**Susan D. Ritenour** Secretary and Treasurer and Regulatory Manager One Energy Place Pensacola, Florida 32520-0781

Tel 850.444.6231 Fax 850.444.6026 SDRITENO@southernco.com



March 31, 2005

Ms. Blanca S. Bayo, Director Division of the Commission Clerk and Administrative Services Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee FL 32399-0870

Dear Ms. Bayo:

Enclosed are an original and twenty-five copies of Gulf Power Company's 2005 Ten Year Site Plan, and it is filed pursuant to Rule No. 25-22.071. Included in the Ten Year Site Plan is the Company's Clean Air Act Compliance update, and it is filed pursuant to Order No. PSC-93-1376-FOF-EI.

Sincerely, Ausan (1) Ritenour

db

**Enclosures** 

CC:

Beggs and Lane

Jeffrey A. Stone, Esquire

### TEN YEAR SITE PLAN 2005-2014

# FOR ELECTRIC GENERATING FACILITIES AND ASSOCIATED TRANSMISSION LINES

**APRIL 2005** 



DOCUMENT NUMBER-DATE
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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, 2005** 

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### **GULF POWER COMPANY**

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

### **Executive Summary**

The Gulf Power Company 2005 Ten-Year Site Plan is filed with the Florida Public Service Commission (FPSC) in accordance with the requirements of Chapter 186.801, Florida Statues as revised by the Legislature in 1995. That revision replaced the Florida Department of Community Affairs with the FPSC as the responsible agency for the Ten-Year Site Plan (TYSP). The 2005 TYSP for Gulf Power Company (Gulf) is being filed in compliance with the FPSC's rules.

Gulf's 2005 TYSP contains the documentation of assumptions, load forecast, fuel forecasts, the planning processes, existing resources, and future capacity needs and resources. The planning process utilized by Gulf is closely coordinated within the Southern electric system Integrated Resource Planning (IRP) process. Gulf participates in the IRP process along with the other Southern electric system operating companies, Alabama Power Company, Georgia Power Company, Mississippi Power Company, Savannah Electric & Power Company, and Southern Power Company, (collectively, the "Southern electric system" or "SES"). Gulf shares in the benefits gained from planning a large system such the SES, without the costs of a large planning staff of its own.

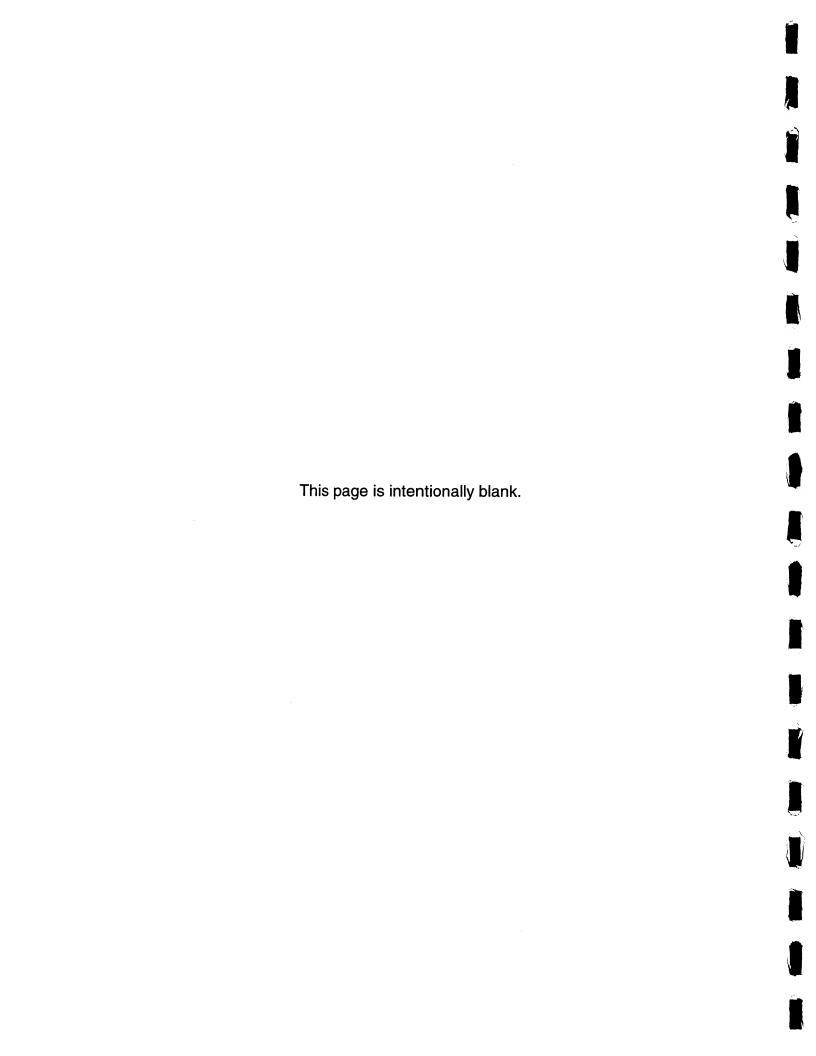
The capacity resource needs set forth in the SES IRP are driven by the demand forecast that includes projected demand-side measures embedded into

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 resource plans 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 what resources will best meet its capacity and reliability needs.

For the 2005 TYSP cycle, Gulf's allocated resource needs have been determined, showing a 368 megawatt need for peaking capacity in 2008, followed by a 450 megawatt peaking capacity need by 2009. The timing of Gulf's capacity need has not changed from the previous TYSP, but the magnitude of the need has increased from the previously anticipated levels due primarily to Gulf's higher summer peak demand projections for the 2005 TYSP cycle.

In order to meet these capacity requirements, Gulf will utilize market power purchases and/or SES resources, exclusively, prior to and possibly beyond the summer of 2009. In conjunction with this power purchase strategy, Gulf will continue to evaluate the construction of generating capacity, or the acquisition of an equivalent peaking capacity resource. If Gulf were to construct new generating capacity, installation is anticipated to coincide with the retirement of its Plant Scholz generating units in 2012. Under these circumstances, Gulf's next generating facility would then possibly consist of two 157 MW combustion

turbines (CT) installed at a site to be determined by future studies. This potential CT addition is tabulated in further detail on Schedules 8 and 9 of this document.



## CHAPTER I DESCRIPTION OF EXISTING FACILITIES

### **DESCRIPTION OF EXISTING FACILITIES**

Gulf owns and operates three fossil - fueled generating facilities in Northwest Florida (Plants Crist, Smith, and Scholz). 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 fourteen fossil steam units, one combined cycle unit, and one combustion turbine. Schedule 1 shows 996 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 351 MW of steam generation, 566 MW (summer rating) of combined cycle generation, and 32 MW (summer rating) of combustion turbine facilities. The Scholz Electric Generating Facility, near Sneeds, Florida consists of 92 MW of steam generation. Gulf's Pea Ridge Facility, near 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 2,800 MW and a total net winter generating capability of 2,828 MW. In addition to Gulf's installed generating resources, Gulf has a contract with Solutia Corporation for 19 MW of firm capacity that will be in effect until May 31, 2005.

The existing Gulf system in Northwest Florida, including generating plants, substations, transmission lines and service area, is shown on the system map on page 8. Data regarding Gulf's existing generating facilities is presented on Schedule 1.

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Abbreviations:

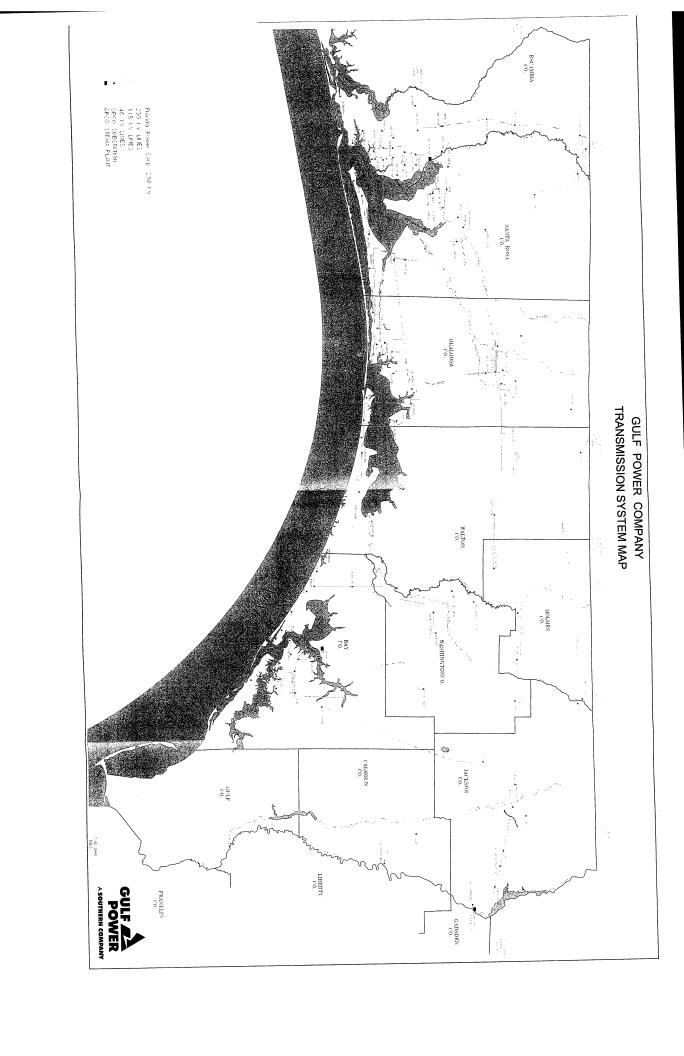
Fuel

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

Fuel Transportation

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

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



### **CHAPTER II**

### FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

1	
FORECASTING DOCUMENTATION	
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 1	

## GULF POWER COMPANY LOAD FORECASTING METHODOLOGY <u>OVERVIEW</u>

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 the Marketing and Load Management 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. <u>ASSUMPTIONS</u>

### A. ECONOMIC OUTLOOK

The year 2004 marks the first strong gains since the recovery of the U.S. economy began over two years ago. During the recession year of 2001, U.S. real Gross Domestic Product (GDP) grew at a dismal 0.5%. Since that time, the U.S. economy has grown 2.2% in 2002 and 3.1% in 2003. Gulf's projections assume the growth in the U.S. economy (Real Gross Domestic Product, GDP) will climb to 4.5% in 2004, slow to 3.2% in 2005 and then settle to its long-term trend growth of between 2.5% and 3.0%.

Weak employment growth is the major problem now facing the economy. The major components of spending are behaving well, including strong consumer demand for housing and automobiles and growing investment. Highly stimulatory fiscal policy continues to boost government spending, while a global rebound in Asia and optimistic predictions for Europe strengthen U.S. exports. Although the present recovery is described as "jobless", employment gains are broadening across all regions and industries. Only nine states are still in recession, and over half of the 300 industries covered by the Labor Department's payroll employment survey are adding new jobs. By comparison, less than one-third of these industries were adding new jobs a year ago.

Those sectors increasing their payrolls include advertising, architectural and engineering services, electric and gas utilities, internet publishing, trucking, and warehousing. Key industries still laying off workers include airlines, insurance, mining, all of manufacturing, and telecommunications. Job gains from March through the end of 2004 are projected to average 150,000 per month. This compares favorably with the 65,000 monthly jobs created since employment growth resumed last fall. The new jobs added, however, are not enough to make a substantial dent in unemployment, and heightened concern in the labor market will prevail through the end of 2004.

Despite record profits, businesses will remain reluctant to hire due to rising healthcare and pension costs, cheaper labor through outsourcing, and improved productivity. By the start of 2005, the labor market is expected to strengthen.

Downside risks to this outlook are possible from geopolitical uncertainty through terrorism, a falling dollar, higher oil prices, and problematic consumer debt. Upside risks are possible through more successful Federal Reserve Policy controlling an overheating economy and an improving global economy boosting U.S. exports.

### B. <u>TERRITORIAL ECONOMIC OUTLOOK</u>

Gulf's projections reflect the economic outlook for our service area as provided by 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 lag the rate of growth for the state of Florida. Gulf's projections incorporate electric price assumptions derived from the 2004 Gulf Power Official Long-Range Forecast. Fuel price projections for gas and oil were obtained fron the Department of Energy. The following tables provide a summary of the assumptions associated with Gulf's forecast:

TABLE 1

### ECONOMIC SUMMARY (2004-2009)

	Base Case Forecast
GDP Growth	4.5% - 3.1%
Interest Rate (30 Year AAA Bonds)	6.3% - 7.4%
Inflation	1.4% - 1.9%

### TABLE 2

### AREA DEMOGRAPHIC SUMMARY (2004-2009)

	Base Case Forecast
Population Gain	97,790
Net Migration	63,170
Average Annual Population Growth	1.7%
Average Annual Labor Force Growth	2.4%

### **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 territories 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 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. <u>RESIDENTIAL SALES FORECAST</u>

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 DSM plan, approved in April 2000, designed to meet the Commission-approved demand and energy reduction goals established in October 1999. Additional information on the residential conservation programs and program features are provided in the Conservation section.

### B. <u>COMMERCIAL SALES FORECAST</u>

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 April 2000, designed to meet the Commission-approved demand and energy reduction goals established in October 1999. Additional information on the Commercial Conservation programs and program features are provided in the Conservation section.

### 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 analysis. Fifty-one of 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 analysis.

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 forecast is further refined by accounting for expected self generation installations, and a supplemental energy rate. The industrial sales forecast also reflects the anticipated incremental impacts of Gulf's DSM plan, approved in April 2000, designed to meet the Commission-approved demand and energy reduction goals established in October 1999. Additional information on the conservation programs and program features are provided in the <u>Conservation</u> section.

### 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.

The long-term forecast is based on estimates of annual growth rates for each delivery point, according to future growth potential.

### 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 average historical monthly territorial load factors and projected monthly territorial supply in the short-term and rate level energy projections with Cost of Service load data for the long-term.

The summer peak month demand projections are based upon the average of the historical summer peak month territorial load factors for the period from 1980 through the summer peak of 2004, excluding the extreme high load factor and extreme low load factor experienced during that period. Gulf's summer peak demand typically occurs in the month of July.

Similarly, the winter peak month demand projections are based upon the average of the historical winter peak month territorial load factors for the period from 1980 through the winter peak of 2003/2004, excluding the extreme high load factor and extreme low load factor experienced during that period. Gulf's winter peak demand typically occurs in the month of January.

The remaining monthly demand projections are developed in similar fashion utilizing the respective historical average monthly load factors, excluding the monthly extreme high and extreme low load factors.

The long-term peak demand forecast is validated using the Hourly Electric Load Model (HELM), developed by ICF, Incorporated, for EPRI under Project RP1955-1. The model forecasts hourly electrical loads over the long-term.

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 shares, 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 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:

$$N_R$$
  $N_C$   $N_I$ 
 $L_i = \sum L_{R,i} + \sum L_{C,i} + \sum L_{I,i} + Misc_i$ 
 $R=1$   $C=1$   $I=1$ 

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

NR = number of residential rate class loads;

NC = number of commercial rate class loads;

N<sub>I</sub> = 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;  $Misc_i$  = 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 WDAS and 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 Economy.com, a renowned economic services provider. 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 Analysis. 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 conservation programs and program features in effect and 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 the new programs submitted in Gulf's Demand Side Management plan filed December 29, 1999 (Docket No. 991790-EG) as approved by the FPSC on April 17, 2000. These programs were designed to meet the incremental impacts of the Commission-approved demand and energy reduction DSM goals established in Order No. PSC-99-1942-FOF-EG on October 1,1999.

#### A. RESIDENTIAL CONSERVATION

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 62,000 new homes have been constructed to Good Cents standards under this program resulting in an annual reduction of nearly 77 mW of summer peak demand and annual energy savings of nearly 199 gWh.

Further conservation benefits are achieved in the existing home market with Gulf's GoodCents Energy Survey program which is designed to provide existing residential customers with cost-effective energy conserving recommendations and options that increase comfort and reduce energy operating costs. The goal of this program is to upgrade the customer's home by providing specific whole house recommendations and a list of qualified companies who provide installation services. The benefits of this program are also made available to our customers through the GoodCents Mail-In Energy Survey program as well as a recently added on-line version. Approximately 13,000 existing homes have been upgraded to Good Cents standards in addition to other system upgrades resulting in an annual reduction of approximately 21 mW of summer peak demand and over 40 gWh in annual energy savings.

In Concert With The Environment® is an environmental and energy awareness program that was being implemented in the 8th and 9th grade science classes in Gulf's service area. The program shows students how everyday energy use impacts the environment and how using energy wisely increases environmental quality. In Concert With The Environment® is brought to students who are already making decisions which impact our country's energy supply and the environment. Wise energy use today can best be achieved by linking environmental benefits to wise energy-use activities and by educating both present and future consumers on how to live "in concert with the environment". The program encourages participation by all household members through a take-home Energy Survey, Energy Survey Results, and student educational handbook and is considered an extension of Gulf's Residential Audit Program. Although Gulf ceased actively pursuing implementation of this program in 1998, it is still available upon request for presentation in the schools within Gulf's service area.

The Duct Leakage Repair Program provides Gulf's residential customers a means to identify house air duct leakage and recommend repairs that can reduce customer energy usage and kW demand. Potential program participants are identified through the Residential Energy Audit Program as well as through educational and promotional activities. After identification of the leakage sites and quantities, the customer is given a

written summary of the test findings and the potential for savings, along with a list of approved repair contractors. The program also provides duct leakage testing on new construction duct systems to ensure maximum efficiency and comfort in these new homes. This testing is available to the Builder, HVAC contractor, or homeowner. This program builds upon the Residential Energy Audit process by revealing additional energy efficiency and comfort measures available to the customer. Although Gulf discontinued actively promoting this program in 1998, it is still available upon request.

The GoodCents Environmental Home Program provides Gulf's residential customers with guidance concerning energy and environmental efficiency in new construction. The program promotes energy-efficient and environmentally sensitive home construction techniques by evaluating over 500 components in six categories of design and construction practices. The GoodCents Environmental Home consists of energy and environmental components. The energy components evaluate the building envelope and mechanical systems of the home with respect to energy efficiency. The environmental components of the program include measures which also evaluate thermal energy loss, alternative energy sources, embodied energy and design strategies that affect energy usage in the home.

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. The program additionally promotes efficiency levels well above current market conditions. Approximately 1,715 geothermal heat pumps have been installed in Gulf's

service area resulting in an annual reduction in summer peak demand in excess of 3.6 mW and annual energy savings of over 4 gWh.

The GoodCents Select Program, an advanced energy management (AEM) 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; to purchase electric energy on a variable spot price rate; and to monitor at any time, and as often as desired, the use of electricity and its cost in dollars, both for the billing period to date and on a forecast basis to the end of the period. 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 The combination of the GoodCents Select system and Gulf's utility. innovative variable rate concept will 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 critical price 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 The customer's pre-programmed individual participating customer. 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 4,200 customers are participating in this program resulting in an annual reduction of over 12 mW in summer peak demand and annual energy savings in excess of 8 gWh.

Additional conservation benefits are realized in the residential sector through Gulf's Outdoor Lighting program by conversion of existing, less efficient mercury vapor outdoor lighting to higher efficient high pressure sodium lighting.

#### B. COMMERCIAL/INDUSTRIAL CONSERVATION

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. More than 9,700 customers under this program have achieved an annual reduction of over 100 mW in summer peak demand and annual energy savings of over 201 gWh.

The Tier I and Tier II Commercial Energy Analysis Programs and the Technical Assistance Audit (TAA) programs are designed to provide commercial customers with assistance in identifying cost effective energy conservation opportunities and introduce them to various technologies which will lead to improvements in the energy efficiency level of their business. Nearly 18,000 customers participating in these programs have achieved an annual reduction of over 23 mW in summer peak demand and annual energy savings of nearly 73 gWh.

The Tier I program is a direct mail energy audit program that provides customers with recommendations that, if implemented, would move the customer beyond the efficiency level typically found in the marketplace. The Tier II program is an interactive program that consists of an on-site review by a Gulf Power Company Commercial Energy Consultant of the customer's facility operation, equipment and energy usage pattern. The customer is provided with energy management strategies that enhance their overall

business operation, and customer specific recommendations, including introduction to new technologies, for improving profitability by lowering energy cost.

The Technical Assistance Audit Program is designed with enough flexibility to allow a detailed economic evaluation of potential energy improvements through a more in-depth process which includes equipment energy usage monitoring, computer energy modeling, life cycle equipment cost analysis, and feasibility studies.

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.

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 25 mW of reduction in summer peak demand.

Gulf also has an Interruptible Service program which provides the Company with a contracted and callable resource. Participating customers are notified in advance for the need to curtail consumption. Under preset terms and conditions, the customer must reduce demand and energy for the designated period or risk assessment of monetary penalties for noncompliance.

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 over 6 mW of summer peak demand and nearly 24 gWh in annual energy savings.

#### C. STREET LIGHTING CONVERSION

Gulf's Street Lighting program is designed to achieve additional conservation benefits by conversion of existing less efficient mercury vapor street and roadway lighting to higher efficient high pressure sodium lighting. Customers participating in Gulf's outdoor lighting conversion programs have achieved annual energy savings of nearly 11 gWh.

#### D. 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	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	307,299	356,377	630,871,931

#### 2005 BUDGET FORECAST TOTAL CONSERVATION PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK	WINTER PEAK	NET ENERGY FOR LOAD
	(KW)	(KW)	(KWH)
2004	13,676	18,486	15,566,340
2005	12,616	22,227	20,984,880
2006	10,939	22,572	19,575,690
2007	11.164	22,921	20,170,726
2008	11,192	22,749	20,137,036
2009	11,239	23,182	20,394,040
2010	10,734	22,939	20,042,567
2011	10.777	23,321	20,266,126
2012	10,779	23,332	20,274,773
2013	10,846	23,927	20,627,601
2014	10,940	24,724	21,099,330

#### 2005 BUDGET FORECAST TOTAL CONSERVATION PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2004	320,975	374,863	646,438,271
2005	333,591	397,090	667,423,151
2006	344,530	419,662	686,998,841
2007	355,694	442,583	707,169,567
2008	366,886	465,332	727,306,603
2009	378,125	488,514	747,700,643
2010	388,859	511,453	767,743,210
2011	399,636	534,774	788,009,336
2012	410,415	558,106	808,284,109
2013	421,261	582,033	828,911,710
2014	432,201	606,757	850,011,040
2017		•	

## HISTORICAL TOTAL RESIDENTIAL CONSERVATION PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	152,053	223.794	322.534.854

#### 2005 BUDGET FORECAST TOTAL RESIDENTIAL CONSERVATION PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	9,706	16,621	12,288,121
2005	10,921	21,223	16,000,479
2006	9,203	21,551	14,514,999
2007	9,241	21,842	14,690,319
2008	9,226	21,652	14,580,338
2009	9,274	22,085	14,837,342
2010	8,769	21,842	14,480,597
2011	8,812	22,224	14,707,954
2012	8,814	22,235	14,714,483
2013	8,881	22,830	15,067,247
2014	8,974	23,627	15,541,017

#### 2005 BUDGET FORECAST TOTAL RESIDENTIAL CONSERVATION PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	161 750	040 445	004 000 075
	161,759	240,415	334,822,975
2005	172,680	261,638	350,823,454
2006	181,883	283,189	365,338,453
2007	191,124	305,031	380,028,772
2008	200,350	326,683	394,609,110
2009	209,624	348,768	409,446,452
2010	218,393	370,610	423,927,049
2011	227,205	392,834	438,635,003
2012	236,019	415,069	453,349,486
2013	244,900	437,899	468,416,733
2014	253,874	461,526	483,957,750

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

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	155,246	132,583	297,406,760

## 2005 BUDGET FORECAST TOTAL COMMERCIAL/INDUSTRIAL DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	3,970 1,695 1,736 1,923 1,966 1,965 1,965 1,965 1,965 1,965	1,865 1,004 1,021 1,079 1,097 1,097 1,097 1,097 1,097 1,097	3,209,864 4,918,799 4,995,089 5,414,805 5,491,095 5,491,096 5,491,095 5,491,095 5,491,095 5,491,095

## 2005 BUDGET FORECAST TOTAL COMMERCIAL/INDUSTRIAL DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	159.216	134,448	300,616,624
2005	160,911	135,452	305,535,423
2006	162,647	136,473	310,530,512
2007	164.570	137,552	315,945,317
2007	166,536	138,649	321,436,412
2009	168,501	139,746	326,927,508
2009	170,466	140,843	332,418,603
2010	172,431	141,940	337,909,699
	174,396	143,037	343,400,794
2012	174,350	144,134	348,891,889
2013	•	145,231	354,382,984
2014	178,327	1-10,201	', '

#### HISTORICAL TOTAL OTHER DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	0	0	10.930.317

#### 2005 BUDGET FORECAST TOTAL OTHER DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	0	0	68,355
2005	0	0	65,602
2006	0	0	65,602
2007	0	0	65,602
2008	0	0	65,602
2009	0	0	65,602
2010	0	0	70,875
2011	0	0	67,076
2012	0	0	69,195
2013	0	0	69,260
2014	0	0	67,218

#### 2005 BUDGET FORECAST TOTAL OTHER DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	0	0	10,998,672
2005	0	0	11,064,274
2006	0	0	11,129,876
2007	0	0	11,195,478
2008	0	0	11,261,081
2009	0	0	11,326,683
2010	0	0	11,397,558
2011	0	0	11,464,634
2012	0	0	11,533,829
2013	0	0	11,603,088
2014	0	0	11,670,306

### HISTORICAL TOTAL EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	227,850	275,910	541,431,102

#### 2005 BUDGET FORECAST TOTAL EXISTING DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2004	2,830	4,836	4,461,910
2005	1,728	3,157	4,887,946
2006	571	2,658	1,947,152
2007	603	2,885	2,084,469
2008	612	2,948	2,122,918
2009	634	3,102	2,216,294
2010	660	3,280	2,329,224
2011	680	3,418	2,408,914
2012	680	3,421	2,413,230
2013	711	3,635	2,542,923
2014	752	3,922	2,714,450

#### 2005 BUDGET FORECAST TOTAL EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK	WINTER PEAK	NET ENERGY FOR LOAD
	(KW)	(KW)	(KWH)
2004	230,680	280,746	545,893,012
2005	232,408	283,904	550,780,958
2006	232,979	286,562	552,728,109
2007	233,582	289,447	554,812,579
2008	234,195	292,395	556,935,498
2009	234,829	295,497	559,151,792
2010	235,489	298,777	561,481,016
2011	236,169	302,195	563,889,930
2012	236,849	305,616	566,303,160
2012	237,559	309,252	568,846,082
2013	238,311	313,173	571,560,532

### HISTORICAL RESIDENTIAL EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	117,038	172,449	289,988,901

#### 2005 BUDGET FORECAST RESIDENTIAL EXISTING DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	2,830	4,836	4,393,555
2005	1,728	3,157	4,822,344
2006	571	2,658	1,881,550
2007	603	2,885	2,018,867
2008	612	2,948	2,057,316
2009	634	3,102	2,150,692
2010	660	3,280	2,258,349
2011	680	3,418	2,341,838
2012	680	3,421	2,344,035
2013	711	3,635	2,473,663
2014	752	3,922	2,647,232

#### 2005 BUDGET FORECAST RESIDENTIAL EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
119,868	177,285	294,382,456
121,596	180,443	299,204,800
122,167	183,101	301,086,349
122,770	185,986	303,105,217
123,383	188,934	305,162,533
124,017	192,036	307,313,225
124,677	195,316	309,571,574
125,357	198,734	311,913,412
126,037	202,155	314,257,447
126,747	205,791	316,731,110
127,499	209,712	319,378,342
	PEAK (KW) 119,868 121,596 122,167 122,770 123,383 124,017 124,677 125,357 126,037 126,747	PEAK (KW) (KW)  119,868 177,285 121,596 180,443 122,167 183,101 122,770 185,986 123,383 188,934 124,017 192,036 124,677 195,316 125,357 198,734 126,037 202,155 126,747 205,791

## HISTORICAL COMMERCIAL/INDUSTRIAL EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	110,812	103,461	240,511,884

## 2005 BUDGET FORECAST COMMERCIAL/INDUSTRIAL EXISTING DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

## 2005 BUDGET FORECAST COMMERCIAL/INDUSTRIAL EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER PEAK	NET ENERGY FOR LOAD
	PEAK (KW)	(KW)	(KWH)
2004	110,812	103,461	240,511,884
2005	110.812	103,461	240,511,884
2006	110,812	103,461	240,511,884
2007	110,812	103,461	240,511,884
2008	110,812	103,461	240,511,884
2009	110,812	103,461	240,511,884
2010	110,812	103,461	240,511,884
2011	110,812	103,461	240,511,884
2012	110,812	103,461	240,511,884
2013	110,812	103,461	240,511,884
2014	110,812	103,461	240,511,884

## HISTORICAL OTHER EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK	WINTER PEAK	NET ENERGY FOR LOAD
	(KW)	(KW)	(KWH)
2003	0	0	10.930.317

#### 2005 BUDGET FORECAST OTHER EXISTING DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	0	0	68,355
2005	0	0	65,602
2006	0	0	65,602
2007	0	0	65,602
2008	0	0	65,602
2009	0	0	65,602
2010	0	0	70,875
2011	0	0	67,076
2012	0	0	69,195
2013	0	0	69,260
2014	0	0	67,218

#### 2005 BUDGET FORECAST OTHER EXISTING DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	0	0	10,998,672
2005	0	0	11,064,274
2006	0	0	11,129,876
2007	0	0	11,195,478
2008	0	0	11,261,081
2009	0	0	11,326,683
2010	0	0	11,397,558
2011	0	0	11,464,634
2012	0	0	11,533,829
2013	0	0	11,603,088
2014	0	0	11,670,306

## HISTORICAL TOTAL NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	79,449	80,467	89,440,829

#### 2005 BUDGET FORECAST TOTAL NEW DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013	10,846 10,888 10,368 10,561 10,579 10,605 10,074 10,097 10,099 10,136 10,188	13,650 19,069 19,914 20,036 19,801 20,080 19,659 19,903 19,911 20,291 20,803	11,104,430 16,096,934 17,628,539 18,086,256 18,014,117 18,177,746 17,713,343 17,857,212 17,861,543 18,084,679 18,384,880
2014	10,100	_5,555	, ,

#### 2005 BUDGET FORECAST TOTAL NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2004	90,295	94,117	100,545,259
2005	101,183	113,186	116,642,193
2006	111,551	133,100	134,270,732
2007	122,112	153,136	152,356,988
2008	132,691	172,937	170,371,105
2009	143,296	193,017	188,548,851
2010	153,370	212,676	206,262,194
2011	163,467	232,579	224,119,406
2012	173,566	252,490	241,980,949
2013	183,702	272,781	260,065,628
2013	193,890	293,584	278,450,508

## HISTORICAL RESIDENTIAL NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK	WINTER PEAK	NET ENERGY FOR LOAD
	(KW)	(KW)	(KWH)
2003	35.015	51.345	32,545,953

#### 2005 BUDGET FORECAST RESIDENTIAL NEW DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK	WINTER PEAK	NET ENERGY FOR LOAD
	(KW)	(KW)	(KWH)
2004	6,876	11,785	7,894,566
2005	9,193	18,065	11,178,135
2006	8,632	18,893	12,633,450
2007	8,638	18,957	12,671,451
2008	8,613	18,704	12,523,022
2009	8,640	18,983	12,686,650
2010	8,109	18,562	12,222,248
2011	8,132	18,806	12,366,116
2012	8,134	18,814	12,370,448
2013	8,171	19,194	12,593,584
2014	8,222	19,706	12,893,785

#### 2005 BUDGET FORECAST RESIDENTIAL NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	<b>NET ENERGY</b>
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2004	41,891	63,130	40,440,519
2005	51,084	81,195	51,618,654
2006	59,716	100,088	64,252,104
2007	68,354	119,045	76,923,555
2008	76,967	137,749	89,446,577
2009	85,607	156,732	102,133,227
2010	93,716	175,294	114,355,475
2011	101,848	194,100	126,721,591
2012	109,982	212,914	139,092,039
2013	118,153	232,108	151,685,623
2014	126,375	251,814	164,579,408

### HISTORICAL COMMERCIAL/INDUSTRIAL NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	44,434	29,122	56,894,876

#### 2005 BUDGET FORECAST COMMERCIAL/INDUSTRIAL NEW DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	3,970 1,695 1,736 1,923 1,966 1,965 1,965 1,965 1,965 1,965	1,865 1,004 1,021 1,079 1,097 1,097 1,097 1,097 1,097 1,097	3,209,864 4,918,799 4,995,089 5,414,805 5,491,095 5,491,095 5,491,095 5,491,095 5,491,095 5,491,095 5,491,095

#### 2005 BUDGET FORECAST COMMERCIAL/INDUSTRIAL NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2004	48,404	30,987	60,104,740
2005	50,099	31,991	65,023,539
2006	51,835	33,012	70,018,628
2007	53,758	34,091	75,433,433
2008	55,724	35,188	80,924,528
2009	57,689	36,285	86,415,624
2010	59,654	37,382	91,906,719
2011	61,619	38,479	97,397,815
2012	63,584	39,576	102,888,910
2013	65,549	40,673	108,380,005
2014	67,515	41,770	113,871,100

## HISTORICAL OTHER NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER	WINTER	NET ENERGY
	PEAK	PEAK	FOR LOAD
	(KW)	(KW)	(KWH)
2003	0	0	0

#### 2005 BUDGET FORECAST OTHER NEW DSM PROGRAMS INCREMENTAL ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

#### 2005 BUDGET FORECAST OTHER NEW DSM PROGRAMS CUMULATIVE ANNUAL REDUCTIONS AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

#### 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 "Green Pricing" pilot 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 261 customers contributing \$50,451 through December, 2004. A prototype installation at a local middle school has been completed and the experience gained at this site will be used to design future Solar for Schools installations.

Gulf customers also now have the opportunity to participate in a recent Florida Public Service Commission approved solar energy project. EarthCents was developed as a renewable energy program that will include a portfolio of renewable energy choices. The EarthCents Solar Program 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 territory 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 1 MW generating facility. As of December, 2004, 62 customers have pledged to purchase a total of 72 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.

District heating and cooling plants are an older fundamental application of large central station heating and cooling equipment for service to multiple premises in close proximity. These systems are typically located in college or school settings as well as some military bases and industrial plants. Within Gulf's service area there exists a number of these systems which were appropriate or seemed appropriate at the time of their installation. Current day considerations for energy pricing, operating and maintenance expenses have uneconomical and becoming systems these of resulted in many

decommissioned. Future installations of district heating and cooling plants of any consequence hinge primarily upon the opportunity for optimum application of this technology. The very dispersed construction of low rise buildings which are characteristic of the building demographics in Gulf's service area yield no significant opportunities for district heating and cooling that are economically viable on the planning horizon.

Schedule 2.1

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

(6)	- 1747	Average KWH	Consumption	Per Customer	66,043	66,271	65,928	68,379	68,141	71,021	70,489	72,304	71 683	71 003	060,17		69,718	69,883	70,190	70 078	0,6,0,1	71,124	71,170	686.02	71 192	70.061	106,07	70,826			%8.0	%0:0	%0:0	
(8)	Commercial	Average	No. of	Customers	41,007	42,381	43,955	45,510	47,292	47.584	180,44	40,402	49,139	20,420	186,16		54,374	56.119	57.471	7,70	58,814	60,186	61.633	63 150	64,600	04,030	66,291	900'89			2.7%	3.0%	2.7%	
(2)				GWH	2,708	2.809	2,898	3 112	3 223	2,220	0,079	, 4, 0 Crr	3,553	3,614	3,695		3.791	3 000	3,922	4,034	4,174	4.281	386	4,000	4,400	4,605	4,704	4.817			3.5%	3.0%	2.7%	
(9)		Average KWH	Consumption	Per Customer	14,148	14,457	12,604	10,031	0,0,1	14,318	14,992	14,497	15,510	15,064	15,096		14 594	100,1	14,598	14,647	14,801	14 837	1,000	14,847	14,815	14,848	14.788	11 752	14,705		70/	%; C-	-0.2%	
(5)	ential	Average	No. of	Customers	283 717	007 750	201,132	296,497	304,413	312,283	319,506	325,343	331,637	338,631	345,467		056 769	330,703	365,719	373,690	381,606	000,000	389,714	398,289	407,284	416,422	425 941	400,011	430,179		ò	%.X.%	2.4%	
(4)	Bural and Besidential			HWE	2 2	t (),†	4,160	4,119	4,438	4,471	4,790	4,716	5,144	5,101	5,215	)	0	5,206	5,339	5,473	5, 54 5, 648	0,0	2,782	5,913	6,034	6.183	000	6,239	6,435			3.0%	% % %	? -
(3)	α	Members	ner	plodesion	HOUSEIIOIG	Z.04	2.62	2.61	2.61	2.61	2.59	2.59	2.59	2.59	2 58	2.30		2.57	2.56	2.55	2 2 2	7.33	2.54	2.53	2.52	250	9 9	2.49	2.48			-0.2%	-0.3%	o, †.O-
(2)				* 100	Fobulation	747,695	752,942	773,569	793,714	814,365	828,576	844,006	860.543	878 658	0,000	891,070		917,076	937,424	954 682	204,002	971,393	988,287	1 005 906	1 024 363	4 040 600	1,042,030	1,061,718	1,083,050			2.0%	2.1%	%O.Z
(E)				;	Year	1995	1996	1997	1998	1999	0000	2001	2002	2002	2003	2004		2005	9006	2000	7007	2008	2009	2010	2010	- 0	2012	2013	2014	!	CAAG	95-04	04-09	04-14

\* Historical and projected figures include portions of Escambia, Santa Rosa, Okaloosa, Bay, Walton, Washington, Holmes, and Jackson counties served by Gulf Power Company.

Schedule 2.2

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

	(8)	Total Calas	to Ultimate	Consumers	GWH	8 534	2,004	6,7,9 8,938	9,500	9.558	10,112	10,173	10,772	10.885	11,046	11 154	11.456	11 715	12.042	12.262	12.478	12.674	12.924	13,117	13,343		2.9%	2.1%	1.9%
	(7)	Other Sales	to Public	Authorities	GWH	C	o C	o c	0	0	0	0	0	0	0	C	o C	) C	0	0	0	0	0	0	0		%0.0	%0.0	%0.0
Jass	(9)	Street &	Highway	Lighting	GWH	19	17	17	18	18	18	21	21	22	23	23	24	24	25	25	25	26	26	27	27		3.6%	2.1%	1.9%
ramber of castoffiels by castoffiel class	(5)		Railroads	and Railways	GWH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		%0.0	%0.0	%0:0
	(4)		Average KWH	Consumption	Per Customer	6,502,731	6,434,470	6,870,216	6,971,767	7,355,526	7,128,700	7,285,943	7,550,249	7,533,179	7,573,575	7,018,882	6,872,269	6,844,203	6,815,335	6,690,101	6,563,184	6,436,987	6,314,957	6,192,969	6,071,151		1.7%	-2.5%	-2.2%
	(3)	Industrial	Average	No. 01	Customers	276	281	277	263	251	270	277	272	285	279	304	316	319	322	325	328	331	334	337	340		0.1%	3.1%	2.0%
	(2)														2,113												1.8%	%9·0	-0.5%
	(1)			>	<u>Year</u>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	CAAG	95-04	04-09	04-14

Schedule 2.3

History and Forecast of Energy Consumption and

	(9)	Total	No. of	Customers	325,119	330,571	340,944	350,447	360,113	367,740	374,561	381,522	389,809	398,200		411,913	422,627	431,956	441,221	450,707	460,735	471,253	481.937	493,063	000000	270,000	2.3%	2.5%	2.4%
Slass	(5)	Other	Customers	(Average No.)	119	157	215	262	286	380	460	474	473	474		472	474	477	480	483	486	489	492	10F	000	498	16 6%	0.4%	0.5%
Number of Customers by Customer Class	(4)	Net Energy	for Load	GWH	9,452	9,662	6,887	10,402	10,464	11,105	11,204	11,910	11,952	12,162	•	12,272	12,601	12.884	13.241	13.482	10,707	10,720	2,000	14,411	14,423	14,671	% 0 0	2.1%	1.9%
Number of Custo	(3)	Utility Use	& Losses	GWH	285	521	209	645	558	629	671	754	685	727	i	737	758	776	907	047	4.0	829	540	108	875	891	č	%.c. c	2.1%
	(2)	Sales for	Resale	GWH.	336	347	342	356	348	363	900	384	+ cc	380	600	384	387	600	292	407	406	412	419	426	431	438		7.6% %0.0	1.2%
	(£)			Voor	1005	1006	1990	1008	1000	6661	2000	2002	2002	2003	2004	3000	2003	2000	2007	2008	2009	2010	2011	2012	2013	2014	CAAG	95-04	04-09 04-14

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

Schedule 3.1

History and Forecast of Summer Peak Demand - MW Base Case

Demand **Vet Firm** 2,048 1,969 2,040 2,154 2,169 2,289 2,462 2,275 2,531 2,576 2,625 2,677 2,725 2,803 2,860 1.9% 1.5% 1.6% (10) 2,231 2,431 2,473 2,758 2,417 Conservation Comm/Ind 3.0% 1.1% 6 43 169 63 167 Management Comm/Ind 0.0% 0.0% 0.0% Conservation Residential 6.0% 5.3% 4.6% 96 5 107 137 173 182 191 200 210 218 227 236 245 254 6 Management Residential Load %0.0 %0.0 %0.0 9 Interruptible 100.0% 100.0% 0.001 2 0000 2,340 2.2% 1.8% 1.8% 2,118 2,208 3,040 2,490 2,433 2,669 2,806 2,920 2,982 2,347 2,503 2,668 2,738 2,861 3,082 3,137 2,672 3,204 4 Wholesale 0.3% -0.4% 0.5% <u>ල</u> 75 82 84 86 78 86 87 84 81 82 83 84 85 86 87 88 2,422 1.8% 2,283 2,432 2,576 2,755 2,582 2,818 2,943 3,003 3,066 3,125 2.2% 2,196 2,887 3,168 3,224 1.8% 2,511 2,752 Total 2,751 (Z) CAAG 95-04 04-09 2010 04-14 1996 1999 2000 2007 2009 2012 2013 2014 1997 1998 2001 2002 2003 2005 2006 2011 2004  $\widehat{\Xi}$ 

NOTE 2: The forecasted interruptible amounts shown in col (5) are included here for information purposes only. The projected demands shown in NOTE 1: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA) column (2), column (4) and column (10) do not reflect the impacts of interruptible. Gulf treats interruptible as a supply side resource.

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

(10)	Net Firm Demand	1,740	2,144	1,939	7,697	K,093	- ,6,-	2,100	2,190	2,500	2,070	0	2,130	2,204	2,235	2,289	0 307	2,021	2,347	2,376	2,418	2,445	2 467	ĵ	ò	1.9%	2.4%	1.8%	į
(6)	Comm/Ind Conservation	102	103	105	118	221	126	97.	129	133	134	i G	135	136	138	139	0 0	041	141	142	143	144	175	<u>}</u>		3.1%	%8.0	%8'0	
(8)	Comm/Ind Load <u>Management</u>	0	0	0	0	0	0	0	0	0	0	,	0	0	0	c	<b>.</b>	>	0	0	0	0		<b>&gt;</b>		%0:0	%0:0	%0.0	
(2)	Residential Conservation	150	157	163	171	177	188	200	211	224	240		262	283	305	397	327	349	371	393	415	438	9 9	462		5.4%	7.7%	%2'9	
(9)	Residential Load <u>Management</u>	0	0	0	0	0	0	0	0	0	0		0	0		o c	<b>o</b> (	0	0	0	C	· c	> (	0		%0:0	%0.0	%0.0	
(5)	<u>Interruptible</u>	0	0	0	0	0	0	0	0	0	0		0	C	o c	<b>o</b> 0	>	0	0	c		o c	>	0		%0.0	%0.0	%0:0 0:0	
(4)	Retail	1,922	2,322	2,127	1,919	2,313	2,150	2,401	2,445	2,765	2,369		2.438	2 548	2,0	7,00	2,6/6	2,736	2 778	0 200	2000	2,0	7,943	3,001		2.4%	%60	2.4%	i
(3)	Wholesale	71	82	80	61	6/	75	98	82	6	<u> 2</u> 2		68	92	1 2	: í	78	6/	ά	- c	7 6	3 3	ъ ф	72		0.8%	%o.c	-0.5%	<u> </u>
(2)	Total	1,993	2,404	2,208	1,981	2,392	2,225	2.486	2,530	285	2,445	î	2 527	2,00	6,024	2,0/2	2,754	2.816	2 2 2 2	2,000	- 10,0	2,970	3,027	3,074		%6 6	200	6.9% 0.3%	
Ð	Year	94-95	92-96	26-96	92-98	66-86	00-66	00-01	01-02	0.00	03-04	- 9 9	0.4.05	50-10	02-00	/0-90	02-08	08-09	0 0	0 1	- 0	71-1	12-13	13-14	CAAG	05.04	0.00	04-09	<u>+</u>

NOTE 2: The forecasted interruptible amounts shown in col (5) are included here for information purposes only. The projected demands shown in NOTE 1: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA) 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

	(6)	Load Factor % 52.7% 55.2% 55.2% 55.1% 55.2% 60.0% 57.1% 57.1% 58.2% 58.2% 58.2% 58.5% 58.5% 58.5% 58.5% 58.5% 58.5% 58.5% 58.6% 58.6% 58.6% 0.9% 0.5% 0.3%
	(8)	Net Energy for Load 9,452 9,662 9,887 10,402 10,464 11,105 11,204 11,910 11,952 12,162 12,272 12,601 12,884 13,241 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,482 13,720 13,935 14,211
	(2)	Utility Use 8 Losses 582 582 521 607 645 558 629 671 727 727 737 737 758 829 843 861 875 891
	(9)	Wholesale 336 347 342 342 348 363 369 384 387 387 389 401 406 412 419 426 431 1.6% 0.9%
200	(5)	Retail 8,534 8,794 8,938 9,401 9,558 10,112 10,772 10,885 11,046 11,715 12,042 12,042 12,042 12,042 12,042 12,924 13,117 13,343
	(4)	Comm/Ind 227 232 239 239 257 274 280 284 288 297 301 306 311 316 327 332 338 343 343 343 354
	(3)	Residential 263 263 273 282 292 297 305 314 323 333 346 362 376 391 406 421 435 480 465 496 3.1% 4.0%
	(2)	Total 9,942 10,167 10,408 10,950 11,035 11,690 11,801 12,520 12,583 12,940 13,288 13,288 13,591 14,487 14,723 15,019 15,019 15,521 15,019 15,521 15,019
	£)	Year 1995 1996 1997 1998 1999 2000 2000 2007 2008 2007 2008 2010 2011 2012 2013 2014 404-09

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

Schedule 4

Previous Year Actual and Two Year Forecast of Peak Demand and Net Energy for Load by Month

(7)			NEL	GWH	1,00,1	864	880	893	1,143	1,267	1,332	1.347		1,113	936	855	010	970
(9)	2006	Foreca	Peak Demand	WW	2,204	1,931	1,737	1,828	2,249	2,423	2.473	2 427	77,7	2,283	2,030	1.717		1,911
(5)	10	ast		GWH	981	845	998	875	1,095	1 232	1 292	101,1	7.0,1	1,084	910	833		946
(4)	2005	Forecast	Peak Demand	MM	2,268	1,990	1,749	1,746	2,185	2 340	2,010	2,7,7	2,369	2,211	1.852	1 690	2,-	1,891
(3)			ı	GWH	686	903	843	837	1 082	1 188	1,100	020,1	1,249	626	666	000	070	985
(2)	2004	Actual	Peak Demand	MM	2.070	1 869		1 580										
Ð			•	Month	January	February	March	April		lviay I	June	July	August	Sentember	October	Colober	November	December

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

**Gulf Power Company** 

Schedule 5 Fuel Requirements

(16)	2014	None	6,033	00	None	None	7	7	None	0	None	27,640	0	26,765	875	None
(15)	2013	None	5,873	00	None	None	80	80	None	0	None	27,680		26,791	889	None
(14)	2012	None	5,528	00	None None	None	ω	80	None	0	None	26,273	0	25,431	842	None
(13)	2011	None	5,898	00	None None	None	ω	80	None	0	None	26,997	0	26,997	0	None
(12)	2010	None	6,045	00	None None	None	o	တ	None	0	None	27,059	0	27,059	0	None
(11)	2009	None	6,714	00	None None	None	0	80	None	-	None	24,869	0	24,869	0	None
(10)	2008	None	999'9	00	None None	None	6	۵	None	_	None	22,627	0	22,627	0	None
(6)	2007	None	6,463	00	None None	None	თ	6	None	0	None	23,521	0	23,521	0	None
(8)	2006	None	6,505	00	None None	None	ω	80	None	0	None	19,660	7	19,653	0	None
(2)	2005	None	6,236	00	None None	None	80	80	None	0	None	20,277	29	20,218	0	None
(9)	Actual 2004	None	6,218	00	None None	None	20	18	None	8	None	17,027	109	16,918	0	None
(5)	Actual 2003	None	5,878	00	None None	None	19	16	None	က	None	13,288	155	13,133	0	None
(4)	Units	Trillion BTU	1000 TON	1000 BBL 1000 BBL	1000 BBL 1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 MCF	1000 MCF	1000 MCF	1000 MCF	Trillion BTU
(3)	irements			Total Steam	85	Diesel	Total	Steam	8	CT	Diesel	Total				
(1) (2)	Fuel Requirements	(1) Nuclear	(2) Coal	(3) Residual (4)	(5) (6)	7	8) Distillate	(6	(10)	<del>_</del>	[2]	(13) Natural Gas	(4)	.5)	(9)	(17) Other
_		_	_			_	٠	_	: ت	ت	_	<u> </u>	_	<u></u>	ت	Ξ

**Gulf Power Company** 

Schedule 6.1 Energy Sources

	(16)	3 2014	(3,745)		14,220	0 0 0 0 None None None None	None None None None O O O O O O O O O O O O O O O O O O O	02 4,192 0 0 78 3,970 24 222		.23 14,671
	(15)	2013	(3,608)		13,825			4,202 0 3,978 224		14,423
	(14)	2012	(2,779)	None	12,979	0 None None None	None None O	4,007 0 3,789 218	4	14.211
	(13)	2011	(4,077)	None	13,873	0 None None None	None None O None	4,135 0 4,034 101	4	13 935
	(12)	2010	(4,623)	None	14,206	0 None None	None None O	4,133 0 4,032 101	4	13 720
	(11)	5009	(6,066)	None	15,807	O None None	None None None	3,736 0 3,635	4	13 482
	(10)	2008	(5,870)	None	15,682	0 None None None	None None None None	3,424 0 3,323 101	4	10 041
SS	(6)	2007	(5,891)	None	15,207	0 None None None	None None O None	3,564 0 3,463 101	4	700
Energy Sources	(8)	2006	(5,611)	None	15,266	0 None None None	None None O None	2,942 1 2,840 101	4	
Ë	E	2005	(5,452)	None	14,656	0 None None None	None None O	3,064 4 2,959 101	4	
	(9)	Actual 2004	(3,695)	None	13,366	0 None None None	None None None None	2,476 1 2,406 69	4	
	(2)	Actual 2003	(3,080)	None	13,025	0 None None None	None None None	1,963 5 1,860 98	43	
	(4)	Units	GWH	GWH	GWH	GWH GWH GWH GWH	GWH GWH GWH GWH	GWH GWH GWH	GWH	
	(3)	S	эğс			Total Steam CC CT Diesel	Total Steam CC CT Diesel	Total Steam CC CT		
	(2)	Energy Sources	Annua				(9) Distillate (10) (11) (12) (13)	(14) Natural Gas (15) (16) (17)	(18) NUGs	
	Ξ		Ξ	(2)	<u> </u>	<b>460</b> 58	(10) (12) (13)	(15 (16 (16 (17 (17 (17 (17 (17 (17 (17 (17 (17 (17	(18	

NOTE: Incudes energy generated and sold under existing power sales contracts, and energy from projected short term firm purchases.

**Gulf Power Company** 

Schedule 6.2
Energy Sources

						ת	=nergy Sources	ses							
Ξ	(2)	(3)	(4)	(2)	(9)	6	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Energy Sources	S	Units	Actual 2003	Actual 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
$\widehat{\Xi}$	Annual Firm Interchange	Jge	%	(25.77)	(30.38)	(44.43)	(44.53)	(45.72)	(44.33)	(44.99)	(33.70)	(29.26)	(19.56)	(25.02)	(25.53)
(2)	) Nuclear		%	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		%	108.98	109.90	119.43	121.15	118.03	118.44	117.25	103.54	99.56	91.33	95.85	96.93
<b>4 3</b>	) Residual	Total Steam	%%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
<u>@</u> (2) @		CC CT Diesel	%%%	None None None	None None None	None None None	None None None	None None None	None None None	None None None	None None None	None None None	None None None	None None None	None None None
(12) (13) (13)	Distillate ) ) )	Total Steam CC CT Diesel	%%%%%	0.01 None None 0.01	0.01 None 0.01 None	0.00 None 0.00 None	0.00 None 0.00 None	0.00 None 0.00 None	0.01 None 0.01 None	0.01 None 0.01 None	0.00 None None 0.00	0.00 None None 0.00	0.00 None None 0.00	0.00 None None 0.00	0.00 None None 0.00
(14) 1 (15) (16) (17)	) Natural Gas	Total Steam CC CT	%%%%	16.42 0.04 None 0.82	20.36 0.01 19.78 0.57	24.97 0.03 24.11 0.82	23.35 0.01 22.54 0.80	27.66 0.00 26.88 0.78	25.86 0.00 25.10 0.76	27.71 0.00 26.96 0.75	30.12 0.00 29.39 0.74	29.67 0.00 28.95 0.72	28.20 0.00 26.66 1.53	29.13 0.00 27.58 1.55	28.57 0.00 27.06 1.51
(18)	(18) NUGs		%	0.36	0.12	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
(19)	(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

#### **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 and most probable occurrences 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 the assumptions surrounding general inflation and escalation that will affect fuel costs, construction costs, labor rates and variable O&M.

In addition to this activity, there are a number of activities which 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. Utilities have also become increasingly active in offering customers 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 utility system loads.

As mentioned earlier, 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 in the integration 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. The repowering evaluation is particularly important as a possible competing technology with the other unit addition technologies. These evaluations are extremely important in order to maximize the benefit of existing investment from both a capital and an operating and maintenance expense perspective.

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

The supply side of the IRP process focuses on the SES as a whole which has as its planning criterion a 15.0% reserve margin target for the year 2008 and beyond. This reserve margin is the optimum economic point where 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 necessary assumptions are determined, the 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, DSOs, candidate units, reserve margin, 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 with each other. A least cost resource plan is developed only after reviewing many construction options.

PROVIEW® produces a number of different combinations over the planning horizon which evaluates 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 (objective function) 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 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. After the incorporation of the cost effective demand-side impacts, a final integrated resource plan is produced.

Finally, a sanity check of the plan, as well as a financial analysis of the impact of the plan, are 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 personnel.

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 consumption 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 made a series of purchased power arrangements to meet its needs, and it will continue this practice in the future when economical opportunities are available. The planned transmission has proven adequate to handle these purchased power transactions during the time of Gulf's needs. It has been and will continue to be Gulf's practice to perform a transmission analysis of all viable purchased power proposals to determine any transmission constraints. Gulf will formulate a plan, if needed, to most cost-effectively solve any problems prior to proceeding with negotiations for purchased power agreements.

#### **FUEL PRICE FORECAST PROCESS**

#### **FUEL PRICE FORECASTS**

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

The delivered price of any fuel consists of a variety of components. The main components are commodity price and transportation cost. Coal commodity domestic prices are forecast on either a mine-mouth basis or FOB barge basis, while import coals are forecast on a 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 seventeen different coal classifications used on the SES. Because natural gas does not experience 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 the SES's 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 territory, 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.

Given the proposed resource additions in this site plan, the following discussion will focus on the commodity price forecasts for coal and natural gas.

#### SES GENERIC FUEL FORECAST

Each year, the 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 responsible for the fuel programs of each of the SES operating companies.

The fuel price forecasting 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 2004 Fuel Price Workshop included representatives from Energy Ventures Analysis, McClosky Coal, PA Consulting, Cambridge Energy Research Associates, Wood Mackenzie, Morgan Stanley, and Criton Company.

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

After the workshop, the SCS Fuel Services Procurement staff references the outside consultant forecasts and identifies any major assumption differences. The Fuel Procurement staff then consolidates both internal and external forecasts and assumptions to develop a commodity forecast for each type of fuel. Fuel Procurement's 2004 commodity price forecasts for 1.0% sulfur coal, low sulfur #2 oil, and natural gas are included in the table below.

SES	<b>GENERIC</b>	<b>FUEL</b>	<b>PRICE</b>	<b>FORECAST</b>
		(\$/MM	Btu)	

	COAL*	NAT. GAS**	<u>OIL***</u>
2005	2.0208	6.400	7.609
2006	1.8125	5.900	7.011
2007	1.6667	5.350	6.416
2008	1.5833	5.000	6.447
2009	1.5417	4.900	6.479
2010	1.5197	4.800	6.400
2011	1.5584	4.750	6.346
2012	1.5971	4.810	6.297
2013	1.6042	4.877	6.298
2014	1.6424	4.974	6.297

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

#### **COAL PRICE FORECAST**

The information provided during the Fuel Price Workshop is used to develop the SES forecast of generic coal prices. In general, coal experienced

<sup>\*\*</sup>Henry Hub

<sup>\*\*\*</sup>US Gulf Coast LS No.2 Oil, 0.05% Sulfur

real price declines over the last several decades; though this pricing decline on a real basis diminished as lower production cost reserves were depleted. In most regions, there are ample reserves of coal; though all are not economical reserves. The domestic U.S. industry in the past has experienced price pressures from environmental regulations, competition from import coals, and efficient gas turbine technology. In 2004, real price increases were experienced in the Central Appalachia market due to supply/demand imbalances, transportation demand issues, a strong export market due to increased world demand, and high natural gas prices. Many producers in this region are in poor financial condition and continue to shut down high cost mining operations. Thus, these factors are shrinking Central Appalachia coal supply and increasing market prices.

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's annual budget process.

### NATURAL GAS PRICE FORECAST

Gas markets remained tight during the 2004 budget preparation. United States production and Canadian imports were flat or lower as compared to the prior year, offset slightly by higher LNG imports. Gas prices remained firm,

driven in part by alternative fuel prices. Crude oil prices, for example, increased from \$30 per barrel in October 2003 to \$45 per barrel in August 2004.

Prices remained high during the 2004-05 winter months despite relatively mild weather due to continuing high oil prices. The absence of severely cold weather prevented gas price spikes that have occurred in recent winters.

Analysts' forecasts and forward gas prices during the budget process projected a downward-sloping trend in long-term gas prices. Forecasts anticipated that current high prices would abate gradually in response to increased LNG imports and a retreat in world oil prices toward \$30 per barrel. The SES budget forecast adopted the high end of the forecast range over the future ten-year period.

## NATURAL GAS AVAILABILITY

The SES expects that gas production for southeastern U.S. markets will be flat-to-declining over the next few years. Consequently, Liquified Natural Gas (LNG) imports will be critical to balance supply and demand. Total U.S. LNG imports are estimated to have increased from 0.6 Bcfd in 2002 to approximately 1.8 Bcfd in 2004. In the short run, LNG will continue to grow, though slowly, as new liquefaction projects in Trinidad, Qatar, Nigeria and elsewhere provide more supply availability for US markets. Substantial LNG growth, however, will not occur until the construction of additional worldwide liquefaction capacity in the 2008-2010 time frame.

Despite the lack of growth in near-term gas supply, sufficient supply remains available to meet operating needs; though pricing will remain volatile as a result of the tight balance between demand and supply availability and the higher cost of oil as an alternative fuel.

### STRATEGIC ISSUES

Prior to Gulf's last generating unit addition, Plant Smith Unit 3 in April 2002, Gulf executed purchased power agreements that provided flexibility and allowed the Gulf to react quickly to changing market conditions without negative financial impacts. Although Gulf will have to build or contract for new internal generating capacity in the future to maintain reliability, Gulf will continue to supplement its development of long-term capacity resources with shorter term power purchases 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 SCS to perform coordinated planning and having the capacity resources of the SES available to Gulf through the Intercompany Interchange Contract's reserve sharing mechanism in times when it is temporarily short of reserves are some of the 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.

### **ENVIRONMENTAL CONCERNS**

In 2004, Gulf completed renewal of Title V air permits for Plants Crist, Lansing Smith and Scholz with only minor changes regarding the implementation of new Compliance Assurance Monitoring (CAM) plans required by the Clean Air Act Amendments (CAAA) of 1990. Gulf is on schedule to renew of the remaining Title V permit for the Pea Ridge co-generation facility located at Air Products and Chemicals, Inc. near Pensacola in March, 2005.

The Company's next potential generating unit addition is 314 MWs of CT peaking capacity in 2012. It has been and will continue to be Gulf's intent to fully comply with all environmental laws and regulations as they apply to the installation and operation of Gulf's generation facilities.

Gulf's clean air compliance strategy serves as a road map for a 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 environment with the variety of available compliance options.

Gulf completed its initial CAAA strategy in December 1990 and has produced updates or reviews in subsequent years following this initial strategy. Due to the relatively minor changes in assumptions since the last review and the lack of new information or developments on the regulatory front, this status review serves as a confirmation of the general direction of Gulf's compliance strategy.

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 of the CAAA. There is an increasing uncertainty associated with future regulatory requirements that could significantly impact both the scope and cost of compliance over the next decade. For example, in December 2003 the U. S. Environmental Protection Agency (EPA) proposed new rules that would lead to reductions in mercury and further reductions in nitrogen oxides (NOx) and sulfur dioxide (SO<sub>2</sub>). The EPA plans to finalize the rules in 2005, and the SES should have a clearer picture of the actions required to address the rule requirements. However, there is insufficient information at this time to warrant incorporating these scenarios into a revised strategy. Gulf will continue its involvement in future clean air requirements. These requirements will be incorporated into future strategy updates as appropriate.

Phase I of Title IV of the CAAA became effective for SO<sub>2</sub> on January 1, 1995. Fuel procurement and equipment installation efforts to support Gulf's Phase I fuel switching strategy are complete. Gulf has also completed installation of low-NOx burners on two large coal-fired units to support compliance with Title IV NOx requirements. In addition, Gulf brought four Phase II units into Phase I as 1995 substitution units. All of these units were affected for SO<sub>2</sub> and NOx starting in 1995 and are grandfathered at the Phase I NOx limits during Phase II.

With respect to Phase II sulfur dioxide compliance, Gulf is using additional fuel switching coupled with the use of emission allowances banked during Phase I and the acquisition of additional allowances to meet future compliance. Only minor differences in the fuel selection at several plants are needed during Phase II. The updated strategy recommends that Plant Lansing Smith and Plant Scholz switch to less than 1.5% sulfur coal during Phase II. The previous strategy showed a Phase II switch to a 1.2% or higher sulfur coals.

In 2002, Gulf entered into an agreement with the Florida Department of Environmental Protection (FDEP) to ensure that its electrical generating facility located within the Pensacola, Florida Metropolitan Planning Area supports the Area's compliance with the eight hour ozone ambient air quality standard. The agreement authorized related cost recovery pursuant to Section 366.8255 (1) (d) of the Florida Statutes as amended by the Florida Legislature in its 2002 session and signed into law by the Governor of the State of Florida. This agreement requires Gulf to install pollution control equipment (selective catalytic reduction system & electrostatic precipitator) on Plant Crist Unit 7 to reduce nitrogen oxides and particulates before May, 2005. A strategy study in 2004 revealed additional controls utilizing a Selection Non-catalytic Reduction (SNCR) System to reduce nitrogen oxides on Crist Unit 6 were needed by May 2006 to meet the overall facility wide NOx average outlined in the agreement. The agreement also requires the retirement of Crist Units 1-3 before May, 2006. Crist 1 was retired in 2003, and Units 2 and 3 will be retired in 2006.

As previously mentioned, the EPA has unveiled two new initiatives; the Interstate Air Quality Rule and the Mercury Rule, to reduce emissions of sulfur dioxide, nitrogen oxides and mercury in a manner similar to President Bush's 2003 Clear Skies Initiative. The uncertainty as to the final outcome of these initiatives reinforces the need for a flexible, robust compliance plan. Accordingly, as decision dates for fuel and equipment purchases approach, or as better information becomes available relative to regulatory and economic drivers, the analysis will be updated to determine the most cost-effective decisions while maintaining future flexibility.

Gulf would support any proposal that would help it meet environmental goals and objectives in a logical and cost effective way. This would include having standards that are based on sound science and economics which allow for adequate time to comply without threatening the safe, reliable and affordable supply of energy.

### **AVAILABILITY OF SYSTEM INTERCHANGE**

Gulf coordinates its planning and operations with the other operating companies of the SES: Alabama Power Company, Georgia Power Company, Mississippi Power Company, Savannah Electric and 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 planned generating capacity to its load and reserve responsibility. Each company buys or sells its temporary deficit or surplus capacity from or to the pool. This is accomplished through the reserve sharing provisions of the SES IIC that is reviewed and updated annually.

### **OFF-SYSTEM SALES**

Gulf and the 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, new contracts have been finalized, and are scheduled to be in affect from the summer of 2010 until the summer of 2014. 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.

## **CHAPTER IV**

FORECAST OF FACILITIES REQUIREMENTS

### CAPACITY RESOURCE ALTERNATIVES

### **POWER PURCHASES**

Gulf has entered into short-term purchased power arrangements with non-affiliates in previous years in order meet its reliability needs. As its capacity needs increase prior to the summer of 2009 and beyond, both short-term and longer-term purchased power will be utilized in order to provide supply flexibility and reduced commitment risk during this time period in which proposed environmental regulations (with considerable economic impacts) are pending final resolution.

### **CAPACITY ADDITIONS**

Gulf plans to perform a number of economic evaluations of various potential supply options in order to determine the most cost-effective means of meeting its future capacity obligations. Gulf will continue to evaluate its internal construction and other capacity resource options in order to determine how to best meet its capacity obligations beyond 2009.

As previously mentioned, Gulf's current capacity resource expansion plan reflects the possible installation of two 157 MW combustion turbines (CT) in 2012 at an undetermined site. This possible addition is currently planned as outlined in Schedules 8 and 9 of this document. If more economical purchased power options are subsequently identified, Gulf will modify its plan to reflect proposed procurement of these resources. Gulf will continue to review all

available capacity resources in order to ensure that its customer's electricity needs are met in the most economical manner as possible.

## PREFERRED AND POTENTIAL SITES FOR CAPACITY ADDITIONS

At this stage in Gulf's planning process, a commitment to construct the future combustion turbine (CT) capacity addition identified on Schedules 8 and 9 of this Ten Year Site Plan has not been made. Therefore, no preferred sites have been identified at this time. However, Gulf has identified four potential sites within Gulf's service area that could be used to locate the future CT capacity addition identified in this Ten Year Site Plan. These sites have been identified as potential sites for CT construction due to the existence of infrastructure, acreage, and/or transmission and fuel facilities. Future studies will determine which of these potential sites are more preferable. Other sites not yet identified, both inside and outside of Gulf's service area, could be considered for possible location of the project as part of Gulf's ongoing planning process.

Three of the potential sites are contained within each of Gulf's existing generation sites in Northwest Florida. These existing generation sites include Plant Crist in Escambia County, Florida, Plant Smith in Bay County, Florida, and Plant Scholz in Jackson, County, Florida. The fourth potential site, Gulf's Shoal River property located in Walton County, Florida, is an undeveloped greenfield site.

Each of these potential sites have differing characteristics that could offer construction and/or operational advantages related to the potential installation of natural gas-fired CTs, but detailed studies will be required to further define and evaluate those characteristics. All necessary permits needed for CT construction

at each of the above mentioned sites should be obtainable, assuming no major changes in environmental requirements.

The required environmental and land use information for each potential site is set forth below. Please note that the estimated peak water usage for the proposed CTs should be identical for each site mentioned below. Gulf projects that up to 400 gallons per minute (gpm) would be required for industrial processing water used to control NOx emissions during oil-fired operation. It is expected that 80 gpm would be required for industrial cooling water needs, while 1 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 will first be required 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, is located on the Escambia River and can be accessed via county roads from nearby U. S. Highway 29. As shown on Schedule 1, the existing Plant Crist facility consists of 996 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 78 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 would substantially affect project development.

### Water Supply Sources

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

### 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 will first be required 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 351 MW of steam generation, 566 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 79 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 groundwater from on-site wells.

### Potential Site #3: Plant Scholz, Jackson County

The project site would be located on Gulf's existing Plant Scholz property in Jackson County, Florida. If a future project is ultimately located on this property, detailed studies will first be required 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 3 miles southeast of Sneeds, Florida, is located on the Apalachicola River and can be accessed via a private

road from nearby U. S. Highway 90. As shown on Schedule 1, the existing Plant Scholz facility consists of 92 MW of steam generation.

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

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

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

The Plant Scholz property is dedicated to industrial use. The land adjacent to the property is primarily rural and in a natural state, but some agricultural development exists. General environmental features of the property include a mixture of hardwood and pine forest areas. This property is located on the Apalachicola River and 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 groundwater from on-site wells.

## Potential Site #4: Shoal River Property, Walton County

The project site would be located on undeveloped Gulf property in Walton County, Florida. If the project is ultimately located on this property, detailed studies will first be required to determine the exact size and location of the project site within the property's boundaries in order to meet Gulf's needs while insuring full compliance with local, state, and federal requirements. This property, approximately 3 miles northwest of Mossy Head, Florida, is located on

the Shoal River and can be accessed via a county road from nearby U. S. Highway 90.

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

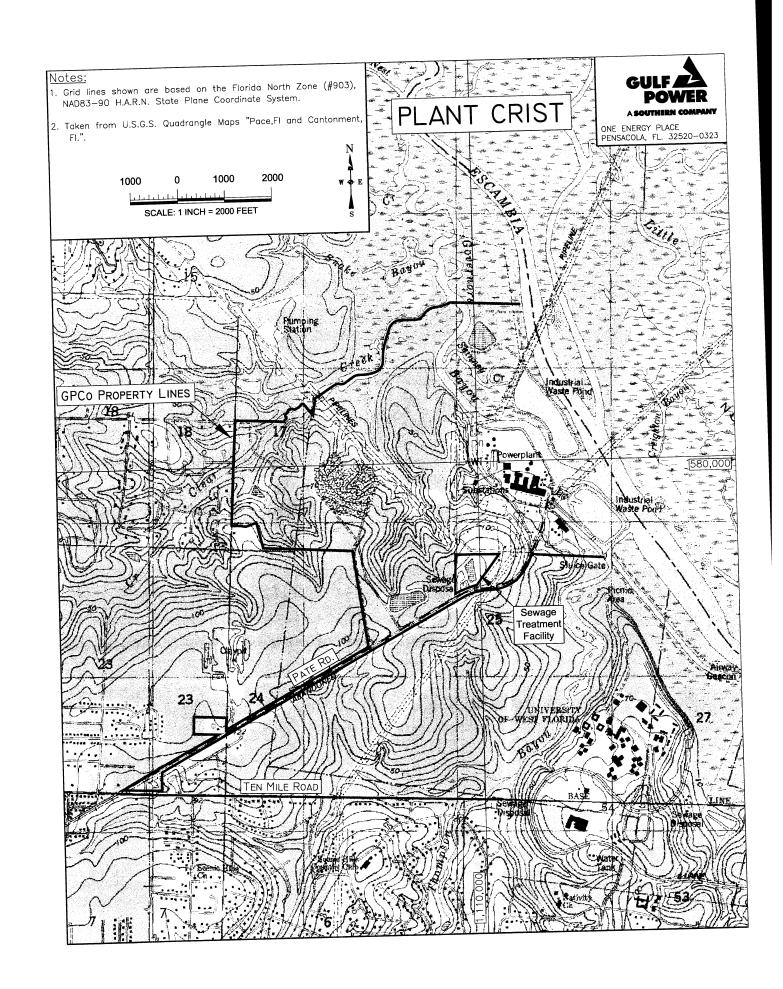
A USGS map showing the general location of the Shoal River property is found on page 81 of this chapter.

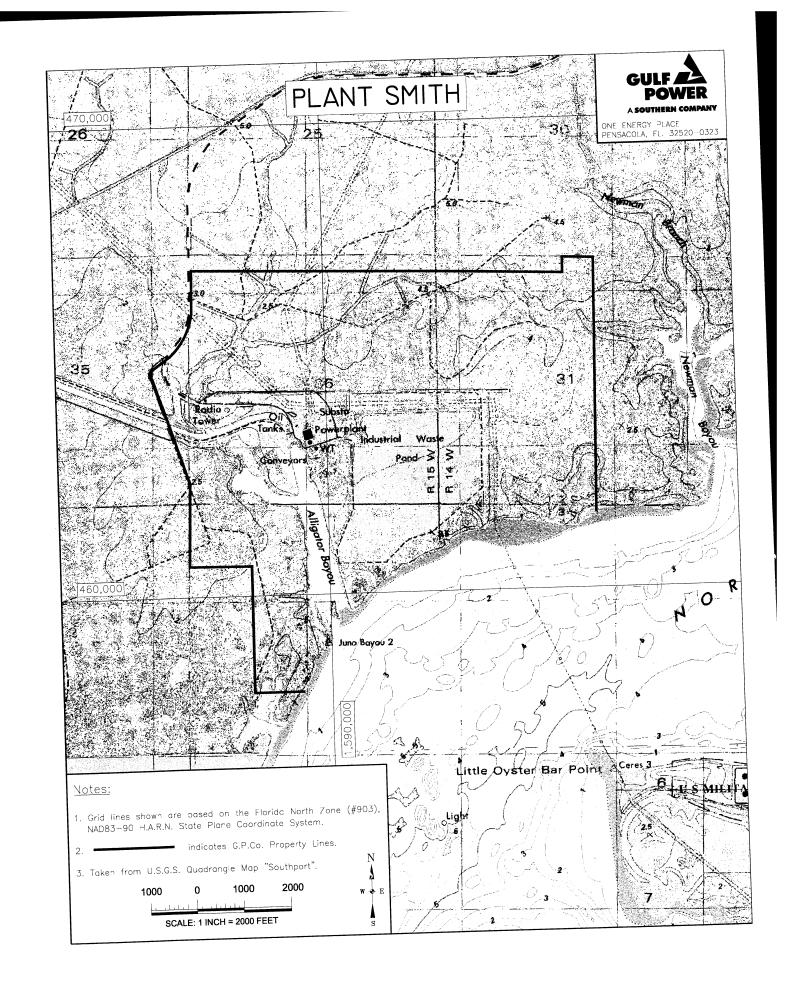
### **Land Uses and Environmental Features**

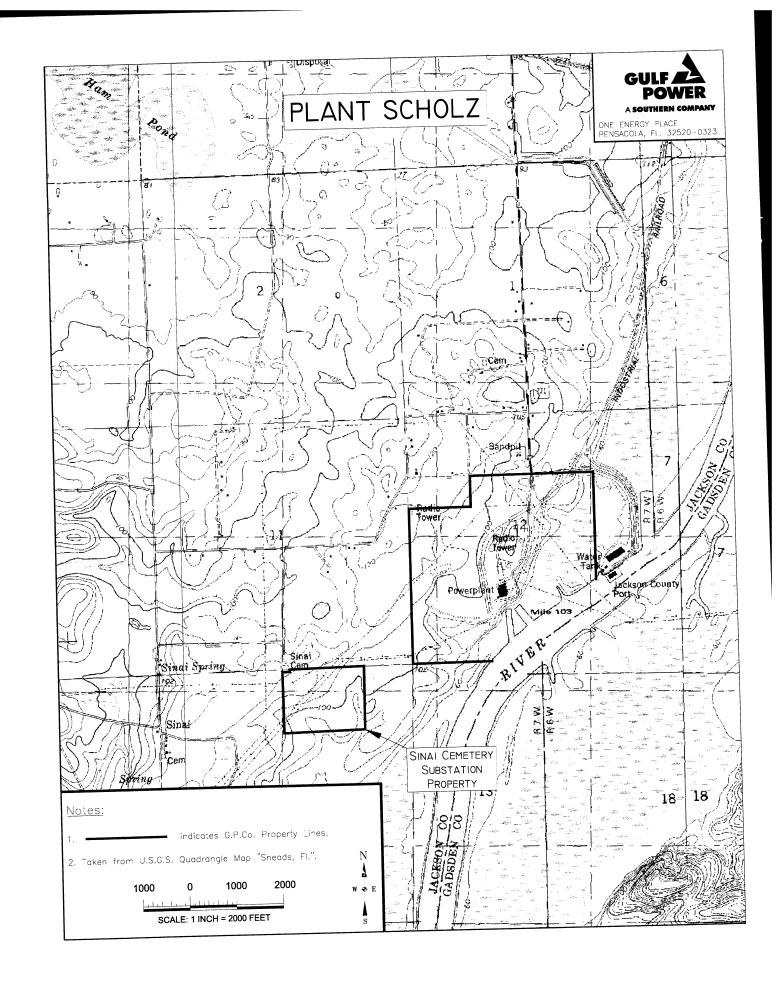
The Shoal River property is currently dedicated to agricultural and rural residential use. The northern part of the site, some 150 acres, is designated General Agricultural in Walton County's Comprehensive Future Land Use Plan. The land adjacent to the property is rural and in a natural state. General environmental features of the property mainly include wooded upland areas. This property is located on the Shoal River. Because the river is designated as Outstanding Florida Waters, certain criteria must be satisfied to ensure that the river is not significantly degraded. There are no other unique or significant environmental features on the property that would substantially affect project development.

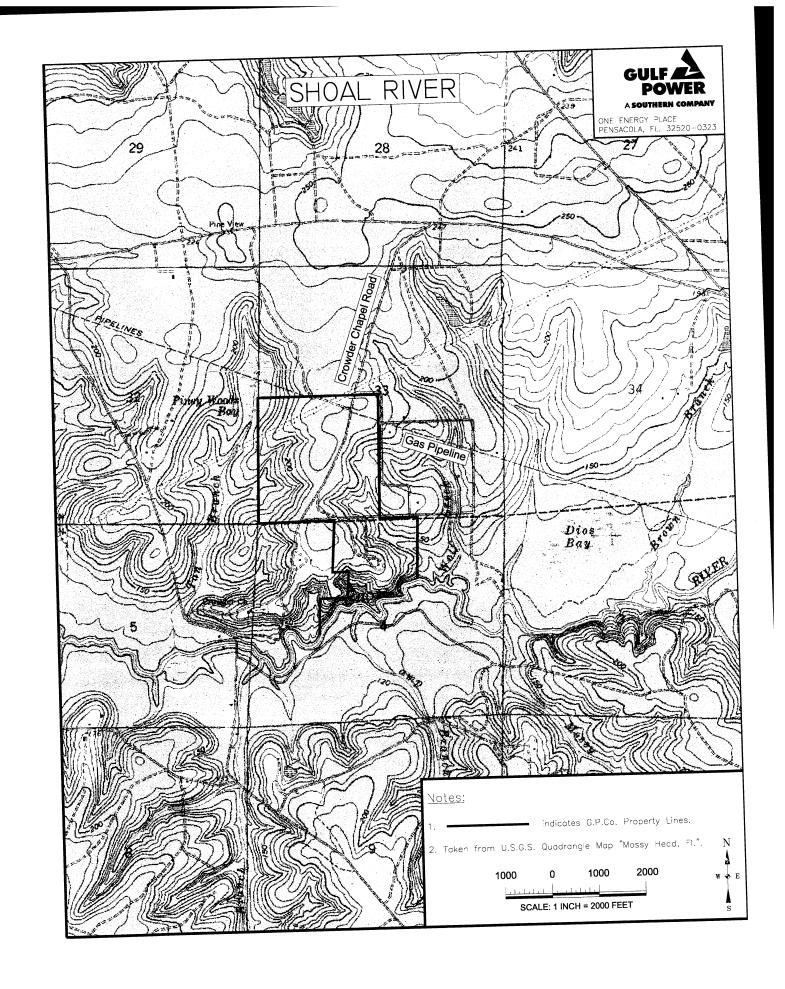
### Water Supply Sources

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









GULF POWER COMPANY

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

(12)	RESERVE MARGIN AFTER MAINTENANCE	% OF PEAK	6.9%	-0.5%	12.1%	13.0%	13.0%	13.2%	13.4%	13.8%	13.9%	
(11)	RESE MARGIN MAINTE	MW	166	(12)	311	340	348	360	369	386	398	
(10)		SCHEDULED MAINTENANCE MW	NONE									
(6)	RESERVE AARGIN BEFORE MAINTENANCE	% OF PEAK	%6·9	%1.7. %1.7.	12.1%	13.0%	13.0%	13.2%	13.4%	13.8%	13.9%	
(8)	RE! MARGII MAINT	MW	166	51	311	340	348	360	90	900	8 8	9
(2)	FIRM	PEAK DEMAND MW	2,417	2,473	2,551	2,57.0	2,053	2,017	27,72	2,730	2,903	2,000
(9)	TOTAL	CAPACITY AVAILABLE MW	2,583	2,524	2,519 799.0	7,007	2,903	3,023	3,083	3,127	3,189	3,258
(5)		NUG	0	0	0 (	<b>&gt;</b> (	<b>o</b> 0	<b>&gt;</b> (	o (	0	0 (	0
(4)	Wal	CAPACITY EXPORT MW	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
(3)		CAPACITY IMPORT MW	0	0	0	370	450	510	220	400	470	540
(2)		IOTAL INSTALLED CAPACITY MW	2 794	2,735	2,730	2,728	2,726	2,726	2,726	2,938	2,930	2,929
£	E	YEAR	9000	2006	2007	2008	2009	2010	2011	2012	2013	2014

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.

**GULF POWER COMPANY** 

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

(12)	RESERVE MARGIN AFTER MAINTENANCE	% OF PEAK		23.8%	18.5%	14.2%	11.3%	9.4%	27.5%	28.5%	24.9%	29.8%	31.1%
(11)	RES MARG MAINT	WW		206	407	317	258	218	646	229	603	728	768
(10)	SCHEDULED	MAINTENANCE	L	NON									
(6)	RESERVE MARGIN BEFORE MAINTENANCE	% OF PEAK	%0 CC	63.0%	18.5%	14.2%	11.3%	9.4%	27.5%	28.5%	24.9%	29.8%	31.1%
(8)	MARGI MAIN	ΜW	אַ	9 9	407	317	258	218	949	229	603	728	292
(2)	FIRM	MW	2 130	1, 0	2,204	2,235	2,289	2,327	2,347	2,376	2,418	2,445	2,467
(9)	TOTAL CAPACITY	MW	2.636	0 614	2,011	2,552	2,547	2,545	2,993	3,053	3,021	3,173	3,235
(5)	<u>g</u>	MW	19	· c	0 0	<b>O</b> (	<b>)</b>	o (	0	0 (	0	0	0
(4)	FIRM CAPACITY FXPORT	MW	(211)	(211)	(111)	(211)	(ZII)	(217)	(211)	(211)	(112)	(112)	(211)
(3)	FIRM CAPACITY IMPORT	MW	0	0	· c	o c	<b>o</b> c	750	450	310	0/6	904 0 i	470
(2)	TOTAL INSTALLED CAPACITY	MM	2,828	2,822	2.763	2 758	2,756	2 754	2,754	2,73	2,002	4,904	2,976
(1)		YEAR	2004-05	2002-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2012 10	41-0103

# **GULF POWER COMPANY**

	(12) (13) (14) (15)	Gen Max Net Capability Nameplate Summer Winter KW MW MW Status	619,650 (4.0) (4.0) D	578,000 (2.0) (2.0) D	28,125 (24.0) (24.0) R	37,500 (35.0) (35.0) R	619,650 (5.0) D	190,400 (1.0) (1.0) D	619,650 (1.0) (1.0) D	274,125 (2.0) (2.0) D	49,000 (46.0) R	49,000 (46.0) (46.0) R	578,000 (10.0) (10.0) D
	(11)	Expected G Retirement Na Mo/Yr	90/90	50/90	90/50	90/20	20/90	80/90	80/90	60/90	12/11	12/11	06/12
CHANGES	(10)	Com'l In- Service Mo/Yr	04/02	08/73	06/49	09/52	04/02	29/90	04/02	06/81	03/53	10/53	08/73
TIONS AND	(6)	Const Start Mo/Yr	ŀ	ı	ı	ŀ	1	1	1 -	:	1	•	i
SCHEDULE 8 PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES	(8)	Fuel ansport	1	J.	¥	¥	:	:	:	¥	W W	WA	김
	(2)	Fuel Transport Pri Alt	占	W	곱 .	귐	Ч	W	ፈ	æ	Æ	Æ	W
	(9)	Alt	i	9 N	오	오	ŀ	ı	1	오	1	:	NG
	(2)	Fuel	NG	O	NG	NG	NG	ပ	NG	ပ	O	O	ပ
OSPECTIV	(4)	Unit	8	S	S	FS	8	FS	8	£	£	S.	FS
PLANNED AND PH	(3)	Location	Bay County 36/2S/15W	Escambia County 25/1N/30W	Escambia County 25/1N/30W	Escambia County 25/1N/30W	Bay County 36/2S/15W	Bay County 36/2S/15W	Bay County 36/2S/15W	Jackson Cnty, MS 42/5S/6W	Jackson County 12/3N/7W	Jackson County 12/3N/7W	Escambia County 25/1N/30W
	(2)	No.	ო	7	7	က	က	α	က	8	-	N	7
	(1)	Plant Name	Lansing Smith	Crist	Crist	Crist	Lansing Smith	Lansing Smith	Lansing Smith	Daniel	Scholz	Scholz	Crist

**GULF POWER COMPANY** 

SCHEDULE 8
PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

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(1)	(2)	(3)	<b>4</b>	(2) (6)	(9)	(7) (8)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)
Plant Name	No.	Location	Unit Type	Fuel	el Ait	Fuel Transport Pri Alt	_ bl bl	Const Start Mo/Yr	Com'l In- Service Mo/Yr	Expected Retirement Mo/Yr	Gen Max Nameplate KW	Net Capability Summer Winte MW MW	Sability Winter MW	Status
Lansing Smith	-	Bay County 36/2S/15W	FS	O	1	W	:	ı	29/90	06/13	149,600	(1.0)		۵
Daniel	-	Jackson Cnty, MS 42/5S/6W	FS	ပ	오	HH.	¥	ı	22/60	06/13	274,125	(7.0)	(7.0)	۵
Daniel	8	Jackson Cnty, MS 42/5S/6W	FS	ပ	오	e E	¥	ı	06/81	06/14	274,125	(1.0)	(1.0)	۵
Unlocated	∢	Unknown	CT	Ő	9	٦	¥	60/20	06/12	12/29	170,000	157.0	166.0	۵
Unlocated	В	Unknown	ರ	Ő	2	곱	¥	60/20	06/12	12/29	170,000	157.0	166.0	۵

D - CC Unit degradation or environmental derate, not retirement P - Planned, but not authorized by utility
R - To be retired
V - Under construction, more than 50% complete C - Coal CT - Combustion Turbine CC - Combined Cycle NG - Natural Gas LO - Light Oil HO - Heavy Oil Abbreviations:

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

# **Gulf Power Company**

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enerating Facilities	Unlocated Units A and B	314 MW 332 MW	Combustion Turbine	07/11 06/12	Natural Gas Distillate	Dry Iow NOx combustor for natural gas Water injection for NOx control for distillate	Evaporative cooling	Unknown	This facility is planned but not authorized by Utility	Not applied	Not applied	3.8% 2.0% 96.0% 10.0%	20 467 380 57 30 8.23 18.24 1.4006
Schedule 9 Status Report and Specifications of Proposed Generating Facilities	(1) Plant Name and Unit Number:	(2) Capacity a. Summer: b. Winter:	(3) Technology Type:	<ul><li>(4) Anticipated Construction Timing</li><li>a. Field construction start - date:</li><li>b. Commercial in-service date:</li></ul>	(5) Fuel a. Primary fuel: b. Alternate fuel:	(6) Air Pollution Control Strategy:	(7) Cooling Method:	(8) Total Site Area:	(9) Construction Status:	(10) Certification Status:	(11) Status with Federal Agencies:	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	(13) Projected Unit Financial Data Book Life (Years): Total Installed Cost (In-Service Year \$/kW): Direct Construction Cost ('05 \$/kW): AFUDC Amount (\$/kW): Escalation (\$/kW): Fixed O&M (\$/kW - Yr): Variable O&M (\$/MWH): K Factor:

## **Gulf Power Company**

Schedule 10
Status Report and Specifications of Proposed Directly Associated Transmission Lines

Unknown Unknown Unknown Unknown Unknown Unknown Unknown Unknown (1) Point of Origin and Termination: (6) Anticipated Construction Timing: (7) Anticipated Capital Investment: (2) Number of Lines: (3) Right-of-Way: (4) Line Length: (8) Substations: (5) Voltage:

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(9) Participation with Other Utilities: