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09 APR - 1 PM 12:13



March 31, 2009

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COMMISSION  
CLERK

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

090000-OT

Dear Ms. Cole:

Enclosed are an original and twenty-five copies of Gulf Power Company's 2009 Ten Year Site Plan, and it is filed pursuant to Rule No. 25-22.071.

Sincerely,

*Susan D. Ritenour (lw)*

mv

Enclosures

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

COM \_\_\_\_\_  
ECR \_\_\_\_\_  
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OPC \_\_\_\_\_  
RCP \_\_\_\_\_  
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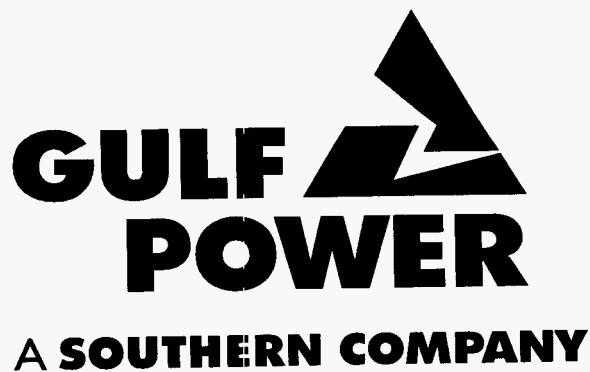
02890 APR-18

FPSC-COMMISSION CLERK

# TEN YEAR SITE PLAN 2009-2018

FOR ELECTRIC GENERATING FACILITIES  
AND  
ASSOCIATED TRANSMISSION LINES

APRIL 2009



DOCUMENT NUMBER-DATE

02890 APR-18

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, 2009**

DOCUMENT NUMBER-DATE

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# **GULF POWER COMPANY**

## **TEN-YEAR SITE PLAN**

### **Executive Summary**

The Gulf Power Company 2009 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). The 2009 TYSP for Gulf Power Company (Gulf) is being filed in compliance with the applicable FPSC rules.

Gulf's 2009 TYSP contains the documentation of assumptions used for the 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 (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 2009 TYSP cycle, Gulf has two purchased power agreements (PPAs) that will supply 488 megawatts (MW) of peaking power from two existing regional market facilities to serve Gulf customers' electrical needs from June 1, 2009 until May 31, 2014. These PPAs were approved by the FPSC in Order No. PSC-07-0329-PAA-EI dated April 16, 2007. With this PPA capacity shown as committed capacity through May 2014, Gulf's additional resource needs for this planning cycle increase annually to 976 MW by the summer of 2014 and continue to grow to 1344 MW by 2018. Therefore, Gulf will need to add significant generation resources in 2014 due to the expiration of the two PPAs totaling 488 MW and an increase in expected summer peak demands in years 2011 through 2018 of the 2009 TYSP cycle.

In order to meet its future capacity needs, Gulf has continued to evaluate the construction of generating facilities or the acquisition of equivalent capacity resources in coordination with other SES operating companies. In late 2008, Gulf was selected through an RFP process to construct, own and operate a

3 MW landfill gas to energy facility at the Escambia County, Florida landfill. Gulf will petition the FPSC for cost recovery approval of this project in 2009, and the facility could be on-line as early as April 2010. Gulf has also initiated detailed studies to convert its 92 MW Scholz coal-fired facility in Jackson County, Florida to a biomass facility following its retirement in December 2011. Gulf is projecting this facility to be on-line by June 2013. Both of these proposed renewable projects have been included in Gulf's 2009 TYSP.

Gulf's 2008 TYSP generation expansion plan called for the addition of an 840 MW gas-fired combined cycle unit in Northwest Florida in 2014. Gulf began preparation of an RFP in early 2008 to determine the most cost-effective resource(s) to meet its projected need in 2014. Just prior to issuing the RFP in late 2008, Gulf became aware of a non-affiliated power marketer's desire to negotiate a PPA for the output of an existing 885 MW gas-fired combined cycle generating unit interconnected with the SES. Gulf postponed the issuance of the Gulf RFP and began negotiating a PPA with this non-affiliated party. Gulf signed the PPA on March 16, 2009. The term of this 885 MW PPA begins on the later of June 2009 or on such date that the FPSC issues a final, non-appealable order for cost recovery and ends May 24, 2023. When combined with the proposed capacity additions of the other Southern electric system operating companies, Gulf's proposed capacity additions via the new 885 MW PPA and the above mentioned renewable projects will result in an SES planning reserve margin of approximately 15% through 2018.

This 885 MW PPA is contingent upon receipt of a final, non-appealable order from the FPSC for recovery of costs associated with the PPA. In the event the PPA is not approved, Gulf will proceed with its plan to construct an 840 MW combined cycle unit in Northwest Florida by issuing an RFP as soon as practical. Studies to determine the latest cost and best location for this potential combined cycle generating facility will have to be refreshed to include new economic factors and the latest regulatory requirements, but the location of this self build project has been narrowed to two primary sites at Gulf's existing generating facility sites in Northwest Florida. Schedule 9 of this TYSP document contains more detailed information on this potential combined cycle addition.

# CHAPTER I

## DESCRIPTION OF EXISTING FACILITIES



## DESCRIPTION OF EXISTING FACILITIES

Gulf owns and operates generating facilities at four sites in Northwest Florida (Plants Crist, Smith, Scholz, and Pea Ridge). 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 unit power sale contracts. This fleet of generating units consists of eleven fossil steam units, one combined cycle unit, and four combustion turbines. Schedule 1 shows 930 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.

Including Gulf's ownership interest in the Daniel fossil steam Units 1 and 2 and the Scherer fossil steam Unit 3, Gulf has a total net summer generating capability of 2,711 MW and a total net winter generating capability of 2,750 MW.

The existing Gulf system in Northwest Florida, including generating plants, substations, transmission lines and service area, is shown on the system map on

page 9 of this TYSP. Data regarding 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, 2008

(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>930.0</u>	<u>930.0</u>
	4		FS	C	NG	WA	PL	1	7/59	12/24	93,750	78.0	78.0
	5		FS	C	NG	WA	PL	1	6/61	12/26	93,750	78.0	78.0
	6		FS	C	NG	WA	PL	1	5/70	12/35	369,750	302.0	302.0
	7		FS	C	NG	WA	PL	1	8/73	12/38	578,000	472.0	472.0
Lansing Smith		Bay County 36/2S/15W									<u>1,001,500</u>	<u>945.0</u>	<u>981.0</u>
	1		FS	C	--	WA	--	--	6/65	12/30	149,600	162.0	162.0
	2		FS	C	--	WA	--	--	6/67	12/32	190,400	195.0	195.0
	3		CC	NG	--	PL	--	--	4/02	12/37	619,650	556.0	584.0
	A		CT	LO	--	TK	--	--	5/71	12/17	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	--	3/53	12/11	49,000	46.0	46.0
	2		FS	C	--	RR	WA	--	10/53	12/11	49,000	46.0	46.0
(A) Daniel		Jackson County, MS 42/5S/6W									<u>548,250</u>	<u>513.0</u>	<u>513.0</u>
	1		FS	C	HO	RR	TK	--	9/77	12/32	274,125	260.0	260.0
	2		FS	C	HO	RR	TK	--	6/81	12/36	274,125	253.0	253.0
(A) Scherer	3	Monroe County, GA	FS	C	--	RR	--	--	1/87	12/42	222,750	219.0	219.0
Pea Ridge		Santa Rosa County 15/1N/29W									<u>14,250</u>	<u>12.0</u>	<u>15.0</u>
	1		CT	NG	--	PL	--	--	5/98	12/18	4,750	4.0	5.0
	2		CT	NG	--	PL	--	--	5/98	12/18	4,750	4.0	5.0
	3		CT	NG	--	PL	--	--	5/98	12/18	4,750	4.0	5.0
Total System											<u>2,711.0</u>	<u>2,750.0</u>	

7

**SCHEDULE 1**

Abbreviations:

Fuel

---

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

Fuel Transportation

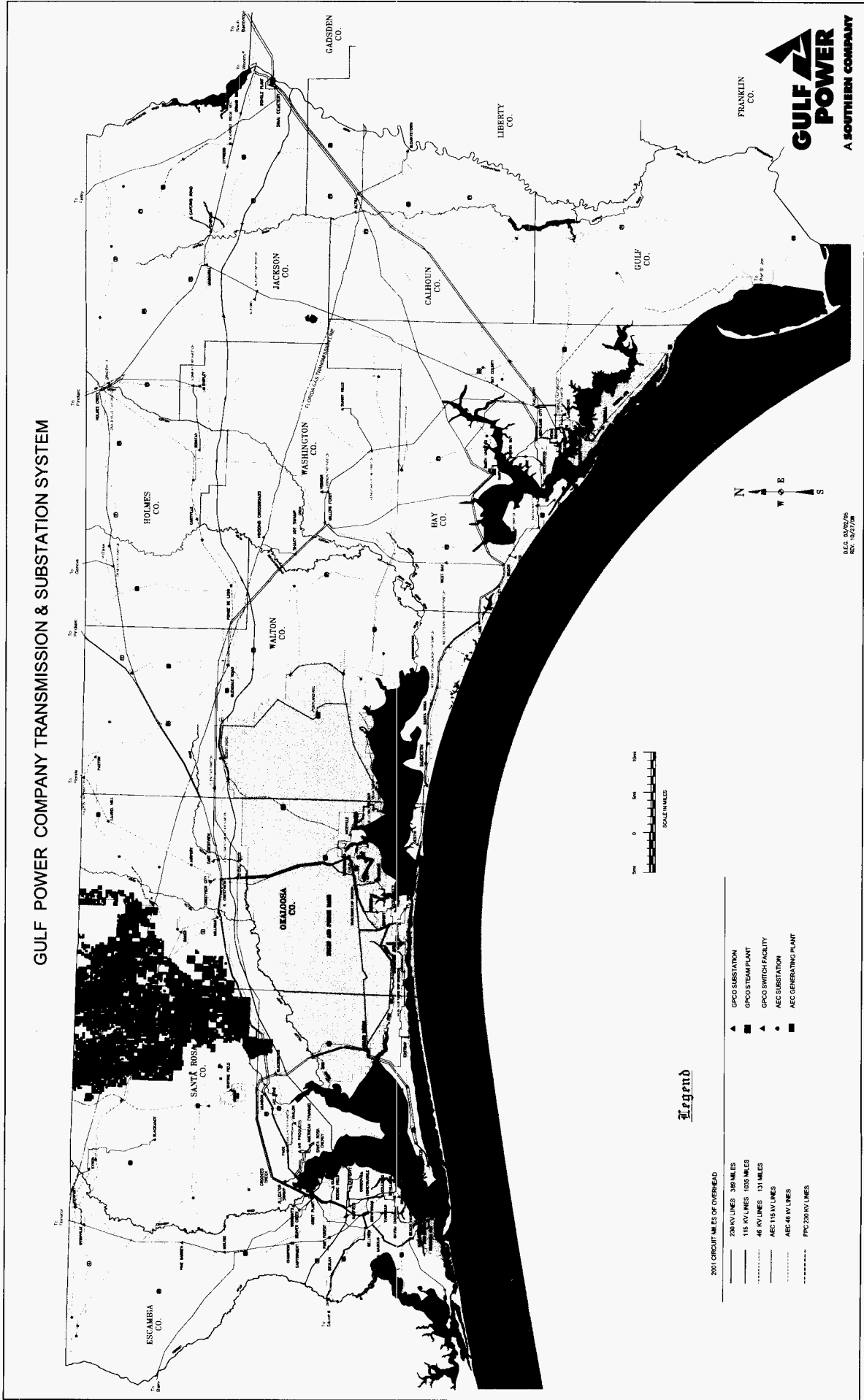
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PL - Pipeline  
WA - Water  
TK - Truck  
RR - Railroad

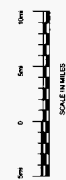
NOTE: (A) Unit capabilities shown represent Gulf's portion of Daniel Units 1 & 2 (50%) and Scherer Unit 3 (25%).

∞

GULF POWER COMPANY TRANSMISSION & SUBSTATION SYSTEM



REV. 05/20/20  
REV. 02/17/08



**Legend**

- 200 CIRCUMFERENCES OF OVERHEAD
- 230KV LINES 3/8" MILES
  - 118 KV LINES 1/32" MILES
  - 48 KV LINES 1/31" MILES
  - AEG 118 KV LINES
  - AEG 48 KV LINES
  - PG&E 230 KV LINES
  - GPCC SUBSTATION
  - GPCC STEAM PLANT
  - GPCC SWITCH FACILITY
  - AEC SUBSTATION
  - AEC GENERATING PLANT



## CHAPTER II

### FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION



**GULF POWER COMPANY  
LOAD FORECASTING METHODOLOGY  
OVERVIEW**

Gulf views the forecasting effort as a dynamic process requiring ongoing efforts to yield results which 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 marketing 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. Since that time, the GoodCents Home program has seen many enhancements, and has been widely accepted not only by our customers, but by builders, contractors, consumers, and other electric utilities throughout the nation, providing clear evidence that selling efficiency to customers can be done successfully.

The Marketing Services section of Gulf's Marketing 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**

In the months since Gulf Power produced its 2009 Budget, the national economy was declared to be in a recession which started in December 2007. The March 2008 economic forecast from Moody's Economy.com, whose economics drive the Gulf Power 2009 Budget, describes the national economy as contracting and on its way to recession but not actually in recession. For the State of Florida, that forecast describes the economy to be extremely weak. A primary cause for this slowdown is the depressed housing market which was particularly severe in Florida.

The 2009 Budget forecast assumes that during 2008 real GDP growth will slow to 1.5% but will grow by 3.5% for both 2009 and 2010 before decelerating to 2.8% in 2011.

The March 2008 Moody's Economy.com economic forecast predicted weak conditions based on falling business and consumer confidence, the housing crisis, a global financial lockdown, and high oil prices. The drop in both consumer and business confidence is based on lost faith in a thriving economy starting in the Summer of 2007 with the sub-prime financial crisis. Falling consumer confidence has resulted in sluggish consumption spending. The housing crisis resulted in declining home sales, house prices, and housing starts. Foreclosures continued to mount signaling that the housing slump would continue. Normal credit flows in the domestic and global financial system continued to deteriorate from rising mortgage defaults and a flood of undervalued mortgage-backed securities. As a result, credit spreads widened signaling the unwillingness of banks to lend. High energy prices in March



2008 continued to plague the economy as oil rose above \$100 per barrel with higher predictions over the summer. The high energy cost burden on consumers threatened to erase any spending stimulus hoped for with the recent income tax rebates.

The resulting short-term outlook in the March 2008 forecast called for the economy to struggle until the housing and mortgage markets find their footing. Federal policies of monetary easing and increased fiscal stimulus were expected to end a two-quarter stretch of mildly negative economic growth by mid-year, but more fiscal stimulus would be needed to keep the recovery self-sustaining.

Over the long-run, real GDP is forecasted to grow slightly faster while total employment will be slightly slower compared to the 2008 Budget. These changes were the result of studies showing slower inflation and lower labor force participation rates. The long-term results, however, generally match last year's outlook. Real GDP growth over the full 25 years of the forecast is predicted to rise from a 2.4% compound annual rate in the 2008 Budget to 2.5% in the 2009 Budget. Total employment over the 25-year long-term was forecast to grow 1.1% in the 2008 Budget but slow to 0.7% in the 2009 Budget. Real personal income growth remained at 2.3% in both the 2007 Budget and 2008 Budget.

## **B. TERRITORIAL ECONOMIC OUTLOOK**

Gulf's projections reflect the economic outlook for our service area as provided by Moody's Economy.com, a renowned economic service provider. Gulf's forecast assumes that service area population growth will continue to exceed the nation's growth and slightly exceed the rate of growth for the state of Florida. Gulf's projections incorporate electric price assumptions derived from the 2008 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 summary of the assumptions associated with Gulf's forecast:

**TABLE 1**  
**ECONOMIC SUMMARY**  
**(2007-2013)**

GDP Growth	2.2 % - 2.7 %
Interest Rate (30 Year AAA Bonds)	4.8 % - 5.9 %
Inflation	2.7 % - 1.8 %

**TABLE 2**  
**AREA DEMOGRAPHIC SUMMARY**  
**(2007-2013)**

Population Gain	80,352
Net Migration	37,202
Average Annual Population Growth	1.4 %
Average Annual Labor Force Growth	1.4 %

## II. CUSTOMER FORECAST

### A. RESIDENTIAL CUSTOMER FORECAST

The immediate short-term forecast (0-2 years) of customers is based primarily on projections prepared by district personnel. Gulf district personnel remain abreast of local market and economic conditions within their service areas through direct contact with economic development agencies, developers, builders, lending institutions and other key contacts. The projections prepared by the districts are based upon recent historical trends in customer gains and their knowledge of locally planned construction projects from which they are able to estimate the near-term anticipated customer gains. These projections are then analyzed for consistency, and the incorporation of major construction projects and business developments is reviewed for completeness and accuracy. The end result is a near-term forecast of residential customers.

For the remaining forecast horizon (3-25 years), the Gulf Economic Model, a competition-based econometric model developed by Moody's Economy.com, is used in the development of residential customer projections. Projections of births, deaths, and population by age groups are determined by past and projected trends. Migration is determined by economic growth relative to surrounding areas.

The forecast of residential customers is an outcome of the final section of the migration/demographic element of the model. The number of residential customers Gulf expects to serve is calculated by multiplying the total number of households located in the eight counties in which Gulf provides service by the

percentage of customers in these eight counties for which Gulf currently provides service.

The number of households referred to above is computed by applying a household formation trend to the previously mentioned population by age group, and then by summing the number of households in each of five adult age categories. As indicated, there is a relationship between households, or residential customers, and the age structure of the population of the area, as well as household formation trends. The household formation trend is the product of initial year household formation rates in the Gulf service area and projected U.S. trends in household formation.

**B. COMMERCIAL CUSTOMER FORECAST**

The immediate short-term forecast (0-2 years) of commercial customers, as in the residential sector, is prepared by the district personnel in similar fashion utilizing recent historical customer gains information and their knowledge of the local area economies and upcoming construction projects. A review of the assumptions, techniques and results for each district is undertaken, with special attention given to the incorporation of major commercial development projects.

Beyond the immediate short-term period, commercial customers are forecast as a function of residential customers, reflecting the growth of commercial services to meet the needs of new residents. Implicit in the commercial customer forecast is the relationship between growth in total real disposable income and growth in the commercial sector.

### **III. ENERGY SALES FORECAST**

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

The residential energy sales forecast is developed utilizing multiple regression analyses. Monthly class energy use per customer per billing day is estimated based upon recent historical data, expected normal weather and projected price. The model output is then multiplied by the projected number of customers and billing days by month to expand to the total residential class.

The residential sales forecast reflects the continued impacts of Gulf's GoodCents Home program and efficiency improvements undertaken by customers as a result of the GoodCents Energy Survey program, as well as conversions to higher efficient outdoor lighting. The residential sales forecast also reflects the anticipated incremental impacts of Gulf's Demand-Side Management (DSM) Plan, approved in March 2005, designed to meet the Commission-approved demand and energy reduction goals established in September 2004. Additional information on the residential conservation programs and program features are provided in the Conservation Programs section of this document.

#### **B. COMMERCIAL SALES FORECAST**

The commercial energy sales forecast is also developed utilizing multiple regression analyses. Monthly class energy use per customer per billing day is estimated based upon recent historical data, expected normal weather

and projected price. The model output is then multiplied by the projected number of customers and billing days by month to expand to the total commercial class.

The commercial sales forecast reflects the continued impacts of Gulf's Commercial GoodCents building program and efficiency improvements undertaken by customers as a result of Commercial Energy Audits and Technical Assistance Audits, as well as conversions to higher efficient outdoor lighting. The commercial sales forecast also reflects the anticipated incremental impacts of Gulf's DSM Plan, approved in March 2005, designed to meet the Commission-approved demand and energy reduction goals established in September 2004. 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 is developed using a combination of on-site surveys of major industrial customers, trending techniques, and multiple regression analyses. Gulf's largest industrial customers are interviewed to identify load changes due to equipment addition, replacement or changes in operating characteristics.

The short-term forecast of monthly sales to these major industrial customers is a synthesis of the detailed survey information and historical monthly load factor trends. The forecast of short-term sales to the remaining

smaller industrial customers is developed using a combination of trending techniques and multiple regression analyses.

The long-term forecast of industrial energy sales is based on econometric models of the chemical, pulp and paper, other manufacturing, and non-manufacturing sectors. The industrial sales forecast also reflects the anticipated incremental impacts of Gulf's DSM Plan, approved in March 2005, designed to meet the Commission-approved demand and energy reduction goals established in September 2004. Additional information on the conservation programs and program features are provided in the Conservation Programs section of this document.

#### **D. STREET LIGHTING SALES FORECAST**

The forecast of monthly energy sales to street lighting customers is based on projections of the number of fixtures in service, for each of the available fixture types.

The projected number of fixtures by fixture type is developed from analyses of recent historical fixture data to discern the patterns of fixture additions and deletions. The estimated monthly kilowatt-hour consumption for each fixture type is multiplied by the projected number of fixtures in service to produce total monthly sales for a given type of fixture. This methodology allows Gulf to explicitly evaluate the impacts of lighting programs, such as mercury vapor to high pressure sodium conversions.

#### **E. WHOLESALE ENERGY FORECAST**

The forecast of energy sales to wholesale customers is developed utilizing multiple regression analyses. Monthly energy purchases per day for each of Gulf's wholesale customers are estimated based upon recent historical data and expected normal weather. The model output is then multiplied by the projected number of days by month to expand to the customer totals, which are then summed to develop the class totals.

#### **F. COMPANY USE & INTERDEPARTMENTAL ENERGY**

The annual forecast for Company energy usage was based on recent historical values, with appropriate adjustments to reflect short-term increases in energy requirements for anticipated new Company facilities. The monthly spreads were derived using historical relationships between monthly and annual energy usage.

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

The peak demand forecast is prepared using the Hourly Electric Load Model (HELM), developed by ICF, Incorporated, for EPRI under Project RP1955-1. The resulting output from the model is hourly electrical loads over the forecast horizon.

The summer and winter peak demands are the maximum of the hourly forecasted loads in July and January, respectively. Gulf's summer peak demand typically occurs in the month of July, while Gulf's winter peak demand typically occurs in the month of January.



Load shape forecasts have always provided an important input to traditional system planning functions. Forecasts of the pattern of demand have acquired an added importance due to structural changes in the demand for electricity and increased utility involvement in influencing load patterns for the mutual benefit of the utility and its customers.

HELM represents an approach designed to better capture changes in the underlying structure of electricity consumption. Rapid increases in energy prices during the 1970's and early 1980's brought about changes in the efficiency of energy-using equipment. Additionally, sociodemographic and microeconomic developments have changed the composition of electricity consumption, including changes in fuel share, housing mix, household age and size, construction features, mix of commercial services, and mix of industrial products.

In addition to these naturally occurring structural changes, utilities have become increasingly active in offering customers options which result in modified consumption patterns. An important input to the design of such demand-side programs is an assessment of their likely impact on utility system loads.

HELM has been designed to forecast electric utility load shapes and to analyze the impacts of factors such as alternative weather conditions, customer mix changes, fuel share changes, and demand-side programs. The structural detail of HELM provides forecasts of hourly class and system load curves by weighting and aggregating load shapes for individual rate level components.

Model inputs include rate level energy forecasts consistent with the cost of service (COS) load shape data collected from COS load research samples as well as individual customer load data for many of the larger customers. Inputs are also required to reflect new technologies, rate structures and other demand-side programs. Model outputs include hourly system and class load curves, load duration curves, monthly system and class peaks, load factors and energy requirements by season and rating period.

The methodology embedded in HELM may be referred to as a "bottom-up" approach. Class and system load shapes are calculated by aggregating the load shapes of component rates and individual large customer load shapes. The system demand for electricity in hour  $i$  is modeled as the sum of demands by each end-use in hour  $i$ :

$$L_i = \sum_{R=1}^{N_R} L_{R,i} + \sum_{C=1}^{N_C} L_{C,i} + \sum_{I=1}^{N_I} L_{I,i} + \text{Misc}_i$$

Where:  $L_i$  = system demand for electricity in hour  $i$ ;

$N_R$  = number of residential rate class loads;

$N_C$  = number of commercial rate class loads;

$N_I$  = number of industrial rate class loads;

$L_{R,i}$  = demand for electricity by residential rate  $R$  in hour  $i$ ;

$L_{C,i}$  = demand for electricity by commercial rate  $C$  in hour  $i$ ;

$L_{I,i}$  = demand for electricity by industrial rate/customer  $I$  in hour  $i$ ;

$\text{Misc}_i$  = other demands (wholesale, street lighting, losses, company use) in hour  $i$ .

## **V. DATA SOURCES**

Gulf utilizes Company historical customer, energy and revenue data by rate and class, and historical hourly load data coupled with weather information from Weather Data Viewer (WDV) and The National Oceanic and Atmospheric Administration (NOAA) to drive the energy and demand models. Individual customer historical data is utilized in developing the projections for Gulf's largest commercial and industrial customers.

Gulf's models also utilize economic projections provided by Moody's Economy.com, a renowned economic services provider. Moody's Economy.com utilizes the Bureau of Labor Statistics for data on employment, unemployment rate and labor force. Personal Income data is obtained from the Bureau of Economic Analyses. Population and Population by Age Cohort, Households and Housing Permit information is obtained from the U.S. Bureau of Census.

## **VI. CONSERVATION PROGRAMS**

As previously mentioned, Gulf's forecast of energy sales and peak demand reflect the continued impacts of our conservation programs. The following provides a listing of the current conservation programs and program features with estimates of reductions in peak demand and net energy for load reflected in the forecast as a result of these programs. These reductions also reflect the anticipated impacts of these programs as submitted in Gulf's DSM

Plan filed December 1, 2004, modified on January 26, 2005 (Docket No. 040032-EG) and approved by the FPSC in Order No. PSC-05-0273-PAA-EG issued March 14, 2005. By Order No. PSC-07-0455-PAA-EG issued on May 29, 2007, in Docket No. 070119-EG, the Commission approved minor modifications to Gulf's Commercial and Residential Geothermal Heat Pump Programs. In December 2008, the Commission approved two new pilot programs in Order No. PSC-08-0802-PAA-EG for increased educational emphasis of conservation and introduction of demand-side renewables in the form of solar thermal water heating. Gulf's conservation programs were designed to meet the incremental impacts of the Commission-approved demand and energy reduction DSM goals established in Order No. PSC-04-0764-PAA-EG on August 9, 2004.

**A. RESIDENTIAL CONSERVATION**

**1. GoodCents Home/Energy Star**

In the residential sector, Gulf's GoodCents Home/Energy Star Program is designed to make cost-effective increases in the efficiencies of the new home construction market. This is being achieved by placing greater requirements on cooling and water heating equipment efficiencies, proper HVAC sizing, increased insulation levels in walls, ceilings, and floors, and tighter restrictions on glass area and infiltration reduction practices. In addition, Gulf monitors proper quality installation of all the above energy features. This program also provides the opportunity to offer

the Energy Star Home Program to Gulf's builders and customers and correlates the performance of GoodCents Homes to the nationally recognized Energy Star efficiency label. In many cases, a standard GoodCents Home will also qualify as an Energy Star home. Approximately 69,000 new homes have been constructed to Good Cents standards under this program resulting in an annual reduction of 79 MW of summer peak demand and annual energy savings of 203 GWh.

## **2. GoodCents Energy Survey**

Gulf's GoodCents Energy Survey Program is designed to provide existing residential customers and individuals building new homes with energy conservation advice that encourages the implementation of efficiency measures and options that increase comfort and reduce energy operating costs. This program is offered as an on-site, mail-in, or on-line survey and in all cases the customer receives whole house recommendations. Approximately 72,000 customers have participated in the Energy Survey Program. These participants have implemented energy efficiency improvements estimated to result in an annual reduction of 14 MW of summer peak demand and 40 GWh annual energy savings.

## **3. Geothermal Heat Pump**

The Residential Geothermal Heat Pump Program reduces the demand and energy requirements of new and existing residential customers through the promotion and installation of advanced and

emerging geothermal systems. Geothermal heat pumps also provide significant benefits to participating customers in the form of reduced operating costs and increased comfort levels, and are superior to other available heating and cooling technologies with respect to source efficiency and environmental impacts. Gulf's Geothermal Heat Pump Program is designed to overcome existing market barriers, specifically, lack of consumer awareness, knowledge and acceptance of this technology. Additionally, the program promotes efficiency levels well above current market conditions. Approximately 2,200 geothermal heat pumps have been installed in Gulf's service area resulting in an annual reduction in summer peak demand of 4 MW and annual energy savings of 5 GWh.

#### **4. GoodCents Select**

The GoodCents Select Program, an advanced energy management program, provides Gulf's customers with a means of conveniently and automatically controlling and monitoring their 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 GoodCents Select system allows the customer to control more precisely the amount of electricity purchased for heating, cooling, water heating, and other selected loads and to purchase electric energy on a variable price rate, including a critical peak price (CPP). The various components of the GoodCents Select system installed in the customer's home, as well as the components installed at Gulf, provide constant communication between customer and

utility. The combination of the GoodCents Select system and Gulf's innovative variable rate concept provide consumers with the opportunity to modify their usage of electricity in order to purchase energy at prices that are somewhat lower to significantly lower than standard rates a majority of the time. Further, the communication capabilities of the GoodCents Select system allow Gulf to send a CPP signal to the customer's premises during extreme peak load conditions. The signal results in a reduction attributable to predetermined thermostat and relay settings chosen by the individual participating customer. The customer's pre-programmed instructions regarding their desired comfort levels adjust electricity use for heating, cooling, water heating and other appliances automatically. Therefore, the customer's control of their electric bill is accomplished by allowing them to choose different comfort levels at different price levels in accordance with their individual lifestyles. Currently, approximately 8,700 customers are participating in this program resulting in an annual reduction of 24 MW in summer peak demand and annual energy savings of 7 GWh.

##### **5. Solar Thermal Water Heating (pilot)**

The solar thermal water heating pilot program offers residential customers a \$1,000 rebate upon installation of a qualified solar water heating system. Solar thermal water heating can reduce energy usage 50-75% compared to conventional electric resistance water heating and also provide summer coincident peak demand savings. This program will be evaluated at the end of 2009 to determine customers' acceptance of this

technology as well as verification of anticipated energy and demand savings.

## **6. Energy Education (pilot)**

The energy education program is designed to increase the overall awareness of energy conservation opportunities across Gulf's customer base and participation in Gulf's existing energy efficiency and conservation programs. The program includes a broad based awareness campaign, school-based education and teacher training, and building contractor training on energy efficient construction practices. This program will be evaluated at the end of 2009 to determine the impact on conservation awareness and participation levels across Gulf's service area.

## **B. COMMERCIAL/INDUSTRIAL CONSERVATION**

### **1. GoodCents Building**

In the commercial sector, Gulf's GoodCents Building Program is designed to make cost effective increases in efficiencies in both new and existing commercial buildings with requirements resulting in energy conserving investments that address the thermal efficiency of the building envelope, interior lighting, heating and cooling equipment efficiency, and solar glass area. Additional recommendations are made, where applicable, on energy conserving options that include thermal storage, heat



recovery systems, water heating heat pumps, solar applications, energy management systems, and high efficiency outdoor lighting. Approximately 10,500 customers under this program have achieved an annual reduction of 105 MW in summer peak demand and annual energy savings of 211 GWh.

## **2. Commercial/Industrial Energy Analyses**

The Commercial/Industrial (C/I) Energy Analyses Program is an interactive program that provides C/I customers assistance in identifying energy conservation opportunities. This program is a prime tool for the Gulf Power Company C/I Energy Specialist to personally introduce customers to conservation measures including low or no-cost improvements or new electro-technologies to replace old or inefficient equipment. Further, this program facilitates the load factor improvement process necessary to increase performance for both the customer and Gulf Power Company.

The C/I Energy Analysis Program allows the customer three primary ways to participate. A basic Energy Analyses Audit (EAA) is provided through either an on-site survey or a direct mail survey analysis. Additionally, a more comprehensive analysis can be provided by conducting a Technical Assistance Audit (TAA). Approximately 18,400 customers participating in these programs have achieved an annual reduction of 25 MW in summer peak demand and annual energy savings of 7 GWh.

### **3. Commercial Geothermal Heat Pump**

The objective of the Commercial Geothermal Heat Pump Program is to reduce the demand and energy requirements of new and existing Commercial/Industrial customers through the promotion and installation of advanced and emerging geothermal systems. Due to the long life of space conditioning equipment, the choices that are made over the next decade regarding space conditioning equipment will have important economic and environmental ramifications lasting well into the future. Geothermal heat pumps provide significant benefits to participating customers in the form of reduced operating costs and increased comfort levels, and are superior to other available heating and cooling technologies with respect to source efficiency and environmental impacts. This program will promote efficiency levels well above current market conditions, specifically those units with an Energy Efficiency Ratio (EER) of 13.0 or higher.

### **4. Real-Time Pricing**

Gulf's Real Time Pricing (RTP) program is designed to take advantage of customer price response to achieve peak demand reductions. Customer participation is voluntary. Due to the nature of the pricing arrangement included in this program, there are some practical limitations to customers' ability to participate. These limitations include the ability to purchase energy under a pricing plan which includes price variation and unknown future prices; the transaction costs associated with

receiving, evaluating, and acting on prices received on a daily basis; customer risk management policy; and other technical/economic factors. Customers participating in this program typically exhibit approximately 50 MW of reduction in summer peak demand.

## **5. Energy Services**

Gulf's Energy Services Program is designed to offer advanced energy services and energy efficient end-use equipment to meet the individual needs of large customers. These energy services include comprehensive audits, design, construction and financing of demand reduction or efficiency improvement energy conservation projects. This program has resulted in a reduction of 13 MW of summer peak demand and 42 GWh in annual energy savings.

## **C. CONSERVATION RESULTS SUMMARY**

The following tables provide direct estimates of the energy savings (reductions in peak demand and net energy for load) realized by Gulf's conservation programs. These reductions are verified through on-going monitoring in place on Gulf's major conservation programs and reflect estimates of conservation undertaken by customers as a result of Gulf's involvement. The conservation without Gulf's involvement has contributed to further unquantifiable reductions in demand and net energy

for load. These unquantifiable additional reductions are captured in the time series regressions in our demand and energy forecasts.

HISTORICAL  
TOTAL CONSERVATION PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2007	355,480	420,289	701,924,646

2009 BUDGET FORECAST  
TOTAL CONSERVATION PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2008	5,336	13,086	12,264,363
2009	8,376	17,329	15,122,212
2010	8,250	17,421	15,062,897
2011	8,222	17,229	14,926,869
2012	8,232	17,297	14,974,776
2013	8,445	18,773	16,020,609
2014	8,509	19,219	16,336,808
2015	8,509	19,219	16,336,808
2016	8,509	18,983	16,024,801
2017	8,509	18,983	16,024,801
2018	8,509	18,983	16,024,801

2009 BUDGET FORECAST  
TOTAL CONSERVATION PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2008	360,816	433,374	714,189,010
2009	369,192	450,703	729,311,221
2010	377,442	468,124	744,374,119
2011	385,664	485,354	759,300,988
2012	393,895	502,651	774,275,764
2013	402,340	521,424	790,296,372
2014	410,849	540,643	806,633,181
2015	419,359	559,863	822,969,989
2016	427,868	578,846	838,994,791
2017	436,377	597,829	855,019,592
2018	444,886	616,812	871,044,393

HISTORICAL  
TOTAL RESIDENTIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	175,376	274,575	363,715,485

2009 BUDGET FORECAST  
TOTAL RESIDENTIAL CONSERVATION  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	4,004	12,393	8,868,415
2009	6,591	16,368	10,731,197
2010	6,465	16,460	10,671,882
2011	6,437	16,268	10,535,854
2012	6,447	16,336	10,583,761
2013	6,660	17,812	11,629,594
2014	6,725	18,258	11,945,793
2015	6,725	18,258	11,945,793
2016	6,725	18,022	11,633,786
2017	6,725	18,022	11,633,786
2018	6,725	18,022	11,633,786

2009 BUDGET FORECAST  
TOTAL RESIDENTIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	179,380	286,968	372,583,900
2009	185,971	303,336	383,315,097
2010	192,436	319,796	393,986,979
2011	198,874	336,064	404,522,833
2012	205,321	352,400	415,106,594
2013	211,981	370,211	426,736,187
2014	218,706	388,469	438,681,980
2015	225,430	406,727	450,627,774
2016	232,155	424,749	462,261,560
2017	238,879	442,771	473,895,346
2018	245,604	460,793	485,529,133

HISTORICAL  
TOTAL COMMERCIAL/INDUSTRIAL DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	180,104	145,713	327,128,241

2009 BUDGET FORECAST  
TOTAL COMMERCIAL/INDUSTRIAL DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	1,332	693	3,395,948
2009	1,785	961	4,391,015
2010	1,785	961	4,391,015
2011	1,785	961	4,391,015
2012	1,785	961	4,391,015
2013	1,785	961	4,391,015
2014	1,785	961	4,391,015
2015	1,785	961	4,391,015
2016	1,785	961	4,391,015
2017	1,785	961	4,391,015
2018	1,785	961	4,391,015

2009 BUDGET FORECAST  
TOTAL COMMERCIAL/INDUSTRIAL DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	181,436	286,968	372,583,900
2009	185,971	303,336	383,315,097
2010	192,436	319,796	393,986,979
2011	198,874	336,064	404,522,833
2012	205,321	352,400	415,106,594
2013	211,981	370,211	426,736,187
2014	218,706	388,469	438,681,980
2015	225,430	406,727	450,627,774
2016	232,155	424,749	462,261,560
2017	238,879	442,771	473,895,346
2018	245,604	460,793	485,529,133

HISTORICAL  
TOTAL OTHER DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	-	-	11,080,920

2009 BUDGET FORECAST  
TOTAL OTHER DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	-	-	-
2009	-	-	-
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-

2009 BUDGET FORECAST  
TOTAL OTHER DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	-	-	11,080,920
2009	-	-	11,080,920
2010	-	-	11,080,920
2011	-	-	11,080,920
2012	-	-	11,080,920
2013	-	-	11,080,920
2014	-	-	11,080,920
2015	-	-	11,080,920
2016	-	-	11,080,920
2017	-	-	11,080,920
2018	-	-	11,080,920



HISTORICAL  
TOTAL EXISTING DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	234,989	299,964	561,046,095

2009 BUDGET FORECAST  
TOTAL EXISTING DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	1,127	8,385	5,673,680
2009	1,246	9,207	6,256,208
2010	1,248	9,221	6,266,575
2011	1,220	9,030	6,130,547
2012	1,230	9,097	6,178,454
2013	1,443	10,573	7,224,287
2014	1,507	11,020	7,540,486
2015	1,507	11,020	7,540,486
2016	1,507	11,020	7,540,486
2017	1,507	11,020	7,540,486
2018	1,507	11,020	7,540,486

2009 BUDGET FORECAST  
TOTAL EXISTING DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	236,116	308,349	566,719,775
2009	237,362	317,556	572,975,983
2010	238,610	326,777	579,242,558
2011	239,830	335,807	585,373,105
2012	241,060	344,904	591,551,559
2013	242,503	355,477	598,775,846
2014	244,011	366,497	606,316,332
2015	245,518	377,516	613,856,818
2016	247,026	388,536	621,397,304
2017	248,533	399,555	628,937,791
2018	250,040	410,575	636,478,277

HISTORICAL  
RESIDENTIAL EXISTING DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	123,926	196,253	308,686,245

2009 BUDGET FORECAST  
RESIDENTIAL EXISTING DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	1,127	8,385	5,673,680
2009	1,246	9,207	6,256,208
2010	1,248	9,221	6,266,575
2011	1,220	9,030	6,130,547
2012	1,230	9,097	6,178,454
2013	1,443	10,573	7,224,287
2014	1,507	11,020	7,540,486
2015	1,507	11,020	7,540,486
2016	1,507	11,020	7,540,486
2017	1,507	11,020	7,540,486
2018	1,507	11,020	7,540,486

2009 BUDGET FORECAST  
RESIDENTIAL EXISTING DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	125,053	204,638	314,359,925
2009	126,299	213,845	320,616,133
2010	127,547	223,066	326,882,708
2011	128,767	232,096	333,013,255
2012	129,998	241,193	339,191,709
2013	131,441	251,766	346,415,996
2014	132,948	262,786	353,956,482
2015	134,455	273,805	361,496,968
2016	135,963	284,825	369,037,454
2017	137,470	295,844	376,577,941
2018	138,977	306,864	384,118,427

HISTORICAL  
 COMMERCIAL EXISTING DSM PROGRAMS  
 CUMULATIVE ANNUAL REDUCTIONS  
 AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	111,063	103,711	241,278,930

2009 BUDGET FORECAST  
 COMMERCIAL EXISTING DSM PROGRAMS  
 INCREMENTAL ANNUAL REDUCTIONS  
 AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	-	-	-
2009	-	-	-
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-

2009 BUDGET FORECAST  
 COMMERCIAL EXISTING DSM PROGRAMS  
 CUMULATIVE ANNUAL REDUCTIONS  
 AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	111,063	103,711	241,278,930
2009	111,063	103,711	241,278,930
2010	111,063	103,711	241,278,930
2011	111,063	103,711	241,278,930
2012	111,063	103,711	241,278,930
2013	111,063	103,711	241,278,930
2014	111,063	103,711	241,278,930
2015	111,063	103,711	241,278,930
2016	111,063	103,711	241,278,930
2017	111,063	103,711	241,278,930
2018	111,063	103,711	241,278,930

HISTORICAL  
OTHER EXISTING DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	-	-	11,080,920

2009 BUDGET FORECAST  
OTHER EXISTING DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	-	-	-
2009	-	-	-
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-

2009 BUDGET FORECAST  
OTHER EXISTING DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	-	-	11,080,920
2009	-	-	11,080,920
2010	-	-	11,080,920
2011	-	-	11,080,920
2012	-	-	11,080,920
2013	-	-	11,080,920
2014	-	-	11,080,920
2015	-	-	11,080,920
2016	-	-	11,080,920
2017	-	-	11,080,920
2018	-	-	11,080,920

HISTORICAL  
TOTAL NEW DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	120,491	120,324	140,878,551

2009 BUDGET FORECAST  
TOTAL NEW DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	4,209	4,701	6,590,683
2009	7,130	8,122	8,866,004
2010	7,002	8,200	8,796,322
2011	7,002	8,200	8,796,322
2012	7,002	8,200	8,796,322
2013	7,002	8,200	8,796,322
2014	7,002	8,200	8,796,322
2015	7,002	8,200	8,796,322
2016	7,002	7,964	8,484,315
2017	7,002	7,964	8,484,315
2018	7,002	7,964	8,484,315

2009 BUDGET FORECAST  
TOTAL NEW DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	124,700	125,025	147,469,234
2009	131,830	133,148	156,335,238
2010	138,832	141,347	165,131,560
2011	145,833	149,547	173,927,882
2012	152,835	157,747	182,724,204
2013	159,837	165,947	191,520,527
2014	166,839	174,147	200,316,849
2015	173,840	182,346	209,113,171
2016	180,842	190,310	217,597,486
2017	187,844	198,273	226,081,801
2018	194,846	206,237	234,566,116

HISTORICAL  
RESIDENTIAL NEW DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	51,450	78,322	55,029,240

2009 BUDGET FORECAST  
RESIDENTIAL NEW DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	4,209	4,701	6,590,683
2009	7,130	8,122	8,866,004
2010	7,002	8,200	8,796,322
2011	7,002	8,200	8,796,322
2012	7,002	8,200	8,796,322
2013	7,002	8,200	8,796,322
2014	7,002	8,200	8,796,322
2015	7,002	8,200	8,796,322
2016	7,002	7,964	8,484,315
2017	7,002	7,964	8,484,315
2018	7,002	7,964	8,484,315

2009 BUDGET FORECAST  
RESIDENTIAL NEW DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	54,326	82,331	58,223,975
2009	59,672	89,491	62,698,964
2010	64,889	96,730	67,104,271
2011	70,106	103,968	71,509,578
2012	75,323	111,207	75,914,885
2013	80,540	118,445	80,320,192
2014	85,758	125,684	84,725,498
2015	90,975	132,922	89,130,805
2016	96,192	139,925	93,224,105
2017	101,409	146,927	97,317,406
2018	106,626	153,929	101,410,706

HISTORICAL  
 COMMERCIAL/INDUSTRIAL NEW DSM  
 CUMULATIVE ANNUAL REDUCTIONS  
 AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2007	69,041	42,002	85,849,311

2009 BUDGET FORECAST  
 COMMERCIAL/INDUSTRIAL NEW DSM  
 INCREMENTAL ANNUAL REDUCTIONS  
 AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	1,332	693	3,395,948
2009	1,785	961	4,391,015
2010	1,785	961	4,391,015
2011	1,785	961	4,391,015
2012	1,785	961	4,391,015
2013	1,785	961	4,391,015
2014	1,785	961	4,391,015
2015	1,785	961	4,391,015
2016	1,785	961	4,391,015
2017	1,785	961	4,391,015
2018	1,785	961	4,391,015

2009 BUDGET FORECAST  
 COMMERCIAL/INDUSTRIAL NEW DSM  
 CUMULATIVE ANNUAL REDUCTIONS  
 AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK (KW)	PEAK (KW)	FOR LOAD (KWH)
2008	70,373	42,695	89,245,259
2009	72,158	43,656	93,636,274
2010	73,943	44,617	98,027,290
2011	75,727	45,579	102,418,305
2012	77,512	46,540	106,809,320
2013	79,296	47,501	111,200,335
2014	81,081	48,463	115,591,350
2015	82,866	49,424	119,982,365
2016	84,650	50,385	124,373,381
2017	86,435	51,347	128,764,396
2018	88,220	52,308	133,155,411

HISTORICAL  
OTHER NEW DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2007	-	-	-

2009 BUDGET FORECAST  
OTHER NEW DSM PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2008	-	-	-
2009	-	-	-
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-

2009 BUDGET FORECAST  
OTHER NEW DSM PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2008	-	-	-
2009	-	-	-
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-



## VII. SMALL POWER PRODUCTION / RENEWABLE ENERGY

The current forecasts also consider Gulf's active position in the promotion of renewable energy resources. Gulf initiated implementation of a renewable energy program, *Solar for Schools*, to obtain funding for the installation of solar technologies in participating school facilities combined with energy conservation education of students. Initial solicitation began in September 1996 and has resulted in participation of approximately 208 customers contributing \$73,800 through December, 2008. Four small solar photovoltaic (PV) demonstration systems have been installed throughout Northwest Florida as part of this program.

Gulf customers also now have the opportunity to participate in a FPSC-approved "green pricing" alternative. Rate Rider PV gives customers an opportunity to help pay for the construction of a photovoltaic generating facility. This project is a Southern Company-wide effort; with Gulf and her sister company Alabama Power Company the first to roll out their programs. The facility will be built within Southern Company's service area or the power will be purchased from other photovoltaic generating facilities. Approximately 10,000 customers are initially needed to sign up in order to begin construction of a one MW generating facility. As of December, 2008, 57 customers have pledged to purchase a total of 73 hundred-watt blocks of generation at a monthly rate of \$6 per block. The time frame for potential construction will be determined as participation levels increase.

Please refer to the Capacity Resource Alternatives section of this TYSP for additional information concerning Gulf's efforts to promote and develop 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>
1999	812,993	2.60	4,471	312,283	14,318	3,223	47,294	68,138
2000	828,849	2.59	4,790	319,506	14,992	3,379	47,584	71,020
2001	844,139	2.59	4,716	325,343	14,497	3,417	48,482	70,490
2002	860,642	2.60	5,144	331,637	15,510	3,553	49,139	72,304
2003	879,011	2.60	5,101	338,631	15,064	3,614	50,419	71,684
2004	896,851	2.60	5,215	345,467	15,096	3,695	51,981	71,093
2005	909,608	2.60	5,320	350,404	15,181	3,736	52,916	70,599
2006	937,329	2.60	5,425	360,930	15,032	3,843	53,479	71,862
2007	964,349	2.60	5,477	371,213	14,755	3,971	53,791	73,821
2008	969,757	2.59	5,349	374,709	14,274	3,961	53,810	73,610
2009	984,111	2.58	5,676	381,719	14,868	3,962	54,572	72,594
2010	997,130	2.57	5,842	388,248	15,048	4,054	55,448	73,115
2011	1,015,404	2.56	6,063	396,873	15,276	4,213	56,597	74,442
2012	1,034,738	2.55	6,243	405,979	15,377	4,336	57,806	75,014
2013	1,055,254	2.54	6,423	415,621	15,453	4,457	59,080	75,436
2014	1,076,192	2.53	6,579	425,504	15,461	4,560	60,387	75,508
2015	1,098,065	2.52	6,737	435,835	15,458	4,663	61,749	75,513
2016	1,119,994	2.51	6,934	446,270	15,537	4,797	63,130	75,984
2017	1,145,674	2.51	7,161	456,472	15,687	4,960	64,491	76,917
2018	1,166,713	2.50	7,392	466,676	15,839	5,125	65,860	77,823
<b>CAAG</b>								
99-08	2.0%	-0.1%	2.0%	2.0%	0.0%	2.3%	1.4%	0.9%
08-13	1.7%	-0.4%	3.7%	2.1%	1.6%	2.4%	1.9%	0.5%
08-18	1.9%	-0.3%	3.3%	2.2%	1.0%	2.6%	2.0%	0.6%

\* Historical and projected figures include portions of Escambia, Santa Rosa, Okaloosa, Bay,

**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				
1999	1,846	249	7,409,647	0	18	0	9,558
2000	1,925	269	7,141,925	0	18	0	10,112
2001	2,018	277	7,290,329	0	21	0	10,173
2002	2,054	272	7,552,563	0	21	0	10,772
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	2,147	307	6,996,432	0	24	0	11,809
2010	2,183	312	6,992,471	0	25	0	12,105
2011	2,195	317	6,934,888	0	26	0	12,498
2012	2,185	321	6,814,562	0	28	0	12,791
2013	2,172	324	6,711,904	0	29	0	13,080
2014	2,162	328	6,593,011	0	30	0	13,330
2015	2,150	331	6,485,449	0	31	0	13,581
2016	2,137	336	6,367,537	0	33	0	13,901
2017	2,130	340	6,263,425	0	34	0	14,286
2018	2,141	343	6,233,940	0	36	0	14,695
<b>CAAG</b>							
99-08	2.0%	1.7%	0.3%	0.0%	2.6%	0.0%	2.1%
08-13	-0.3%	2.1%	-2.4%	0.0%	4.4%	0.0%	2.5%
08-18	-0.3%	1.7%	-2.0%	0.0%	4.5%	0.0%	2.4%

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**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>	Sales for Resale <u>GWH</u>	Utility Use & Losses <u>GWH</u>	Net Energy for Load <u>GWH</u>	Other Customers <u>(Average No.)</u>	Total No. of Customers
1999	348	559	10,467	286	360,113
2000	363	628	11,105	380	367,740
2001	360	671	11,204	460	374,561
2002	384	754	11,910	474	381,521
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	653	12,595	493	429,302
2009	386	775	12,970	495	437,093
2010	393	796	13,294	498	444,506
2011	398	821	13,717	502	454,288
2012	405	841	14,036	505	464,611
2013	412	860	14,352	509	475,533
2014	420	876	14,627	513	486,731
2015	428	893	14,903	516	498,432
2016	436	914	15,251	520	510,256
2017	445	939	15,669	524	521,826
2018	453	965	16,112	528	533,407
<b><u>CAAG</u></b>					
99-08	1.5%	1.7%	2.1%	6.2%	2.0%
08-13	0.7%	5.6%	2.6%	0.6%	2.1%
08-18	1.3%	4.0%	2.5%	0.7%	2.2%

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>
1999	2,448	84	2,363	16	0	120	0	143	2,169
2000	2,558	86	2,472	0	0	128	0	142	2,289
2001	2,528	78	2,450	17	0	137	0	143	2,231
2002	2,755	86	2,669	0	0	145	0	148	2,462
2003	2,583	79	2,504	0	0	153	0	155	2,275
2004	2,751	84	2,666	0	0	161	0	159	2,431
2005	2,767	82	2,685	0	0	167	0	164	2,435
2006	2,824	89	2,735	0	0	173	0	168	2,483
2007	2,985	95	2,890	0	0	177	0	174	2,634
2008	2,895	88	2,807	0	0	179	0	175	2,541
2009	2,970	88	2,882	0	0	184	0	178	2,608
2010	3,040	89	2,951	0	0	191	0	179	2,670
2011	3,132	90	3,042	0	0	197	0	181	2,754
2012	3,180	91	3,089	0	0	204	0	183	2,794
2013	3,252	92	3,160	0	0	210	0	185	2,857
2014	3,320	93	3,227	0	0	217	0	186	2,917
2015	3,391	95	3,296	0	0	224	0	188	2,979
2016	3,446	96	3,350	0	0	230	0	190	3,026
2017	3,536	98	3,438	0	0	237	0	192	3,107
2018	3,632	99	3,533	0	0	242	0	194	3,196
<b>CAAG</b>									
99-08	1.9%	0.5%	1.9%	0.0%	0.0%	4.6%	0.0%	2.3%	1.8%
08-13	2.4%	0.8%	2.4%	0.0%	0.0%	3.3%	0.0%	1.0%	2.4%
08-18	2.3%	1.1%	2.3%	0.0%	0.0%	3.1%	0.0%	1.0%	2.3%

NOTE 1: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA)

NOTE 2: The forecasted interruptible amounts shown in col (5) are included here for information purposes only. The projected demands shown in column (2), column (4) and column (10) do not reflect the impacts of interruptible. Gulf treats interruptible as a supply side resource.

**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>
98-99	2,392	79	2,313	0	0	177	0	122	2,093
99-00	2,225	75	2,150	0	0	188	0	126	1,911
00-01	2,486	86	2,401	0	0	200	0	126	2,160
01-02	2,530	85	2,445	0	0	211	0	129	2,190
02-03	2,857	92	2,766	0	0	225	0	133	2,500
03-04	2,445	76	2,369	0	0	240	0	134	2,070
04-05	2,518	89	2,428	0	0	250	0	137	2,130
05-06	2,475	89	2,386	0	0	263	0	140	2,072
06-07	2,643	85	2,558	0	0	276	0	143	2,224
07-08	2,791	94	2,698	0	0	277	0	144	2,370
08-09	2,759	81	2,678	0	0	294	0	145	2,320
09-10	2,856	82	2,774	0	0	310	0	146	2,399
10-11	2,953	83	2,870	0	0	327	0	147	2,479
11-12	3,036	74	2,962	0	0	343	0	148	2,545
12-13	3,121	75	3,046	0	0	361	0	149	2,611
13-14	3,183	76	3,107	0	0	379	0	150	2,654
14-15	3,242	77	3,165	0	0	397	0	151	2,694
15-16	3,325	79	3,246	0	0	415	0	152	2,758
16-17	3,426	80	3,346	0	0	433	0	153	2,840
17-18	3,505	85	3,420	0	0	440	0	154	2,911
18-19	3,593	86	3,507	0	0	447	0	155	2,991
<b>CAAG</b>									
99-08	1.7%	1.9%	1.7%	0.0%	0.0%	5.1%	0.0%	1.8%	1.4%
08-13	2.3%	-4.3%	2.5%	0.0%	0.0%	5.4%	0.0%	0.7%	2.0%
08-18	2.3%	-1.0%	2.4%	0.0%	0.0%	4.7%	0.0%	0.7%	2.1%

NOTE 1: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA)

NOTE 2: The forecasted interruptible amounts shown in col (5) are included here for information purposes only. The projected demands shown in column (2), column (4) and column (10) do not reflect the impacts of interruptible. Gulf treats interruptible as a supply side resource.

**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>
1999	11,038	297	274	9,559	348	559	10,467	55.1%
2000	11,690	305	280	10,113	363	628	11,105	55.2%
2001	11,801	314	284	10,173	360	671	11,204	57.3%
2002	12,520	323	288	10,772	384	754	11,910	55.2%
2003	12,584	335	297	10,885	383	685	11,952	60.0%
2004	12,813	348	303	11,046	389	727	12,162	57.0%
2005	12,998	357	319	11,239	418	666	12,322	57.8%
2006	13,277	366	325	11,429	415	743	12,586	57.9%
2007	13,377	376	329	11,521	417	733	12,671	54.9%
2008	13,307	379	333	11,543	398	653	12,595	56.4%
2009	13,697	390	338	11,809	386	775	12,970	56.8%
2010	14,036	400	342	12,105	393	796	13,294	56.8%
2011	14,475	411	347	12,498	398	821	13,717	56.9%
2012	14,809	421	351	12,791	405	841	14,036	57.2%
2013	15,141	433	355	13,080	412	860	14,352	57.3%
2014	15,432	445	360	13,330	420	876	14,627	57.2%
2015	15,724	457	364	13,581	428	893	14,903	57.1%
2016	16,088	469	368	13,901	436	914	15,251	57.4%
2017	16,522	480	373	14,286	445	939	15,669	57.6%
2018	16,974	484	377	14,695	453	965	16,112	57.6%
<b>CAAG</b>								
99-08	2.1%	2.7%	2.2%	2.1%	1.5%	1.7%	2.1%	0.3%
08-13	2.6%	2.7%	1.3%	2.5%	0.7%	5.6%	2.6%	0.3%
08-18	2.5%	2.5%	1.3%	2.4%	1.3%	4.0%	2.5%	0.2%

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)
	2008 Actual		2009 Forecast		2010 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	2,362	1,055	2,376	1,052	2,399	1,064
February	2,147	860	2,185	889	2,223	905
March	1,850	880	1,827	924	1,847	934
April	1,692	900	1,910	942	1,937	957
52 May	2,215	1,085	2,252	1,135	2,339	1,179
June	2,390	1,276	2,402	1,239	2,450	1,266
July	2,533	1,358	2,608	1,362	2,670	1,398
August	2,521	1,298	2,601	1,380	2,657	1,412
September	2,327	1,174	2,510	1,145	2,575	1,176
October	1,918	964	2,107	1,002	2,173	1,035
November	1,888	852	1,834	886	1,897	917
December	1,801	893	2,229	1,014	2,304	1,050

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 2007</u>	<u>Actual 2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
(1)	Nuclear		Trillion BTU	None	None	None	None	None	None	None	None	None	None	None	None
(2)	Coal		1000 TON	6,793	5,891	5,826	6,075	6,025	5,644	5,929	5,882	5,781	5,616	5,982	5,734
(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	13	15	9	8	8	9	8	7	7	9	7	7
(9)		Steam	1000 BBL	11	14	9	8	8	8	7	7	7	9	7	7
(10)		CC	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CT	1000 BBL	2	1	0	0	0	1	1	0	0	0	0	0
(12)		Diesel	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(13)	Natural Gas	Total	1000 MCF	14,830	16,961	15,360	20,534	13,774	15,802	16,545	28,901	37,572	38,152	39,074	38,007
(14)		Steam	1000 MCF	155	185	0	0	0	0	0	0	0	0	0	0
(15)		CC	1000 MCF	14,675	16,776	13,709	19,162	12,339	14,073	14,664	28,795	37,572	38,152	39,074	38,007
(16)		CT	1000 MCF	0	0	1,651	1,372	1,435	1,729	1,881	106	0	0	0	0
(17)	Other		Trillion BTU	None	None	None	0.2	0.2	0.2	4.7	9.1	9.1	9.1	9.1	9.1

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Utility: Gulf Power Company

Schedule 6.1  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Energy Sources			Units	Actual 2007	Actual 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(1)	Annual Firm Interchange		GWH	(4,043)	(2,209)	(2,620)	(3,555)	(1,974)	(1,111)	(1,792)	(3,612)	(4,407)	(3,765)	(4,316)	(3,153)
(2)	Nuclear		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		GWH	14,281	12,334	13,427	13,783	13,626	12,826	13,385	13,169	12,932	12,552	13,382	12,799
(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	1	1	0	0	0	1	1	0	0	0	0	0
(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	1	1	0	0	0	1	1	0	0	0	0	0
(13)		Diesel	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(14)	Natural Gas	Total	GWH	2,374	2,428	2,111	2,998	1,988	2,242	2,336	4,324	5,658	5,741	5,878	5,737
(15)		Steam	GWH	10	8	0	0	0	0	0	0	0	0	0	0
(16)		CC	GWH	2,315	2,373	1,958	2,758	1,742	1,970	2,050	4,202	5,545	5,628	5,765	5,624
(17)		CT	GWH	49	47	153	240	246	272	286	122	113	113	113	113
(18)	NUGs		GWH	58	41	52	68	77	78	422	746	720	723	725	729
(19)	Net Energy for Load		GWH	12,671	12,595	12,970	13,294	13,717	14,036	14,352	14,627	14,903	15,251	15,669	16,112

NOTE: Line (18) includes energy purchased from Non-Renewable and Renewable resources, as well as energy from Gulf-owned Renewable resources shown on Schedule 8 .

Utility: Gulf Power Company

Schedule 6.2  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Energy Sources			Units	Actual 2007	Actual 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(1)	Annual Firm Interchange		%	(31.91)	(17.54)	(20.20)	(26.74)	(14.39)	(7.92)	(12.49)	(24.69)	(29.57)	(24.69)	(27.54)	(19.57)
(2)	Nuclear		%	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		%	112.71	97.93	103.52	103.68	99.34	91.38	93.26	90.03	86.77	82.30	85.40	79.44
(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	%	0.01	0.01	0.00	0.00	0.00	0.01	0.01	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	%	0.01	0.01	0.00	0.00	0.00	0.01	0.01	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	%	18.74	19.28	16.28	22.55	14.49	15.97	16.28	29.56	37.97	37.64	37.51	35.61
(15)		Steam	%	0.08	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(16)		CC	%	18.27	18.84	15.10	20.75	12.70	14.04	14.28	28.73	37.21	36.90	36.79	34.91
(17)		CT	%	0.39	0.37	1.18	1.81	1.79	1.94	1.99	0.83	0.76	0.74	0.72	0.70
(18)	NUGs		%	0.46	0.33	0.40	0.51	0.56	0.56	2.94	5.10	4.83	4.74	4.63	4.52
(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

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Utility: Gulf Power Company  
Schedule 6.3  
Renewable Energy Sources

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
			Actuals 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Renewable Energy Sources (A)</b>													
(1) Renewable Generating Capacity													
	MW		0	0	3	3	3	95	95	95	95	95	95
	MWh		37,244	48,180	63,510	71,832	71,832	414,348	736,789	708,684	708,684	708,684	708,684
	% of Capacity Mix		n/a	n/a	< 1	< 1	< 1	3.0	2.7	2.7	2.7	2.7	2.7
	% of NEL		< 1	< 1	< 1	< 1	< 1	3.1	5.4	5.1	4.9	4.8	4.7
	% of Fuel Mix		< 1	< 1	< 1	< 1	< 1	2.6	4.0	3.7	3.7	3.5	3.7
(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

(A) Owned and/or Purchased by Gulf.

(B) Energy produced by these customers' generators varies depending on demand for their product.

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## CHAPTER III

### PLANNING ASSUMPTIONS AND PROCESSES





## 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 issues. 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 2012 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 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 impact of the plan is performed. The plan is analyzed for changes in load forecast and fuel price variations in order 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 insure 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 insure 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. It should be noted that 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 Southern Electric System (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 freight 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, the SES prepares commodity price forecasts for fifteen different coal classifications used on the SES. Because natural gas does not possess the same quality variations as coal, the SES prepares a single commodity price forecast for gas at Henry Hub, and applies a historical basis differential between Henry Hub and the various pipelines serving SES plants. Four price forecasts are developed for oil, based on grade of oil, sulfur, and heat content.

The level of detail with which transportation costs are projected depends on the purpose for which the forecast will be used. Generic transportation costs, reflecting an average cost for delivery within the SES service area, are used in the delivered price forecast 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**

Each year, SES develops a fuel price forecast for coal, oil, and natural gas which extends through the Company's 10-year planning horizon. This forecast is developed by Southern Company Services (SCS) Fuel Procurement staff with input from outside consultants. The forecast is approved by the fuel procurement managers at each of the SES operating companies responsible for the fuel programs at that company.

The fuel price forecast process begins with an annual Fossil Fuel Price Workshop that is held with representatives from recognized leaders in energy-related economic forecasting and transportation-related industries. Presenters at the 2008 Fuel Price Workshop included representatives from Energy Ventures Analysis, ICF Consulting, McCloskey Coal, Cambridge Energy Research Associates, Criton Corp, Simpson Spence and Young, and PIRA Energy Group.

During the Fossil Fuel Price Workshop, each fuel representative presents their "base case" forecast and assumptions. High and low fuel price scenarios are also presented.

After the workshop, the SCS Fuel Procurement staff references the outside consultant forecasts and identifies any major assumption differences. The Fuel Procurement staff then consolidates both the internal and external



forecasts and assumptions to develop a commodity forecast for each type of fuel. Fuel Procurement's 2008 commodity price forecasts for bituminous 1.0% sulfur coal, natural gas and low sulfur #2 oil are included in the table below.

**SES GENERIC FUEL PRICE FORECAST**  
(\$/MMBtu)

	<u>COAL*</u>	<u>NAT. GAS**</u>	<u>OIL***</u>
2009	4.583	11.500	21.917
2010	4.167	10.750	28.295
2011	3.750	10.500	27.102
2012	3.333	11.390	25.909
2013	2.917	12.280	24.716
2014	2.880	12.567	24.240
2015	2.958	13.106	23.733
2016	3.041	13.165	24.805
2017	3.125	13.387	25.914
2018	3.233	13.641	27.067

\*Central Appalachia CSX, 12000 Btu/lb., 1% Sulfur

\*\*Henry Hub

\*\*\*U.S. Gulf Coast LS No.2 Oil, 0.05% Sulfur

**COAL PRICE FORECAST**

In 2008, coal production in the United States reached 1,172 million short tons, a 2.25% increase over year 2007 production levels. The Central Appalachian region in the U.S. experienced a 3.7% increase in production. Unlike the Central Appalachian region, the Interior region of the U.S. recorded a

15.8% decrease in production. The Western U.S. region, however, experienced an 11.5% increase in production.

Total U.S. coal stockpiles increased during the year, as electric generators built their stockpiles mainly in the second half of 2008 on milder weather and improved rail transportation from the prior year as well as decreased demand due to the global recession. At the same time, during the first half of 2008 the expanding global economy (mainly driven by China) helped to increase the demand for coal in the electric power sector during the year. There were no significant delivery issues experienced in the U.S. market in 2008. In the world market, China's economic boom, coupled with production issues in Australia, placed upward pressure on world coal pricing during the first half of 2008.

The coal industry continues to experience pricing pressure from environmental and legal challenges, labor and mining cost increases, and more recently, from a global recession. The increase in U.S coal market prices during the first half of 2008 was primarily caused by world events, not U.S coal market fundamentals. During the second half of 2008, world demand dropped as the global recession grew in the summer and the financial collapse accelerated events in September. Bituminous coal prices in the U.S. increased in real terms through 1980 then declined in real terms through year 2000, after which real price increases occurred through the first half of 2008. Sub-bituminous coal prices declined in real terms through 2001 and have increased through the first half of 2008. Spot market prices, during the first half of 2008, were relatively high in nominal terms from the flat levels experienced in 2007 but then decreased

during the second half of 2008. The Central Appalachian, the Powder River Basin, and the Western Colorado-Utah markets all saw price increases during the first half of 2008 and price decreases during the second half, again due to the global recession. Like its counterparts, import coal pricing into the U.S. from Colombia saw the same pricing trends in 2008.

The generic coal prices used in the IRP process are based on an average expectation of coal commodity costs combined with average transportation fees. These generic coal prices are used in conjunction with plant-specific transportation fees and plant-specific contract coal prices to develop the existing fuel price projection for the SES annual budget process.

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

Counter to the trend of the last few years, supply has outpaced demand in the 2008 gas market. Actual prices in the first half of 2008 tracked above the forecast prepared in September 2007, then decreased rapidly during the second half of 2008 and tracked below the forecast. Prices diverged from the forecast during the second half of 2008 as a result of the combination of milder summer weather, healthy levels of natural gas in storage, excess natural gas production and declining demand due to the global economic slowdown. Gas-fired generation increased slightly in the second half of 2008 as some natural gas displaced coal, but the combination of high level of natural gas in storage and decreasing demand resulted in lower natural gas prices towards the end of the year. Despite the significant reduction in import volume of Liquefied Natural Gas

(LNG) from the previous year, the presence of LNG in the market offered a small contribution towards the downward price pressure of natural gas.

Forward gas prices and analysts' long-term price forecasts available during the budget preparation for 2008 had shifted slightly downward from the previous year. The forward prices and forecasts showed an upward-sloping trend in gas prices with the expectation that demand would continue to exceed supply. The SES budget forecast anticipated stronger oil prices in both the near and long-term due to strong, although slowing, worldwide economic growth and continued tightening of capacity by OPEC. These forecasts did not assume any impact from potential carbon legislation.

#### **NATURAL GAS AVAILABILITY**

Overall, domestic production is expected to decrease in the short term. The global economic recession has caused natural gas demand to decline, but the effect of increased production resulting from last year's high natural gas prices is still lingering. As producers reduced capital expenditures for 2009 by shutting down drilling rigs, an eventual gas price increase in the 2009-2010 timeframe is foreseen. At present there is about 4 to 5 BCFD of excess supply in the market, and several analysts are predicting near-term gas prices to average in the \$4.00-\$5.00 range. Most of the oversupply is coming from unconventional gas plays. Pipeline additions from these new gas plays are being developed and are expected to be operational by the 2009 - 2010 timeframe. Adding to the current oversupply situation is LNG imports. Total U.S. LNG imports were

estimated to have increased from 0.6 Bcfd in 2002 to approximately 1.8 Bcfd in 2004, were slightly reduced in 2005 and 2006, increased to an estimated 2.1 Bcfd in 2007, and then fell off to 0.9 Bcfd in 2008. A notable decrease in U.S. LNG imports was observed in 2008 as strong global competition pulled cargoes away from the U.S. market. However, due to the global economic downturn, LNG imports are expected to increase in 2009, contributing to the current oversupply situation. In the short run, LNG supply will continue to grow with new liquefaction projects in Trinidad, Qatar, Norway, West Africa and elsewhere, but substantial increases in LNG imports are not expected until the 2010 timeframe or after due to delays in several of the overseas facilities becoming fully operational.

Due to lower demand caused by the economic downturn 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. However, gas prices may increase due to a reduction in drilling activity and the market's reaction to weather events.

## STRATEGIC ISSUES

Gulf has executed two PPAs that provide supply side flexibility and diversity that will allow Gulf to react quickly to changing market conditions without negative financial impacts to the Company and its customers. These PPAs will supply firm dual-fuel fired peaking capacity to serve system load from June 2009 through May 2014.

Gulf's latest generation expansion plan, developed in conjunction with other SES operating company planned capacity additions, indicates the need to build or contract for new combined cycle (CC) generating capacity with an in-service date of June 2014 in order to reliably meet Gulf's projected load growth. On March 16, 2009, Gulf signed a PPA with a non-affiliated power marketer for capacity and energy from an existing 885 MW gas-fired combined cycle generating unit that is interconnected with the SES. This PPA is contingent upon receipt of a final, non-appealable order from the FPSC for recovery of costs associated with the PPA. This PPA, if approved by the FPSC, will secure a resource to meet Gulf capacity needs in 2014 through the end of the 2009 TYSP planning cycle.

The above-mentioned strategy of supplementing Gulf's development of long-term capacity resources with shorter-term power purchases has proven successful over the years, and Gulf will continue to follow this strategy when appropriate and cost-effective to do so in the future.

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 (SCS) 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 Concerns section of this TYSP, compliance with new environmental regulations, particularly any that may be issued to require lower CO<sub>2</sub> emissions from power plants, may lead to accelerated retirements of Gulf's existing coal units and the addition of new gas-fired and nuclear units to replace this capacity. Gulf continues to monitor the development of state and national policy in the area of CO<sub>2</sub> regulation and will consider its options for compliance with the resulting regulations while still fulfilling its obligation to serve the energy needs of its retail customers in Northwest Florida with reliable and reasonably priced electricity. If approved by the FPSC, the addition of the PPA for 885 MW of gas-fired CC that Gulf has discussed in this TYSP will meet Gulf's future load requirements

regardless of which, if any, of the currently proposed state and federal carbon emission standards ultimately become effective.



## ENVIRONMENTAL CONCERNS

Gulf will continue to take all necessary actions to fully comply with all environmental laws and regulations as they apply to the operation of Gulf's existing generation facilities and the installation of new generation. In the event that Gulf's recently signed 885 MW PPA does not receive FPSC approval, the Company's next potential generating unit addition, an 840 megawatt "G" class combined cycle would be on-line by June 2014. If needed, this combined cycle unit will be designed and constructed to comply with all applicable environmental laws and regulations. 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. This approach is an absolute necessity in maintaining the flexibility to match a dynamic regulatory environment with the variety of available compliance options.

Gulf updates or reviews its environmental compliance strategy on an annual basis unless significant events dictate otherwise. The focus of the strategy updates has, to date, centered on compliance with the acid rain requirements, while considering other significant clean air requirements and potential new requirements. There are a number of issues associated with future regulatory requirements that could significantly impact both the scope and cost of compliance over the next decade. The following is a summary of Gulf's actions

taken, or to be taken to comply with each major area of existing and emerging environmental law and 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. In addition to reducing SO<sub>2</sub> emissions, Gulf has installed low NO<sub>x</sub> burners on all but two of its coal-fired units and installed an additional post-combustion NO<sub>x</sub> control on its largest coal-fired unit. 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 Environmental Protection Agency (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 overage 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.

All Florida counties currently meet the new standard, however in March 2008, the EPA issued new rules lowering the eight hour ozone standard. Based on data from 2005-2007, counties within Gulf's service area would be designated non-attainment under the new standard. However, controls that have been recently installed or that are planned in response to EPA's Clean Air Interstate Rule may achieve compliance without additional measures. States are required to recommend designations to EPA by March 2009, and EPA will officially designate non-attainment areas by March 2010. States must then submit revisions to their State Implementation Plans by March 2013.

### **Clean Air Interstate Rule**

The EPA issued the final Clean Air Interstate Rule 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. Compliance with this rule will be accomplished by the installation of additional emission controls at Gulf's coal-fired facilities and by the purchase of supplemental emission allowances through a cap-and-trade program.

## **Clean Air Visibility Rule**

The Clean Air Visibility Rule (formerly called the Regional Haze Rule) was finalized in July 2005. The goal of this rule is 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) requirements and, beginning in 2018, a review each decade and implementation of the additional emissions reductions necessary to continue making reasonable progress toward the goal of natural visibility. BART requires that certain BART-eligible sources that contribute to visibility impairment implement additional emission reductions to address these contributions. For power plants, the Clean Air Visibility Rule allows states to determine that the Clean Air Interstate Rule satisfies BART requirements for SO<sub>2</sub> and NO<sub>x</sub> but not particulate matter, which requires a separate BART analysis. In addition to BART controls, additional requirements could be imposed to achieve progress toward the long-term goal. Florida has submitted a State Implementation Plan (SIP) to EPA that contains emission reduction strategies for implementing BART requirements and for achieving sufficient and reasonable progress toward the goal. If Florida's SIP is approved by EPA, Gulf's generating facilities will not be impacted by the early phases of the Clean Air Visibility Rule.

## **Clean Air Mercury Rule**

In March 2005, the EPA announced the final Clean Air Mercury Rule, a cap-and-trade program for the reduction of mercury emissions from coal-fired power plants. The rule sets caps on mercury emissions to be implemented in two

phases, 2010 and 2018, respectively, and provides for an emissions allowance trading market. Florida submitted state rules intended to implement the Clean Air Mercury Rule to EPA in December 2006. In February 2008, however, the U.S. Court of Appeals for the District of Columbia Circuit vacated the federal Clean Air Mercury Rule. The vacatur became effective with the issuance of the court's mandate on March 14, 2008. With CAMR voided, electric generating facilities are no longer required to install mercury controls to meet the CAMR cap and trade emission limits. Pursuant to the vacatur, EPA is expected to initiate new mercury rulemaking proceedings to develop Maximum Achievable Control Technologies (MACT) standards for power plants; however, this process could take multiple years to complete. Development of new MACT mercury standards could require substantial capital expenditures or affect the timing of current budgeted capital expenditures that cannot be determined at this time.

### **Global Climate Issues**

In April 2007, the U.S. Supreme Court ruled that the EPA has authority under the Clean Air Act to regulate greenhouse gas emissions from new motor vehicles. The EPA is currently developing its response to this decision. Regulatory decisions that will follow from this response may have implications for both new and existing stationary sources, such as power plants. The ultimate outcome of these rulemaking activities cannot be determined at this time; however, as with the current legislative proposals, mandatory restrictions on the Company's greenhouse gas emissions could result in significant additional compliance costs that could affect future unit retirement and replacement decisions.

On July 13, 2007, the Governor of the State of Florida signed three executive orders addressing the reduction of greenhouse gas emissions within the state, including statewide emission reduction targets beginning in 2017. Included in the orders is a directive to the Florida Secretary of Environmental Protection to develop rules adopting maximum allowable emissions levels of greenhouse gases for electric utilities, consistent with the statewide emission reduction targets, and a request to the Florida Public Service Commission to initiate rulemaking requiring utilities to produce at least 20% of their electricity from renewable sources. The impact of these orders on the Company will depend on the development, adoption, and implementation of any rules governing greenhouse gas emissions, and the ultimate outcome cannot be determined at this time.

Gulf will continue its involvement in the development of strategies to address any future clean air requirements in order to minimize the uncertainty related to the scope and cost of compliance. As new clean air 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 capacity and energy to several utilities outside the SES. The terms of the existing contracts began prior to 2005 and extend into 2010. In addition, three new contracts have been finalized, and are scheduled to be in effect beginning in the summer of 2010. Two of the contracts end in December 2015, while the other contract will end in May 2019. Gulf's share of the capacity and energy sales is reflected in the reserves on Schedules 7.1 and 7.2 and the energy and fuel use on Schedules 5 and 6.1.

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## CHAPTER IV

### FORECAST OF FACILITIES REQUIREMENTS



## **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. In order to meet its future need for capacity in 2014 and beyond, 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. In efforts to further diversify its generation fuel mix, Gulf has developed a RFP for the supply of capacity and energy from renewable resources. Gulf issued its first renewables RFP in 2008, and will be prepared to do so in the future. If future solicitations ultimately result in proposals that are competitive with resources that Gulf would otherwise develop, the Company will secure this renewable capacity and energy through a PPA.

Another avenue for the purchase of renewable energy is through Gulf's Renewable Standard Offer Contract (RSOC) that is on file with the FPSC and is continually available to developers of renewable resources. This contract offers to purchase renewable capacity and energy at the Company's avoided cost of its

next planned generating unit additions as shown in its current TYSP. Finally, per FPSC rules related to renewable energy procurement, Gulf may negotiate a PPA with a renewable energy supplier if the terms and conditions of the RSOC are not suitable for a particular renewable project.

## **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, will be added to the future generation mix studies so that their potential economic and technical viabilities may be evaluated. While there is only limited operational experience that aids in approximating the economic and performance characteristics of full-scale air blown IGCC facilities, the potential benefits of the 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.

## PREFERRED AND POTENTIAL SITES FOR CAPACITY ADDITIONS

Studies to determine a preferred site for the construction of the 2014 CC unit identified on Schedule 9 of this TYSP were essentially completed in late Fall of 2008, showing the Plant Crist site to be a more cost effective location for this unit over the next best site, Plant Smith. However, the analysis will have to be revisited to reflect new information related to construction and fuel supplies if Gulf's 885 MW PPA is not approved by the FPSC. Therefore, given the possible impacts on conclusion of the site location study due to new information, Gulf is showing both the Plant Crist site in Escambia County, Florida and the Plant Smith site in Bay County, Florida as potential sites being considered for locating Gulf's next planned generating unit 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. Site selection for Gulf's next planned generating unit is 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 insuring 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 930 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 88 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 potential 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 insuring 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 89 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.

# PLANT SMITH



ONE ENERGY PLACE  
PENSACOLA, FL. 32520-0323

470,000

460,000

1,590,000

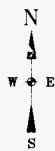
### Notes:

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

1000 0 1000 2000



SCALE: 1 INCH = 2000 FEET



June Bayou 2

Little Oyster Bar Point 2 Ceres 3

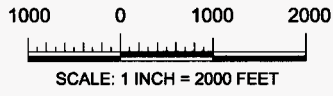
Light

NOR



**Notes:**

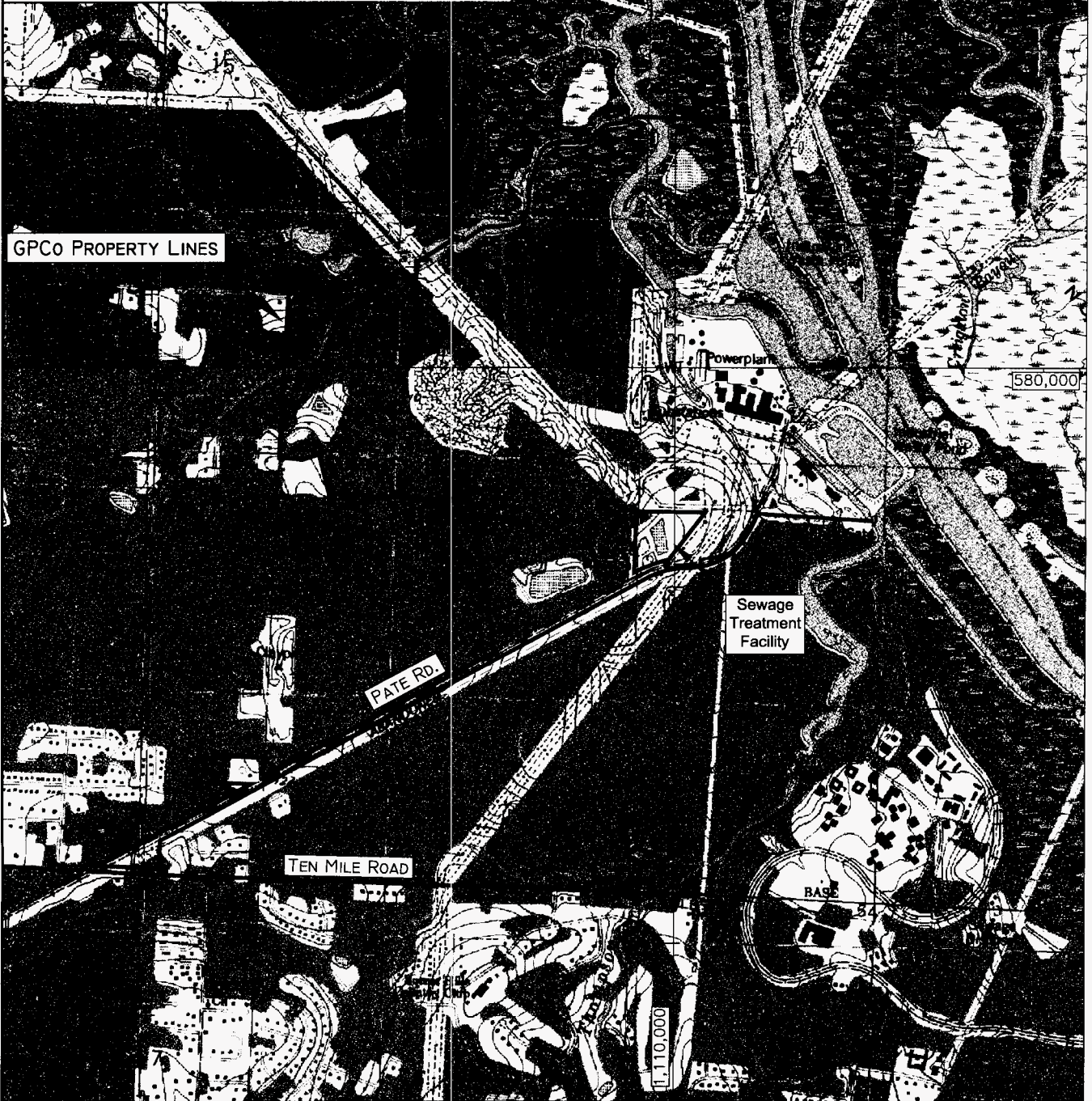
1. Grid lines shown are based on the Florida North Zone (#903), NAD83-90 H.A.R.N. State Plane Coordinate System.
2. Taken from U.S.G.S. Quadrangle Maps "Pace,Fl and Cantonment, Fl."



# PLANT CRIST



ONE ENERGY PLACE  
PENSACOLA, FL. 32520-0323





**GULF POWER COMPANY**

**SCHEDULE 7.1**

FORECAST OF CAPACITY, DEMAND, AND SCHEDULED MAINTENANCE AT TIME OF SUMMER PEAK (A)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(9)	(10)	(11)		(12)
YEAR	TOTAL INSTALLED CAPACITY MW (B)	FIRM CAPACITY IMPORT MW	FIRM CAPACITY EXPORT MW	NUG MW	TOTAL CAPACITY AVAILABLE MW	FIRM PEAK DEMAND MW	RESERVE MARGIN BEFORE MAINTENANCE		% OF PEAK	SCHEDULED MAINTENANCE MW	RESERVE MARGIN AFTER MAINTENANCE		% OF PEAK
							MW				MW		
2009	2,703	488	(211)	0	2,980	2,608	372		14.3%	NONE	372		14.3%
2010	2,673	488	(211)	0	2,950	2,670	280		10.5%		280		10.5%
2011	2,671	488	(211)	0	2,948	2,754	194		7.0%		194		7.0%
2012	2,566	488	(211)	0	2,843	2,794	49		1.8%		49		1.8%
2013	2,658	488	(211)	0	2,935	2,857	78		2.7%		78		2.7%
2014	2,648	885	(211)	0	3,322	2,917	405		13.9%		405		13.9%
2015	2,638	885	(211)	0	3,312	2,979	333		11.2%		333		11.2%
2016	2,638	885	(211)	0	3,312	3,026	286		9.5%		286		9.5%
2017	2,638	885	(211)	0	3,312	3,107	205		6.6%		205		6.6%
2018	2,606	885	(211)	0	3,280	3,196	84		2.6%		84		2.6%

NOTE: (A) CAPACITY ALLOCATIONS AND CHANGES MUST BE MADE BY JUNE 30 TO BE CONSIDERED IN EFFECT AT THE TIME OF THE SUMMER PEAK. ALL VALUES ARE SUMMER NET MW.

(B) 840 MW CC SHOWN ON SCHEDULE 9 FOR 2014 IN-SERVICE REPLACED BY 885 MW PPA SHOWN IN COLUMN (3).

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**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 (A)	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
2008-09	2,750	0	(211)	0	2,539	2,320	219	9.4%	NONE	219	9.4%
2009-10	2,742	488	(211)	0	3,019	2,399	620	25.8%		620	25.8%
2010-11	2,712	488	(211)	0	2,989	2,479	510	20.6%		510	20.6%
2011-12	2,618	488	(211)	0	2,895	2,545	350	13.8%		350	13.8%
2012-13	2,605	488	(211)	0	2,882	2,611	271	10.4%		271	10.4%
2013-14	2,697	488	(211)	0	2,974	2,654	320	12.1%		320	12.1%
2014-15	2,687	885	(211)	0	3,361	2,694	667	24.8%		667	24.8%
2015-16	2,677	885	(211)	0	3,351	2,758	593	21.5%		593	21.5%
2016-17	2,677	885	(211)	0	3,351	2,840	511	18.0%		511	18.0%
2017-18	2,637	885	(211)	0	3,311	2,911	400	13.7%		400	13.7%

NOTE: (A) 840 MW CC SHOWN ON SCHEDULE 9 FOR 2014 IN-SERVICE REPLACED BY 885 MW PPA SHOWN IN COLUMN (3).



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	Expected Retirement Mo/Yr	Gen Max Nameplate KW	Net Capability		Status
				Pri	Alt	Pri	Alt					Summer MW	Winter MW	
Daniel	1	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	09/77	06/09	274,125	(7.0)	(7.0)	CR
Scherer	3	Monroe Cnty, GA	FS	C	--	RR	--	--	1/87	06/09	222,750	(1.0)	(1.0)	D
Crist	4	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	7/59	06/10	93,750	(5.0)	(5.0)	D
Crist	5	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	6/61	06/10	93,750	(5.0)	(5.0)	D
Crist	6	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	05/70	06/10	369,750	(6.0)	(6.0)	D
Crist	7	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	08/73	06/10	578,000	(17.0)	(17.0)	D
Perdido	1 - 2	Escambia County	IC	LFG	--	PL	--	04/09	04/10	12/29	3,000	3.0	3.0	P
Scherer	3	Monroe Cnty, GA --	FS	C	--	RR	--	--	1/87	06/11	222,750	(2.0)	(2.0)	D
Scholz	1	Jackson Cnty, FL 12/3N/7W	FS	C	--	RR	WA	--	03/53	12/11	49,000	(46.0)	(46.0)	R
Scholz	2	Jackson Cnty, FL 12/3N/7W	FS	C	--	RR	WA	--	10/53	12/11	49,000	(46.0)	(46.0)	R

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**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>Expected Retirement 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>	
Crist	6	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	05/70	06/12	369,750	(13.0)	(13.0)	D
Scholz	1	Jackson Cnty, FL 12/3N/7W	S	WDS	--	TK	RR	01/12	06/13	12/42	49,000	46.0	46.0	P
Scholz	2	Jackson Cnty, FL 12/3N/7W	S	WDS	--	TK	RR	01/12	06/13	12/42	49,000	46.0	46.0	P
Daniel	1	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	09/77	06/14	274,125	(5.0)	(5.0)	D
Daniel	2	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	06/81	06/14	274,125	(5.0)	(5.0)	D
Daniel	1	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	09/77	06/15	274,125	(5.0)	(5.0)	D
Daniel	2	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	06/81	06/15	274,125	(5.0)	(5.0)	D
Smith	A	Bay County, FL 36/2S/15W	CT	LO	--	TK	--	--	05/71	12/17	41,850	(32.0)	(40.0)	R

<b>Abbreviations:</b>	<u>Unit Type</u>	<u>Fuel</u>	<u>Status</u>	<u>Fuel Transportation</u>
	FS - Fossil Steam	C - Coal	CR - Certified Rating change	PL - Pipeline
	S - Steam	NG - Natural Gas	D - Environmental derate	TK - Truck
	CT - Combustion Turbine	LO - Light Oil	P - Planned, but not authorized by utility	RR - Railroad
	CC - Combined Cycle	HO - Heavy Oil	R - To be retired	WA - Water
	IC - Internal Combustion	LFG - Landfill Gas	V - Under construction, more than 50% complete	
		WDS - Wood Waste Solid		

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**Schedule 9**

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number:	Unknown
(2)	Net Capacity	
	a. Summer:	840 MW
	b. Winter:	900 MW
	Gross Capacity	
	a. Summer:	850 MW
	b. Winter:	910 MW
(3)	Technology Type:	High Output "G" Combined Cycle
(4)	Anticipated Construction Timing	
	a. Field construction start - date:	10/11
	b. Commercial in-service date:	06/14
(5)	Fuel	
	a. Primary fuel:	Natural Gas
	b. Alternate fuel:	N/A
(6)	Air Pollution Control Strategy:	Dry low NOx combustor for natural gas SCR
(7)	Cooling Method:	Evaporative cooling
(8)	Total Site Area:	Unknown
(9)	Construction Status:	This facility is proposed but not authorized by Utility
(10)	Certification Status:	Not applied
(11)	Status with Federal Agencies:	Not applied
(12)	Projected Unit Performance Data	
	Planned Outage Factor (POF):	5.8%
	Unplanned Outage Factor (UOF):	5.5%
	Equivalent Availability Factor (EAF):	88.7%
	Capacity Factor (%):	65.0%
	Average Net Operating Heat Rate (ANOHR):	6,874
(13)	Projected Unit Financial Data <sup>(A)</sup>	
	Book Life (Years):	40
	Total Installed Cost (In-Service Year \$/kW):	1132
	Direct Construction Cost ('09 \$/kW):	873
	AFUDC Amount ('14 \$/kW):	171
	Escalation (\$/kW):	88
	Fixed O&M ('14 \$/kW - Yr):	8.11
	Variable O&M ('14 \$/MWH):	1.71
	K Factor:	1.4092

(A) Fixed O&M without firm gas transportation cost

**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