Gulf Power

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April 2, 2018

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

Re: 2018 Ten Year Site Plan

Dear Ms. Stauffer:

Attached for electronic filing is Gulf Power Company's 2018 Ten Year Site Plan filed pursuant to FPSC Rule No. 25-22.071.

Sincerely,

Rhonda J Alexander

Rhonda J. Alexander
Regulatory, Forecasting and Pricing Manager

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Attachments

cc: Florida Public Service Commission
Carlotta Stauffer, Office of the Commission Clerk (5 copies)
Gulf Power Company
Jeffrey A. Stone, Esq., General Counsel
Beggs & Lane
Russell Badders, Esq.

TEN YEAR SITE PLAN
2018-2027

FOR ELECTRIC GENERATING FACILITIES
AND
ASSOCIATED TRANSMISSION LINES

APRIL 2018

Gulf Power

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 2, 2018

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GULF POWER COMPANY

TEN YEAR SITE PLAN

Executive Summary

The Gulf Power Company (Gulf or Company) 2018 Ten Year Site Plan is filed with the Florida Public Service Commission (FPSC) in accordance with the requirements of Chapter 186.801, Florida Statutes, as revised by the Legislature in 1995. The revision designated the FPSC as the state agency responsible for the oversight of the Ten Year Site Plan (TYSP). This TYSP is being filed in compliance with FPSC Rule No. 25-22.071, F.A.C.

Gulf's 2018 TYSP provides documentation of assumptions used for Gulf's load forecast, fuel forecasts, planning processes, existing resources, and future capacity needs and resources. The resource planning process utilized by Gulf to determine its future capacity needs is coordinated within the Southern electric system Integrated Resource Planning (SES IRP) process. Gulf participates in the SES IRP process along with other Southern electric system retail operating companies, Alabama Power Company, Georgia Power Company, and Mississippi Power Company (collectively, the "Southern electric system" or SES), and it shares in a number of benefits gained from planning in conjunction with a large system such as the SES. These benefits include the economic sharing of SES generating reserves, the ability to install large, efficient generating units, and reduced requirements for operating reserves. Another key benefit realized from Gulf's association with the SES is its ability to draw on the planning resources of Southern Company Services to perform coordinated planning studies.

The resource needs set forth in the SES IRP are driven by the demand forecast that includes the load reduction effects of projected demand-side measures that are embedded into the forecast prior to entering the generation mix process. The generation mix process involves screening the available technologies in order to produce a listing of preferred resources from which to select the most cost-effective plan for the system. The resulting SES resource needs are then allocated among the operating companies based on reserve requirements, and each company then determines the resource(s) that will best meet its customers' load and reliability needs.

Gulf indicated in its 2017 TYSP that generating capacity would be needed following the expiration of Gulf's 885 megawatt (MW) Power Purchase Agreement (PPA) with Shell Energy North America (Shell PPA), which provides firm capacity and energy from a gas-fired combined cycle generating unit located in Alabama. Although Gulf's peak demand and energy loads for the 2018-2027 planning cycle are forecasted to be slightly lower than the loads discussed in Gulf's 2017 TYSP, Gulf's reserve margin target deficit will be approximately 400 MWs in 2023. This deficit could increase to approximately 600 MWs by 2027 if future Gulf unit retirements were to occur. With the expiration of the Shell PPA, a future capacity resource addition, combined with capacity and energy supplied from Gulf's existing fleet of coal, natural gas, and renewable resources will be required to reliably serve Gulf's retail customers through the planning cycle.

Gulf's generation planning efforts throughout 2017 have focused on evaluating generation options that can provide long-term system reliability while providing cost-effective energy to serve its customers for years to come. Site selection for Gulf's next generating unit addition is based on existing infrastructure, available acreage and land use, water availability, transmission, fuel facilities, environmental standards, and overall project economics. Given the potential for future closures of coal units in Gulf's service area as a result of compliance with new and existing environmental regulations, locating clean, efficient, reliable generation close to Gulf's load centers is also an important consideration for this generation resource. Gulf's latest screening studies indicate that the leading combined cycle (CC) option would be to locate this facility at Gulf's North Escambia site. The screening studies indicate that the leading combustion turbine (CT) option would be locating two CTs at Gulf's Plant Smith site. However, making a significant new investment in generation at the Plant Smith site would result in approximately 70 percent of Gulf's generation being located in the immediate coastal areas of Gulf's geographic service area. Therefore, for system resiliency and reliability reasons, it is important for Gulf to consider geographical diversity in its decision to site new generation. Gulf's North Escambia site enhances geographic diversity since it is located some 35 to 40 miles north of the coast. In addition, CTs are not expected to provide the same long-term value to its customers when compared to a CC, given that a CC can deliver longer economical energy run times than CTs. The future trend that shows low natural gas prices continuing further emphasizes this value. The North Escambia site has the added benefit of supporting utility-scale solar PV of significant size depending on the technology type. The opportunity to co-locate solar is a valuable consideration as Gulf looks at additional cost-effective utility-scale solar in both this planning period and beyond. As a result of these factors, Gulf has determined that a CC addition at Gulf’s North Escambia site would be the best self-build alternative to meet its obligation to serve its customers. This CC addition would be a dual-fuel 1-on-1 CC unit with a summer rating of 595 MWs at its North Escambia site with an in-service date of June 2024. Because the Shell PPA will expire in May 2023, and the current anticipated in-service date of its proposed CC is June 2024, Gulf expects to manage its reserve margin requirements in the interim with short-term arrangements. Details associated with this proposed CC unit are shown on Schedule 9 of this TYSP. This 1-on-1 CC addition at the North Escambia site, combined with Gulf’s diverse fleet of coal, natural gas, oil, and renewable resources will enable Gulf to provide an adequate level of capacity reserves on its system during the 2018-2027 TYSP cycle.

The installation of Gulf’s proposed 1-on-1 CC will require certification under Florida’s Power Plant Siting Act (PPSA). Prior to submitting this proposed unit for site certification and FPSC determination of need, Gulf will issue a Request for Proposals (RFP) in order to solicit potential cost-effective alternatives to the construction of Gulf’s proposed CC, including a replacement Purchase Power Agreement. After performing the economic evaluations of all proposals submitted and comparing those to its self-build alternative, Gulf will select the most cost-effective resource option that provides long-term value, resiliency, and reliability for its customers for meeting its next need.

Gulf continues to receive renewable energy generated by municipal solid waste (MSW), solar, and wind facilities. Gulf successfully negotiated a contract extension with the Bay County MSW facility which was approved by the FPSC in January 2017. The new MSW agreement provides for the purchase of energy for a six-year period ending July 2023 from the existing waste-to-energy facility located in Bay County, Florida. Gulf's solar energy purchase agreements, each having terms of 25 years, provide energy produced by three solar facilities located in Northwest Florida that came on-line in 2017. The Company's two wind energy purchase agreements with Morgan Stanley Capital Group have terms extending through 2035 and began supplying energy to Gulf in 2016 and 2017, respectively. These renewable energy purchase agreements are discussed in more detail in the Renewable Resources section of this TYSP.

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CHAPTER I

DESCRIPTION OF EXISTING FACILITIES

DESCRIPTION OF EXISTING FACILITIES

Gulf owns and operates generating facilities at four sites in Northwest Florida (Plants Crist, Smith, Pea Ridge, and Perdido). Gulf also owns a 50 percent undivided ownership interest in Unit 1 and Unit 2 and a proportional undivided ownership interest in the associated common facilities at Mississippi Power Company's Daniel Electric Generating Facility. Gulf has a 25 percent undivided ownership share in Unit 3 and a proportional undivided ownership interest in the associated common facilities at the Scherer Electric Generating Facility located near Macon, Georgia, which is operated on Gulf's behalf by Georgia Power Company, the unit's other co-owner.

As of December 31, 2017, Gulf's fleet of generating units consists of seven coal-fired steam units, one natural gas-fired combined cycle unit, three small natural gas-fired combustion turbines, one oil-fired combustion turbine, and two internal combustion engine units fueled by landfill gas. Schedule 1 shows 924 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 577 MW (summer rating) of combined cycle and 32 MW (summer rating) of combustion turbine generating facilities. Gulf's Pea Ridge Facility, in Pace, Florida, consists of three combustion turbines associated with an existing customer's cogeneration facility, which adds 12 MW (summer rating) to Gulf's existing capacity. The Perdido Landfill Gas-to-Energy Facility in Escambia County, Florida, provides 3 MW from two internal combustion generating units.

Including Gulf's ownership interest in the Daniel fossil steam Units 1 and 2 and the Scherer fossil steam Unit 3, Schedule 1, as of December 31, 2017, shows Gulf's total net summer generating capability to be 2,272 MW and its total net winter generating capability to be 2,311 MW.

Gulf's existing system in Northwest Florida, including major generating plants, substations, and transmission lines, is shown on the system map on page 10 of this TYSP. Specific data related to Gulf's existing generating facilities is presented on Schedule 1 of this TYSP.

GULF POWER COMPANY

SCHEDULE 1
EXISTING GENERATING FACILITIES
AS OF DECEMBER 31, 2017

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Fuel		Fuel Transp		Alt. Fuel Days	Com'l In-Service	Exptd Retrmnt	Gen Max Nameplate	Net Capability	
Plant Name	Unit No.	Location	Unit Type	Pri	Alt	Pri	Alt	Use	Mo/Yr	Mo/Yr	KW	Summer MW	Winter MW
Crist		Escambia County 25/1N/30W									1,135,250	924.0	924.0
	4		FS	C	NG	WA	PL	1	07/59	12/24	93,750	75.0	75.0
	5		FS	C	NG	WA	PL	1	06/61	12/26	93,750	75.0	75.0
	6		FS	C	NG	WA	PL	1	05/70	12/35	369,750	299.0	299.0
	7		FS	C	--	WA	--	--	08/73	12/38	578,000	475.0	475.0
Lansing Smith		Bay County 36/2S/15W									661,500	609.0	645.0
	3		CC	NG	--	PL	--	--	04/02	12/42	619,650	577.0	605.0
	A		CT	LO	--	TK	--	--	05/71	12/27	41,850	32.0	40.0
Daniel (A)		Jackson County, MS 42/5S/6W									548,250	510.0	510.0
	1		FS	C	--	RR	--	--	09/77	12/42	274,125	255.0	255.0
	2		FS	C	--	RR	--	--	06/81	12/46	274,125	255.0	255.0
Scherer (A)	3	Monroe County, GA	FS	C	--	RR	--	--	01/87	12/52	222,750	214.0	214.0
Pea Ridge		Santa Rosa County 15/1N/29W									14,250	12.0	15.0
	1		CT	NG	--	PL	--	--	05/98	04/25	4,750	4.0	5.0
	2		CT	NG	--	PL	--	--	05/98	04/25	4,750	4.0	5.0
	3		CT	NG	--	PL	--	--	05/98	04/25	4,750	4.0	5.0

SCHEDULE 1
EXISTING GENERATING FACILITIES
AS OF DECEMBER 31, 2017

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Fuel		Fuel Transp		Alt. Fuel	Com'l In-	Exptd	Gen Max	Net Capability	
Plant Name	Unit No.	Location	Unit Type	Pri	Alt	Pri	Alt	Days Use	Service Mo/Yr	Retrmnt Mo/Yr	Nameplate KW	Summer MW	Winter MW
Perdido LFG		Escambia County									3,200.0	3.0	3.0
	1		IC	LFG	--	PL	--	--	10/10	12/29	1,600.0	1.5	1.5
	2		IC	LFG	--	PL	--	--	10/10	12/29	1,600.0	1.5	1.5
											Total System	2,272	2,311

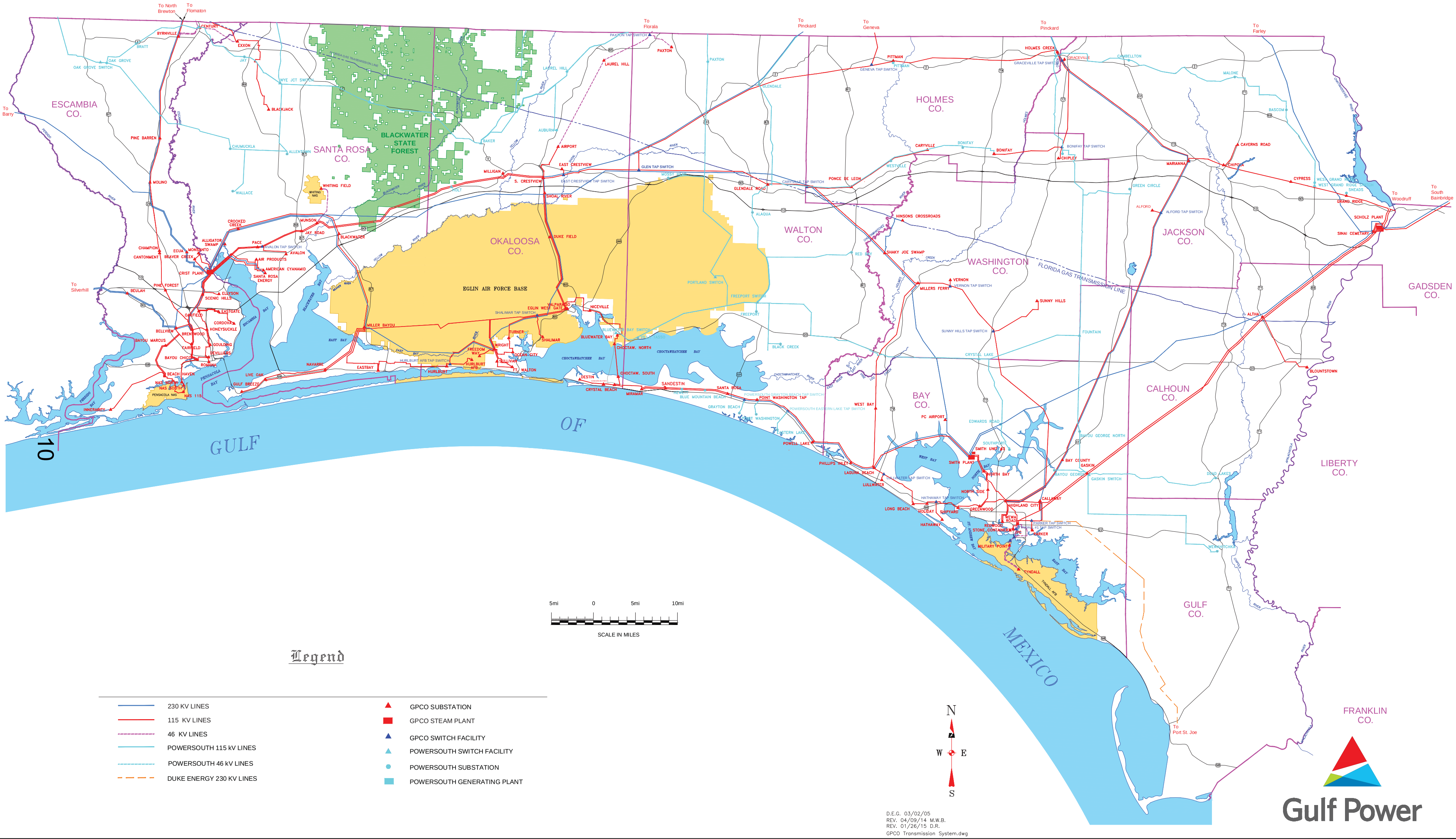
Abbreviations:

Type and Fuel		Fuel Transportation
FS - Fossil Steam	C - Coal	PL - Pipeline
CT - Combustion Turbine	LO - Light Oil	WA - Water
CC - Combined Cycle	IC - Internal Combustion	TK - Truck
NG - Natural Gas	LFG - Landfill Gas	RR - Railroad

NOTES:

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

GULF POWER COMPANY TRANSMISSION & SUBSTATION SYSTEM



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CHAPTER II

FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

GULF POWER COMPANY
FORECASTING METHODOLOGY
OVERVIEW

Gulf views the forecasting effort as a dynamic process requiring ongoing activities to yield results that allow informed planning and decision-making. The total forecast is an integration of different techniques and methodologies, each applied to the task for which it is best suited. Many of the techniques take advantage of the extensive data made available through the Company's customer service efforts. These efforts are predicated on the philosophy of striving to understand the needs, perceptions, and motivations of customers while actively promoting wise and efficient uses of energy to 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-70s. This program brought high levels of customer awareness, understanding, and expectations of energy efficient construction standards to Northwest Florida.

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

I. ASSUMPTIONS

A. ECONOMIC OUTLOOK

The economic assumptions used to develop Gulf's forecast of customers, energy sales, and peak demand for this Ten Year Site Plan were derived from the May 2017 economic projection provided by Moody's Analytics.

The May 2017 economic projection assumed the Federal Reserve would continue the gradual normalization of monetary policy. U.S. real gross domestic product (GDP) was expected to grow 2.2% in 2017 and 2.6% in 2018. The U.S. economy was projected to reach full employment by the end of 2017 with the potential for inflation to accelerate due to tightening in the labor markets.

B. NORTHWEST FLORIDA ECONOMIC OUTLOOK

Gulf's retail service area is generally represented by three Metropolitan Statistical Areas (MSAs): Pensacola-Ferry Pass-Brent, Crestview-Fort Walton Beach-Destin, and Panama City. Moody's projected that the economy in Northwest Florida would experience steady growth throughout the forecast period.

Northwest Florida's real disposable personal income increased 4.0% in 2016 and 1.9% in 2017. Real disposable personal income was projected to grow over the next five years at an average annual rate of 2.8%. Since 2013, the region's employment has shown steady year over year growth. Employment was projected to grow at an average annual rate of 1.2% over the next five years. Single family housing starts have shown modest improvements since 2009 and returned to near normal levels in 2016. Population growth in Northwest Florida was 1.5% in 2017 and was projected to maintain an average annual rate of 1.5% for the next five years. Over the long-run, Northwest Florida was projected to see steady growth throughout the forecast period.

Gulf's projections incorporate electric price assumptions derived from the 2017 Gulf Power Official Long-Range Forecast. Fuel price projections for gas and oil are developed by Southern Company Services (SCS) Fuel Procurement staff with input from outside consultants. The following tables provide a five-year summary of assumptions associated with Gulf's forecast:

TABLE 1

NATIONAL ECONOMIC SUMMARY
AVERAGE ANNUAL GROWTH RATES
(2017-2022)

GDP Growth	2.1 %
Interest Rate (30 Year AAA Bonds)	4.4 %
Inflation	2.5 %

TABLE 2

AREA DEMOGRAPHIC SUMMARY
(2017-2022)

Population Gain	75,000
Average Annual Net Migration	3,200
Average Annual Population Growth	1.5 %
Average Annual Labor Force Growth	1.5 %

II. CUSTOMER FORECAST

A. RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL CUSTOMER FORECAST

The short-term forecasts of residential, commercial, and industrial non-lighting customers were based primarily on projections prepared by Gulf's field marketing managers with the assistance of their field employees. These projections reflect recent historical trends in net customer gains and anticipated effects of changes in the local economy, the real estate market, planned construction projects, and factors affecting population such as military personnel movements and changes in local industrial production.

After collecting initial input from field managers, forecasters reviewed the one-year-out customer projections by rate schedule, checking for consistency with historical trends, consistency with economic outlooks, and consistency across the three MSAs in Gulf's service area. Forecasters then supplied field managers with draft second-year-out customer projections based on number of households from Moody's Analytics, which the field managers reviewed and modified as necessary.

Gulf utilized growth in the number of households to extend the short-term residential forecast of customers to the long-term horizon. Beyond the short-term period, commercial customers were forecast as a function of residential customers, reflecting the growth of commercial services to meet the needs of new residents. Long-term projections of industrial customers are based on input from Gulf's field marketing managers.

B. OUTDOOR LIGHTING CUSTOMER FORECAST

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

III. ENERGY SALES FORECAST

A. RESIDENTIAL SALES FORECAST

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

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

The residential sales forecast was adjusted to reflect the expected impacts of conservation programs approved in Gulf's 2015 DSM plan. Additional information on the residential conservation programs and program features are provided in the Conservation Programs section of this document. The residential sales forecast was also adjusted to reflect the anticipated impact of the continued introduction of electric vehicles to the market.

B. COMMERCIAL SALES FORECAST

The short-term non-lighting commercial energy sales forecast was also developed utilizing multiple linear regression analyses. The energy forecast for the commercial class was separated into two segments, small commercial (rate schedules GS and Flat-GS) and large commercial (all other commercial rate schedules). Separate models were developed for each segment to estimate monthly use per customer per billing day. The estimates were based upon historical data, normal weather, changes in average lighting efficiencies, and price of electricity. The outputs from each model were multiplied by the projected number of customers in each segment and the projected number of billing days by month. The forecast for the commercial class is the sum of the forecasted energy sales for each segment.

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

The commercial sales forecast was adjusted to reflect the expected impacts of conservation programs approved in Gulf's 2015 DSM plan. Additional information on the commercial conservation programs and program features are provided in the Conservation Programs section of this document.

C. INDUSTRIAL SALES FORECAST

The short-term non-lighting industrial energy sales forecast was developed using a combination of on-site surveys of major industrial customers and historical average consumption per customer. Gulf's largest industrial customers were interviewed by Gulf's industrial account representatives to identify expected load changes due to equipment additions, replacements, or changes in operating schedules and characteristics. The short-term forecast of monthly sales to these major industrial customers was a synthesis of the detailed survey information and historical monthly to annual energy ratios.

The forecast of sales to the remaining smaller industrial customers was developed by rate schedule and month, using historical averages. The resulting estimates of energy purchases per customer were multiplied by the expected number of smaller industrial customers by month to expand to the rate level totals. The sum of the energy sales forecast for the major industrial customers and the remaining smaller industrial customers resulted in the total industrial energy sales forecast. Long-term projections of industrial sales were developed using historical averages.

D. OUTDOOR LIGHTING SALES FORECAST

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

E. WHOLESALE ENERGY FORECAST

The forecast of territorial wholesale energy sales was developed utilizing a multiple linear regression analysis. Monthly wholesale energy purchases per day were estimated based on historical data, normal weather, national energy efficiency standards, and county-level population. The model output was then multiplied by the number of days in each month to expand to the total wholesale energy forecast.

F. COMPANY USE FORECAST

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

IV. PEAK DEMAND FORECAST

The annual system peak demand forecast was prepared using the Peak Demand Model (PDM). PDM inputs include historical load shapes and projections of net energy for load, which were based on the forecasted energy sales described previously. PDM spreads the energy projections using the historical load shapes to develop hourly system load shapes. The monthly forecasted system peak demands are the single highest hour of demand for each month. Gulf's projected annual system peak demand occurs in the month of July.

The resulting monthly system peak demand projections were adjusted to reflect the anticipated impacts of conservation programs approved in Gulf's 2015 DSM plan. Additional information on the peak demand impacts of Gulf's conservation programs are provided in the Conservation Programs section of this document.

V. DATA SOURCES

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

Gulf's models also utilized economic projections provided by Moody's Analytics. Moody's relies on the U.S. Census Bureau for information on households.

VI. CONSERVATION PROGRAMS

Gulf's forecast of energy sales and peak demand reflect the continued impacts of energy efficiency and conservation activities, including the impacts of programs proposed by Gulf in its most recent DSM plan, which was approved by the Commission in Order No. PSC-15-0330-PAA-EG on August 19, 2015. Gulf's conservation programs were designed to meet the goals established by the Commission in Order No. PSC-14-0696-FOF-EG in December of 2015. Following is a brief description of the currently-approved programs and tables indicating the historical and projected conservation impacts of Gulf's ongoing conservation efforts.

A. RESIDENTIAL CONSERVATION

1. Residential Energy Audit and Education – This program is the primary educational program to help customers improve the energy efficiency of their new or existing home through energy conservation advice and information that encourages the implementation of efficiency measures and behaviors resulting in energy and utility bill savings.
2. *EnergySelect* - This program is designed to provide the customer with a means of conveniently and automatically controlling and monitoring energy purchases in response to prices that vary during the day and by season in relation to Gulf's cost of producing or purchasing energy. The *EnergySelect* system

includes field units utilizing a communication gateway, major appliance load control relays, and a programmable thermostat, all operating at the customer's home.

3. Community Energy Saver Program - This program is designed to assist low-income families with escalating energy costs through the direct installation of conservation measures at no cost to them. The program will also educate families on energy efficiency techniques and behavioral changes to help control their energy use and reduce their utility operating costs.
4. HVAC Efficiency Improvement Program - This program is designed to increase energy efficiency and improve HVAC cooling system performance for new and existing homes through maintenance, quality installation, and duct repair.
5. Residential Custom Incentive Program - This program will promote the installation of various energy efficiency measures available through other programs including HVAC, insulation, windows, water heating, lighting, appliances, etc. including additional incentives as appropriate to overcome the split-incentive barrier which exists in a landlord/renter situation.
6. Residential Building Efficiency Program - This program is designed as an umbrella efficiency program to promote the purchase and installation of energy saving measures – high performance windows, reflective roofs, and ENERGY STAR

window A/C - for residential customers as a means of reducing energy and demand.

B. COMMERCIAL/INDUSTRIAL CONSERVATION

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

equipment; and contribute toward long-term energy savings and peak demand reductions.

4. Commercial/Industrial Custom Incentive - This program is designed to establish the capability and process to offer advanced energy services and energy efficient end-user equipment (including comprehensive audits, design, and construction of energy conservation projects) not offered through other programs to Commercial or Industrial customers.

C. CONSERVATION RESULTS SUMMARY

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

HISTORICAL
TOTAL CONSERVATION PROGRAMS
CUMULATIVE ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2017	497,494	554,342	1,074,293,000

2018 BUDGET FORECAST
TOTAL CONSERVATION PROGRAMS
INCREMENTAL ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2018	6,600	4,000	9,400,000
2019	7,100	5,500	10,500,000
2020	8,000	6,600	11,800,000
2021	8,800	7,700	12,800,000
2022	9,600	8,600	13,900,000
2023	10,300	9,600	14,700,000
2024	10,900	10,700	15,500,000
2025	10,900	10,700	15,500,000
2026	10,900	10,700	15,500,000
2027	10,900	10,700	15,500,000

2018 BUDGET FORECAST
TOTAL CONSERVATION PROGRAMS
CUMULATIVE ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2018	504,094	558,342	1,083,693,000
2019	511,194	563,842	1,094,193,000
2020	519,194	570,442	1,105,993,000
2021	527,994	578,142	1,118,793,000
2022	537,594	586,742	1,132,693,000
2023	547,894	596,342	1,147,393,000
2024	558,794	607,042	1,162,893,000
2025	569,694	617,742	1,178,393,000
2026	580,594	628,442	1,193,893,000
2027	591,494	639,142	1,209,393,000

HISTORICAL
RESIDENTIAL CONSERVATION
CUMULATIVE ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2017	265,504	377,087	642,002,000

2018 BUDGET FORECAST
RESIDENTIAL CONSERVATION
INCREMENTAL ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2018	5,500	3,800	7,100,000
2019	6,000	5,300	8,200,000
2020	6,800	6,400	9,300,000
2021	7,500	7,400	10,100,000
2022	8,200	8,300	10,900,000
2023	8,800	9,300	11,500,000
2024	9,300	10,300	12,000,000
2025	9,300	10,300	12,000,000
2026	9,300	10,300	12,000,000
2027	9,300	10,300	12,000,000

2018 BUDGET FORECAST
RESIDENTIAL CONSERVATION
CUMULATIVE ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2018	271,004	380,887	649,102,000
2019	277,004	386,187	657,302,000
2020	283,804	392,587	666,602,000
2021	291,304	399,987	676,702,000
2022	299,504	408,287	687,602,000
2023	308,304	417,587	699,102,000
2024	317,604	427,887	711,102,000
2025	326,904	438,187	723,102,000
2026	336,204	448,487	735,102,000
2027	345,504	458,787	747,102,000

HISTORICAL
COMMERCIAL/INDUSTRIAL CONSERVATION
CUMULATIVE ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2017	231,990	177,255	432,291,000

2018 BUDGET FORECAST
COMMERCIAL/INDUSTRIAL CONSERVATION
INCREMENTAL ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2018	1,100	200	2,300,000
2019	1,100	200	2,300,000
2020	1,200	200	2,500,000
2021	1,300	300	2,700,000
2022	1,400	300	3,000,000
2023	1,500	300	3,200,000
2024	1,600	400	3,500,000
2025	1,600	400	3,500,000
2026	1,600	400	3,500,000
2027	1,600	400	3,500,000

2018 BUDGET FORECAST
COMMERCIAL/INDUSTRIAL CONSERVATION
CUMULATIVE ANNUAL REDUCTIONS
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2018	233,090	177,455	434,591,000
2019	234,190	177,655	436,891,000
2020	235,390	177,855	439,391,000
2021	236,690	178,155	442,091,000
2022	238,090	178,455	445,091,000
2023	239,590	178,755	448,291,000
2024	241,190	179,155	451,791,000
2025	242,790	179,555	455,291,000
2026	244,390	179,955	458,791,000
2027	245,990	180,355	462,291,000

VII. SMALL POWER PRODUCTION / RENEWABLE ENERGY

At the end of 2017, net metered interconnections of customer-owned renewable systems totaled 889 in number. In 2017, these interconnected renewable energy systems delivered 2.9 Gigawatt Hours (GWhs) to Gulf's grid. Since the implementation of the net metering rule in October 2008, net metered interconnections have delivered 8.4 GWhs to Gulf's utility grid.

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

GULF POWER COMPANY

Schedule 2.1
History and Forecast of Energy Consumption and
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Rural and Residential					Commercial		
Year	Population*	Members per Household*	GWH	Average No. of Customers	Average KWH Consumption Per Customer	GWH	Average No. of Customers	Average KWH Consumption Per Customer
2008	863,080	2.52	5,349	374,709	14,274	3,961	53,810	73,610
2009	866,540	2.53	5,254	374,010	14,049	3,896	53,414	72,942
2010	872,840	2.54	5,651	375,847	15,036	3,997	53,349	74,912
2011	882,080	2.54	5,305	378,157	14,028	3,911	53,409	73,235
2012	899,670	2.54	5,054	379,897	13,303	3,859	53,706	71,846
2013	913,550	2.53	5,089	382,599	13,301	3,810	54,261	70,215
2014	926,120	2.51	5,362	386,765	13,865	3,838	54,749	70,104
2015	939,880	2.50	5,365	391,465	13,705	3,898	55,234	70,566
2016	954,540	2.50	5,358	396,408	13,515	3,869	55,876	69,236
2017	969,430	2.50	5,229	401,793	13,015	3,814	56,428	67,583
2018	984,600	2.49	5,305	407,742	13,010	3,791	57,040	66,459
2019	999,780	2.48	5,321	413,427	12,870	3,804	57,705	65,925
2020	1,014,720	2.47	5,328	418,167	12,741	3,824	58,298	65,588
2021	1,029,170	2.46	5,338	422,689	12,629	3,824	58,866	64,964
2022	1,043,580	2.46	5,356	426,864	12,548	3,820	59,380	64,324
2023	1,057,900	2.45	5,383	430,675	12,499	3,811	59,844	63,685
2024	1,072,110	2.45	5,401	434,382	12,434	3,798	60,296	62,995
2025	1,086,100	2.44	5,405	438,124	12,337	3,771	60,752	62,071
2026	1,099,840	2.43	5,426	441,801	12,281	3,757	61,198	61,391
2027	1,113,470	2.43	5,444	445,404	12,224	3,747	61,635	60,794
CAAG								
08-17	1.3%	-0.1%	-0.3%	0.8%	-1.0%	-0.4%	0.5%	-0.9%
17-22	1.5%	-0.3%	0.5%	1.2%	-0.7%	0.0%	1.0%	-1.0%
17-27	1.4%	-0.3%	0.4%	1.0%	-0.6%	-0.2%	0.9%	-1.1%

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

GULF POWER COMPANY

Schedule 2.2
History and Forecast of Energy Consumption and
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Industrial						
		Average No. of	Average KWH Consumption	Railroads and Railways	Street & Highway Lighting	Other Sales to Public Authorities	Total Sales to Ultimate Consumers
Year	GWH	Customers	Per Customer	GWH	GWH	GWH	GWH
2008	2,211	291	7,592,204	0	23	0	11,543
2009	1,727	280	6,164,567	0	25	0	10,903
2010	1,686	275	6,133,961	0	26	0	11,359
2011	1,799	273	6,586,591	0	25	0	11,040
2012	1,725	267	6,453,071	0	25	0	10,663
2013	1,700	258	6,581,320	0	21	0	10,620
2014	1,849	258	7,165,343	0	25	0	11,075
2015	1,798	249	7,235,499	0	25	0	11,086
2016	1,830	247	7,402,625	0	25	0	11,082
2017	1,740	255	6,815,486	0	26	0	10,809
2018	1,610	255	6,312,215	0	25	0	10,730
2019	1,619	255	6,350,162	0	25	0	10,770
2020	1,619	255	6,350,162	0	25	0	10,796
2021	1,619	255	6,350,159	0	25	0	10,806
2022	1,619	255	6,350,159	0	25	0	10,820
2023	1,619	255	6,350,159	0	25	0	10,838
2024	1,619	255	6,350,162	0	25	0	10,843
2025	1,619	255	6,350,159	0	25	0	10,820
2026	1,619	255	6,350,159	0	25	0	10,826
2027	1,619	255	6,350,159	0	25	0	10,835
CAAG							
08-17	-2.6%	-1.5%	-1.2%	0.0%	1.3%	0.0%	-0.7%
17-22	-1.4%	0.0%	-1.4%	0.0%	-1.1%	0.0%	0.0%
17-27	-0.7%	0.0%	-0.7%	0.0%	-0.6%	0.0%	0.0%

GULF POWER COMPANY

Schedule 2.3
History and Forecast of Energy Consumption and
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)
Year	Sales for Resale GWH	Utility Use & Losses GWH	Net Energy for Load GWH	Other Customers (Average No.)	Total No. of Customers
2008	398	676	12,617	493	429,302
2009	390	682	11,975	502	428,206
2010	409	750	12,518	559	430,030
2011	382	663	12,086	564	432,403
2012	339	597	11,598	572	434,441
2013	330	602	11,552	579	437,698
2014	332	629	12,037	598	442,370
2015	330	580	11,996	610	447,557
2016	331	618	12,030	609	453,140
2017	318	588	11,715	574	459,050
2018	303	588	11,622	574	465,610
2019	301	590	11,661	574	471,961
2020	300	591	11,687	574	477,294
2021	299	592	11,697	574	482,384
2022	300	592	11,713	574	487,074
2023	301	593	11,732	574	491,347
2024	302	594	11,739	574	495,507
2025	301	592	11,713	574	499,705
2026	300	593	11,720	574	503,828
2027	301	593	11,729	574	507,868
CAAG					
08-17	-2.5%	-1.5%	-0.8%	1.7%	0.7%
17-22	-1.1%	0.1%	0.0%	0.0%	1.2%
17-27	-0.6%	0.1%	0.0%	0.0%	1.0%

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

GULF POWER COMPANY

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation	Comm/Ind Load Management	Comm/Ind Conservation	Net Firm Demand
2008	2,898	91	2,807	0	0	176	0	182	2,541
2009	2,909	92	2,817	0	0	177	0	186	2,546
2010	2,896	88	2,807	0	0	178	0	192	2,525
2011	2,919	89	2,830	0	0	186	0	198	2,535
2012	2,769	76	2,693	0	0	206	0	212	2,351
2013	2,810	74	2,736	0	0	229	0	220	2,362
2014	2,905	75	2,830	0	0	243	0	224	2,437
2015	2,982	78	2,904	0	0	256	0	231	2,495
2016	3,000	76	2,924	0	0	261	0	231	2,508
2017	2,931	74	2,857	0	0	266	0	232	2,434
2018	2,887	65	2,822	0	0	271	0	233	2,383
2019	2,911	64	2,847	0	0	277	0	234	2,400
2020	2,924	64	2,860	0	0	284	0	235	2,405
2021	2,943	64	2,879	0	0	291	0	237	2,415
2022	2,955	64	2,890	0	0	300	0	238	2,417
2023	2,967	64	2,903	0	0	308	0	240	2,419
2024	2,974	64	2,909	0	0	318	0	241	2,415
2025	2,983	64	2,918	0	0	327	0	243	2,413
2026	2,997	64	2,932	0	0	336	0	244	2,416
2027	3,009	64	2,945	0	0	346	0	246	2,418
CAAG									
08-17	0.1%	-2.2%	0.2%	0.0%	0.0%	4.7%	0.0%	2.8%	-0.5%
17-22	0.2%	-2.9%	0.2%	0.0%	0.0%	2.4%	0.0%	0.5%	-0.1%
17-27	0.3%	-1.5%	0.3%	0.0%	0.0%	2.7%	0.0%	0.6%	-0.1%

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

GULF POWER COMPANY

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation	Comm/Ind Load Management	Comm/Ind Conservation	Net Firm Demand
07-08	2,793	97	2,696	0	0	276	0	147	2,370
08-09	2,757	98	2,659	0	0	287	0	150	2,320
09-10	2,996	107	2,890	0	0	289	0	154	2,553
10-11	2,950	99	2,851	0	0	297	0	157	2,495
11-12	2,621	89	2,532	0	0	317	0	165	2,139
12-13	2,275	70	2,205	0	0	341	0	169	1,766
13-14	3,223	90	3,132	0	0	356	0	172	2,694
14-15	3,038	85	2,953	0	0	369	0	176	2,492
15-16	2,593	74	2,519	0	0	374	0	176	2,043
16-17	2,765	80	2,686	0	0	377	0	177	2,211
17-18	2,760	65	2,696	0	0	381	0	177	2,202
18-19	2,756	64	2,691	0	0	386	0	178	2,192
19-20	2,829	64	2,765	0	0	393	0	178	2,259
20-21	2,823	64	2,759	0	0	400	0	178	2,245
21-22	2,831	64	2,767	0	0	408	0	178	2,244
22-23	2,842	64	2,778	0	0	418	0	179	2,246
23-24	2,848	64	2,784	0	0	428	0	179	2,241
24-25	2,858	64	2,794	0	0	438	0	180	2,240
25-26	2,871	64	2,807	0	0	448	0	180	2,243
26-27	2,886	64	2,822	0	0	459	0	180	2,247
CAAG									
08-17	-0.1%	-2.1%	0.0%	0.0%	0.0%	3.5%	0.0%	2.1%	-0.8%
17-22	0.5%	-4.3%	0.6%	0.0%	0.0%	1.6%	0.0%	0.1%	0.3%
17-27	0.4%	-2.1%	0.5%	0.0%	0.0%	2.0%	0.0%	0.2%	0.2%

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

GULF POWER COMPANY

Schedule 3.3
History and Forecast of Annual Net Energy for Load - GWH
Base Case

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year	Total	Residential Conservation	Comm/Ind Conservation	Retail	Wholesale	Utility Use & Losses	Net Energy for Load	Load Factor %
2008	13,326	378	331	11,543	398	676	12,617	56.5%
2009	12,704	384	345	10,903	390	682	11,975	53.7%
2010	13,256	388	350	11,359	409	750	12,518	56.0%
2011	12,864	417	361	11,040	382	663	12,086	54.4%
2012	12,453	482	374	10,663	339	597	11,598	56.2%
2013	12,502	551	399	10,620	330	602	11,552	55.8%
2014	13,048	595	416	11,075	332	629	12,037	51.0%
2015	13,056	630	430	11,086	330	580	11,996	54.9%
2016	13,097	637	430	11,082	331	618	12,030	54.6%
2017	12,789	642	432	10,809	318	588	11,715	54.9%
2018	12,705	649	435	10,730	303	588	11,622	55.7%
2019	12,755	657	437	10,770	301	590	11,661	55.5%
2020	12,793	667	439	10,796	300	591	11,687	55.3%
2021	12,816	677	442	10,806	299	592	11,697	55.3%
2022	12,845	688	445	10,820	300	592	11,713	55.3%
2023	12,880	699	448	10,838	301	593	11,732	55.4%
2024	12,901	711	452	10,843	302	594	11,739	55.3%
2025	12,892	723	455	10,820	301	592	11,713	55.4%
2026	12,914	735	459	10,826	300	593	11,720	55.4%
2027	12,939	747	462	10,835	301	593	11,729	55.4%
CAAG								
08-17	-0.5%	6.1%	3.0%	-0.7%	-2.5%	-1.5%	-0.8%	-0.3%
17-22	0.1%	1.4%	0.6%	0.0%	-1.1%	0.1%	0.0%	0.1%
17-27	0.1%	1.5%	0.7%	0.0%	-0.6%	0.1%	0.0%	0.1%

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

GULF POWER COMPANY

Schedule 4

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	2017 Actual		2018 Forecast		2019 Forecast	
Month	Peak Demand MW	NEL GWH	Peak Demand MW	NEL GWH	Peak Demand MW	NEL GWH
January	2,211	869	2,202	934	2,192	931
February	1,435	713	1,899	793	1,898	794
March	1,791	838	1,471	789	1,470	788
April	1,836	875	1,666	800	1,669	802
May	2,080	1,028	2,059	1,004	2,077	1,013
June	2,234	1,106	2,301	1,168	2,325	1,181
July	2,434	1,281	2,383	1,259	2,400	1,269
August	2,374	1,257	2,347	1,247	2,359	1,254
September	2,162	1,079	2,190	1,069	2,186	1,068
October	2,180	983	1,944	890	1,943	891
November	1,558	767	1,545	785	1,551	789
December	1,895	921	1,861	882	1,855	882

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

Gulf Power Company

Schedule 5
Fuel Requirements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Fuel Requirements		Units	Actual 2016	Actual 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(1)	Nuclear		Trillion BTU	None	None	None	None	None	None	None	None	None	None	None	None
(2)	Coal		1000 TON	2,553	2,609	1,949	1,957	2,390	2,771	2,510	2,724	2,724	2,890	2,780	2,788
(3)	Residual	Total	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(4)		Steam	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(5)		CC	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(6)		CT	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(7)		Diesel	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(8)	Distillate	Total	1000 BBL	20	15	13	12	14	16	13	14	14	15	14	20
(9)		Steam	1000 BBL	19	15	12	11	14	15	12	13	13	13	13	17
(10)		CC	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CT	1000 BBL	1.2	0.1	0.8	0.8	0.3	0.7	0.5	0.8	0.5	1.7	0.6	2.9
(12)		Diesel	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(13)	Natural Gas	Total	1000 MCF	58,310	65,817	66,606	67,436	68,215	66,148	61,161	37,719	33,783	51,036	48,848	48,903
(14)		Steam	1000 MCF	520	1,673	0	0	0	0	0	0	0	0	0	0
(15)		CC	1000 MCF	56,792	62,989	65,411	66,241	67,017	64,953	59,966	36,524	32,585	50,711	48,848	48,903
(16)		CT	1000 MCF	998	1,155	1,195	1,195	1,198	1,195	1,195	1,195	1,198	325	0	0
(17)	Other [(A)]		1000 MCF	257	265	239	239	240	239	239	239	240	239	239	239

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

GULF POWER COMPANY

Schedule 6.1
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Energy Sources		Units	Actual 2016	Actual 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(1)	Annual Firm Interchange		GWH	(2,318)	(3,633)	(3,425)	(3,517)	(4,653)	(5,225)	(3,921)	(1,134)	(761)	(4,006)	(3,436)	(3,485)
(2)	Nuclear		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		GWH	4,697	4,973	4,193	4,228	5,232	6,103	5,514	5,987	5,993	6,427	6,155	6,205
(4)	Residual	Total	GWH	0	0	0	0	0	0	0	0	0	0	0	0
(5)		Steam	GWH	0	0	0	0	0	0	0	0	0	0	0	0
(6)		CC	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(7)		CT	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(8)		Diesel	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(9)	Distillate	Total	GWH	0.4	0.2	0.3	0.3	0.1	0.3	0.2	0.3	0.2	0.7	0.2	1.2
(10)		Steam	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CC	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(12)		CT	GWH	0.4	0.2	0.3	0.3	0.1	0.3	0.2	0.3	0.2	0.7	0.2	1.2
(13)		Diesel	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(14)	Natural Gas	Total	GWH	8,724	8,983	9,310	9,406	9,562	9,276	8,577	5,372	5,023	7,809	7,520	7,527
(15)		Steam	GWH	19	94	0	0	0	0	0	0	0	0	0	0
(16)		CC	GWH	8,637	8,810	9,229	9,325	9,480	9,195	8,496	5,291	4,941	7,787	7,520	7,527
(17)		CT	GWH	68	79	81	81	82	81	81	81	82	22	0	0
(18)	NUGs		GWH	171	188	188	189	190	191	192	192	193	194	195	196
(19)	Renewables	Total	GWH	756	1,214	1,356	1,355	1,356	1,352	1,351	1,315	1,291	1,288	1,286	1,285
(20)		LFG	GWH	24	24	25	25	25	25	25	25	25	25	25	25
(21)		MSW	GWH	57	62	60	60	60	60	60	25	0	0	0	0
(22)		Solar	GWH	0	122	240	239	238	236	235	234	233	232	230	229
(23)		Wind	GWH	675	1,006	1,031	1,031	1,033	1,031	1,031	1,031	1,033	1,031	1,031	1,031
(24)	Net Energy for Load		GWH	12,030	11,725	11,622	11,661	11,687	11,697	11,713	11,732	11,739	11,713	11,720	11,729

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

GULF POWER COMPANY

Schedule 6.2
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Energy Sources		Units	Actual 2016	Actual 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(1)	Annual Firm Interchange		%	(19.27)	(30.99)	(29.47)	(30.16)	(39.81)	(44.67)	(33.48)	(9.67)	(6.48)	(34.20)	(29.32)	(29.71)
(2)	Nuclear		%	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		%	39.04	42.41	36.08	36.26	44.77	52.18	47.08	51.03	51.05	54.87	52.52	52.90
(4)	Residual	Total	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(5)		Steam	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(6)		CC	%	None	None	None	None	None	None	None	None	None	None	None	None
(7)		CT	%	None	None	None	None	None	None	None	None	None	None	None	None
(8)		Diesel	%	None	None	None	None	None	None	None	None	None	None	None	None
(9)	Distillate	Total	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
(10)		Steam	%	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CC	%	None	None	None	None	None	None	None	None	None	None	None	None
(12)		CT	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
(13)		Diesel	%	None	None	None	None	None	None	None	None	None	None	None	None
(14)	Natural Gas	Total	%	72.52	76.61	80.11	80.66	81.82	79.30	73.23	45.79	42.79	66.67	64.16	64.17
(15)		Steam	%	0.16	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(16)		CC	%	71.80	75.14	79.41	79.97	81.12	78.61	72.53	45.10	42.09	66.48	64.16	64.17
(17)		CT	%	0.57	0.67	0.70	0.69	0.70	0.69	0.69	0.69	0.70	0.19	0.00	0.00
(18)	NUGs		%	1.42	1.60	1.62	1.62	1.63	1.63	1.64	1.64	1.64	1.66	1.66	1.67
(19)	Renewables	Total	%	6.28	10.35	11.67	11.62	11.60	11.56	11.53	11.21	11.00	11.00	10.97	10.96
(20)		LFG	%	0.20	0.20	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
(21)		MSW	%	0.47	0.53	0.52	0.51	0.51	0.51	0.51	0.21	0.00	0.00	0.00	0.00
(22)		Solar	%	0.00	1.04	2.07	2.05	2.04	2.02	2.01	1.99	1.98	1.98	1.96	1.95
(23)		Wind	%	5.61	8.58	8.87	8.84	8.84	8.81	8.80	8.79	8.80	8.80	8.80	8.79
(24)	Net Energy for Load		%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

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

CHAPTER III

PLANNING ASSUMPTIONS AND PROCESSES

THE INTEGRATED RESOURCE PLANNING PROCESS

In order to coordinate its plans for future resource additions, Gulf participates in the SES IRP process. This planning process begins with a determination of the various escalation and inflation rates that will impact the financial condition of the SES. Experts from within and outside the SES meet to discuss current and historical economic trends and conditions, as well as future expected economic conditions which would impact the SES's business over the next 20 to 25 years. Information gathered from these discussions serves as a basis for developing the general inflation and escalation assumptions that will affect fuel costs, construction costs, labor rates and variable operation and maintenance (O&M) expenses.

In addition to the work on the economic assumptions, there are a number of activities that are conducted in parallel with one another in the IRP process. These activities include energy and demand forecasting, fuel price forecasting, generation technology screening analysis and evaluation, engineering cost estimation, evaluation of dispatchable and non-dispatchable demand-side management (DSM) programs, and other planning activities.

The SES operating companies remain active in offering customers various DSM programs which result in modified consumption patterns. The impact of such DSM programs on system loads is assessed and included as an input into the SES IRP process. DSM programs that are identified as cost-effective alternatives to the supply-side resources are integrated with the supply-side options to produce a final integrated resource plan. Gulf's forecast of energy sales and peak demand reflects the continued impacts of its conservation programs. The DSM programs' costs and benefits are regularly updated in order to facilitate cost-effectiveness evaluations against the selected supply-side technologies from the IRP process.

A number of existing generating units on the SES are also evaluated with respect to their anticipated compliance costs. These evaluations are extremely important in order to maximize the benefit of existing investment from both a capital and an O&M expense perspective.

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

The supply side of the IRP process focuses on the SES as a whole. The reserve margin for the SES is the optimum economic point at which the system can meet its energy and demand requirements after accounting for load forecast error, abnormal weather conditions, and unit forced outage conditions, adjusted as appropriate for risk. It also balances the cost of adding additional generation with the cost of not serving all the energy requirements of the customer. The current SES IRP used in the development of Gulf's 2018 TYSP has as its planning criterion a 16.25 percent summer reserve margin target for the year

2021 and beyond. The SES is currently considering the need to formalize a winter peak reserve margin target due to several factors. These factors include, but are not limited to, convergence of its summer and winter peaks, winter peaks having greater volatility than summer peaks, increased unplanned outages at very low temperatures, changes to the system generation mix, and natural gas pipeline constraints in the winter. Future SES reserve margin studies will incorporate new data to better identify potential reliability concerns during the winter peak season. If reliability issues are identified, a long-term winter target reserve margin may be adopted for future planning purposes.

Once the above-mentioned planning assumptions are determined, resource 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 Strategist® model. Strategist® employs a generation mix optimization module named PROVIEW™. The supply-side technology candidates are input into Strategist® 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 fuel forecasts, load forecasts, DSM programs, candidate units, reserve margin requirements, cost of capital, and escalation rates.

PROVIEW™ uses a dynamic programming technique to develop the optimum resource mix. This technique allows PROVIEW™ to evaluate many combinations of generation additions that satisfy the reserve margin constraint for every year. Annual system operating costs are simulated and are added to the construction costs required to build each combination of resource additions. An indicative schedule of least-cost resource additions is developed by evaluating each year sequentially and comparing the results of each combination. PROVIEW™ produces a number of different combinations over the planning horizon, evaluating both the capital cost components for unit additions as well as the operating and maintenance cost of existing and future supply-side additions. The program produces a report which ranks all of the different combinations with respect to the total net present value cost over the entire 20-year planning horizon. The leading combinations from the program are then reviewed for reasonableness and validity. It is important to note that supply-side 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 responsible for recommending the type and timing of its resource additions. When all companies are satisfied with their resource additions, the system base supply-side plan is complete. The result is an individual operating company supply plan that fits within the SES planning criteria.

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

In summary, the SES IRP process involves a significant amount of manpower and computer resources in order to produce a 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 mix study is again performed to ensure that the IRP is the most economical and cost-effective plan. The resulting product of the SES IRP process is an integrated indicative plan which meets the needs of the SES's customers in a cost-effective and reliable manner.

TRANSMISSION PLANNING PROCESS

The transmission system is commonly viewed as a resource used to transport electric power from its generation source to the point of its conversion to distribution voltages under a number of system conditions, generally known as "contingencies." Although the transmission system is not studied as part of the SES IRP process, it is separately studied in an ongoing process in order to address potential reliability concerns. The results of the IRP are factored into transmission studies to determine the impacts of interconnecting planned resource additions at various sites on the transmission system. Also, potential generating unit retirements not yet reflected in the IRP may be studied to identify the need for new transmission projects on the system.

The transmission system is studied under different contingencies for various load levels to ensure that the system can operate adequately without exceeding conductor thermal and system voltage limits. When the study reveals a potential problem with the transmission system that warrants the consideration of correction 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.

In prior years, Gulf has entered into a series of short-term power purchase agreements in order to diversify and balance its resource portfolio to reliably meet its customers' load requirements. Gulf will continue this practice in the future if economically attractive opportunities which satisfy Gulf's system reliability needs are available. In order to ensure that adequate transmission facilities are in place to handle these purchase transactions when Gulf has the need for additional resources, it has been and will continue to be Gulf's practice to perform a transmission analysis of viable power purchase proposals to determine any transmission constraints. Gulf will formulate a plan, if needed, to resolve any transmission issues in a cost-effective manner prior to finalizing negotiations for power purchase 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. Domestic coal commodity prices are forecast on either a mine-mouth basis or free on board (FOB) barge basis, while import coals are forecast on an FOB ship basis at the port of import. 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, commodity price forecasts are prepared for different coal classifications used on the SES. Natural gas does not possess the same quality variations as coal, so a single commodity price forecast for gas at Henry Hub is prepared, and a basis differential between Henry Hub and the various pipelines serving SES plants is applied. One price forecast is developed for ultra-low sulfur diesel (ULSD) oil, which is the only oil used in the SES.

Transportation costs, to be used in the delivered price forecast, are developed for potential sites when modeling generic unit additions in the resource planning process. Site-specific transportation costs are developed for existing units to produce delivered price forecasts for both the resource planning process and the fuel budget process. Similarly, when site-specific unit additions are under consideration, site-specific transportation costs are developed for each option.

SES GENERIC FUEL FORECAST

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

The long-term forecasts are developed in the spring of each year for use in system planning activities. Charles River & Associates (CRA) is the modeling vendor used by the system to develop the long-term forecasts. This process is a collaborative effort between CRA and members of cross-functional SES planning teams, including Gulf Power personnel, and is governed by an SES executive team.

Fuel market assumptions, developed in collaboration between CRA and SES, are integrated into CRA's model to develop commodity forecast prices. Transportation prices are developed by the SES and are combined with the CRA commodity prices to produce the total delivered prices used in the resource planning process. These prices are developed for existing units and potential green field/brown field sites for future expansion.

NATURAL GAS PRICE FORECAST

The 2017 natural gas price at Henry Hub opened at $3.65 per mmBtu but began a steady decline to below $3 in early February as the winter weather was mild. Prices averaged below $3 the remainder of the year. Total U.S. natural gas consumption in 2017 was slightly less than in 2016. The electric power sector usage decreased in 2017 to 25.6 Bcf/day from 27.8 Bcf/day in 2016. However, the largest increase in demand for natural gas was seen in the production of LNG for exports as new terminals were placed in service. On the supply side, dry gas production rebounded in 2017 to 73.6 Bcf/day reversing the production decline seen in 2016.

NATURAL GAS OUTLOOK

The outlook for natural gas prices in the United States is influenced by multiple factors. The most important factors in projecting natural gas prices are demand and shale gas production. Once a domestic commodity, natural gas is increasingly evolving into a global commodity because of growing LNG markets. Commodities such as oil, LNG, natural gas liquids, and power are interconnected to natural gas more now than ever before. Impacts from an evolving technology, regulatory and political landscape are also impacting the natural gas markets.

Little demand growth in the residential, commercial, industrial and electric power sectors is expected through the end of this decade. Long-term the industrial sector, particularly the chemical industry, accounts for the most growth in natural gas consumption. The power sector may see increases in natural gas consumption as a result of the scheduled expiration of renewable tax credits in the 2020s and regulatory decisions on the continued use of coal-fired and nuclear power plants. The United States became a net exporter of natural gas in 2017. As more export terminals are placed in service, LNG exports from the U.S. are projected to increase through 2029, and that trend is expected to continue for decades with imports falling below total exports to global LNG markets.

The U.S. Energy Information Administration (EIA) estimates U.S. dry natural gas production averaged 73.6 Bcf/day in 2017. EIA forecasts 80.3 Bcf/day in 2018 and 82.9 Bcf/day in 2019 which will establish new production records. Reserve estimates continue to increase. According to the most current data from EIA, the United States had 341.1 Tcf of proven natural gas reserves at the end of 2016, an increase of 5 percent from 2015. Dry natural gas production is projected to increase through at least 2050. Production from shale gas and tight oil plays is projected to grow because of their large resource size and relatively inexpensive cost to access and produce. Production of gas from “liquids-rich” shale resources will be especially important since the liquids value is sufficient to cover much of the drilling costs allowing natural gas to become a low-cost byproduct.

The outlook for natural gas prices remains low. NYMEX Forward Prices are lower now than a year ago. Henry Hub spot prices are projected to remain below $5 through 2050 according to the EIA’s Annual Energy Outlook 2018 reference case. The EIA in 2018 lowered their Henry Hub price outlook 14 percent on average through 2050 compared to the 2017 outlook.

Another key trend to watch in the natural gas industry includes the completion of new pipeline projects. Billion-dollar infrastructure investments have been made and more are scheduled to be completed in 2018. A lack of a FERC Quorum in 2017 delayed the in-service project dates of several pipeline projects.

The process of addressing protests regarding the environmental impacts of pipeline construction has been moved from the FERC to state and local levels, adding new risks to the approval and timeliness of pipeline construction. Marcellus and Utica production has ramped up with the completion of each new pipeline project in the area. If new pipeline infrastructure is cancelled or delayed, production growth and price basis pressure risk remains.

COAL PRICE FORECAST

In 2017, coal production in the United States continued its steady decline. Several factors contributed to this decline including low natural gas pricing, moderate weather, continued coal-fired generating unit retirements, the addition of renewable energy capacity and lower international coal demand for U.S. basin coals. The year-on-year decline in coal production in the Powder River Basin coal supply region was 28 million short tons (13 percent) from 2016 levels. Other declines in coal production relative to 2016 levels ranged from 4 percent to 35 percent in the Northern and Central Appalachian basins, the Rocky Mountain region, and the Illinois Basin. Colombian coal production decreased slightly year-on-year for 2017 versus 2016.

Production from the Central Appalachian coal supply region continues to decline because of the inability of these mines to compete with lower cost coal basins such as the Illinois Basin and the Powder River Basin. However, this market began to see a resurgence in late 2017 due mainly to the increasing export demand in Europe for low sulfur coal. This trend in European demand is expected to continue for the remainder of 2018.

Prior to 2016, Illinois Basin coal production saw a steady increase due to the widespread installation of scrubbers at eastern power generating stations. With the completion of these controlled units, Illinois Basin coal will again be forced to compete with Powder River Basin coal domestically. Due to its higher sulfur content, Illinois Basin coals have difficulty taking advantage of export opportunities and must also compete with Central Appalachian coals for those plays. Competition with these other coals could lead to reduced production from the Illinois Basin in the future.

Historically, Powder River Basin regional coal production has grown at 5 percent per year over sustained periods, but, as mentioned above, production levels decreased by 13 percent in 2017. Production costs have increased slightly as mining moves from east to west across the basin and deeper reserves are accessed. Increased overburden and the relative distance to rail load outs have put upward pressure on costs. Overall, the economics of surface mining in this region remain favorable.

Demand for Western Bituminous coal is expected to remain flat as several generators in Colorado have ceased burning this coal. The inherent low sulfur content of this coal allows for export opportunities, in most cases from the U.S. Gulf coast. These export opportunities will have a major impact on this coal's long-term viability and production levels. As for movements into the southeast, the high transportation costs make Western Bituminous coals less economic to this region.

The demand for Colombian coal is largely affected by the global demand for coal. In the Atlantic Basin, Colombia is the major supplier of coal into Europe and demand there continues to increase. In the Pacific Basin, the major importer of coal is China and its governmental policies regulating domestic coal production have caused an increase in imports from Australia and Indonesia over the last few years which has affected the world market demand. Even though coal demand and production has declined in the U.S., greater world market demand has increased U.S. exports, especially from Central Appalachian region. This has led to an increase in U.S. coal prices from other domestic coal supplying regions.

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STRATEGIC ISSUES

Gulf's strategy has been and will continue to be one of developing long-term capacity resources, supplemented with shorter-term power purchases. Power Purchase Agreements have provided supply-side diversity and flexibility that has allowed Gulf to adapt its future generation expansion plans to changing market conditions. This strategy has proven to be effective over the years, and Gulf will continue to follow this strategy in the future when appropriate and cost effective to do so.

Currently, Gulf's Shell PPA provides 885 MW of firm capacity and low cost, reliable energy to its customers from an existing gas-fired combined cycle (CC) generating unit that is interconnected with the SES in Alabama. With the Shell PPA in place, Gulf has sufficient capacity to meet its load service and reliability requirements through May 2023. Gulf's generation planning efforts throughout 2017 have focused on evaluating generation options, beginning in 2023, that can provide long-term system resiliency and reliability while providing cost-effective energy to serve its customers for years to come. Site selection for Gulf's next generating unit addition is based on existing infrastructure, available acreage and land use, water availability, transmission, fuel facilities, environmental standards, and overall project economics. Given the potential for future closures of coal units in Gulf's service area as a result of compliance with new and existing environmental regulations, locating clean, efficient, reliable generation close to Gulf's load centers is also an important consideration for this generation resource.

Gulf is proposing to replace the expiring Shell PPA with a 595 MW dual-fuel 1-on-1 CC at its North Escambia site. This proposed generation facility with a planned in-service date of June 2024 will be based on the latest commercially available technology that best addresses Gulf's needs and is expected to provide operational and efficiency benefits to Gulf and its customers. The North Escambia site has an added benefit of supporting utility-scale solar PV of significant size depending on the technology type.

Because the Shell PPA will expire in May 2023, and the current anticipated in-service date of the proposed CC is June 2024, Gulf expects to manage its 2023 reserve margin requirements with short-term arrangements that are available to Gulf through the Intercompany Interchange Contract's (IIC) reserve sharing mechanism or capacity purchases from the market.

This strategic benefit derived from Gulf's association with the SES as it relates to integrated planning and operations allows Gulf to temporarily share in the capacity resources of the SES that are available to Gulf through the IIC reserve sharing mechanism in times when Gulf is temporarily short of its reserve requirements. In addition, the SES's generation organization actively pursues short-term firm energy market products at prices that can lead to significant savings to the SES and its customers.

Gulf continues to monitor the development of state and national policy in the area of air, land, and water regulations. Gulf will consider options for compliance with the resulting regulations that fulfill its obligation to serve the energy needs of its retail customers in Northwest Florida with reliable and cost-effective electricity. As discussed in the Environmental Compliance section of this TYSP, compliance with additional environmental regulations has led to retirements of several Gulf coal-fired units. Gulf's generation planning process considers the impact of these early retirements and the potential for future early retirements of generating units at Gulf. With Gulf's Shell PPA providing firm gas-fired generating capacity through May 2023 of the current planning cycle, Gulf is well positioned to meet current load requirements as proposed state and federal environmental compliance standards are finalized.

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ENVIRONMENTAL COMPLIANCE

Gulf has developed and routinely updates its environmental compliance strategy to serve as a road map for a cost-effective compliance plan. This road map establishes general direction, but it also allows for individual decisions to be made based on specific information available at the time. The focus of the strategy updates is centered on compliance with the acid rain requirements and other significant clean air requirements, as well as new land and water requirements. This approach is necessary to preserve the flexibility to match a dynamic regulatory environment with the available compliance options.

Gulf will continue to take all necessary actions to fully comply with all environmental laws and regulations as they apply to the operation of its existing generation facilities and the installation of new generation. The following is a summary of each major area of existing and emerging environmental regulations and Gulf's actions taken to comply with these regulations.

Existing Environmental Regulations

Clean Air Act Amendments of 1990

In 1990, Congress passed major revisions to the Clean Air Act requiring existing coal-fired generating plants to substantially reduce air emissions of sulfur dioxide (SO_2) and nitrogen oxides (NO_X). Gulf's compliance activities for SO_2 have included fuel switching to lower sulfur coals coupled with the use of banked emission allowances and the acquisition of additional allowances for future year compliance. Also, Gulf completed installation and began operating flue gas de-sulfurization equipment (scrubbers) on Plant Crist Units 4 through 7 in December

2009, Plant Scherer Unit 3 in March 2011, and Plant Daniel Units 1 and 2 in November 2015, which are now achieving significant reductions of SO_2 emissions at these coal-fired units. In addition to reducing SO_2 emissions, Gulf has installed low NO_X burners and/or additional post-combustion NO_X controls on its coal-fired units. Compliance with the Clean Air Act and resulting regulations has been and will continue to be a significant focus for the Company.

Air Quality Standards for Ozone

In 1997, the Environmental Protection Agency (EPA) announced a stringent new eight-hour National Ambient Air Quality Standard (NAAQS) for ozone based on an eight-hour average. In 2002, Gulf entered into an agreement with the Florida Department of Environmental Protection (FDEP) to reduce NO_X emissions at Plant Crist in order to help ensure that the new ozone standard is attained in the Pensacola area. Gulf installed Selective Catalytic Reduction (SCR) controls on Crist Unit 7 in May 2005. In addition to the SCR control on Unit 7, the Company installed Selective Non-Catalytic Reduction Controls (SNCR) and over-fire air on Crist Unit 6 in February 2006 and SNCR controls on Crist Unit 4 and Unit 5 in April 2006. These controls have achieved the overall plant-wide NO_X emissions average of 0.2 lbs/mmBtu as outlined in the FDEP Agreement. In accordance with the FDEP agreement, Gulf also retired Crist Unit 1 in 2003 and Crist Units 2 and 3 in 2006. The Company installed SCR controls on Scherer 3 in December 2010 as required by the Georgia Multipollutant Rule to reduce NOx. The Crist 6 SNCR and over-fire air were replaced with SCR technology in April 2012 to further reduce NO_X emissions.

The EPA regulates ground level ozone concentrations through implementation of an eight-hour ozone NAAQS. In 2008, the EPA adopted a revised eight-hour ozone NAAQS and published its final area designations in 2012. All areas within the Company's geographic service area have achieved attainment of the 2008 standard. In October 2015, the EPA published a more stringent eight-hour ozone NAAQS. The EPA plans to complete designations for this rule no later than April 30, 2018. No areas in the Company's geographic service area have been or are anticipated to be designated non-attainment under the 2015 ozone NAAQS.

Air Quality Standards for Fine Particulate Matter

The EPA regulates fine particulate matter concentrations on an annual and 24-hour average basis. All areas within the Company's service area have achieved attainment with the 1997 and 2006 particulate matter NAAQS. On January 15, 2013, the EPA published a final rule that increases the stringency of the annual fine particulate matter standard. The new standard could result in the designation of new nonattainment areas within the Company's service area.

Air Quality Standards for SO_2 and NO_2

In 2010, the EPA revised the NAAQS for sulfur dioxide (SO_2), establishing a new one-hour standard and is completing designations in multiple phases. The EPA has issued several rounds of area designations and no areas in the vicinity of Company-owned SO_2 sources have been designated nonattainment under the 2010 one-hour SO_2 NAAQS. However, final SO_2 one-hour designations for certain areas are still pending, and increased compliance costs could result if other areas are designated as nonattainment in the future.

Clean Air Interstate Rule / Cross-State Air Pollution Rule

The EPA issued the Clean Air Interstate Rule (CAIR) in 2005 which called for phased reductions in SO_2 and NO_x emissions from power plants in 28 eastern states. In 2008, the U.S. Court of Appeals for the District of Columbia Circuit issued decisions invalidating certain aspects of CAIR, but left CAIR compliance requirements in place while the EPA developed a revised rule. In 2011, the EPA finalized the Cross-State Air Pollution Rule (CSAPR) and its NO_x annual, NO_x seasonal, and SO_2 annual programs to replace CAIR. In October 2016, the EPA published a final rule that updates the CSAPR ozone-season NO_x program, which completely removed Florida from all CSAPR programs, left the Georgia seasonal NO_x budget unchanged, and established more stringent NO_X emissions budgets in Mississippi. Georgia is also in the CSAPR annual SO_2 and NO_x programs. The outcome of ongoing CSAPR litigation is unknown at this time and could have an impact on the State of Mississippi's allowance allocations under the CSAPR seasonal NO_X program.

Decisions regarding Gulf's CAIR/CSAPR compliance strategy were made jointly with the Clean Air Visibility Rule (CAVR) and CAMR/MATS compliance plans due to co-benefits of proposed controls. Compliance is being accomplished by operation of emission controls installed for CAIR at Gulf's coal-fired facilities and/or by the purchase of emission allowances as needed.

Regional Haze Rule

The Regional Haze Rule (formerly called the Clean Air Visibility Rule) was finalized in 2005, with a goal of restoring natural visibility conditions in certain areas (primarily national parks and wilderness areas) by 2064. On January 10, 2017, EPA published a final rule to review and amend the Regional Haze Rule and associated State Implementation Plan (SIP) requirements. The rule extended the deadline for the next SIP submittal from July 31, 2018, to July 31, 2021. Subsequently, on January 17, 2018, EPA announced its decision to revisit certain aspects of the rule. State implementation of the reasonable progress requirements defined in this final rule could require further reductions of SO_2 or NO_x emissions.

Startup Shutdown and Malfunction

In 2015, the EPA published a final rule requiring certain states (including Florida, Georgia, and Mississippi) to revise or remove the provisions of their SIPs regulating excess emissions at industrial facilities, including electric generating facilities, during periods of startup, shut-down, or malfunction (SSM). The EPA has not yet responded to the SIP revisions proposed by the states of Florida, Georgia, and Mississippi.

Mercury and Air Toxics Standards

In 2012, the EPA finalized the Mercury and Air Toxics Standards (MATS) rule which imposes stringent emissions limits for acid gases, mercury, and particulate matter on coal and oil-fired electric utility steam generating units. The compliance deadline set by the final MATS rule was April 16, 2015. An April 16, 2016 deadline was set for affected units that were granted extensions.

Gulf evaluated a number of options for its coal-fired generation to comply with emission standards required by the MATS rule and EPA's proposed land and water rules. As described in Gulf's Air Quality Compliance Program Update that was filed with the FPSC, Gulf determined that transmission upgrades provide the best MATS compliance option for Plant Crist. For the Plant Daniel coal units, the best options to meet MATS limits included installing scrubbers, bromine injection, and activated carbon injection. The Plant Daniel scrubbers were placed in service in November 2015, and the Plant Daniel bromine and activated carbon injection systems were placed in service in December 2015. The Plant Daniel and the Plant Crist MATS continuous emission monitoring systems (CEMS) were also placed in service during 2015. For Plant Scherer Unit 3, installation of the scrubber, SCR, baghouse and mercury monitoring for compliance with the Georgia Multipollutant Rule also provided compliance with the MATS limits.

In 2013, the Company determined that the most cost-effective MATS compliance option for Plant Scholz was to retire the plant. Therefore, Plant Scholz was retired in April 2015. In early 2015, the Company finalized its MATS compliance strategy for Plant Smith. The most cost-effective compliance option was to retire the Plant Smith coal-fired Units 1 and 2 in March of 2016. Plant Smith's remaining units will continue to operate and generate electricity. All of the Company's units that are subject to the MATS rule completed the measures necessary to achieve compliance with this rule or were retired prior to or during 2016.

EMERGING ENVIRONMENTAL REGULATIONS

316(b) Intake Structures

The EPA published a final 316(b) rule in 2014 that establishes standards for reducing effects on fish and other aquatic life caused by cooling water intake structures at existing power plants and manufacturing facilities. The rule also addresses cooling water intake structures for new units at existing facilities.

Compliance with the final rule may require changes to existing cooling water intake structures at certain Gulf generating facilities; however, the ultimate effect of this final rule will depend on the results of additional studies and implementation of the rule by regulators based on site-specific factors. National Pollutant Discharge Elimination System (NPDES) industrial wastewater permits issued after July 14, 2018, must include conditions to implement and ensure compliance with the standards and measures required by the rule, unless the permittee has requested and has been granted an alternative schedule for compliance.

Effluent Limitations

In 2015, the EPA finalized the steam electric effluent limitations guidelines (ELG) rule which imposes stringent technology-based requirements for certain waste streams from steam electric generating units. The revised technology-based limits and compliance dates will likely require extensive modifications to existing ash and wastewater management systems or the installation and operation of new ash and wastewater management systems. Compliance applicability dates range from November 1, 2018 to December 31, 2023, with state environmental agencies incorporating specific applicability dates in the NPDES permitting process based on information provided for each waste stream. The EPA has committed to a new rulemaking that could potentially revise the 2015 limitations and applicability dates of the bottom ash transport water and flue gas desulfurization (FGD) wastewater requirements. The EPA plans to propose rule revisions in 2019 and to finalize the rulemaking in 2020.

Waters of the U.S. Final Rule (WOTUS)

In 2015, the EPA and the U.S. Army Corps of Engineers (jointly, “the Agencies”) published a final rule revising the regulatory definition of waters of the U.S. for all Clean Water Act (CWA) programs. The final rule significantly expanded the scope of federal jurisdiction over waterbodies (such as rivers, streams, and canals), which could impact new generation projects and permitting and reporting requirements associated with the installation, expansion, and maintenance of transmission and distribution projects. This rule could significantly increase permitting and regulatory requirements and costs associated with the siting of new facilities and the installation, expansion, and maintenance of transmission and distribution lines. On July 27, 2017, the EPA and the Corps proposed to rescind the 2015 WOTUS rule. The WOTUS rule has been stayed by the U.S. Court of Appeals for the Sixth Circuit since late 2015, but on January 22, 2018, the U.S. Supreme Court determined that federal district courts have jurisdiction over the pending challenges to the rule. On February 6, 2018, the EPA and the Corps published a final rule delaying implementation of the 2015 WOTUS rule to 2020.

Water Quality and Total Maximum Daily Loads

In addition to this federal action, State of Florida nutrient water quality standards that limit the amount of nitrogen and phosphorous allowed in state waters are in effect for the State’s streams and estuaries. The impact of these standards will depend on further regulatory action in connection with their site-specific implementation through the State of Florida’s National Pollutant Discharge Elimination System permitting program and Total Maximum Daily Load restoration program and cannot be determined at this time.

Coal Combustion Residuals (CCR)

The Company currently manages CCR at three onsite storage units. These consist of an ash pond at one facility and landfills and surface impoundments (CCR units) at two electric generating plants in Florida. Gulf is a co-owner of units at generating plants located in Mississippi and Georgia operated by Mississippi Power and Georgia Power, respectively. In addition to on-site storage, the Company sells a portion of its CCR to third parties for beneficial reuse. Individual states regulate CCR and the States of Florida, Mississippi, and Georgia each have their own regulatory requirements. The Company has an inspection program in place to assist in maintaining the integrity of its coal ash surface impoundments.

The CCR rule, which became effective in October 2015, regulates the disposal of CCR, including coal ash and gypsum, as non-hazardous solid waste in landfills and surface impoundments (CCR units) at active generating power plants. The CCR rule requires CCR units to be evaluated against a set of performance criteria and potentially closed if minimum criteria are not met. Closure of existing CCR units will require installation of equipment and infrastructure to manage CCR in accordance with the rule. The EPA has announced plans to reconsider certain portions of the CCR Rule by no later than December 2019, which could result in changes to deadlines and corrective action requirements. The EPA's reconsideration of the CCR rule is due, in part, to a legislative development that impacts the potential oversight role of state agencies. Under the Water Infrastructure Improvements for the Nation Act, which became law in 2016, states are allowed to establish permit programs for implementing the CCR rule.

The Company has posted documents to its public website as required by the CCR rule; however, the ultimate impact of the CCR rule will depend on the results of initial and ongoing minimum criteria assessments and implementation of state or federal permit programs. As further analysis is performed, including evaluation of the expected method of compliance, refinement of assumptions underlying the cost estimates, such as the quantities of CCR at each site, and the determination of timing with respect to compliance, the Company expects to continue to periodically update cost estimates and schedules for the CCR compliance activities.

Clean Power Plan and Global Climate Update

In 2015, the EPA published final rules limiting CO_2 emissions from new, modified, and reconstructed fossil fuel-fired electric generating units and guidelines for states to develop plans to meet EPA-mandated CO_2 emission performance standards for existing units (known as the Clean Power Plan or CPP). In February 2016, the U.S. Supreme Court granted a stay of the CPP, which will remain in effect through the resolution of litigation in the U.S. Court of Appeals for the District of Columbia challenging the legality of the CPP and any review by the U.S. Supreme Court. On March 28, 2017, the U.S. President signed an executive order directing agencies to review actions that potentially burden the development or use of domestically-produced energy resources, including review of the CPP and other CO_2 emissions rules. On October 10, 2017, the EPA published a proposed rule to repeal the CPP and, on December 28, 2017, published an advanced notice of proposed rulemaking regarding a CPP replacement rule. The ultimate implications of the CPP will depend on the outcome of litigation and current rulemaking.

In 2015, parties to the United Nations Framework Convention on Climate Change, including the United States, adopted the Paris Agreement, which established a non-binding universal framework for addressing greenhouse gas (GHG) emissions based on nationally determined contributions. On June 1, 2017, the U.S. President announced that the United States would withdraw from the Paris Agreement and begin renegotiating its terms. The ultimate impact of this agreement or any renegotiated agreement depends on its implementation by participating countries.

Conclusion

Gulf has made substantial investments in environmental controls to comply with current and pending laws and regulations. As shown in Gulf's 2018 Compliance Plan, Gulf continues its development of strategies to address any future environmental requirements in order to minimize the uncertainty related to the scope and cost of compliance. As new initiatives emerge, Gulf will support any proposal that would help it meet environmental goals and objectives in a logical and cost-effective way, provided that the standards are based on sound science and economics which allow for adequate time to comply without compromising the safe, reliable and cost-effective supply of electricity to Gulf's customers.

AVAILABILITY OF SYSTEM INTERCHANGE

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

OFF-SYSTEM SALES

Gulf and other SES operating companies have engaged in the sale of firm capacity and energy to several utilities outside the SES through a series of long-term wholesale power sales agreements with initial terms beginning prior to 1987. Gulf's share of these long-term off-system sales of capacity and energy varies from year to year and is reflected in the reserve calculations on Schedules 7.1 and 7.2, while the fuel use and the energy associated with Gulf’s portion of these sales are included on Schedules 5 and 6.1, respectively. Gulf's primary contribution to these long-term off-system sales has come from its ownership interest in Unit 3 at Plant Scherer, which Gulf acquired as part of its long-range resource planning to meet the needs of its retail electric service customers. The remaining contract is scheduled to end in December 2019.

CHAPTER IV

FORECAST OF FACILITIES REQUIREMENTS

CAPACITY RESOURCE ALTERNATIVES

POWER PURCHASES

Due to the reasons discussed previously, Gulf has determined that its next resource need can best be met with the construction of a dual-fuel 1-on-1 CC. As Gulf considers self-build resources that can potentially meet its future need for capacity beyond its next need, longer-term power purchases from the market will also be evaluated to determine the impact on supply flexibility and reduced commitment risk during periods in which environmental regulations (with considerable economic impacts) and legislative initiatives focusing on generation additions are in various stages of development. Gulf will continue to utilize both short-term and longer-term market purchases in the future to balance its approach to supply-side resource development.

CAPACITY ADDITIONS

In conjunction with the SES, Gulf conducts economic evaluations of its potential supply options to determine the most cost-effective means of meeting its future capacity obligations. Commercially available generating technologies such as natural gas-fired combustion turbine, natural gas-fired combined cycle, and nuclear technologies have been and will be included in future SES IRP mix studies. In addition, utility-scale renewable generating facilities can be evaluated in conjunction with future generation mix studies so that their potential economic and technical viabilities may be determined.

The evaluation of potential supply options has led to the determination that future natural gas-fired generation additions would be best suited to meet the electrical need of Gulf's customers. Gulf has determined through a number of subsequent economic evaluations that the construction of a 595 MW dual-fuel 1-on-1 CC at its North Escambia generating site is its best self-build option to serve the long-term needs of its retail customers in Northwest Florida with reliable and cost-effective electricity.

Gulf will continue to evaluate its internal construction options versus external development of capacity resources to determine how to best meet its future capacity obligations beyond 2023. As new commercially available technologies emerge, these will be evaluated in future generation mix studies so that their potential economic and technical viabilities may be evaluated. The potential benefits of these technologies may include greater efficiency and lower environmental emissions.

RENEWABLE RESOURCES

Gulf has secured the supply of capacity and/or energy from several renewable facilities. Schedule 6.3 of this TYSP includes the amount of renewable energy that Gulf has produced or purchased from existing renewable resources and the amounts currently projected to be produced or purchased from existing renewable resources during the 2018-2027 planning cycle.

Gulf will continue to purchase renewable energy produced by the Bay County Resource Recovery Facility through a negotiated energy purchase agreement that was executed in 2017. This facility, operated and maintained by Engen, LLC, is located in Panama City, Florida, and uses municipal solid waste to produce energy for delivery to Gulf on a non-firm basis. Per terms of the agreement, Gulf purchases the energy delivered to its system at fixed prices and the agreement expires in July 2023.

In 2010, Gulf began receiving energy from its Perdido landfill gas-fired generating facility that is located on leased property adjacent to Escambia County's Perdido Landfill which is northwest of Pensacola, Florida. Gulf's Perdido facility consists of two Caterpillar G3520C internal combustion generating units that have a maximum capacity rating of 1.6 MW each. The facility is operated and maintained under contract with LFG Technologies, Inc. Gulf has an agreement with Escambia County, Florida, for the purchase of their landfill gas to fuel this Gulf-owned facility. The agreement has a term of 20 years and can be renewed for additional, successive 12-month periods.

Gulf Power has energy purchase agreements that provide renewable energy from three solar facilities (Gulf Coast Solar Center I, Gulf Coast Solar Center II, and Gulf Coast Solar Center III) and two energy purchase agreements for renewable energy produced by the Kingfisher Wind project to serve Gulf's customers. Construction of the solar projects at three military bases in Northwest Florida was completed in 2017. The Kingfisher Wind project produces renewable energy from a facility located in Oklahoma.

In 2014, Gulf Power and Gulf Coast Solar Center I, II, & III, LLC (subsidiaries of Coronal Development Services, LLC) executed three separate agreements that provide for the sale of energy produced by the solar facilities to Gulf. Each solar energy purchase agreement has a term of 25 years and contains robust performance security provisions to protect Gulf and its customers in case of contract default.

Gulf Coast Solar Center I, LLC owns, operates and maintains a 30 MW solar generation facility on Eglin Air Force Base in Okaloosa County, Florida. Gulf Coast Solar Center II, LLC owns, operates and maintains a 40 MW solar generation facility on the U.S. Navy's Holley Outlying Field in Santa Rosa County, Florida. Gulf Coast Solar Center Ill, LLC owns, operates and maintains a 50 MW solar generation facility on the U.S. Navy's Saufley Outlying Field in Escambia County, Florida. Each of the facilities is directly interconnected to Gulf Power transmission facilities and the owners are fully responsible for the costs of interconnection. These solar energy purchase agreements are expected to provide multiple benefits to Gulf Power and its customers including, but not limited to, cost savings over the term of the agreements, fuel diversity, promotion of renewable energy generation in Florida, and assistance to the United States Air Force and the United States Navy in achieving their goals for the promotion of renewable generation.

In 2014, Gulf Power and Morgan Stanley executed an energy purchase agreement (Kingfisher I) which has a term of 20 years. The Kingfisher Wind project, constructed as a result of this agreement, is located in Kingfisher and Canadian Counties, Oklahoma. Included in the agreement are performance security provisions designed to protect Gulf and its customers in case of default. Morgan Stanley is obligated to deliver a fixed number of MWhs to Gulf in each hour of the agreement's 20-year term, and Gulf will purchase the energy at prices as specified in the agreement. Morgan Stanley bears all risks and responsibilities associated with delivering energy to the SES transmission system. The agreement is expected to provide multiple benefits to Gulf and its customers including, but not limited to, substantial cost savings over the term of the agreement, reduced exposure to future fuel cost increases and volatility, and promotion of new renewable wind energy generation.

In 2016, Gulf and Morgan Stanley executed a second energy purchase agreement (Kingfisher II). This Kingfisher II agreement is substantially similar to the Kingfisher I agreement, wherein Morgan Stanley is obligated to deliver a fixed number of MWhs to Gulf in each hour of the agreement's remaining term, and Gulf will purchase the energy at prices as specified in the agreement.

Under the solar and wind energy purchase agreements, Gulf retains the flexibility to serve its retail customers with renewable energy by retiring the associated environmental attributes or selling the energy and/or environmental attributes separately or bundled together to third parties. To the extent that Gulf Power opts to sell renewable attributes, the proceeds from such sales would be returned to Gulf's retail customers in the form of credits to the Fuel and Purchased Power Cost Recovery Clause.

Gulf is continuously looking for opportunities to provide cost-effective renewable energy to increase its fuel diversity. This includes opportunities to construct its own facilities or to purchase energy from new or existing renewable facilities. Gulf has access to possible purchases of renewable energy through its Renewable Standard Offer Contract (RSOC) on file with the FPSC. Consistent with state law, Gulf updates its pricing for the RSOC as needed so that a standard offer for the purchase of renewable energy is continually available to developers of renewable resources. Gulf may also negotiate a PPA with a renewable energy supplier.

GULF POWER COMPANY

Schedule 6.3
Renewable Energy Sources

(1)	(2)	(3) Actuals	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Renewable Energy Sources [A]		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(1) Renewable Generating Capacity												
	Perdido (MW)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Kingfisher Wind [B] (MW)	89.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0
	Gulf Coast Solar Centers [C] (MW)	0.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
	Perdido (MWh)	24,503	24,699	24,699	24,765	24,699	24,699	24,699	24,765	24,699	24,699	24,699
	Bay County (MWh)	61,894	60,000	60,000	60,000	60,000	60,000	25,000	0	0	0	0
	Gulf Coast Solar Center I @ Eglin (MWh)	38,053	59,995	59,693	59,539	59,090	58,789	58,487	58,330	57,884	57,583	57,281
	Gulf Coast Solar Center II @ Holley (MWh)	41,662	80,797	80,391	80,192	79,579	79,173	78,767	78,564	77,955	77,549	77,143
	Gulf Coast Solar Center III @ Saufley (MWh)	42,359	99,202	98,703	98,447	97,706	97,208	96,709	96,448	95,712	95,214	94,715
	Kingfisher Wind I (MWh)	674,286	674,437	674,437	675,597	674,437	674,437	674,437	675,597	674,437	674,437	674,437
	Kingfisher Wind II (MWh)	331,725	356,843	356,843	357,458	356,843	356,843	356,843	357,458	356,843	356,843	356,843
	Total MWh	1,214,482	1,355,973	1,354,766	1,355,998	1,352,354	1,351,149	1,314,942	1,291,162	1,287,530	1,286,325	1,285,118
	% of Capacity Mix	2.9	4.6	4.6	4.5	4.5	4.5	6.1	4.9	4.9	4.9	4.9
	% of NEL	10.4	11.7	11.6	11.6	11.6	11.5	11.2	11.0	11.0	11.0	11.0
	% of Fuel Mix	7.9	9.0	8.9	8.3	8.0	8.6	9.0	8.7	8.2	8.5	8.4
(2) Self-Service Generation By Renewable Generation	MW	68	68	68	68	68	68	68	68	68	68	68
	MWh [D]	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies

(A) Owned and/or Purchased by Gulf.
(B) MWs scheduled during the system peak hour per contract obligation to deliver fixed amount per hour.
(C) Projected summer incremental capacity equivalent megawatts for Gulf Coast Solar Centers.
(D) Energy produced by these customers' generators varies depending on demand for their product.

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PREFERRED AND POTENTIAL SITES FOR CAPACITY ADDITIONS

Gulf has evaluated options to construct new generating facilities to replace its 885 MW Shell PPA that expires in May 2023. Screening level studies indicate that natural gas-fired generation is the leading technology for meeting Gulf's next resource need. Gulf has analyzed both combustion turbine (CT) and combined cycle (CC) gas-fired generation at its existing Florida sites at Plant Crist, Plant Smith, and Plant Scholz, as well as its greenfield sites in Florida at Shoal River in Walton County, at Caryville in Holmes County, and at North Escambia in Escambia County. Each of these potential sites has unique characteristics that offer construction and/or operational advantages related to the potential installation of natural gas-fired CTs or CCs. Site selection for Gulf's next generating unit addition is based on existing infrastructure, available acreage and land use, water availability, transmission, fuel facilities, environmental standards, and overall project economics. Utilizing analysis of the individual sites and technologies, Gulf has determined that the addition of a dual-fuel 1-on-1 CC at its North Escambia site will provide the best long-term value for its customers. As discussed below, Gulf refers to the North Escambia site as the preferred site for its next resource need; however, further land acquisitions may be required to complete Gulf's North Escambia site, and therefore, it does not meet the definition of a "preferred site" found in Form PSC/ENG 43-E (11/97) as adopted in Rule 25-22.072 (1) Florida Administrative Code. Gulf continues to develop the necessary environmental and land use information that is required by Form PSC/ENG 43-E.

Gulf Preferred Site: North Escambia Property, Escambia County

The project site is to be located on undeveloped Gulf property in the northern part of Escambia County, Florida, approximately five miles southwest of Century, Florida. It is situated just west of the Escambia River and can be accessed via County Road 4 from nearby U. S. Highway 29. Gulf is conducting detailed studies to determine the exact size and position 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. An important part of this determination is locating the CC project within the site such that Gulf can add additional MWs of utility-scale solar PV on the North Escambia site if doing so is cost-effective in the future.

U. S. Geological Survey (USGS) Map

The determination of the actual footprint of the site is not complete at this time.

Land Uses and Environmental Features

The North Escambia property is primarily dedicated to timber harvesting and agricultural use. The property is in close proximity to transmission, natural gas pipelines, railroad, major highways and access to water, all suitable to accommodate Gulf's proposed 1-on-1 CC to meet its future generation needs. The site is currently 2,728 acres and includes property located directly on the Escambia River to support the water supply needs for any future generating facility. The land surrounding the property is primarily rural and is used mainly for timber harvesting and agriculture. General environmental features of the property mainly include wooded upland areas, with areas of hardwood/pine forest and wetlands. There are no other unique or significant environmental features on the property that would substantially affect future project development. Although final linear facility routes and associated land costs have not yet been determined, additional land purchases will be required for gas and water pipelines and directly associated transmission lines.

Water Supply Sources

For industrial processing, cooling, and other water needs, Gulf's proposed 1-on-1 CC will likely use a combination of groundwater from on-site production wells and available surface water from the Escambia River. The estimated peak water usage for the proposed 1-on-1 CC is approximately 4,800 gallons per minute (GPM), with the majority of the CC water needs being required for cooling purposes. More precise water usage estimates are highly dependent upon the final engineering of Gulf's selected generation technology and quality of the water body at this preferred site.

GULF POWER COMPANY

SCHEDULE 7.1

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
							RESERVE MARGIN BEFORE MAINTENANCE			RESERVE MARGIN AFTER MAINTENANCE	
YEAR	TOTAL INSTALLED CAPACITY MW	FIRM CAPACITY IMPORT MW	FIRM CAPACITY EXPORT MW	NUG MW	TOTAL CAPACITY AVAILABLE MW	FIRM PEAK DEMAND MW	MW	% OF PEAK	SCHEDULED MAINTENANCE MW	MW	% OF PEAK
2018	2,265	1,030	(50)	0	3,245	2,383	862	36.2%	NONE	862	36.2%
2019	2,265	1,030	(50)	0	3,245	2,400	845	35.2%		845	35.2%
2020	2,265	1,030	0	0	3,295	2,405	890	37.0%		890	37.0%
2021	2,265	1,030	(14)	0	3,281	2,415	866	35.9%		866	35.9%
2022	2,265	1,030	(10)	0	3,285	2,417	868	35.9%		868	35.9%
2023	2,265	145	0	0	2,410	2,419	(9)	-0.4%		(9)	-0.4%
2024	2,860	145	0	0	3,005	2,415	590	24.4%		590	24.4%
2025	2,773	145	0	0	2,918	2,413	505	20.9%		505	20.9%
2026	2,773	145	0	0	2,918	2,416	502	20.8%		502	20.8%
2027	2,698	145	0	0	2,843	2,418	425	17.6%		425	17.6%

GULF POWER COMPANY

SCHEDULE 7.2

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TOTAL INSTALLED CAPACITY	FIRM CAPACITY IMPORT	FIRM CAPACITY EXPORT	NUG	TOTAL CAPACITY AVAILABLE	FIRM PEAK DEMAND	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE	RESERVE MARGIN AFTER MAINTENANCE	
YEAR	MW	MW	MW	MW	MW	MW	MW	% OF PEAK	MW	MW	% OF PEAK
2017-18	2,311	994	(50)	0	3,255	2,202	1,053	47.8%	NONE	1,053	47.8%
2018-19	2,304	994	(50)	0	3,248	2,192	1,056	48.2%		1,056	48.2%
2019-20	2,304	994	(50)	0	3,248	2,259	989	43.8%		989	43.8%
2020-21	2,304	994	0	0	3,298	2,245	1,053	46.9%		1,053	46.9%
2021-22	2,304	994	(14)	0	3,284	2,244	1,040	46.3%		1,040	46.3%
2022-23	2,304	994	(10)	0	3,288	2,246	1,042	46.4%		1,042	46.4%
2023-24	2,304	109	0	0	2,413	2,241	172	7.7%		172	7.7%
2024-25	2,827	109	0	0	2,936	2,240	696	31.1%		696	31.1%
2025-26	2,812	109	0	0	2,921	2,243	678	30.2%		678	30.2%
2026-27	2,737	109	0	0	2,846	2,247	599	26.7%		599	26.7%

GULF POWER COMPANY

SCHEDULE 8
PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Fuel		Fuel Transport		Const	Com'l In-	Effective	Gen Max	Net Capability		
	Unit		Unit					Start	Service	Date	Nameplate	Summer	Winter	
Plant Name	No.	Location	Type	Pri	Alt	Pri	Alt	Mo/Yr	Mo/Yr	Mo/Yr	KW	MW	MW	Status
Daniel	1	Jackson County, MS 42/5S/6W	FS	C	--	RR	--	--	09/77	06/18	274,125	(4.0)	(4.0)	CR
Daniel	2	Jackson County, MS 42/5S/6W	FS	C	--	RR	--	--	06/81	06/18	274,125	(4.0)	(4.0)	CR
Scherer	3	Monroe County, GA	FS	C	--	RR	--	--	01/87	06/18	222,750	1.0	1.0	CR
Pea Ridge	1 - 3	Santa Rosa County 15/1N/29W	CT	NG	--	PL	--	--	05/98	04/25	14,250	(12.0)	(15.0)	R
Combined Cycle 2	1	North Escambia 20/05N/31W	CC	NG	DFO	PL	TK	10/21	06/24	06/24	625,000	595.0	598.0	P
Crist	4	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	07/59	12/24	93,750	(75.0)	(75.0)	NC
Crist	5	Escambia County 25/1N/30W	FS	C	NG	WA	PL	--	06/61	12/26	93,750	(75.0)	(75.0)	NC

Abbreviations:

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

Fuel
C - Coal
NG - Natural Gas
DFO - Distillate Fuel Oil
LFG - Landfill Gas
WDS - Wood Waste Solid

Status
CR - Certified Rating change
D - Environmental derate
P - Planned, but not authorized by utility
NC - Not yet committed for retirement
R - To effective retirement dates shown
U - Under construction, less than or

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

GULF POWER COMPANY

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number:		Combined Cycle 2	
(2)	Net MW Capacity		NG	DFO
	a. Summer:		595	468
	b. Winter		598	488
	Gross MW Capacity			
	a. Summer:		608	481
	b. Winter		611	501
(3)	Technology Type:		Dual Fuel 1-on-1 Combined Cycle	
(4)	Anticipated Construction Timing			
	a. Field construction start - date:		10/21	
	b. Commercial in-service date:		06/24	
(5)	Fuel			
	a. Primary fuel:		NG	
	b. Alternate fuel:		DFO	
(6)	Air Pollution Control Strategy:		SCR w/ CO catalyst	
(7)	Cooling Method:		Evaporative Cooling	
(8)	Total Site Area:		2,728 acres (entire site)	
(9)	Construction Status:		Pending	
(10)	Certification Status:		Not Applied	
(11)	Status with Federal Agencies:		Not Applied	
(12)	Projected Unit Performance Data			
	Planned Outage Factor (POF):		6.0%	
	Unplanned Outage Factor (UOF):		6.0%	
	Equivalent Availability Factor (EAF):		88.0%	
	Capacity Factor (%):		78.0%	
	Average Net Operating Heat Rate (ANOHR):	NG	6,920	
		DFO	6,918	
(13)	Projected Unit Financial Data			
	Book Life (Years):		40	
	Total Installed Cost (In-Service Year $/kW):		1,223	
	Direct Construction Cost ('18 $/kW):		813	
	AFUDC Amount ($/kW):		334	
	Escalation ($/kW):		76	
	Fixed O&M ('24 $/kW - Yr) [(A)] :		55.93	
	Variable O&M ('24 $/MWH):		1.58	
	K Factor:		1.2510	

(A) Fixed O&M with Firm Gas Transportation cost.

GULF POWER COMPANY

Schedule 10

Status Report and Specifications of Proposed Directly Associated Transmission Lines

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