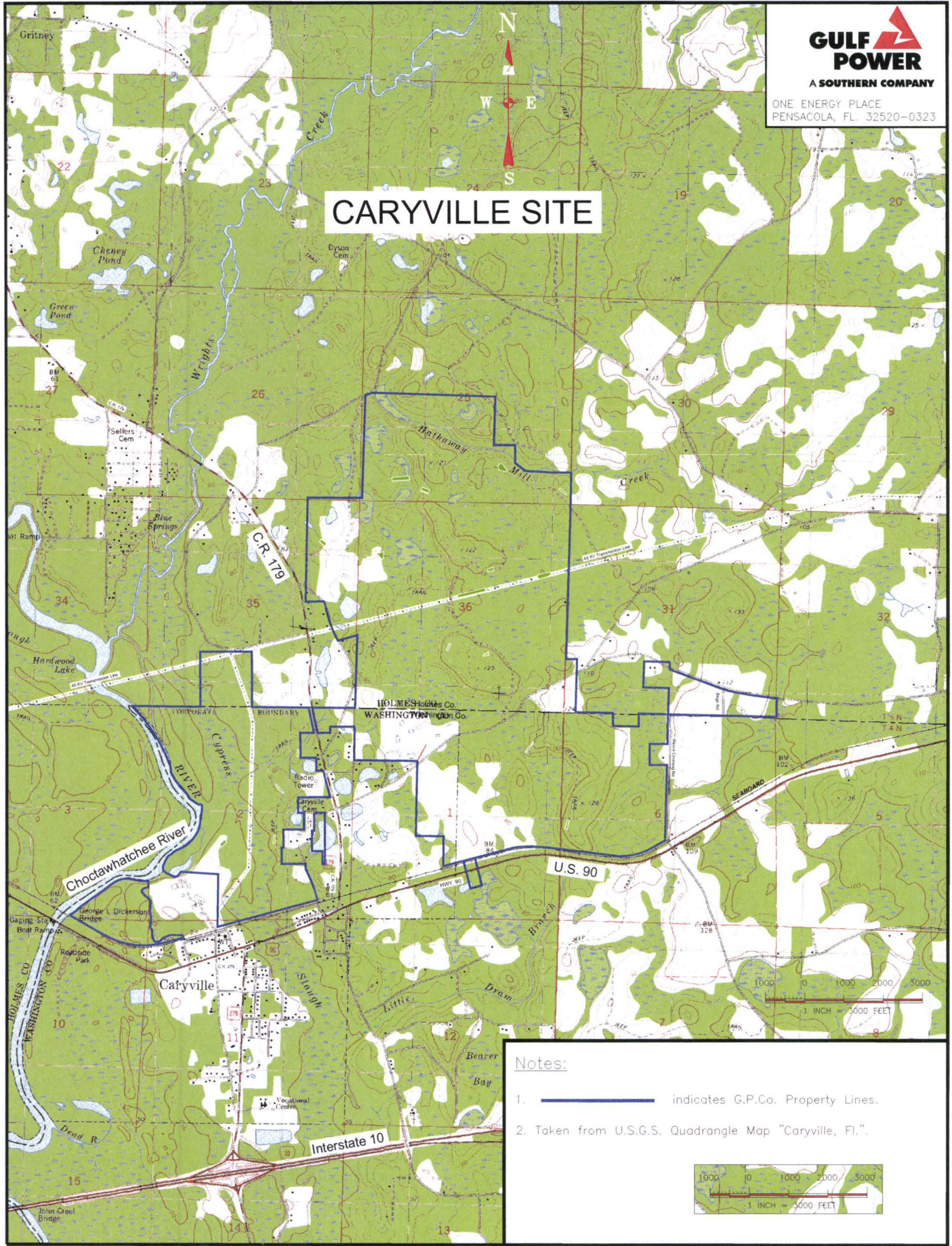
1000 0 1000 2000

SCALE: 1 INCH = 2000 FEET

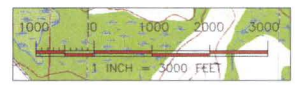




**CARYVILLE SITE**



- Notes:**
1. ————— indicates G.P.Co. Property Lines.
  2. Taken from U.S.G.S. Quadrangle Map "Caryville, FL."






# NORTH ESCAMBIA

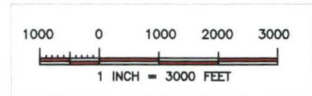


ONE ENERGY PLACE  
PENSACOLA, FL. 32520-0323



### Notes:

1.  indicates G.P.Co. Property Lines.
2. Taken from U.S.G.S. Quadrangle Maps "Century, FL." and "Bratt FL."





GULF POWER COMPANY

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)	
YEAR	TOTAL INSTALLED CAPACITY MW	FIRM CAPACITY IMPORT MW	FIRM CAPACITY EXPORT MW	NUG MW	TOTAL CAPACITY AVAILABLE MW	FIRM PEAK DEMAND MW	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE MW	RESERVE MARGIN AFTER MAINTENANCE	
							MW	% OF PEAK		MW	% OF PEAK
2013	2,704	494	(211)	0	2,987	2,514	473	18.8%	NONE	473	18.8%
2014	2,706	885	(211)	0	3,380	2,522	858	34.0%		858	34.0%
2015	2,614	885	(211)	0	3,288	2,545	743	29.2%		743	29.2%
2016	2,610	885	(211)	0	3,284	2,584	700	27.1%		700	27.1%
2017	2,610	885	(211)	0	3,284	2,604	680	26.1%		680	26.1%
2018	2,610	885	(211)	0	3,284	2,612	672	25.7%		672	25.7%
2019	2,598	885	(211)	0	3,272	2,628	644	24.5%		644	24.5%
2020	2,594	885	(211)	0	3,268	2,656	612	23.0%		612	23.0%
2021	2,594	885	(211)	0	3,268	2,687	581	21.6%		581	21.6%
2022	2,594	885	(211)	0	3,268	2,711	557	20.5%		557	20.5%

GULF POWER COMPANY

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)	
YEAR	TOTAL INSTALLED CAPACITY MW	FIRM CAPACITY IMPORT MW	FIRM CAPACITY EXPORT MW	NUG MW	TOTAL CAPACITY AVAILABLE MW	FIRM PEAK DEMAND MW	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE MW	RESERVE MARGIN AFTER MAINTENANCE	
							MW	% OF PEAK		MW	% OF PEAK
2012-13	2,722	494	(211)	0	3,005	2,271	734	32.3%	NONE	734	32.3%
2013-14	2,743	494	(211)	0	3,026	2,318	708	30.5%		708	30.5%
2014-15	2,745	885	(211)	0	3,419	2,297	1,122	48.8%		1,122	48.8%
2015-16	2,649	885	(211)	0	3,323	2,343	980	41.8%		980	41.8%
2016-17	2,649	885	(211)	0	3,323	2,362	961	40.7%		961	40.7%
2017-18	2,649	885	(211)	0	3,323	2,367	956	40.4%		956	40.4%
2018-19	2,634	885	(211)	0	3,308	2,383	925	38.8%		925	38.8%
2019-20	2,630	885	(211)	0	3,304	2,408	896	37.2%		896	37.2%
2020-21	2,630	885	(211)	0	3,304	2,436	868	35.6%		868	35.6%
2021-22	2,630	885	(211)	0	3,304	2,458	846	34.4%		846	34.4%

GULF POWER COMPANY

SCHEDULE 8  
 PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Plant Name	Unit No.	Location	Unit Type	Fuel		Fuel Transport		Const Start Mo/Yr	Com'l In-Service Mo/Yr	Effective Date Mo/Yr	Gen Max Nameplate KW	Net Capability		Status
				Pri	Alt	Pri	Alt					Summer MW	Winter MW	
Crist	6	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	05/70	06/13	369,750	11.0	11.0	CR
Crist	7	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	08/73	06/13	578,000	10.0	10.0	CR
Perdido LFG	3	Escambia County	IC	LFG	--	PL	--	02/14	08/14	08/14	1,600	1.5	1.5	P
Scholz	1	Jackson County 12/3N/7W	FS	C	--	RR	WA		03/53	04/15	49,000	(46.0)	(46.0)	R
Scholz	2	Jackson County 12/3N/7W	FS	C	--	RR	WA		03/53	04/15	49,000	(46.0)	(46.0)	R
Daniel	1	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	09/77	12/15	274,125	(2.0)	(2.0)	D
Daniel	2	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	06/81	12/15	274,125	(2.0)	(2.0)	D
Pea Ridge	1 - 3	Santa Rosa County 15/1N/29W	CT	NG	--	PL	--	--	05/98	12/18	14,250	(12.0)	(15.0)	R

**GULF POWER COMPANY**

**SCHEDULE 8  
PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<u>Plant Name</u>	<u>Unit No.</u>	<u>Location</u>	<u>Unit Type</u>	<u>Fuel</u>		<u>Fuel Transport</u>		<u>Const Start Mo/Yr</u>	<u>Com'l In-Service Mo/Yr</u>	<u>Effective Date Mo/Yr</u>	<u>Gen Max Nameplate KW</u>	<u>Net Capability</u>		<u>Status</u>
				<u>Pri</u>	<u>Alt</u>	<u>Pri</u>	<u>Alt</u>					<u>Summer MW</u>	<u>Winter MW</u>	
Daniel	1	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	09/77	12/19	274,125	(2.0)	(2.0)	D
Daniel	2	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	06/81	12/19	274,125	(2.0)	(2.0)	D

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Abbreviations:

Unit Type

FS - Fossil Steam  
S - Steam  
CT - Combustion Turbine  
CC - Combined Cycle  
IC - Internal Combustion

Fuel

C - Coal  
NG - Natural Gas  
LO - Light Oil  
HO - Heavy Oil  
LFG - Landfill Gas  
WDS - Wood Waste Solid

Status

CR - Certified Rating change  
D - Environmental derate  
P - Planned, but not authorized by utility  
R - To be retired  
U - Under construction, less than or equal to 50% complete  
V - Under construction, more than 50% complete

Fuel Transportation

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

## Schedule 9

## Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number:	Perdido Unit # 3
(2)	Net MW Capacity	
	a. Summer:	1.5
	b. Winter:	1.5
	Gross MW Capacity	
	a. Summer:	1.6
	b. Winter:	1.6
(3)	Technology Type:	IC
(4)	Anticipated Construction Timing	
	a. Field construction start - date:	02/14
	b. Commercial in-service date:	08/14
(5)	Fuel	
	a. Primary fuel:	LFG
	b. Alternate fuel:	N/A
(6)	Air Pollution Control Strategy:	Manufactured to EPA Emission Standards
(7)	Cooling Method:	Water
(8)	Total Site Area:	2.47 acres
(9)	Construction Status:	Pending
(10)	Certification Status:	Not Applied
(11)	Status with Federal Agencies:	Not Applied
(12)	Projected Unit Performance Data	
	Planned Outage Factor (POF):	2.7%
	Unplanned Outage Factor (UOF):	1.3%
	Equivalent Availability Factor (EAF):	96.0%
	Capacity Factor (%):	95.1%
	Average Net Operating Heat Rate (ANOHR):	11,247
(13)	Projected Unit Financial Data	
	Book Life (Years):	20
	Total Installed Cost (In-Service Year \$/kW):	2,763
	Total O&M (In-Service Year \$000):	400
	K Factor:	1.2960

**GULF POWER COMPANY**

**Schedule 10**

Status Report and Specifications of Proposed Directly Associated Transmission Lines

(1) Point of Origin and Termination:	Unknown
(2) Number of Lines:	Unknown
(3) Right-of-Way:	Unknown
(4) Line Length:	Unknown
(5) Voltage:	Unknown
(6) Anticipated Construction Timing:	Unknown
(7) Anticipated Capital Investment:	Unknown
(8) Substations:	Unknown
(9) Participation with Other Utilities:	N/A