Ten Year Power Plant Site Plan
2020 – 2029

FPL

Gulf Power®
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Ten Year Power Plant Site Plan

2020-2029

Submitted To:

Florida Public Service Commission

April 2020
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Overview of the Document

Chapter 186, Florida Statutes, requires that each electric utility in the State of Florida with a minimum existing generating capacity of 250 megawatts (MW) must annually submit a Ten Year Power Plant Site Plan (Site Plan). This Site Plan should include an estimate of the utility’s future electric power generating needs, a projection of how these estimated generating needs could be met, and disclosure of information pertaining to the utility’s Preferred and Potential power plant sites. The information contained in this Site Plan is compiled and presented in accordance with Rules 25-22.070, 25-22.071, and 25-22.072, Florida Administrative Code (F.A.C.).

Site Plans are long-term planning documents and should be viewed in this context. A Site Plan contains uncertain forecasts and tentative planning information. Forecasts evolve, and all planning information is subject to change, at the discretion of the utility. Much of the data submitted is preliminary in nature and is presented in a general manner. Specific and detailed data will be submitted as part of the Florida site certification process, or through other proceedings and filings, at the appropriate time.

This Site Plan document addresses both Florida Power & Light Company (FPL) and Gulf Power Company (Gulf). NextEra Energy, the parent company of FPL, acquired Gulf in January 2019. As a result, resource planning for both FPL and Gulf are now performed by FPL’s resource planning group. The information presented in this Site Plan is based on integrated resource planning (IRP) analyses that were carried out in 2019 and that were on-going in the first Quarter of 2020. The forecasted information presented in this plan addresses the years 2020 through 2029.

This document is organized in the following manner:

Chapter I – Description of Existing Resources
This chapter provides an overview of FPL’s and Gulf’s current generating facilities. Also included is information on other FPL and Gulf resources including purchased power, demand side management (DSM), and FPL’s and Gulf’s transmission system.

Chapter II – Forecast of Electric Power Demand
The load forecasting methodology utilized for both FPL and Gulf, and the resulting forecast of seasonal peaks and annual energy usage, are presented in Chapter II. Included in this discussion is the projected significant impact of federal and state energy-efficiency codes and standards.
Chapter III – Projection of Incremental Resource Additions
This chapter discusses the integrated resource planning (IRP) process and presents currently projected resource additions in both the FPL and Gulf areas. This chapter also discusses a number of factors or issues that either have changed, or may change, the resource plan presented in this Site Plan. Furthermore, this chapter also discusses previous and planned DSM efforts, the projected significant impact of state/federal energy-efficiency codes and standards, previous and planned renewable energy efforts, projected transmission additions, and the fuel cost forecasting processes.

Chapter IV – Environmental and Land Use Information
This chapter discusses environmental information as well as Preferred and Potential Site locations for additional electric generation facilities in both FPL and Gulf areas.

Chapter V – Other Planning Assumptions and Information
This chapter addresses twelve (12) “discussion items” which pertain to additional information that is included in a Site Plan filing.
## List of Abbreviations Used in Forms

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<td><strong>Unit Type</strong></td>
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<tr>
<td></td>
<td>CC</td>
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<td></td>
<td>CT</td>
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<td></td>
<td>GT</td>
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<tr>
<td></td>
<td>PV</td>
<td>Photovoltaic</td>
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<td>Steam Unit (Fossil or Nuclear)</td>
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<td>Under construction, less than or equal to 50% Complete</td>
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<td>V</td>
<td>Under construction, more than 50% Complete</td>
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<td><strong>Other</strong></td>
<td>ESP</td>
<td>Electrostatic Precipitators</td>
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<td>K Factor</td>
<td>The K factor for the capital costs of a given unit is the cumulative present value of revenue requirements (CPVRR) divided by the total installed cost</td>
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Executive Summary

This Ten-Year Site Plan (Site Plan) document addresses the projected electric power generating resource additions and retirements for the years 2020 through 2029 for both Florida Power & Light Company (FPL) and Gulf Power Company (Gulf).

On January 1, 2019, Gulf became a subsidiary of NextEra Energy, Inc. which also owns FPL. Prior to this transaction, resource planning analyses for Gulf were performed by Southern Company Services. Among other things, such planning was based on Gulf remaining a part of the Southern Company system. Starting in January 2019, these planning services have been, and will continue to be, performed for both companies by FPL’s resource planning group.

NextEra Energy’s plan is to integrate FPL and Gulf into a single electric operating system effective on January 1, 2022 after the completion of a new 161 kV transmission line (the North Florida Resiliency Connection line) that will enhance the electrical connection between the two systems. This enhanced connection will benefit customers in both systems by better enabling the siting of clean, reliable, low cost generation, and the transmission of energy from those facilities, to all customers. Consequently, the resource planning work during 2019 and early 2020 that is discussed in this Site Plan has largely focused on developing a resource plan for the single integrated system. However, because this Site Plan addresses two years (2020 and 2021) prior to the scheduled electrical integration of the two systems, a number of schedules and tables will show information for the separate systems for those two years. All information presented for the years 2022 through 2029 is for the single integrated system.¹

This 2020 Site Plan presents the current plans to augment and enhance the electric generation capability of FPL and Gulf as part of efforts to cleanly, reliably, and cost-effectively meet projected incremental resource needs for 2020 through 2029. FPL already has one of the cleanest emission profiles of any electric utility in the U.S. In 2019, FPL delivered approximately 98% of its energy from a combination of low-emission natural gas, zero-emission nuclear, and zero-emission solar. With the resource additions presented in this Site Plan (which include solar additions consistent with FPL’s announced plan to add more than 30 million solar panels by 2030), plus the planned retirement of FPL’s ownership portion of a large coal-fueled generating unit, the emission profile of FPL’s fleet of generating units is projected to become even cleaner.

¹ In this document, the separate companies will be referred to as FPL and Gulf for the years 2020 and 2021, and the single operating system will be referred to as FPL for the years 2022 through 2029. Likewise, the term “system” is generally used to discuss the separate FPL and Gulf systems for the years 2020 and 2021, and the term “area” is generally used to discuss the FPL and Gulf geographic areas for the years 2022 through 2029.
Although Gulf receives energy from several power purchase agreements that are either solar- or wind-based, the emission profile for Gulf’s generation fleet is currently not as good as FPL’s. However, this Site Plan describes a number of planned changes regarding generating units in the Gulf area that will significantly improve its emission profile. These planned changes include, but are not limited to, the addition of new solar facilities, enhancing the generation capability of an existing large gas-fueled combined cycle (CC) unit, the conversion of two generating units from coal-fueled to natural gas-fueled, and the retirement of Gulf’s ownership portion of two other coal-fueled generating units.

As a result, after accounting for these planned changes to generating units in both FPL’s and Gulf’s areas, the clean energy percentage for the larger integrated FPL and Gulf utility system is projected to climb to approximately 99% by the end of the 10-year reporting period of this Site Plan.

Furthermore, there is a projected significant increase in the percentage of energy that will be delivered from zero-emission energy sources (solar, wind, and nuclear) over this 10-year reporting period. This is due to a projected significant increased contribution from zero-emission solar over these 10 years while the projected contributions from zero-emission wind and nuclear are projected to remain essentially unchanged.

In 2019, the percentage of the total energy delivered to all customers from both FPL and Gulf that was from zero-emission sources was approximately 22%. By 2029, the last year of the 10-year reporting period addressed in this document, the percentage of the total energy delivered to all customers for the single integrated system from zero-emission sources, including new solar facilities that are associated with FPL’s Solar Together program\(^2\), is projected to increase to approximately 37% which represents a 68% increase from 2019. This increase in the percentage of energy that is projected to be delivered by zero-emission sources is significant for a utility system of this size, especially when considering that the total amount of energy projected to be delivered to customers in 2029 will have also increased. The projections of energy by fuel/generation type are presented in Schedules 6.1 and 6.2 in Chapter III.

By design, the primary focus of this document is on projected supply side additions; i.e., electric generation capability and the sites for these additions. The supply side additions discussed herein are resources projected to be needed after accounting for FPL’s and Gulf’s demand side management (DSM) resource capabilities and additions. In 2019, the Florida Public Service Commission (FPSC) established DSM Goals for the years 2020 through 2024 for a number of Florida utilities, including FPL and Gulf. Throughout this document, the analysis results discussed are based on an assumption that both companies will meet their respective DSM Goals in regard to Summer MW reduction, Winter MW...

\(^2\) In the Solar Together community solar program, participating customers share in the costs and benefits of a dedicated FPL Solar Together PV facility and are entitled, upon their request, to have the environmental attributes associated with their participation retired by FPL on their behalf.
reduction, and annual energy (MWh) reduction through the end of 2024. In addition, further DSM reductions for the years 2025 through 2029 are assumed. DSM is discussed in more detail in Chapters I, II, and III.

Additionally, load forecasts for both FPL and Gulf account for a very large amount of energy efficiency that results from federal and state energy-efficiency codes and standards. The projected impacts of these energy-efficiency codes and standards are discussed later in this summary and in Chapters II and III.

The projected resources, including resource additions and retirements, are summarized in Section I below. In addition, there are a number of factors that either have influenced, or may influence, ongoing resource planning efforts. These factors could result in different resources being added in the future than those presented in this docket. These factors are discussed below in Section II. Additional information regarding the topics is presented in Chapter III.

I. Summary of Projected Resources:

A summary of the projected resources, including resource additions and retirements, in both the FPL and Gulf areas is presented below. This discussion is presented in terms of the various types of resource options (solar, etc.) in the resource plan.

**Solar:**
At the end of 2019, FPL had a total of approximately 1,228 MW of total solar generation on its system. All of this solar is from FPL-owned solar facilities. Of this total, approximately 1,153 MW is from photovoltaic (PV) facilities and 75 MW are from a solar thermal facility. Also, at the end of 2019, Gulf had a total of 120 MW of solar that is delivered from three PV sites under three power purchase agreements (PPAs).

On November 18, 2019, the FPSC approved (Order No. PSC-2019-0484-FOF-EI) four additional PV facilities for FPL under the SoBRA (Solar Base Rate Adjustment) provision from the 2016 FPL Settlement Agreement (Order No. PSC-2016-0560-AS-EI). Each of these four PV facilities will be 74.5 MW and are scheduled to be in commercial operation in 2020.

This resource plan projects a significant increase in solar (PV) resources during the 10-year reporting period. Approximately 8,860 MW of additional PV generation is projected to be added in the 2020

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3 Each reference to PV capacity in this Site Plan reflects the nameplate rating, AC, unless noted otherwise.
through 2029 time period with approximately 7,300 MW sited in FPL’s area and approximately 1,560 MW sited in Gulf’s area. These additional PV facilities are projected to be 74.5 MW each. Approximately 1,500 MW of the 7,300 MW of PV projected to be sited in FPL’s area is projected to come from FPL’s new Solar Together program which was approved by the FPSC on March 3, 2020.

When combining these projected solar additions with the approximately 1,150 MW of solar PV already installed on FPL’s system at the end of 2019, the projected total of solar PV for the single integrated utility by the end of 2029 is slightly more than 10,000 MW. This planned solar implementation schedule is consistent with FPL’s January 2019 announcement of its “30-by-30” plan in which FPL stated an objective to install more than 30 million solar panels on FPL’s system by the year 2030.

This amount of cumulative solar is based on current projections that these solar additions will be cost-effective for FPL’s customers. FPL’s resource planning work in 2020 and beyond will continue to analyze the projected system economics of solar.4

**Battery Storage:**

In FPL’s 2019 Site Plan, the projection was for approximately 469 MW of battery storage to be added in late 2021 with the majority of this battery storage capability projected to be installed in Manatee County as part of the plan to retire the two Manatee steam generating units. These 469 MW of battery storage are also included in this 2020 Site Plan. It is now projected that 409 MW of battery storage will be sited at Manatee as part of this plant retirement effort by late 2021. This battery storage facility will be charged by solar energy from an existing nearby PV facility. The remaining 60 MW of battery storage will be divided into two 30 MW battery storage facilities that will be installed at two different locations in FPL’s service area in late 2021. Both of these battery storage facilities will also be charged by existing solar facilities. In addition, the resource plan presented in this Site Plan projects an additional approximately 700 MW of battery storage facilities by 2029 with all of these storage facilities currently projected to be sited in Gulf’s area.

FPL continues to analyze other opportunities to utilize battery storage systems, including combining battery storage with new or existing PV facilities. FPL is also evaluating a number of other battery storage applications to gauge the potential for such applications to be beneficial for FPL’s customers

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4 System economics of future solar and natural gas-fueled generation will depend upon a number of factors other than future PV costs, including, but not necessarily limited to: natural gas costs, environmental compliance costs, potential technology improvements regarding cost and/or efficiency of both solar and natural gas-fueled generation, and potential system impacts of increasing amounts of solar.
if/when projected cost declines occur. Some of these potential applications are being examined through FPL’s 50 MW Battery Storage Pilot Project that is discussed in Chapter III.

**Modernization of Non-Renewable Generation:**

For a number of years, FPL has undertaken a program to modernize its non-renewable generating units based on cost-effectiveness. These efforts have substantially improved system fuel efficiency and increased capacity while also reducing system air emission rates (including greenhouse gas emission rates) and reducing fuel and other costs for FPL’s customers. The plan is to continue this program in both FPL and Gulf areas to further improve the efficiency and capabilities of the fossil-fueled generation fleet in 2020 and beyond through three principal initiatives: (i) retirement of existing generating units that are no longer economic to operate, (ii) enhancements to existing generating units, and (iii) addition of cost-effective new gas-fired generation as appropriate. These three modernization efforts are separately described below.

(i) **Retirement of Existing Generating Units That Are No Longer Economic to Operate:**

In its 2019 Site Plan, FPL discussed plans to retire two additional steam generating units (Manatee Units 1 & 2) and two older CC units (Lauderdale Units 4 & 5). Similar to two recently retired units at the Martin plant site, each of the Manatee units is approximately 800 MW and the units have become relatively inefficient compared to current generation technology. As a result, FPL’s 2019 Site Plan projected that these units would be retired in late 2021. As previously mentioned, a 409 MW battery storage facility will be installed in Manatee County by late 2021 to partially offset the loss of generation in the Manatee area from the retirement of Manatee Units 1 & 2.

The retirement of the Lauderdale Units 4 & 5 has occurred, and these retirements are part of the modernization of FPL’s existing Lauderdale power plant site. These two older CC units were each 442 MW units (for a total capacity of approximately 884 MW) that resulted from a repowering project approximately 25 years ago – but which contained certain now-outdated plant components, including the steam turbine, that dated back to the 1950s. These two units will be replaced with a new, modern CC unit that is discussed below. The FPSC voted unanimously to approve this modernization on March 1, 2018. (FPSC Order No. PSC-2018-0150-FOF-EI issued March 19, 2018). The FPSC based its approval on projections of significant economic savings for FPL’s customers; enhanced reliability for both the FPL system and the Southeastern Florida region (Miami-Dade and Broward counties) of FPL’s service territory; reduced use of natural gas system-wide; and reduced system emissions of sulfur dioxide (SO₂), nitrogen oxides (NOₓ), and carbon dioxide (CO₂). The Governor and Cabinet, serving as the Power Plant Siting Board, issued a Final Order approving certification of the project on December
13, 2018. Subsequently, the former Fort Lauderdale Units 4 & 5 were retired, and the dismantlement of those facilities has been completed. Construction of the new CC unit, named the Dania Beach Clean Energy Center Unit 7 (Dania Beach), is underway.

The current resource plan presented in this Site Plan continues to account for the retirements of the Manatee units and the new CC unit at the Lauderdale site. In addition, the current resource plan projects the planned early retirements of four coal-fueled generating units. First, the 330 MW power purchase agreement with Indiantown Cogen L.P. is projected to end, along with the retirement of the associated coal-fueled generating unit, in the 4\textsuperscript{th} Quarter of 2020. Second, the retirement of FPL’s ownership portion (approximately 76\%) of the coal-fueled Scherer Unit 4 unit in Georgia is planned by January 2022. FPL’s ownership portion of this unit is approximately 630 MW. Additionally, an early retirement of Gulf’s ownership portion (50\%) of two coal-fueled steam units by January 2024 is also planned. These units, Daniels Units 1 & 2, are located in the Mississippi Power service territory and Gulf’s ownership portion of the two units totals approximately 510 MW.

(ii) Enhancements to Existing Generating Units:

In its 2019 Site Plan, FPL discussed plans to upgrade the combustion turbine (CT) components in a number of FPL’s existing CC units. That upgrade effort is still included in the resource plan presented in this Site Plan. An additional multi-year upgrade effort is also now planned. These additional upgrades are projected to be completed in 2026 and will address CC units in both FPL’s and Gulf’s areas. The upgrades are projected to result in a total increased Summer capacity of approximately 600 MW as well as improved heat rates for each upgraded CC unit. Information regarding the specific units, timing, and magnitude of these upgrades is presented in Schedule 8 in Chapter III.

Two significant enhancements to existing generating units in the Gulf area are also included in the resource plan presented in this Site Plan. The first of those is the conversion of Crist Units 6 & 7 from coal-fueled to natural gas-fueled. This conversion effort is already underway and is scheduled to be completed before the end of 2020. This enhancement will result in both lower cost energy generated by the units and in significant fixed cost savings for Gulf area customers. The second enhancement is a pair of capacity upgrades to the Lansing Smith Unit 3. The installation phase of the first upgrade of this existing CC unit was completed in 2019 which will be followed by testing and tuning in the Spring of 2020. This upgrade is projected to increase the firm capacity of the unit by more than 80 MW. A second upgrade of the unit is planned for 2024 which is projected to increase unit capacity by another approximately 59 MW. Both upgrades in this second enhancement will also result in cost savings for Gulf area customers through both the deferral of future capacity needs and by increased output of lower cost natural gas-fueled energy production.
(iii) **Addition of Cost-Effective Natural Gas-Fueled Generation:**

In its 2019 Site Plan, FPL’s resource plan projected the addition of three new CC units with one each being added in 2019, 2022, and 2026. Gulf’s 2019 Site Plan projected the addition of a single new CC unit in 2024.

The first of the three FPL projected CC units was the Okeechobee Clean Energy Center unit which became operational on FPL’s system in 2019. This new CC unit supplies approximately 1,778 MW of firm capacity that can be delivered around the clock. The second of these is the previously mentioned Dania Beach CC unit that will come in-service in 2022. This unit is a key component of the modernization of FPL’s existing Lauderdale power plant site as discussed above. The third CC projected in FPL’s 2019 Site Plan was a new CC unit being added in 2026 at an as-yet-to-be-determined site. Gulf’s 2019 Site Plan projected a single new CC unit to be added at its Escambia site in 2024.

The resource plan presented in this 2020 Site Plan continues to show the new Dania Beach CC unit coming in-service in 2022. However, neither the other CC unit previously projected in FPL’s area for 2026, nor the Escambia CC unit in Gulf’s area previously projected for 2024, remain in the current resource plan. However, four new CT units at the existing Crist plant site in Gulf’s area are now part of the resource plan. These new CT units are being added based on system economics and for purposes of ensuring adequate fast-start operating reserves in Gulf’s area.

**Nuclear energy:**

Nuclear energy remains an important factor in FPL’s resource planning. Since June 2009, FPL has worked to secure from the federal Nuclear Regulatory Commission (NRC) Combined Operating Licenses (COL) for two future nuclear units, Turkey Point Units 6 & 7, that would be sited at FPL’s Turkey Point site (the location of two existing nuclear generating units). In April 2018, FPL received NRC approval for these two COLs. These licenses remain valid for approximately 20 years. At this time, FPL has paused regarding a decision whether to seek FPSC approval to move forward with construction of the new nuclear units. FPL intends to incorporate into that decision the construction experience of the nuclear units currently under construction by Georgia Power at its Vogtle site and similar units being developed in China. As a result, and similar to the case with FPL’s 2019 Site Plan, the earliest possible in-service dates for Turkey Point 6 & 7 are beyond the 10-year time period addressed in this 2020 Site Plan.
In addition, on January 30, 2018, FPL applied to the NRC for Subsequent License Renewal (SLR) for FPL’s existing Turkey Point Units 3 & 4. The previous license terms for these two existing nuclear units extended into the years 2032 and 2033, respectively. The SLR requested approval to extend the operating licenses by 20 years to 2052 and 2053, respectively. The NRC granted approval for the SLR in December 2019. Consequently, FPL’s resource plans include the continued operation of Turkey Point Units 3 & 4 out in time to those new license termination dates.

For these reasons, this Site Plan continues to present the Turkey Point location as a Preferred Site for nuclear generation as indicated in Chapter III.

II. Other Factors That Have Influenced, or Could Further Influence, the Current Resource Plan:

There are a number of factors that have influenced, or which may influence, the resource plan presented in this 2020 Site Plan. Six such factors are summarized below and are presented in no particular order. These factors and/or their potential influences on the resource plan presented in this Site Plan are further discussed in Chapters II and III.

Factor # 1: The critical need to maintain a balance between load and generating capacity in Southeastern Florida (Miami-Dade and Broward counties). This balance has both reliability and economic implications for FPL’s system and customers and it is a key reason that FPL sought and obtained an affirmative need determination decision from the FPSC for the Lauderdale modernization described above.

Factor # 2: The desire to maintain/enhance fuel diversity in the FPL system while considering system economics. Diversity is sought in terms of the types of fuel that FPL utilizes and how these fuels are transported to the locations of FPL’s generation units. These fuel diversity objectives are considered in light of economic impacts to FPL’s customers. For example, FPL is cost-effectively adding significant amounts of PV generation throughout the 10-year reporting period of this document. These PV additions enhance fuel diversity. At the same time, FPL is retiring coal generation and older, fuel-inefficient oil- or gas-fueled generation because these generating units are no longer cost-effective for FPL’s customers. In addition, FPL also seeks to further enhance the efficiency with which it uses natural gas to generate electricity.

Factor # 3: The need to maintain an appropriate balance of DSM and supply resources from the perspectives of both system reliability and operations. FPL addresses this through the use of a 10% generation-only reserve margin (GRM) reliability criterion to complement its other two reliability criteria:
a 20% total reserve margin criterion for Summer and Winter, and an annual 0.1 day/year loss-of-load-probability (LOLP) criterion. Together, these three criteria allow FPL to address this specific concern regarding system reliability and operations in a comprehensive manner.

Factor # 4: The significant impact of federal and state energy-efficiency codes and standards. The incremental impacts of these energy-efficiency codes and standards, from a beginning year 2020 starting point through the year 2029, are projected to have significant impacts by reducing forecasted Summer and Winter peak loads, and by reducing annual net energy for load (NEL), in both the FPL and Gulf areas. In addition, energy-efficiency codes and standards significantly reduce the potential for cost-effective energy efficiency that might otherwise have been obtained through utility DSM programs. The projected impacts of these energy efficiency codes and standards are discussed in more detail in Chapter II.

Factor # 5: The trends of decreasing costs for fuel, decreasing costs for new generating units, and increasing fuel efficiency of new generating units. There are a number of factors that drive utility system costs. Three of the most important of these are: (i) forecasted natural gas costs, (ii) projected costs for new generating units, and (iii) the efficiency with which generating units convert fuel into electricity. When comparing FPL’s forecasts of these factors over at least the last 5 years, the trends for each of these factors is in a direction that results in lower system costs for FPL’s customers. For example, when comparing FPL’s 2015 forecasted cost for natural gas for the year 2020 with the current (2020) forecasted cost for 2020, there has been more than a 55% decrease in natural gas costs. An even greater reduction in CO₂ compliance costs for 2020 occurred between the 2015 and current forecast. In addition, in regard to the fuel efficiency of FPL’s generating units, the amount of natural gas (measured in mmBTU of natural gas needed to produce a kWh of electricity) declined from 7,376 in 2015 to approximately 6,752 today. This improvement in fuel efficiency is truly significant, especially when considering the approximately 20,000 MW of gas-fueled generation on FPL’s system.

These trends of steadily lowering of key components of utility system costs are very beneficial to a utility’s customers because they help to lower electric rates.⁵

Factor # 6: Projected changes in CO₂ regulation and associated compliance costs. Since 2007, FPL has evaluated potential carbon dioxide (CO₂) regulation and/or legislation and has included projected compliance costs for CO₂ emissions in its resource planning work. However, there always has been an unavoidable level of uncertainty regarding the timing and magnitude of the cost impacts of the potential regulation/legislation. The forecast of potential CO₂ compliance costs that FPL used in its 2019 resource

⁵ However, because the potential benefits of utility DSM programs are based on DSM’s ability to avoid certain system costs, the trend of steadily decreasing utility system costs automatically results in a significant lowering of the cost-effectiveness of utility DSM programs.
planning work was lower than forecasts that had been used in prior years. In 2020, the forecasted compliance costs are somewhat higher than projected in 2019, but remain lower than projections from a decade before. Projected lower compliance costs are due to a number of factors projected for the Southeastern region of the U.S., including Florida. These factors include at least the following: lower forecasted growth rates in electricity usage; lower forecasted costs of natural gas; retirements of existing coal units; and increasing implementation of renewable energy sources including solar.

Each of these factors will continue to be examined by FPL’s resource planning group in its ongoing resource planning work in 2020 and future years.

III. A Summary of Projected Resource Changes for FPL and Gulf:

The resource plan presented in this 2020 Site Plan was developed based on considerations of projected system reliability, projected system economics, and other factors such as those discussed immediately above. Major changes in resources currently projected as part of this resource plan for the years 2020 through 2029 for both FPL and Gulf are summarized in Table ES-1. The changes are presented in terms of Summer firm capacity values.

Although this particular table does not specifically identify the impacts of projected DSM on resource needs and the resource plan, the projected DSM additions reflected in the resource plan presented in Table ES-1, and throughout this Site Plan, are consistent with the 2020 through 2024 DSM Goals set for FPL and Gulf (Order No. PSC-2019-0509-FOF-EG) in 2019 by the FPSC. The specific impacts of those DSM Goals through 2024, and of projected additional DSM impacts for 2025 through 2029, are shown in Schedules 3.1, 3.2, and 3.3.

A summary of some of the larger resource additions/retirements for both systems/areas include, but are not necessarily limited to, those listed below (in approximate chronological order):

For FPL’s system/area:
- New solar (PV) additions from 2020 through 2029 of approximately 7,300 MW;
- Capacity upgrades at a number of FPL’s existing CC units through 2026;
- Retirement of FPL’s ownership portion (approximately 630 MW) of the Scherer 4 coal unit by January 2022;
- A 409 MW battery storage facility at the Manatee plant site, plus two 30 MW battery storage facilities at different sites, by the beginning of 2022; and,
- The modernization of the existing Lauderdale power plant site in mid-2022 with the new DBEC CC Unit 7.
For Gulf’s system/area:
- New solar (PV) additions from 2020 through 2024 of approximately 1,560 MW;
- Capacity upgrades (two) of the existing Lansing Smith Unit 3 CC, with installation for the first upgrade completed in 2019 with testing and tuning in the Spring of 2020, then a planned second upgrade in 2024;
- Conversion from coal-fueled to natural gas-fueled of Crist Units 6 & 7 in 2020;
- A new FPL-to-Gulf transmission line by the beginning of 2022 enabling a bidirectional transfer capability between the two areas of 850 MW;
- Four new CTs at the Crist plant site by the beginning of 2022
- Expiration (as per the contract) of 885 MW from the Shell PPA in May, 2023;
- The retirement of Gulf’s ownership portion of the coal-fueled Daniels Units 1 & 2 by the beginning of 2024; and,
- A total of approximately 700 MW of battery storage in 2028 and 2029.

It is noted that no final decisions are needed at this time, nor have such decisions yet been made, regarding some of the resource additions shown in this 2020 Site Plan. This is particularly relevant to resource additions shown for years increasingly further out in time in the 2020 through 2029 time period. Consequently, those resource additions are more prone to future change.
### Table ES-1: Projected Capacity & Firm Purchase Power Additions and Changes:

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Capacity &amp; Firm Purchase Power Changes</th>
<th>FPL Summer MW (Approx.)</th>
<th>Gulf Summer MW (Approx.)</th>
<th>Date</th>
<th>Summer Reserve Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Solar PV 3/ (All solar facilities in-service January of 2020)</td>
<td>248</td>
<td>165</td>
<td>First Quarter 2020</td>
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<tr>
<td></td>
<td>SoBRA PV 3/</td>
<td>147</td>
<td>Second Quarter 2020</td>
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<td></td>
<td>Sanford 4</td>
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<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>566</td>
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<td>21.2%</td>
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<tr>
<td>2021</td>
<td>West County 3</td>
<td>21</td>
<td></td>
<td>Third Quarter 2020</td>
<td></td>
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<tr>
<td></td>
<td>Turkey Point 4</td>
<td>20</td>
<td></td>
<td>Fourth Quarter 2020</td>
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<tr>
<td></td>
<td>Solar PV 4/</td>
<td>539</td>
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<td>First Quarter 2021</td>
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<td></td>
<td>Solar Degradation 4/</td>
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<td>Total of MW changes to Summer firm capacity:</td>
<td>577</td>
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<td>21.6%</td>
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#### Gulf

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<tr>
<th>Year</th>
<th>Projected Capacity &amp; Firm Purchase Power Changes</th>
<th>Gulf Summer MW (Approx.)</th>
<th>Date</th>
<th>Summer Reserve Margin</th>
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<tbody>
<tr>
<td>2020</td>
<td>Solar PV 3/ (Solar facility in-service April 1st of 2020)</td>
<td>41</td>
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<td>Fourth Quarter 2020</td>
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<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>41</td>
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<tr>
<td>2021</td>
<td></td>
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</table>

**Integrated FPL and Gulf**

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Capacity &amp; Firm Purchase Power Changes</th>
<th>FPL Summer MW (Approx.)</th>
<th>Gulf Summer MW (Approx.)</th>
<th>Date</th>
<th>Summer Reserve Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>Manatee 1 and 2 Retirement</td>
<td>(1,618)</td>
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<td>Fourth Quarter 2021</td>
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<td></td>
<td>Scherer 4 Retirement</td>
<td>(634)</td>
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<td></td>
<td>Manatee Energy Storage</td>
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<td>Sunshine Gateway Energy Storage</td>
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<td>Echo River Energy Storage</td>
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<td>Fourth Quarter 2021</td>
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<td>AXO Crist DTs</td>
<td>938</td>
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<td>Fourth Quarter 2021</td>
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<td></td>
<td>Blue Springs PV 3/</td>
<td>37</td>
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<td>Fourth Quarter 2021</td>
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<td>Chautauqua PV 3/</td>
<td>37</td>
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<td>Fourth Quarter 2021</td>
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<td></td>
<td>Solar PV 3/</td>
<td>224</td>
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<td>First Quarter 2022</td>
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<td>Fort Myers 2 Upgrade</td>
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<td>Second Quarter 2022</td>
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<td></td>
<td>Dania Beach Clean Energy Center Unit 7</td>
<td>1,163</td>
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<td>Second Quarter 2022</td>
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<tr>
<td></td>
<td>Solar Degradation 4/</td>
<td>(5)</td>
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<tr>
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<td>Total of MW changes to Summer firm capacity:</td>
<td>(585)</td>
<td></td>
<td></td>
<td>1,237 26.1%</td>
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<tr>
<td>2023</td>
<td>Martin 8 Upgrade</td>
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<td>Second Quarter 2022</td>
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<td>Manatee 3 Upgrade</td>
<td>79</td>
<td></td>
<td>Second Quarter 2022</td>
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<tr>
<td></td>
<td>Solar PV 3/</td>
<td>209</td>
<td></td>
<td>First Quarter 2023</td>
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<tr>
<td></td>
<td>Fort Myers 2 Upgrade</td>
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<td>Second Quarter 2023</td>
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<tr>
<td></td>
<td>Solar Degradation 4/</td>
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<td>Total of MW changes to Summer firm capacity:</td>
<td>192</td>
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<td>209 22.8%</td>
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<td>Lansing Smith 3 Upgrade</td>
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<td>Daniel 1 and 2 Retirement</td>
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<td>Turkey Point 5 Upgrade</td>
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<td>First Quarter 2024</td>
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<td>Okeechobee Energy Center</td>
<td>58</td>
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<td>First Quarter 2024</td>
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<td>Solar PV 4/</td>
<td></td>
<td>209</td>
<td></td>
<td>First Quarter 2024</td>
</tr>
<tr>
<td></td>
<td>Solar Degradation 4/</td>
<td>(6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>131</td>
<td></td>
<td></td>
<td>(234) 20.8%</td>
</tr>
<tr>
<td>2025</td>
<td>Pea Ridge 1, 2 and 3 Retirement</td>
<td>(12)</td>
<td></td>
<td>Second Quarter 2024</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crist 4 Retirement</td>
<td>(75)</td>
<td></td>
<td>Fourth Quarter 2024</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar PV 3/</td>
<td>264</td>
<td></td>
<td>First Quarter 2025</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sanford 4 Upgrade</td>
<td>78</td>
<td></td>
<td>Second Quarter 2025</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sanford 5 Upgrade</td>
<td>78</td>
<td></td>
<td>Second Quarter 2025</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar Degradation 4/</td>
<td>(7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>413</td>
<td></td>
<td></td>
<td>(87) 20.5%</td>
</tr>
<tr>
<td>2026</td>
<td>Martin 8 Upgrade</td>
<td>40</td>
<td></td>
<td>Second Quarter 2025</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sanford 4 Upgrade</td>
<td>26</td>
<td></td>
<td>Second Quarter 2025</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sanford 5 Upgrade</td>
<td>26</td>
<td></td>
<td>Second Quarter 2025</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar PV 3/</td>
<td>422</td>
<td></td>
<td>First Quarter 2026</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar Degradation 4/</td>
<td>(8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>506</td>
<td></td>
<td></td>
<td>20.6%</td>
</tr>
<tr>
<td>2027</td>
<td>Crist 5 Retirement</td>
<td>(75)</td>
<td></td>
<td>Fourth Quarter 2026</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar PV 4/</td>
<td>422</td>
<td></td>
<td>First Quarter 2027</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar Degradation 4/</td>
<td>(9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>413</td>
<td></td>
<td></td>
<td>(75) 20.3%</td>
</tr>
<tr>
<td>2028</td>
<td>Lansing Smith A Retirement</td>
<td>(32)</td>
<td></td>
<td>Fourth Quarter 2027</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energy Storage</td>
<td>252</td>
<td></td>
<td>First Quarter 2028</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar PV 3/</td>
<td></td>
<td>(11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar Degradation 4/</td>
<td>(11)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>241</td>
<td></td>
<td></td>
<td>168 20.0%</td>
</tr>
<tr>
<td>2029</td>
<td>Energy Storage</td>
<td>194</td>
<td></td>
<td>First Quarter 2029</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar PV 3/</td>
<td></td>
<td>(11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar Degradation 4/</td>
<td>(11)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total of MW changes to Summer firm capacity:</td>
<td>183</td>
<td></td>
<td></td>
<td>500 20.0%</td>
</tr>
</tbody>
</table>

1/ Year shown reflects when the MW change begins to be accounted for in Summer reserve margin calculations.
2/ Winter Reserve Margins are typically higher than Summer Reserve Margins. Winter Reserve Margins are shown on Schedule 7.2 in Chapter III.
3/ MW values shown for the PV facilities represent the summer firm capacity assumptions for the PV facilities.
4/ An annual 0.3% degradation for PV output is assumed for both FPL and Gulf Solar. Total degradation is shown solely in the FPL column.

Florida Power & Light Company and Gulf Power Company
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I. Description of Existing Resources

I.A. FPL System:

I.A.1 Description of Existing Resources

FPL’s service area contains approximately 27,650 square miles and has a population of approximately ten million people. FPL served an average of 5,061,525 customer accounts in 35 counties during 2019. These customers were served by a variety of resources including: FPL-owned fossil-fuel, renewable (solar), and nuclear generating units; non-utility owned generation; demand side management (DSM); and interchange/purchased power.

I.A.2 FPL - Owned Resources

As of December 31, 2019, FPL owned electric generating resources located at 29 sites distributed geographically throughout its service territory, plus one site in Georgia (partial FPL ownership of one unit). These generating facilities consisted of: four nuclear units, one coal unit (the aforementioned partially owned unit), 15 combined-cycle (CC) units, two fossil steam units, four gas turbines (GTs), nine simple-cycle combustion turbines (CTs), and 17 solar photovoltaic (PV) facilities. The locations of the 52 generating units that were in commercial operation on December 31, 2019 are shown on Figure I.A.2.1 and in Table I.A.2.1.

FPL’s bulk transmission system, including both overhead and underground lines, is comprised of 7,278 circuit miles of transmission lines. Integration of the generation, transmission, and distribution systems is achieved through FPL’s 661 substations in Florida.

The existing FPL system, including generating plants, major transmission stations, and transmission lines, is shown on Figure I.A.2.2.

---

6 FPL also has one 75 MW solar thermal facility at its Martin plant site. This facility does not generate electricity as the other units mentioned above do. Instead, it produces steam that reduces the use of fossil fuel to produce steam for electricity generation.
FPL Generating Resources by Location

Figure I.A.2.1: FPL’s Generating Resources by Location (as of December 31, 2019)

<table>
<thead>
<tr>
<th>Location/Map Key</th>
<th>Plant Name</th>
<th>Number of Units</th>
<th>Summer MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Turkey Point</td>
<td>3</td>
<td>2,928</td>
</tr>
<tr>
<td>2</td>
<td>St. Lucie 1</td>
<td>2</td>
<td>1,821</td>
</tr>
<tr>
<td>3</td>
<td>Manatee</td>
<td>3</td>
<td>2,887</td>
</tr>
<tr>
<td>4</td>
<td>Fort Myers</td>
<td>5</td>
<td>2,664</td>
</tr>
<tr>
<td>5</td>
<td>Lauderdale</td>
<td>5</td>
<td>1,155</td>
</tr>
<tr>
<td>6</td>
<td>Port Everglades</td>
<td>1</td>
<td>1,237</td>
</tr>
<tr>
<td>7</td>
<td>Riviera Beach</td>
<td>1</td>
<td>1,290</td>
</tr>
<tr>
<td>8</td>
<td>Martin</td>
<td>3</td>
<td>2,209</td>
</tr>
<tr>
<td>9</td>
<td>Cape Coral</td>
<td>1</td>
<td>1,290</td>
</tr>
<tr>
<td>10</td>
<td>Sanford</td>
<td>2</td>
<td>2,205</td>
</tr>
<tr>
<td>11</td>
<td>West County</td>
<td>3</td>
<td>3,756</td>
</tr>
<tr>
<td>12</td>
<td>Okeechobee</td>
<td>1</td>
<td>1,720</td>
</tr>
<tr>
<td>13</td>
<td>Interstate Solar</td>
<td>1</td>
<td>74.5</td>
</tr>
<tr>
<td>14</td>
<td>Miami Dade Solar</td>
<td>1</td>
<td>74.5</td>
</tr>
<tr>
<td>15</td>
<td>Pioneer Trail Solar</td>
<td>1</td>
<td>74.5</td>
</tr>
<tr>
<td>16</td>
<td>Sunshine Gateway Solar</td>
<td>1</td>
<td>74.5</td>
</tr>
<tr>
<td>17</td>
<td>DeSoto Solar</td>
<td>2/1</td>
<td>25</td>
</tr>
<tr>
<td>18</td>
<td>Space Coast Solar</td>
<td>2/1</td>
<td>10</td>
</tr>
<tr>
<td>19</td>
<td>Babcock Ranch Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>20</td>
<td>Citrus Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>21</td>
<td>Manatee Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>22</td>
<td>Horizon Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>23</td>
<td>Wildflower Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>24</td>
<td>Indian River Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>25</td>
<td>Coral Farms Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>26</td>
<td>Hammock Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>27</td>
<td>Barefoot Bay Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>28</td>
<td>Blue Cypress Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>29</td>
<td>Loggerhead Solar</td>
<td>2/1</td>
<td>74.5</td>
</tr>
<tr>
<td>30</td>
<td>Scherer</td>
<td>1</td>
<td>634</td>
</tr>
</tbody>
</table>

**Total System Generation = 52,710 MW**
**System Firm Generation = 26,585 MW**

1/ Represents FPL’s ownership share: St Lucie nuclear: 100% Unit 1, 85% Unit 2.
2/ Approximately 56% of the 74.5 MW PV facility at Coral Farms, Horizon, Indian River, Wildflower, Hammock, Barefoot Bay, Blue Cypress, Interstate, Miami Dade, Pioneer Trail, Sunshine Gateway and Loggerhead, 54% of the 74.5 MW PV facility at Space Coast, are considered as firm generating capacity for Summer reserve margin purposes.
3/ The Scherer unit is located in Georgia and is not shown on this map.
Table I.A.2.1: FPL’s Capacity Resources by Unit Type (as of December 31, 2019)

<table>
<thead>
<tr>
<th>Unit Type/ Plant Name</th>
<th>Location</th>
<th>Number of Units</th>
<th>Fuel</th>
<th>Summer MW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nuclear</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Lucie 1</td>
<td>Hutchinson Island, FL</td>
<td>2</td>
<td>Nuclear</td>
<td>1,821</td>
</tr>
<tr>
<td>Turkey Point</td>
<td>Florida City, FL</td>
<td>2</td>
<td>Nuclear</td>
<td>1,658</td>
</tr>
<tr>
<td>Total Nuclear</td>
<td></td>
<td>4</td>
<td></td>
<td>3,479</td>
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<tr>
<td><strong>Coal Steam</strong></td>
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<tr>
<td>Scherer</td>
<td>Monroe County, Ga</td>
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<td>Coal</td>
<td>634</td>
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<tr>
<td>Total Coal Steam</td>
<td></td>
<td>1</td>
<td></td>
<td>634</td>
</tr>
<tr>
<td><strong>Combined-Cycle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort Myers</td>
<td>Fort Myers, FL</td>
<td>1</td>
<td>Gas</td>
<td>1,812</td>
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<tr>
<td>Manatee</td>
<td>Manatee County, FL</td>
<td>1</td>
<td>Gas</td>
<td>1,249</td>
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<tr>
<td>Martin</td>
<td>Indiantown, FL</td>
<td>2</td>
<td>Gas</td>
<td>974</td>
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<td>Sanford</td>
<td>Lake Monroe, FL</td>
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<td>Gas</td>
<td>2,205</td>
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<tr>
<td>Cape Canaveral</td>
<td>Cocoa, FL</td>
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<td>Gas/Oil</td>
<td>1,290</td>
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<td>Martin</td>
<td>Indiantown, FL</td>
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<td>Gas/Oil</td>
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<td>Okeechobee</td>
<td>Okeechobee, FL</td>
<td>1</td>
<td>Gas/Oil</td>
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<tr>
<td>Port Everglades</td>
<td>City of Hollywood, FL</td>
<td>1</td>
<td>Gas/Oil</td>
<td>1,237</td>
</tr>
<tr>
<td>Riviera Beach</td>
<td>City of Riviera Beach, FL</td>
<td>1</td>
<td>Gas/Oil</td>
<td>1,290</td>
</tr>
<tr>
<td>Turkey Point</td>
<td>Florida City, FL</td>
<td>1</td>
<td>Gas/Oil</td>
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<tr>
<td>West County</td>
<td>Palm Beach County, FL</td>
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<td>Gas/Oil</td>
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<td>Total Combined Cycle</td>
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<tr>
<td><strong>Gas/Oil Steam</strong></td>
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<tr>
<td>Manatee</td>
<td>Manatee County, FL</td>
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<td>Gas/Oil</td>
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<td>Total Oil/Gas Steam</td>
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<tr>
<td><strong>Gas Turbines(GT)</strong></td>
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<td></td>
<td></td>
</tr>
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<td>Fort Myers (GT)</td>
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<td>Oil</td>
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<td>Lauderdale (GT)</td>
<td>Dania, FL</td>
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<tr>
<td>Total Gas Turbines/Diesels</td>
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<td>4</td>
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<td>177</td>
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<tr>
<td><strong>Combustion Turbines</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lauderdale</td>
<td>Dania, FL</td>
<td>5</td>
<td>Gas/Oil</td>
<td>1,155</td>
</tr>
<tr>
<td>Fort Myers</td>
<td>Fort Myers, FL</td>
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<td>Gas/Oil</td>
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<tr>
<td>Total Combustion Turbines</td>
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<td>2,007</td>
</tr>
<tr>
<td><strong>PV</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DeSoto Solar</td>
<td>DeSoto County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>25</td>
</tr>
<tr>
<td>Babcock Ranch Solar</td>
<td>Charlotte County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Citrus Solar</td>
<td>DeSoto County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Manatee Solar</td>
<td>Manatee County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Space Coast Solar</td>
<td>Brevard County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>10</td>
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<tr>
<td>Interstate Solar</td>
<td>St. Lucie County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Miami Dade Solar</td>
<td>Dade County, FL</td>
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<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Pioneer Trail Solar</td>
<td>Volusia County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Sunshine Gateway Solar</td>
<td>Columbia County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Horizon Solar</td>
<td>Putnam and Alachua Counties, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Wildflower Solar</td>
<td>Desoto County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Indian River Solar</td>
<td>Indian River County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Coral Farms Solar</td>
<td>Putnam County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Hammock Solar</td>
<td>Hendry County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Barefoot Bay Solar</td>
<td>Brevard County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Blue Cypress Solar</td>
<td>Indian River County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Loggerhead Solar</td>
<td>St. Lucie County, FL</td>
<td>1</td>
<td>Solar Energy</td>
<td>74.5</td>
</tr>
<tr>
<td>Total PV</td>
<td></td>
<td>17</td>
<td></td>
<td>1,153</td>
</tr>
</tbody>
</table>

Total System Generation as of December 31, 2019 = 52,710 System Firm Generation as of December 31, 2019 = 26,585

1/ Total capability of St. Lucie 1 is 981/1,003 MW. FPL’s share of St. Lucie 2 is 840/860. FPL’s ownership share of St. Lucie Units 1 and 2 is 100% and 85%, respectively.
2/ Approximately 56% of the 74.5 MW PV facility at Coral Farms, Horizon, Indian River, Wildflower, Hammock, Barefoot Bay, Blue Cypress, Interstate, Miami Dade, Pioneer Trail, Sunshine Gateway and Loggerhead, 54% of the 74.5 MW PV facility at Babcock Ranch, Citrus, and Manatee, 43% of the 25 MW PV facility at DeSoto, and 38.5% of the 10 MW of PV at Space Coast, are considered as firm generating capacity for Summer reserve margin purposes.
FPL Bulk Transmission System

Figure I.A.2.2: FPL Bulk Transmission System
I.A.3  FPL - Capacity and Energy Power Purchases

**Firm Capacity: Purchases from Qualifying Facilities (QF)**

Firm capacity power purchases remain part of FPL’s resource mix. A cogeneration facility is one that simultaneously produces electrical and thermal energy, with the thermal energy (e.g., steam) used for industrial, commercial, or cooling and heating purposes. A small power production facility is one that does not exceed 80 MW (unless it is exempted from this size limitation by the Solar, Wind, Waste, and Geothermal Power Production Incentives Act of 1990) and uses solar, wind, waste, geothermal, or other renewable resources as its primary energy source.

FPL currently has four contracts with qualifying facilities (e.g., cogeneration/small power production facilities) to purchase firm capacity and energy during the 10-year reporting period of this Site Plan. The 2019 actual and 2020-2029 projected contributions from these facilities are shown in Table I.A.3.1, Table I.A.3.2, and Table I.A.3.3. As discussed in prior FPL Site Plans, the FPSC approved (Order No. PSC-16-0506-FOF-EI) FPL’s acquisition of the rights to the 330 MW Indiantown Cogen LP (ICL) unit and the associated power purchase agreement (PPA). FPL currently projects that it will cancel this PPA by the end of the 4th Quarter of 2020 because the agreement is no longer cost-effective for FPL’s customers.

**Firm Capacity: Purchases from Utilities**

FPL currently has a PPA with Orlando Utilities Commission. Information regarding this PPA is shown in Table I.A.3.2 and Table I.A.3.3.

**Firm Capacity: Other Purchases**

FPL has two other firm capacity purchase contracts with the Palm Beach Solid Waste Authority. Table I.A.3.2 and I.A.3.3 present the Summer and Winter MW, respectively, resulting from these contracts under the category heading of Other Purchases.

**Non-Firm (As Available) Energy Purchases**

FPL purchases non-firm (as-available) energy from a number of cogeneration and small power production facilities. The lower half of Table I.A.3.1 shows the amount of energy purchased in 2019 from these facilities.
### Table I.A.3.1: FPL's Purchased Power Resources by Contract (as of December 31, 2019)

<table>
<thead>
<tr>
<th>Firm Capacity Purchases (MW)</th>
<th>Location (City or County)</th>
<th>Fuel</th>
<th>Summer MW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Purchase from QF’s: Cogeneration/Small Power Production Facilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiantown Cogen LP</td>
<td>Martin</td>
<td>Coal (Cogen)</td>
<td>330</td>
</tr>
<tr>
<td>Broward South</td>
<td>Broward</td>
<td>Solid Waste</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>334</strong></td>
</tr>
<tr>
<td><strong>II. Purchases from Utilities &amp; IPP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palm Beach SWA - extension</td>
<td>Palm Beach</td>
<td>Solid Waste</td>
<td>40</td>
</tr>
<tr>
<td>Palm Beach SWA - New Unit</td>
<td>Palm Beach</td>
<td>Solid Waste</td>
<td>70</td>
</tr>
<tr>
<td>OUC/FMPA</td>
<td>Orange</td>
<td>Gas</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>210</strong></td>
</tr>
<tr>
<td><strong>Total Net Firm Generating Capability:</strong></td>
<td></td>
<td></td>
<td><strong>544</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Firm Energy Purchases (MWH)</th>
<th>Energy (MWH) Delivered to FPL in 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project</td>
<td>County</td>
</tr>
<tr>
<td>Miami Dade Resource Recovery</td>
<td>Dade</td>
</tr>
<tr>
<td>Broward South</td>
<td>Broward</td>
</tr>
<tr>
<td>Lee County Solid Waste</td>
<td>Lee</td>
</tr>
<tr>
<td>Brevard County</td>
<td>Brevard</td>
</tr>
<tr>
<td>Okeelanta (known as Florida Crystals and New Hope Power Partners)</td>
<td>Palm Beach</td>
</tr>
<tr>
<td>Waste Management - Collier County Landfill</td>
<td>Collier</td>
</tr>
<tr>
<td>Tropicana</td>
<td>Manatee</td>
</tr>
<tr>
<td>Georgia Pacific</td>
<td>Putnam</td>
</tr>
<tr>
<td>Landfill Energy Systems (Aria Energy)</td>
<td>Sarasota</td>
</tr>
<tr>
<td>Waste Management Renewable Energy</td>
<td>Broward</td>
</tr>
<tr>
<td>Fortistar - Port Charlotte</td>
<td>Charlotte</td>
</tr>
<tr>
<td>Customer Owned PV &amp; Wind</td>
<td>Various</td>
</tr>
</tbody>
</table>

1/ These Non-Firm Energy Purchases are renewable and are reflected on Schedule 11.1, row 9, column 6.
Table I.A.3.2: FPL's Firm Purchased Power Summer MW

Summary of FPL's Firm Capacity Purchases: Summer MW (for August of Year Shown)

I. Purchases from QF's

<table>
<thead>
<tr>
<th>Cogeneration Small Power Production Facilities</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broward South</td>
<td>01/01/93</td>
<td>12/31/26</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>0</td>
</tr>
<tr>
<td>Broward South</td>
<td>01/01/95</td>
<td>12/31/26</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>0</td>
</tr>
<tr>
<td>Broward South</td>
<td>01/01/97</td>
<td>12/31/26</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0</td>
</tr>
<tr>
<td>Indiantown Cogen L.P.</td>
<td>12/22/95</td>
<td>4th Qtr/2020</td>
<td>330</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>QF Purchases Subtotal:</td>
<td>334</td>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

II. Purchases from Utilities

<table>
<thead>
<tr>
<th>Utility</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUC</td>
<td>10/01/18</td>
<td>12/31/20</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Utility Purchases Subtotal:</td>
<td>100</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total of QF and Utility Purchases =</td>
<td>434</td>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

III. Other Purchases

<table>
<thead>
<tr>
<th>Other Purchases</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm Beach SWA - Extension^{2}</td>
<td>01/01/12</td>
<td>04/01/34</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Palm Beach SWA - Additional</td>
<td>01/01/15</td>
<td>04/01/34</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Other Purchases Subtotal:</td>
<td>110</td>
<td></td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Total &quot;Non-QF&quot; Purchases =</td>
<td>210</td>
<td></td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Summer Firm Capacity Purchases Total MW =</td>
<td>544</td>
<td></td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
</tr>
</tbody>
</table>

1/ The Indiantown Cogen L.P. PPA is projected to end, and the generating unit to be retired, in 4th Quarter 2020.
2/ When the second unit came into commercial service at the Palm Beach SWA, neither unit met the standards to be a small power producer, and it then became accounted for under "Other Purchases"
### Table I.A.3.3: FPL's Firm Purchased Power Winter MW

**Summary of FPL's Firm Capacity Purchases: Winter MW (for January of Year Shown)**

#### I. Purchases from QF's

<table>
<thead>
<tr>
<th>Cogeneration Small Power Production Facilities</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broward South</td>
<td>01/01/93</td>
<td>12/31/26</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>0</td>
</tr>
<tr>
<td>Broward South</td>
<td>01/01/95</td>
<td>12/31/26</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Broward South</td>
<td>01/01/97</td>
<td>12/31/26</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indiantown Cogen L.P.</td>
<td>12/22/95</td>
<td>4th Qtr/2020</td>
<td>330</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

QF Purchases Subtotal: 334

1/ The Indiantown Cogen L.P. PPA is projected to end, and the generating unit to be retired, in 4th Quarter 2020.

#### II. Purchases from Utilities

<table>
<thead>
<tr>
<th>Utility</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUC</td>
<td>10/01/18</td>
<td>12/31/20</td>
<td>70</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Utility Purchases Subtotal: 70

Total QF and Utility Purchases = 404

#### III. Other Purchases

<table>
<thead>
<tr>
<th>Other Purchases</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm Beach SWA - Extension</td>
<td>01/01/12</td>
<td>04/01/34</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Palm Beach SWA - Additional</td>
<td>01/01/15</td>
<td>04/01/34</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

Other Purchases Subtotal: 110

Total "Non-QF" Purchases = 180

Winter Firm Capacity Purchases Total MW:

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>514</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>110</td>
</tr>
</tbody>
</table>

1/ The Indiantown Cogen L.P. PPA is projected to end, and the generating unit to be retired, in 4th Quarter 2020.

2/ When the second unit came into commercial service at the Palm Beach SWA, neither unit met the standards to be a small power producer, and it then became accounted for under "Other Purchases"
I.A.4  FPL - Demand Side Management (DSM)

FPL has continually explored and implemented cost-effective DSM programs since 1978, and it has consistently been among the leading utilities nationally in achieving substantial DSM efficiencies. These programs include a number of innovative conservation/energy efficiency and load management initiatives. Importantly, FPL’s DSM efforts through 2019 have resulted in a cumulative Summer peak reduction of 4,870 MW at the generator and an estimated cumulative energy savings of 89,166 Gigawatt-Hour (GWh) at the generator. After accounting for the 20% total reserve margin requirements, FPL’s highly effective DSM efforts through 2019 have eliminated the need to construct the equivalent of approximately fifteen (15) new 400 MW generating units. Also, it is important to note that FPL has achieved these significant DSM accomplishments while minimizing the DSM-based impact on electric rates for all of its customers.

In 2019, the Florida Public Service Commission (FPSC) set DSM Goals for the years 2020 through 2024 for FPL and the other Florida utilities subject to the Florida Energy Efficiency and Conservation Act (FEECA). For these 5 years, these Goals are identical to the Goals set by the FPSC in 2014 for the years 2020 through 2024. In February 2020, FPL filed for FPSC approval its DSM Plan with which it intends to meet the DSM Goals. In this Site Plan, FPL assumes that the annual reduction values for Summer MW, Winter MW, and energy (MWh) set forth in the DSM Goals order (Order No. PSC-2019-0509-FOF-EG) will be met as shown in various schedules presented in this Site Plan. For the years 2025 through 2029, for which the FPSC did not establish Goals, FPL has assumed that DSM will be implemented to achieve the DSM levels that FPL proposed in its 2019 DSM Goals filing because this level of annual DSM was projected to be cost-effective.
### Schedule 1

#### FPL Existing Generating Facilities

**As of December 31, 2019**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Unit No.</th>
<th>Location</th>
<th>Plant Type</th>
<th>Fuel Use</th>
<th>Alt.</th>
<th>Actual/Expected Gen. Max. Nameplate</th>
<th>Fuel Type</th>
<th>Fuel Transport.</th>
<th>Fuel Use</th>
<th>In-Service Comm. Service Month/Year</th>
<th>Commercial Expected Retirement Month/Year</th>
<th>Net Capability</th>
<th>Winter MW</th>
<th>Summer MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babcock Ranch Solar</td>
<td>29.31, 32/41S/28E : 5.6/42S/26E</td>
<td>Charlotte County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Dec-16</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Barefoot Solar</td>
<td>15,16/30S/38E</td>
<td>Brevard County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Mar-18</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Blue Cypress Solar</td>
<td>16,21/33S/38E</td>
<td>Indian River County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Mar-18</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Cape Canaveral</td>
<td>19/23S/38E</td>
<td>Brevard County</td>
<td>CC</td>
<td>NG FO2</td>
<td>PL TK</td>
<td>1,295,400</td>
<td>Solar</td>
<td>N/A</td>
<td>Apr-13</td>
<td>Unknown</td>
<td>Unknown</td>
<td>1,295,400</td>
<td>1,393</td>
<td>1,290</td>
</tr>
<tr>
<td>Citrus Solar</td>
<td>26,27,34,35,36/38S/25E : 1,2/37S/38E</td>
<td>DeSoto County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Dec-16</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Coral Farms Solar</td>
<td>27,28,33,34/8S/34E</td>
<td>Putnam County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Jan-18</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>DeSoto Solar</td>
<td>27,28/36S/38E</td>
<td>Brevard County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>22,500</td>
<td>Solar</td>
<td>N/A</td>
<td>Oct-09</td>
<td>Unknown</td>
<td>Unknown</td>
<td>22,500</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Fort Myers</td>
<td>35/43S/25E</td>
<td>Lee County</td>
<td>CC</td>
<td>NG No</td>
<td>PL No</td>
<td>2,796,198</td>
<td>Solar</td>
<td>N/A</td>
<td>May-74</td>
<td>Unknown</td>
<td>Unknown</td>
<td>2,796,198</td>
<td>2,750</td>
<td>2,772</td>
</tr>
<tr>
<td>Hammock Solar</td>
<td>33,34,35,36,38S/38E : 3,4,9,10/44S/38E</td>
<td>Hendry County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Mar-18</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Horizon Solar</td>
<td>25,36,39S/28E : 30,31/39S/38E</td>
<td>Alachua County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Jan-18</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Indian River Solar</td>
<td>30,31/33S/38E</td>
<td>Indian River County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Jan-18</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Interstate Solar</td>
<td>27,29,30,33S/35S/39E</td>
<td>St. Lucie County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Jan-19</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Lauderdale</td>
<td>30/30S/42E</td>
<td>Broward County</td>
<td>CT</td>
<td>NG FO2</td>
<td>PL TK</td>
<td>1,215,956</td>
<td>Solar</td>
<td>N/A</td>
<td>Dec-16</td>
<td>Unknown</td>
<td>Unknown</td>
<td>1,215,956</td>
<td>1,184</td>
<td>1,224</td>
</tr>
<tr>
<td>Loggerhead Solar</td>
<td>21,26,33,37S/35S/38E</td>
<td>St. Lucie County</td>
<td>CT</td>
<td>NG FO2</td>
<td>PL TK</td>
<td>74.500</td>
<td>Solar</td>
<td>N/A</td>
<td>Mar-18</td>
<td>Unknown</td>
<td>Unknown</td>
<td>74.500</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Manatee Solar</td>
<td>1,12,13,14/33S/18E : 6,7,18/33S/20E</td>
<td>Manatee County</td>
<td>PV</td>
<td>Solar</td>
<td>N/A</td>
<td>6,130,454</td>
<td>Solar</td>
<td>N/A</td>
<td>Dec-16</td>
<td>Unknown</td>
<td>Unknown</td>
<td>6,130,454</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Manatee</td>
<td>18/33S/38E</td>
<td>Manatee County</td>
<td>ST</td>
<td>NG FO6</td>
<td>PL WA</td>
<td>3,027,982</td>
<td>Solar</td>
<td>N/A</td>
<td>Oct-05</td>
<td>Unknown</td>
<td>Unknown</td>
<td>3,027,982</td>
<td>2,903</td>
<td>2,967</td>
</tr>
</tbody>
</table>

1/ These ratings are peak capability ratings for non-Solar units and Nameplate ratings for Solar units.

2/ Approximately 56% of the 74.5 MW PV facility at Coral Farms, Horizon, Indian River, Interstate, Hammock, Barefoot Bay, Blue Cypress, and Loggerhead, 54% of the 74.5 MW PV Facility at Babcock Ranch, Citrus, and Manatee and 43% of the 25 MW PV facility at DeSoto is considered as firm generating capacity for Summer reserve margin purposes and 0% is considered as firm capacity for Winter reserve margin purposes.
### Schedule 1

**FPL Existing Generating Facilities**

**As of December 31, 2019**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Unit No.</th>
<th>Location</th>
<th>Fuel Type</th>
<th>Net Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin</td>
<td>3</td>
<td>Martin County</td>
<td>30/365/36E</td>
<td>2,299,382</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Martin County</td>
<td>30/365/36E</td>
<td>2,299,382</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Martin County</td>
<td>30/365/36E</td>
<td>2,299,382</td>
</tr>
<tr>
<td>Miami Dade Solar</td>
<td>1</td>
<td>Dade County</td>
<td>13/24/365/36E</td>
<td>127,500</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Dade County</td>
<td>13/24/365/36E</td>
<td>127,500</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Dade County</td>
<td>13/24/365/36E</td>
<td>127,500</td>
</tr>
<tr>
<td>Okeechobee</td>
<td>1</td>
<td>Okeechobee</td>
<td>2/365/36E</td>
<td>74,500</td>
</tr>
<tr>
<td>Pioneer Trail Solar</td>
<td>1</td>
<td>Volusia County</td>
<td>16/21/26,25/32/175/32E</td>
<td>74,500</td>
</tr>
<tr>
<td>Port Everglades</td>
<td>1</td>
<td>City of Hollywood</td>
<td>23/505/42E</td>
<td>74,500</td>
</tr>
<tr>
<td>Riviera Beach</td>
<td>1</td>
<td>City of Riviera Beach</td>
<td>33/425/432E</td>
<td>74,500</td>
</tr>
<tr>
<td>Sanford</td>
<td>1</td>
<td>Volusia County</td>
<td>16/555/30E</td>
<td>74,500</td>
</tr>
<tr>
<td>Scherer</td>
<td>1</td>
<td>Monroe, GA</td>
<td>16/555/41E</td>
<td>74,500</td>
</tr>
<tr>
<td>Space Coast Solar</td>
<td>1</td>
<td>Brevard County</td>
<td>13/235/36E</td>
<td>74,500</td>
</tr>
<tr>
<td>St. Lucie Solar</td>
<td>1</td>
<td>St. Lucie County</td>
<td>16/365/41E</td>
<td>74,500</td>
</tr>
<tr>
<td>Sunshine Gateway Solar</td>
<td>1</td>
<td>St. Lucie County</td>
<td>16/365/41E</td>
<td>74,500</td>
</tr>
<tr>
<td>Turkey Point</td>
<td>1</td>
<td>Miami Dade County</td>
<td>27/575/40E</td>
<td>74,500</td>
</tr>
<tr>
<td>West County</td>
<td>1</td>
<td>Palm Beach County</td>
<td>29/435/40E</td>
<td>74,500</td>
</tr>
<tr>
<td>Wildflower Solar</td>
<td>1</td>
<td>Desoto County</td>
<td>25/26,35/365/29E</td>
<td>74,500</td>
</tr>
</tbody>
</table>

**Schedule 1 Notes:**

1. These ratings are peak capability ratings for non-Solar units and Nameplate ratings for Solar units.
2. These ratings relate to FPL’s 76.36% share of Plant Scherer Unit 4 operated by Georgia Power, and represent FPL’s 73.93% ownership share available at point of interchange.
3. Approximately 56% of the 74.5 MW PV facility at Miami Dade, Pioneer Trail, Sunshine Gateway and Wildflower, 38.5% of the 10 MW PV facility at Space Coast is considered as firm generating capacity for Summer season margin purposes and 0% is considered as firm capacity for Winter season margin purposes. 4. Martin Unit 3 is partially fueled by a 75 MW solar thermal facility that supplies steam when adequate sunlight is available, thus reducing fossil fuel use.
5. Total capacity of St. Lucie 1 is 981/1,003 MW. FPL’s share of St. Lucie 2 is 940/960 MW. FPL’s ownership share of St. Lucie Units 1 and 2 is 100% and 85%, respectively. St. Lucie Unit 3 is 100% owned. FPL’s share of the deliverable capacity from each unit is approx. 92.5% and excludes the Orlando Utilities Commission (OUC) and Florida Municipal Power Agency (FMPA) combined portion of approximately 7.446% per unit. 6. The Total System Generating Capacity value shown includes only PPL-owned firm and non-firm generating capacity. 7. The System Firm Generating Capacity value shown includes only firm generating capacity.

Florida Power & Light Company and Gulf Power Company 29
I.B. Gulf System:

I.B.1 Description of Existing Resources

Gulf’s service area contains approximately 7,550 square miles and has a population of approximately one million people. Gulf Power served an average of 468,282 customer accounts in 8 counties during 2019. These customers were served by a variety of resources including: Gulf Power-owned fossil-fuel, renewable (solar and wind), other non-utility owned generation; demand side management (DSM); and interchange/purchased power.

I.B.2 Gulf - Owned Resources

As of December 31, 2019, Gulf owned electric generating resources located at five sites distributed geographically throughout its service territory, plus one site in Georgia (partial Gulf ownership of one unit). These generating facilities consisted of: seven coal units, one combined-cycle (CC) unit, four simple-cycle combustion turbines (CTs), and two landfill gas (LFG) facilities. The locations of the 14 generating units that were in commercial operation on December 31, 2019 are shown on Figure I.B.2.1 and in Table I.B.2.1.

Gulf’s bulk transmission system, including both overhead and underground lines, is comprised of 1,672 circuit miles of transmission lines. Integration of the generation, transmission, and distribution systems is achieved through Gulf’s 132 substations in Florida.

The existing Gulf system, including generating plants, major transmission stations, and transmission lines, is shown on Figure I.B.2.2.
Gulf Power Generating Resources by Location

![Map of Florida showing generating locations]

<table>
<thead>
<tr>
<th>Location/Map Key</th>
<th>Plant Name</th>
<th>Number of Units</th>
<th>Summer MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Crist</td>
<td>4</td>
<td>924</td>
</tr>
<tr>
<td>B</td>
<td>Lansing Smith</td>
<td>2</td>
<td>692</td>
</tr>
<tr>
<td>C</td>
<td>Pea Ridge</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>D</td>
<td>Perdido LFG</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>Daniel 1/2/</td>
<td>2</td>
<td>502</td>
</tr>
<tr>
<td>D</td>
<td>Scherer 1/2/</td>
<td>1</td>
<td>215</td>
</tr>
</tbody>
</table>

Total System Generation = 14 x 2,348 = 26,872
System Firm Generation = 2,348

1/ Unit capabilities shown represent Gulf's portion of Daniel units 1 & 2 (50%) and Scherer Unit 3 (25%).
2/ The Scherer unit is located in Georgia. The Daniels units are located in Mississippi. None of these units are shown in this map.

Figure I.B.2.1: Gulf Power Generating Resources by Location (as of December 31, 2019)
Table I.B.2.1: Gulf Power Capacity Resources by Unit Type (as of December 31, 2019)

<table>
<thead>
<tr>
<th>Unit Type/ Plant Name</th>
<th>Location</th>
<th>Number of Units</th>
<th>Fuel</th>
<th>Summer MW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coal Steam</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crist</td>
<td>Escambia County</td>
<td>4</td>
<td>Coal</td>
<td>924</td>
</tr>
<tr>
<td>Daniel</td>
<td>Jackson County, MS</td>
<td>2</td>
<td>Coal</td>
<td>502</td>
</tr>
<tr>
<td>Scherer</td>
<td>Monroe County, Ga</td>
<td>1</td>
<td>Coal</td>
<td>215</td>
</tr>
<tr>
<td><strong>Total Coal Steam:</strong></td>
<td></td>
<td><strong>7</strong></td>
<td></td>
<td><strong>1,641</strong></td>
</tr>
<tr>
<td><strong>Combined-Cycle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lansing Smith</td>
<td>Bay County</td>
<td>1</td>
<td>Gas</td>
<td>660</td>
</tr>
<tr>
<td><strong>Total Combined Cycle:</strong></td>
<td></td>
<td><strong>1</strong></td>
<td></td>
<td><strong>660</strong></td>
</tr>
<tr>
<td><strong>Combustion Turbines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pea Ridge</td>
<td>Santa Rosa County</td>
<td>3</td>
<td>Gas</td>
<td>12</td>
</tr>
<tr>
<td>Lansing Smith</td>
<td>Bay County</td>
<td>1</td>
<td>Oil</td>
<td>32</td>
</tr>
<tr>
<td><strong>Total Combustion Turbines:</strong></td>
<td></td>
<td><strong>4</strong></td>
<td></td>
<td><strong>44</strong></td>
</tr>
<tr>
<td><strong>Land Fill Gas</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perdido LFG</td>
<td>Escambia County</td>
<td>2</td>
<td>LFG</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total LFG:</strong></td>
<td></td>
<td><strong>2</strong></td>
<td></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

Total System Generation as of December 31, 2019 = 14,2348
System Firm Generation as of December 31, 2019 = 2,348
Gulf Power Bulk Transmission System

Figure I.B.2.2: Gulf Power Bulk Transmission System

NOTE:
This map is not a complete representation of GULF's Transmission System.
I.B.3  Gulf - Capacity and Energy Power Purchases

**Firm Capacity: Purchases from Qualifying Facilities (QF)**
Gulf currently has no contracts with qualifying facilities (e.g., cogeneration/small power production facilities) to purchase firm capacity and energy during the 10-year reporting period of this Site Plan.

**Firm Capacity: Purchases from Utilities**
Gulf currently has no PPAs with other utilities.

**Firm Capacity: Other Purchases**
Gulf has three firm capacity purchase contracts; two with Morgan Stanley Capital Group’s Kingfisher I and Kingfisher II wind projects, and one with Shell Energy North America’s Tenaska project. The 2019 actual and 2020-2029 projected contributions from these facilities are shown in Table I.B.3.1, I.B.3.2 and I.B.3.3.

**Non-Firm (As Available) Energy Purchases**
Gulf purchases non-firm (as-available) energy from a number of cogeneration and small power production facilities. The lower half of Table I.B.3.1 shows the amount of energy purchased in 2019 from these facilities.
Table I.B.3.1: Gulf Power Purchased Power Resources by Contract (as of December 31, 2019)

<table>
<thead>
<tr>
<th>Firm Capacity Purchases (MW)</th>
<th>Location (City or County)</th>
<th>Fuel</th>
<th>Summer MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Purchase from QF's: Cogeneration/Small Power Production Facilities</td>
<td>Total:</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>II. Purchases from Utilities &amp; IPP</td>
<td>Oklahoma</td>
<td>Wind</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Oklahoma</td>
<td>Wind</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Alabama</td>
<td>Gas</td>
<td>885</td>
</tr>
<tr>
<td></td>
<td>Total:</td>
<td>966</td>
<td></td>
</tr>
</tbody>
</table>

Total Net Firm Generating Capability: 966

<table>
<thead>
<tr>
<th>Non-Firm Energy Purchases (MWH)</th>
<th>County</th>
<th>Fuel</th>
<th>Energy (MWH) Delivered to FPL in 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Paper Company Units 1&amp;2 1/</td>
<td>Escambia</td>
<td>Biomass</td>
<td>1,084</td>
</tr>
<tr>
<td>Ascend - Solutia Units 1-4</td>
<td>Escambia</td>
<td>Gas</td>
<td>198,163</td>
</tr>
<tr>
<td>Gulf Coast Solar Center I</td>
<td>Okaloosa</td>
<td>Sun</td>
<td>59,090</td>
</tr>
<tr>
<td>Gulf Coast Solar Center II</td>
<td>Santa Rosa</td>
<td>Sun</td>
<td>78,571</td>
</tr>
<tr>
<td>Gulf Coast Solar Center III</td>
<td>Escambia</td>
<td>Sun</td>
<td>94,741</td>
</tr>
<tr>
<td>Customer Owned PV &amp; Wind</td>
<td>Various</td>
<td>PV/Wind</td>
<td>6,821</td>
</tr>
</tbody>
</table>

1/ These Non-Firm Energy Purchases are renewable and are reflected on Schedule 11.1, row 9, column 6.
### I. Purchases from QF's

<table>
<thead>
<tr>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
</tbody>
</table>

**QF Purchases Subtotal:**

<table>
<thead>
<tr>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
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</thead>
<tbody>
<tr>
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<td>0</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### II. Purchases from Utilities

<table>
<thead>
<tr>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Utility Purchases Subtotal:**

<table>
<thead>
<tr>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total of QF and Utility Purchases:**

<table>
<thead>
<tr>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### III. Other Purchases

<table>
<thead>
<tr>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCG - Kingfisher I</td>
<td>01/01/17</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>MSCG - Kingfisher II</td>
<td>01/01/17</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>SENA - (Shell)</td>
<td>06/01/14</td>
<td>885</td>
<td>885</td>
<td>885</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gulf Solar PPAs 1/</td>
<td>11/17/14</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
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<td>34</td>
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</tbody>
</table>

**Other Purchases Subtotal:**

<table>
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<tr>
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<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
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</thead>
<tbody>
<tr>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>115</td>
<td>115</td>
<td>115</td>
<td>115</td>
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**Total “Non-QF” Purchases:**

<table>
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<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
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</thead>
<tbody>
<tr>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>115</td>
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<td>115</td>
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**Summer Firm Capacity Purchases Total MW:**

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<tr>
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<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
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<tbody>
<tr>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>115</td>
<td>115</td>
<td>115</td>
<td>115</td>
<td>115</td>
<td>115</td>
<td>115</td>
</tr>
</tbody>
</table>

1/ These PPAs are non-firm, energy-only contracts due to the unscheduled, intermittent nature of solar resources. For resource planning purposes, a portion of the nameplate rating of the solar facilities has been, and continues to, provide, on average, a non-zero value at the system Summer peak hour.
<table>
<thead>
<tr>
<th>I. Purchases from QF’s</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Purchases from Utilities</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>Utility Purchases Subtotal:</strong></td>
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**Total of QF and Utility Purchases =**

<table>
<thead>
<tr>
<th>III. Other Purchases</th>
<th>Contract Start Date</th>
<th>Contract End Date</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCP - Kingfisher I</td>
<td>01/01/17</td>
<td>12/31/35</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>MSCP - Kingfisher II</td>
<td>01/01/17</td>
<td>12/31/35</td>
<td>38</td>
<td>38</td>
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<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
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<tr>
<td>SENA - (Shetl)</td>
<td>06/01/14</td>
<td>05/24/23</td>
<td>885</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gulf Solar PPAs</td>
<td>11/17/14</td>
<td>11/17/40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td><strong>Other Purchases Subtotal:</strong></td>
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<td></td>
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<td>994</td>
<td>994</td>
<td>109</td>
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</table>

**Total "Non-QF" Purchases =**

**Winter Firm Capacity Purchases Total MW:**

<table>
<thead>
<tr>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
</table>

1/ These PPAs are non-firm, energy-only contracts due to the unscheduled, intermittent nature of solar resources. For resource planning purposes, a portion of the nameplate rating of the solar facilities has been, and continues to, provide, on average, a zero value at the system Winter peak hour.
I.B.4 Gulf - Demand Side Management (DSM)

Gulf has continually explored and implemented cost-effective DSM programs since 1981. These programs include a number of innovative conservation/energy efficiency initiatives. Importantly, Gulf’s DSM efforts through 2019 have resulted in a cumulative Summer peak reduction of more than 500 MW at the generator and an estimated cumulative energy savings of approximately 1,079 Gigawatt-Hour (GWh) at the generator. After accounting for Gulf’s current 16.25% total reserve margin requirements, Gulf’s highly effective DSM efforts through 2019 have eliminated the need to construct the equivalent of approximately six (6) new 100 MW generating units. Also, it is important to note that Gulf has achieved these significant DSM accomplishments while minimizing the DSM-based impact on electric rates for all of its customers.

In 2019, the Florida Public Service Commission (FPSC) set DSM Goals for the years 2020 through 2024 for Gulf and the other Florida utilities subject to the Florida Energy Efficiency and Conservation Act (FEECA). These Goals are identical to the Goals set by the FPSC in 2014 for the years 2020 through 2024. In February 2020, Gulf filed for FPSC approval its DSM Plan with which it intends to meet the DSM Goals. In this Site Plan, Gulf assumes that the annual reduction values for Summer MW, Winter MW, and energy (MWh) set forth in the DSM Goals order (Order No. PSC-2019-0509-FOF-EG) will be met as shown in various schedules presented in this Site Plan. For the years 2025 through 2029, for which the FPSC did not establish Goals, it is assumed that DSM will be implemented to achieve the Goals Gulf proposed in its 2019 DSM Goals filing because this level of annual DSM was projected to be cost-effective.
## Schedule 1

### Gulf Power Existing Generating Facilities
As of December 31, 2019

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>No.</th>
<th>Location</th>
<th>Type</th>
<th>Pri.</th>
<th>Alt.</th>
<th>Fuel</th>
<th>Transport</th>
<th>Days</th>
<th>In-Service</th>
<th>Use</th>
<th>Month/Year</th>
<th>Gen. Max.</th>
<th>Nameplate</th>
<th>Winter</th>
<th>Summer</th>
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<tr>
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<td>C</td>
<td>924</td>
<td>924</td>
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<td>Jul-59</td>
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<td>C</td>
<td>924</td>
<td>924</td>
<td>FS</td>
<td>C</td>
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<td>Jun-61</td>
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<td>4th Q 2026</td>
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<tr>
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<td>2</td>
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<td>C</td>
<td>502</td>
<td>502</td>
<td>FS</td>
<td>C</td>
<td>9</td>
<td>Jun-81</td>
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<td>C</td>
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<td>660</td>
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<td>CT</td>
<td>NG</td>
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<tr>
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<td>2</td>
<td></td>
<td>C</td>
<td>12</td>
<td>12</td>
<td>CT</td>
<td>NG</td>
<td>14</td>
<td>May-98</td>
<td></td>
<td>2nd Q 2025</td>
<td>4,750</td>
<td>5</td>
<td>4</td>
<td></td>
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<tr>
<td></td>
<td>3</td>
<td></td>
<td>C</td>
<td>12</td>
<td>12</td>
<td>CT</td>
<td>NG</td>
<td>14</td>
<td>May-98</td>
<td></td>
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<td>IC</td>
<td>LFG</td>
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<td></td>
<td>2</td>
<td></td>
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<td>3</td>
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<td>IC</td>
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<td></td>
<td>4th Q 2029</td>
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</table>

**Total System Generating Capacity as of December 31, 2019**  
System Firm Generating Capacity as of December 31, 2019  

1/ Unit capabilities shown represent Gulf’s portion of Daniel units 1 & 2 (50%) and Scherer Unit 3 (25%).
CHAPTER II

Forecast of Electric Power Demand
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II. Forecast of Electric Power Demand

II.A. Overview of the Load Forecasting Process

On January 1, 2019, Gulf Power became a subsidiary of NextEra Energy, the parent company of FPL. The load forecasting teams from FPL and Gulf were consolidated into one load forecasting team, which developed the forecasts of customers, sales, net energy for load (NEL), and peak demands presented in this Site Plan. Modifications were made to the standalone methodologies that were formerly applied to FPL and/or Gulf. The result is that consistent forecasting methodologies are now being applied to both the FPL and Gulf areas. These modifications are detailed later in this chapter. However, at the time this 2020 Site Plan is filed, the forecasting methodologies used to provide the load forecast information presented in this document are evolving as work to integrate the two companies is ongoing. The load forecasting team will evaluate and implement appropriate enhancements to the forecasting methodologies for upcoming forecasts.

As previously discussed, FPL and Gulf plan to integrate the two systems into a single electric system, effective 1/1/2022. In this document, the load forecasts for FPL and Gulf will be presented separately for the years 2020 and 2021. For 2022 through 2029, the load forecast for the single integrated utility will be presented. That electrically integrated system will be referred to in this document as FPL. This forecast will reflect the growth of the new integrated system, including reduced peak demand from load diversity.

FPL and Gulf typically develop long-term forecasts of customers, energy sales, and peak loads on an annual basis for each of their systems. This was done again in order to develop load forecasts for the single integrated system. Gulf’s new long-term forecasts were developed in the 3rd Quarter of 2019 and FPL’s new long-term forecasts were developed in the 4th Quarter of 2019. The forecasts for FPL and Gulf then were combined to arrive at the forecasts for the single integrated system for the years 2022 and beyond. These new load forecasts are utilized throughout this 2020 Site Plan and are key inputs to the models used to develop the integrated resource plan presented in this document.

The following pages describe how the forecasts of customers, energy sales, and peak loads were developed first separately for FPL and Gulf, and then combined into a single set of forecasts for the integrated system. Consistent with past forecasts, the drivers for both the FPL

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7 At the time the forecasts presented in this TYSP were developed, Gulf was obligated as member of the Southern Company pool to provide updated NEL and peak demand forecasts to Southern Company Services for their planning process. The difference in the timing of the planning processes resulted in Gulf’s forecast being completed prior to FPL’s forecast.
and Gulf forecasts include population and household growth, economic conditions, electricity prices, weather, and energy-efficiency codes and standards. Additionally, these forecasts are 50% probability (P50) forecasts. This means there is a 50% probability that actual load will be on either side of forecasted load.

The projections for population growth, household growth, and other economic variables are obtained from IHS Markit, a leading economic forecasting firm. Using statistical models, these inputs are quantified in terms of their impact on the future demand for electricity.

Weather is a key factor that affects energy sales and peak demand. The weather variables for use in FPL’s and Gulf’s forecasting models are as follows:

1. The residential and commercial energy models incorporate heating degree hours and/or cooling degree hours. The threshold temperatures differ based on how each customer group responds to temperatures.

2. The Summer peak demand models incorporate maximum temperatures on the peak Summer day while the Winter peak demand models incorporate minimum temperatures on the peak Winter day. Additional details are provided later in this chapter.

FPL’s weather variables are based on a composite hourly temperature using temperatures from weather stations across FPL’s service area: Miami, Ft. Myers, Daytona Beach, and West Palm Beach. The temperatures for each weather station are weighted based on the energy sales associated with that region. The resulting composite temperatures are then used to derive FPL’s cooling degree hours and heating degree hours used in the energy models and the peak day temperatures used in the Summer and Winter peak demand models.

Gulf’s weather variables are based on the hourly temperatures from the Pensacola weather station. The Pensacola hourly temperatures are then used to derive Gulf’s cooling degree hours and heating degree hours used in the energy models and the peak day temperatures used in the Summer and Winter peak demand models. The eight counties in Gulf’s service area typically experience similar weather patterns and previous experience has shown that the use of multiple weather stations does not result in significant differences in the reported weather. The Pensacola weather station is used due to the availability of consistent historical data.

II.B. Customer Forecasts

FPL’s customer forecasts are developed by class as the factors driving customer growth vary by class. Residential customer growth is driven by population, commercial customer growth is
driven by employment and recent trends, and industrial customer growth is driven by housing starts and recent trends. Projections of population, employment, and housing starts are from IHS Markit. Total customer growth is projected to grow at an average annual rate of 1.0% during the years 2020 and 2021. The primary driver of customer growth is population.

Gulf’s customer forecasts are also developed by class. Residential customer growth for 2020 and 2021 are based on projections prepared by Gulf’s field marketing managers and growth for years 2022 and beyond are based on household growth projection from IHS Markit. Commercial customer growth for 2020 is based on projections prepared by Gulf’s field marketing manager and commercial customer growth for years 2021 and beyond is based on residential customer growth. Industrial customer growth is driven by recent trends. Total customer growth is projected to grow at an average annual rate of 1.63% during the years 2020 and 2021. The primary driver of customer growth is population growth.

The customer forecasts for the integrated system for 2022-on is the sum of the class-level customer forecasts for FPL and Gulf, which represent 91.5% and 8.5% of the combined 2022 customers, respectively. Total customer growth is projected to grow at an average annual rate of 0.9% during the forecast period. The primary driver of customer growth is projected increase in population.

II.C. Energy Sales Forecasts

Energy sales forecasts for both FPL and Gulf were developed for the major revenue classes, wholesale energy sales, and losses. Energy adjustments, such as electric vehicles and private solar, were calculated and applied to the class-level energy sales forecasts. These forecasts were then aggregated up to arrive at the NEL forecast for each company (a bottom-up approach). Econometric models were developed using the statistical software package MetrixND.

The FPL energy sales forecast presented in this TYSP for the years 2020 and 2021 was developed using a bottom-up approach whereas prior FPL forecasts were developed using a top-down approach in which the forecast began with the NEL forecast and class-level forecasts were then adjusted to match the NEL forecast. FPL’s adoption of the same bottom-up approach that has been used by Gulf has several potential benefits. This approach ensures a consistent energy sales forecasting methodology is being used for both utility systems. In addition, the bottom-up approach has the potential for enhancing both the ability to perform forecast variance analyses as actual load data becomes available and for enhancing the ability to capture different growth rates between revenue classes.
1. **Residential Sales**

FPL’s residential energy sales forecast was developed using an econometric model. Residential energy sales, expressed as monthly use per customer by billing day, are a function of cooling degree hours, heating degree hours, real per capita income, the four month moving average of real electricity price increases over time, energy savings from changes to energy efficiency codes and standards, monthly binary terms, and an autoregressive term. The forecasted energy use per customer per billing day was then multiplied by the projected number of residential customers and projected billing days by month to arrive at the residential billed energy sales. The billed energy sales were then adjusted for unbilled energy to arrive at the calendar month delivered energy sales forecast.

Gulf’s residential energy sales forecast was also developed using an econometric model. Monthly use per customer per billing day was estimated based on historical data, normal weather, price of electricity, energy savings from changes to energy efficiency codes and standards, monthly binary terms, and an autoregressive term. The model output was then multiplied by the projected number of residential customers and projected billing days by month to expand to the total residential class.

The methodology described above for Gulf was used for the entire forecast horizon whereas prior forecasts applied this methodology only for the short-term. Growth rates from the LoadMAP-R electric utility end-use model were then used to extend the short-term residential sales forecast into the long-term forecast horizon. Gulf’s adoption of the long-term model results for the entire forecast horizon ensures both FPL and Gulf are employing enhanced energy sales forecasting methodologies.

Both FPL’s and Gulf’s residential energy sales forecasts were adjusted to reflect the anticipated impact of continued adoption of electric vehicles. FPL’s residential energy sales forecast was also adjusted to reflect the impact of private solar.

The residential energy sales forecast for the integrated system for the year 2022-on is the sum of the residential sales forecasts for FPL and Gulf, which represent, respectively, 91.5% and 8.5% of the combined 2022 residential sales. Residential energy sales are projected to grow at an average annual rate of 0.9% during the forecast period.

2. **Commercial Sales**

Econometric models were also used to develop a commercial sales forecast for FPL. The commercial class is forecast using one model for lighting accounts and three separate
models based on customer size: small accounts (less than 20 kW of demand), medium accounts (21 kW to 499 kW of demand), and large accounts (demand of 500 kW or higher). Except for the commercial lighting accounts model, the commercial sales models utilize the following variables: cooling degree hours, employment, and the four month moving average of real electricity price increases. Monthly binary terms were utilized in the large and medium models; and an autoregressive term was utilized in the medium and small models. The model outputs were then multiplied by the projected number of commercial customers associated with each respective model and the projected billing days by month to arrive at the billed energy sales. The billed energy sales were then adjusted for unbilled energy to arrive at the calendar month delivered energy sales forecast. The commercial lighting accounts model is based on historical sale trends and input from FPL’s lighting group regarding the impact of LEDs. These forecasts are then added together to arrive at the total commercial sales forecast.

Econometric models were also used to develop a commercial non-lighting sales forecast for Gulf. The commercial non-lighting sales is forecast using two separate models which are based on customer size: small accounts (less than 25 kW of demand) and large accounts (all other commercial rate schedules excluding lighting rates). The models utilize the following variables: cooling degree hours, heating degree hours, twelve month moving average of real electricity prices, energy savings from changes to energy efficiency codes and standards, monthly binary terms, and an autoregressive term. The model outputs were then multiplied by the projected number of commercial customers associated with each respective model and the projected billing days by month to arrive at the billed energy sales. The billed energy sales were then adjusted for unbilled energy to arrive at the calendar month delivered energy sales forecast. The commercial lighting sales were developed using historical growth rates and input from Gulf’s lighting team to gain insight into future trends.

The methodology described above for Gulf’s forecast was used for the entire forecast horizon while prior forecasts employed this methodology only for the short-term forecast. Growth rates from the LoadMAP-C electric utility end-use model are then used to extend the short-term commercial sales forecast into the long-term forecast horizon. Gulf’s adoption of the long-term results for the entire forecast horizon ensures both FPL and Gulf are employing enhanced energy sales forecasting methodologies.

FPL’s commercial energy sales forecast was adjusted to reflect the impact of private solar and the incremental load projected to be added for the forecast period from FPL’s economic development riders.
The commercial energy sales forecast for the integrated system for the years 2022-on is the sum of the commercial sales forecasts for FPL and Gulf, which represent, respectively, 93.0% and 7.0% of the combined 2022 commercial sales. Commercial energy sales are projected to grow at an average annual rate of 0.4% during the forecast period.

3. Industrial Sales

Forecasts developed for FPL’s industrial class sales consists of one model for lighting accounts and three separate models based on customer size: small accounts (less than 20 kW of demand), medium accounts (21 kW to 499 kW of demand), and large accounts (demands of 500 kW or higher). The small industrial sales model utilizes cooling degree hours, an autoregressive term, and a lagged variable. The medium, large, and lighting accounts forecasts utilize exponential smoothing models. The small, medium, large, and lighting accounts forecasts were then added together to arrive at the total industrial sales forecast.

Forecasts for Gulf’s industrial class sales used a combination of surveys of major industrial customers and historical average use per customer. Gulf’s largest industrial customers were interviewed by Gulf’s industrial account representatives to identify expected future load changes. The forecast of sales to the remaining smaller industrial customers was developed by rate code using historical average use per customer, which was multiplied by the projected number of customers to arrive at energy sales. The forecasts for the largest industrial customers and the remaining smaller industrial customers were added together to arrive at the total industrial sales forecast.

FPL’s Industrial energy sales were adjusted for forecasted Commercial/Industrial Service Rider (CISR) sales for new or retained customer loads of 2 MW or greater and meet the criteria outlined in FPL’s Rate Schedule: CISR-1.

The industrial energy sales forecast for the integrated system for the years 2022-on is the sum of the industrial sales forecasts for FPL and Gulf, which represent, respectively, 65.9% and 34.1% of the combined 2022 industrial sales. Industrial energy sales are projected to remain mostly flat during the forecast period, only growing at an average annual rate of 0.2%.
4. **Railroad and Railways Sales and Street and Highway Sales**
   FPL’s Railroad and Railway class consists solely of Miami-Dade County’s Metrorail system. The projections for railroad and railways sales are based on a historical moving average.

   FPL develops the forecast for Street and Highway sales by first developing a trended use-per-customer value, then multiplying this value by the number of forecasted customers.

   Gulf’s street and highway class consists of outdoor lighting accounts for governmental entities and municipal services benefit units (MSBU). An MSBU is a non-ad valorem assessment district established for funding improvements, such as street lighting, in a specific geographic area. The projections for street and highway sales are based on historical growth rates and inputs from Gulf’s lighting team to gain insight into future trends.

5. **Other Public Authority Sales**
   This class is applicable only to FPL and consists of a sports field rate schedule (which is closed to new customers) and one government account. The forecast for this class is based on its historical usage characteristics.

6. **Total Sales to Ultimate Customer**
   The sales forecasts by revenue class for FPL and Gulf are each summed to produce their respective total sales forecasts.

7. **Sales for Resale**
   Sales for resale (wholesale) customers are comprised of sales to municipalities and/or electric co-operatives. These customers differ from jurisdictional customers in that they are not the ultimate users of the electricity. Instead, they resell this electricity to their own customers.

   The load forecast for FPL includes wholesale loads served under full and partial-requirements contracts that provide other utilities all, or a portion of, their load requirements at a level of service equivalent to FPL’s own native load customers. There are currently nine customers in this class: Florida Keys Electric Cooperative, Lee County Electric Cooperative, New Smyrna Beach, Wauchula, Homestead, Quincy, Moore Haven, Florida Public Utilities Company, and Seminole Electric Cooperative.8

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8 FPL continues to evaluate the possibility of serving the electrical loads of other entities at the time this Site Plan was being prepared. Because these possibilities are still being evaluated, the load forecast presented in this Site Plan does not include these potential loads.
The load forecast for Gulf also includes a full-requirements wholesale contract that provide another utility all of their load requirement at a level of service equivalent to Gulf's own native load customers. There is currently one customer in this class: Florida Public Utilities Company.

Since May 2011, FPL has provided service to the Florida Keys Electric Cooperative under a long-term, full-requirements contract. The sales to Florida Keys Electric Cooperative are based on customer-supplied information and historical coincidence factors.

FPL sales to Lee County began in 2010. Lee County has a contract with FPL for the full-requirements of their load that is projected to continue through 2033, with an option to extend the contract through 2053. Forecasted NEL for Lee County is based on customer-supplied information and historical usage trends.

FPL sales to New Smyrna Beach began in February 2014. The contract is projected to continue through December 2021. Under a second contract, additional sales to New Smyrna Beach began in July 2017 and are also projected to continue through December 2021. Under a third contract, sales to New Smyrna again increased beginning in January 2019 and these are also projected to continue through December 2021.

FPL’s sales to Wauchula began in October 2011. The contract is projected to continue through December 2023.

FPL sales to Homestead began in August 2015. The contract is projected to continue through December 2026. Under a separate contract, additional sales to Homestead began in January 2020 and are also projected to continue through December 2026.

FPL sales to Quincy began in January 2016. The contract is projected to continue through December 2023.

FPL sales to Moore Haven began in July 2016. The contract is projected to continue through December 2025.

FPL sales to Florida Public Utilities Company began in January 2018. The contract is projected to continue through December 2026.
FPL sales to Seminole Electric Cooperative are based on delivery of 200 MW that began in June 2014 and is projected to continue through May 2021.

Gulf Power sales to Florida Public Utilities Company is projected to continue through December 2026.

II.D. **Net Energy for Load (NEL)**

The NEL forecast for both FPL and Gulf are the sums of the retail energy, wholesale energy, and losses. Through the use of the energy efficiency variable, the retail energy sales forecast includes the impacts from major energy efficiency codes and standards, including those associated with the 2005 National Energy Policy Act, the 2007 Energy Independence and Security Act, and savings resulting from the use of compact fluorescent bulbs (CFLs) and LEDs. The estimated impact from these codes and standards includes engineering estimates and any resulting behavioral changes. The impact of these savings began in 2005 and, from that year, their cumulative impact on NEL for the integrated system is projected to be a reduction of 6,028 GWh by 2029. This represents an approximately 4.2% reduction in what the forecasted NEL for 2029 would have been absent these codes and standards. From the end of 2019, the incremental reduction through 2029 is expected to be 2,482 GWh. The estimated impacts from codes and standards are based on the energy efficiency variables in the respective energy models. Previously, FPL’s NEL forecast was based on a top-down approach using a single model for NEL which included an energy efficiency variable. The result of this approach assigned energy efficiency savings to all FPL customer classes.

FPL’s current NEL forecast, however, is based on a bottoms-up approach using separate models for each class. The result of this approach found that the energy efficiency variables were not statistically significant for the commercial customer model, and as such, the impact associated with energy efficiency on FPL’s commercial sales cannot be quantified separately using the current models. While this energy efficiency impact cannot be separately quantified using the current models, this should not be interpreted as though energy efficiency is not impacting commercial customers nor that the NEL forecast is not accounting for this impact. What it means is that this impact for the commercial class is being captured in another variable within the model. However, as a result, it appears that there is a decline in the explicitly quantified energy efficiency impact on total NEL through 2029 compared to the results presented in the 2019 Site Plan. As previously mentioned, FPL routinely evaluates its

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9 The efficiency variable was highly correlated with the price term, and the resulting multicollinearity issue resulted in the variable exhibiting a high p-value. Variables with a high p-value are not statistically significant to the model.
methodologies and models for potential refinements and one area for possible refinement is in regard to separately quantifying the impact of energy efficiency codes and standards for commercial class customers.

FPL makes an adjustment for the impact of incremental private solar projected to be added during the forecast period. The impact of private solar on the NEL forecast for the integrated system is projected to be a reduction of approximately 1,311 GWh by 2029. FPL and Gulf also adjust for the additional load projected to be added due to the incremental adoption of new plug-in electric vehicles. This results in an increase on the integrated system of approximately 1,686 GWh by 2029. The forecast is also adjusted for the incremental load projected to be added to FPL’s system from FPL’s economic development riders forecast. This incremental load is projected to be approximately 252 GWh by 2029.

II.E. System Peak Forecasts

The rate of absolute growth in peak load for both FPL and Gulf has been a function of the size of the customer base, weather, projected economic conditions, and energy-efficiency codes and standards. The peak forecast models capture these behavioral relationships. In addition, the peak forecast for FPL also reflects changes in load expected from private solar, the expected number of plug-in electric vehicles, FPL’s economic development riders, and wholesale requirements contracts. With respect to the peak forecast for Gulf, the projected impacts of private solar and electric vehicles are believed to be relatively small. However, the ability to better incorporate projected impacts of private solar and EVs in Gulf’s area is another aspect of the current forecasting methodologies for which the load forecasting team will evaluate for additional refinements in upcoming forecasts.

The monthly peak load for the integrated system from 2022-on is the highest hourly demand from the forecasted system hourly load forecast, which was developed by summing the forecasted system hourly loads for FPL and Gulf. The integrated system peak load forecast reflects the growth in peak load for FPL and Gulf along with the peak demand savings associated with load diversity.

As separate systems, FPL and Gulf peak at different hours and this difference is due to load diversity. The load diversity is primarily due to their respective loads being located in different time zones and the benefit of load diversity is that the combined system peak demand is lower than the sum of the standalone FPL and Gulf peaks demands. By 2029, the load diversity results
in a projected reduction to the integrated system peaks of 103 MW in the Summer and 190 MW in the Winter. This represents savings for customers.

The savings from energy-efficiency codes and standards incorporated into the peak forecast include the impacts from the 2005 National Energy Policy Act, the 2007 Energy Independence and Security Act, and the use of CFLs and LEDs. The impact from these energy-efficiency standards began in 2005, and their cumulative reduction, from that year, on the integrated Summer peak is projected to reach approximately 5,732 MW by 2029. This reduction includes engineering estimates and any resulting behavioral changes.

The cumulative 2029 impact from these energy-efficiency codes and standards is projected to effectively reduce the integrated system’s Summer peak for that year by approximately 19%. From the end of 2019, the projected incremental impact on the Summer peak from these energy-efficiency codes and standards is a reduction of approximately 1,848 MW through 2029.

The peak forecast for FPL was also adjusted for the additional load estimated from private solar, plug-in electric vehicles, and FPL’s economic development riders. The impact from plug-in electric vehicles is projected to be an increase on the integrated system of approximately 582 MW in the Summer and 291 MW in the Winter by the end of 2029. The impact on the integrated system from FPL’s economic development riders is projected to be an increase of approximately 29 MW in the Summer peak and 61 MW in the Winter peak. The incremental impact of private solar on the integrated system is an expected decrease of approximately 327 MW in the Summer and a negligible reduction in the Winter by the end of 2029.

The forecasting methodology for Summer, Winter, and monthly system peaks is discussed below.

The forecasted values for FPL's and Gulf's Summer and Winter peak loads for the years 2020 through 2021 are presented separately at the end of this chapter in Schedules 3.1 and 3.2, and in Chapter III in Schedules 7.1 and 7.2. For the years 2022 through 2029, only forecasted values for the integrated system are presented on these schedules.

1. **System Summer Peak**

   The Summer peak forecast for FPL is developed using an econometric model based on the Summer peak contribution per customer. The variables included in the model are Florida real per capita income, cooling degree hours two days prior to the peak day, the maximum temperature on the day of the peak, a variable for energy efficiency codes and standards,
binary variables years 2005 and 2019, and autoregressive terms. The model output is multiplied by the total number of customers to arrive at the projected Summer peak demand. This product is then adjusted to account for the expected changes in loads resulting from private solar, plug-in electric vehicles, FPL’s economic development riders, and wholesale requirements contracts to derive FPL’s system Summer peak.

The Summer peak forecast for Gulf is developed using an econometric model based on the Summer peak contribution per customer. The variables included in the model are the maximum temperature on the day of the peak, a variable for energy efficiency codes and standards, employment-weighted real per capita income, and an autoregressive term. The model output is multiplied by the total number of customers to arrive at the projected Summer peak demand.

Summer peak forecasts presented in Gulf’s prior Site Plans were developed using the Peak Demand Model (PDM) which spread the energy projections using historical load shapes to develop forecasted hourly load shapes and the monthly forecast peak demand was the single highest hour in each month. Adoption of the econometric modeling approach for Summer peak forecast ensures FPL and Gulf are employing enhanced peak demand forecasting methodologies.

The Summer peak demand forecast for the integrated system for 2022-on is the highest hourly demand during the Summer months from the integrated system hourly forecast, which was developed by summing the forecasted system hourly loads for FPL and Gulf. This approach ensures the Summer peak demand forecast for the integrated system reflects the growth in Summer peak load for FPL and Gulf along with the Summer peak demand savings associated with load diversity. The Summer peak demand for the integrated system is projected to occur in August.

2. System Winter Peak

The Winter peak forecast for FPL is developed using an econometric model based on the Winter peak contribution per customer. The variables included in the model are employment-weighted real per capita income, the minimum temperature on the peak day, a weather-related variable capturing cold buildup, a binary variable for year 2008, and a trend variable. The model output is multiplied by the total number of customers to arrive at the projected Winter peak demand. The projection is then adjusted for the expected changes in loads resulting from private solar, plug-in electric vehicles, FPL’s economic development riders, and wholesale requirement contracts.
The Winter peak forecast for Gulf was developed using an econometric model based on the Winter peak contribution per customer. The variables included in the model are the minimum temperature on the peak day, a variable for energy efficiency codes and standards, and autoregressive terms. The model output is then multiplied by the total number of customers to arrive at the projected Winter peak demand.

The Winter peak forecasts presented in prior Gulf Site Plans were developed using the PDM model. Adoption of the econometric modeling approach for Winter peak forecast ensures FPL and Gulf are employing enhanced peak demand forecasting methodologies.

The Winter peak demand forecast for the integrated system is the highest hourly demand during the Winter months from the integrated system hourly forecast. This approach ensures the integrated Winter peak demand forecast reflects the growth in the Winter peak load for FPL and Gulf along with the Winter peak demand savings associated with load diversity. The Winter peak demand for the integrated system is projected to occur in January.

3. Monthly Peak Forecasts

The forecasting process for FPL’s monthly peaks begins with two assumptions. First, the forecasted annual Summer peak is assumed to occur in the month of August, which historically has accounted for more annual Summer peaks than any other month. Second, the forecasted annual Winter peak is assumed to occur in the month of January, which historically has accounted for more annual Winter peaks than any other month. Then the remaining monthly peaks are forecasted based on the historical relationship between the monthly peaks and the annual Summer peak.

The forecasting process for Gulf’s monthly peaks begins with two assumptions. First, the forecasted annual Summer peak is assumed to occur in the month of July, which historically has accounted for more annual Summer peaks than any other month. Second, the forecasted annual Winter peak is assumed to occur in the month of January, which historically has accounted for more annual Winter peaks than any other month. Then the remaining monthly peaks are forecasted based on the historical relationship between the monthly peaks and the annual Summer peak.

Monthly peak forecasts presented in prior Gulf Site Plans were developed using the PDM model. Gulf’s adoption of FPL’s monthly peak demand forecast process ensures FPL and Gulf are employing enhanced monthly peak demand forecasting methodologies.
The monthly peak demand forecast for the integrated system for 2022-on is the highest hourly demand by month from the integrated system hourly forecast. This approach ensures the integrated monthly peak demand forecast reflects the growth in monthly peaks for FPL and Gulf along with the monthly peak demand savings associated with load diversity.

II.F. Hourly Load Forecast

Forecasted values for system hourly load on the FPL system for the period 2020 through 2029 were developed using a system load forecasting program named MetrixLT. This model uses years of historical FPL hourly system load data to develop load shapes. The model generates a projection of hourly load values based on these load shapes and the forecast of FPL’s monthly peaks and energy.

Forecasted values for system hourly load on the Gulf system for the period 2020 to 2029 were also developed using MetrixLT, which uses historical Gulf hourly system load data to develop load shapes. The model generates a projection of hourly load values based on these load shapes and the forecast of Gulf’s monthly peaks and energies.

The forecasted values for system hourly load on the integrated system for 2022-on were the summation of the FPL and Gulf hourly load for the period. The Gulf system hourly load was adjusted from Central to Eastern time zone to be consistent with FPL’s system hourly load.

II.G. Uncertainty

Uncertainty is inherent in the load forecasting process. This uncertainty can result from a number of factors, including unexpected changes in consumer behavior, structural shifts in the economy, and fluctuating weather conditions. Large weather fluctuations, in particular, can result in significant deviations between actual and forecasted peak demands. The load forecast is based on average expected or normal weather conditions. An extreme 90% probability (P90) cold weather event can add an additional 3,000 MW or more to the Winter peak, and an extreme P90 hot weather event can add an additional 750 MW to the Summer peak.

In order to address uncertainty in the forecast of aggregate peak demand and NEL, the assumptions underlying the forecasts are first evaluated. Then a series of steps are taken to evaluate the input variables, including comparing projections from different sources, identifying outliers in the series, and assessing the series’ consistency with past forecasts. Additional factors that may affect the input variables are reviewed as needed.
Uncertainty is also addressed in the modeling process. Econometric models generally are used to forecast peak demands and energies. During the modeling process, relevant statistics such as (goodness of fit, F-statistic, P-values, mean absolute deviation (MAD), mean absolute percentage error (MAPE), etc.) are scrutinized to ensure the models adequately explain historical variation. Once a forecast is developed, it is compared with past forecasts. Deviations from past forecasts are examined in light of changes in input assumptions to ensure that the drivers underlying the forecast are thoroughly understood. Finally, forecasts of aggregate peak demand and NEL are compared with the actual values as they become available. An ongoing process of variance analyses is performed. To the extent the variance analyses identify large unexplained deviations between the forecast and actual values, revisions to the econometric model may be considered. Finally, the forecasting group regularly engages with forecasting professionals from other electric utilities to share best practices and changes to existing processes may be considered.

The inherent uncertainty in load forecasting is addressed in different ways in regard to the overall resource planning and operational planning work. With respect to resource planning work, the utilization of a 20% total reserve margin (TRM) criterion, a Loss-of-Load-Probability (LOLP) criterion of 0.1, and a 10% generation-only reserve margin (GRM) criterion are designed to maintain reliable electric service for customers in light of forecasting and other uncertainties. In addition, banded forecasts of the projected Summer peak and NEL may be produced based on analyses of past forecasting variances. A banded forecast for the projected Summer and Winter peak days may also be developed based on historical weather variations. These bands are then used to develop similar bands for the monthly peaks. A P80 monthly peak forecast is typically provided to FPL’s System Operations group for operational planning purposes.

II.H. DSM

FPL and Gulf assume that the effects of its DSM energy-efficiency programs through August 2019 are embedded in the actual usage data for forecasting purposes. In addition, the utilities account for the following projected DSM MW and MWh impacts as “line item reductions” to the forecasts as part of the IRP process: 1) the impacts of incremental energy efficiency that the utilities have implemented in the September 2019 through December 2019 time period (i.e., after the 2019 Summer peak has occurred), 2) projected impacts from incremental energy efficiency that FPL plans to implement in 2020 through 2024 in response to the DSM Goals that were set for each utility by the FPSC in the 4th Quarter of 2019 for the 2020 – 2024 time period, 3) the inclusion of additional currently projected cost-effective DSM for the years 2025 through 2029, and 4) the cumulative and projected incremental impacts of FPL’s load management
programs through 2029. After making these adjustments to the load forecasted load values, the resulting “firm” load forecast as shown in Chapter III in Schedules 7.1 and 7.2., is then used in the IRP work.
### Schedule 2.1: FPL
#### History of Energy Consumption
And Number of Customers by Customer Class

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Household</th>
<th>GWh</th>
<th>Average kWh</th>
<th>Average kWh Per Customer</th>
<th>GWh</th>
<th>Average kWh Per Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>8,851,966</td>
<td>2.21</td>
<td>56,343</td>
<td>4,004,366</td>
<td>14,070</td>
<td>44,544</td>
<td>503,529</td>
</tr>
<tr>
<td>2011</td>
<td>8,979,403</td>
<td>2.23</td>
<td>54,642</td>
<td>4,026,760</td>
<td>13,570</td>
<td>45,052</td>
<td>508,005</td>
</tr>
<tr>
<td>2012</td>
<td>9,096,135</td>
<td>2.24</td>
<td>53,434</td>
<td>4,052,174</td>
<td>13,187</td>
<td>45,220</td>
<td>511,887</td>
</tr>
<tr>
<td>2013</td>
<td>9,219,688</td>
<td>2.25</td>
<td>53,930</td>
<td>4,097,172</td>
<td>13,163</td>
<td>45,341</td>
<td>516,500</td>
</tr>
<tr>
<td>2014</td>
<td>9,357,139</td>
<td>2.24</td>
<td>55,202</td>
<td>4,169,028</td>
<td>13,241</td>
<td>45,684</td>
<td>525,591</td>
</tr>
<tr>
<td>2015</td>
<td>9,517,833</td>
<td>2.25</td>
<td>58,846</td>
<td>4,227,425</td>
<td>13,920</td>
<td>47,369</td>
<td>532,731</td>
</tr>
<tr>
<td>2016</td>
<td>9,687,433</td>
<td>2.26</td>
<td>58,687</td>
<td>4,284,159</td>
<td>13,699</td>
<td>47,355</td>
<td>540,356</td>
</tr>
<tr>
<td>2017</td>
<td>9,924,621</td>
<td>2.26</td>
<td>58,188</td>
<td>4,338,224</td>
<td>13,413</td>
<td>47,151</td>
<td>547,959</td>
</tr>
<tr>
<td>2018</td>
<td>10,004,467</td>
<td>2.28</td>
<td>59,096</td>
<td>4,391,832</td>
<td>13,456</td>
<td>47,394</td>
<td>553,652</td>
</tr>
<tr>
<td>2019</td>
<td>10,119,121</td>
<td>2.26</td>
<td>60,325</td>
<td>4,479,356</td>
<td>13,467</td>
<td>48,078</td>
<td>565,622</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) represents population only in the area served by FPL.

Col. (4) and Col. (7) represent actual energy sales including the impacts of existing conservation. These values are at the meter.

Col. (5) and Col. (8) represent the annual average of the twelve monthly values.

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### Schedule 2.1: Gulf
#### History of Energy Consumption
And Number of Customers by Customer Class

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Household</th>
<th>GWh</th>
<th>Average kWh</th>
<th>Average kWh Per Customer</th>
<th>GWh</th>
<th>Average kWh Per Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>873,320</td>
<td>2.32</td>
<td>5,651</td>
<td>375,847</td>
<td>15,036</td>
<td>3,997</td>
<td>53,349</td>
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<tr>
<td>2011</td>
<td>882,950</td>
<td>2.33</td>
<td>5,305</td>
<td>378,157</td>
<td>14,028</td>
<td>3,911</td>
<td>53,409</td>
</tr>
<tr>
<td>2012</td>
<td>898,710</td>
<td>2.37</td>
<td>5,054</td>
<td>379,897</td>
<td>13,303</td>
<td>3,859</td>
<td>53,706</td>
</tr>
<tr>
<td>2013</td>
<td>911,720</td>
<td>2.38</td>
<td>5,089</td>
<td>382,599</td>
<td>13,301</td>
<td>3,810</td>
<td>54,261</td>
</tr>
<tr>
<td>2014</td>
<td>923,520</td>
<td>2.39</td>
<td>5,362</td>
<td>386,765</td>
<td>13,865</td>
<td>3,838</td>
<td>54,749</td>
</tr>
<tr>
<td>2016</td>
<td>949,240</td>
<td>2.39</td>
<td>5,358</td>
<td>396,408</td>
<td>13,515</td>
<td>3,869</td>
<td>55,876</td>
</tr>
<tr>
<td>2017</td>
<td>962,790</td>
<td>2.40</td>
<td>5,229</td>
<td>401,793</td>
<td>13,015</td>
<td>3,814</td>
<td>56,428</td>
</tr>
<tr>
<td>2018</td>
<td>977,810</td>
<td>2.40</td>
<td>5,519</td>
<td>406,949</td>
<td>13,563</td>
<td>3,829</td>
<td>56,892</td>
</tr>
<tr>
<td>2019</td>
<td>990,370</td>
<td>2.43</td>
<td>5,520</td>
<td>407,436</td>
<td>13,548</td>
<td>3,775</td>
<td>56,590</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) includes the Pensacola, Crestview, and Panama City MSAs, which are generally representative of the area served by Gulf.

Col. (4) and Col. (7) represent actual energy sales including the impacts of existing conservation. These values are at the meter.

Col. (5) and Col. (8) represent the annual average of the twelve monthly values.
### Schedule 2.1

**Forecast of Energy Consumption**

**And Number of Customers by Customer Class**

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Members per Household</th>
<th>Rural &amp; Residential</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>GWh</td>
<td>GWh</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No. of Customers</td>
<td>No. of Customers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>kWh</td>
<td>kWh</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consumption</td>
<td>Consumption</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Per Customer</td>
<td>Per Customer</td>
</tr>
<tr>
<td>2020</td>
<td>10,227,063</td>
<td>2.26</td>
<td>59,382</td>
<td>4,527,529</td>
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<td></td>
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<td></td>
<td></td>
<td>13,116</td>
</tr>
<tr>
<td>2021</td>
<td>10,335,192</td>
<td>2.26</td>
<td>59,814</td>
<td>4,568,149</td>
</tr>
<tr>
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<td></td>
<td>13,094</td>
</tr>
<tr>
<td>2020</td>
<td>1,000,760</td>
<td>2.42</td>
<td>5,405</td>
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<td>2021</td>
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<td>2.40</td>
<td>5,433</td>
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<td>12,852</td>
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<tr>
<td>2022</td>
<td>11,465,461</td>
<td>2.28</td>
<td>65,314</td>
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<td>2023</td>
<td>11,586,120</td>
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<td>65,784</td>
<td>5,084,160</td>
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<td>2024</td>
<td>11,708,833</td>
<td>2.28</td>
<td>66,480</td>
<td>5,129,346</td>
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<td>12,952</td>
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<tr>
<td>2025</td>
<td>11,832,535</td>
<td>2.29</td>
<td>66,969</td>
<td>5,173,248</td>
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<td></td>
<td></td>
<td></td>
<td>12,937</td>
</tr>
<tr>
<td>2026</td>
<td>11,956,071</td>
<td>2.29</td>
<td>67,586</td>
<td>5,217,662</td>
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<tr>
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<td></td>
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<td>12,945</td>
</tr>
<tr>
<td>2027</td>
<td>12,080,045</td>
<td>2.30</td>
<td>68,285</td>
<td>5,261,200</td>
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<td></td>
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<td>12,971</td>
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<tr>
<td>2028</td>
<td>12,204,016</td>
<td>2.30</td>
<td>69,176</td>
<td>5,303,021</td>
</tr>
<tr>
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<td></td>
<td>13,037</td>
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<tr>
<td>2029</td>
<td>12,328,021</td>
<td>2.31</td>
<td>69,845</td>
<td>5,344,810</td>
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<td></td>
<td></td>
<td></td>
<td>13,060</td>
</tr>
</tbody>
</table>

**Projected Values (2020 - 2029):**

Col. (2) represents population in the areas served by FPL and Gulf separately for 2020 and 2021, and by the single integrated system for 2022 - 2029.

Col. (4) and Col. (7) represent forecasted energy sales that do not include the impact of incremental conservation. These values are at the meter.

Col. (5) and Col. (8) represent the annual average of the twelve monthly values.
## Schedule 2.2: FPL
### History of Energy Consumption
And Number of Customers by Customer Class

<table>
<thead>
<tr>
<th>Year</th>
<th>Average kWh Consumption Per Customer</th>
<th>Average kWh</th>
<th>Railroads &amp; Street &amp;</th>
<th>Sales to Ultimate Consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>8,910</td>
<td>351,318</td>
<td>81</td>
<td>104,557</td>
</tr>
<tr>
<td>2011</td>
<td>8,691</td>
<td>355,104</td>
<td>82</td>
<td>103,327</td>
</tr>
<tr>
<td>2012</td>
<td>8,743</td>
<td>345,871</td>
<td>81</td>
<td>102,226</td>
</tr>
<tr>
<td>2013</td>
<td>9,541</td>
<td>309,772</td>
<td>88</td>
<td>102,784</td>
</tr>
<tr>
<td>2014</td>
<td>10,415</td>
<td>282,398</td>
<td>91</td>
<td>104,389</td>
</tr>
<tr>
<td>2015</td>
<td>11,318</td>
<td>268,799</td>
<td>92</td>
<td>109,820</td>
</tr>
<tr>
<td>2016</td>
<td>11,770</td>
<td>259,853</td>
<td>92</td>
<td>109,663</td>
</tr>
<tr>
<td>2017</td>
<td>11,654</td>
<td>254,103</td>
<td>83</td>
<td>106,871</td>
</tr>
<tr>
<td>2018</td>
<td>11,801</td>
<td>259,728</td>
<td>80</td>
<td>110,053</td>
</tr>
<tr>
<td>2019</td>
<td>11,799</td>
<td>253,759</td>
<td>82</td>
<td>111,929</td>
</tr>
</tbody>
</table>

### Historical Values (2010 - 2019):
Col. (16) represents actual energy sales including the impacts of existing conservation. These values are at the meter.

Col. (11) represents the annual average of the twelve monthly values.


## Schedule 2.2: Gulf
### History of Energy Consumption
And Number of Customers by Customer Class

<table>
<thead>
<tr>
<th>Year</th>
<th>Average kWh Consumption Per Customer</th>
<th>Average kWh</th>
<th>Railroads &amp; Street &amp;</th>
<th>Sales to Ultimate Consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>275</td>
<td>6,133,961</td>
<td>0</td>
<td>11,359</td>
</tr>
<tr>
<td>2011</td>
<td>273</td>
<td>6,586,591</td>
<td>0</td>
<td>11,040</td>
</tr>
<tr>
<td>2012</td>
<td>267</td>
<td>6,453,071</td>
<td>0</td>
<td>10,663</td>
</tr>
<tr>
<td>2013</td>
<td>258</td>
<td>6,581,320</td>
<td>0</td>
<td>10,620</td>
</tr>
<tr>
<td>2014</td>
<td>258</td>
<td>7,165,343</td>
<td>0</td>
<td>11,075</td>
</tr>
<tr>
<td>2015</td>
<td>249</td>
<td>7,235,499</td>
<td>0</td>
<td>11,086</td>
</tr>
<tr>
<td>2016</td>
<td>247</td>
<td>7,402,625</td>
<td>0</td>
<td>11,082</td>
</tr>
<tr>
<td>2017</td>
<td>255</td>
<td>6,815,486</td>
<td>0</td>
<td>10,809</td>
</tr>
<tr>
<td>2018</td>
<td>253</td>
<td>6,931,497</td>
<td>0</td>
<td>11,132</td>
</tr>
<tr>
<td>2019</td>
<td>250</td>
<td>7,026,958</td>
<td>0</td>
<td>11,079</td>
</tr>
</tbody>
</table>

### Historical Values (2010 - 2019):
Col. (16) represents actual energy sales including the impacts of existing conservation. These values are at the meter.

Col. (11) represents the annual average of the twelve monthly values.

### Schedule 2.2

**Forecast of Energy Consumption**

**And Number of Customers by Customer Class**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Customers</th>
<th>Average Consumption Per Customer</th>
<th>Average kWh</th>
<th>Railroads &amp; Street &amp; Highway Lighting</th>
<th>Sales to Public Authorities</th>
<th>Sales to Consumers</th>
<th>Ultimate GWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>3,071</td>
<td>12,244</td>
<td>250,838</td>
<td>80</td>
<td>401</td>
<td>20</td>
<td>110,993</td>
</tr>
<tr>
<td>2021</td>
<td>3,152</td>
<td>12,722</td>
<td>247,739</td>
<td>80</td>
<td>399</td>
<td>20</td>
<td>111,934</td>
</tr>
<tr>
<td>Gulf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>1,738</td>
<td>251</td>
<td>6,923,042</td>
<td>0</td>
<td>28</td>
<td>0</td>
<td>10,816</td>
</tr>
<tr>
<td>2021</td>
<td>1,663</td>
<td>251</td>
<td>6,624,257</td>
<td>0</td>
<td>28</td>
<td>0</td>
<td>10,752</td>
</tr>
<tr>
<td>Integrated FPL and Gulf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>4,874</td>
<td>13,270</td>
<td>367,281</td>
<td>80</td>
<td>417</td>
<td>20</td>
<td>122,968</td>
</tr>
<tr>
<td>2023</td>
<td>4,875</td>
<td>13,414</td>
<td>363,429</td>
<td>80</td>
<td>420</td>
<td>20</td>
<td>123,619</td>
</tr>
<tr>
<td>2024</td>
<td>4,875</td>
<td>13,469</td>
<td>361,955</td>
<td>80</td>
<td>429</td>
<td>20</td>
<td>124,619</td>
</tr>
<tr>
<td>2025</td>
<td>4,876</td>
<td>13,559</td>
<td>359,611</td>
<td>80</td>
<td>450</td>
<td>20</td>
<td>125,333</td>
</tr>
<tr>
<td>2026</td>
<td>4,877</td>
<td>13,648</td>
<td>357,302</td>
<td>80</td>
<td>456</td>
<td>20</td>
<td>126,195</td>
</tr>
<tr>
<td>2027</td>
<td>4,876</td>
<td>13,640</td>
<td>357,499</td>
<td>80</td>
<td>462</td>
<td>20</td>
<td>127,156</td>
</tr>
<tr>
<td>2028</td>
<td>4,876</td>
<td>13,589</td>
<td>358,814</td>
<td>80</td>
<td>462</td>
<td>20</td>
<td>128,398</td>
</tr>
<tr>
<td>2029</td>
<td>4,876</td>
<td>13,570</td>
<td>359,309</td>
<td>80</td>
<td>462</td>
<td>20</td>
<td>129,154</td>
</tr>
</tbody>
</table>

**Projected Values (2020 - 2029):**

Col. (10) and Col. (15) represent forecasted energy sales that do not include the impact of incremental conservation. These values are at the meter.

Col. (11) represents the annual average of the twelve monthly values.

### Schedule 2.3: FPL

**History of Energy Consumption**

<table>
<thead>
<tr>
<th>Year</th>
<th>GWh</th>
<th>GWh</th>
<th>GWh</th>
<th>Average</th>
<th>Total Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2,049</td>
<td>7,870</td>
<td>114,475</td>
<td>3,523</td>
<td>4,520,328</td>
</tr>
<tr>
<td>2011</td>
<td>2,176</td>
<td>6,950</td>
<td>112,454</td>
<td>3,596</td>
<td>4,547,051</td>
</tr>
<tr>
<td>2012</td>
<td>2,237</td>
<td>6,403</td>
<td>110,866</td>
<td>3,645</td>
<td>4,576,449</td>
</tr>
<tr>
<td>2013</td>
<td>2,158</td>
<td>6,713</td>
<td>111,655</td>
<td>3,722</td>
<td>4,626,934</td>
</tr>
<tr>
<td>2014</td>
<td>5,375</td>
<td>6,204</td>
<td>115,968</td>
<td>3,795</td>
<td>4,708,829</td>
</tr>
<tr>
<td>2015</td>
<td>6,610</td>
<td>6,326</td>
<td>122,756</td>
<td>3,907</td>
<td>4,775,382</td>
</tr>
<tr>
<td>2016</td>
<td>6,623</td>
<td>5,334</td>
<td>121,619</td>
<td>3,994</td>
<td>4,840,279</td>
</tr>
<tr>
<td>2017</td>
<td>6,406</td>
<td>5,468</td>
<td>120,745</td>
<td>4,100</td>
<td>4,901,886</td>
</tr>
<tr>
<td>2018</td>
<td>6,790</td>
<td>5,604</td>
<td>122,447</td>
<td>4,334</td>
<td>4,961,330</td>
</tr>
<tr>
<td>2019</td>
<td>7,315</td>
<td>5,924</td>
<td>125,168</td>
<td>4,749</td>
<td>5,061,525</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (19) represents actual energy sales including the impacts of existing conservation.

Col. (19) = Schedule 2.2 Col. (16) + Col. (17) + Col. (18). Historical NEL includes the impacts of existing conservation and agrees to Col. (5) on schedule 3.3. Historical GWH, prior to 2011, are based on a fiscal year beginning 12/29 and ending 12/28. The 2011 value is based on 12/29/10 to 12/31/11. The 2012-2019 values are based on calendar year.

Col. (20) represents the annual average of the twelve monthly values.


### Schedule 2.3: Gulf

**History of Energy Consumption**

<table>
<thead>
<tr>
<th>Year</th>
<th>GWh</th>
<th>GWh</th>
<th>GWh</th>
<th>Average</th>
<th>Total Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>499</td>
<td>750</td>
<td>12,518</td>
<td>559</td>
<td>430,030</td>
</tr>
<tr>
<td>2011</td>
<td>382</td>
<td>663</td>
<td>12,086</td>
<td>564</td>
<td>432,403</td>
</tr>
<tr>
<td>2012</td>
<td>339</td>
<td>597</td>
<td>11,598</td>
<td>572</td>
<td>434,441</td>
</tr>
<tr>
<td>2013</td>
<td>330</td>
<td>602</td>
<td>11,552</td>
<td>579</td>
<td>437,698</td>
</tr>
<tr>
<td>2014</td>
<td>332</td>
<td>629</td>
<td>12,037</td>
<td>598</td>
<td>442,370</td>
</tr>
<tr>
<td>2015</td>
<td>330</td>
<td>580</td>
<td>11,996</td>
<td>610</td>
<td>447,557</td>
</tr>
<tr>
<td>2016</td>
<td>331</td>
<td>618</td>
<td>12,030</td>
<td>609</td>
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<td>2017</td>
<td>318</td>
<td>588</td>
<td>11,715</td>
<td>574</td>
<td>459,050</td>
</tr>
<tr>
<td>2018</td>
<td>302</td>
<td>623</td>
<td>12,057</td>
<td>589</td>
<td>464,682</td>
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<tr>
<td>2019</td>
<td>257</td>
<td>407</td>
<td>11,742</td>
<td>608</td>
<td>464,884</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (19) represents actual energy sales including the impacts of existing conservation.

Col. (19) = Schedule 2.2 Col. (16) + Col. (17) + Col. (18). Historical NEL includes the impacts of existing conservation and agrees to Col. (5) on schedule 3.3.

Col. (20) represents the annual average of the twelve monthly values.

## Schedule 2.3

**Forecast of Energy Consumption**

**And Number of Customers by Customer Class**

<table>
<thead>
<tr>
<th>Year</th>
<th>(1) Sales for Resale GWh</th>
<th>(17) Utility Use &amp; Losses GWh</th>
<th>(18) Net Energy For Load GWh</th>
<th>(19) Average No. of Other Customers</th>
<th>(20) Total Average Number of Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>6,283</td>
<td>5,797</td>
<td>123,073</td>
<td>5,100</td>
<td>5,117,332</td>
</tr>
<tr>
<td>2021</td>
<td>5,788</td>
<td>5,412</td>
<td>123,134</td>
<td>5,458</td>
<td>5,165,574</td>
</tr>
</tbody>
</table>

**Gulf**

<table>
<thead>
<tr>
<th>Year</th>
<th>(18) Utility Use &amp; Losses GWh</th>
<th>(19) Average No. of Other Customers</th>
<th>(21) Total Average Number of Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>298</td>
<td>603</td>
<td>472,190</td>
</tr>
<tr>
<td>2021</td>
<td>293</td>
<td>597</td>
<td>480,130</td>
</tr>
</tbody>
</table>

**Integrated FPL and Gulf**

<table>
<thead>
<tr>
<th>Year</th>
<th>(18) Utility Use &amp; Losses GWh</th>
<th>(19) Average No. of Other Customers</th>
<th>(21) Total Average Number of Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>5,717</td>
<td>6,115</td>
<td>5,700,622</td>
</tr>
<tr>
<td>2023</td>
<td>5,793</td>
<td>6,189</td>
<td>5,755,134</td>
</tr>
<tr>
<td>2024</td>
<td>5,871</td>
<td>6,271</td>
<td>5,806,073</td>
</tr>
<tr>
<td>2025</td>
<td>5,948</td>
<td>6,260</td>
<td>5,855,142</td>
</tr>
<tr>
<td>2026</td>
<td>6,028</td>
<td>6,318</td>
<td>5,904,561</td>
</tr>
<tr>
<td>2027</td>
<td>5,955</td>
<td>6,363</td>
<td>5,952,978</td>
</tr>
<tr>
<td>2028</td>
<td>6,040</td>
<td>6,437</td>
<td>5,999,654</td>
</tr>
<tr>
<td>2029</td>
<td>6,125</td>
<td>6,472</td>
<td>6,046,421</td>
</tr>
</tbody>
</table>

**Projected Values (2020 - 2029):**

Col. (19) represents forecasted energy sales that do **not** include the impact of incremental conservation and agrees to Col. (2) on Schedule 3.3.


Col. (20) represents the annual average of the twelve monthly values.

### Schedule 3.1: FPL
#### History of Summer Peak Demand (MW)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Wholesale</th>
<th>Retail</th>
<th>Interruptible</th>
<th>Res. Load Management</th>
<th>Residential Conservation</th>
<th>C/I Load Management</th>
<th>C/I Conservation</th>
<th>Net Firm Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>22,256</td>
<td>419</td>
<td>21,837</td>
<td>0</td>
<td>990</td>
<td>1,181</td>
<td>815</td>
<td>758</td>
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<td>19,594</td>
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<tr>
<td>2014</td>
<td>22,535</td>
<td>1,155</td>
<td>21,780</td>
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<td>1,010</td>
<td>1,494</td>
<td>843</td>
<td>866</td>
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<td>873</td>
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<td>910</td>
<td>1,560</td>
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<td>1,579</td>
<td>879</td>
<td>926</td>
<td>22,510</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) and Col. (3) are actual values for historical Summer peaks. As such, they incorporate the effects of conservation (Col. 7 & Col. 9) and may incorporate the effects of load control if load control was operated on these peak days. Col. (2) represents the actual Net Firm Demand.

Col. (5) through Col. (9) represent actual DSM capabilities and represent annual (12-month) values.

Col. (6) values for 2015-on reflect a hardware communications issue identified in 2015 that was subsequently resolved. A number of participating customers did not respond to FPL’s efforts to reach them or refused access to correct the equipment problem at their home. As a result, these customers were removed from the program.

Col. (10) represents a hypothetical "Net Firm Demand" as if the load control values had definitely been exercised on the peak.

Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col. (6) - Col. (8).

### Schedule 3.1: Gulf
#### History of Summer Peak Demand (MW)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Wholesale</th>
<th>Retail</th>
<th>Interruptible</th>
<th>Res. Load Management</th>
<th>Residential Conservation</th>
<th>C/I Load Management</th>
<th>C/I Conservation</th>
<th>Net Firm Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
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<td>2,437</td>
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<td>0</td>
<td>178</td>
<td>0</td>
<td>192</td>
<td>2,525</td>
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<tr>
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<td>89</td>
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<td>186</td>
<td>0</td>
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<td>224</td>
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<td>0</td>
<td>256</td>
<td>0</td>
<td>231</td>
<td>2,495</td>
</tr>
<tr>
<td>2016</td>
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<td>2,432</td>
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<td>0</td>
<td>261</td>
<td>0</td>
<td>231</td>
<td>2,508</td>
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<tr>
<td>2017</td>
<td>2,434</td>
<td>74</td>
<td>2,360</td>
<td>0</td>
<td>0</td>
<td>266</td>
<td>0</td>
<td>232</td>
<td>2,434</td>
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<tr>
<td>2018</td>
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<td>80</td>
<td>2,411</td>
<td>0</td>
<td>0</td>
<td>268</td>
<td>0</td>
<td>233</td>
<td>2,491</td>
</tr>
<tr>
<td>2019</td>
<td>2,472</td>
<td>75</td>
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<td>0</td>
<td>269</td>
<td>0</td>
<td>233</td>
<td>2,472</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) and Col. (3) are actual values for historical Summer peaks and include the effects of conservation (Col. 7 & Col. 9).

Col. (4) represents "Retail Demand" and is derived by the formula: Col. (2) - Col. (3).

Col. (10) is derived by the formula Col. (10) = Col. (2) - Col. (6) - Col. (8).
### Forecast of Summer Peak Demand (MW)

<table>
<thead>
<tr>
<th>August of Year</th>
<th>Total</th>
<th>Wholesale</th>
<th>Retail</th>
<th>Interruptible</th>
<th>Res. Load Management*</th>
<th>Residential Conservation</th>
<th>C/I Load Management*</th>
<th>C/I Conservation</th>
<th>Net Firm Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FPL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>23,084</td>
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<td>11</td>
<td>907</td>
<td>11</td>
<td>22,838</td>
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<td>23</td>
<td>918</td>
<td>27</td>
<td>22,887</td>
</tr>
<tr>
<td><strong>Gulf</strong></td>
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<td></td>
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</tr>
<tr>
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<td>2,399</td>
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<td>0</td>
<td>1</td>
<td>2,458</td>
</tr>
<tr>
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<td>64</td>
<td>2,432</td>
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<td>0</td>
<td>12</td>
<td>0</td>
<td>2</td>
<td>2,481</td>
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<tr>
<td><strong>Integrated FPL and Gulf</strong></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>1,384</td>
<td>25,836</td>
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<td>873</td>
<td>55</td>
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<td>25,317</td>
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<tr>
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<td>26,158</td>
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<td>882</td>
<td>76</td>
<td>939</td>
<td>65</td>
<td>25,602</td>
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<tr>
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<td>105</td>
<td>960</td>
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<td>1,004</td>
<td>92</td>
<td>27,983</td>
</tr>
</tbody>
</table>

**Projected Values (2020 - 2029):**

Col. (2) - Col. (4) represent forecasted peak and do not include incremental conservation, cumulative load management, or incremental load management.

Col. (5) through Col. (9) represent incremental and cumulative load management, and incremental conservation. All values are projected August values.

Col. (8) represents FPL’s Business On Call, CDR, CILC, and curtailable programs/rates.

Col. (10) represents a “Net Firm Demand” which accounts for all of the incremental conservation and assumes all of the load control is implemented on the peak. Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col. (5) - Col. (6) - Col. (7) - Col. (8) - Col. (9).

* Res. Load Management and C/I Load Management include Lee County and FKEC whose loads are served by FPL.
### Schedule 3.2: FPL
#### History of Winter Peak Demand (MW)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Firm Wholesale</th>
<th>Retail</th>
<th>Interruptible</th>
<th>Res. Load Management</th>
<th>Residential Conservation</th>
<th>C/I Load Management</th>
<th>C/I Conservation</th>
<th>Net Firm Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
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<td>500</td>
<td>23,846</td>
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<td>895</td>
<td>687</td>
<td>721</td>
<td>291</td>
<td>22,730</td>
</tr>
<tr>
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<td>903</td>
<td>717</td>
<td>723</td>
<td>303</td>
<td>19,501</td>
</tr>
<tr>
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<td>0</td>
<td>856</td>
<td>755</td>
<td>722</td>
<td>314</td>
<td>16,356</td>
</tr>
<tr>
<td>2013</td>
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<td>843</td>
<td>781</td>
<td>567</td>
<td>326</td>
<td>14,521</td>
</tr>
<tr>
<td>2014</td>
<td>17,500</td>
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<td>16,610</td>
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<td>828</td>
<td>805</td>
<td>590</td>
<td>337</td>
<td>16,083</td>
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<td>835</td>
<td>551</td>
<td>346</td>
<td>18,345</td>
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<td>858</td>
<td>570</td>
<td>352</td>
<td>15,719</td>
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<td>759</td>
<td>861</td>
<td>577</td>
<td>364</td>
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</tr>
<tr>
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<td>17,847</td>
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<td>750</td>
<td>864</td>
<td>588</td>
<td>369</td>
<td>17,771</td>
</tr>
<tr>
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<td>16,795</td>
<td>1,432</td>
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<td>0</td>
<td>706</td>
<td>867</td>
<td>613</td>
<td>379</td>
<td>15,476</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) and Col. (3) are actual values for historical Winter peaks. As such, they incorporate the effects of conservation (Col. 7 & Col. 9) and may incorporate the effects of load control if load control was operated on these peak days. Col. (2) represents the actual Net Firm Demand. For year 2011, the actual winter peak occurred in December of 2010.

Col. (5) through Col. (9) represent actual DSM capabilities and represent annual (12-month) values.

Col. (6) values for 2015-on reflect a hardware communications issue identified in 2015 that was subsequently resolved. A number of participating customers did not respond to FPL's efforts to reach them or refused access to correct the equipment problem at their home. As a result, these customers were removed from the program.

Col. (10) represents a hypothetical "Net Firm Demand" as if the load control values had definitely been exercised on the peak.

Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col. (6) + Col. (8).

### Schedule 3.2: Gulf
#### History of Winter Peak Demand (MW)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Firm Wholesale</th>
<th>Retail</th>
<th>Interruptible</th>
<th>Res. Load Management</th>
<th>Residential Conservation</th>
<th>C/I Load Management</th>
<th>C/I Conservation</th>
<th>Net Firm Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
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<td>0</td>
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<td>377</td>
<td>0</td>
<td>177</td>
<td>2,211</td>
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<tr>
<td>2018</td>
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<td>0</td>
<td>178</td>
<td>2,809</td>
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<tr>
<td>2019</td>
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<td>0</td>
<td>381</td>
<td>0</td>
<td>178</td>
<td>2,066</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) and Col. (3) are actual values for historical Winter peaks and include the effects of conservation (Col. 7 & Col. 9).

Col. (4) represents "Retail Demand" and is derived by the formula: Col. (2) - Col. (3).

Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col. (6) - Col. (8).
### Schedule 3.2
Forecast of Winter Peak Demand (MW)

<table>
<thead>
<tr>
<th>January of Year</th>
<th>Total</th>
<th>Firm Wholesale</th>
<th>Retail</th>
<th>Interruptible</th>
<th>Res. Load Management*</th>
<th>Residential Conservation</th>
<th>C/I Load Management*</th>
<th>C/I Conservation</th>
<th>Net Firm Demand</th>
</tr>
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<td>18,963</td>
</tr>
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<td>2020 Gulf</td>
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<td>0</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>22,369</td>
<td>1,068</td>
<td>21,301</td>
<td>0</td>
<td>733</td>
<td>16</td>
<td>647</td>
<td>33</td>
<td>20,939</td>
</tr>
<tr>
<td>2023</td>
<td>22,617</td>
<td>1,108</td>
<td>21,509</td>
<td>0</td>
<td>746</td>
<td>24</td>
<td>653</td>
<td>46</td>
<td>21,149</td>
</tr>
<tr>
<td>2024</td>
<td>22,861</td>
<td>1,139</td>
<td>21,722</td>
<td>0</td>
<td>758</td>
<td>32</td>
<td>659</td>
<td>58</td>
<td>21,353</td>
</tr>
<tr>
<td>2025</td>
<td>23,103</td>
<td>1,140</td>
<td>21,963</td>
<td>0</td>
<td>778</td>
<td>40</td>
<td>666</td>
<td>70</td>
<td>21,548</td>
</tr>
<tr>
<td>2026</td>
<td>23,388</td>
<td>1,172</td>
<td>22,216</td>
<td>0</td>
<td>804</td>
<td>40</td>
<td>671</td>
<td>70</td>
<td>21,803</td>
</tr>
<tr>
<td>2027</td>
<td>23,608</td>
<td>1,118</td>
<td>22,490</td>
<td>0</td>
<td>829</td>
<td>40</td>
<td>676</td>
<td>70</td>
<td>21,992</td>
</tr>
<tr>
<td>2028</td>
<td>23,341</td>
<td>1,155</td>
<td>22,786</td>
<td>0</td>
<td>855</td>
<td>40</td>
<td>681</td>
<td>70</td>
<td>22,294</td>
</tr>
<tr>
<td>2029</td>
<td>24,293</td>
<td>1,181</td>
<td>23,112</td>
<td>0</td>
<td>880</td>
<td>40</td>
<td>686</td>
<td>70</td>
<td>22,616</td>
</tr>
</tbody>
</table>

**Projected Values (2020 - 2029):**

Col. (2) - Col. (4) represent forecasted peak and do not include incremental conservation, cumulative load management, or incremental load management.

Col. (5) through Col. (9) represent incremental and cumulative load management, and incremental conservation. All values are projected January values.

Col. (10) represents FPL’s Business On Call, CDR, CILC, and curtailable programs/rates.

Col. (10) represents a "Net Firm Demand" which accounts for all of the incremental conservation and assumes all of the load control is implemented on the peak. Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col. (5) - Col. (6) - Col. (7) - Col. (8) - Col. (9).

* Res. Load Management and C/I Load Management include Lee County and FKEC whose loads are served by FPL.
### Schedule 3.3: FPL

**History of Annual Net Energy for Load (GWh)**

(All values are "at the generator" values except for Col (8))

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Energy For Load without DSM (GWh)</th>
<th>Residential Conservation (GWh)</th>
<th>C/I Net Energy (GWh)</th>
<th>Sales for Resale &amp; Losses (GWh)</th>
<th>Utility Use Factor (%)</th>
<th>Total Retail Load Sales (GWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>119,220</td>
<td>2,487</td>
<td>2,259</td>
<td>114,475</td>
<td>2,049</td>
<td>7,870</td>
</tr>
<tr>
<td>2011</td>
<td>117,460</td>
<td>2,683</td>
<td>2,324</td>
<td>112,454</td>
<td>2,176</td>
<td>6,950</td>
</tr>
<tr>
<td>2012</td>
<td>116,083</td>
<td>2,823</td>
<td>2,384</td>
<td>110,866</td>
<td>2,237</td>
<td>6,403</td>
</tr>
<tr>
<td>2013</td>
<td>117,087</td>
<td>2,962</td>
<td>2,469</td>
<td>111,655</td>
<td>2,158</td>
<td>6,713</td>
</tr>
<tr>
<td>2014</td>
<td>121,621</td>
<td>3,125</td>
<td>2,529</td>
<td>115,968</td>
<td>5,375</td>
<td>6,204</td>
</tr>
<tr>
<td>2015</td>
<td>128,555</td>
<td>3,232</td>
<td>2,568</td>
<td>122,756</td>
<td>6,610</td>
<td>6,326</td>
</tr>
<tr>
<td>2016</td>
<td>127,481</td>
<td>3,254</td>
<td>2,608</td>
<td>121,619</td>
<td>6,623</td>
<td>5,334</td>
</tr>
<tr>
<td>2017</td>
<td>126,680</td>
<td>3,278</td>
<td>2,655</td>
<td>120,747</td>
<td>6,406</td>
<td>5,470</td>
</tr>
<tr>
<td>2018</td>
<td>128,465</td>
<td>3,300</td>
<td>2,718</td>
<td>122,447</td>
<td>6,790</td>
<td>5,604</td>
</tr>
<tr>
<td>2019</td>
<td>131,241</td>
<td>3,322</td>
<td>2,751</td>
<td>125,168</td>
<td>7,315</td>
<td>5,824</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) represents derived NEL not including conservation using the formula: Col. (2) = Col. (3) + Col. (4) + Col. (5)

Col. (3) & Col. (4) are annual (12-month) DSM values and represent total GWh reductions experienced each year.

Col. (8) is the Total Retail Sales calculated using the formula: Col. (8) = Col. (5) - Col. (6) - Col. (7). These values are at the meter.

Col. (9) is calculated using Col. (5) from this page and the greater of Col. (2) from Schedules 3.1 and 3.2 using the formula: Col. (9) = ((Col. (5)*1000) / ((Col. (2) * 8760). Adjustments are made for leap years.

---

### Schedule 3.3: Gulf

**History of Annual Net Energy for Load (GWh)**

(All values are "at the generator" values except for Col (8))

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Energy For Load without DSM (GWh)</th>
<th>Residential Conservation (GWh)</th>
<th>C/I Net Energy (GWh)</th>
<th>Sales for Resale &amp; Losses (GWh)</th>
<th>Utility Use Factor (%)</th>
<th>Total Retail Load Sales (GWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>13,256</td>
<td>388</td>
<td>350</td>
<td>12,518</td>
<td>409</td>
<td>750</td>
</tr>
<tr>
<td>2011</td>
<td>12,854</td>
<td>417</td>
<td>361</td>
<td>12,086</td>
<td>382</td>
<td>663</td>
</tr>
<tr>
<td>2012</td>
<td>12,453</td>
<td>482</td>
<td>374</td>
<td>11,596</td>
<td>339</td>
<td>597</td>
</tr>
<tr>
<td>2013</td>
<td>12,502</td>
<td>551</td>
<td>399</td>
<td>11,552</td>
<td>330</td>
<td>602</td>
</tr>
<tr>
<td>2014</td>
<td>13,048</td>
<td>595</td>
<td>416</td>
<td>12,037</td>
<td>332</td>
<td>629</td>
</tr>
<tr>
<td>2015</td>
<td>13,056</td>
<td>630</td>
<td>430</td>
<td>11,996</td>
<td>330</td>
<td>580</td>
</tr>
<tr>
<td>2016</td>
<td>13,097</td>
<td>637</td>
<td>430</td>
<td>12,030</td>
<td>331</td>
<td>618</td>
</tr>
<tr>
<td>2017</td>
<td>12,769</td>
<td>642</td>
<td>432</td>
<td>11,715</td>
<td>318</td>
<td>588</td>
</tr>
<tr>
<td>2018</td>
<td>13,138</td>
<td>647</td>
<td>435</td>
<td>12,057</td>
<td>302</td>
<td>623</td>
</tr>
<tr>
<td>2019</td>
<td>12,828</td>
<td>650</td>
<td>436</td>
<td>11,742</td>
<td>257</td>
<td>407</td>
</tr>
</tbody>
</table>

**Historical Values (2010 - 2019):**

Col. (2) represents derived NEL not including conservation using the formula: Col. (2) = Col. (3) + Col. (4) + Col. (5)

Col. (3) & Col. (4) are annual (12-month) DSM values and represent total GWh reductions experienced each year.

Col. (8) is the Total Retail Sales calculated using the formula: Col. (8) = Col. (5) - Col. (6) - Col. (7). These values are at the meter.

Col. (9) is calculated using Col. (5) from this page and the greater of Col. (2) from Schedules 3.1 and 3.2 using the formula: Col. (9) = ((Col. (5)*1000) / ((Col. (2) * 8760). Adjustments are made for leap years.
### Schedule 3.3
**Forecast of Annual Net Energy for Load (GWh)**
(All values are "at the generator" values except for Col (8))

<table>
<thead>
<tr>
<th>Year</th>
<th>Forecasted Net Energy For Load GWh</th>
<th>Residential Conservation GWh</th>
<th>C/I Conservation GWh</th>
<th>Net Energy Adjusted for DSM GWh</th>
<th>Sales for Resale GWh</th>
<th>Utility Use &amp; Losses GWh</th>
<th>Forecasted Total Billed Retail Energy Sales w/o DSM GWh</th>
<th>Load Factor(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>123,073</td>
<td>30</td>
<td>35</td>
<td>123,007</td>
<td>6,283</td>
<td>5,538</td>
<td>111,252</td>
<td>56.9%</td>
</tr>
<tr>
<td>2021</td>
<td>123,134</td>
<td>56</td>
<td>65</td>
<td>123,013</td>
<td>5,788</td>
<td>5,538</td>
<td>111,808</td>
<td>56.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>11,715</td>
<td>10</td>
<td>3</td>
<td>11,702</td>
<td>298</td>
<td>601</td>
<td>10,816</td>
<td>54.1%</td>
</tr>
<tr>
<td>2021</td>
<td>11,643</td>
<td>18</td>
<td>5</td>
<td>11,620</td>
<td>293</td>
<td>597</td>
<td>10,752</td>
<td>53.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integrated FPL and Gulf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>134,800</td>
<td>108</td>
<td>103</td>
<td>134,588</td>
<td>5,717</td>
<td>6,133</td>
<td>122,949</td>
<td>56.4%</td>
</tr>
<tr>
<td>2023</td>
<td>135,600</td>
<td>144</td>
<td>136</td>
<td>135,316</td>
<td>5,753</td>
<td>6,167</td>
<td>123,640</td>
<td>56.0%</td>
</tr>
<tr>
<td>2024</td>
<td>136,761</td>
<td>181</td>
<td>175</td>
<td>136,405</td>
<td>5,871</td>
<td>6,217</td>
<td>124,673</td>
<td>55.6%</td>
</tr>
<tr>
<td>2025</td>
<td>137,540</td>
<td>181</td>
<td>175</td>
<td>137,184</td>
<td>5,948</td>
<td>6,252</td>
<td>125,340</td>
<td>55.2%</td>
</tr>
<tr>
<td>2026</td>
<td>138,541</td>
<td>181</td>
<td>175</td>
<td>138,185</td>
<td>6,028</td>
<td>6,297</td>
<td>126,216</td>
<td>54.8%</td>
</tr>
<tr>
<td>2027</td>
<td>139,474</td>
<td>181</td>
<td>175</td>
<td>139,116</td>
<td>5,955</td>
<td>6,339</td>
<td>127,180</td>
<td>54.5%</td>
</tr>
<tr>
<td>2028</td>
<td>140,874</td>
<td>181</td>
<td>175</td>
<td>140,518</td>
<td>6,040</td>
<td>6,402</td>
<td>128,432</td>
<td>54.1%</td>
</tr>
<tr>
<td>2029</td>
<td>141,751</td>
<td>181</td>
<td>175</td>
<td>141,386</td>
<td>6,125</td>
<td>6,442</td>
<td>129,184</td>
<td>53.5%</td>
</tr>
</tbody>
</table>

**Projected Values (2020 - 2029):**

Col. (2) represents Forecasted NEL and does not include incremental conservation.

Col. (3) & Col. (4) are forecasted values representing reduction on sales from incremental conservation.

Col. (5) is forecasted NEL adjusted for incremental conservation.

Col. (8) is Total Retail Sales. The values are calculated using the formula: Col. (8) = Col. (2) - Col. (6) - Col. (7).

These values are at the meter.

Col. (9) is calculated using Col. (5) from this page and Col. (10) from Schedule 3.1 using the formula:

Col. (9) = ((Col. (5)*1000) / ((Col. (2) * 8760). Adjustments are made for leap years.

---

Florida Power & Light Company and Gulf Power Company  70
<table>
<thead>
<tr>
<th>Month</th>
<th>2019 Total Peak Demand (MW)</th>
<th>2019 Total Net Energy (GWh)</th>
<th>2020 Total Peak Demand (MW)</th>
<th>2020 Total Net Energy (GWh)</th>
<th>2021 Total Peak Demand (MW)</th>
<th>2021 Total Net Energy (GWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN</td>
<td>16,795</td>
<td>8,672</td>
<td>19,959</td>
<td>8,890</td>
<td>20,250</td>
<td>8,861</td>
</tr>
<tr>
<td>FEB</td>
<td>18,660</td>
<td>8,353</td>
<td>19,005</td>
<td>8,311</td>
<td>19,233</td>
<td>8,124</td>
</tr>
<tr>
<td>MAR</td>
<td>18,963</td>
<td>9,159</td>
<td>18,900</td>
<td>9,155</td>
<td>19,127</td>
<td>9,254</td>
</tr>
<tr>
<td>APR</td>
<td>20,106</td>
<td>9,899</td>
<td>20,255</td>
<td>9,522</td>
<td>20,499</td>
<td>9,598</td>
</tr>
<tr>
<td>MAY</td>
<td>22,580</td>
<td>11,417</td>
<td>22,150</td>
<td>10,879</td>
<td>22,416</td>
<td>10,987</td>
</tr>
<tr>
<td>JUN</td>
<td>24,241</td>
<td>11,775</td>
<td>23,700</td>
<td>11,437</td>
<td>23,792</td>
<td>11,428</td>
</tr>
<tr>
<td>JUL</td>
<td>23,583</td>
<td>12,481</td>
<td>24,190</td>
<td>12,312</td>
<td>24,284</td>
<td>12,274</td>
</tr>
<tr>
<td>AUG</td>
<td>22,861</td>
<td>12,145</td>
<td>24,624</td>
<td>12,402</td>
<td>24,720</td>
<td>12,425</td>
</tr>
<tr>
<td>SEP</td>
<td>23,653</td>
<td>11,803</td>
<td>23,652</td>
<td>11,439</td>
<td>23,745</td>
<td>11,430</td>
</tr>
<tr>
<td>OCT</td>
<td>21,776</td>
<td>11,633</td>
<td>22,210</td>
<td>10,732</td>
<td>22,296</td>
<td>10,711</td>
</tr>
<tr>
<td>NOV</td>
<td>19,855</td>
<td>9,001</td>
<td>19,601</td>
<td>8,962</td>
<td>19,678</td>
<td>8,978</td>
</tr>
<tr>
<td>DEC</td>
<td>17,249</td>
<td>8,830</td>
<td>18,737</td>
<td>9,030</td>
<td>18,810</td>
<td>9,064</td>
</tr>
</tbody>
</table>

**Annual Values:**

2019: 125,168

2020: 123,073

2021: 123,134

Col. (3) annual value shown is consistent with the value shown in Col.(5) of Schedule 3.3.

Cols. (4) through (7) do not include the impacts of cumulative load management, incremental utility conservation, or incremental load management.
## Schedule 4: Gulf
Previous Year Actual and Two-Year Forecast of Total Peak Demand and Net Energy for Load (NEL) by Month

<table>
<thead>
<tr>
<th>Month</th>
<th>2019 ACTUAL</th>
<th>2020 FORECAST</th>
<th>2021 FORECAST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Peak Demand</td>
<td>NEL (GWh)</td>
<td>Total Peak Demand</td>
</tr>
<tr>
<td>JAN</td>
<td>2,066</td>
<td>941</td>
<td>2,256</td>
</tr>
<tr>
<td>FEB</td>
<td>1,564</td>
<td>725</td>
<td>1,955</td>
</tr>
<tr>
<td>MAR</td>
<td>1,885</td>
<td>817</td>
<td>1,726</td>
</tr>
<tr>
<td>APR</td>
<td>1,734</td>
<td>808</td>
<td>1,733</td>
</tr>
<tr>
<td>MAY</td>
<td>2,260</td>
<td>1,087</td>
<td>2,137</td>
</tr>
<tr>
<td>JUN</td>
<td>2,444</td>
<td>1,210</td>
<td>2,359</td>
</tr>
<tr>
<td>JUL</td>
<td>2,426</td>
<td>1,291</td>
<td>2,464</td>
</tr>
<tr>
<td>AUG</td>
<td>2,374</td>
<td>1,187</td>
<td>2,411</td>
</tr>
<tr>
<td>SEP</td>
<td>2,472</td>
<td>1,163</td>
<td>2,265</td>
</tr>
<tr>
<td>OCT</td>
<td>2,284</td>
<td>959</td>
<td>1,997</td>
</tr>
<tr>
<td>NOV</td>
<td>1,951</td>
<td>730</td>
<td>1,710</td>
</tr>
<tr>
<td>DEC</td>
<td>1,862</td>
<td>825</td>
<td>1,894</td>
</tr>
</tbody>
</table>

**Annual Values:**

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Peak Demand (MW)</td>
<td>11,742</td>
<td>11,715</td>
<td>11,643</td>
</tr>
<tr>
<td>Net Energy (GWh)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Col. (3) annual value shown is consistent with the value shown in Col.(5) of Schedule 3.3.

Cols. (4) through (7) do not include the impacts of incremental conservation.
CHAPTER III

Projection of Incremental Resource Additions
III. Projection of Incremental Resource Additions

III.A. FPL’s Resource Planning:

FPL utilizes its well-established, integrated resource planning (IRP) process, in whole or in part as dictated by analysis needs, to determine: (i) the magnitude and timing of needed resources, and (ii) the type of resources that should be added. This section describes FPL’s basic IRP process which was used during 2019 and early 2020 to develop the resource plan for FPL’s and Gulf’s areas that is presented in this 2020 Site Plan. It also discusses some of the key assumptions, in addition to a new load forecast discussed in the previous chapter, which were used in developing this resource plan.

Four Fundamental Steps of FPL’s Resource Planning:

The four fundamental steps of FPL’s resource planning process are:

Step 1: Determine the magnitude and timing of FPL’s new resource needs;

Step 2: Identify which resource options and resource plans can meet the determined magnitude and timing of projected resource needs (e.g., identify competing options and resource plans);

Step 3: Evaluate the competing options and resource plans in regard to system economics and non-economic factors; and,

Step 4: Select a resource plan and commit, as needed, to near-term options.

Figure III.A.1 graphically outlines the 4 steps.
Overview of IRP Process: Fundamental Steps

(1) Determine the magnitude and timing of new resource needs

- Load forecast update
- Updating of other forecasts, data, and assumptions
- System reliability analyses

(2) Identify DSM and generation resource options, perform preliminary analyses, and develop resource plans which can meet the determined magnitude and timing of resource needs

- Preliminary analyses of individual DSM options
- Packaging of DSM options

(3) Evaluate the competing resource plans in regard to system economics and non-economic factors

- Develop resource plans for system analyses
- System economic and non-economic analyses of competing resource plans

(4) Finalize Integrated Resource Plan & commit to near-term options

- Finalize Integrated Resource Plan
- Commitment to near-term options

Figure III.A.1: Overview of IRP Process
Step 1: Determine the Magnitude and Timing of New Resource Needs:

The first of the four resource planning steps is essentially a determination of the amount and timing of megawatts (MW) of load reduction, new capacity additions, or a combination of both, which are needed to maintain and/or enhance system reliability. This step is often referred to as a reliability assessment for the utility system.

This analysis typically starts with an updated load forecast. Several databases are also updated in this first fundamental step, not only with the new information regarding forecasted loads, but also with other information that is used throughout other aspects of FPL’s resource planning process. Examples of this new information include but are not limited to: delivered fuel price projections, current financial and economic assumptions, current power plant capability and operating assumptions, and current demand side management (DSM) demand and energy reduction assumptions.

FPL’s process also includes key sets of projections regarding three specific types of resources: (1) generating unit capacity changes, (2) firm capacity power purchase agreements (PPAs), and (3) DSM implementation.

Key Assumptions Regarding the Three Types of Resources:

The first set of assumptions, generating unit capacity changes, is based on current projections of new generating capacity additions and planned retirements of existing generating units. In this 2020 Site Plan, there are five (5) types of projected generation capacity changes through the 10-year reporting time frame of this document. These changes are listed below in general chronological order:

1) Additional Solar Energy Facilities:
In this 2020 Site Plan, the resource plan projects the addition of approximately 8,860 MW of new solar PV generation during the 2020 through 2029 time period. Of that total addition, approximately 7,300 MW are projected to be in FPL’s area and approximately 1,560 MW are projected to be in Gulf’s area. These PV additions are consistent with FPL’s “30-by-30” announcement in January 2019 which detailed FPL’s plans to add 30 million solar PV panels cost-effectively by the year 2030. These projected solar additions for 2020 through 2029, when combined with solar additions made prior to 2020, will result in a total of approximately 10,000 MW of total installed solar by the end of 2029.
2) **Additional Battery Storage:**

FPL’s 2019 Site Plan showed the planned addition of approximately 469 MW of battery storage in late 2021 with the majority of that storage capacity being sited in Manatee County as partial replacement for the generating capacity that will be decreased by the retirement of Manatee Units 1 & 2 (as discussed below). The current resource plan presented in this 2020 Site Plan continues to show these 469 MW of battery storage by the end of 2021. The current plan is to site 409 MW of battery storage in Manatee County and two 30 MW battery storage facilities at different sites. In addition, this resource plan projects another 700 MW of battery storage facilities by the end of 2029 with these facilities being sited in Gulf’s area.

3) **Retirement of Existing Generating Units:**

As discussed in FPL’s 2019 Site Plan, FPL plans to retire its Manatee Units 1 and 2 in late 2021. These units are older steam generating units of approximately 800 MW each that have been in operation for more than 40 years. The units are relatively inefficient units in regard to their ability to convert fuel into electricity. As a result, they are projected to no longer be cost-effective to operate for FPL’s customers.

In this 2020 Site Plan, these two Manatee units are still projected to be retired in late 2021. In addition, FPL’s ownership portion (approximately 630 MW) of the Scherer 4 coal-fueled unit in Georgia is planned to be retired by year-end 2021/beginning of 2022. Furthermore, Gulf’s ownership portion of Daniels Units 1 & 2 is now projected to be retired by January of 2024. The Daniels units are coal-fueled units located in Mississippi Power’s service territory. Gulf’s ownership portion of those two units is approximately 510 MW.

4) **Enhancements of Existing Generating Units:**

FPL’s 2019 Site Plan discussed a plan to upgrade CT components in a number of its CC units, and these upgrades are again reflected in the 2020 Site Plan. In addition, the 2020 Site Plan projects another capacity upgrade effort for existing CC units in both FPL’s and Gulf’s areas. These additional upgrades are projected to be completed in 2026 and to result in increased Summer capacity of approximately 600 MW, plus improved heat rates for each host CC unit. The results of all of the upgrades are included in the information presented in Schedule 8 in this chapter.

Two significant enhancements to existing generating units in the Gulf area are also included in the resource plan presented in this Site Plan. The first of those is the
conversion of Crist Units 6 & 7 from coal-fueled to natural gas-fueled. This conversion effort is already underway and is scheduled to be completed in September of 2020. This enhancement will result in both lower cost energy generated by the units, and in significant fixed cost savings, particularly for Gulf area customers. The second enhancement is a pair of capacity upgrades of the Lansing Smith Unit 3. The installation phase of the first upgrade of this existing CC unit was completed in 2019 which will be followed by testing and tuning in the Spring of 2020. This upgrade is projected to increase the firm capacity of the unit by more than 80 MW. A second upgrade of the unit is planned for 2024 which is projected to increase unit capacity by approximately another 59 MW. Both upgrades in this second enhancement will also result in cost savings for customers through both the deferral of future capacity needs and by increased output of lower cost natural gas-fueled energy production.

5) Addition of Cost-Effective Natural Gas-Fueled Generation:

In its 2019 Site Plan, FPL’s resource plan projected the addition of three new CC units with one each being added in 2019, 2022, and 2026. Gulf’s 2019 Site Plan projected the addition of a single new CC unit in 2024.

The first of the FPL projected CC units in last year’s Site Plan was the Okeechobee Clean Energy Center unit which became operational on FPL’s system in 2019. This new CC unit supplies approximately 1,778 MW of firm capacity that can be delivered around the clock. The second of these is the Dania Beach Clean Energy Center Unit 7 that will come in-service in 2022. This unit is a key component of the modernization of FPL’s existing Lauderdale power plant site. The third CC projected in FPL’s 2019 Site Plan was a new CC unit being added in 2026 at a yet-to-be-determined site. Gulf’s 2019 Site Plan projected a single new CC unit to be added at the Escambia site in 2024.

The resource plan presented in this 2020 Site Plan continues to show the new Dania Beach CC unit coming in-service in 2022. However, neither the other CC unit previously projected in FPL’s area for 2026, nor the Escambia CC unit in Gulf’s area previously projected for 2024, remain in the current resource plan. However, four new combustion turbine (CT) units at the Crist plant site in Gulf’s area are now part of the resource plan. These new CT units are being added based on system economics and for purposes of ensuring adequate fast-start operating reserves in Gulf’s area.
The second set of assumptions involves other firm capacity power purchase agreements (PPAs). These assumptions are generally consistent with those presented in FPL's 2019 Site Plan and Gulf's 2019 Site Plan.

In regard to FPL's area, the most significant firm capacity PPA is with Indiantown Cogeneration LP (ICL). On January 5, 2017, with mutual consent of the parties involved and FPSC approval (in Order PSC-16-0506-FOF-EI), FPL acquired the equity interests in this coal-based PPA with ICL. This approval included both the PPA and the underlying asset (i.e., the generating unit) from which FPL received firm capacity and energy. The plan is to terminate this PPA by the end of the 4th Quarter of 2020 upon retirement of the senior debt in the project. In addition, the coal-fueled generating unit upon which the PPA was based will also be retired.

In regard to Gulf's area, the most significant firm capacity PPA is the Shell PPA with which Gulf receives 885 MW of firm capacity and energy from a CC unit in Alabama. That PPA is scheduled to terminate in May of 2023. At the time this document is being prepared, Alabama Power is seeking approval from the Alabama Public Service Commission to acquire this generating unit.

The remaining projected firm capacity purchases for both areas are from a combination of utility and independent power producers. Details for these other purchases, including the annual total capacity values, are presented in Chapter I in Tables I.A.3.2, I.A.3.3, I.B.3.2, and I.B.3.3. These purchased firm capacity amounts were incorporated in the resource planning work that led to the resource plan presented in this document.

The third set of assumptions involves a projection of the amount of incremental DSM that FPL and Gulf anticipate implementing annually over the ten-year reporting period of 2020 through 2029 for this Site Plan. In the 4th Quarter of 2019, the Florida Public Service Commission (FPSC) set DSM Goals for FPL, Gulf, and other Florida utilities that addressed the years 2020 through 2024. The annual amounts of Summer MW reduction, Winter MW reduction, and energy (MWh) reduction for the FPL and Gulf areas detailed in the FPSC's DSM Goal's order (Order No. PSC-2019-0509-FOF-EG) through 2024 are accounted for in the resource plan presented in this Site Plan. For the years 2025 through 2029, the annual DSM levels proposed in the DSM Goals docket separately by FPL and Gulf – because they were projected to be cost-effective - are also accounted for in the resource plan presented in this Site Plan. Those annual amounts are shown in Schedules 3.1, 3.2, and 3.3 in Chapter II.
The Three Reliability Criteria Used to Determine FPL’s Projected Resource Needs:

FPL’s resource planning process applies these key assumptions, plus the other updated information described above, in the first fundamental step: determining the magnitude and timing of future resource needs. This determination is accomplished through system reliability analyses. Until 2014, FPL’s reliability analyses were based on dual planning criteria, including a minimum peak-period total reserve margin (TRM) of 20% (FPL applies this criterion to both Summer and Winter peaks) and a maximum loss-of-load probability (LOLP) of 0.1 day per year. Both criteria are commonly used throughout the utility industry. Beginning in 2014, FPL began utilizing a third reliability criterion: a 10% generation-only reserve margin (GRM).

Until the acquisition of Gulf by NextEra Energy in January 2019, the reliability criteria used for Gulf was determined by analyses of the entire Southern Company system of which Gulf was a part. It is projected that Southern Company will continue to operate Gulf’s generating units as part of its system until the new North Florida Resiliency Connection transmission line is in-service by the end of 2021. At that time, FPL will begin to operate Gulf’s generating units as well as FPL’s units as part of a single, integrated electrical system. In addition, the generation-based reliability of the Gulf area will be evaluated, and the area planned, using FPL’s current three reliability criteria described above.

These reliability criteria utilize two basic types of methodologies: deterministic and probabilistic. The calculation of excess firm capacity at the annual system peaks (reserve margin) is a common method, and this relatively simple deterministic calculation can be performed on a spreadsheet. It provides an indication of the adequacy of a generating system’s capacity resources compared to its load during peak periods. However, deterministic methods do not take into account probabilistic-related elements, such as the impact of individual unit failures. For example, two 50 MW units that can be counted on to run 90% of the time are more valuable in regard to utility system reliability than is one 100 MW unit that also can be counted on to run 90% of the time. Probabilistic methods can also account for the value of being part of an interconnected system with access to multiple capacity sources.

For this reason, probabilistic methodologies have been used to provide an additional perspective on the reliability of a generating system, and a number of them are used to perform system reliability analyses. Among the most widely used is loss-of-load probability (LOLP), which FPL’s resource planning group utilizes. Simply stated, LOLP is an index of how well a generating system may be able to meet its firm demand (i.e., a measure of how often load may exceed available resources). In contrast to reserve margin, the calculation of LOLP looks at the
daily peak demands for each year, while taking into consideration such probabilistic events as the unavailability of individual generators due to scheduled maintenance or forced outages.

LOLP is expressed in terms of the projected probability that a utility will be unable to meet its entire firm load at some point during a year. The probability of not being able to meet the firm load is calculated for each day of the year using the daily peak hourly load. These daily probabilities are then summed to develop an annual probability value. This annual probability value is commonly expressed as “the number of days per year” that the system firm load could not be met. The standard for LOLP used by FPL’s resource planning group, is a maximum of 0.1 day per year which is commonly accepted throughout the industry. This analysis requires a more complicated calculation methodology than the reserve margin analysis. LOLP analyses are typically carried out using computer software models, such as the Tie Line Assistance and Generation Reliability (TIGER) program used by FPL.

In 2010, FPL’s integrated resource planning work examined a then-projected fundamental change in FPL’s resource plans. This change was a significant shift in the mix of generation and DSM resources that could result in FPL becoming increasingly reliant on DSM resources, rather than generation resources, to maintain system reliability. As discussed in several subsequent FPL Site Plans, extensive analyses examined this shift from a system reliability perspective.

In these analyses, FPL developed a key new metric: a generation-only reserve margin (GRM). This GRM metric reflects reserves that would be provided only by actual generating resources. The GRM value is calculated by setting to zero all incremental energy efficiency (EE) and load management (LM), plus all existing LM, to derive another useful version of a reserve margin calculation. The resulting GRM value provides an indication of the respective roles that DSM and generation are projected to play each year as FPL maintains its 20% Summer and Winter total reserve margins (which account for both generation and DSM resources).

These analyses examined the two types of resources, DSM and Supply options, from both an operational and a resource planning perspective. Based on these analyses, FPL concluded that resource plans for its system with identical total reserve margins, but different GRM values, are not equal in regard to system reliability. A resource plan with a higher GRM value is projected to result in more MW being available to system operators on adverse peak load days, and in lower LOLP values, than a resource plan with a lower GRM value, even though both resource plans have an identical total reserve margin value. In other words, it matters what resources are used to meet a reserve margin criterion such as 20%. Therefore, in 2014 FPL implemented a minimum GRM criterion of 10% as a third reliability criterion in its resource planning process.
The 10% minimum Summer and Winter GRM criterion augments the other two reliability criteria that FPL’s resource planning group uses: the 20% TRM criterion for Summer and Winter and the 0.1 day/year LOLP criterion. All three reliability criteria are useful to identify the timing and magnitude of the resource need because of the different perspectives the three criteria provide. In addition, the GRM criterion is particularly useful in providing direction regarding the mix of generation (combined cycle, solar, etc.) and DSM resources that should be added to maintain and enhance system reliability.

Step 2: Identify Resource Options and Plans That Can Meet the Determined Magnitude and Timing of Projected Resource Needs:

The initial activities associated with this second fundamental step of resource planning generally proceed concurrently with the activities associated with Step 1. During Step 2, preliminary economic screening analyses of new capacity options that are identical, or virtually identical, in certain key characteristics may be conducted to determine what type of new capacity option appears to be the most competitive on FPL’s system. Preliminary analyses also can help identify capacity size (MW) values, projected construction/permitting schedules, and operating parameters and costs. Similarly, preliminary economic screening analyses of new DSM options and/or evaluation of existing DSM options are often conducted in this second fundamental IRP step.

FPL’s resource planning group typically utilizes a production cost model, a Fixed Cost Spreadsheet, and/or an optimization model to perform the preliminary economic screening of generation resource options. For the preliminary economic screening analyses of DSM resource options, FPL typically uses its DSM CPF model, which is an FPL spreadsheet model utilizing the FPSC’s approved methodology for performing preliminary economic screening of individual DSM measures and programs. A years-to-payback screening test based on a two-year payback criterion is also used in the preliminary economic screening of individual DSM measures and programs in order to minimize the probability of paying incentives to customers who would have implemented a DSM measure anyway without a utility incentive (i.e., free riders). Then, as the focus of DSM analyses progresses from analysis of individual DSM measures to the development of DSM portfolios, FPL typically uses two additional models. One is a proprietary non-linear programming (NLP) model that is used to analyze the potential for lowering system peak loads through additional load management/demand response capability. The other model that is utilized is a proprietary linear programming (LP) model with which DSM portfolios are developed.
The next step is typically to “package” the individual new resource options, both Supply options and DSM portfolios, emerging from these preliminary economic screening analyses into different resource plans that are designed to meet the system reliability criteria. In other words, resource plans are created by combining individual resource options so that the timing and magnitude of projected new resource needs are met. The creation of these competing resource plans is typically carried out using spreadsheet and/or dynamic programming techniques.

At the conclusion of the second fundamental resource planning step, a number of different combinations of new resource options (i.e., resource plans) of a magnitude and timing necessary to meet the projected resource needs are identified.

**Step 3: Evaluate the Competing Options and Resource Plans in Regard to System Economics and Non-Economic Factors:**

At the completion of fundamental Steps 1 and 2, the most viable new resource options have been identified, and these resource options have been combined into a number of resource plans that each meet the magnitude and timing of projected resource needs. The stage is set for evaluating these resource options and resource plans in system economic analyses that aim to account for all of the impacts to the utility system from the competing resource options/resource plans. FPL’s resource planning group typically utilizes the UPLAN production cost model and a Fixed Cost Spreadsheet, and/or the EGEAS or AURORA optimization models, to perform the system economic analyses of resource plans. Other spreadsheet models may also be used to further analyze the resource plans.

The basic economic analyses of the competing resource plans focus on total system economics. The standard basis for comparing the economics of competing resource plans is their relative impact on electricity rate levels, with the general objective of minimizing the projected levelized system average electric rate (i.e., a Rate Impact Measure or RIM methodology). In analyses in which the DSM contribution has already been determined through the same IRP process and/or FPSC approval, and therefore the only competing options are new generating units and/or purchase options, comparisons of the impacts of competing resource plans on both electricity rates and system revenue requirements will yield identical outcomes in regard to the relative rankings of the resource options being evaluated. Consequently, the competing options and resource plans in such cases can be evaluated on a system cumulative present value revenue requirement (CPVRR) basis.
FPL’s resource planning group also includes other factors in its evaluation of resource options and resource plans. Although these factors may have an economic component or impact, they are often discussed in quantitative but non-economic terms, such as percentages, tons, etc., rather than in terms of dollars. These factors are often referred to as “system concerns or factors,” which include (but are not limited to) maintaining/enhancing fuel diversity and maintaining a regional balance between load and generating capacity, particularly in the Southeastern Florida region of FPL’s area that consists of Miami-Dade and Broward counties. In conducting the evaluations needed to determine which resource options and resource plans are best for the utility system, the non-economic evaluations are conducted with an eye to whether the system concern is positively or negatively impacted by a given resource option or resource plan. These and other factors are discussed later in this chapter in section III.C.

Step 4: Finalizing the Current Resource Plan

The results of the previous three fundamental steps are typically used to develop a new or updated resource plan. The current resource plan presented in this 2020 Site Plan is summarized in the following section.

III.B. Projected Incremental Resource Changes in the Resource Plan

The projection of major changes in the current resource plan for the FPL and Gulf areas, including both utility-owned generation and PPAs, for the years 2020 through 2029 is summarized in Table ES-1 in the Executive Summary. The changes are presented in terms of Summer firm capacity values. Although this table does not specifically identify the impacts of projected DSM additions on projected resource needs and the resource plan, the projected DSM additions are consistent with the recent DSM Goals order regarding DSM Goals for both FPL and Gulf through the year 2024. In addition, projected cost-effective amounts of DSM for the years 2025 through 2029 are also assumed. Thus, DSM impacts are fully accounted for in the resource plan in this Site Plan.

A summary of some of the larger resource additions/retirements for both systems/areas include, but are not necessarily limited to, those listed below (in approximate chronological order):

**For FPL’s system/area:**
- New solar (PV) additions from 2020 through 2029 of approximately 7,300 MW;
- Capacity upgrades at a number of FPL’s existing CC units through 2026;
- Retirement of FPL’s ownership portion (approximately 630 MW) of the Scherer 4 coal unit by January 2022;
- A 409 MW battery facility at the Manatee plant site, plus two 30 MW battery storage facilities at different sites, by the beginning of 2022; and,
- The modernization of the existing Lauderdale power plant site in mid-2022 with the new DBEC CC Unit 7.

For Gulf’s system/area:
- New solar (PV) additions from 2020 through 2024 of approximately 1,560 MW;
- Capacity upgrades (two) of the existing Lansing Smith Unit 3 CC, with installation for the first upgrade completed in 2019 with testing and tuning in the Spring of 2020, then a planned second upgrade in 2024;
- Conversion from coal-fueled to natural gas-fueled at Crist Units 6 & 7 in 2020;
- A new transmission line between FPL and Gulf by the beginning of 2022 enabling a bidirectional transfer capability between the two areas of 850 MW;
- Four new CTs at the Crist plant site by the beginning of 2022;
- Expiration (as per the contract) of 855 MW from the Shell PPA in May, 2023;
- The retirement of Gulf’s ownership portion of the coal-fueled Daniels Units 1 & 2 by the beginning of 2024; and,
- Approximately 700 MW of battery storage in 2028 and 2029.

FPL notes that, with the exception of certain of the resource additions and retirements listed above in the earlier years of the 2020 through 2029 time period addressed in this 2020 Site Plan, final decisions on other resource options shown in this Site Plan are not needed at this time, nor have yet been made. This is particularly relevant to resource additions shown for years increasingly further out in the 10-year reporting period. Consequently, those resource additions are more prone to future change.

III.C Discussion of the Resource Plan and Issues Impacting Resource Planning Work

In considering the resource plan presented in this Site Plan, it is useful to note that there are at least six (6) significant factors that either influenced the current resource plan or which may result in future changes. These factors are discussed below (in no particular order).

1. Maintaining a Balance Between Load and Generation in Southeastern Florida:
   An imbalance exists between regionally installed generation and regional peak load in Southeastern Florida (Miami-Dade and Broward counties). As a result of that imbalance, a significant amount of energy required in the Southeastern Florida region during peak periods is provided by importing energy through the transmission system from generating
units located outside the region, operating less efficient generating units located in Southeastern Florida out of economic dispatch, or a combination of the two. FPL’s prior planning work concluded that, as load inside the region grows, additional installed generating capacity and/or load reduction in this region, or additional installed transmission capacity capable of delivering more electricity from outside the region, would be required to address this imbalance.

Partly because of the lower transmission-related costs resulting from their location in or adjacent to Southeastern Florida, at least five relatively recent capacity additions (Turkey Point Unit 5, West County Energy Center Units 1, 2, & 3, and the modernization of the Port Everglades plant) were determined to be the most cost-effective options to meet FPL’s then projected capacity needs. In addition, FPL has added increased capacity at its existing two nuclear units at Turkey Point as part of the nuclear capacity uprates project.

The balance between load and generation in the Southeastern Florida region was further enhanced by decisions to proceed with two other projects. First, the Corbett-Sugar-Quarry (CSQ) transmission line was added in mid-2019. This new line significantly increased FPL’s ability to import capacity and energy into the region from generators located outside of the region. Second, the modernization of the existing Lauderdale plant site, which will result in an additional 279 MW of generation capacity in Southeastern Florida from the new DBEC Unit 7 in 2022, will significantly assist in maintaining and enhancing a balance between load and generation in this important region.

2. Maintaining/Enhancing System Fuel Diversity:

In 2019, FPL used natural gas to generate approximately 75% of the total electricity it delivered to its customers. By 2029, due largely to significant solar additions, the percentage of electricity generated by natural gas for the single integrated system is projected to decrease to approximately 62% based on the resource plan presented in this Site Plan. Due to this still significant reliance on natural gas, as well as evolving environmental regulations, opportunities to economically maintain and enhance fuel diversity are continually sought, both in regard to type of fuel and fuel delivery, with due consideration given to system economics.

In 2007, following express direction by the FPSC, FPL sought approval from the FPSC to add two new advanced technology coal units to its system in 2013 and 2014, respectively. However, these units were not approved. Since that time, coal units have ceased to be a viable generation option for a number of reasons which include: (i) environmental
regulations regarding coal units, (ii) increased availability of natural gas, (iii) much lower forecasted costs for natural gas, and (iv) increased economic competitiveness of solar and battery storage. Consequently, FPL does not believe that new advanced technology coal units are currently viable fuel diversity enhancement options in Florida at this time.

Therefore, FPL has focused on: (i) cost-effectively adding solar energy and nuclear energy generation to enhance fuel diversity, (ii) diversifying the sources of natural gas, (iii) diversifying the gas transportation paths used to deliver natural gas to FPL’s generating units, and (iv) using natural gas more efficiently.

Solar Energy: Assuming that annual additions of PV will be cost-effective from 2020-on, this 2020 Site Plan projects that FPL will have a total of approximately 10,000 MW of PV generation by the end of 2029. Such a level of PV generation would represent about 33% of FPL’s and Gulf’s current total installed generation (MW). However, the impact of PV contribution in terms of actual energy produced (MWh) is smaller. Because solar energy can only be generated during daylight hours, and is impacted by clouds, rain, etc., PV has a relatively low capacity factor (approximately 26% to 30%) in the state of Florida. As a result, FPL’s solar additions would be projected to supply approximately 16% of the total energy (MWh) delivered in 2029 in the two areas (as shown in Schedule 6.2 later in this chapter).10

Based on the resource plan presented in this 2020 Site Plan, it is projected that the cleanest energy sources -- low-emission natural gas, zero-emission nuclear, zero-emission wind, and zero-emission solar -- will provide approximately 99% of all energy produced in the single, merged system in 2029 with zero-emission nuclear, wind, and solar alone providing approximately 37% of all energy produced by the system in 2029.

Nuclear Energy: In 2008, the FPSC approved the need to increase capacity at FPL’s four existing nuclear units and authorized the company to recover project-related expenditures that were approved as a result of annual nuclear cost recovery filings. FPL successfully completed this nuclear capacity uprate project. Approximately 520 MW of additional nuclear capacity was delivered by the project, which represents an increase of approximately 30% more incremental capacity than was originally forecasted when the project began. FPL’s customers are benefitting from lower fuel costs and reduced system emissions provided by this additional nuclear capacity.

10 As a rule of thumb, each 500 MW of PV added will account for slightly less than 1% of total energy delivered on the single, integrated system.
In June 2009, FPL began work to obtain all of the licenses, permits, and approvals that are necessary to construct and operate two new nuclear units at its Turkey Point site in the future. These licenses, permits, and approvals will provide FPL with the opportunity to construct these nuclear units for as long as 20 years from the time the licenses and permits are granted, and then to operate the units for at least 40 years thereafter. The Combined Operating Licenses (COL) for the prospective new Turkey Point Units 6 & 7 were granted by the Nuclear Regulatory Commission (NRC) in April 2018. FPL has paused in its determination of whether to seek FPSC approval to move forward with construction of the new nuclear units. FPL intends to incorporate into any such assessment the construction experience of two nuclear units currently being constructed by Georgia Power at its Vogtle site, and similar units being developed in China. As a result, the earliest possible in-service dates for Turkey Point 6 & 7 are beyond the 2020 through 2029 time period addressed in this docket.

In addition, on January 30, 2018, FPL filed a request with the NRC for a Subsequent License Renewal (SLR) for FPL’s existing Turkey Point nuclear Units 3 & 4. The SLR requested approval to extend the operating licenses for these two nuclear units by 20 years from the license expiration dates in 2032 and 2033, respectively. The NRC approved the SLR in December 2019. As a result, FPL assumes that these two nuclear units will continue operating into the early 2050s, providing firm capacity into the important load center of Miami-Dade and Broward Counties, as well as zero-emission baseload energy.

Nuclear capacity remains an important consideration in resource planning work, and this Site Plan continues to present the Turkey Point site as a Preferred Site for the new and/or continuing nuclear capacity and energy.

**Natural gas sourcing and delivery:** In 2013, the FPSC approved FPL’s contracts to bring more natural gas into FPL’s service territory through a third natural gas pipeline system into Florida. The process by the pipeline companies to obtain approval from the Federal Energy Regulatory Commission (FERC) for the new pipeline system, consisting of the Sabal Trail and Florida Southeast Connection pipelines, culminated in receiving a FERC certificate of approval on February 2, 2016. The new pipeline system has been constructed and is now in service. This pipeline is necessary to fuel the FPSC-approved Okeechobee CC unit. The new pipeline system utilizes an independent route that will result in a more reliable, economic, and diverse natural gas supply for FPL customers and the State of Florida.
Using natural gas more efficiently: FPL has sought ways to utilize natural gas more efficiently for a number of years. In 2008, FPL received approval from the FPSC to modernize the existing Cape Canaveral and Riviera Beach plant sites with new, highly efficient CC units, which replaced the former steam generating units on each of those sites. The Cape Canaveral modernization went into service in April 2013, and the Riviera Beach modernization entered service in April 2014. On April 9, 2012, FPL received FPSC approval to proceed with a similar modernization project at the Port Everglades site. That new generating unit went into service on April 1, 2016.

Similarly, the modernization of the Lauderdale site in 2022 will also enhance FPL’s ability to utilize natural gas more efficiently. The modernization project has begun with the recent retirement of two older, relatively fuel-inefficient generating units, Lauderdale Units 4 & 5. In 2022, a new fuel-efficient CC unit will be added at the same site: DBEC Unit 7. Part of the decision to proceed with the modernization of the Lauderdale site was the projection that the total amount of natural gas that will be used on FPL’s system will be reduced with the new CC unit compared to what the usage would have been if the two older units had continued to operate.

Addition of Gulf Assets: Gulf Power (Gulf) currently owns two generating plants in the Florida Panhandle. Plant Crist, located in Pensacola, currently runs on coal with limited access to natural gas. Plant Smith, located near Panama City, is a CC natural gas plant. Gulf has access to gas transportation capacity on the Gulf South Pipeline Company, LP (Gulf South) and the Florida Gas Transmission Company, LLC (FGT) pipelines to serve these plants. Gulf is completing uprates at Plant Smith’s Unit 3 to increase the output of the unit. Gulf is currently in the process of converting Plant Crist Units 6 & 7 to allow utilization of natural gas which will be delivered via a new plant lateral connecting Plant Crist to the FGT pipeline. This conversion is projected to be completed in the Summer of 2020. Gulf will also be adding four new CTs at Plant Crist in late 2021 that will have the capability to burn either natural gas or ultra-low sulfur distillate (ULSD) fuel oil.

In the future, FPL’s resource planning group will continue to identify and evaluate alternatives that may maintain or enhance system fuel diversity. In this regard, efforts are also being made to maintain the ability to utilize ULSD oil at existing units that have that capability. In addition, the new CTs that FPL installed at its existing Lauderdale and Fort Myers sites in 2016, which replaced older GT units that were retired, have the capability to burn either natural gas or ULSD fuel oil.
3. **Maintaining a Balance Between Generation and DSM Resources for System Reliability:**

As mentioned earlier in Section III. A, FPL utilizes a 10% Generation-Only Reserve Margin (GRM) to ensure that system reliability is not negatively affected by an overreliance on non-generation resources. This GRM reliability criterion was developed as a result of extensive analyses – which have been described in detail in prior FPL Site Plans – of FPL’s system from both resource planning and system operations perspectives. The potential for overreliance upon non-generating resources for system reliability remains an important resource planning issue for the FPL and Gulf areas and is one that will continue to be examined in ongoing resource planning work.

4. **The Significant Impacts of Federal and State Energy-Efficiency Codes and Standards:**

As discussed in Chapter II, the load forecasts for both the FPL and Gulf areas include projected impacts from federal and state energy-efficiency codes and standards. The magnitude of energy efficiency that is currently projected to be delivered to customers of the single, integrated system through these codes and standards is significant.

Current projections are that a cumulative Summer peak reduction impact of 5,732 MW, from these codes and standards beginning in 2005 (the year the National Energy Policy Act was enacted) and extending through 2029 (i.e., the last year in the 2020 through 2029 reporting time period for this Site Plan), will occur compared to what the projected load would have been without the codes and standards. The projected incremental Summer MW impact from these codes and standards during the 2020 through 2029 reporting period of this Site Plan is the equivalent of an approximate 19% reduction compared to what the projected load would have been without the codes and standards. In regard to energy, the cumulative reduction attributed to the impact of the codes and standards from 2005 to 2029 is projected to reach 6,082 GWh since 2005. Included in this projection is a reduction of approximately 4% during the 2020 through 2029 reporting period. All of these projections show the significant impact of these energy-efficiency codes and standards.

In addition to lowering the load forecast from what it otherwise would have been, and thus serving to lower projected load and resource needs, this projection of efficiency from the codes and standards also affects resource planning in another way: it lowers the potential for utility DSM programs to cost-effectively deliver energy efficiency. This effect was taken into account by the FPSC when it set DSM Goals in 2014. This fact was also prominently
discussed in the 2019 DSM Goals docket in which DSM Goals were set for the years 2020 through 2024.

5. **The trends of decreasing costs for fuel, decreasing costs for new generating units, and increasing fuel efficiency of new generating units:**

There are a number of factors that drive FPL’s system costs. Three of the most important of these are: (i) forecasted natural gas costs, (ii) projected costs for new generating units, and (iii) the efficiency with which FPL’s generating units convert fuel into electricity. When comparing forecasts of these factors over at least the last 5 years, the trends for each of these factors is in a direction that results in lower system costs for FPL’s customers. For example, when comparing the 2015 forecasted cost for natural gas for the year 2020 with the current (2020) forecasted cost for 2020, there has been more than a 55% decrease in natural gas costs. An even greater reduction in CO₂ compliance costs for 2020 occurred between the 2015 and current forecast. In addition, in regard to the fuel efficiency of FPL’s generating units, the amount of natural gas (measured in mmBTU of natural gas needed to produce a kWh of electricity) declined from 7,376 in 2015 to approximately 6,752 today. This improvement in fuel efficiency is truly significant, especially when considering the approximately 20,000 MW of gas-fueled generation on FPL’s system.

These trends of steadily lowering of key components of FPL’s system costs are very beneficial to FPL’s customers because they help to lower FPL’s electric rates.¹¹

6. **Projected changes in CO₂ regulation and associated compliance costs:**

Since 2007, FPL has evaluated potential carbon dioxide (CO₂) regulation and/or legislation and has included projected compliance costs for CO₂ emissions in its resource planning work. However, there always has been an unavoidable level of uncertainty regarding the timing and magnitude of the cost impacts of the potential regulation/legislation. The forecast of potential CO₂ compliance costs that FPL used in its 2019 resource planning work is lower than forecasts that had been used in prior years. In 2020, the new forecast of compliance costs is higher than the 2019 forecast but remains relatively low by historical standards.

¹¹ However, because the potential benefits of utility demand-side management (DSM) programs are based on DSM’s ability to avoid certain system costs, the trend of steadily decreasing FPL system costs automatically results in a significant lowering of the cost-effectiveness of utility DSM.
III.D Demand Side Management (DSM)

FPL has sought and implemented cost-effective DSM programs since 1978, and cost-effective DSM has been a key focus of FPL’s resource planning work for more than 40 years. During that time, FPL’s DSM programs have included many energy efficiency and load management programs and initiatives. Similarly, Gulf has also steadily pursued cost-effective DSM for decades.

DSM Goals were set for FPL, Gulf, and other Florida utilities in November 2019. As discussed in FPL’s testimony in the 2019 DSM Goals filing that led to these Goals being set, there were several important market forces affecting the feasibility and cost-effectiveness of utility DSM programs. The first of these is the growing impact of federal and state energy-efficiency codes and standards. As discussed first in Chapter II, and earlier in Section III.C above, the projected incremental impacts of these energy-efficiency codes and standards during the 2020 through 2029 time period has significantly lowered FPL’s projected load and resource needs. In addition, these energy-efficiency codes and standards significantly reduce the potential for cost-effective utility DSM programs.

The second market force discussed in FPL’s DSM Goals Testimony is FPL’s lower generating costs with which DSM must compete. There are several reasons for these lower generating costs. One of these is that, as fuel costs are lowered, the benefit that is realized by each kWh of energy reduced by DSM is also lowered. In other words, the benefit from DSM’s kWh reductions has been reduced from what it had been when Florida previously established DSM Goals. For example, from 2015 to 2020, projected fuel costs in $ per mmBTU for the year 2020 have decreased from $5.15 to $2.31, a percentage decrease of 55%. These lower forecasted natural gas costs are very beneficial for FPL’s customers because they result in lower fuel costs and lower electric rates. At the same time, lower fuel costs also result in lower potential fuel savings benefits from the kWh reductions of DSM measures. These lowered benefit values result in DSM being less cost-effective than it was in the past.

Another reason for the lower generating costs and the resultant decline in the cost-effectiveness of utility DSM on the FPL system is the steadily increasing efficiency with which FPL generates electricity. FPL’s generating system has steadily become more efficient in regard to its ability to generate electricity using less fossil fuel. For example, the FPL system is projected to use almost 30% less fossil fuel to generate a MWh in 2020 than it did in 2001. Again, this is very good for FPL’s customers because it helps to significantly lower fuel costs and electric rates. However, the improvements in generating system efficiency affect DSM cost-effectiveness in much the
same way as lower forecasted fuel costs: both lower the fuel costs of energy delivered to FPL’s customers. Therefore, the improvements in generating system efficiency further reduce the potential fuel savings benefits from the kWh reduction impacts of DSM, thus further lowering potential DSM benefits and DSM cost-effectiveness.

These market forces that result in lower fuel and new generation costs for utility customers, and lower avoided costs for utility DSM programs, was a topic that was prominently discussed when new DSM Goals for the years 2020 through 2024 were set for FPL, Gulf, and other Florida utilities by the FPSC in the 4th Quarter of 2019. Consideration of these market forces, and of the effects of energy-efficiency codes and standards, were undoubtedly factors helping lead the FPSC to decide to maintain the DSM Goals at the same levels that had been set five years earlier, and to resist efforts to greatly increase DSM Goals for the Florida utilities and their customers.

For resource planning purposes, the DSM Goals set for both FPL and Gulf through 2024 are accounted for in this Site Plan. In addition, the annual DSM levels proposed separately by FPL and Gulf for the years 2025 through 2029 in the DSM Goals docket are accounted for in this Site Plan because these annual levels of DSM were projected to be cost-effective.

In February 2020, FPL and Gulf submitted to the FPSC their respective DSM Plans with which they will strive to meet the DSM Goals for 2020 through 2024. A summary of the programs for both FPL and Gulf is provided below. The FPSC is expected to determine the suitability of the respective DSM Plans later in 2020.

**DSM Programs and Research & Development Efforts In FPL's Proposed DSM Plan**

1. **Residential Home Energy Survey (HES)**
   This program educates customers on energy efficiency and encourages implementation of recommended practices and measures, even if these are not included in FPL’s DSM programs. The HES is also used to identify potential candidates for other FPL DSM programs.

2. **Residential Load Management (On Call)**
   This program allows FPL to turn off certain customer-selected appliances using FPL-installed equipment during periods of extreme demand, capacity shortages, system emergencies, or for system frequency regulation.
3. **Residential Air Conditioning**  
This program encourages customers to install high-efficiency central air-conditioning systems.

4. **Residential Ceiling Insulation**  
This program encourages customers to improve their home’s thermal efficiency.

5. **Residential New Construction (BuildSmart®)**  
This program encourages builders and developers to design and construct new homes to achieve BuildSmart® certification and move towards ENERGY STAR® qualifications.

6. **Residential Low Income**  
This program assists low income customers through FPL-conducted Energy Retrofits and state Weatherization Assistance Provider (WAP) agencies.

7. **Business Energy Evaluation (BEE)**  
This program educates customers on energy efficiency and encourages implementation of recommended practices and measures, even if these are not included in FPL’s DSM programs. The BEE is also used to identify potential candidates for other FPL DSM programs.

8. **Commercial/Industrial Demand Reduction (CDR)**  
This program allows FPL to control customer loads of 200 kW or greater during periods of extreme demand, capacity shortages, or system emergencies.

9. **Commercial/Industrial Load Control (CILC)**  
This program allows FPL to control customer loads of 200 kW or greater during periods of extreme demand, capacity shortages or system emergencies. It was closed to new participants as of December 31, 2000.

10. **Business On Call**  
This program allows FPL to turn off customers’ direct expansion central electric air conditioning units using FPL-installed equipment during periods of extreme demand, capacity shortages, or system emergencies.
11. **Business Heating, Ventilating and Air Conditioning (HVAC)**
   This program encourages customers to install high-efficiency HVAC systems.

12. **Business Lighting**
   This program encourages customers to install high-efficiency lighting systems.

13. **Business Custom Incentive (BCI)**
   This program encourages customers to install unique high-efficiency technologies not covered by other FPL DSM programs.

14. **Conservation Research & Development (CRD) Project**
   This project consists of research studies designed to: identify new energy-efficient technologies; evaluate and quantify their impacts on energy, demand and customers; and, where appropriate and cost-effective, incorporate an emerging technology into a DSM program.

**DSM Programs and Research & Development Efforts In Gulf’s Proposed DSM Plan**

1. **Residential Energy Audit**
   This program educates customers on energy efficiency through energy conservation advice and information that encourages the implementation of efficiency measures and behaviors resulting in energy and utility bill savings. The Residential Energy Audit program is also used to identify potential candidates for other Gulf Power DSM programs.

2. **Energy Select**
   This program is designed to provide the customer with a means of conveniently and automatically controlling and monitoring energy purchases in responses to prices that vary during the day and by season in relation to Gulf’s cost of producing or purchasing energy. The *Energy Select* 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 energy costs through the direct installation of conservation measures at no cost to them. The program also educates families on energy efficiency techniques and behavioral changes to help control their energy use and reduce their utility operating costs.
4. **Residential Ceiling Insulation**
   This program encourages customers to improve their home’s thermal efficiency.

5. **Residential Heat Pump**
   This program encourages customers to install high-efficiency heat pump systems.

6. **Residential Variable Speed Pool Pump**
   This program encourages customers to install high-efficiency variable speed pool pump systems.

7. **Commercial/Industrial Energy Survey**
   This program educates customers on energy efficiency and encourages them to participate in applicable DSM programs and/or implement other recommended actions not included as part of Gulf Business programs.

8. **Business Heating, Ventilating and Air Conditioning (HVAC)**
   This program encourages customers to install high-efficiency HVAC systems.

9. **Commercial Curtailable Load Program**
   This program allows Gulf to request curtailment of customer loads with a minimum commitment of 4,000 kW of Non-Firm Demand. The program will be closed to new participants when the total contracted Non-Firm Demand reaches 50 MW.

10. **Commercial/Industrial Custom Incentive**
    This program is designed to establish the ability 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.

11. **Conservation Demonstration & Development**
    The program is designed to serve as an umbrella program for the identification, evaluation, demonstration, data collection and development of new or emerging end-use technologies.
III.E Transmission Plan

The transmission plan will allow for the reliable delivery of the required capacity and energy to FPL’s and Gulf’s retail and wholesale customers. The following table presents the proposed future additions of 230 kV and above bulk transmission lines that must be certified under the Transmission Line Siting Act (TLSA) for the FPL and Gulf areas. There is one such line in FPL’s area, but none in Gulf’s area, for this 10-year reporting period.

Table III.E.1: List of Proposed Power Lines

<table>
<thead>
<tr>
<th>(1) Line Ownership</th>
<th>(2) Terminals (To)</th>
<th>(3) Terminals (From)</th>
<th>(4) Line Length CKT. Miles</th>
<th>(5) Commercial In-Service Date (Mo/Yr)</th>
<th>(6) Nominal Voltage (KV)</th>
<th>(7) Capacity (MVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPL</td>
<td>Levee 1/</td>
<td>Midway</td>
<td>150</td>
<td>2030</td>
<td>500</td>
<td>2598</td>
</tr>
</tbody>
</table>

1/ Final order certifying the corridor was issued in April 1990. Construction of 138 miles is complete and in-service. Another phase of the project will utilize the remaining 12 mile section of the Levee-Midway corridor and will bring a second 500 kV line to feed Conservation 500/230 kV substation. The second Conservation 500 kV line is currently projected to be built no earlier than 2030 with the month in which the line would go into service unknown at this time.

In addition, there will be transmission facilities needed to connect several projected generation capacity additions to the system transmission grid in both the FPL and Gulf areas. These transmission facilities are described on the following pages. Other generation capacity additions, such as Dania Beach Clean Energy Center Unit 7 in mid-2022, will not require new transmission lines. Sites for longer term additions, such as projected PV additions for 2022-on, have not yet been definitely determined so no transmission analyses for these additions have been performed.
III.E.1 Transmission Facilities for the Hibiscus Solar Energy Center in Palm Beach County

The work required to connect the approximate 74.5 MW (nameplate, AC) Hibiscus Solar Energy Center in Palm Beach County in the 2nd Quarter of 2020 as part of the 2020 SoBRA PV additions is projected to be:

I. Substation:
1. Construct a new single bus, two (2) breaker 230 kV substation (Minto) on the project site approximately 1 mile west of FPL’s Westlake substation on the Ranch-Corbett 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Minto 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:
1. Loop the Westlake-Corbett section of the Corbett-Ranch 230 kV line into Minto substation.
2. No additional upgrades are expected to be necessary at this time.
III.E.2 Transmission Facilities for the Okeechobee Solar Energy Center in Okeechobee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Okeechobee Solar Energy Center in Okeechobee County in the 2nd Quarter of 2020 as part of the 2020 SoBRA PV additions is projected to be:

I. Substation: None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.

II. Transmission: None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.
III.E.3 Transmission Facilities for the Southfork Solar Energy Center in Manatee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Southfork Solar Energy Center in Manatee County in the 2nd Quarter of 2020 as part of the 2020 SoBRA PV additions is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 230 kV substation (“Duette”) on the project site on the FPL Manatee-Keentown 230 kV line.
   2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Duette 230 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the Manatee-Keentown 230 kV line into Duette substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.4 Transmission Facilities for the Echo River Solar Energy Center in Suwannee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Echo River Solar Energy Center in Suwannee County in the 2nd Quarter of 2020 as part of the 2020 SoBRA PV additions is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 115 kV substation (Hogan) on the project site approximately 2.6 miles west of the FPL Wellborn substation on the Suwannee (Duke Energy Florida DEF) – Columbia (FPL) 115 kV line.
   2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Hogan 115 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the Wellborn-Live Oak section of the Suwannee (Duke Energy) – Columbia (FPL) 115 kV line into Hogan substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.5 Transmission Facilities for the Lakeside Solar Energy Center in Okeechobee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Lakeside Solar Energy Center in Okeechobee County in the 4th Quarter of 2020 is projected to be:

I. **Substation:**
   1. Construct a new single bus, two (2) breaker 230 kV substation (Nubbin) on the project site on the FPL Martin-Sherman 230 kV line.
   2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Nubbin 230 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. **Transmission:**
   1. Loop the Martin-Sherman 230 kV line into Nubbin substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.6 Transmission Facilities for the Trailside Solar Energy Center in St. Johns County

The work required to connect the approximate 74.5 MW (nameplate, AC) Trailside Solar Energy Center in St. Johns County in the 4th Quarter of 2020 is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 115 kV substation (Moccasin) on the project site on the FPL Elkton-St. Johns section of the Putnam-St. Johns 115 kV line.
   2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Moccasin 115 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the Elkton-St. Johns section of the Putnam-St. Johns 115 kV line into Moccasin substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.7 Transmission Facilities for the Union Springs Solar Energy Center in Union County

The work required to connect the approximate 74.5 MW (nameplate, AC) Union Springs Solar Energy Center in Union County in the 4th Quarter of 2020 is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 115 kV substation (Plum) on the project site approximately 0.1 mile from the FPL Bradford-Lake Butler section of the Raven-Bradford 115 kV line.
   2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Plum 115 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the FPL Bradford-Lake Butler section of the Raven-Bradford 115 kV line into Plum substation.
   2. No additional upgrades are expected to be necessary at this time
III.E.8 Transmission Facilities for the Magnolia Springs Solar Energy Center in Clay County

The work required to connect the approximate 74.5 MW (nameplate, AC) Magnolia Springs Solar Energy Center in Clay County in the 4th Quarter of 2020 is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 230 kV substation (Leno) on the project site approximately 0.1 mile from the Titanium-Green Cove Springs section of the Seminole Plant-Springbank 230 kV line.
   2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Leno 230 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the Titanium-Green Cove Springs section of the Seminole Plant-Springbank 230 kV line into Leno substation on the project site.
   2. No additional upgrades are expected to be necessary at this time
III.E.9 Transmission Facilities for the Egret Solar Energy Center in Baker County

The work required to connect the approximate 74.5 MW (nameplate, AC) Egret Solar Energy Center in Baker County in the 4th Quarter of 2020 is projected to be:

I. Substation:
1. Construct a new single bus, two (2) breaker 230 kV substation (Claude) on the project site approximately 2 miles from the FPL Duval-Raven 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Claude 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:
1. Loop the Duval-Raven 230 kV line into Claude substation.
2. No additional upgrades are expected to be necessary at this time.
III.E.10 Transmission Facilities for the Nassau Solar Energy Center in Nassau County

The work required to connect the approximate 74.5 MW (nameplate, AC) Nassau Solar Energy Center in Nassau County in the 4th Quarter of 2020 is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 230 kV substation (Crawford) on the project site on the FPL Duval-West Nassau (Georgia Transmission Company, “GTC”) section of the Duval-Yulee 230 kV line.
   2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Crawford 230 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the Duval-West Nassau (GTC) section of the Duval-Yulee 230 kV line into Crawford substation (approximately 1 mile).
   2. No additional upgrades are expected to be necessary at this time.
III.E.11 Transmission Facilities for the Pelican Solar Energy Center in St. Lucie County

The work required to connect the approximate 74.5 MW (nameplate, AC) Pelican Solar Energy Center in St. Lucie County in the 1st Quarter of 2021 is projected to be:

I. Substation:
   1. Construct a new 230 kV substation (Morrow) on the project site.
   2. Add one 230 kV line switch at Morrow for string bus to Eldora substation.
   3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   4. Construct 34.5 kV bus to connect the PV array to Morrow 230 kV Substation.
   5. Add relays and other protective equipment.
   6. Breaker replacements: None

II. Transmission:
   1. Construct approximately 1.25 miles string bus from Eldora 230 kV to Morrow substation.
   2. No additional upgrades are expected to be necessary at this time.
Ill.E.12 Transmission Facilities for the Palm Bay Solar Energy Center in Brevard County

The work required to connect the approximate 74.5 MW (nameplate, AC) Palm Bay Solar Energy Center in Brevard County in the 1st Quarter of 2021 is projected to be:

I. Substation:
1. Construct a new single bus, two (2) breaker 230 kV substation (Hayward) on the project site on the FPL Glendale-Hield section of the Midway-Malabar 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Hayward 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:
1. Loop the Glendale-Hield section of the Midway-Malabar 230 kV line into Hayward substation (approximately 2.5 miles).
2. No additional upgrades are expected to be necessary at this time.
III.E.13 Transmission Facilities for the Discovery Solar Energy Center in Brevard County

The work required to connect the approximate 74.5 MW (nameplate, AC) Discovery Solar Energy Center in Brevard County in the 1st Quarter of 2021 is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 115 kV substation (Rocket) on the project site on the FPL C5-Barna 115 kV line.
   2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to Rocket 115 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the C5-Barna 115 kV line into Rocket substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.14 Transmission Facilities for the Orange Blossom Solar Energy Center in Indian River County

The work required to connect the approximate 74.5 MW (nameplate, AC) Orange Blossom Solar Energy Center in Indian River County in the 1st Quarter of 2021 is projected to be:

I. Substation:
   1. Construct a new 230 kV substation (Finca) on the project site.
   2. Add one 230 kV line switch at Finca bifurcating Eldora-Heritage 230 kV line approximately 1 mile from Eldora.
   3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   4. Construct 34.5 kV bus to connect the PV array to Finca 230 kV Substation.
   5. Add relays and other protective equipment.
   6. Breaker replacements: None

II. Transmission:
   1. Bifurcate Eldora-Heritage 230 kV line approximately 1 mile from Eldora at Finca substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.15 Transmission Facilities for the Sabal Palm Solar Energy Center in Palm Beach County

The work required to connect the approximate 74.5 MW (nameplate, AC) Sabal Palm Solar Energy Center in Palm Beach County in the 1st Quarter of 2021 is projected to be:

I. Substation:
   1. Construct a new 230 kV substation (Costa) on the project site.
   2. Add one 230 kV line switch at Costa for string bus to Minto substation.
   3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   4. Construct 34.5 kV bus to connect the PV array to Costa 230 kV Substation.
   5. Add one 230 kV breaker to close ring bus at Minto substation.
   6. Add relays and other protective equipment.
   7. Breaker replacements: None

II. Transmission:
   1. Construct approximately 1.5 miles string bus from Minto 230 kV to Costa substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.16 Transmission Facilities for the Fort Drum Solar Energy Center in Okeechobee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Fort Drum Solar Energy Center in Okeechobee County in the 1st Quarter of 2021 is projected to be:

I. Substation:

None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.

II. Transmission:

None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.
III.E.17 Transmission Facilities for the Rodeo Solar Energy Center in DeSoto County

The work required to connect the approximate 74.5 MW (nameplate, AC) Rodeo Solar Energy Center in DeSoto County in the 1st Quarter of 2021 is projected to be:

I. Substation:
1. Construct a new 230 kV substation (Karson) on the project site.
2. Add one 230 kV line switch at new substation to connect to Gleam substation (Cattle Ranch Solar Energy Center)
3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
4. Construct 34.5 kV bus to connect the PV array to new 230 kV Substation.
5. Add relays and other protective equipment.
6. Breaker replacements: None

II. Transmission:
1. Connect new substation line switch via string bus to Gleam substation.
2. No additional upgrades are expected to be necessary at this time.
III.E.18 Transmission Facilities for the Willow Solar Energy Center in Manatee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Willow Solar Energy Center in Manatee County in the 1st Quarter of 2021 is projected to be:

I. Substation:
   1. Construct a new single bus, two (2) breaker 230 kV substation (Coachwhip) on the project site on the FPL Sunshine-Keentown 230 kV line.
   2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   3. Construct 34.5 kV bus to connect the PV array to new Coachwhip 230 kV Substation.
   4. Add relays and other protective equipment.
   5. Breaker replacements: None

II. Transmission:
   1. Loop the Sunshine-Keentown 230 kV line into new Coachwhip substation.
   2. No additional upgrades are expected to be necessary at this time.
III.E.19 Transmission Facilities for Manatee Energy Storage Center in Manatee County

The approximately 409 MW battery storage addition that will be sited in Manatee County with a projected in-service date of late 2021 does not require any new offsite transmission lines.
III.E.20 Transmission Facilities for Sunshine Gateway Energy Storage addition in Columbia County

The 30 MW battery energy storage facility projected to be in-service in late 2021 that will be added to the existing Sunshine Gateway Solar Energy Center in Columbia County does not require any new offsite transmission lines\textsuperscript{12}.

\textsuperscript{12} This battery storage facility is currently projected to be a 30 MW facility. However, on-going analyses may result in an increase to approximately 75 MW.
III.E.21 Transmission Facilities for Echo River Energy Storage addition in Suwannee County

The 30 MW battery energy storage facility projected to be in-service in late 2021 that will be added to the Echo River Solar Energy Center in Suwannee County does not require any new offsite transmission lines.\footnote{This battery storage facility is currently projected to be a 30 MW facility. However, on-going analyses may result in an increase to approximately 75 MW.}
III.E.22 Transmission Facilities for the Lauderdale Plant Modernization (Dania Beach Clean Energy Center Unit 7) in Broward County

The Lauderdale Modernization project (Dania Beach Clean Energy Center Unit 7) that is projected to be completed by mid-2022 does not require any new offsite transmission lines.
III.E.23  Transmission Facilities for the Blue Springs Solar Energy Center in Jackson County

The work required to connect the approximate 74.5 MW (nameplate, AC) Blue Springs Solar Energy Center in Jackson County in the 4th Quarter of 2021 is projected to be:

I.  **Substation:**
   a. Construct a new single bus, two (2) breaker 115 kV substation (Americus) on the project site, approximately 2 miles from the Cypress – Chipola section of the Gulf Marianna – West Grand Ridge 115 kV line.
   b. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
   c. Construct 34.5 kV bus to connect the PV array to Americus 115 kV Substation.
   d. Add relays and other protective equipment.
   e. Breaker replacements: None

II. **Transmission:**
   a. Loop the Cypress – Chipola section of the Gulf Marianna – West Grand Ridge 115 kV line into Americus substation.
   b. No additional upgrades are expected to be necessary at this time.
III.E.24 Transmission Facilities for the Chautauqua Solar Energy Center in Walton County

The work required to connect the approximate 74.5 MW (nameplate, AC) Chautauqua Solar Energy Center in Walton County in the 4th Quarter of 2021 is projected to be:

I. Substation:
   1. Construct a new 230 kV substation ("Liddie") on the project site.
   2. Add two 230 kV line switches on the Shoal River – Samson 230kV line at Liddie Substation
   3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
   4. Construct 34.5 kV bus to connect the PV array to Liddie 230 kV Substation.
   5. Add relays and other protective equipment.
   6. Breaker replacements: None

II. Transmission:
   1. Interconnection ("Liddie") Substation is on site. No Gen-Tie Required.
   2. No additional upgrades are expected to be necessary at this time.
III.E.25 Transmission Facilities for the Crist Unit 8 Combustion Turbine Project in Escambia County

The work required to connect Crist Unit 8, which consists of four simple cycle combustion turbines (CT) in late 2021, to the Gulf system in Escambia County is projected to be:

I. Substation:

1. Construct a 230 kV switchyard (Conecuh) for the four (4) approximately 235 MW CTs on Crist Plant property. Switchyard will have five (5) bays with breaker-and-a-half configuration.
2. Install four (4) main step-up transformers (4 - 315 MVA), one for each CT.
3. Install thirteen (13) - 230 kV independent-pole breakers in the Conecuh switchyard.
4. Replace all Crist 230 kV breakers with independent-pole breakers.
5. Replace 230/115kV autotransformer transformer with a 500 MVA unit at Bellview substation.
6. Add relays and other protective equipment.

II. Transmission:

1. Loop existing Crist-Alligator Swamp #2-230kV and Crist-Bellview 230kV lines into new Conecuh switchyard.
2. Relocate line terminal for Crist-Barry 230kV line into Conecuh substation.
3. Upgrade Brentwood-Crist 230kV to 1930 Amps (768 MVA, ~7.6 miles).
4. Upgrade Conecuh-Crist #1 and #2-230kV lines to 2000 Amps (797 MVA, ~0.2 miles).
5. Upgrade Crist-Scenic Hills #1-115kV to 1800 Amps (359 MVA, ~2.9 miles).
6. Upgrade Eastgate-Scenic Hills 115kV to 1005 Amps (200 MVA, ~4.8 miles).
7. Upgrade Bellview-Conecuh 230kV to 1930 Amps (768 MVA, 8.9 miles).
III.F. Renewable Resources and Storage Technology

Overview:

Even though solar energy-based resource options were generally not economically competitive on FPL’s and Gulf’s system until the 2016 time frame, both companies have been actively involved in renewable energy resource research and development since the mid-1970s. These activities have been numerous and varied as described below.

FPL’s and Gulf’s Renewable Energy Efforts Through 2019:

FPL has been the leading Florida utility in examining ways to effectively utilize renewable energy technologies to serve its customers. Since 1976, FPL has been an industry leader in renewable energy research and development and in facilitating the implementation of various renewable energy technologies. FPL’s and Gulf’s renewable energy efforts through 2019 are briefly discussed in five categories of solar/renewable activities. Plans for new renewable energy facilities from 2020 through 2029 are then discussed in a separate section.

1) Early Research & Development Efforts:

In the late 1970s, FPL assisted the Florida Solar Energy Center (FSEC) in demonstrating the first residential PV system east of the Mississippi River. This PV installation at FSEC’s Brevard County location was in operation for more than 15 years and provided valuable information about PV performance capabilities in Florida on both a daily and annual basis. In 1984, FPL installed a second PV system at its Flagami substation in Miami. This 10-kilowatt (kW) system operated for a number of years before it was removed to make room for substation expansion. In addition, FPL maintained a thin-film PV test facility at the FPL Martin Plant Site for a number of years to test new thin-film PV technologies.

Gulf has evaluated the potential for wind as a renewable energy resource in Northwest Florida through meteorological research along the coastal area. Gulf also participated in joint efforts with Southern Company research on various PV technology evaluations.

2) Demand Side & Customer Efforts:

In terms of utilizing renewable energy sources to meet its customers’ needs, FPL initiated the first utility-sponsored conservation program in Florida designed to facilitate the implementation of solar technologies by its customers. FPL’s Conservation Water Heating Program, first implemented in 1982, offered incentive payments to customers who chose...
solar water heaters. Before the program ended (because it was no longer cost-effective), FPL paid incentives to approximately 48,000 customers who installed solar water heaters.

In the mid-1980s, FPL introduced another renewable energy program, FPL’s Passive Home Program. This program was created to broadly disseminate information about passive solar building design techniques that are most applicable in Florida’s climate. As part of this program, three Florida architectural firms created complete construction blueprints for six passive home designs with the assistance of the FSEC and FPL. These designs and blueprints were available to customers at a low cost. During its existence, the program received a U.S. Department of Energy award for innovation and also led to a revision of the Florida Model Energy Building Code which was the incorporation of one of the most significant passive design techniques highlighted in the program: radiant barrier insulation.

FPL has continued to analyze and promote PV utilization. These efforts have included PV research, such as the 1991 research project to evaluate the feasibility of using small PV systems to directly power residential swimming pool pumps. FPL’s PV efforts also included educational efforts, such as FPL’s Next Generation Solar Station Program. This initiative delivered teacher training and curriculum that was tied to the Sunshine Teacher Standards in Florida. The program provided teacher grants to promote and fund projects in the classrooms.

Gulf offered customers the opportunity to contribute to the development of solar PV beginning with the Solar for Schools program in the 1995 DSM Plan. This voluntary program ultimately developed multiple PV installations in schools across Northwest Florida and was used primarily for educational purposes. In 1999, Gulf offered customers an additional opportunity through an optional rate rider. The PV Rate Rider program was intended to give customers an opportunity to contribute towards the construction of a solar PV facility along with other customers across the Southern Company territory.

In 2008, Gulf received FPSC approval to offer an experimental solar water heating program. This program was intended to help customers overcome the high initial cost of adopting the solar thermal water heating technology. The program spanned three years and was absorbed into a larger portfolio of renewable program offerings in Gulf’s 2010 DSM Plan.

In 2009, as part of its DSM Goals decision, the FPSC imposed a requirement for Florida’s investor-owned utilities to spend up to a certain capped amount annually to facilitate demand-side solar water heater and PV applications. The annual spending caps for these
applications over the five-year period was approximately $15.5 million per year for FPL and approximately $576,000 per year for Gulf. In response to this direction, FPL received approval from the FPSC in 2011 to initiate a solar pilot portfolio consisting of three PV-based programs and three solar water heating-based programs, plus a Renewable Research and Demonstration project. Gulf received similar approval from the FPSC in 2011 to initiate a solar pilot portfolio consisting of two PV-based programs and two solar water heating-based programs. Analyses of the results by both FPL and Gulf from these pilot programs since their inception consistently showed that none of these pilot programs was cost-effective for customers using any of the three cost-effectiveness screening tests used by the State of Florida. As a result, consistent with the FPSC’s December 2014 DSM Goals Order No. PSC-14-0696-FOF-EU, these pilot programs expired on December 31, 2015.

Gulf conducted market research in 2015 indicating customer interest in a renewable energy alternative to rooftop PV. After further research into innovative offerings across the industry, Gulf developed a subscription-based program model commonly known as community solar. Gulf received FPSC approval in 2016 for a Community Solar program intended to facilitate construction of a 1 MW facility in Northwest Florida once adequate subscriptions were secured. However, customer interest to-date has not been adequate to justify construction of the project.

In addition, FPL and Gulf assist customers interested in installing PV equipment at their facilities. Consistent with Florida Administrative Code Rule 25-6.065, Interconnection and Net Metering of Customer-Owned Renewable Generation, FPL works with customers to interconnect these customer-owned PV systems. Through December 2019, approximately 17,000 customer systems (predominantly residential) have been interconnected with FPL and approximately 2,200 customer systems (predominantly residential) have been interconnected with Gulf. These values represent approximately 0.3% of FPL’s total number of customers, and approximately 0.5% of Gulf’s total number of customers, respectively.

3) Supply Side Efforts – Power Purchases:
FPL has facilitated a number of renewable energy projects (facilities which burn bagasse, waste wood, municipal waste, etc.) through power purchase agreements (PPAs). FPL purchases firm capacity and energy, and/or as-available energy, from these types of facilities. For example, FPL has a contract to receive firm capacity from the Solid Waste Authority of Palm Beach (SWA) through April 2034.
Gulf currently has three PPAs with solar facilities totaling approximately 120 MW. In addition, Gulf has two PPAs totaling approximately 81 MW based, at least in part, on receiving wind-produced firm amounts of hourly energy from out-of-state sources. Tables I.A.3.1, I.A.3.2, I.A.3.3, I.B.3.1, I.B.3.2, and I.B.3.3 in Chapter I provide information regarding both firm and non-firm capacity PPAs from renewable energy facilities in the two areas.

4) **Supply Side Efforts – Utility Owned Facilities:**

At the time this Site Plan is filed, FPL owns 24 universal solar generating facilities that are in commercial operation, and Gulf owns one universal solar generating facility (Blue Indigo) that is scheduled to go into commercial operation at about the time this 2020 Site Plan is to be filed (April 1, 2020). All but one of these facilities are PV facilities and together they represent approximately 1,675 MW of generation for FPL and 74.5 MW of generation for Gulf Power. The other facility is a 75 MW solar thermal facility. Each of these solar facilities is listed below in Table III.F.1.
Table III.F.1: List of FPL- & Gulf-Owned Solar Facilities Through April 2020

<table>
<thead>
<tr>
<th>Solar Energy Center</th>
<th>Project</th>
<th>County</th>
<th>Nameplate MW</th>
<th>Type</th>
<th>COD</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPL Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Desoto</td>
<td>Desoto</td>
<td>25</td>
<td>Tracking</td>
<td>Oct-09</td>
<td></td>
</tr>
<tr>
<td>2 Space Coast</td>
<td>Brevard</td>
<td>10</td>
<td>Fixed</td>
<td>Apr-10</td>
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</tr>
<tr>
<td>3 Martin</td>
<td>Martin</td>
<td>75</td>
<td>Solar Thermal</td>
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</tr>
<tr>
<td>4 Manatee</td>
<td>Manatee</td>
<td>74.5</td>
<td>Fixed</td>
<td>Dec-16</td>
<td></td>
</tr>
<tr>
<td>5 Citrus</td>
<td>DeSoto</td>
<td>74.5</td>
<td>Fixed</td>
<td>Dec-16</td>
<td></td>
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<tr>
<td>6 Babcock</td>
<td>Charlotte</td>
<td>74.5</td>
<td>Fixed</td>
<td>Dec-16</td>
<td></td>
</tr>
<tr>
<td>7 Horizon</td>
<td>SoBRA</td>
<td>74.5</td>
<td>Fixed</td>
<td>Jan-18</td>
<td></td>
</tr>
<tr>
<td>8 Coral Farms</td>
<td>SoBRA</td>
<td>74.5</td>
<td>Fixed</td>
<td>Jan-18</td>
<td></td>
</tr>
<tr>
<td>9 Wildflower</td>
<td>SoBRA</td>
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<td>Fixed</td>
<td>Jan-18</td>
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</tr>
<tr>
<td>10 Indian River</td>
<td>SoBRA</td>
<td>74.5</td>
<td>Fixed</td>
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<tr>
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<td>Fixed</td>
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<tr>
<td>12 Barefoot Bay</td>
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<td>74.5</td>
<td>Fixed</td>
<td>Mar-18</td>
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</tr>
<tr>
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<td>Fixed</td>
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<tr>
<td>14 Loggerhead</td>
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<td>Fixed</td>
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<td>15 Miami-Dade</td>
<td>SoBRA</td>
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<td>16 Interstate</td>
<td>SoBRA</td>
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<tr>
<td>17 Sunshine Gateway</td>
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<td>Fixed</td>
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<tr>
<td>19 Sweetbay</td>
<td>ST</td>
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<td>Fixed</td>
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<tr>
<td>20 Northern Preserve</td>
<td>ST</td>
<td>74.5</td>
<td>Fixed</td>
<td>Jan-20</td>
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<tr>
<td>21 Cattle Ranch</td>
<td>ST</td>
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<tr>
<td>22 Twin Lakes</td>
<td>ST</td>
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<td>Jan-20</td>
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<tr>
<td>23 Blue Heron</td>
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<td>Fixed</td>
<td>Jan-20</td>
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<tr>
<td>24 Babcock Preserve</td>
<td>ST</td>
<td>74.5</td>
<td>Fixed</td>
<td>Jan-20</td>
<td></td>
</tr>
<tr>
<td>Gulf Power Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 Blue Indigo</td>
<td>Jackson</td>
<td>74.5</td>
<td>Fixed</td>
<td>Apr-20</td>
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</tr>
<tr>
<td>Totals</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPL Area Total Nameplate MW =</td>
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<td></td>
</tr>
<tr>
<td>Gulf Power Area Total Nameplate MW =</td>
<td>74.5</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Total Nameplate MW =</td>
<td>1,749</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5) **Ongoing Research & Development Efforts:**

FPL has a “Living Lab” across several of its office locations and select customer sites to demonstrate FPL’s renewable energy commitment to employees and visitors. FPL currently has approximately 308 kW of PV as part of the Living Lab, including a 150 kW floating solar installation in Miami-Dade County. Through various Living Lab projects, FPL is able to evaluate multiple solar and storage technologies and applications for the purpose of developing a renewable business model resulting in the most cost-effective and reliable uses for FPL’s customers. FPL plans to continue to expand the Living Lab as new technologies come to market, including a plan to add 500 kW of linear generators in 2020.
FPL has also been in discussions with several private companies on multiple emerging technology initiatives, including ocean current, ocean thermal, hydrogen, fuel cell technology, biomass, biofuels, and energy storage.

In regard to PV’s impact on the FPL system, FPL began in 2014 to develop a methodology to determine what firm capacity value at FPL’s Summer and Winter peak hours would be appropriate to apply to existing, and potential PV facilities. The potential capacity contribution of PV facilities is dependent upon a number of factors including (but not necessarily limited to): site location, technology, design, and the total amount of solar that is operating on FPL’s system. (Note that the Martin solar thermal facility is a “fuel-substitute” facility, not a facility that provides additional capacity and energy. The solar thermal facility displaces the use of fossil fuel to produce steam on the FPL system when the solar thermal facility is operating.)

Based on the results of its analyses using that methodology, firm capacity values are assigned to each new solar facility. These firm capacity values are described in terms of the percentage of the facility’s nameplate (AC) rating that can be counted on as firm capacity at the Summer and Winter peak load hours. For example, two of FPL’s earliest PV facilities, DeSoto and Space Coast, have been assigned firm capacity values of approximately 46% for DeSoto and 32% for Space Coast at FPL’s Summer peak hour (that typically occurs in the 4 p.m. to 5 p.m. hour), but contribute no firm capacity during FPL’s Winter peak hour (that typically occurs in the 7 a.m. to 8 a.m. hour). Similarly, each new solar facility is assigned a specific firm capacity value based on the factors described above.

Gulf partnered with EPRI in 2016 as a host site for the SHINES (Sustainable and Holistic Integration of Energy Storage and Solar PV) project. This ongoing project evaluates the potential for transformer-level battery storage to work in conjunction with rooftop solar to manage energy flow on the distribution system. Advanced forecasting technology interacts with the solar and battery control systems to optimize customer loads and charging/discharging of the battery storage to minimize grid disruption. Gulf also conducted research on residential Tesla Powerwall battery systems to evaluate both the potential to shift solar contribution to peak hours and to dispatch storage as a demand-response resource.
Renewable Energy, Battery Storage, and Electric Vehicle Projections for 2020 through 2029:

This section addresses efforts regarding renewable energy in both universal (utility-scale) solar and customer-focused (distributed) solar. In addition, efforts regarding battery storage are also addressed. These efforts and plans are summarized below.

1) **Universal Solar:**

In 2009, FPL constructed 110 MW of solar energy facilities including two PV facilities totaling 35 MW and one 75 MW solar thermal facility. From 2009 through 2017, the costs of solar equipment, especially PV equipment, declined significantly and universal (i.e., utility-scale) PV facilities at a number of sites became increasingly competitive economically with more conventional generation options. As a result, FPL added three new PV facilities of approximately 74.5 MW each near the end of 2016.

In the first quarter of 2018, eight additional PV facilities of 74.5 MW each, or 596 MW in total, also went into commercial operation. These eight PV facilities were added under the Solar Base Rate Adjustment (SoBRA) provision of the Commission’s order approving the settlement agreement for FPL’s last base rate case in 2016 (Order No. PSC-16-0560-AS-EI) and comprised the first two tranches of four facilities each. In 2019, four more 74.5 MW PV facilities, or approximately 298 MW, were added as SoBRA facilities. An additional four 74.5 MW PV facilities, or approximately 298 MW, are in the final phase of construction and will be placed into commercial operation in the 2nd Quarter of 2020. This will complete the addition of solar under the current Solar Base Rate Adjustment (SoBRA) mechanism that resulted from FPL’s 2016 base rate settlement agreement.

In regard to Gulf’s area, one new 74.5 MW utility-owned PV facility, Blue Indigo, will be placed into commercial operation in April of 2020. The decision to add this PV facility was made based on resource planning work performed in 2019.

In this 2020 Site Plan, the resource plan shows a significant amount of solar being added throughout the 10-year projection period (2020 through 2029) of this Site Plan. A total of approximately 10,000 MW of solar is projected by the end of the year 2029. This total value consists of approximately 9,925 MW of PV and 75 MW of solar thermal. Ongoing resource planning work will continue to analyze the projected system economics of solar and all other resource options. Information regarding the Preferred and Potential Sites for the projected solar additions, particularly in the near-term, is presented in Chapter IV.
2) Customer-Focused PV Pilot Programs:
FPL began implementation of two customer-focused PV pilot programs in 2015. The first is a voluntary, community-based, solar partnership pilot to install new solar-powered generating facilities. The program is at least partially funded by contributions from customers who volunteer to participate in the pilot and will not rely on subsidies from non-participating customers. The second program will implement approximately 5 MW of DG PV. The objective of this second program is to collect grid integration data for distributed generation (DG) PV and develop operational best practices for addressing potential problems that may be identified. A brief description of these pilot programs follows.

a) Voluntary, Community-Based Solar Partnership Pilot Program:
The Voluntary Solar Pilot Program, named FPL SolarNow, provides FPL customers with an additional and flexible opportunity to support development of solar power in Florida. The FPSC approved FPL’s request for this three-year pilot program in Order No. PSC-14-0468-TRF-EI on August 29, 2014. The pilot program’s tariff became effective in January 2015. The pilot was recently approved for a third extension of an additional year by the FPSC in Order No. PSC-2019-0544-TRF-EI on December 20, 2019 and the pilot program is now scheduled to end at the close of 2020.

This pilot program provides all customers the opportunity to support bringing solar projects into local communities by funding the construction of solar facilities in local public areas, such as parks, zoos, schools, and museums. Customers can participate in the program through voluntary contributions of $9/month. As of the end of 2019, there were 48,897 participants enrolled in the Voluntary Solar Pilot Program. This program has installed 68 projects located in 64 different locations within the FPL service territory. These projects represent approximately 2,420 kW-DC of PV generation.

b) FPL SolarTogether, Shared Solar Program:
In March of 2019, FPL filed for FPSC approval of a community shared solar program. The program is named FPL SolarTogether. This voluntary program offers FPL customers the option to purchase capacity/energy from cost-effective, large-scale solar generation facilities. The proposed program will not require customers who participate to be bound to a long-term contract or subject to administrative fees or termination penalties. Under this program, participants’ monthly electric bills would show both a subscription charge and a direct credit on their electric bills associated with the amount of solar-generated capacity purchased. This shared solar program will
leverage the economies of scale of universal solar to deliver long-term savings to both program participants and non-participants.

In March 2020, the FPSC approved the SolarTogether program (Order PSC-2020-0084-S-EI). The first phase of the program is projected to add approximately 1,490 MW of new solar facilities\textsuperscript{14}.

c) **C&I Solar Partnership Pilot Program:**
This pilot program is conducted in partnership with interested commercial and industrial (C&I) customers over an approximate 5-year period that is scheduled to conclude in 2020. Limited investments will be made in PV facilities located at customer sites on selected distribution circuits within FPL’s service territory.

The primary objective is to examine the effect of high localized PV penetration on FPL’s distribution system and to determine how best to address any problems that may be identified. FPL has installed approximately 3.5 MW of PV facilities on circuits that experience specific loading conditions to better study feeder loading impacts. In addition, FPL is now evaluating the integration of solar into urban areas to test its impact on the distribution system on feeders that are heavily loaded as well as investigate the capabilities of “bifacial solar panel” technology, which, unlike traditional panels, is able to produce energy on both sides.

**Battery Storage Efforts:**

Battery storage technology has continued to advance, and the costs of storage are projected to continue to decline. As a result, battery storage, particularly when charged solely by utility-scale solar facilities, has become an economically competitive firm capacity option for FPL’s system. The resource plan presented in this 2020 Site Plan shows an increased amount of battery storage compared to what was presented in the 2019 Site Plan. As previously discussed, a 409 MW battery storage facility will be added in late 2021 at the existing Manatee plant site to partially offset the loss of capacity that will occur with the retirement of existing Manatee Units 1 & 2. Additional battery storage capacity is projected to be added by late 2021 with 30 MW of battery storage added at both the existing Sunshine Gateway Solar Energy Center and at the Echo River Solar Energy Center currently in

\textsuperscript{14} In the SolarTogether community solar program, participating customers share in the costs and benefits of a dedicated FPL SolarTogether PV facility and are entitled, upon their request, to have the environmental attributes associated with their participation retired by FPL on their behalf.

Florida Power & Light Company and Gulf Power Company 132
construction. An additional total of approximately 700 MW of battery storage is also included in the resource plan in the years 2028 and 2029 in Gulf’s area.

In addition, FPL is analyzing the potential of battery storage technology to benefit FPL’s customers in other ways. These analyses have been, and are currently, being carried out through implementation of two pilot projects designed to evaluate different potential applications for batteries on FPL’s system.

The objectives of the two pilot projects are to identify the most promising applications for batteries on FPL’s system and to gain experience with battery installation and operation. This information will position FPL to expeditiously take advantage of battery storage for the benefit of FPL’s and Gulf’s customers as the economics of the technology continue to improve. For the purpose of discussing these two pilot projects, they will be referred to as the “small scale” and “large scale” storage pilot projects.

1) **Small Scale Storage Pilot Projects:**

In 2016 and early 2017, FPL installed approximately 4 MW of battery storage systems, spread across six sites, with the general objective of demonstrating the operational capabilities of batteries and learning how to integrate them into FPL’s system. These small storage projects were designed with a distinct set of high-priority battery storage grid applications in mind. These applications include: peak shaving, frequency response, and backup power. In addition, these initial projects were designed to provide FPL with an opportunity to determine how to best integrate storage into FPL’s operational software systems and how best to dispatch and/or control the storage systems.

To this end, FPL installed: (i) a 1.5 MW battery in Miami-Dade County primarily for peak shaving and frequency response, (ii) another 1.5 MW battery in Monroe County for backup power and voltage support, (iii) a relocatable 0.75 MW uninterruptible power supply (UPS) battery at the Tennis Center at Crandon Park in Key Biscayne for mitigation of momentary disruptions, and (iv) several smaller kilowatt-scale systems at other locations to study distributed storage reliability applications. All of these projects have been in service for more than 2 years and have yielded valuable information regarding the applications listed above.

2) **Large Scale (50 MW) Storage Pilot Project:**

The small scale energy storage pilot projects described above are complemented by up to 50 MW of additional battery projects that will be deployed. These pilot projects were authorized under the Settlement Agreement in FPL’s 2016 base rate case. The 50 MW of
batteries that will be deployed in this larger pilot project will expand the number of storage applications and configurations that FPL will be able to test, as well as making the scale of deployment more meaningful, given the large size of FPL’s system.

The first two storage projects under this pilot involve pairing battery storage with existing universal PV facilities, and these projects went into service in the 1st Quarter of 2018. One of the projects is a 4 MW battery sited at FPL’s Citrus Solar Energy Center, which captures clipped (curtailed) solar energy from the solar panels during high solar insolation hours, then releases this energy in other hours. The second of these two projects is a 10 MW battery at FPL’s Babcock Ranch Solar Energy Center. This project is designed to shift PV output from non-peak times to peak times and also to provide “smoothing” of solar output and regulation services. These two projects are designed to enhance the operations of existing solar facilities that were installed in 2016 as outlined in FPL’s base rate case Settlement Agreement. The data and lessons gathered from these two projects will result in more optimized design configurations for solar-paired battery projects as well as improved operational parameters for economic dispatch.

The third project, placed in-service in the 4th Quarter of 2019, is a 10 MW battery in Wynwood, a dense urban area that is close to downtown Miami. The project is designed to examine the use of batteries to support the distribution system with a focus on addressing grid, system, and customer challenges.

Three additional pilot projects are under development and expected to go in-service in 2020. One project entails deploying a 3 MW battery alongside an existing solar PV system to create a microgrid. The microgrid will be used for local resiliency and to provide additional grid services, including mitigation of disruptions potentially caused by solar in the distribution system. Another project currently under development will deploy up to 1 MW of Electric-Vehicle-to-Grid (EV2G) batteries using electric school buses that will be able to discharge electricity to the grid when needed. This project will explore the potential for utilizing electric vehicles as grid resources on FPL’s system for the first time ever. Yet another project will site an 11.5 MW battery at the future Dania Beach Clean Energy Center Unit 7 to provide FPL an opportunity to test using battery storage for black start capability of large generating units.

Together, all of these projects will utilize approximately 39 MW of the 50 MW allowed under the Settlement Agreement. In regard to the remaining 11 MW of allowed storage capacity, FPL is continuing to evaluate which types of battery storage configurations and applications
are projected to be the most meaningful to examine at this time. Potential project ideas are evaluated on an ongoing basis, considering current trends in the battery storage market, as well as the needs of FPL’s system and the potential for projects of a given type to create future customer savings and value.

In addition to the two storage pilot projects described above (Small Scale and Large Scale 50 MW), FPL is now testing battery storage in the residential setting. This test involves up to 20 residential sites in the Palm Beach County area. The test addresses both potential benefits of having a 5-to-8 kW storage system for home backup power and the ability of FPL to remotely control the storage systems to provide services to the electric grid.

These battery storage pilot projects, plus other planned battery storage efforts projected to be in-service by late 2021/beginning of 2022, are presented in Table III.F.2 below. The table also presents the firm capacity values for Summer and Winter that FPL is currently assigning to these facilities. In total, FPL is currently projecting approximately 480 MW of cumulative firm capacity value from battery storage by 2022 and this firm capacity is accounted for in FPL’s resource planning work.

<table>
<thead>
<tr>
<th>In-Service Date</th>
<th>Location / Projects</th>
<th>Status</th>
<th>Nameplate MW</th>
<th>Firm Summer capacity MW</th>
<th>Firm Winter capacity MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-2017</td>
<td>2016 Pilots</td>
<td>Operation</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>Citrus Solar Energy Center</td>
<td>Operation</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2018</td>
<td>Babcock Solar Energy Center</td>
<td>Operation</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2019</td>
<td>Wynwood</td>
<td>Operation*</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2020</td>
<td>Dania Beach Energy Center</td>
<td>Development</td>
<td>11.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2020</td>
<td>Micro grid</td>
<td>Development</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2020</td>
<td>EV2G</td>
<td>Development</td>
<td>0.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2021</td>
<td>Manatee</td>
<td>Development</td>
<td>409</td>
<td>409</td>
<td>409</td>
</tr>
<tr>
<td>2022</td>
<td>Sunshine Gateway</td>
<td>Development</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>2022</td>
<td>Echo River</td>
<td>Development</td>
<td>30</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td><strong>512</strong></td>
<td><strong>476</strong></td>
<td><strong>483</strong></td>
</tr>
</tbody>
</table>

* The Wynwood battery has 2 interconnection points. The first was energized in Dec. 2019; the second will be energized in Apr. 2020.
Electric Vehicle Efforts:
Florida continues to rank in the top four in the nation for electric vehicle (EV) adoption, and more Floridians are buying electric vehicles every year. FPL began implementation of the new FPL EVolution pilot program in 2019 to support the growth of EVs with the goal to install more than 1,000 charging ports, thus increasing the availability of public charging stations for EVs in Florida by 50%. This pilot program will be conducted in partnership with interested host customers over an approximate 3-year period. Limited investments will be made in EV charging infrastructure. Installations will encompass different EV charging technologies and market segments, including workplace, destination, public fast charging, and residential. These places will include rest stops, public parks, shopping malls, and large businesses that employ thousands of Florida residents. As of December 31, 2019, FPL has installed 50 ports at 7 locations.

In regard to EVs, the primary objective of the integrated utility is to examine EV use, adoption, potential new rate structures, power quality, and customer experience ahead of mass adoption to ensure future electric vehicle investments enhance service for electric customers who select EVs.

III.G Fuel Mix and Fuel Price Forecasts

1. Fuel Mix: FPL and Gulf
Until the mid-1980s, FPL relied primarily on a combination of fuel oil, natural gas, and nuclear energy to generate electricity with significant reliance on oil–fueled generation. In the early 1980s, FPL began to purchase “coal-by-wire.” In 1987, coal was first added to the fuel mix through FPL’s partial ownership (20%) and additional purchases (30%) from the St. Johns River Power Park (SJRPP). This allowed FPL to meet its customers’ energy needs with a more diversified mix of energy sources. Additional coal resources were added with the partial acquisition (76%) of Scherer Unit 4, which began serving FPL’s customers in 1991.

The trend since the early 1990s has been a steady increase in the amount of natural gas, which FPL uses to produce electricity due, in part, to the introduction of highly efficient and cost-effective CC generating units and the ready availability of abundant, U.S.-produced natural gas. FPL placed into commercial operation two new gas-fueled CC units at the West County Energy Center (WCEC) site in 2009. FPL added a third new CC unit to the WCEC site in 2011. In addition, FPL has completed the modernization of its Cape Canaveral, Riviera Beach, and Port Everglades plant sites. These new CC units have dramatically
improved the efficiency of FPL’s generation system in general and, more specifically, the efficiency with which natural gas is utilized. In March of 2018, the FPSC authorized a modernization of FPL’s Lauderdale site in which two existing steam-type generating units were retired in late 2018, and a new, much more fuel-efficient CC unit, DBEC Unit 7, will be added at the site by mid-2022.

The uprates at Plant Smith’s Unit 3 in Gulf’s area will increase the efficiency of the current unit, and alternatives that allow more output from existing units across the FPL and Gulf systems will continue to be evaluated. The addition of 4 CT’s at Plant Crist in 2021, capable of burning natural gas or ULSD oil, will provide additional fuel diversity and reliability.

FPL has also taken measures over the last few years to reduce the use of coal as a fuel. FPL shuttered Cedar Bay in 2016, St. Johns River Power Park in 2018 and plans to retire the Indiantown Co-Gen coal-fueled unit in late 2020. Gulf’s conversion of the Crist plant to natural gas in 2020 demonstrates a continued commitment to eliminate coal from the generation portfolio.

In addition, FPL increased its utilization of nuclear energy through capacity uprates of its four existing nuclear units. With these uprates, more than 500 MW of additional nuclear capacity have been added to the FPL system. As mentioned previously, FPL has obtained the Combined Operating Licenses from the NRC for two new nuclear units, Turkey Point Units 6 & 7. FPL has now paused in this process to decide when to pursue approval from the FPSC to proceed to construction. In addition, on January 30, 2018, FPL applied to the Nuclear Regulatory Commission (NRC) for Subsequent License Renewal (SLR) for FPL’s Turkey Point Units 3 & 4. The current license terms for these two existing nuclear units extend into the years 2032 and 2033, respectively. The SLR request has now been approved by the NRC which extends the operating licenses for Turkey Point Units 3 & 4 by 20 years to 2052 and 2053, respectively.

In regard to utilizing renewable energy, by April 2020, FPL will have an approximate 75 MW solar thermal steam generating facility at the existing Martin site and a total of approximately 1,675 MW PV generating capability comprised of 74.5 MW solar facilities at 23 other sites. In addition, Gulf has one 74.5 MW PV facility. A significant amount of additional solar is projected in the current resource plan as discussed throughout this Site Plan. However, as previously discussed in this chapter, the contribution to fuel diversity of this additional PV capability will be lower on a MWh basis than the large MW additions of PV might suggest.
Ongoing resource planning work will continue to focus on identifying and evaluating alternatives that would most cost-effectively maintain and/or enhance long-term fuel diversity. These fuel-diverse alternatives may include: the purchase of power from renewable energy facilities, additional solar energy facilities, obtaining additional access to diversified sources of natural gas such as liquefied natural gas (LNG) and natural gas from the Mid-Continent and Marcellus regions, preserving the ability to utilize fuel oil at existing units, and increased utilization of nuclear energy. (As previously discussed, new, advanced technology coal-fueled generating units are not currently considered as viable options in Florida in the 10-year reporting period of this document.) The evaluation of the feasibility and cost-effectiveness of these and other possible fuel diversity alternatives will be part of on-going resource planning efforts.

Current use of various fuels to supply energy to customers, plus a projection of this “fuel mix” through 2029 based on the resource plan presented in this document, is presented in Schedules 5, 6.1, and 6.2 that appear later in this chapter. As noted on Schedules 6.1 and 6.2, the fuel mix projections for the Gulf system for the years 2020 and 2021 were provided by the Southern Company which will continue to operate the Gulf generating units until the FPL and Gulf systems are integrated into a single operating system.

2. Fossil Fuel Cost Forecasts

FPL’s Fuel Cost Forecasts

Fossil fuel price forecasts, and the resulting projected price differentials between fuels, are major drivers used to evaluate alternatives for meeting future resource needs. FPL’s forecasts are generally consistent with other published contemporary forecasts. A January 2020 fuel cost forecast was used in the analyses which developed the resource plan presented in this 2020 Site Plan.

Future oil and natural gas prices, and to a lesser extent, coal prices, are inherently uncertain due to a significant number of unpredictable and uncontrollable drivers that influence the short- and long-term price of oil, natural gas, and coal. These drivers include U.S. and worldwide demand, production capacity, economic growth, environmental requirements, and politics.

The inherent uncertainty and unpredictability of these factors today and in the future clearly underscore the need to develop a set of plausible oil, natural gas, and solid fuel (coal) price
scenarios that will bound a reasonable set of long-term price outcomes. In this light, Low, Medium, and High price forecasts for fossil fuels were developed in anticipation of the 2020 resource planning work.

FPL’s Medium price forecast methodology is consistent for oil and natural gas. For oil and natural gas commodity prices, FPL’s Medium price forecast applies the following methodology:

a. For the current + 2 years (2020-2022), the methodology used the January 2020 forward curve for New York Harbor 0.7% sulfur heavy oil, WTI Crude Oil, Ultra-Low Sulfur Diesel (ULSD) fuel oil, and Henry Hub natural gas commodity prices;

b. For the next two years (2023 and 2024), FPL used a 50/50 blend of the January 2020 forward curve and the most current projections at the time from The PIRA Energy Group;

c. For the 2025 through 2040 period, FPL used the annual projections from The PIRA Energy Group; and,

d. For the period beyond 2040, FPL used the real rate of escalation from the Energy Information Administration (EIA). In addition to the development of oil and natural gas commodity prices, nominal price forecasts also were prepared for oil and natural gas transportation costs. The addition of commodity and transportation forecasts resulted in delivered price forecasts.

FPL’s Medium price forecast methodology is also consistent for coal prices. Forecasted coal prices were based upon the following approach:

a. JD Energy provides regular (once every 1-2 months) short-term price forecasts (currently through 2021 issued in December 2019) for Powder River Basin (PRB) minememouth/FOB coal.

b. JD Energy also provides a long-term price forecast through 2065 of the delivered price of coal to Scherer. The most recent forecast was issued in September 2019.

c. The short term delivered coal price forecast for Plant Scherer is updated with PRB minememouth/FOB coal price updates from JD Energy while keeping the long-term prices the same as the September 2019 long-term forecast.

d. Beyond 2065, prices are escalated at JD Energy’s annual price escalation from 2064 to 2065.
In cases where multiple fuel cost forecasts are used, a Medium fuel cost forecast is developed first. FPL’s approach has been to then adjust the Medium fuel cost forecast upward (for the High fuel cost forecast) or downward (for the Low fuel cost forecast) by multiplying the annual cost values from the Medium fuel cost forecast by a factor of \((1 + \text{the historical volatility of the 12-month forward price, one year ahead})\) for the High fuel cost forecast, or by a factor of \((1 – \text{the historical volatility of the 12-month forward price, one year ahead})\) for the Low fuel cost forecast.

**Gulf Power’s Fuel Cost Forecasts**

Fossil fuel price forecasts, and the resulting projected price differentials between fuels, are major drivers used to evaluate alternatives for meeting future resource needs. Gulf Power’s forecasts are generally consistent with other published contemporary forecasts. A January 2020 fuel cost forecast was used in analyses, the results of which led to the resource plan presented in this 2020 Site Plan.

Future oil and natural gas prices, and to a lesser extent, coal prices, are inherently uncertain due to a significant number of unpredictable and uncontrollable drivers that influence the short- and long-term price of oil, natural gas, and coal. These drivers include U.S. and worldwide demand, production capacity, economic growth, environmental requirements, and politics.

The inherent uncertainty and unpredictability of these factors today and in the future clearly underscore the need to develop a set of plausible oil, natural gas, and solid fuel (coal) price scenarios that will bound a reasonable set of long-term price outcomes. In this light, Low, Medium, and High price forecasts for fossil fuels were developed in anticipation of the 2020 resource planning work.

Gulf’s Medium price forecast methodology for natural gas is consistent with FPL’s methodology for natural gas and light oil. For natural gas and light oil commodity prices, Gulf’s Medium price forecast applies the following methodology:

- For the current + 2 years (2020-2022), the methodology used the January 2020 forward curve for Henry Hub natural gas and Ultra-Low Sulfur Diesel (ULSD) fuel oil commodity prices;
- For the next two years (2023 and 2024), a 50/50 blend of the January 2020 forward curve, and the most current projections at the time from The PIRA Energy Group, were used;
c. For the 2025 through 2040 period, the annual projections from The PIRA Energy Group were used; and,

d. For the period beyond 2040, the real rate of escalation from the Energy Information Administration (EIA) was used. In addition to the development of oil and natural gas commodity prices, nominal price forecasts also were prepared for oil and natural gas transportation costs. The addition of commodity and transportation forecasts resulted in delivered price forecasts.

Gulf’s Medium price forecast methodology for coal is also consistent with FPL’s methodology for coal prices at Plant Scherer. Forecasted coal prices were based upon the following approach:

a. JD Energy provides regular (once every 1-2 months) short-term price forecasts (currently through 2021 issued in December 2019) for Powder River Basin (PRB), Uinta Basin, Illinois River Basin (ILB) and Colombian minemouth/FOB coal.

b. JD Energy also provides a long-term price forecast through 2065 of the delivered price of coal to Crist, Smith, and Scherer. The most recent forecast was issued in September 2019.

c. The short-term delivered coal price forecast for Plant Scherer is updated with PRB minemouth/FOB coal price updates from JD Energy while keeping the long-term prices the same as the September 2019 long-term forecast.

d. Currently coal price forecasts for plants Crist and Daniels are kept the same as the September 2019 long-term coal forecast provided by JD Energy.

e. Beyond 2065, all plant prices are escalated at JD Energy’s annual price escalation from 2064 to 2065.

In cases where multiple fuel cost forecasts are used, a Medium fuel cost forecast is developed first. Then the Medium fuel cost forecast is adjusted upward (for the High fuel cost forecast) or downward (for the Low fuel cost forecast) by multiplying the annual cost values from the Medium fuel cost forecast by a factor of \((1 + \text{the historical volatility of the 12-month forward price, one year ahead})\) for the High fuel cost forecast, or by a factor of \((1 – \text{the historical volatility of the 12-month forward price, one year ahead})\) for the Low fuel cost forecast.
3. **Natural Gas Storage**

FPL currently has under contract 4.0 billion cubic feet (Bcf) of firm natural gas storage capacity at the Bay Gas storage facility in Alabama. The contract is set to expire March 31, 2021, but will automatically renew for up to four more successive one-year terms unless otherwise terminated by either party on or before December 31 of 2020. FPL has predominately utilized natural gas storage to help mitigate gas supply problems caused by severe weather and/or infrastructure problems. To diversify FPL’s natural gas storage portfolio, FPL entered into a storage contract with SG Resources Mississippi, L.L.C. (Southern Pines Storage) for 1 Bcf of storage capacity. The current contract with Southern Pines Storage is set to expire March 31, 2022. This storage facility is located in Mississippi and is connected to numerous pipelines including FGT, Southeast Supply Header, and Transco. Gulf currently holds total storage capacity of 2.45 Bcf across three facilities: Bay Gas (1.1 Bcf), Leaf River (0.85 Bcf), and Petal (0.50 Bcf). This storage capacity is utilized for Plant Smith, Plant Crist, and Gulf’s SENA (Shell) PPA.

Over the past several years, FPL has acquired upstream transportation capacity on several pipelines to help mitigate the risk of off-shore supply problems caused by severe weather in the Gulf of Mexico. While this transportation capacity has reduced FPL’s off-shore exposure, a portion of FPL’s supply portfolio remains tied to off-shore natural gas sources. Therefore, natural gas storage remains an important tool to help mitigate the risk of supply disruptions.

As FPL’s reliance on natural gas has increased, its ability to manage the daily “swings” that can occur on its system due to weather and unit availability changes has become more challenging, particularly from oversupply situations. Natural gas storage is a valuable tool to help manage the daily balancing of supply and demand. From a balancing perspective, injection and withdrawal rights associated with gas storage have become an increasingly important part of the evaluation of overall gas storage requirements.

As the integrated utility system grows to meet customer needs, it must maintain adequate gas storage capacity to continue to help mitigate supply and/or infrastructure problems and to provide the ability to manage its supply and demand on a daily basis. The gas storage portfolio is continually evaluated and subscription for additional gas storage capacity is possible if needed to help increase reliability, provide the necessary flexibility to respond to demand changes, and diversify the overall portfolio.
4. **Securing Additional Natural Gas:**

Significant reliance upon natural gas to produce electricity for FPL’s customers is projected to continue over the long-term due to FPL’s growing load. The addition of highly fuel-efficient CC units at Cape Canaveral, Riviera Beach, Port Everglades, and Okeechobee, plus the additional CC capacity at the Dania Beach site that will come in-service in 2022, will reduce the growth in natural gas use from what it otherwise might have been due to the high fuel-efficiency levels of these new CC units. In addition, as discussed above, FPL currently plans to add significantly more solar PV facilities that utilize no fossil fuel.

FPL has historically purchased the gas transportation capacity required for new natural gas supply from two existing natural gas pipeline companies: FGT and Gulfstream. In mid-2017, a third new pipeline system, consisting of the Sabal Trail and Florida Southeast Connection pipelines, went into operation. This new pipeline system is now providing fuel for FPL’s Riviera and Martin plants. The new pipeline system also provides the primary fuel for the recently added Okeechobee CC unit. The new pipeline system will also allow needed support for gas-fueled FPL generation facilities in several counties.

Southern Company Services (SCS) is currently managing the fuel supply for the Gulf power plants. Gulf is working to transition some of these fuel management activities by the end of 2021, but nothing has been transitioned to-date. Gulf is currently working with SCS to determine the appropriate fuel plans for the increased gas requirements at Plants Crist and Smith.

5. **Nuclear Fuel Cost Forecast**

This section discusses the various steps needed to fabricate nuclear fuel for delivery to nuclear power plants, the method used to forecast the price for each step, and other comments regarding FPL’s nuclear fuel cost forecast.

a) **Steps Required for Nuclear Fuel to be delivered to FPL’s Plants**

Four separate steps are required before nuclear fuel can be used in a commercial nuclear power reactor. These steps are summarized below.

(1) **Mining:** Uranium is produced in many countries such as Canada, Australia, Kazakhstan, and the United States. During the first step, uranium is mined from the ground using techniques such as open pit mining, underground mining, in-situ leaching operations, or production as a by-product from other mining operations, such as gold,
copper, or phosphate rocks. The product from this first step is the raw uranium delivered as an oxide, U3O8 (sometimes referred to as yellowcake).

(2) **Conversion:** During the second step, the U3O8 is chemically converted into UF6 which, when heated, changes into a gaseous state. This second step further removes any chemical impurities and serves as preparation for the third step, which requires uranium to be in a gaseous state.

(3) **Enrichment:** Natural uranium contains 0.711% of uranium at an atomic mass of 235 (U-235) and 99.289% of uranium at an atomic mass of 238 (U-238). FPL’s nuclear reactors use uranium with a higher percentage of up to almost five percent (5%) of U-235 atoms. Because natural uranium does not contain a sufficient amount of U-235, the third step increases the percentage amount of U-235 from 0.711% to a level specified when designing the reactor core (typically in a range from approximately 2.0% to as high as 4.95%). The output of this enrichment process is enriched uranium in the form of UF6.

(4) **Fabrication:** During the last step, fuel fabrication, the enriched UF6 is changed to a UO2 powder, pressed into pellets, and fed into tubes, which are sealed and bundled together into fuel assemblies. These fuel assemblies are then delivered to the plant site for insertion in a reactor.

Like other utilities, FPL has purchased raw uranium and the other components of the nuclear fuel cycle separately from numerous suppliers from different countries.

b) **Price Forecasts for Each Step**

(1) **Mining:** The impact of the earthquake and tsunami that struck the Fukushima nuclear complex in Japan in March 2011 is still being felt in the uranium market because the majority of the Japanese nuclear reactors are still not operating. As a result, current demand has remained declined and several of the production facilities have either closed or announced delays. Factors of importance are:

- Some of the uranium inventory from the U.S. Department of Energy (DOE) is finding its way into the market periodically to fund cleanup of certain Department of Energy facilities.
- Although only two new nuclear units are scheduled to start production in the U.S. during the next 2 to 3 years, other countries, more specifically China, have
Florida Power & Light Company and Gulf Power Company

announced an increase in construction of new units which may cause uranium prices to trend up in the near future.

Over a 10-year horizon, FPL expects the market to be more consistent with market fundamentals. The supply picture is more stable, with laws enacted to resolve the import of Russian-enriched uranium, by allowing some imports of Russian-enriched uranium to meet about 20-25% of needs for currently operating units, but with no restriction on the first core for new units and no restrictions after 2020 (an extension of these restrictions is currently under review). New and current uranium production facilities are decreasing capacity due to continued low prices and demands. Actual demand tends to grow over time because of the long lead time to build nuclear units. However, FPL cannot discount the possibility of future periodic sharp increases in prices, but believes such occurrences will likely be temporary in nature.

(2) Conversion: The conversion market is also in a state of flux due to the Fukushima events. Planned production is currently forecasted to be insufficient to meet a higher demand scenario, but it is projected to be sufficient to meet most reference case scenarios. As with additional raw uranium production, supply will expand beyond the current level if more firm commitments are made. FPL expects long-term price stability for conversion services to support world demand.

(3) Enrichment: Since the Fukushima events in March 2011, the near-term price of enrichment services has declined. However, plans for construction of several new facilities that were expected to come on-line after 2011 have been delayed and/or cancelled. Also, some of the existing high operating cost diffusion plants have shut down. As with supply for the other steps of the nuclear fuel cycle, expansion of future capacity is feasible within the lead time for constructing new nuclear units and any other projected increase in demand. Meanwhile, world supply and demand will continue to be balanced such that FPL expects adequate supply of enrichment services. The current supply/demand profile will likely result in the price of enrichment services remaining stable for the next few years, then starting to increase.

(4) Fabrication: Because the nuclear fuel fabrication process is highly regulated by the Nuclear Regulatory Commission (NRC), not all production facilities can qualify as suppliers to nuclear reactors in the U.S. Although world supply and demand is expected to show significant excess capacity for the foreseeable future, the gap is not as wide for
U.S. supply and demand. The supply for the U.S. market is expected to be sufficient to meet U.S. demand for the foreseeable future.

c) Other Comments Regarding FPL’s Nuclear Fuel Cost Forecast

FPL’s nuclear fuel price forecasts are the result of FPL’s analysis based on inputs from various nuclear fuel market expert reports and studies. There is adequate projected supply, including planned and prospective mine expansions, to meet FPL demands, including operation of the Turkey Point nuclear units through the recently approved second life extension through the early 2050s.
### Schedule 5: Actual Fuel Requirements

<table>
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<tr>
<th>Fuel Requirements</th>
<th>Units</th>
<th>Actual 1/</th>
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<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FPL</td>
<td>Gulf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Nuclear</td>
<td>Trillion BTU</td>
<td>309</td>
<td>303</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>(2) Coal</td>
<td>1,000 TON</td>
<td>1,691</td>
<td>1,684</td>
<td>2,935</td>
<td>2,687</td>
<td></td>
</tr>
<tr>
<td>(3) Residual (FO6) - Total</td>
<td>1,000 BBL</td>
<td>440</td>
<td>187</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>(4) Steam</td>
<td>1,000 BBL</td>
<td>440</td>
<td>187</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>(5) Distillate (FO2) - Total</td>
<td>1,000 BBL</td>
<td>187</td>
<td>203</td>
<td>30</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>(6) Steam</td>
<td>1,000 BBL</td>
<td>4</td>
<td>1</td>
<td>27</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>(7) CC</td>
<td>1,000 BBL</td>
<td>94</td>
<td>191</td>
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<td></td>
</tr>
<tr>
<td>(8) CT</td>
<td>1,000 BBL</td>
<td>89</td>
<td>11</td>
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</tr>
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<td>(9) Natural Gas - Total</td>
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<td>665,984</td>
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<tr>
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<tr>
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<td>56,948</td>
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<tr>
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<tr>
<td>(13) Other 2/</td>
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<td>0</td>
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1/ Source: A Schedules.
2/ Perdido Units’ landfill gas burn included in Other

Note: Solar contributions are provided on Schedules 6.1 and 6.2.
### Fuel Requirements

<table>
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<th>2020</th>
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<th>2024</th>
<th>2025</th>
<th>2026</th>
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<th>2028</th>
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<td></td>
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<td>178</td>
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<td>(3) Residual (FO6) - Total</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>(4) Steam</td>
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<tr>
<td>(5) Distillate (FO2) - Total</td>
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<td>3</td>
<td>5</td>
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<td>10</td>
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<td>24</td>
<td>9</td>
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<td>16</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(7) CC</td>
<td>1,000 BBL</td>
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<td>2</td>
<td>0</td>
<td>0</td>
<td>33</td>
<td>3</td>
<td>11</td>
<td>19</td>
<td>2</td>
<td>9</td>
<td>9</td>
<td>5</td>
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<tr>
<td>(8) CT</td>
<td>1,000 BBL</td>
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<td>3</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>13</td>
<td>11</td>
<td>11</td>
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<tr>
<td>(9) Natural Gas - Total</td>
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<td>575,238</td>
<td>28,848</td>
<td>33,608</td>
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<td>631,009</td>
<td>637,355</td>
<td>625,116</td>
<td>615,165</td>
<td>604,104</td>
<td>591,178</td>
<td>583,767</td>
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<tr>
<td>(10) Steam</td>
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<td>2,126</td>
<td>1,522</td>
<td>5,088</td>
<td>10,121</td>
<td>4,055</td>
<td>8,097</td>
<td>6,768</td>
<td>6,613</td>
<td>5,930</td>
<td>5,183</td>
<td>3,491</td>
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<td>(11) CC</td>
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<td>23,460</td>
<td>610,518</td>
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<td>614,965</td>
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<td>598,260</td>
<td>585,060</td>
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<td>20</td>
<td>27</td>
<td>3,098</td>
<td>2,937</td>
<td>2,329</td>
<td>3,538</td>
<td>1,871</td>
<td>2,660</td>
<td>2,627</td>
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<td>245</td>
<td>245</td>
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<td>245</td>
<td>256</td>
</tr>
</tbody>
</table>

1/ Source: A Schedules.
2/ Perdido Units’ landfill gas burn included in Other

Note: Solar contributions are provided on Schedules 6.1 and 6.2.
<table>
<thead>
<tr>
<th>Energy Sources</th>
<th>Units</th>
<th>2018</th>
<th>2019</th>
<th>2018</th>
<th>2019</th>
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<td></td>
<td></td>
<td>FPL</td>
<td>Gulf</td>
<td>FPL</td>
<td>Gulf</td>
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<td>GWH</td>
<td>0</td>
<td>0</td>
<td>(3,095)</td>
<td>(3,556)</td>
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<tr>
<td>(2) Nuclear</td>
<td>GWH</td>
<td>28,176</td>
<td>27,791</td>
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<tr>
<td>(3) Coal</td>
<td>GWH</td>
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<td>2,488</td>
<td>5,526</td>
<td>4,125</td>
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<tr>
<td>(4) Residual(FO6) -Total</td>
<td>GWH</td>
<td>248</td>
<td>223.5</td>
<td>0</td>
<td>0</td>
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<tr>
<td>(5) Steam</td>
<td>GWH</td>
<td>248</td>
<td>224</td>
<td>0</td>
<td>0</td>
</tr>
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<td>(6) Distillate(FO2) -Total</td>
<td>GWH</td>
<td>129</td>
<td>223.5</td>
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<td>(7) Steam</td>
<td>GWH</td>
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<td>(8) CC</td>
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<td>0</td>
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<tr>
<td>(9) CT</td>
<td>GWH</td>
<td>49</td>
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<td>(10) Natural Gas -Total</td>
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<td>93,373</td>
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<td>(12) CC</td>
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<td>3,913</td>
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<td>(13) CC PPAs - Gas</td>
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<td>0</td>
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<td>4,833</td>
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<td>GWH</td>
<td>456</td>
<td>630</td>
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<td>2,396</td>
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<td>232</td>
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<tr>
<td>(16) PV</td>
<td>GWH</td>
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<td>2,368</td>
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<tr>
<td>(17) Solar Together</td>
<td>GWH</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(18) Solar Thermal</td>
<td>GWH</td>
<td>51</td>
<td>28</td>
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<td>0</td>
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<tr>
<td>(19) Solar PPAs</td>
<td>GWH</td>
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<td>0</td>
<td>227</td>
<td>232</td>
</tr>
<tr>
<td>(20) Wind PPAs</td>
<td>GWH</td>
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<td>0</td>
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<td>1,031</td>
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<tr>
<td>(21) Other</td>
<td>GWH</td>
<td>(1,793)</td>
<td>(1,328)</td>
<td>218</td>
<td>1,101</td>
</tr>
</tbody>
</table>

**Net Energy For Load**

| GWH       | 122,447 | 125,168 | 12,057 | 11,742 |

1/ Sources: Actuals for FPL and Gulf: A Schedules and Actual Data for Next Generation Solar Centers Report. Forecast for Gulf 2020 and 2021: Projections from Southern Company
2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.
3/ Represents output from FPL’s PV and solar thermal facilities.
4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL’s SolarTogether (ST) program. At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant’s allocation of the total energy produced will be retired on the participant’s behalf.
5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.
6/ Net Energy For Load values for the years 2020 - 2029 are also shown in Col. (19) on Schedule 2.3.
### Schedule 6.2 Actual

**Energy Sources % by Fuel Type**

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Units</th>
<th>2018 FPL</th>
<th>2019 FPL</th>
<th>2018 Gulf</th>
<th>2019 Gulf</th>
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<tr>
<td>(1) Annual Energy Interchange</td>
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<td>0.0</td>
<td>0.0</td>
<td>(25.7)</td>
<td>(30.3)</td>
</tr>
<tr>
<td>(2) Nuclear</td>
<td>%</td>
<td>23.0</td>
<td>22.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(3) Coal</td>
<td>%</td>
<td>2.1</td>
<td>2.0</td>
<td>45.8</td>
<td>35.1</td>
</tr>
<tr>
<td>(4) Residual (FO6) - Total</td>
<td>%</td>
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<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(5) Steam</td>
<td>%</td>
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<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(6) Distillate (FO2) - Total</td>
<td>%</td>
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<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(7) Steam</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(8) CC</td>
<td>%</td>
<td>0.1</td>
<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(9) CT</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(10) Natural Gas - Total</td>
<td>%</td>
<td>74.5</td>
<td>74.6</td>
<td>67.6</td>
<td>75.0</td>
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<tr>
<td>(11) Steam</td>
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<td>0.2</td>
<td>0.5</td>
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<tr>
<td>(12) CC</td>
<td>%</td>
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<td>72.1</td>
<td>32.6</td>
<td>33.3</td>
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<td>34.1</td>
<td>41.2</td>
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<tr>
<td>(14) CT</td>
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<td>0.6</td>
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<tr>
<td>(15) Solar 3</td>
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<td>1.9</td>
<td>1.9</td>
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<tr>
<td>(16) PV</td>
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<td>1.9</td>
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<tr>
<td>(17) Solar Together</td>
<td>%</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(18) Solar Thermal</td>
<td>%</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
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<td>(19) Solar PPAs</td>
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<td>8.8</td>
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<tr>
<td>(21) Other</td>
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<td>(1.5)</td>
<td>(1.1)</td>
<td>1.8</td>
<td>9.4</td>
</tr>
</tbody>
</table>

1/ Sources: Actuals for FPL and Gulf: A Schedules and Actual Data for Next Generation Solar Centers Report. Forecast for Gulf 2020 and 2021: Projections from Southern Company

2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.

3/ Represents output from FPL’s PV and solar thermal facilities.

4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL’s SolarTogether (ST) program. At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant’s allocation of the total energy produced will be retired on the participant’s behalf.

5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.
## Schedule 6.1 Forecasted Energy Sources

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<th>Energy Sources</th>
<th>Units</th>
<th>2020 PFL</th>
<th>2021 PFL</th>
<th>2022 PFL</th>
<th>2023 PFL</th>
<th>2024 PFL</th>
<th>2025 PFL</th>
<th>2026 PFL</th>
<th>2027 PFL</th>
<th>2028 PFL</th>
<th>2029 PFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Annual Energy Interchange</td>
<td>GWH</td>
<td>0</td>
<td>0</td>
<td>(4,576)</td>
<td>(4,538)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(2) Nuclear</td>
<td>GWH</td>
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<td>28,395</td>
<td>0</td>
<td>0</td>
<td>28,976</td>
<td>28,319</td>
<td>28,556</td>
<td>29,037</td>
<td>28,598</td>
<td>29,110</td>
</tr>
<tr>
<td>(3) Coal</td>
<td>GWH</td>
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<td>1,582</td>
<td>2,793</td>
<td>1,906</td>
<td>28,978</td>
<td>28,319</td>
<td>28,556</td>
<td>29,037</td>
<td>28,598</td>
<td>29,110</td>
</tr>
<tr>
<td>(4) Residual(FO6)-Total</td>
<td>GWH</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(5) Steam</td>
<td>GWH</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(6) Distillate(FO2)-Total</td>
<td>GWH</td>
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<td>3</td>
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<td>0</td>
<td>29</td>
<td>3</td>
<td>10</td>
<td>19</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>(7) Steam</td>
<td>GWH</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(8) CC</td>
<td>GWH</td>
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<td>0</td>
<td>0</td>
<td>26</td>
<td>2</td>
<td>8</td>
<td>15</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>(9) CT</td>
<td>GWH</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>(10) Natural Gas -Total</td>
<td>GWH</td>
<td>88,099</td>
<td>85,382</td>
<td>11,876</td>
<td>12,660</td>
<td>94,603</td>
<td>95,049</td>
<td>95,067</td>
<td>93,254</td>
<td>91,945</td>
<td>90,245</td>
</tr>
<tr>
<td>(11) Steam</td>
<td>GWH</td>
<td>208</td>
<td>148</td>
<td>1,365</td>
<td>2,317</td>
<td>365</td>
<td>738</td>
<td>608</td>
<td>604</td>
<td>536</td>
<td>475</td>
</tr>
<tr>
<td>(12) CC</td>
<td>GWH</td>
<td>87,532</td>
<td>84,891</td>
<td>4,789</td>
<td>4,744</td>
<td>91,268</td>
<td>93,066</td>
<td>94,237</td>
<td>92,314</td>
<td>91,233</td>
<td>89,519</td>
</tr>
<tr>
<td>(13) CC PPAs - Gas</td>
<td>GWH</td>
<td>0</td>
<td>0</td>
<td>5,655</td>
<td>5,532</td>
<td>2,671</td>
<td>933</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(14) CT</td>
<td>GWH</td>
<td>360</td>
<td>343</td>
<td>67</td>
<td>67</td>
<td>300</td>
<td>281</td>
<td>222</td>
<td>337</td>
<td>176</td>
<td>251</td>
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<tr>
<td>(15) Solar</td>
<td>GWH</td>
<td>4,366</td>
<td>6,679</td>
<td>416</td>
<td>413</td>
<td>8,567</td>
<td>9,483</td>
<td>10,402</td>
<td>12,075</td>
<td>14,805</td>
<td>17,528</td>
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<tr>
<td>(16) PV</td>
<td>GWH</td>
<td>3,200</td>
<td>3,423</td>
<td>191</td>
<td>190</td>
<td>4,831</td>
<td>5,738</td>
<td>6,659</td>
<td>8,352</td>
<td>11,093</td>
<td>13,826</td>
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<tr>
<td>(17) Solar Together</td>
<td>GWH</td>
<td>1,041</td>
<td>3,130</td>
<td>0</td>
<td>0</td>
<td>3,407</td>
<td>3,397</td>
<td>3,396</td>
<td>3,377</td>
<td>3,367</td>
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<tr>
<td>(18) Solar Thermal</td>
<td>GWH</td>
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<td>125</td>
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<td>0</td>
<td>125</td>
<td>125</td>
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<td>125</td>
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<td>125</td>
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<td>(19) Solar PPAs</td>
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<td>223</td>
<td>223</td>
<td>222</td>
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<td>221</td>
<td>219</td>
<td>219</td>
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<td>(20) Wind PPAs</td>
<td>GWH</td>
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<td>0</td>
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<td>1,031</td>
<td>1,031</td>
<td>1,031</td>
<td>1,033</td>
<td>1,031</td>
<td>1,031</td>
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<tr>
<td>(21) Other</td>
<td>GWH</td>
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<td>1,084</td>
<td>172</td>
<td>171</td>
<td>1,460</td>
<td>1,508</td>
<td>1,565</td>
<td>1,901</td>
<td>1,894</td>
<td>1,864</td>
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**Net Energy For Load**

<table>
<thead>
<tr>
<th>Units</th>
<th>2020 PFL</th>
<th>2021 PFL</th>
<th>2022 PFL</th>
<th>2023 PFL</th>
<th>2024 PFL</th>
<th>2025 PFL</th>
<th>2026 PFL</th>
<th>2027 PFL</th>
<th>2028 PFL</th>
<th>2029 PFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>GWH</td>
<td>123,073</td>
<td>123,134</td>
<td>11,715</td>
<td>11,643</td>
<td>134,800</td>
<td>135,600</td>
<td>138,761</td>
<td>137,540</td>
<td>138,541</td>
<td>139,474</td>
</tr>
</tbody>
</table>

---

1/ Sources: Actuals for FPL and Gulf: A Schedules and Actual Data for Next Generation Solar Centers Report. Forecast for Gulf 2020 and 2021: Projections from Southern Company

2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.

3/ Represents output from FPL's PV and solar thermal facilities.

4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL’s SolarTogether (ST) program. At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant’s allocation of the total energy produced will be retired on the participant’s behalf.

5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.

6/ Net Energy For Load values for the years 2020 - 2029 are also shown in Col. (19) on Schedule 2.3.
<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Units</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Annual Energy Interchange 2/</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>(39.1)</td>
<td>(39.0)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(2) Nuclear</td>
<td>%</td>
<td>22.9</td>
<td>23.1</td>
<td>0.0</td>
<td>0.0</td>
<td>21.5</td>
<td>20.9</td>
<td>20.9</td>
<td>21.1</td>
<td>20.6</td>
<td>20.4</td>
</tr>
<tr>
<td>(3) Coal</td>
<td>%</td>
<td>1.1</td>
<td>1.3</td>
<td>23.8</td>
<td>16.4</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>(4) Residual (FO6) - Total</td>
<td>%</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(5) Steam</td>
<td>%</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(6) Distillate (FO2) - Total</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(7) Steam</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(8) CC</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(9) CT</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td>(10) Natural Gas - Total</td>
<td>%</td>
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<td>69.3</td>
<td>101.7</td>
<td>108.8</td>
<td>70.2</td>
<td>70.1</td>
<td>69.5</td>
<td>67.8</td>
<td>66.4</td>
<td>64.7</td>
</tr>
<tr>
<td>(11) Steam</td>
<td>%</td>
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<td>0.1</td>
<td>12.0</td>
<td>20.0</td>
<td>0.3</td>
<td>0.5</td>
<td>0.4</td>
<td>0.4</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>(12) CC</td>
<td>%</td>
<td>71.1</td>
<td>68.9</td>
<td>40.9</td>
<td>40.7</td>
<td>67.7</td>
<td>68.7</td>
<td>68.9</td>
<td>67.1</td>
<td>65.9</td>
<td>64.2</td>
</tr>
<tr>
<td>(13) CC PPAs - Gas</td>
<td>%</td>
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<td>48.3</td>
<td>47.5</td>
<td>2.0</td>
<td>0.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>(14) CT</td>
<td>%</td>
<td>0.3</td>
<td>0.3</td>
<td>0.6</td>
<td>0.6</td>
<td>0.2</td>
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<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>(15) Solar 3/</td>
<td>%</td>
<td>3.5</td>
<td>5.4</td>
<td>3.6</td>
<td>3.5</td>
<td>6.4</td>
<td>7.0</td>
<td>7.6</td>
<td>8.8</td>
<td>10.7</td>
<td>12.6</td>
</tr>
<tr>
<td>(16) PV</td>
<td>%</td>
<td>2.6</td>
<td>2.8</td>
<td>1.6</td>
<td>1.6</td>
<td>3.6</td>
<td>4.2</td>
<td>4.9</td>
<td>6.1</td>
<td>8.0</td>
<td>9.9</td>
</tr>
<tr>
<td>(17) Solar Together 4/</td>
<td>%</td>
<td>0.8</td>
<td>2.5</td>
<td>0.0</td>
<td>0.0</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>(18) Solar Thermal</td>
<td>%</td>
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<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>(19) Solar PPAs</td>
<td>%</td>
<td>0.0</td>
<td>0.0</td>
<td>1.9</td>
<td>1.9</td>
<td>0.2</td>
<td>0.2</td>
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<tr>
<td>(20) Wind PPAs</td>
<td>%</td>
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<td>0.0</td>
<td>8.8</td>
<td>8.9</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>(21) Other 5/</td>
<td>%</td>
<td>0.8</td>
<td>0.9</td>
<td>1.5</td>
<td>1.5</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.4</td>
<td>1.4</td>
<td>1.3</td>
</tr>
</tbody>
</table>

---

1/ Sources: Actuals for FPL and Gulf: A Schedules and Actual Data for Next Generation Solar Centers Report. Forecast for Gulf 2020 and 2021: Projections from Southern Company
2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.
3/ Represents output from FPL’s PV and solar thermal facilities
4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL’s SolarTogether (ST) program.
At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant’s allocation of the total energy produced will be retired on the participant’s behalf.
5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.
## Schedule 7.1
Forecast of Capacity, Demand, and Scheduled Maintenance At Time Of Summer Peak

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>27,145</td>
<td>0</td>
<td>434</td>
<td>27,589</td>
<td>22,838</td>
<td>4,851</td>
<td>4,851</td>
<td>21.2</td>
<td>0</td>
<td>3,065</td>
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<tr>
<td>2021</td>
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<td>4</td>
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<td>22,887</td>
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<td>4,948</td>
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<td>3,116</td>
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<tr>
<td>2022</td>
<td>30,763</td>
<td>1,149</td>
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<td>31,915</td>
<td>25,317</td>
<td>6,599</td>
<td>6,599</td>
<td>26.1</td>
<td>0</td>
<td>4,695</td>
</tr>
<tr>
<td>2023</td>
<td>31,164</td>
<td>264</td>
<td>0</td>
<td>31,431</td>
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<td>5,829</td>
<td>22.8</td>
<td>0</td>
<td>3,867</td>
</tr>
<tr>
<td>2024</td>
<td>31,061</td>
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<td>25,927</td>
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<td>31,653</td>
<td>26,278</td>
<td>5,375</td>
<td>5,375</td>
<td>20.5</td>
<td>0</td>
<td>3,304</td>
</tr>
<tr>
<td>2026</td>
<td>31,892</td>
<td>263</td>
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<td>32,159</td>
<td>26,668</td>
<td>5,490</td>
<td>5,490</td>
<td>20.6</td>
<td>0</td>
<td>3,350</td>
</tr>
<tr>
<td>2027</td>
<td>32,230</td>
<td>263</td>
<td>0</td>
<td>32,493</td>
<td>27,001</td>
<td>5,492</td>
<td>5,492</td>
<td>20.3</td>
<td>0</td>
<td>3,350</td>
</tr>
<tr>
<td>2028</td>
<td>32,639</td>
<td>263</td>
<td>0</td>
<td>32,922</td>
<td>27,415</td>
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<td>0</td>
<td>3,310</td>
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<td>33,322</td>
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<td>5,602</td>
<td>20.0</td>
<td>0</td>
<td>3,390</td>
</tr>
</tbody>
</table>

Col. (2) represents peak capacity additions and changes projected to be in-service by June 1st of each year. These MW are generally considered to be available to meet Summer peak loads which are forecasted to occur during August of the year indicated.

Col. (6) = Col.(2) + Col.(3) - Col.(4) + Col.(5).

Col. (7) reflects the 2019 peak load forecasts without incremental energy efficiency after 9/2019 or cumulative load management.

Col. (8) represents cumulative load management capability, plus incremental energy efficiency and load management, from 9/2019-on, intended for use with the 2019 load forecasts.

Col. (10) = Col.(6) - Col.(9)

Col. (11) = Col.(10) / Col.(9)

Col. (12) indicates the capacity of units projected to be out-of-service for planned maintenance during the Summer peak period.

Col. (13) = Col.(10) - Col.(12)

Col. (14) = Col.(13) / Col.(9)

Col. (15) = Col.(6) - Col.(7) - Col.(12)

Col. (16) = Col.(15) / Col.(7)
### Schedule 7.2
#### Forecast of Capacity, Demand, and Scheduled Maintenance At Time Of Winter Peak

<table>
<thead>
<tr>
<th>Year</th>
<th>Firm Installed Capacity</th>
<th>Firm Capacity</th>
<th>Total Capacity</th>
<th>Winter Peak Demand</th>
<th>Margin Before Maintenance</th>
<th>Winter Reserve</th>
<th>Total Reserve</th>
<th>Generation Only Reserve</th>
<th>Margin After Maintenance</th>
<th>Winter Demand Margin After Maintenance</th>
<th>Total Generation Only Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MW</td>
<td>MW</td>
<td>MW</td>
<td>MW</td>
<td></td>
<td>MW</td>
<td>MW</td>
<td>MW</td>
<td>MW</td>
<td>MW</td>
<td>MW</td>
</tr>
<tr>
<td>2020</td>
<td>26,908</td>
<td>110</td>
<td>404</td>
<td>27,422</td>
<td>19,959</td>
<td>1,360</td>
<td>18,599</td>
<td>8,822</td>
<td>0</td>
<td>8,822</td>
<td>7,463</td>
</tr>
<tr>
<td>2021</td>
<td>26,989</td>
<td>110</td>
<td>0</td>
<td>27,103</td>
<td>20,250</td>
<td>1,387</td>
<td>18,863</td>
<td>8,239</td>
<td>0</td>
<td>8,239</td>
<td>6,853</td>
</tr>
</tbody>
</table>

**Col. (2) represents firm capacity additions and changes projected to be in-service by January 1st of each year. These MW are generally considered to be available to meet Winter peak loads which are forecasted to occur during January of the year indicated.**

**Col. (6) = Col. (2) + Col. (3) - Col. (4) + Col. (5).**

**Col. (7) reflects the 2019 peak load forecasts without incremental energy efficiency after 9/2019 or cumulative load management. The January 2020 load is an actual load value.**

**Col. (8) represents cumulative load management forecasts without incremental energy efficiency and load management, from 9/2019-on, intended for use with the 2019 load forecasts.**

**Col. (10) = Col. (6) - Col. (9)**

**Col. (11) = Col. (10) / Col. (9)**

**Col. (12) indicates the capacity of units projected to be out-of-service for planned maintenance during the Winter peak period.**

**Col. (13) = Col. (10) - Col. (12)**

**Col. (14) = Col. (13) / Col. (9)**

**Col. (15) = Col. (6) - Col. (7) - Col. (12)**

**Col. (16) = Col. (15) / Col. (7)**
### Schedule 8

Planned And Prospective Generating Facility Additions and Changes (1): FPL

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Unit</th>
<th>Location</th>
<th>Type</th>
<th>Net Capability (MW)</th>
<th>Fuel</th>
<th>Const. Mo./Yr.</th>
<th>Start Mo./Yr.</th>
<th>Gen. Max.</th>
<th>Fuel</th>
<th>Retire Start Mo./Yr.</th>
<th>Expected Retirement Mo./Yr.</th>
</tr>
</thead>
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**2022**

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<th>Gen. Max.</th>
<th>Fuel</th>
<th>Retire Start Mo./Yr.</th>
<th>Expected Retirement Mo./Yr.</th>
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**2023**

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<th>Retire Start Mo./Yr.</th>
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<tr>
<td>(1) Schedule 8 shows only planned and prospective changes to FPL and Gulf generating facilities and does not reflect changes to purchases. Changes to purchases are reflected on Tables E5.1-1, A4.3.1, A4.3.2, A8.3.1 and 8.3.2.</td>
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<td>(2) The Winter Total MW value consists of all generation additions and changes achieved by January. The Summer Total MW value consists of all generation additions and changes achieved by August.</td>
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<td>(3) Solar MW values reflect firm capacity only values, not nameplate ratings.</td>
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<td>(4) An annual 0.3% degradation for PV output is assumed for both FPL and Gulf Solar. Total degradation shown is for both FPL and Gulf.</td>
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### Schedule 8

**Planned And Prospective Generating Facility Additions And Changes (1): FPL**

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(1) Schedule 8 shows only planned and prospective changes to generating facilities and does not reflect changes to expiring purchases. Those changes are reflected on Tables ES-1, LA.3.1, LA.3.2, LB.3.1 and LB.3.2.

(2) The "Winter Total MW value" consists of all generation additions and changes achieved by January. The Summer Total MW value consists of all generation additions and changes achieved by June. All MW additions/changes occurring after August each year will be accounted for in reserve margin calculations in the following year. MW Difference in Changes/Additions Total due to rounding.

(3) Solar values reflect firm capacity only values, not nameplate ratings.

(4) An annual 0.3% degradation for PV output is assumed for both FPL and Gulf Solar. Total degradation shown is for both FPL and Gulf.
### Schedule 8
Planned And Prospective Generating Facility Additions And Changes (1): Gulf

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<th>Alt.</th>
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(1) Schedule 8 shows only planned and prospective changes to FPL and Gulf generating facilities and does not reflect changes to purchases. Changes to purchases are reflected on Tables ES-1, I.A.3.1, I.A.3.2, I.B.3.1 and I.B.3.2.

(2) The Winter Total MW value consists of all generation additions and changes achieved by January. The Summer Total MW value consists of all generation additions and changes achieved by August. All MW additions/changes occurring after August each year will be accounted for in reserve margin calculations in the following year. MW Difference in Changes/Additions Total are due to rounding.

(3) Solar MW values reflect firm capacity only values, not nameplate ratings and 0.3% degradation is assumed annually for PV output. Degradation for Gulf is captured on FPL’s schedule 8.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Hibiscus Solar Energy Center (Palm Beach County)

(2) Capacity
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)\(^1\) 41 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2019
   b. Commercial In-service date: 2020

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: 402 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): 26.2% (First Full Year Operation)
   Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   Base Operation 75F, 100%
   Average Net Incremental Heat Rate (ANlHR): Not applicable Btu/kWh
   Peak Operation 75F, 100%

(13) Projected Unit Financial Data *
   Book Life (Years): 30 years
   Total Installed Cost (2020 $/kW): 1,373
   Direct Construction Cost (2020 $/kW): 1,341
   AFUDC Amount (2020 $/kW): 32
   Escalation ($/kW): Accounted for in Direct Construction Cost
   Fixed O&M ($/kW-Yr.): (2020 $) 6.27 (First Full Year Operation)
   Variable O&M ($/MWH): (2020 $) 0.00
   K Factor: 0.98

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Okeechobee Solar Energy Center (Okeechobee County)

(2) Capacity
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)\(^1\) 41 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2019
   b. Commercial In-service date: 2020

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: 471 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): 27.1% (First Full Year Operation)
   Average Net Operating Heat Rate (ANOHR): Not applicable
   Base Operation 75F, 100%
   Average Net Incremental Heat Rate (ANIHR): Not applicable
   Peak Operation 75F, 100%

(13) Projected Unit Financial Data *
   Book Life (Years): 30 years
   Total Installed Cost (2020 $/kW): 1,339
   Direct Construction Cost (2020 $/kW): 1,298
   AFUDC Amount (2020 $/kW): 41
   Escalation ($/kW): Accounted for in Direct Construction Cost
   Fixed O&M ($/kW-Yr.): (2020 $) 6.41 (First Full Year Operation)
   Variable O&M ($/MWH): (2020 $) 0.00
   K Factor: 1.04

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Florida Power & Light Company and Gulf Power Company

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Southfork Solar Energy Center (Manatee County)

(2) Capacity
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)¹ 41 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2019
   b. Commercial In-service date: 2020

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: 548 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:

   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): 31.1% (First Full Year Operation)
   Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   Base Operation 75F,100%
   Average Net Incremental Heat Rate (ANHR): Not applicable Btu/kWh
   Peak Operation 75F,100%

(13) Projected Unit Financial Data *

   Book Life (Years): 30 years
   Total Installed Cost (2020 $/kW): 1,407
   Direct Construction Cost (2020 $/kW): 1,339
   AFUDC Amount (2020 $/kW): 68
   Escalation ($/kW): Accounted for in Direct Construction Cost
   Fixed O&M ($/kW-Yr.): (2020 $) 6.70 (First Full Year Operation)
   Variable O&M ($/MWH): (2020 $) 0.00
   K Factor: 1.03

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

¹ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Echo River Solar Energy Center (Suwannee County)

(2) **Capacity**
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)\(^1\) 41 MW (Approximately)
   c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2019
   b. Commercial In-service date: 2020

(5) **Fuel**
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 802 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
    Planned Outage Factor (POF): Not applicable
    Forced Outage Factor (FOF): Not applicable
    Equivalent Availability Factor (EAF): Not applicable
    Resulting Capacity Factor (%): 30.4% (First Full Year Operation)
    Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
    Base Operation 75F,100%
    Average Net Incremental Heat Rate (ANIHR): Not applicable Btu/kWh
    Peak Operation 75F,100%

(13) **Projected Unit Financial Data** *
    Book Life (Years): 30 years
    Total Installed Cost (2020 $/kW): 1,394
    Direct Construction Cost (2020$/kW): 1,330
    AFUDC Amount (2020 $/kW): 63
    Escalation ($/kW): Accounted for in Direct Construction Cost
    Fixed O&M ($/kW-Yr.): (2020 $) 7.06 (First Full Year Operation)
    Variable O&M ($/MWH): (2020 $) 0.00
    K Factor: 1.03

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
### Schedule 9

**Status Report and Specifications of Proposed Generating Facilities**

#### (1) Plant Name and Unit Number:
Lakeside Solar Energy Center (Okeechobee County)

#### (2) Capacity

<table>
<thead>
<tr>
<th>Sub-type</th>
<th>Capacity</th>
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<tbody>
<tr>
<td>Nameplate (AC)</td>
<td>74.5 MW</td>
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<tr>
<td>Summer Firm (AC)</td>
<td>39 MW (Approximately)</td>
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<tr>
<td>Winter Firm (AC)</td>
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</table>

#### (3) Technology Type:
Photovoltaic (PV)

#### (4) Anticipated Construction Timing

<table>
<thead>
<tr>
<th>Sub-type</th>
<th>Start Date</th>
<th>In-Service Date</th>
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<tr>
<td>Field construction</td>
<td>2019</td>
<td>2020</td>
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#### (5) Fuel

<table>
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<tr>
<th>Sub-type</th>
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</tr>
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<tbody>
<tr>
<td>Primary Fuel</td>
<td>Solar</td>
</tr>
<tr>
<td>Alternate Fuel</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

#### (6) Air Pollution and Control Strategy:
Not applicable

#### (7) Cooling Method:
Not applicable

#### (8) Total Site Area:
693 Acres

#### (9) Construction Status:
P (Planned Unit)

#### (10) Certification Status:
---

#### (11) Status with Federal Agencies:
---

#### (12) Projected Unit Performance Data:

<table>
<thead>
<tr>
<th>Performance Data</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned Outage Factor (POF)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Forced Outage Factor (FOF)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Equivalent Availability Factor (EAF)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Resulting Capacity Factor (%)</td>
<td>26.8% (First Full Year Operation)</td>
</tr>
<tr>
<td>Average Net Operating Heat Rate (ANOHR)</td>
<td>Not applicable Btu/kWh</td>
</tr>
<tr>
<td>Base Operation 75F,100%</td>
<td></td>
</tr>
<tr>
<td>Average Net Incremental Heat Rate (ANIHR)</td>
<td>Not applicable Btu/kWh</td>
</tr>
<tr>
<td>Peak Operation 75F,100%</td>
<td></td>
</tr>
</tbody>
</table>

#### (13) Projected Unit Financial Data *

<table>
<thead>
<tr>
<th>Financial Data</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book Life (Years)</td>
<td>30 years</td>
</tr>
<tr>
<td>Total Installed Cost (2020 $/kW)</td>
<td>1,205</td>
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<tr>
<td>Direct Construction Cost (2020 $/kW)</td>
<td>1,169</td>
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<tr>
<td>AFUDC Amount (2020 $/kW)</td>
<td>36</td>
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<tr>
<td>Escalation ($/kW):</td>
<td>Accounted for in Direct Construction Cost</td>
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<tr>
<td>Fixed O&amp;M ($/kW-Yr.):</td>
<td>6.57 (First Full Year Operation)</td>
</tr>
<tr>
<td>Variable O&amp;M ($/MWH):</td>
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<tr>
<td>K Factor</td>
<td>1.06</td>
</tr>
</tbody>
</table>

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

---

1/ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.

FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
### Schedule 9

**Status Report and Specifications of Proposed Generating Facilities**

1. **Plant Name and Unit Number:** Trailside Solar Energy Center (St. Johns County)

2. **Capacity**
   - **Nameplate (AC):** 74.5 MW
   - **Summer Firm (AC):** 39 MW (Approximately)
   - **Winter Firm (AC):** -

3. **Technology Type:** Photovoltaic (PV)

4. **Anticipated Construction Timing**
   - **Field construction start-date:** 2019
   - **Commercial In-service date:** 2020

5. **Fuel**
   - **Primary Fuel:** Solar
   - **Alternate Fuel:** Not applicable

6. **Air Pollution and Control Strategy:** Not applicable

7. **Cooling Method:** Not applicable

8. **Total Site Area:** 846 Acres

9. **Construction Status:** P (Planned Unit)

10. **Certification Status:** ---

11. **Status with Federal Agencies:** ---

12. **Projected Unit Performance Data:**
   - **Planned Outage Factor (POF):** Not applicable
   - **Forced Outage Factor (FOF):** Not applicable
   - **Equivalent Availability Factor (EAF):** Not applicable
   - **Resulting Capacity Factor (%):** 26.8% (First Full Year Operation)
   - **Average Net Operating Heat Rate (ANOHR):** Not applicable Btu/kWh 
   - **Base Operation 75F, 100%**
   - **Average Net Incremental Heat Rate (ANIHR):** Not applicable Btu/kWh
   - **Peak Operation 75F, 100%**

13. **Projected Unit Financial Data** *
   - **Book Life (Years):** 30 years
   - **Total Installed Cost (2020 $/kW):** 1,245
   - **Direct Construction Cost (2020 $/kW):** 1,207
   - **AFUDC Amount (2020 $/kW):** 38
   - **Escalation ($/kW):** Accounted for in Direct Construction Cost
   - **Fixed O&M ($/kW-Yr.):** (2020 $) 7.10 (First Full Year Operation)
   - **Variable O&M ($/MWH):** (2020 $) 0.00
   - **K Factor:** 1.09

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
### Schedule 9
**Status Report and Specifications of Proposed Generating Facilities**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(1)</strong> Plant Name and Unit Number:</td>
<td>Union Springs Solar Energy Center (Union County)</td>
</tr>
<tr>
<td><strong>(2)</strong> Capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Nameplate (AC)</td>
<td>74.5 MW</td>
</tr>
<tr>
<td>b. Summer Firm (AC)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>39 MW (Approximately)</td>
</tr>
<tr>
<td>c. Winter Firm (AC)</td>
<td>-</td>
</tr>
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<td><strong>(3)</strong> Technology Type:</td>
<td>Photovoltaic (PV)</td>
</tr>
<tr>
<td><strong>(4)</strong> Anticipated Construction Timing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Field construction start-date:</td>
<td>2019</td>
</tr>
<tr>
<td>b. Commercial In-service date:</td>
<td>2020</td>
</tr>
<tr>
<td><strong>(5)</strong> Fuel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Primary Fuel</td>
<td>Solar</td>
</tr>
<tr>
<td>b. Alternate Fuel</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>(6)</strong> Air Pollution and Control Strategy:</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>(7)</strong> Cooling Method:</td>
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</tr>
<tr>
<td><strong>(8)</strong> Total Site Area:</td>
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<tr>
<td><strong>(9)</strong> Construction Status:</td>
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<tr>
<td><strong>(10)</strong> Certification Status:</td>
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</tr>
<tr>
<td><strong>(11)</strong> Status with Federal Agencies:</td>
<td>---</td>
</tr>
<tr>
<td><strong>(12)</strong> Projected Unit Performance Data:</td>
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</tr>
<tr>
<td></td>
<td></td>
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<td>Planned Outage Factor (POF):</td>
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</tr>
<tr>
<td>Forced Outage Factor (FOF):</td>
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<tr>
<td>Equivalent Availability Factor (EAF):</td>
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<tr>
<td>Resulting Capacity Factor (%):</td>
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</tr>
<tr>
<td>Average Net Operating Heat Rate (ANOHR):</td>
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</tr>
<tr>
<td>Base Operation 75F,100%</td>
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<tr>
<td>Average Net Incremental Heat Rate (ANIHR):</td>
<td>Not applicable Btu/kWh</td>
</tr>
<tr>
<td>Peak Operation 75F,100%</td>
<td></td>
</tr>
<tr>
<td><strong>(13)</strong> Projected Unit Financial Data *</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Book Life (Years):</td>
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<td>Total Installed Cost (2020 $/kW):</td>
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<td>Direct Construction Cost (2020 $/kW):</td>
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<td>AFUDC Amount (2020 $/kW):</td>
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<tr>
<td>Escalation ($/kW):</td>
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<tr>
<td>Fixed O&amp;M ($/kW-Yr.): (2020 $)</td>
<td>7.10 (First Full Year Operation)</td>
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<td>Variable O&amp;M ($/MWH): (2020 $)</td>
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<tr>
<td>K Factor:</td>
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</tr>
</tbody>
</table>

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

<sup>1</sup> The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
## Schedule 9
### Status Report and Specifications of Proposed Generating Facilities

1. **Plant Name and Unit Number:** Magnolia Springs Solar Energy Center (Clay County)

2. **Capacity**
   - a. Nameplate (AC): 74.5 MW
   - b. Summer Firm (AC): 39 MW (Approximately)
   - c. Winter Firm (AC): -

3. **Technology Type:** Photovoltaic (PV)

4. **Anticipated Construction Timing**
   - a. Field construction start-date: 2019
   - b. Commercial In-service date: 2020

5. **Fuel**
   - a. Primary Fuel: Solar
   - b. Alternate Fuel: Not applicable

6. **Air Pollution and Control Strategy:** Not applicable

7. **Cooling Method:** Not applicable

8. **Total Site Area:** 850 Acres

9. **Construction Status:** P (Planned Unit)

10. **Certification Status:** ---

11. **Status with Federal Agencies:** ---

12. **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.5% (First Full Year Operation)
   - Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   - Base Operation 75F, 100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable Btu/kWh
   - Peak Operation 75F, 100%

13. **Projected Unit Financial Data * **
   - Book Life (Years): 30 years
   - Total Installed Cost (2020 $/kW): 1,197
   - Direct Construction Cost (2020 $/kW): 1,160
   - AFUDC Amount (2020 $/kW): 36
   - Escalation ($/kw): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2020 $) 6.92 (First Full Year Operation)
   - Variable O&M ($/MWH): (2020 $) 0.00
   - K Factor: 1.07

   * $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

---

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.

FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Egret Solar Energy Center (Baker County)

(2) **Capacity**
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)\(^1\) 39 MW (Approximately)
   c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2019
   b. Commercial In-service date: 2020

(5) **Fuel**
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 676 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.4% (First Full Year Operation)
   - Average Net Operating Heat Rate (ANOH): Not applicable Btu/kWh
   - Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANHR): Not applicable Btu/kWh
   - Peak Operation 75F,100%

(13) **Projected Unit Financial Data** *
   - Book Life (Years): 30 years
   - Total Installed Cost (2020 $/kW): 1,151
   - Direct Construction Cost (2020 $/kW): 1,114
   - AFUDC Amount (2020 $/kW): 37
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2020 $) 6.92 (First Full Year Operation)
   - Variable O&M ($/MWH): (2020 $) 0.00
   - K Factor: 1.08

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Nassau Solar Energy Center (Nassau County)

(2) Capacity
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)\(^1\) 39 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2019
   b. Commercial In-service date: 2020

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: 928 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): 26.2% (First Full Year Operation)
   Average Net Operating Heat Rate (ANOHR): Not applicable
   Base Operation 75°F,100%
   Average Net Incremental Heat Rate (ANIHR): Not applicable
   Peak Operation 75°F,100%

(13) Projected Unit Financial Data *
   Book Life (Years): 30 years
   Total Installed Cost (2020 $/kW): 1,300
   Direct Construction Cost (2020 $/kW): 1,261
   AFUDC Amount (2020 $/kW): 38
   Escalation ($/kW): Accounted for in Direct Construction Cost
   Fixed O&M ($/kW-Yr.): (2020 $) 7.10 (First Full Year Operation)
   Variable O&M ($/MWH): (2020 $) 0.00
   K Factor: 1.07

   * $/kW values are based on nameplate capacity.

   Note: Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
### Schedule 9

**Status Report and Specifications of Proposed Generating Facilities**

1. **Plant Name and Unit Number:** Pelican Solar Energy Center (St. Lucie County)

2. **Capacity**
   - a. Nameplate (AC) 74.5 MW
   - b. Summer Firm (AC)\(^1\) 39 MW (Approximately)
   - c. Winter Firm (AC) -

3. **Technology Type:** Photovoltaic (PV)

4. **Anticipated Construction Timing**
   - a. Field construction start-date: 2020
   - b. Commercial In-service date: 2021

5. **Fuel**
   - a. Primary Fuel: Solar
   - b. Alternate Fuel: Not applicable

6. **Air Pollution and Control Strategy:** Not applicable

7. **Cooling Method:** Not applicable

8. **Total Site Area:** 565 Acres

9. **Construction Status:** P (Planned Unit)

10. **Certification Status:** ---

11. **Status with Federal Agencies:** ---

12. **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.7% (First Full Year Operation)
   - Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   - Base Operation 75F,100%.
   - Average Net Incremental Heat Rate (ANlHR): Not applicable Btu/kWh
   - Peak Operation 75F,100%.

13. **Projected Unit Financial Data *\(^\)\)**
   - Book Life (Years): 30 years
   - Total Installed Cost (2021 $/kW): 1,265
   - Direct Construction Cost (2021 $/kW): 1,227
   - AFUDC Amount (2021 $/kW): 38
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2021 $) 6.57
   - Variable O&M ($/MWH): (2021 $) 0.00
   - K Factor: 1.06

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

\(^1\)/ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Palm Bay Solar Energy Center (Brevard County)

(2) Capacity
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC) \(^{1/}\) 39 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: 486 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): 26.8% (First Full Year Operation)
   Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   Base Operation 75F,100%
   Average Net Incremental Heat Rate (ANINHR): Not applicable Btu/kWh
   Peak Operation 75F,100%

(13) Projected Unit Financial Data *
   Book Life (Years): 30 years
   Total Installed Cost (2021 $/kW): 1,229
   Direct Construction Cost (2021 $/kW): 1,191
   AFUDC Amount (2021 $/kW): 38
   Escalation ($/kW): Accounted for in Direct Construction Cost
   Fixed O&M ($/kW-Yr.): (2021 $) 6.74 (First Full Year Operation)
   Variable O&M ($/MWH): (2021 $) 0.00
   K Factor: 1.09

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

\(^{1/}\) The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Schedule 9</strong></td>
<td><strong>Status Report and Specifications of Proposed Generating Facilities</strong></td>
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<tr>
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<td>(1) Plant Name and Unit Number:</td>
<td>Discovery Solar Energy Center (Brevard County)</td>
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<td>(2) Capacity</td>
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<td>a. Nameplate (AC)</td>
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<td>b. Summer Firm (AC)</td>
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<td>c. Winter Firm (AC)</td>
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<td>(3) Technology Type:</td>
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<td>(4) Anticipated Construction Timing</td>
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<td>a. Field construction start-date:</td>
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<td>b. Commercial In-service date:</td>
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<td>(5) Fuel</td>
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<td>a. Primary Fuel</td>
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<td>b. Alternate Fuel</td>
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<td>(8) Total Site Area:</td>
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<td>(11) Status with Federal Agencies:</td>
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<td>(12) Projected Unit Performance Data:</td>
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<td>Planned Outage Factor (POF):</td>
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<td>Forced Outage Factor (FOF):</td>
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<td>Resulting Capacity Factor (%):</td>
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<td>Base Operation 75F, 100%</td>
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<td>Peak Operation 75F, 100%</td>
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<td>(13) Projected Unit Financial Data *</td>
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<td>* $/kW values are based on nameplate capacity.</td>
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<tr>
<td>Note: Total installed cost includes transmission interconnection and AFUDC.</td>
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</tbody>
</table>

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Orange Blossom Solar Energy Center (Indian River County)

(2) **Capacity**
   a. Nameplate (AC)  74.5 MW
   b. Summer Firm (AC)\(^{1}\)  39 MW (Approximately)
   c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) **Fuel**
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 607 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.7% (First Full Year Operation)
   - Average Net Operating Heat Rate (NOHR): Not applicable Btu/kWh
   - Base Operation 75F, 100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable Btu/kWh
   - Peak Operation 75F, 100%

(13) **Projected Unit Financial Data** *
   - Book Life (Years): 30 years
   - Total Installed Cost (2021 $/kW): 1,217
   - Direct Construction Cost (2021 $/kW): 1,179
   - AFUDC Amount (2021 $/kW): 38
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2021 $) 6.74 (First Full Year Operation)
   - Variable O&M ($/MWH): (2021 $) 0.00
   - K Factor: 1.09

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

\(^{1}\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its ongoing resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Sabal Palm Solar Energy Center (Palm Beach County)

(2) **Capacity**
   a. Nameplate (AC)  74.5 MW
   b. Summer Firm (AC)\(^1\)  39 MW (Approximately)
   c. Winter Firm (AC)  -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) **Fuel**
   a. Primary Fuel  Solar
   b. Alternate Fuel  Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 646 Acres

(9) **Construction Status:** P  (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.8% (First Full Year Operation)
   - Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   - Base Operation 75F, 100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable Btu/kWh
   - Peak Operation 75F, 100%

(13) **Projected Unit Financial Data** *
   - Book Life (Years): 30
   - Total Installed Cost (2021 $/kW): 1,345
   - Direct Construction Cost (2021 $/kW): 1,306
   - AFUDC Amount (2021 $/kW): 40
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2021 $) 6.74 (First Full Year Operation)
   - Variable O&M ($/MWh): (2021 $) 0.00
   - K Factor: 1.07

* $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Plant Name and Unit Number: Fort Drum Solar Energy Center (Okeechobee County)

Capacity

a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC)\(^{1/}\) 39 MW (Approximately)
c. Winter Firm (AC) -

Technology Type: Photovoltaic (PV)

Anticipated Construction Timing

a. Field construction start-date: 2020
b. Commercial In-service date: 2021

Fuel

a. Primary Fuel Solar
b. Alternate Fuel Not applicable

Air Pollution and Control Strategy: Not applicable

Cooling Method: Not applicable

Total Site Area: 930 Acres

Construction Status: P (Planned Unit)

Certification Status: ---

Status with Federal Agencies: ---

Projected Unit Performance Data:

Planned Outage Factor (POF): Not applicable
Forced Outage Factor (FOF): Not applicable
Equivalent Availability Factor (EAF): Not applicable
Resulting Capacity Factor (%): 23.8% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
Base Operation 75F, 100%
Average Net Incremental Heat Rate (ANIHR): Not applicable Btu/kWh
Peak Operation 75F, 100%

Projected Unit Financial Data *

Book Life (Years): 30 years
Total Installed Cost (2021 $/kW): 1,137
Direct Construction Cost (2021 $/kW): 1,102
AFUDC Amount (2021 $/kW): 35
Escalation ($/kW): Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr.): (2021 $) 6.74 (First Full Year Operation)
Variable O&M ($/MWH): (2021 $) 0.00
K Factor: 1.09

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

\(^{1/}\) The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.

FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Rodeo Solar Energy Center (DeSoto County)

(2) Capacity
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)\(^1\) 39 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: 1,193 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): 27.6% (First Full Year Operation)
   Average Net Operating Heat Rate (ANOHR): Not applicable
   Base Operation 75F, 100%
   Average Net Incremental Heat Rate (ANIHR): Not applicable
   Peak Operation 75F, 100%

(13) Projected Unit Financial Data *
   Book Life (Years): 30 years
   Total Installed Cost (2021 $/kW): 1,113
   Direct Construction Cost (2021 $/kW): 1,076
   AFUDC Amount (2021 $/kW): 36
   Escalation ($/kW): Accounted for in Direct Construction Cost
   Fixed O&M ($/kW-Yr.): (2021 $) 6.92 (First Full Year Operation)
   Variable O&M ($/MWH): (2021 $) 0.00
   K Factor: 1.11

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming
the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load
not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount
of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.
FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
### Schedule 9
Status Report and Specifications of Proposed Generating Facilities

1. **Plant Name and Unit Number:** Willow Solar Energy Center (Manatee County)

2. **Capacity**
   - a. Nameplate (AC): 74.5 MW
   - b. Summer Firm (AC): 39 MW (Approximately)
   - c. Winter Firm (AC): -

3. **Technology Type:** Photovoltaic (PV)

4. **Anticipated Construction Timing**
   - a. Field construction start-date: 2020
   - b. Commercial In-service date: 2021

5. **Fuel**
   - a. Primary Fuel: Solar
   - b. Alternate Fuel: Not applicable

6. **Air Pollution and Control Strategy:** Not applicable

7. **Cooling Method:** Not applicable

8. **Total Site Area:** 812 Acres

9. **Construction Status:** P (Planned Unit)

10. **Certification Status:** ---

11. **Status with Federal Agencies:** ---

12. **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.8% (First Full Year Operation)
   - Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   - Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANHR): Not applicable Btu/kWh Peak Operation 75F,100%

13. **Projected Unit Financial Data**
   - Book Life (Years): 30 years
   - Total Installed Cost (2021 $/kW): 1,186
   - Direct Construction Cost (2021 $/kW): 1,149
   - AFUDC Amount (2021 $/kW): 37
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2021 $) 7.10 (First Full Year Operation)
   - Variable O&M ($/MWH): (2021 $) 0.00
   - K Factor: 1.10

   * **$/kW values are based on nameplate capacity.**

   **Note:** Total installed cost includes transmission interconnection and AFUDC.

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1/ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Blue Springs Solar Energy Center (Jackson County)

(2) **Capacity**
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC) 37 MW (Approximately)
   c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) **Fuel**
   a. Primary Fuel: Solar
   b. Alternate Fuel: Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 444 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.4% (First Full Year Operation)
   - Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   - Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable Btu/kWh
   - Peak Operation 75F,100%

(13) **Projected Unit Financial Data** *
   - Book Life (Years): 30 years
   - Total Installed Cost (2021 $/kW): 1,071
   - Direct Construction Cost (2021 $/kW): 1,039
   - AFUDC Amount (2021 $/kW): 32
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2021 $) 7.65 (First Full Year Operation)
   - Variable O&M ($/MWH): (2021 $) 0.00
   - K Factor: 0.91

   * $/kW values are based on nameplate capacity.

**Note:** Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

1) Plant Name and Unit Number: Chautauqua Solar Energy Center (Walton County)

2) Capacity
   a. Nameplate (AC) 74.5 MW
   b. Summer Firm (AC)\(^1\) 37 MW (Approximately)
   c. Winter Firm (AC) -

3) Technology Type: Photovoltaic (PV)

4) Anticipated Construction Timing
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

6) Air Pollution and Control Strategy: Not applicable

7) Cooling Method: Not applicable

8) Total Site Area: 688 Acres

9) Construction Status: P (Planned Unit)

10) Certification Status: ---

11) Status with Federal Agencies: ---

12) Projected Unit Performance Data:
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): 26.4% (First Full Year Operation)
   - Average Net Operating Heat Rate (ANOHR): Not applicable Btu/kWh
   - Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable Btu/kWh
   - Peak Operation 75F,100%

13) Projected Unit Financial Data *
   - Book Life (Years): 30 years
   - Total Installed Cost (2021 $/kW): 1,071
   - Direct Construction Cost (2021 $/kW): 1,039
   - AFUDC Amount (2021 $/kW): 32
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2021 $) 7.65 (First Full Year Operation)
   - Variable O&M ($/MWH): (2021 $) 0.00
   - K Factor: 0.91

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

\(^1\) The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.

FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Crist Unit 8 4x0 Combustion Turbine

(2) Capacity
   a. Summer 938 MW
   b. Winter 949 MW

(3) Technology Type: Combined Cycle

(4) Anticipated Construction Timing
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) Fuel
   a. Primary Fuel: Natural Gas
   b. Alternate Fuel: Ultra-low sulfur distillate

(6) Air Pollution and Control Strategy: Dry Low NOx Burners, SCR, Natural Gas, 0.0015% S. Distillate and Water Injection

(7) Cooling Method: Fin Fan / Evap Coolers

(8) Total Site Area: Existing Site

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): 3.0%
   Forced Outage Factor (FOF): 1%
   Equivalent Availability Factor (EAF): 96.0%
   Resulting Capacity Factor (%): Approx. 3% (First Full Year Base Operation)
   Average Net Operating Heat Rate (ANOHR): 9,944
   Base Operation 75F, 100%
   Average Net Incremental Heat Rate (ANIHR): 8,869
   Peak Firing and Wet Compression 75F, 100%

(13) Projected Unit Financial Data *,**
   Book Life (Years): 40 years
   Total Installed Cost (2021 $/kW): 479
   Direct Construction Cost (2021 $/kW): 455
   AFUDC Amount (2021 $/kW): 23
   Escalation ($/kW): Accounted for in Direct Construction Cost
   Fixed O&M ($/kW-Yr. (2021 $): 8.00
   Variable O&M ($/MW (2021 $): 0.02
   K Factor: 1.13

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement

Note: Total installed cost includes transmission interconnection and integration, escalation, and AFUDC.
(1) **Plant Name and Unit Number:** Manatee Energy Storage Center

(2) **Capacity**
   a. Summer 409 MW
   b. Winter 409 MW

(3) **Technology Type:** Battery

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) **Fuel**
   a. Primary Fuel: Not applicable
   b. Alternate Fuel: Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Existing Site 40 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): Not applicable
   - Average Net Operating Heat Rate (ANOHR): Not applicable
   - Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANHR): Not applicable
   - Peak Operation 75F,100%

(13) **Projected Unit Financial Data *,**
   - Book Life (Years): 10 years
   - Total Installed Cost (2021 $/kW): TBD
   - Direct Construction Cost (2021 $/kW): TBD
   - AFUDC Amount (2021 $/kW): TBD
   - Escalation ($/kW): TBD
   - Fixed O&M ($/kW-Yr.): (2021 $) TBD
   - Long Term Capital Replenishment ($/kW) (2021 $) TBD
   - Variable O&M ($/MWH): (2021 $) TBD
   - K Factor: TBD

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment
### Schedule 9
#### Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Sunshine Gateway Energy Storage Center

(2) **Capacity**
   - a. Summer: 30 MW
   - b. Winter: 30 MW

(3) **Technology Type:** Battery

(4) **Anticipated Construction Timing**
   - a. Field construction start-date: 2020
   - b. Commercial In-service date: 2021

(5) **Fuel**
   - a. Primary Fuel: Not applicable
   - b. Alternate Fuel: Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Existing Site 30 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): Not applicable
   - Average Net Operating Heat Rate (ANOHR): Not applicable
   - Base Operation 75F, 100%
   - Average Net Incremental Heat Rate (ANHRR): Not applicable
   - Peak Operation 75F, 100%

(13) **Projected Unit Financial Data ***,**
   - Book Life (Years): 10 years
   - Total Installed Cost (2021 $/kW): TBD
   - Direct Construction Cost (2021 $/kW): TBD
   - AFUDC Amount (2021 $/kW): TBD
   - Escalation ($/kW): TBD
   - Fixed O&M ($/kW-Yr.): (2021 $) TBD
   - Long Term Capital Replenishment ($/kW) (2021 $): TBD
   - Variable O&M ($/MWH): (2021 $) TBD
   - K Factor: TBD

   ** * $/kW values are based on Summer capacity.
   ** ** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Echo River Energy Storage Center

(2) Capacity
   a. Summer 30 MW
   b. Winter 30 MW

(3) Technology Type: Battery

(4) Anticipated Construction Timing
   a. Field construction start-date: 2020
   b. Commercial In-service date: 2021

(5) Fuel
   a. Primary Fuel Not applicable
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: Existing Site 5 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
    Planned Outage Factor (POF): Not applicable
    Forced Outage Factor (FOF): Not applicable
    Equivalent Availability Factor (EAF): Not applicable
    Resulting Capacity Factor (%): Not applicable
    Average Net Operating Heat Rate (ANOHR): Not applicable
    Base Operation 75F,100%
    Average Net Incremental Heat Rate (ANIHR): Not applicable
    Peak Operation 75F,100%

(13) Projected Unit Financial Data *,**
    Book Life (Years): 10 years
    Total Installed Cost (2021 $/kW): TBD
    Direct Construction Cost (2021 $/kW): TBD
    AFUDC Amount (2021 $/kW): TBD
    Escalation ($/kW): TBD
    Fixed O&M ($/kW-Yr.): (2021 $) TBD
    Long Term Capital Replenishment ($/kW) (2021 $) TBD
    Variable O&M ($/MWH): (2021 $) TBD
    K Factor: TBD

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Dania Beach Clean Energy Center Unit 7

(2) Capacity
   a. Summer 1,163 MW
   b. Winter 1,176 MW

(3) Technology Type: Combined Cycle

(4) Anticipated Construction Timing
   a. Field construction start-date: 2020
   b. Commercial in-service date: 2022

(5) Fuel
   a. Primary Fuel Natural Gas
   b. Alternate Fuel Ultra-low sulfur distillate

(6) Air Pollution and Control Strategy: Dry Low NOx Burners, SCR, Natural Gas, 0.0015% S. Distillate and Water Injection

(7) Cooling Method: Once through cooling water

(8) Total Site Area: Existing Site 392 Acres

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   - Planned Outage Factor (POF): 3.5%
   - Forced Outage Factor (FOF): 1%
   - Equivalent Availability Factor (EAF): 95.5%
   - Resulting Capacity Factor (%): 90.0% (First Full Year Base Operation)
   - Average Net Operating Heat Rate (ANOHR): 6,119 Btu/kWh on Gas Base Operation 75F, 100%
   - Average Net Incremental Heat Rate (ANIHR): 7,592 Btu/kWh on Gas Peak Firing and Wet Compression 75F, 100%

(13) Projected Unit Financial Data *,**
   - Book Life (Years): 40 years
   - Total Installed Cost (2022 $/kW): 764
   - Direct Construction Cost (2022 $/kW): 675
   - AFUDC Amount (2022 $/kW): 89
   - Escalation ($/kW): Accounted for in Direct Construction Cost
   - Fixed O&M ($/kW-Yr.): (2022 $) 19.73
   - Variable O&M ($/MWH): (2022 $) 0.23
   - K Factor: 1.55

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement

Note: Total installed cost includes transmission interconnection and integration, escalation, and AFUDC.
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Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Unsited PV

(2) Capacity
   a. Nameplate (AC) 447 MW (in six 74.5 MW increments)
   b. Summer Firm (AC)\(^1\) 224 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing\(^2\)
   a. Field construction start-date: 2021
   b. Commercial In-service date: 2022

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: Not applicable

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
    Planned Outage Factor (POF): Not applicable
    Forced Outage Factor (FOF): Not applicable
    Equivalent Availability Factor (EAF): Not applicable
    Resulting Capacity Factor (%): TBD
    Average Net Operating Heat Rate (ANOHR): Not applicable
    Base Operation 75F,100%
    Average Net Incremental Heat Rate (ANIHR): Not applicable
    Peak Operation 75F,100%

(13) Projected Unit Financial Data
    Book Life (Years): 30 years
    Total Installed Cost (2022 $/kW): TBD
    Direct Construction Cost (2022 $/kW): TBD
    AFUDC Amount (2022 $/kW): TBD
    Escalation ($/kW): TBD
    Fixed O&M ($/kW-Yr.): (2022 $) TBD
    Variable O&M ($/MWH): (2022 $) TBD
    K Factor: TBD

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.

\(^2\) FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited PV

(2) **Capacity**
   a. Nameplate (AC) 447 MW (in six 74.5 MW increments)
   b. Summer Firm (AC) 209 MW (Approximately)
   c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2022
   b. Commercial In-service date: 2023

(5) **Fuel**
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): TBD
   - Average Net Operating Heat Rate (ANOHR): Not applicable
     Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable
     Peak Operation 75F,100%

(13) **Projected Unit Financial Data**
   - Book Life (Years): 30 years
   - Total Installed Cost (2023 $/kW): TBD
   - Direct Construction Cost (2023 $/kW): TBD
   - AFUDC Amount (2023 $/kW): TBD
   - Escalation ($/kW): TBD
   - Fixed O&M ($/kW-Yr.): (2023 $) TBD
   - Variable O&M ($/MWH):(2023 $) TBD
   - K Factor: TBD

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1/ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
### Schedule 9

**Status Report and Specifications of Proposed Generating Facilities**

1. **Plant Name and Unit Number:** Unsited PV

2. **Capacity**
   - a. Nameplate (AC): 447 MW (in six 74.5 MW increments)
   - b. Summer Firm (AC)\(^1\): 209 MW (Approximately)
   - c. Winter Firm (AC): -

3. **Technology Type:** Photovoltaic (PV)

4. **Anticipated Construction Timing**
   - a. Field construction start-date: 2023
   - b. Commercial In-service date: 2024

5. **Fuel**
   - a. Primary Fuel: Solar
   - b. Alternate Fuel: Not applicable

6. **Air Pollution and Control Strategy:** Not applicable

7. **Cooling Method:** Not applicable

8. **Total Site Area:** Not applicable Acres

9. **Construction Status:** P (Planned Unit)

10. **Certification Status:** ---

11. **Status with Federal Agencies:** ---

12. **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): TBD
   - Average Net Operating Heat Rate (ANOHR): Not applicable
   - Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable
   - Peak Operation 75F,100%

13. **Projected Unit Financial Data**
   - Book Life (Years): 30 years
   - Total Installed Cost (2024 $/kW): TBD
   - Direct Construction Cost (2024 $/kW): TBD
   - AFUDC Amount (2024 $/kW): TBD
   - Escalation ($/kW): TBD
   - Fixed O&M ($/kW-Yr.): (2024 $) TBD
   - Variable O&M ($/MWH): (2024 $) TBD
   - K Factor: TBD

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.

FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
### Schedule 9
**Status Report and Specifications of Proposed Generating Facilities**

1. **Plant Name and Unit Number:** Unsited PV

2. **Capacity**
   - Nameplate (AC): 745 MW (in ten 74.5 MW increments)
   - Summer Firm (AC): 264 MW (Approximately)
   - Winter Firm (AC): -

3. **Technology Type:** Photovoltaic (PV)

4. **Anticipated Construction Timing**
   - Field construction start-date: 2024
   - Commercial In-service date: 2025

5. **Fuel**
   - Primary Fuel: Solar
   - Alternate Fuel: Not applicable

6. **Air Pollution and Control Strategy:** Not applicable

7. **Cooling Method:** Not applicable

8. **Total Site Area:** Not applicable

9. **Construction Status:** P (Planned Unit)

10. **Certification Status:** ---

11. **Status with Federal Agencies:** ---

12. **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): TBD
   - Average Net Operating Heat Rate (ANOHR): Not applicable
   - Base Operation 75F, 100%
   - Average Net Incremental Heat Rate (ANIHR): Not applicable
   - Peak Operation 75F, 100%

13. **Projected Unit Financial Data**
   - Book Life (Years): 30 years
   - Total Installed Cost (2025 $/kW): TBD
   - Direct Construction Cost (2025 $/kW): TBD
   - AFUDC Amount (2025 $/kW): TBD
   - Escalation ($/kW): TBD
   - Fixed O&M ($/kW-Yr.): (2025 $) TBD
   - Variable O&M ($/MWH): (2025 $) TBD
   - K Factor: TBD

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1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Florida Power & Light Company and Gulf Power Company

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Unsited PV

(2) Capacity
   a. Nameplate (AC)  1,192 MW (in sixteen 74.5 MW increments)
   b. Summer Firm (AC) 422 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2025
   b. Commercial In-service date: 2026

(5) Fuel
   a. Primary Fuel: Solar
   b. Alternate Fuel: Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: Not applicable

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): TBD
   Average Net Operating Heat Rate (ANOHR): Not applicable
   Base Operation 75F,100%
   Average Net Incremental Heat Rate (ANIHR): Not applicable
   Peak Operation 75F,100%

(13) Projected Unit Financial Data
   Book Life (Years): 30 years
   Total Installed Cost (2026 $/kW): TBD
   Direct Construction Cost (2026 $/kW): TBD
   AFUDC Amount (2026 $/kW): TBD
   Escalation ($/kW): TBD
   Fixed O&M ($/KW-Yr.): (2026 $) TBD
   Variable O&M ($/MWH): (2026 $) TBD
   K Factor: TBD

1/ The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Unsited PV

(2) Capacity
   a. Nameplate (AC) 1,192 MW (in sixteen 74.5 MW increments)
   b. Summer Firm (AC)\(^{1/}\) 422 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2026
   b. Commercial in-service date: 2027

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: Not applicable

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): TBD
   Average Net Operating Heat Rate (ANOHR): Not applicable
   Base Operation 75°F, 100%
   Average Net Incremental Heat Rate (ANIHR): Not applicable
   Peak Operation 75°F, 100%

(13) Projected Unit Financial Data
   Book Life (Years): 30 years
   Total Installed Cost (2027 $/kW): TBD
   Direct Construction Cost (2027 $/kW): TBD
   AFUDC Amount (2027 $/kW): TBD
   Escalation ($/kW): TBD
   Fixed O&M ($/kW-Yr.): (2027 $) TBD
   Variable O&M ($/MWH) (2027 $) TBD
   K Factor: TBD

\(^{1/}\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Schedule 9  
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Unsited PV

(2) Capacity
   a. Nameplate (AC) 1,192 MW (in sixteen 74.5 MW increments)
   b. Summer Firm (AC)\(^1\) 251 MW (Approximately)
   c. Winter Firm (AC) -

(3) Technology Type: Photovoltaic (PV)

(4) Anticipated Construction Timing
   a. Field construction start-date: 2027
   b. Commercial In-service date: 2028

(5) Fuel
   a. Primary Fuel Solar
   b. Alternate Fuel Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: Not applicable

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): TBD
   - Average Net Operating Heat Rate (ANOHr): Not applicable
   - Base Operation 75F,100%
   - Average Net Incremental Heat Rate (ANIHr): Not applicable
   - Peak Operation 75F,100%

(13) Projected Unit Financial Data
   - Book Life (Years): 30 years
   - Total Installed Cost (2028 $/kW): TBD
   - Direct Construction Cost (2028 $/kW): TBD
   - AFUDC Amount (2028 $/kW): TBD
   - Escalation ($/kW): TBD
   - Fixed O&M ($/kW-Yr.) (2028 $): TBD
   - Variable O&M ($/MWH) (2028 $): TBD
   - K Factor: TBD

\(^1\) The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) Plant Name and Unit Number: Unisited Energy Storage

(2) Capacity
   a. Summer  200 MW
   b. Winter  200 MW

(3) Technology Type: Battery

(4) Anticipated Construction Timing
   a. Field construction start-date: 2027
   b. Commercial In-service date: 2028

(5) Fuel
   a. Primary Fuel  Not applicable
   b. Alternate Fuel  Not applicable

(6) Air Pollution and Control Strategy: Not applicable

(7) Cooling Method: Not applicable

(8) Total Site Area: Not applicable

(9) Construction Status: P (Planned Unit)

(10) Certification Status: ---

(11) Status with Federal Agencies: ---

(12) Projected Unit Performance Data:
   Planned Outage Factor (POF): Not applicable
   Forced Outage Factor (FOF): Not applicable
   Equivalent Availability Factor (EAF): Not applicable
   Resulting Capacity Factor (%): Not applicable
   Average Net Operating Heat Rate (ANOHR): Not applicable
   Base Operation 75F, 100%
   Average Net Incremental Heat Rate (ANIHR): Not applicable
   Peak Operation 75F, 100%

(13) Projected Unit Financial Data *,**
   Book Life (Years): 10 years
   Total Installed Cost (2028 $/kW): TBD
   Direct Construction Cost (2028 $/kW): TBD
   AFUDC Amount (2028 $/kW): TBD
   Escalation ($/kW): TBD
   Fixed O&M ($/kW-Yr.): (2028 $) TBD
   Long Term Capital Replenishment ($/kW) (2028 $) TBD
   Variable O&M ($/MWH): (2028 $) TBD
   K Factor: TBD

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited PV

(2) **Capacity**
   a. **Nameplate (AC):** 1,192 MW (in sixteen 74.5 MW increments)
   b. **Summer Firm (AC)\(^1\):** 194 MW (Approximately)
   c. **Winter Firm (AC):** -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2028
   b. Commercial In-service date: 2029

(5) **Fuel**
   a. **Primary Fuel:** Solar
   b. **Alternate Fuel:** Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data**
    
    | Parameter | Details |
    |-----------|---------|
    | Planned Outage Factor (POF): | Not applicable |
    | Forced Outage Factor (FOF): | Not applicable |
    | Equivalent Availability Factor (EAF): | Not applicable |
    | Resulting Capacity Factor (%): | TBD |
    | Average Net Operating Heat Rate (ANOHR): | Not applicable |
    | Base Operation 75F,100% | |
    | Average Net Incremental Heat Rate (ANIHR): | Not applicable |
    | Peak Operation 75F,100% | |

(13) **Projected Unit Financial Data**
    
    | Parameter | Details |
    |-----------|---------|
    | Book Life (Years): | 30 years |
    | Total Installed Cost (2029 $/kW): | TBD |
    | Direct Construction Cost (2029 $/kW): | TBD |
    | AFUDC Amount (2029 $/kW): | TBD |
    | Escalation ($/kW): | TBD |
    | Fixed O&M ($/kW-Yr.): | (2029 $) | TBD |
    | Variable O&M ($/MWH): | (2029 $) | TBD |
    | K Factor: | TBD |

\(^1\) The value shown represents FPL’s current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL’s system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.
Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Energy Storage

(2) **Capacity**
   a. Summer 500 MW
   b. Winter 500 MW

(3) **Technology Type:** Battery

(4) **Anticipated Construction Timing**
   a. Field construction start-date: 2028
   b. Commercial In-service date: 2029

(5) **Fuel**
   a. Primary Fuel Not applicable
   b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**
   - Planned Outage Factor (POF): Not applicable
   - Forced Outage Factor (FOF): Not applicable
   - Equivalent Availability Factor (EAF): Not applicable
   - Resulting Capacity Factor (%): Not applicable
   - Average Net Operating Heat Rate (ANOHR): Not applicable
   - Base Operation 75F,100% 
   - Average Net Incremental Heat Rate (ANIHR): Not applicable
   - Peak Operation 75F,100%

(13) **Projected Unit Financial Data *,**
   - Book Life (Years): 10 years
   - Total Installed Cost (2029 $/kW): TBD
   - Direct Construction Cost (2029 $/kW): TBD
   - AFUDC Amount (2029 $/kW): TBD
   - Escalation ($/kW): TBD
   - Fixed O&M ($/kW-Yr.): (2029 $) TBD
   - Long Term Capital Replenishment ($/kW) (2029 $) TBD
   - Variable O&M ($/MWH): (2029 $) TBD
   - K Factor: TBD

   * $/kW values are based on Summer capacity.
   ** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment
The Hibiscus Solar Energy Center will require bifurcating the FPL Ranch-Corbett 230 kV line approximately 1-mile west of FPL's Westlake substation to loop into the new Minto Substation.

(1) Point of Origin and Termination: Westlake-Corbett 230 kV line section to Minto Substation

(2) Number of Lines: 1

(3) Right-of-way: FPL – Owned

(4) Line Length: 0.07 miles

(5) Voltage: 230 kV

(6) Anticipated Construction Timing:
   Start date: 2019
   End date: 2020

(7) Anticipated Capital Investment:
   Included in total installed cost on Schedule 9 (Trans. and Sub.)

(8) Substations:
   Minto Substation

(9) Participation with Other Utilities: None
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Okeechobee Solar Energy Center (Okeechobee County)

The Okeechobee Solar Energy Center will connect to the new Okeechobee Next Generation Clean Energy Center project and does not require any new transmission lines.
## Schedule 10
### Status Report and Specifications of Proposed Transmission Lines

**Southfork Solar Energy Center (Manatee County)**

The Southfork Solar Energy Center will require bifurcating the existing FPL Manatee-Keentown 230 kV transmission line looping the new Duette substation.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>(1) Point of Origin and Termination:</strong></td>
<td>Manatee-Keentown 230 kV line to Duette Substation</td>
</tr>
<tr>
<td><strong>(2) Number of Lines:</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>(3) Right-of-way:</strong></td>
<td>FPL – Owned</td>
</tr>
<tr>
<td><strong>(4) Line Length:</strong></td>
<td>0.15 mile</td>
</tr>
<tr>
<td><strong>(5) Voltage:</strong></td>
<td>230 kV</td>
</tr>
</tbody>
</table>
| **(6) Anticipated Construction Timing:** | Start date: 2019  
End date: 2020 |
| **(7) Anticipated Capital Investment:** | Included in total installed cost on Schedule 9  
(Trans. and Sub.) |
| **(8) Substations:** | Duette Substation |
| **(9) Participation with Other Utilities:** | None |
## Schedule 10
### Status Report and Specifications of Proposed Transmission Lines

The Echo River Solar Energy Center will require bifurcating the existing Suwannee (Duke Energy Florida, DEF) – Columbia (FPL) 115 kV tie line between FPL's Wellborn-Live Oak section, looping the new Hogan Substation.

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<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>(1)</strong> Point of Origin and Termination</td>
<td>Wellborn-Live Oak 115 kV line section to Hogan Substation</td>
</tr>
<tr>
<td><strong>(2)</strong> Number of Lines</td>
<td>1</td>
</tr>
<tr>
<td><strong>(3)</strong> Right-of-way</td>
<td>FPL – Owned</td>
</tr>
<tr>
<td><strong>(4)</strong> Line Length</td>
<td>0.05 miles</td>
</tr>
<tr>
<td><strong>(5)</strong> Voltage</td>
<td>115 kV</td>
</tr>
</tbody>
</table>
| **(6)** Anticipated Construction Timing | Start date: 2019  
End date: 2020 |
| **(7)** Anticipated Capital Investment | Included in total installed cost on Schedule 9 (Trans. and Sub.) |
| **(8)** Substations | Hogan Substation |
| **(9)** Participation with Other Utilities | None |
**Schedule 10**  
**Status Report and Specifications of Proposed Transmission Lines**

**Lakeside Solar Energy Center (Okeechobee County)**

The Lakeside Solar Energy Center will require bifurcating the existing FPL Martin-Sherman 230 kV transmission line and looping the new Nubbin Substation adjacent to the existing line.

1. **Point of Origin and Termination:** Martin-Sherman 230 kV line to Nubbin Substation  
2. **Number of Lines:** 1  
3. **Right-of-way:** FPL – Owned  
4. **Line Length:** 300 feet  
5. **Voltage:** 230 kV  
6. **Anticipated Construction Timing:**  
   - Start date: 2019  
   - End date: 2020  
7. **Anticipated Capital Investment:** Included in total installed cost on Schedule 9  
8. **Substations:** Nubbin Substation  
9. **Participation with Other Utilities:** None
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Trailside Solar Energy Center (St. Johns County)

The Trailside Solar Energy Center will require bifurcating the existing FPL Putnam-St. Johns 115 kV transmission line between the Elkton-St. Johns section and extending two parallel sections approximately 1 mile to loop the new Moccasin Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination: Elkton-St. Johns 115 kV line to Moccasin Substation

(2) Number of Lines: 1

(3) Right-of-way: FPL – Owned

(4) Line Length: 1 mile (double-circuit)

(5) Voltage: 115 kV

(6) Anticipated Construction Timing: Start date: 2019

End date: 2020

(7) Anticipated Capital Investment: Included in total installed cost on Schedule 9

(8) Substations: Moccasin Substation

(9) Participation with Other Utilities: None
## Schedule 10

### Status Report and Specifications of Proposed Transmission Lines

#### Union Springs Solar Energy Center (Union County)

The Union Springs Solar Energy Center will require bifurcating the existing FPL Raven-Bradford 115 kV transmission line between the Bradford-Lake Butler section and extending two parallel sections approximately 0.1 mile to loop the new Plum Substation.

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<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Point of Origin and Termination:</td>
<td>Bradford-Lake Butler 115 kV line section to Plum Substation</td>
</tr>
<tr>
<td>(2) Number of Lines:</td>
<td>1</td>
</tr>
<tr>
<td>(3) Right-of-way</td>
<td>FPL – Owned</td>
</tr>
<tr>
<td>(4) Line Length:</td>
<td>0.1 mile</td>
</tr>
<tr>
<td>(5) Voltage:</td>
<td>115 kV</td>
</tr>
</tbody>
</table>
| (6) Anticipated Construction Timing: | Start date: 2019  
End date: 2020 |
| (7) Anticipated Capital Investment: | Included in total installed cost on Schedule 9  
(Trans. and Sub.) |
| (8) Substations: | Plum Substation |
| (9) Participation with Other Utilities: | None |
## Schedule 10
### Status Report and Specifications of Proposed Transmission Lines

**Magnolia Springs Solar Energy Center (Clay County)**

The Magnolia Springs Solar Energy Center will require bifurcating the existing Seminole Plant-Springbank 230 kV transmission line between the Titanium-Green Cove Springs section and extending two parallel sections approximately 0.1 mile to loop a new Leno substation.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Point of Origin and Termination:</td>
<td>Titanium-Green Cove Springs 230 kV line section to Leno substation</td>
</tr>
<tr>
<td>(2) Number of Lines:</td>
<td>1</td>
</tr>
<tr>
<td>(3) Right-of-way</td>
<td>FPL – Owned</td>
</tr>
<tr>
<td>(4) Line Length:</td>
<td>0.1 mile</td>
</tr>
<tr>
<td>(5) Voltage:</td>
<td>230 kV</td>
</tr>
</tbody>
</table>
| (6) Anticipated Construction Timing: | Start date: 2019  
End date: 2020 |
| (7) Anticipated Capital Investment: (Trans. and Sub.) | Included in total installed cost on Schedule 9 |
| (8) Substations: | Leno Substation |
| (9) Participation with Other Utilities: | None |
The Egret Solar Energy Center will require bifurcating the existing FPL Duval-Raven 230 kV transmission line and extending two parallel sections approximately 2 miles to loop the new Claude Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination: Duval-Raven 230 kV line to Claude Substation

(2) Number of Lines: 1

(3) Right-of-way: FPL – Owned

(4) Line Length: 2 miles (double-circuit)

(5) Voltage: 230 kV

(6) Anticipated Construction Timing: Start date: 2019
End date: 2020

(7) Anticipated Capital Investment: Included in total installed cost on Schedule 9 (Trans. and Sub.)

(8) Substations: Claude Substation

(9) Participation with Other Utilities: None
### Schedule 10
**Status Report and Specifications of Proposed Transmission Lines**

**Nassau Solar Energy Center (Nassau County)**

The Nassau Solar Energy Center will require bifurcating the existing FPL Duval-Yulee 230 kV transmission line between the Duval-West Nassau (GTC) section and extending two parallel sections approximately 1 mile to loop the new Crawford Substation and connect the solar PV inverter array.

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>(1) Point of Origin and Termination:</td>
<td>Duval-West Nassau (GTC) 230 kV line to Crawford Substation</td>
</tr>
<tr>
<td>(2) Number of Lines:</td>
<td>1</td>
</tr>
<tr>
<td>(3) Right-of-way</td>
<td>FPL – Owned</td>
</tr>
<tr>
<td>(4) Line Length:</td>
<td>1 mile (double-circuit)</td>
</tr>
<tr>
<td>(5) Voltage:</td>
<td>230 kV</td>
</tr>
<tr>
<td>(6) Anticipated Construction Timing:</td>
<td>Start date: 2019  End date: 2020</td>
</tr>
<tr>
<td>(7) Anticipated Capital Investment:</td>
<td>Included in total installed cost on Schedule 9 (Trans. and Sub.)</td>
</tr>
<tr>
<td>(8) Substations:</td>
<td>Crawford Substation</td>
</tr>
<tr>
<td>(9) Participation with Other Utilities:</td>
<td>None</td>
</tr>
</tbody>
</table>
## Schedule 10
### Status Report and Specifications of Proposed Transmission Lines

**Pelican Solar Energy Center (St. Lucie County)**

The Pelican Solar Energy Center will require extending a 230 kV transmission line from Eldora Substation to the new Morrow Substation to connect the solar PV inverter array.

- **(1) Point of Origin and Termination:** Eldora 230 kV Substation to Morrow Substation
- **(2) Number of Lines:** 1
- **(3) Right-of-way:** FPL – Owned
- **(4) Line Length:** 1.25 miles
- **(5) Voltage:** 230 kV
- **(6) Anticipated Construction Timing:**
  - Start date: 2020
  - End date: 2021
- **(7) Anticipated Capital Investment:** Included in total installed cost on Schedule 9 (Trans. and Sub.)
- **(8) Substations:** Morrow Substation
- **(9) Participation with Other Utilities:** None
Schedule 10  
Status Report and Specifications of Proposed Transmission Lines

Palm Bay Solar Energy Center (Brevard County)

The Palm Bay Solar Energy Center will require bifurcating the existing FPL Midway-Malabar 230 kV transmission line between the Glendale-Hield section and extending two parallel sections approximately 2.5 miles to loop the new Hayward Substation and connect the solar PV inverter array.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>(1) Point of Origin and Termination:</td>
<td>Glendale-Hield 230 kV line to Hayward Substation</td>
</tr>
<tr>
<td>(2) Number of Lines:</td>
<td>1</td>
</tr>
<tr>
<td>(3) Right-of-way</td>
<td>FPL – Owned</td>
</tr>
<tr>
<td>(4) Line Length:</td>
<td>2.5 miles (double-circuit)</td>
</tr>
<tr>
<td>(5) Voltage:</td>
<td>230 kV</td>
</tr>
</tbody>
</table>
| (6) Anticipated Construction Timing: | Start date: 2020  
End date: 2021 |
| (7) Anticipated Capital Investment: | Included in total installed cost on Schedule 9  
(Trans. and Sub.) |
| (8) Substations: | Hayward Substation |
| (9) Participation with Other Utilities: | None |
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Discovery Solar Energy Center (Brevard County)

The Discovery Solar Energy Center will require bifurcating the existing FPL C5-Barna 115 kV transmission line and looping the new Rocket Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination: C5-Barna kV line to Rocket Substation
(2) Number of Lines: 1
(3) Right-of-way: FPL – Owned
(4) Line Length: 300 feet
(5) Voltage: 115 kV
(6) Anticipated Construction Timing: Start date: 2020
End date: 2021
(7) Anticipated Capital Investment: Included in total installed cost on Schedule 9 (Trans. and Sub.)
(8) Substations: Rocket Substation
(9) Participation with Other Utilities: None

The Discovery Solar Energy Center will require bifurcating the existing FPL C5-Barna 115 kV transmission line and looping the new Rocket Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination: C5-Barna kV line to Rocket Substation
(2) Number of Lines: 1
(3) Right-of-way: FPL – Owned
(4) Line Length: 300 feet
(5) Voltage: 115 kV
(6) Anticipated Construction Timing: Start date: 2020
End date: 2021
(7) Anticipated Capital Investment: Included in total installed cost on Schedule 9 (Trans. and Sub.)
(8) Substations: Rocket Substation
(9) Participation with Other Utilities: None
The Orange Blossom Solar Energy Center will connect to the existing FPL Eldora-Heritage 230 kV transmission line via a line switch to connect the new Finca Substation and the solar PV inverter array.

(1) Point of Origin and Termination: None
(2) Number of Lines: 0
(3) Right-of-way: N/A
(4) Line Length: 0
(5) Voltage: 230 kV
(6) Anticipated Construction Timing: Start date: 2020
                                 End date: 2021
(7) Anticipated Capital Investment: Included in total installed cost on Schedule 9
                                  (Trans. and Sub.)
(8) Substations: Finca Substation
(9) Participation with Other Utilities: None
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Sabal Palm Solar Energy Center (Palm Beach County)

The Sabal Palm Solar Energy Center will require extending a transmission line from the Minto Substation approximately 1.5 miles to connect the new Costa Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination: Minto Substation to Costa Substation

(2) Number of Lines: 1

(3) Right-of-way: FPL – Owned

(4) Line Length: 1.5 miles

(5) Voltage: 230 kV

(6) Anticipated Construction Timing: Start date: 2020

End date: 2021

(7) Anticipated Capital Investment: Included in total installed cost on Schedule 9

(Trans. and Sub.)

(8) Substations: Costa Substation

(9) Participation with Other Utilities: None
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Fort Drum Solar Energy Center (Okeechobee County)

The Fort Drum Solar Energy Center will connect to the new Okeechobee Next Generation Clean Energy Center project and does not require any new transmission lines.
The Rodeo Solar Energy Center will connect to the Gleam substation at the new Cattle Ranch Solar Energy Center and does not require any new transmission lines.
## Schedule 10
### Status Report and Specifications of Proposed Transmission Lines

#### Willow Solar Energy Center (Manatee County)

The Willow Solar Energy Center will require bifurcating the existing FPL Keentown-Sunshine 230 kV transmission line to connect a new Coachwhip substation and the solar P/V inverter array.

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Point of Origin and Termination: Keentown-Sunshine 230 kV line to new Coachwhip Substation</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Number of Lines: 1</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Right-of-way: FPL – Owned</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Line Length: 0</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Voltage: 230 kV</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Anticipated Construction Timing: Start date: 2020; End date: Late 2020</td>
</tr>
<tr>
<td><strong>7</strong></td>
<td>Anticipated Capital Investment: Included in total installed cost on Schedule 9 (Trans. and Sub.)</td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>Substations: Coachwhip Substation</td>
</tr>
<tr>
<td><strong>9</strong></td>
<td>Participation with Other Utilities: None</td>
</tr>
</tbody>
</table>
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Battery Storage in Manatee County

The 409 MW Battery Storage project in Manatee County does not require any new transmission lines.
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Sunshine Gateway Battery Energy Storage addition in Columbia County

The Sunshine Gateway Battery Energy Storage addition project in Columbia County does not require any new transmission lines.
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Echo River Battery Energy Storage addition in Suwannee County

The Echo River Battery Energy Storage addition project in Suwannee County does not require any new transmission lines.
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Dania Beach Clean Energy Center Unit 7

Dania Beach Clean Energy Center Unit 7 does not require any new transmission lines.
The Blue Springs Solar Energy Center will require bifurcating the existing Gulf Cypress-Chipola section of the Gulf Marianna-West Grandridge 115 kV transmission line to connect a newAmericus substation and the solar PV inverter array.

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Point of Origin and Termination: Gulf Marianna-West Grandridge 115 kV line to new Americus Substation</td>
</tr>
<tr>
<td>(2)</td>
<td>Number of Lines: 1</td>
</tr>
<tr>
<td>(3)</td>
<td>Right-of-way: FPL – Owned</td>
</tr>
<tr>
<td>(4)</td>
<td>Line Length: 2 miles</td>
</tr>
<tr>
<td>(5)</td>
<td>Voltage: 230 kV</td>
</tr>
<tr>
<td>(6)</td>
<td>Anticipated Construction Timing:</td>
</tr>
<tr>
<td></td>
<td>Start date: 2021</td>
</tr>
<tr>
<td></td>
<td>End date: 2022</td>
</tr>
<tr>
<td>(7)</td>
<td>Anticipated Capital Investment:</td>
</tr>
<tr>
<td></td>
<td>(Trans. and Sub.)</td>
</tr>
<tr>
<td></td>
<td>Included in total installed cost on Schedule 9</td>
</tr>
<tr>
<td>(8)</td>
<td>Substations: Americus Substation</td>
</tr>
<tr>
<td>(9)</td>
<td>Participation with Other Utilities: None</td>
</tr>
</tbody>
</table>
Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Chautauqua Solar Energy Center (Walton County)

The Chautauqua Solar Energy Center will require bifurcating the existing Gulf Shoal River-Samson 230 kV transmission to connect a new Liddie substation and the solar PV inverter array.

(1) Point of Origin and Termination: Gulf Shoal River-Samson 230 kV line to new Liddie Substation
(2) Number of Lines: 1
(3) Right-of-way: FPL – Owned
(4) Line Length: TBD
(5) Voltage: 230 kV
(6) Anticipated Construction Timing:
   Start date: 2021
   End date: 2022
(7) Anticipated Capital Investment:
   Included in total installed cost on Schedule 9
(8) Substations: Liddie Substation
(9) Participation with Other Utilities: None
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Point of Origin and Termination:</td>
<td>Crist substation to new Conecuh substation</td>
</tr>
<tr>
<td>(2) Number of Lines:</td>
<td>3</td>
</tr>
<tr>
<td>(3) Right-of-way</td>
<td>FPL – Owned</td>
</tr>
<tr>
<td>(4) Line Length:</td>
<td>Approximately 0.25 miles</td>
</tr>
<tr>
<td>(5) Voltage:</td>
<td>230 kV</td>
</tr>
</tbody>
</table>
| (6) Anticipated Construction Timing: | Start date: 2021  
End date: 2022 |
| (7) Anticipated Capital Investment: | Included in total installed cost on Schedule 9  
(Trans. and Sub.) |
| (8) Substations: | Conecuh Substation |
| (9) Participation with Other Utilities: | None |

The Crist Unit 8 Combustion Turbine Project will require bifurcating the existing Crist-Alligator Swamp #2-230kV and Crist-Bellview 230kV lines near Crist to connect into a new Conecuh substation switchyard, and relocating the existing line terminal at Crist for the Crist-Barry 230 kV line to Conecuh substation.
### Schedule 11.1: FPL

**Existing Firm and Non-Firm Capacity and Energy by Primary Fuel Type**

**Actuals for the Year 2019**

<table>
<thead>
<tr>
<th>Generation by Primary Fuel</th>
<th>Net (MW) Capability</th>
<th>NEL GWh (6)</th>
<th>Fuel Mix % (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Summer (MW)</td>
<td>Summer (%)</td>
<td>Winter (MW)</td>
</tr>
<tr>
<td>(1) Coal</td>
<td>634</td>
<td>2.3%</td>
<td>635</td>
</tr>
<tr>
<td>(2) Nuclear</td>
<td>3,479</td>
<td>12.6%</td>
<td>3,570</td>
</tr>
<tr>
<td>(3) Residual</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>(4) Distillate</td>
<td>108</td>
<td>0.4%</td>
<td>123</td>
</tr>
<tr>
<td>(5) Natural Gas</td>
<td>21,731</td>
<td>78.9%</td>
<td>22,580</td>
</tr>
<tr>
<td>(6) Solar (Firm &amp; Non-Firm)</td>
<td>1,153</td>
<td>4.2%</td>
<td>1,153</td>
</tr>
<tr>
<td>(7) <strong>FPL Existing Units Total (9)</strong></td>
<td>27,105</td>
<td>98.4%</td>
<td>28,061</td>
</tr>
<tr>
<td>(8) Renewables (Purchases)- Firm</td>
<td>114.0</td>
<td>0.4%</td>
<td>114.0</td>
</tr>
<tr>
<td>(9) Renewables (Purchases)- Non-Firm</td>
<td>Not Applicable</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>(10) <strong>Renewable Total:</strong></td>
<td>114.0</td>
<td>0.4%</td>
<td>114.0</td>
</tr>
<tr>
<td>(11) <strong>Purchases Other / (Sales):</strong></td>
<td>330.0</td>
<td>1.2%</td>
<td>330.0</td>
</tr>
<tr>
<td>(12) <strong>Total:</strong></td>
<td>27,548.8</td>
<td>100.0%</td>
<td>28,504.6</td>
</tr>
</tbody>
</table>

**Note:**

1. FPL Existing Units Total values on row (7), columns (2) and (4), match the Total System Generating Capacity values found on Schedule 1 for Summer and Winter.
## Schedule 11.1: Gulf

### Existing Firm and Non-Firm Capacity and Energy by Primary Fuel Type

**Actuals for the Year 2019**

<table>
<thead>
<tr>
<th>Generation by Primary Fuel</th>
<th>Summer (MW)</th>
<th>Summer (%)</th>
<th>Winter (MW)</th>
<th>Winter (%)</th>
<th>NEL GWh (2)</th>
<th>Fuel Mix %</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Coal</td>
<td>1,641</td>
<td>67.6%</td>
<td>1,641</td>
<td>66.9%</td>
<td>4,125</td>
<td>35.1%</td>
</tr>
<tr>
<td>(2) Nuclear</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>(3) Residual</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>(4) Distillate</td>
<td>32</td>
<td>1.3%</td>
<td>40</td>
<td>1.6%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>(5) Natural Gas</td>
<td>672</td>
<td>27.7%</td>
<td>661</td>
<td>26.9%</td>
<td>3,975</td>
<td>33.9%</td>
</tr>
<tr>
<td>(6) Landfill Gas</td>
<td>3</td>
<td>0.1%</td>
<td>3</td>
<td>0.1%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>(7) Solar (Firm &amp; Non-Firm)</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Gulf Existing Units Total (1)</strong></td>
<td><strong>2,348</strong></td>
<td><strong>96.7%</strong></td>
<td><strong>2,345</strong></td>
<td><strong>95.6%</strong></td>
<td><strong>8,101</strong></td>
<td><strong>69.0%</strong></td>
</tr>
<tr>
<td>(9) Renewables (Purchases)- Firm</td>
<td>81.0</td>
<td>3.3%</td>
<td>109.0</td>
<td>4.5%</td>
<td>1,031</td>
<td>8.8%</td>
</tr>
<tr>
<td>(10) Renewables (Purchases)- Non-Firm</td>
<td>Not Applicable</td>
<td>---</td>
<td>Not Applicable</td>
<td>---</td>
<td>373</td>
<td>3.2%</td>
</tr>
<tr>
<td><strong>Renewable Total:</strong></td>
<td>81.0</td>
<td>3.3%</td>
<td>109.0</td>
<td>4.5%</td>
<td>1,404</td>
<td>11.95%</td>
</tr>
<tr>
<td>(12) Purchases Other / (Sales):</td>
<td>0.0</td>
<td>0.0%</td>
<td>0.0</td>
<td>0.0%</td>
<td>2,237</td>
<td>19.1%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>2,429.0</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>2,454.0</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>11,742</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

**Note:**

1. Gulf Existing Units Total values on row (7), columns (2) and (4), match the Total System Generating Capacity values found on Schedule 1 for Summer and Winter.
**Schedule 11.2: FPL**

*Existing Non-Firm Self-Service Renewable Generation Facilities*

*Actuals for the Year 2019 1)*

<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Installed Capacity DC (MW)</th>
<th>Renewable Projected Annual Output (MWh) 2)</th>
<th>Annual Energy Purchased from FPL (MWh) 3)</th>
<th>Annual Energy Sold to FPL - Total (MWh) 4)</th>
<th>Projected Annual Energy Used by Customers 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer-Owned Renewable Generation (0 kW to 10 kW)</td>
<td>111.06</td>
<td>158,164</td>
<td>416,346</td>
<td>49,639</td>
<td>524,871</td>
</tr>
<tr>
<td>Customer-Owned Renewable Generation (&gt; 10 kW to 100 kW)</td>
<td>42.70</td>
<td>60,374</td>
<td>293,892</td>
<td>14,885</td>
<td>339,381</td>
</tr>
<tr>
<td>Customer-Owned Renewable Generation (&gt; 100 kW - 2 MW)</td>
<td>28.59</td>
<td>82,547</td>
<td>294,557</td>
<td>7,560</td>
<td>369,544</td>
</tr>
<tr>
<td>Totals</td>
<td>182.35</td>
<td>301,085</td>
<td>1,004,795</td>
<td>72,084</td>
<td>1,233,797</td>
</tr>
</tbody>
</table>

1/ There were approximately 16,971 customers with renewable generation facilities interconnected with FPL on December 31, 2019.

2/ The Projected Annual Output value is based on NREL’s PV Watts 1 program and uses the Installed Capacity value in column (2), adjusted for the date when each facility was installed and assuming each facility operated as planned.

3/ The Annual Energy Purchased from FPL is an actual value from FPL’s metered data for 2019.

4/ The Annual Energy Sold to FPL - Total is an actual value from FPL’s metered data for 2019. These are the total MWh that were “overproduced” by the customer each month throughout 2019.

5/ The Projected Annual Energy Used by Customers is a projected value that equals:

\[
\text{Projected Annual Energy Used by Customers} = \text{Renewable Projected Annual output} + \text{Annual Energy Purchased} - \text{Annual Energy Sold to FPL - Total}
\]
### Schedule 11.2: Gulf

Existing Non-Firm Self-Service Renewable Generation Facilities  
Actuals for the Year 2019

<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Installed Capacity DC (MW)</th>
<th>Renewable Projected Annual Output (MWh)</th>
<th>Annual Energy Purchased from FPL (MWh)</th>
<th>Annual Energy Sold to FPL - Total (MWh)</th>
<th>Projected Annual Energy Used by Customers (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All) Totals</td>
<td>18.85</td>
<td>27,676</td>
<td>19,339</td>
<td>6,821</td>
<td>40,195</td>
</tr>
</tbody>
</table>

1) Total count of renewable generation facilities as of 12/31/2019 = 2,229
2) Projected Annual Output value is based on NREL's PV Watts calculation assuming average annual kWh's per year at 1,468 for a (1) kW system
3) The Annual Energy Purchased from Gulf is an actual value from Gulf Power's metered data for 2019
4) The annual energy sold to Gulf Power - Total is an actual value from Gulf Power's metered data for 2019. These are the total MWh that were "overproduced" by the customer each month throughout 2019
5) The Projected Annual Energy Used by Customers is a projected value that equals:
   \[(\text{Renewable Projected Annual output} + \text{Annual Energy Purchased}) \text{ minus the Annual Energy Sold to Gulf Power - Total}\]
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IV. Environmental and Land Use Information

IV.A. Protection of the Environment

Clean, affordable energy is the lifeblood of Florida’s growing population, expanding economy, and environmental resource restoration and management. Through its commitment to environmental excellence, FPL and Gulf are helping to solve Florida’s energy challenges sustainably and responsibly. With one of the cleanest, most efficient power-generation fleets in the nation, FPL has reduced its use of oil, including foreign oil, by approximately 98 percent – from approximately 40 million barrels annually in 2001 to 0.4 million barrels in 2019. FPL also has one of the lowest emissions profiles among U.S. utilities, and its carbon dioxide (CO₂) emission rate in 2019 was approximately 30% lower (cleaner) than the industry national average. Gulf has reduced its sulfur dioxide emissions by 99%, its nitrogen oxide (NOx) emissions by 81%, and its carbon dioxide emissions by 40%, from 2001 to 2018. FPL and Gulf together are also the largest producers of solar energy-generated electricity in Florida. At the end of 2019, FPL had approximately 1,228 MW of solar generation capability on its system which consists of approximately 1,153 MW of universal solar PV and 75 MW of solar thermal. Also at the end of 2019, Gulf has renewable energy purchase agreements for approximately 120 MW of universal solar PV generation and 81 MW of wind which is provided through multiple power purchase agreements (PPAs).

This 2020 Site Plan for FPL and Gulf presents a resource plan which shows a significant amount of additional solar. The merged system is projected to have approximately 10,000 MW of solar by the end of the 10-year reporting period (2029) for this Site Plan.

FPL and Gulf maintain their commitment to environmental stewardship through proactive collaboration with communities and organizations working to preserve Florida’s unique habitat and natural resources. The many projects and programs in which FPL and Gulf actively participate include the creation and management of the Manatee Lagoon – An FPL Eco-Discovery Center, Everglades Mitigation Bank, Crocodile Management Program, and Longleaf pine restoration.

FPL, Gulf, and their parent company, NextEra Energy, Inc., have continuously been recognized as leaders among electric utilities for their commitment to the environment – a commitment that is ingrained in the corporate culture.

In 2020, Fortune ranked NextEra Energy, Inc. as No. 1 in the electric and gas utilities industry in their “2020 World’s Most Admired Companies”. The annual list recognizes companies that
have had a positive social impact through activities that are part of their core business strategy. NextEra Energy was also named one of the “2020 World’s Most Ethical Companies” by Ethisphere Institute which recognizes companies’ critical roles in influencing and driving positive change in both the business community and societies around the world. NextEra Energy is one of only six companies worldwide in the energy and utilities sector to receive Ethisphere Institute’s prestigious recognition in 2020.

NextEra Energy’s Juno Beach, Florida, campus, which includes FPL’s headquarters, has achieved the prestigious Leadership in Energy and Environmental Design (LEED) Gold certification for existing buildings and two Gulf facilities are also LEED certified. LEED is the U.S. Green Building Council’s leading rating system for designating the world’s greenest, most energy-efficient, and high-performing buildings. Key achievements that led to the certification include heating, ventilation and air conditioning improvements, lighting upgrades, water management and recycling programs, and changes to specifications for paper, carpet, and other materials.

FPL and Gulf are committed to environmentally sustainable water use. Nearly 98% of the water FPL uses is returned to its original source. Similarly, nearly 90% of the water Gulf uses is returned to its original source. Pursuing alternate water sources, such as the use of 13.9 million gallons per day of treated wastewater for cooling the FPL West County Energy Center and 1.8 million gallons per day at Gulf’s Plant Crist, reduces the need to access ground or surface water resources.

**IV.B Environmental Organization Contributions**

In 2019, FPL supported a broad base of environmental organizations with donations, event sponsorships, and memberships. Those organizations include, but were not limited to: Everglades Foundation, The Nature Conservancy, Loggerhead Marinelife Center, Inc., Florida Wildflower Foundation, Florida State Parks Foundation, Florida Native Plant Society, Florida Wildlife Federation, Inwater Research Group, Defenders of Wildlife and Audubon state & local chapters. FPL employees serve in board and leadership positions for many organizations that focus on environmental restoration, preservation, and stewardship. A partial list of these organizations includes: Florida Fish and Wildlife Conservation Commission, The Nature Conservancy in Florida, Grassy Waters Conservancy, Loggerhead Marinelife Center, Everglades Foundation and Audubon Florida.

Gulf supports environmental organizations through financial contributions and volunteer hours. Every year Gulf employees invest an average of 1,200 volunteer hours supporting conservation partners in maintaining, restoring and protecting waters, wetlands, forests, beaches, parks,
historical sites, and wildlife. In 2019, the Gulf Power Foundation Amplify! awarded a $40,000 grant to the Florida Wildlife Federation to assist large landowners near Panama City, Florida clean up and remove trees destroyed and damaged by Hurricane Michael in 2018 and restore their lands with longleaf pine trees. Other environmental organizations receiving financial contributions or volunteer hours in 2019 include, but are not limited to: The Nature Conservancy, E.O. Wilson Biophilia Center, FWC Scallop Restoration, Gulf Islands National Seashore, Eglin Air Force Base – Gopher Tortoise, Choctawhatchee Basin Alliance, Audubon Florida, and Walton County Dune Lake Restoration.

IV.C Environmental Communication and Facilitation

FPL is involved in many efforts to enhance environmental protection through the facilitation of energy efficiency, environmental awareness, and through public education. Some of FPL’s 2019 environmental outreach activities are summarized in Table IV.E.1.

Table IV.C.1: 2019 FPL Environmental Outreach Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Count (#)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitors to Manatee Lagoon - An FPL Eco-Discovery Center</td>
<td>162,422</td>
</tr>
<tr>
<td>Number of website visits to Manatee Lagoon website, visitmanateelagoon.com</td>
<td>565,642</td>
</tr>
<tr>
<td>Visitors to Manatee Park, Ft. Myers</td>
<td>271,386</td>
</tr>
<tr>
<td>Number of website visits to FPL’s Environmental &amp; Corporate Sustainability Websites</td>
<td>&gt;57,000</td>
</tr>
<tr>
<td>Visitors to FPL Living Lab, Martin Energy Center Solar &amp; DeSoto Solar Tours</td>
<td>861</td>
</tr>
<tr>
<td>Environmental Brochures Distributed</td>
<td>~40,839</td>
</tr>
<tr>
<td>Home Energy Surveys</td>
<td>Field Visits: 19,587</td>
</tr>
<tr>
<td></td>
<td>Phone: 20,168</td>
</tr>
<tr>
<td></td>
<td>Online: 77,958</td>
</tr>
<tr>
<td></td>
<td>Total: 117,713</td>
</tr>
</tbody>
</table>

IV.D Environmental Policy

FPL, Gulf, and their parent company, NextEra Energy, Inc., are committed to remaining an industry leader in environmental protection and stewardship, not only because it makes business sense, but because it is the right thing to do. This commitment to compliance, conservation, communication, and continuous improvement fosters a culture of environmental excellence and drives the sustainable management of its business planning, operations, and daily work.
In accordance with commitments to environmental protection and stewardship, FPL, Gulf, and NextEra Energy, Inc. endeavor to:

Comply:
- Comply with all applicable environmental laws, regulations, and permits
- Proactively identify environmental risks and take action to mitigate those risks
- Pursue opportunities to exceed environmental standards
- Participate in the legislative and regulatory process to develop environmental laws, regulations, and policies that are technically sound and economically feasible
- Design, construct, operate, and maintain facilities in an environmentally sound and responsible manner

Conserve:
- Prevent pollution, minimize waste, and conserve natural resources
- Avoid, minimize, and/or mitigate impacts to habitat and wildlife
- Promote the efficient use of energy, both within our company and in our communities
- Seek innovative solutions

Communicate:
- Invest in environmental training and awareness to achieve a corporate culture of environmental excellence
- Maintain an open dialogue with stakeholders on environmental matters and performance
- Communicate this policy to all employees and publish it on the corporate website

Continuously Improve:
- Establish, monitor, and report progress toward environmental targets
- Review and update this policy on a regular basis
- Drive continuous improvement through ongoing evaluations of our environmental management system to incorporate lessons learned and best practices

FPL and Gulf's parent company, NextEra Energy, Inc., updated this policy in 2020 to reflect changing expectations and ensure that employees are doing the utmost to protect the environment. FPL and Gulf comply with all environmental laws, regulations, and permit requirements, and they design, construct, and operate their facilities in an environmentally sound and responsible manner. FPL and Gulf also respond immediately and effectively to any known environmental hazards or non-compliance situations. The commitment to the
environment does not end there. FPL and Gulf proactively pursue opportunities to perform better than current environmental standards require, including reducing waste and emission of pollutants, recycling materials, and conserving natural resources throughout their operations and day-to-day work activities. FPL and Gulf encourage cost-effective, efficient uses of energy, both within the Company and by their customers. These actions are just a few examples of how FPL and Gulf are committed to the environment.

To ensure FPL and Gulf are adhering to their environmental commitment, they have developed rigorous environmental governance procedures and programs. These include its Environmental Assurance Program. Through this program, FPL and Gulf conduct periodic environmental self-evaluations to verify that its operations comply with environmental laws, regulations, and permit requirements. Regular evaluations also help identify best practices and opportunities for improvement.

### IV.E Environmental Management

In order to successfully implement the Environmental Policy, FPL and Gulf have developed a robust Environmental Management System to direct and control the fulfillment of the organization’s environmental responsibilities. A key component of the system is an Environmental Assurance Program, which is described in section IV.F below. Other system components include: executive management support and commitment, dedicated environmental corporate governance program, written environmental policies and procedures, delineation of organizational responsibilities and individual accountabilities, allocation of appropriate resources for environmental compliance management (which includes reporting and corrective action when non-compliance occurs), environmental incident and/or emergency response, environmental risk assessment/management, environmental regulatory development and tracking, and environmental management information systems.

### IV.F Environmental Assurance Program

FPL and Gulf’s Environmental Assurance Program consists of activities that are designed to evaluate environmental performance, verify compliance with corporate policy as well as legal and regulatory requirements, and communicate results to corporate management. The principal mechanism for pursuing environmental assurance is an environmental audit. An environmental audit is defined as a management tool comprised of a systematic, documented, periodic, and objective evaluation of the performance of the organization and its specific management systems and equipment designed to protect the environment. An environmental audit’s primary objective is to facilitate management control of environmental practices and assess compliance.
with existing environmental regulatory requirements and corporate policies. In addition to FPL and Gulf facility audits, through the Environmental Assurance Program, audits of third-party vendors used for recycling and/or disposal of waste generated by FPL and Gulf operations are performed. Vendor audits provide information used for selecting candidate or incumbent vendors for disposal and recycling needs.

In addition to periodic environmental audits, NextEra Energy Inc.’s Environmental Construction Compliance Assurance Program provides routine onsite inspections during construction and site-specific environmental training to everyone anticipated to be onsite during construction. Similar to an environmental audit, these inspections are performed to ensure compliance with the requirements of environmental permits, licenses, and corporate policies during the construction phase.

FPL and Gulf have also implemented a Corporate Environmental Governance System in which quarterly reviews are performed of each business unit deemed to have potential for significant environmental exposure. Quarterly reviews evaluate operations for potential environmental risks and consistency with the Environmental Policy. Items tracked during the quarterly reviews include processes for the identification and management of environmental risks, metrics, and indicators and progress / changes since the most recent review.

**IV.G Preferred and Potential Sites**

Based upon projection of future resource needs and analyses of viable resource options, 26 Preferred Sites and 13 Potential Sites have been identified for adding future generation. Some of these sites currently have existing generation. Preferred Sites are those locations where significant reviews have taken place and action has either been taken, action is committed, or it is likely that action will be taken to site new generation. Potential Sites are those with attributes that would support the siting of generation and are under consideration as a location for future generation. The identification of a Potential Site does not necessarily indicate that a definitive decision to pursue new generation (or generation expansion or modernization in the case of an existing generation site) at that location has been made, nor does this designation necessarily indicate the that size or technology of a generating resource has been determined. The Preferred Sites and Potential Sites are discussed in separate sections below.

**IV.G.1 Preferred Sites**

For the 2020 Ten Year Site Plan, 26 Preferred Sites have been identified. These include a combination of existing and new sites in both the FPL and Gulf areas for the development of
solar generation facilities, natural gas-fueled combined cycle and combustion turbine units, battery storage, and/or nuclear generation. Sites for a number of solar additions in 2020 and 2021 have been selected, and these sites are described in this section. Potential sites for possible 2022-on solar additions, plus other types of generation, are discussed in the Potential Site section later in this chapter.

These 26 Preferred Sites are listed in Table IV.G.1 below, and information regarding each site is then presented on the following pages. The sites are presented in general chronological order of when resources are projected to be added to the FPL and Gulf areas. The topographical features of each site, land use, and facility layout figures are provided at the end of this chapter.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>County</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hibiscus Solar Energy Center</td>
<td>Palm Beach</td>
<td>Solar</td>
</tr>
<tr>
<td>Okeechobee Solar Energy Center</td>
<td>Okeechobee</td>
<td>Solar</td>
</tr>
<tr>
<td>Southfork Solar Energy Center</td>
<td>Manatee</td>
<td>Solar</td>
</tr>
<tr>
<td>Echo River Solar Energy Center</td>
<td>Suwannee</td>
<td>Solar</td>
</tr>
<tr>
<td>Lakeside Solar Energy Center</td>
<td>Okeechobee</td>
<td>Solar</td>
</tr>
<tr>
<td>Trailside Solar Energy Center</td>
<td>St. Johns</td>
<td>Solar</td>
</tr>
<tr>
<td>Union Springs Solar Energy Center</td>
<td>Union</td>
<td>Solar</td>
</tr>
<tr>
<td>Magnolia Springs Solar Energy Center</td>
<td>Clay</td>
<td>Solar</td>
</tr>
<tr>
<td>Egret Solar Energy Center</td>
<td>Baker</td>
<td>Solar</td>
</tr>
<tr>
<td>Nassau Solar Energy Center</td>
<td>Nassau</td>
<td>Solar</td>
</tr>
<tr>
<td>Pelican Solar Energy Center</td>
<td>St. Lucie</td>
<td>Solar</td>
</tr>
<tr>
<td>Palm Bay Solar Energy Center</td>
<td>Brevard</td>
<td>Solar</td>
</tr>
<tr>
<td>Discovery Solar Energy Center</td>
<td>Brevard</td>
<td>Solar</td>
</tr>
<tr>
<td>Orange Blossom Solar Energy Center</td>
<td>Indian River</td>
<td>Solar</td>
</tr>
<tr>
<td>Sabal Palm Solar Energy Center</td>
<td>Palm Beach</td>
<td>Solar</td>
</tr>
<tr>
<td>Fort Drum Solar Energy Center</td>
<td>Okeechobee</td>
<td>Solar</td>
</tr>
<tr>
<td>Rodeo Solar Energy Center</td>
<td>DeSoto</td>
<td>Solar</td>
</tr>
<tr>
<td>Willow Solar Energy Center</td>
<td>Manatee</td>
<td>Solar</td>
</tr>
<tr>
<td>Manatee Energy Storage Center</td>
<td>Manatee</td>
<td>Battery</td>
</tr>
<tr>
<td>Sunshine Gateway Energy Storage Center</td>
<td>Columbia</td>
<td>Battery</td>
</tr>
<tr>
<td>Echo River Energy Storage Center</td>
<td>Suwanee</td>
<td>Battery</td>
</tr>
<tr>
<td>Dania Beach Clean Energy Center Unit 7</td>
<td>Broward</td>
<td>CC</td>
</tr>
<tr>
<td>Turkey Point Units 6&amp;7</td>
<td>Miami-Dade</td>
<td>Nuclear</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Site Name</th>
<th>County</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Springs Solar Energy Center</td>
<td>Jackson</td>
<td>Solar</td>
</tr>
<tr>
<td>Chautauqua Solar Energy Center</td>
<td>Walton</td>
<td>Solar</td>
</tr>
<tr>
<td>Crist Unit 8</td>
<td>Escambia</td>
<td>CT</td>
</tr>
</tbody>
</table>

Table IV.G.1: List of FPL & Gulf Preferred Sites
### Preferred Site #1 Hibiscus Solar Energy Center, Palm Beach County

<table>
<thead>
<tr>
<th>Facility Acreage</th>
<th>402</th>
</tr>
</thead>
<tbody>
<tr>
<td>COD</td>
<td>Q2 2020</td>
</tr>
<tr>
<td>For PV facilities: tracking or fixed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

#### Reference Maps

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>USGS Map</td>
</tr>
<tr>
<td>b.</td>
<td>Proposed Facilities Layout</td>
</tr>
<tr>
<td>c.</td>
<td>Map of Site and Adjacent Areas</td>
</tr>
<tr>
<td>d.</td>
<td>Land Use Map of site and Adjacent Areas</td>
</tr>
</tbody>
</table>

#### Existing Land Uses

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Site</td>
<td>Abandoned citrus and pastureland</td>
</tr>
<tr>
<td>Adjacent Areas</td>
<td>Residential, abandoned citrus, and pastureland</td>
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</table>

#### General Environment Features On and In the Site Vicinity

<p>| | |</p>
<table>
<thead>
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<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>Natural Environment</td>
</tr>
<tr>
<td>2.</td>
<td>Listed Species</td>
</tr>
<tr>
<td>3.</td>
<td>Natural Resources of Regional Significance Status</td>
</tr>
<tr>
<td>4.</td>
<td>Other Significant Features</td>
</tr>
</tbody>
</table>

#### Design Features and Mitigation Options

The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

#### Local Government Future Land Use Designations

Solar power generation is allowed within existing Agricultural land use designation.

#### Site Selection Criteria Factors

The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

#### Water Resources

Existing onsite water resources will be used to meet water requirements.

#### Project Water Quantities for Various Uses

<p>| | |</p>
<table>
<thead>
<tr>
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<tr>
<td>Process: Not Applicable for Solar</td>
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<tr>
<td>Potable: Minimal, existing permitted supply</td>
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<tr>
<td>Panel Cleaning: Minimal and only in absence of sufficient rainfall</td>
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#### Water Supply Sources by Type

<p>| | |</p>
<table>
<thead>
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<td>Cooling: Not Applicable for Solar</td>
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<tr>
<td>Process: Not Applicable for Solar</td>
<td></td>
</tr>
<tr>
<td>Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply</td>
<td></td>
</tr>
</tbody>
</table>

#### Water Conservation Strategies Under Consideration

Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Water Discharges and Pollution Control

Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Solar does not require fuel and no waste products will be generated at the site.

#### Air Emissions and Control Systems

Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable. Combustor Design - Not Applicable.

#### Noise Emissions and Control Systems

PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications

USACE Section 404 Permit received: August 22, 2018
Florida Environmental Resources Permit (ERP) received: February 13, 2018
### Preferred Site #2 Okeechobee Solar Energy Center, Okeechobee County

<table>
<thead>
<tr>
<th>Facility Acreage</th>
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<tr>
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<td>For PV facilities: tracking or fixed</td>
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</table>

#### Reference Maps

- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas
- e. Existing Land Uses
  - Site: Pastureland and fallow crop land
  - Adjacent Areas: Pastureland, conservation, and existing electrical transmission

#### General Environment Features On and In the Site Vicinity

1. Natural Environment: The site is comprised of pastureland, fallow citrus, pine Flatwoods, mixed forested wetlands, saw palmetto prairie, and freshwater marsh.
2. Listed Species: Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3. Natural Resources of Regional Significance Status: The Okeechobee Solar site is adjacent to the Ft. Drum Marsh Conservation Area.
4. Other Significant Features: FPL is not aware of any other significant features of the site.

#### Design Features and Mitigation Options

The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

#### Local Government Future Land Use Designations

Local government future land use designation includes agricultural production and power generation.

#### Site Selection Criteria Factors

The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

#### Water Resources

Existing onsite water resources will be used to meet water requirements.

#### Geological Features of Site and Adjacent Areas

See Figure at the end of this Chapter site is located in the South Florida region.

#### Project Water Quantities for Various Uses

- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Minimal and only in absence of sufficient rainfall.

#### Water Supply Sources by Type

- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

#### Water Conservation Strategies Under Consideration

Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Water Discharges and Pollution Control

Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Solar does not require fuel and no waste products will be generated at the site.

#### Air Emissions and Control Systems

- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

#### Noise Emissions and Control Systems

PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications

- USACE Section 404 Permit received: October 18, 2018
- Florida Environmental Resources Permit (ERP) received: September 21, 2018
- Okeechobee County Development Approval: July 24, 2018
## Preferred Site #3 Southfork Solar Energy Center, Manatee County

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</tbody>
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### Reference Maps

a. USGS Map  
b. Proposed Facilities Layout  
c. Map of Site and Adjacent Areas  
d. Land Use Map of site and Adjacent Areas  
e. **Existing Land Uses**  
   - Site: Agricultural production and fallow crop land  
   - Adjacent Areas: Agricultural production, forested and non-forested uplands  

### General Environment Features On and In the Site Vicinity

1. Natural Environment  
   - Site is predominately agricultural with some forested wetland areas.  
2. Listed Species  
   - Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.  
3. Natural Resources of Regional Significance Status  
   - No natural resources of regional significance status at or adjacent to the site.  
4. Other Significant Features  
   - FPL is not aware of any other significant features of the site.  

### Design Features and Mitigation Options

- The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

### Local Government Future Land Use Designations

- Solar power generation is allowed within existing Agricultural land use designation.

### Site Selection Criteria Factors

- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

### Water Resources

- Existing onsite water resources will be used to meet water requirements.

### Geological Features of Site and Adjacent Areas

- See Figure at the end of this chapter site is located in the Central Florida region.

### Project Water Quantities for Various Uses

- Cooling: Not Applicable for Solar  
- Process: Not Applicable for Solar  
- Potable: Minimal, existing permitted supply  
- Panel Cleaning: Minimal and only in absence of sufficient rainfall.

### Water Supply Sources by Type

- Cooling: Not Applicable for Solar  
- Process: Not Applicable for Solar  
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

### Water Conservation Strategies Under Consideration

- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

### Water Discharges and Pollution Control

- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

- Solar does not require fuel and no waste products will be generated at the site.

### Air Emissions and Control Systems

- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.  
- Combustion Control - Not Applicable  
- Combustor Design - Not Applicable

### Noise Emissions and Control Systems

- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

### Status of Applications

- USACE Section 404 Permit received: November 13, 2018  
- Florida Environmental Resources Permit (ERP) received: September 21, 2018  
- Manatee County Site Plan Approval: February 6, 2019
### Preferred Site #4 Echo River Solar Energy Center, Suwannee County

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**Reference Maps**

<table>
<thead>
<tr>
<th>a.</th>
<th>USGS Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.</td>
<td>Proposed Facilities Layout</td>
</tr>
<tr>
<td>c.</td>
<td>Map of Site and Adjacent Areas</td>
</tr>
<tr>
<td>d.</td>
<td>Land Use Map of site and Adjacent Areas</td>
</tr>
<tr>
<td>e.</td>
<td>Site Pines plantation and pastureland</td>
</tr>
<tr>
<td>f.</td>
<td>Adjacent Areas Pine plantation and pastureland</td>
</tr>
</tbody>
</table>

**Existing Land Uses**

| g. | Map of Site and Adjacent Areas |

**General Environment Features On and In the Site Vicinity**

1. **Natural Environment**
   - Site is predominately pine plantation and pasture with forested and herbaceous wetland areas.

2. **Listed Species**
   - Listed species known to occur include gopher tortoise. No adverse impacts are anticipated to listed species.

3. **Natural Resources of Regional Significance Status**
   - Rocky Creek runs through the site.

4. **Other Significant Features**
   - FPL is not aware of any other significant features of the site.

5. **Design Features and Mitigation Options**
   - The design includes an approximately 74.5 solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

6. **Local Government Future Land Use Designations**
   - Local government future land use designation includes agricultural production and power generation.

7. **Site Selection Criteria Factors**
   - The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

8. **Water Resources**
   - Existing onsite water resources will be used to meet water requirements.

9. **Geological Features of Site and Adjacent Areas**
   - See Figure at the end of this Chapter site is located in the North Florida region.

10. **Project Water Quantities for Various Uses**
    - Cooling: Not applicable for PV
    - Process: Not applicable for PV
    - Potable: Minimal, existing permitted supply
    - Panel Cleaning: Minimal and only in absence of sufficient rainfall

11. **Water Supply Sources by Type**
    - Cooling: Not Applicable for Solar
    - Process: Not Applicable for Solar
    - Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

12. **Water Conservation Strategies Under Consideration**
    - Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

13. **Water Discharges and Pollution Control**
    - Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

14. **Fuel Delivery, Storage, Waste Disposal, and Pollution Control**
    - Solar does not require fuel and no waste products will be generated at the site.

15. **Air Emissions and Control Systems**
    - Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
    - Combustion Control - Not Applicable
    - Combustor Design - Not Applicable

16. **Noise Emissions and Control Systems**
    - PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

17. **Status of Applications**
    - USACE Section 404 Permit received: N/A
    - Florida Environmental Resources Permit (ERP) received: September 14, 2018
    - Suwannee County Development Approval: May 15, 2018

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Florida Power & Light Company and Gulf Power Company 235
Preferred Site #5 Lakeside Solar Energy Center, Okeechobee County

<table>
<thead>
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</table>

### Reference Maps
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas

### Existing Land Uses
- Site: Pastureland
- Adjacent Areas: Pastureland, low density residential

### Natural Environment
The site is predominantly comprised of pastureland with freshwater herbaceous wetlands, drainage ditches, and a retention pond.

### Listed Species
Listed species known to occur onsite include Audubon's crested caracara, gopher tortoise and Florida burrowing owl. No adverse impacts are anticipated to listed species.

### Natural Resources of Regional Significance Status
The Lakeside Solar site is adjacent to the Nubbin Slough and the Nubbin Slough Stormwater Treatment Area, which ultimately discharge to Lake Okeechobee, an Outstanding Florida Water.

### Other Significant Features
FPL is not aware of any other significant features of the site.

### Design Features and Mitigation Options
The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. The project has been designed to maximize use of existing uplands to avoid wetland and surface water impacts. Therefore, no compensatory mitigation is required for this site.

### Local Government Future Land Use Designations
Local government future land use for this site is Rural Estate.

### Site Selection Criteria Factors
The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

### Water Resources
Existing onsite water resources will be used to meet water requirements.

### Geological Features of Site and Adjacent Areas
See Figure at the end of this Chapter. The site is located in the South Florida region.

### Project Water Quantities for Various Uses
- **Cooling:** Not Applicable for Solar
- **Process:** Not Applicable for Solar
- **Potable:** Minimal, existing permitted supply
- **Panel Cleaning:** Minimal and only in absence of sufficient rainfall

### Water Supply Sources by Type
- **Cooling:** Not Applicable for Solar
- **Process:** Not Applicable for Solar
- **Potable and Panel Cleaning:** Delivered to Site by Truck or via existing permitted supply

### Water Conservation Strategies Under Consideration
Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

### Water Discharges and Pollution Control
Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants. Vegetated Natural Buffers will be incorporated adjacent to access paths to treat stormwater runoff.

### Fuel Delivery, Storage, Waste Disposal, and Pollution Control
Solar does not require fuel and no waste products will be generated at the site.

### Air Emissions and Control Systems
- **Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.**
- **Combustion Control - Not Applicable**
- **Combustor Design - Not Applicable**

### Noise Emissions and Control Systems
PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

### Status of Applications
- **USACE Section 404 Permit received:** N/A
- **Florida Environmental Resources Permit (ERP) received:** February 15, 2019
- **Okeechobee County Development Approval:** November 9, 2018

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Florida Power & Light Company and Gulf Power Company 236
### Preferred Site #6 Trailside Solar Energy Center, St. Johns County

<table>
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<th>Facility Acreage</th>
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</table>

#### Reference Maps

- USGS Map
- Proposed Facilities Layout
- Map of Site and Adjacent Areas
- Land Use Map of site and Adjacent Areas
- USGS Map
- Existing Land Uses
- pine plantation
- Open Rural

#### Natural Environment

- The site is predominantly comprised of pine plantation with freshwater forested wetlands.

#### Ecological Considerations

- Due to the existing disturbed nature of the site and lack of suitable onsite habitat, no impacts will occur to listed species.
- Florida Forever Board of Trustees project as the Matanzas to Ocala Conservation Corridor is located at the southeast corner.
- FPL is not aware of any other significant features of the site.

#### Design Features and Mitigation Options

- The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Compensatory mitigation for unavoidable wetland impacts will be accomplished through purchase of credits from Sundew Mitigation Bank.

#### Local Government Future Land Use Designations

- Local government future land use for this site is Agriculture.

#### Water Resources

- Existing onsite water resources will be used to meet water requirements.

#### Water Conservation Strategies Under Consideration

- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Noise Emissions and Control Systems

- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications

- USACE Section 404 Permit received: January 31, 2019
- Florida Environmental Resources Permit (ERP) received: February 7, 2019
- St. John's County Development Approval: November 15, 2018 (SUP) and December 12, 2018 (NZV)
### Preferred Site #7 Union Springs Solar Energy Center, Union County

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<td>For PV facilities: tracking or fixed</td>
<td>Tracking</td>
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</table>

**Reference Maps**
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas
  - See Figures at the end of this chapter

**Existing Land Uses**
- Site
  - Pine plantation
- Adjacent Areas
  - Pine plantation and pine processing facility

**General Environment Features On and In the Site Vicinity**

1. **Natural Environment**
   - Site is predominately pine plantation with forested and herbaceous wetland areas.

2. **Listed Species**
   - Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.

3. **Natural Resources of Regional Significance Status**
   - No natural resources of regional significance status at or adjacent to the site.

4. **Other Significant Features**
   - FPL is not aware of any other significant features of the site.

**Design Features and Mitigation Options**
- The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

**Local Government Future Land Use Designations**
- Local government future land use for this site is Agricultural.

**Site Selection Criteria Factors**
- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

**Water Resources**
- Existing onsite water resources will be used to meet water requirements.

**Geological Features of Site and Adjacent Areas**
- See Figure at the end of this Chapter site is located in the Panhandle Florida region.

**Project Water Quantities for Various Uses**
- Cooling: Not applicable for PV
- Process: Not applicable for PV
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Minimal and only in absence of sufficient rainfall

**Water Supply Sources by Type**
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply

**Water Conservation Strategies Under Consideration**
- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

**Water Discharges and Pollution Control**
- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**
- Solar does not require fuel and no waste products will be generated at the site.

**Air Emissions and Control Systems**
- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

**Noise Emissions and Control Systems**
- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

**Status of Applications**
- Florida Environmental Resources Permit (ERP) received: December 19, 2018
- USACE Section 404 received: N/A
- Union County Site Plan Approval: Pending Union County Special Use Exception received: July 16, 2018
## Preferred Site #8 Magnolia Springs Solar Energy Center, Clay County

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<td>For PV facilities: tracking or fixed</td>
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### Reference Maps

- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
  - See Figures at the end of this chapter
- d. Land Use Map of site and Adjacent Areas
- e. Site
  - Pine plantation
- f. Adjacent Areas
  - Pine plantation and low density residential

### Existing Land Uses

<table>
<thead>
<tr>
<th>General Environment Features On and In the Site Vicinity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Natural Environment</td>
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<td>4. Other Significant Features</td>
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<td>h. Local Government Future Land Use Designations</td>
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<tr>
<td>i. Site Selection Criteria Factors</td>
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<td>j. Water Resources</td>
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<td>k. Geological Features of Site and Adjacent Areas</td>
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<td>l. Project Water Quantities for Various Uses</td>
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<td>m. Water Supply Sources by Type</td>
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<td>n. Water Conservation Strategies Under Consideration</td>
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<td>o. Water Discharges and Pollution Control</td>
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<td>p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control</td>
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<td>q. Air Emissions and Control Systems</td>
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<td>r. Noise Emissions and Control Systems</td>
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<td>s. Status of Applications</td>
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### Preferred Site #9 Egret Solar Energy Center, Baker County

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#### Reference Maps
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas: See Figures at the end of this chapter
- d. Land Use Map of site and Adjacent Areas

#### Existing Land Uses
- Site: Pine plantation
- Adjacent Areas: Pine plantation and low density residential

#### General Environment Features On and In the Site Vicinity

1. **Natural Environment**: Site is predominately pine plantation with forested and herbaceous wetland areas.
2. **Listed Species**: Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3. **Natural Resources of Regional Significance Status**: No natural resources of regional significance status at or adjacent to the site.
4. **Other Significant Features**: FPL is not aware of any other significant features of the site.

#### Design Features and Mitigation Options
- The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

#### Local Government Future Land Use Designations
- Local government future land use for this site is Agricultural.

#### Site Selection Criteria Factors
- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

#### Water Resources
- Existing onsite water resources will be used to meet water requirements.

#### Geological Features of Site and Adjacent Areas
- See Figure at the end of this Chapter site is located in the Panhandle Florida region.

#### Project Water Quantities for Various Uses
- Cooling: Not applicable for PV
- Process: Not applicable for PV
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Minimal and only in absence of sufficient rainfall

#### Water Supply Sources by Type
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

#### Water Conservation Strategies Under Consideration
- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Water Discharges and Pollution Control
- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control
- Solar does not require fuel and no waste products will be generated at the site.

#### Air Emissions and Control Systems
- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

#### Noise Emissions and Control Systems
- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications
- Florida Environmental Resources Permit (ERP) received: pending
- USACE Section 404 received: pending
- Baker County Special Use Approval: pending
### Preferred Site #10 Nassau Solar Energy Center, Nassau County

<table>
<thead>
<tr>
<th>Facility Acreage</th>
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<tr>
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#### Reference Maps
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
  - See Figures at the end of this chapter
- d. Land Use Map of site and Adjacent Areas

#### Existing Land Uses
- Site
  - Pine plantation
- Adjacent Areas
  - Pine plantation and low density residential

#### General Environment Features On and In the Site Vicinity
- 1. Natural Environment
  - Site is predominately pine plantation with forested wetland areas.
- 2. Listed Species
  - Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
- 3. Natural Resources of Regional Significance Status
  - No natural resources of regional significance status at or adjacent to the site.
- 4. Other Significant Features
  - FPL is not aware of any other significant features of the site.

#### Design Features and Mitigation Options
- The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

#### Local Government Future Land Use Designations
- Local government future land use for this site is Industrial.

#### Site Selection Criteria Factors
- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

#### Water Resources
- Existing onsite water resources will be used to meet water requirements.

#### Geological Features of Site and Adjacent Areas
- See Figure at the end of this Chapter site is located in the Panhandle Florida region.

#### Project Water Quantities for Various Uses
- Cooling: Not applicable for PV
- Process: Not applicable for PV
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Minimal and only in absence of sufficient rainfall

#### Water Supply Sources by Type
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

#### Water Conservation Strategies Under Consideration
- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Water Discharges and Pollution Control
- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control
- Solar does not require fuel and no waste products will be generated at the site.

#### Air Emissions and Control Systems
- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

#### Noise Emissions and Control Systems
- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications
- Florida Environmental Resources Permit (ERP) received: August 1, 2019
- USACE NW51 Verification received: June 12, 2019
- Nassau County Site Plan Approval: September 24, 2019
## Preferred Site #11 Pelican Solar Energy Center, St. Lucie County

<table>
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<tr>
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</table>

### Reference Maps

- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas

### Existing Land Uses

<table>
<thead>
<tr>
<th>Site</th>
<th>Citrus groves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjacent Areas</td>
<td>Citrus groves, fallow cropland</td>
</tr>
</tbody>
</table>

### General Environment Features On and In the Site Vicinity

1. **Natural Environment**
   The site is predominantly citrus groves with agricultural drainage ditches and a spoil area.

2. **Listed Species**
   Listed species known to forage within surrounding area include Audubon's crested caracara. No adverse impacts are anticipated to listed species.

3. **Natural Resources of Regional Significance Status**
   No natural resources of regional significance status at or adjacent to the site.

4. **Other Significant Features**
   FPL is not aware of any other significant features of the site.

### Design Features and Mitigation Options

The design includes an approximately 74.5 MW solar fixed panel PV facility, stormwater system and off-site transmission substation. The project has been designed to maximize use of existing uplands to avoid wetland and surface water impacts. Therefore, no compensatory mitigation is required for this site.

### Local Government Future Land Use Designations

Local government future land use for this site is Agricultural.

### Site Selection Criteria Factors

The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

### Water Resources

Existing onsite water resources will be used to meet water requirements.

### Geological Features of Site and Adjacent Areas

See Figure at the end of this Chapter. The site is located in the South Florida region.

### Project Water Quantities for Various Uses

- **Cooling:** Not Applicable for Solar
- **Process:** Not Applicable for Solar
- **Potable:** Minimal, existing permitted supply
- **Panel Cleaning:** Minimal and only in absence of sufficient rainfall.

### Water Supply Sources by Type

- **Cooling:** Not Applicable for Solar
- **Process:** Not Applicable for Solar
- **Potable and Panel Cleaning:** Delivered to Site by Truck or via existing permitted supply.

### Water Conservation Strategies Under Consideration

Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

### Water Discharges and Pollution Control

Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants. Vegetated Natural Buffers will be incorporated adjacent to access paths to treat stormwater runoff.

### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Solar does not require fuel and no waste products will be generated at the site.

### Air Emissions and Control Systems

Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- **Combustion Control - Not Applicable**
- **Combustor Design - Not Applicable**

### Noise Emissions and Control Systems

PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

### Status of Applications

- **USACE Section 404 Permit received:** N/A
- **Florida Environmental Resources Permit (ERP) received:** April 29, 2019
- **St. Lucie County Development Approval:** August 13, 2019
## Preferred Site #12 Palm Bay Solar Energy Center, Brevard County

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<th>Facility Acreage</th>
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</table>

### Reference Maps
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas

### Existing Land Uses
- Site: Cleared citrus grove that is currently in use as cattle pasture
- Adjacent Areas: Agricultural, forested uplands and wetlands, and single-family residential

### General Environment Features On and In the Site Vicinity
1. Natural Environment: The site is predominantly comprised of agricultural land with freshwater herbaceous wetlands and drainage ditches.
2. Listed Species: Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3. Natural Resources of Regional Significance Status: No natural resources of regional significance status at or adjacent to the site.
4. Other Significant Features: FPL is not aware of any other significant features of the site.

### Design Features and Mitigation Options
- The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

### Local Government Future Land Use Designations
- Local government future land use for this site is Rural Residential.

### Site Selection Criteria Factors
- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

### Water Resources
- Existing onsite water resources will be used to meet water requirements.

### Geological Features of Site and Adjacent Areas
- See Figure at the end of this Chapter. The site is located in the Central Florida region.

### Project Water Quantities for Various Uses
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Minimal and only in absence of sufficient rainfall.

### Water Supply Sources by Type
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

### Water Conservation Strategies Under Consideration
- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

### Water Discharges and Pollution Control
- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

### Fuel Delivery, Storage, Waste Disposal, and Pollution Control
- Solar does not require fuel and no waste products will be generated at the site.

### Air Emissions and Control Systems
- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

### Noise Emissions and Control Systems
- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

### Status of Applications
- USACE Section 404 Permit received: 7/12/2019
- Florida Environmental Resources Permit (ERP) received: 5/21/2019
- City of Palm Bay Development Approval: Pending
# Preferred Site #13 Discovery Solar Energy Center, Brevard County

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<td>Fixed</td>
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## Reference Maps

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<table>
<thead>
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<tbody>
<tr>
<td>a.</td>
<td>USGS Map</td>
</tr>
<tr>
<td>b.</td>
<td>Proposed Facilities Layout</td>
</tr>
<tr>
<td>c.</td>
<td>Map of Site and Adjacent Areas</td>
</tr>
<tr>
<td>d.</td>
<td>Land Use Map of site and Adjacent Areas</td>
</tr>
</tbody>
</table>

## Existing Land Uses

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>Undeveloped former citrus grove</td>
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<tr>
<td>Adjacent Areas</td>
<td>Undeveloped and industrial</td>
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## General Environment Features On and In the Site Vicinity

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>Natural Environment</td>
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<tr>
<td>2.</td>
<td>Listed Species</td>
</tr>
<tr>
<td>3.</td>
<td>Natural Resources of Regional Significance Status</td>
</tr>
<tr>
<td>4.</td>
<td>Other Significant Features</td>
</tr>
</tbody>
</table>

## Design Features and Mitigation Options

The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Compensatory mitigation for unavoidable wetland impacts will be accomplished through purchase of credits from NeoVerde Mitigation Bank.

## Local Government Future Land Use Designations

Site is federal land and therefore exempt from local zoning.

## Site Selection Criteria Factors

The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

## Water Resources

Existing onsite water resources will be used to meet water requirements.

## Geological Features of Site and Adjacent Areas

See Figure at the end of this Chapter site is located in the Central Florida region.

## Project Water Quantities for Various Uses

<table>
<thead>
<tr>
<th>Uses</th>
<th>Cooling</th>
<th>Process</th>
<th>Potable</th>
<th>Panel Cleaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable for PV</td>
<td>Not applicable for PV</td>
<td>Minimal, existing permitted supply</td>
<td>Minimal and only in absence of sufficient rainfall</td>
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</table>

## Water Supply Sources by Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Cooling</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Not Applicable for Solar</td>
<td>Not Applicable for Solar</td>
</tr>
<tr>
<td></td>
<td>Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply</td>
<td></td>
</tr>
</tbody>
</table>

## Water Conservation Strategies Under Consideration

Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

## Water Discharges and Pollution Control

Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

## Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Solar does not require fuel and no waste products will be generated at the site.

## Air Emissions and Control Systems

Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.

Combustion Control - Not Applicable

Combustor Design - Not Applicable

## Noise Emissions and Control Systems

PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

## Status of Applications

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>USACE Section 404 Permit received</td>
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<td>Florida Environmental Resources Permit (ERP) received</td>
<td>October 24, 2019</td>
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<tr>
<td>Brevard County Site Plan Approval</td>
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Florida Power & Light Company and Gulf Power Company 244
### Preferred Site #14 Orange Blossom Solar Energy Center, Indian River County

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### Reference Maps

<table>
<thead>
<tr>
<th>a. USGS Map</th>
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<tbody>
<tr>
<td>b. Proposed Facilities Layout</td>
<td></td>
</tr>
<tr>
<td>c. Map of Site and Adjacent Areas</td>
<td>See Figures at the end of this chapter</td>
</tr>
<tr>
<td>d. Land Use Map of site and Adjacent Areas</td>
<td></td>
</tr>
</tbody>
</table>

### Existing Land Uses

<table>
<thead>
<tr>
<th>Site</th>
<th>Citrus grove</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjacent Areas</td>
<td>Citrus groves, fallow cropland</td>
</tr>
</tbody>
</table>

### General Environment Features On and In the Site Vicinity

1. **Natural Environment**
   - The site is predominantly a citrus grove with canals/ditches. The site likely contains no jurisdictional wetlands.

2. **Listed Species**
   - Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.

3. **Natural Resources of Regional Significance Status**
   - No natural resources of regional significance status at or adjacent to the site.

4. **Other Significant Features**
   - FPL is not aware of any other significant features of the site.

### Design Features and Mitigation Options

- The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

### Local Government Future Land Use Designations

- Local government future land use for this site is citrus, plant crops, and grazing.

### Site Selection Criteria Factors

- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

### Water Resources

- Existing onsite water resources will be used to meet water requirements.

### Geological Features of Site and Adjacent Areas

- See Figure at the end of this Chapter. The site is located in the Central Florida region.

### Project Water Quantities for Various Uses

- **Cooling**: Not Applicable for Solar
- **Process**: Not Applicable for Solar
- **Potable**: Minimal, existing permitted supply
- **Panel Cleaning**: Minimal and only in absence of sufficient rainfall

### Water Supply Sources by Type

- **Cooling**: Not Applicable for Solar
- **Process**: Not Applicable for Solar
- **Potable and Panel Cleaning**: Delivered to Site by Truck or via existing permitted supply

### Water Conservation Strategies Under Consideration

- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

### Water Discharges and Pollution Control

- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

- Solar does not require fuel and no waste products will be generated at the site.

### Air Emissions and Control Systems

- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

### Noise Emissions and Control Systems

- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

### Status of Applications

- USACE Section 404 Permit received: N/A
- Florida Environmental Resources Permit (ERP) received: 4/26/2019
- Indian River County Approval: 8/13/2019
### Preferred Site #15 Sabal Palm Solar Energy Center, Palm Beach County

<table>
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<th>Facility Acreage</th>
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</table>

#### Reference Maps

- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas

- e. Existing Land Uses
  - Site
    - Fallow Agricultural Production
  - Adjacent Areas
    - Agriculture, single-family residential, vacant land

#### General Environment Features On and In the Site Vicinity

1. Natural Environment
   - The site is predominantly comprised of fallow agricultural land with freshwater herbaceous wetlands and drainage ditches.

2. Listed Species
   - Due to the existing disturbed nature of the site and lack of suitable onsite habitat, no impacts will occur to listed species.

3. Natural Resources of Regional Significance Status
   - No natural resources of regional significance status at or adjacent to the site.

4. Other Significant Features
   - FPL is not aware of any other significant features of the site.

5. Design Features and Mitigation Options
   - The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Compensatory mitigation for unavoidable wetland impacts will be accomplished through purchase of credits from Bluefield Ranch Mitigation Bank.

6. Local Government Future Land Use Designations
   - Local government future land use for this site is Rural Residential.

7. Site Selection Criteria Factors
   - The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

8. Water Resources
   - Existing onsite water resources will be used to meet water requirements.

9. Geological Features of Site and Adjacent Areas
   - See Figure at the end of this Chapter. The site is located in the South Florida region.

10. Project Water Quantities for Various Uses
    - Cooling: Not Applicable for Solar
    - Process: Not Applicable for Solar
    - Potable: Minimal, existing permitted supply
    - Panel Cleaning: Minimal and only in absence of sufficient rainfall.

11. Water Supply Sources by Type
    - Cooling: Not Applicable for Solar
    - Process: Not Applicable for Solar
    - Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

12. Water Conservation Strategies Under Consideration
    - Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

13. Water Discharges and Pollution Control
    - Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

14. Fuel Delivery, Storage, Waste Disposal, and Pollution Control
    - Solar does not require fuel and no waste products will be generated at the site.

15. Air Emissions and Control Systems
    - Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
    - Combustion Control - Not Applicable
    - Combustor Design - Not Applicable

16. Noise Emissions and Control Systems
    - PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

17. Status of Applications
    - USACE Section 404 Permit received: Pending
    - Florida Environmental Resources Permit (ERP) received: Pending
    - Palm Beach County Development Approval: October 25, 2019
**Preferred Site #16 Fort Drum Solar Energy Center, Okeechobee County**

<table>
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<th>Facility Acreage</th>
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**Reference Maps**
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of Site and Adjacent Areas

**Existing Land Uses**
- Site: Pastureland and fallow crop land
- Adjacent Areas: Pastureland, conservation, and existing electrical transmission

**General Environment Features On and In the Site Vicinity**
1. **Natural Environment**
   - The site is comprised of pastureland, fallow citrus, pine Flatwoods, mixed forested wetlands, saw palmetto prairie, and freshwater marsh.
2. **Listed Species**
   - Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3. **Natural Resources of Regional Significance Status**
   - The Fort Drum Solar site is near the Ft. Drum Marsh Conservation Area.
4. **Other Significant Features**
   - FPL is not aware of any other significant features of the site.

**Design Features and Mitigation Options**
- The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

**Local Government Future Land Use Designations**
- Local government future land use designation includes agricultural production and power generation.

**Site Selection Criteria Factors**
- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

**Water Resources**
- Existing onsite water resources will be used to meet water requirements.

**Geological Features of Site and Adjacent Areas**
- See Figure at the end of this Chapter site is located in the South Florida region.

**Project Water Quantities for Various Uses**
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Minimal and only in absence of sufficient rainfall

**Water Supply Sources by Type**
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply

**Water Conservation Strategies Under Consideration**
- Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

**Water Discharges and Pollution Control**
- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**
- Solar does not require fuel and no waste products will be generated at the site.

**Air Emissions and Control Systems**
- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

**Noise Emissions and Control Systems**
- PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

**Status of Applications**
- USACE NW51 Verification: Pending
- Florida Environmental Resources Permit (ERP) received: Pending
- Okeechobee County Development Approval: Pending
### Preferred Site #17 Rodeo Solar Energy Center, Desoto County

<table>
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<td>COD</td>
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<td>For PV facilities: tracking or fixed</td>
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</table>

#### Reference Maps
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas
  - **Site**
  - Pastureland
  - Adjacent Areas
  - Utilities (solar), cropland and pastureland

#### Existing Land Uses

1. **Natural Environment**
   - The site is comprised of pastureland, freshwater herbaceous and forested wetlands, pine Flatwoods, shrub and brushland, and other open land.

2. **Listed Species**
   - Listed species known to occur onsite include Audubon's crested caracara and gopher tortoise. No adverse impacts are anticipated to listed species.

3. **Natural Resources of Regional Significance Status**
   - The site discharges to Sand Gully and Fish Branch, tributary to the Peace River, a Class III Florida water.

4. **Other Significant Features**
   - FPL is not aware of any other significant features of the site.

#### Design Features and Mitigation Options
- The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. The project has been designed to maximize use of existing uplands to avoid wetland impacts and minimize surface water impacts. Therefore, no compensatory mitigation is required for this site.

5. **Local Government Future Land Use Designations**
   - Local government future land use for this site is Rural/Agricultural.

6. **Site Selection Criteria Factors**
   - The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

7. **Water Resources**
   - Existing onsite water resources will be used to meet water requirements.

8. **Geological Features of Site and Adjacent Areas**
   - See Figure at the end of this Chapter. The site is located in the South Florida region.

9. **Project Water Quantities for Various Uses**
   - Cooling: Not Applicable for Solar
   - Process: Not Applicable for Solar
   - Potable: Minimal, existing permitted supply
   - Panel Cleaning: Minimal and only in absence of sufficient rainfall.

10. **Water Supply Sources by Type**
    - Cooling: Not Applicable for Solar
    - Process: Not Applicable for Solar
    - Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.

11. **Water Conservation Strategies Under Consideration**
    - Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

12. **Water Discharges and Pollution Control**
    - Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

13. **Fuel Delivery, Storage, Waste Disposal, and Pollution Control**
    - Solar does not require fuel and no waste products will be generated at the site.

14. **Air Emissions and Control Systems**
    - Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
    - Combustion Control - Not Applicable
    - Combustor Design - Not Applicable

15. **Noise Emissions and Control Systems**
    - PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

16. **Status of Applications**
    - USACE Section 404 Permit received: N/A
    - Florida Environmental Resources Permit (ERP) received: December 23, 2019
    - DeSoto County Development Approval: Pending

---

Florida Power & Light Company and Gulf Power Company 248
## Preferred Site #18 Willow Solar Energy Center, Manatee County

<table>
<thead>
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### Reference Maps

- **a. USGS Map**
- **b. Proposed Facilities Layout**
- **c. Map of Site and Adjacent Areas**
- **d. Land Use Map of site and Adjacent Areas**

### Existing Land Uses

- **Site**
  - Abandoned agricultural
- **Adjacent Areas**
  - Cropland and pastureland

### General Environment Features On and In the Site Vicinity

1. **Natural Environment**

   Site is predominately fallow cropland with drainage ditches/canals. Forested, herbaceous, and shrub marsh wetland areas are also present.

2. **Listed Species**

   Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.

3. **Natural Resources of Regional Significance Status**

   No natural resources of regional significance status at or adjacent to the site.

4. **Other Significant Features**

   FPL is not aware of any other significant features of the site.

### Design Features and Mitigation Options

The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

### Local Government Future Land Use Designations

Local government future land use for this site is Agriculture.

### Site Selection Criteria Factors

The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

### Water Resources

Existing onsite water resources will be used to meet water requirements.

### Geological Features of Site and Adjacent Areas

See Figure at the end of this chapter. The site is located in the Central Florida region.

### Project Water Quantities for Various Uses

- **Cooling:** Not Applicable for Solar
- **Process:** Not Applicable for Solar
- **Potable:** Minimal, existing permitted supply
- **Panel Cleaning:** Minimal and only in absence of sufficient rainfall.

### Water Supply Sources by Type

- **Cooling:** Not Applicable for Solar
- **Process:** Not Applicable for Solar
- **Potable and Panel Cleaning:** Delivered to Site by Truck or via existing permitted supply.

### Water Conservation Strategies Under Consideration

Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

### Water Discharges and Pollution Control

Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Solar does not require fuel and no waste products will be generated at the site.

### Air Emissions and Control Systems

- **Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.**
- **Combustion Control - Not Applicable**
- **Combustor Design - Not Applicable**

### Noise Emissions and Control Systems

PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

### Status of Applications

- **USACE Section 404 Permit received:** Pending
- **Florida Environmental Resources Permit (ERP) received:** Pending
- **Manatee County Approval:** Pending
### Preferred Site #19 Manatee Energy Storage Center, Manatee County

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</table>

#### Reference Maps

- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas

#### Existing Land Uses

- Site: Utility power generation
- Adjacent Areas: Utility power generation and agricultural production

#### General Environment Features On and In the Site Vicinity

1. Natural Environment: Site is predominately pine plantation with few forested and herbaceous wetland areas.
2. Listed Species: No adverse impacts are expected due to previous development and lack of suitable onsite habitat for listed species.
3. Natural Resources of Regional Significance Status: No natural resources of regional significance status at or adjacent to the site.
4. Other Significant Features: FPL is not aware of any other significant features of the site.

#### Design Features and Mitigation Options

The design includes an approximately 400MW, 2.5 hour Battery Storage facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

#### Local Government Future Land Use Designations

Local government future land use designation is Utilities, requiring modification to include Battery Storage.

#### Site Selection Criteria Factors

The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

#### Water Resources

- Groundwater will be used to meet water requirements.

#### Geological Features of Site and Adjacent Areas

See Figure at the end of this Chapter site is located in the Central Florida region.

#### Project Water Quantities for Various Uses

- Cooling: Not Applicable for Battery Storage
- Process: Not Applicable for Battery Storage
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Not applicable for Battery Storage

#### Water Supply Sources by Type

- Cooling: Not Applicable for Battery Storage
- Process: Not Applicable for Battery Storage
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply

#### Water Conservation Strategies Under Consideration

Battery Storage does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Water Discharges and Pollution Control

Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Battery Storage does not require fuel and no waste products will be generated at the site.

#### Air Emissions and Control Systems

- Fuel - Battery Storage energy does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

#### Noise Emissions and Control Systems

Battery Storage energy does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications

- USACE Section 404 Permit received: Not yet filed.
- Florida Environmental Resources Permit (ERP) received: Not yet filed.
- Manatee County PUD Zoning amendment: Pending

Florida Power & Light Company and Gulf Power Company  250
### Preferred Site #20 Sunshine Gateway Energy Storage Center, Columbia County

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#### Reference Maps

- **a.** USGS Map
- **b.** Proposed Facilities Layout
- **c.** Map of Site and Adjacent Areas
- **d.** Land Use Map of site and Adjacent Areas
- **e.** See Figures at the end of this chapter

#### Existing Land Uses

<table>
<thead>
<tr>
<th>Site</th>
<th>Agricultural production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjacent Areas</td>
<td>Agricultural production and residential</td>
</tr>
</tbody>
</table>

#### General Environment Features On and In the Site Vicinity

| 1. | Natural Environment | Site is predominately agricultural with minimal forested wetlands and freshwater marshes. |
| 2. | Listed Species | Listed species known to occur include gopher tortoise. No adverse impacts are anticipated to listed species. |
| 3. | Natural Resources of Regional Significance Status | No natural resources of regional significance status at or adjacent to the site. |
| 4. | Other Significant Features | FPL is not aware of any other significant features of the site. |

#### Design Features and Mitigation Options

The design includes an approximately 74.5 MW of battery storage and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

#### Local Government Future Land Use Designations

Local government future land use designation includes agricultural production and power generation.

#### Site Selection Criteria Factors

The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

#### Water Resources

Existing onsite water resources will be used to meet water requirements.

#### Geological Features of Site and Adjacent Areas

See Figure at the end of this Chapter site is located in the Panhandle Florida region.

#### Project Water Quantities for Various Uses

- **Cooling:** Not applicable for Battery Storage
- **Process:** Not applicable for Battery Storage
- **Potable:** Minimal, existing permitted supply
- **Panel Cleaning:** Not applicable for Battery Storage

#### Water Supply Sources by Type

- **Cooling:** Not Applicable for Battery Storage
- **Process:** Not Applicable for Battery Storage
- **Potable and Panel Cleaning:** Not applicable for Battery Storage

#### Water Conservation Strategies Under Consideration

Battery Storage does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Water Discharges and Pollution Control

Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Battery Storage does not require fuel and no waste products will be generated at the site.

#### Air Emissions and Control Systems

Fuel - Battery Storage energy does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.

#### Combustion Control - Not Applicable

Combustor Design - Not Applicable

#### Noise Emissions and Control Systems

Battery Storage does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications

- **USACE Section 404 Permit expected:** Q3 2020
- **Florida Environmental Resources Permit (ERP) Modification:** expected Q3 2020
- **Suwannee County Development Approval:** Expected April 2020
Preferred Site #21 Echo River Energy Storage Center, Suwannee County

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</tr>
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</table>

Reference Maps

- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas

Existing Land Uses

- Site
  - Pine plantation and pastureland
- Adjacent Areas
  - Pine plantation and pastureland

General Environment Features On and In the Site Vicinity

1. Natural Environment
   - Site is predominately pine plantation and pasture with forested and herbaceous wetland areas.

2. Listed Species
   - Listed species known to occur include gopher tortoise. No adverse impacts are anticipated to listed species.

3. Natural Resources of Regional Significance Status
   - Rocky Creek runs through the site.

4. Other Significant Features
   - FPL is not aware of any other significant features of the site.

Design Features and Mitigation Options

- The design includes an approximately 74.5 MW of battery storage and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

Local Government Future Land Use Designations

- Local government future land use designation includes agricultural production and power generation.

Site Selection Criteria Factors

- The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

Water Resources

- Existing onsite water resources will be used to meet water requirements.

Geological Features of Site and Adjacent Areas

- See Figure at the end of this Chapter site is located in the Panhandle Florida region.

Project Water Quantities for Various Uses

- Cooling: Not applicable for Battery Storage
- Process: Not applicable for Battery Storage
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Not applicable for Battery Storage

Water Supply Sources by Type

- Cooling: Not Applicable for Battery Storage
- Process: Not Applicable for Battery Storage
- Potable and Panel Cleaning: Not applicable for Battery Storage

Water Conservation Strategies Under Consideration

- Battery Storage does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

Water Discharges and Pollution Control

- Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

Fuel Delivery, Storage, Waste Disposal, and Pollution Control

- Battery Storage does not require fuel and no waste products will be generated at the site.

Air Emissions and Control Systems

- Fuel - Battery Storage energy does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

Noise Emissions and Control Systems

- Battery Storage does not emit noise therefore there will be no need for noise control systems.

Status of Applications

- Florida Environmental Resources Permit (ERP) modification expected April 2020
- Suwannee County Development Approval: Expected April 2020
### Facility Acarage
- **COD**: Q2 2022
- **For PV facilities: tracking or fixed**: N/A

<table>
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</table>

### COD
- **Q2 2022**
- **For PV facilities: tracking or fixed**: N/A

### General Environment Features On and in the Site Vicinity

#### Natural Environment
- Site is comprised of facilities related to power generation.

#### Listed Species
- Listed species known to occur within the cooling pond at the site include the West Indian manatee. No adverse impacts are anticipated to listed species due to previous development.

#### Natural Resources of Regional Significance Status
- No natural resources of regional significance status at or adjacent to the site.

#### Other Significant Features
- FPL is not aware of any other significant features of the site.

#### Design Features and Mitigation Options
- The project includes dismantlement of existing Units 4 & 5 and replacement with one new approximately 1,163 MW combined cycle unit consisting of two combustion turbines (CTs), two heat recovery steam generators (HRSGs), and a steam turbine. The CTs will operate using natural gas and Ultra-Low Sulfur Distillate.

#### Local Government Future Land Use Designations
- The site is zoned General Industrial.

#### Site Selection Criteria Factors
- The Lauderdale Plant has been selected as a preferred site for a site modernization due to consideration of various factors including system load and economics. Environmental issues were not a deciding factor since this site does not exhibit significant environmental sensitivity or other environmental issues. However, there are environmental benefits of replacing the existing, outdated combined cycle units with a new highly efficient combined cycle unit, including a significant reduction in system air emissions. In addition, the modernization project at this existing site will not require a new gas pipeline and will make use of the existing transmission facilities and water supply.

#### Water Resources
- Condenser cooling for the steam cycle portion of the new combined cycle unit and auxiliary cooling will come from the existing condenser water intake system. Process and potable water for the new unit will come from the existing water supply sources (Broward County and City of Hollywood).

#### Geological Features of Site and Adjacent Areas
- See Figure at the end of this chapter. The site is located in the South Florida region.

#### Project Water Quantities for Various Uses
- Cooling: No additional water required.
- Process: No additional water required.
- Potable: No additional water required.
- Panel Cleaning: Not Applicable

#### Water Supply Sources by Type
- Cooling: As existing, Dania Cut-Off Canal
- Process: As existing, Broward County Utilities
- Potable: As existing, City of Hollywood

#### Water Conservation Strategies Under Consideration
- No additional water resources are required beyond current usage.

#### Water Discharges and Pollution Control
- Continued discharge to the existing cooling pond is anticipated. No increase in water discharge is expected. Best Management Practices will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control
- Natural gas will be transported via an existing pipeline. ULSD will be trucked to the facility and stored in existing ULSD tanks.

#### Air Emissions and Control Systems
- Fuel - Use of cleaner natural gas and Ultra-Low Sulfur Distillate
  - Natural Gas - Dry-low NOx combustion technology and Selective Catalytic Reduction will control NOx emissions, Greenhouse gas emissions will be substantially lower than the Environmental Protection Agency’s proposed new source performance standard.
  - ULSD - Water injection and selective catalytic reduction will be used to reduce NOx emissions.
  - Combustion Control - will minimize formation of sulfur dioxide, particulate matter, nitrogen oxides (NOx), and other fuel-bound contaminate
  - Combustor Design - will limit formation of carbon monoxide and volatile organic compounds

#### Noise Emissions and Control Systems
- Noise from the operation of the new unit will be within allowable levels.

#### Status of Applications
- Need Determination Issued: March 19, 2018
- FL Site Certification Received: December 13, 2018
- PSD Permit Received: December 4, 2017
- USACE Section 404 Permit Received: January 7, 2019
- IWW Received: December 3, 2018
### Facility Acreage

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### COD

- **COD**: TBD

### For PV facilities: tracking or fixed

- **Reference Maps**

#### a. USGS Map

- **a. USGS Map**

#### b. Proposed Facilities Layout

- **b. Proposed Facilities Layout**

#### c. Map of Site and Adjacent Areas

- **c. Map of Site and Adjacent Areas**

#### d. Land Use Map of site and Adjacent Areas

- **d. Land Use Map of site and Adjacent Areas**

### e. Existing Land Uses

<table>
<thead>
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<th>Existing Land Uses</th>
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<tbody>
<tr>
<td>Site</td>
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<tr>
<td>Adjacent Areas</td>
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</table>

### f. General Environment Features On and in the Site Vicinity

- **f. General Environment Features On and in the Site Vicinity**

#### 1. Natural Environment

- **1. Natural Environment**

#### 2. Listed Species

- **2. Listed Species**

#### 3. Natural Resources of Regional Significance Status

- **3. Natural Resources of Regional Significance Status**

#### 4. Other Significant Features

- **4. Other Significant Features**

### g. Design Features and Mitigation Options

- **g. Design Features and Mitigation Options**

### h. Local Government Future Land Use Designations

- **h. Local Government Future Land Use Designations**

### i. Site Selection Criteria Factors

- **i. Site Selection Criteria Factors**

### j. Water Resources

<table>
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<th>Water Resources</th>
<th>Location</th>
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<tbody>
<tr>
<td>Potable</td>
<td>Miami-Dade Water and Sewer Department</td>
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<tr>
<td>Process</td>
<td>Miami-Dade Water and Sewer Department</td>
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<tr>
<td>Cooling</td>
<td>Miami-Dade reclaimed water and saline groundwater from Biscayne Bay via radial collector wells</td>
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<tr>
<td><strong>Total</strong></td>
<td>1.3 mgd</td>
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### k. Geological Features of Site and Adjacent Areas

- **k. Geological Features of Site and Adjacent Areas**

### l. Project Water Quantities for Various Uses

<table>
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<th>Project Water Quantities for Various Uses</th>
<th>Location</th>
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<td>Cooling</td>
<td>55.3 million gallons per day (mgd)</td>
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<td>Process</td>
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<td>Potable</td>
<td>0.0 mgd</td>
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<tr>
<td>Panel Cleaning</td>
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### m. Water Supply Sources by Type

<table>
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<th>Water Supply Sources by Type</th>
<th>Location</th>
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<tr>
<td>Cooling</td>
<td>Miami-Dade reclaimed water and saline groundwater from Biscayne Bay via radial collector wells</td>
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<tr>
<td>Process</td>
<td>Miami-Dade Water and Sewer Department</td>
</tr>
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### n. Water Conservation Strategies Under Consideration

- **n. Water Conservation Strategies Under Consideration**

### o. Water Discharges and Pollution Control

- **o. Water Discharges and Pollution Control**

### p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

- **p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control**

### q. Air Emissions and Control Systems

- **q. Air Emissions and Control Systems**

### r. Noise Emissions and Control Systems

- **r. Noise Emissions and Control Systems**

### s. Status of Applications

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<td>May 14, 2014</td>
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<tr>
<td>USACE Section 404 Permit</td>
<td>December 18, 2019</td>
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<td>COL received</td>
<td>April 5, 2018</td>
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<td>Miami-Dade County Unusual Use approvals: issued in 2007 and 2013</td>
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<tr>
<td>Land Use Consistency Determination: issued in 2013</td>
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<tr>
<td>Prevention of Significant Deterioration: issued in 2009</td>
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**Florida Power & Light Company and Gulf Power Company 254**
### Preferred Site #24 Blue Springs Solar Energy Center, Jackson County

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<td>Q4 2020</td>
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<tr>
<td>For PV facilities: tracking or fixed</td>
<td>Tracking</td>
</tr>
</tbody>
</table>

#### Reference Maps
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas: See Figures at the end of this chapter
- d. Land Use Map of site and Adjacent Areas

#### Existing Land Uses
- Site: Agricultural crops
- Adjacent Areas: Agricultural and low density residential

#### General Environment Features On and In the Site Vicinity
1. Natural Environment: The site is predominately cropland with few forested uplands and wetlands
2. Listed Species: Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3. Natural Resources of Regional Significance Status: No natural resources of regional significance status at or adjacent to the site.
4. Other Significant Features: 0

#### Design Features and Mitigation Options
The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.

#### Local Government Future Land Use Designations
Solar power generation is allowed within existing Agricultural land use designation.

#### Site Selection Criteria Factors
The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

#### Water Resources
Existing onsite water resources will be used to meet water requirements.

#### Geological Features of Site and Adjacent Areas
See Figure at the end of this Chapter. The site is located in the South Florida region.

#### Project Water Quantities for Various Uses
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable: Minimal, existing permitted supply
- Panel Cleaning: Minimal and only in absence of sufficient rainfall

#### Water Supply Sources by Type
- Cooling: Not Applicable for Solar
- Process: Not Applicable for Solar
- Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply

#### Water Conservation Strategies Under Consideration
Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.

#### Water Discharges and Pollution Control
Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

#### Fuel Delivery, Storage, Waste Disposal, and Pollution Control
Solar does not require fuel and no waste products will be generated at the site.

#### Air Emissions and Control Systems
- Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
- Combustion Control - Not Applicable
- Combustor Design - Not Applicable

#### Noise Emissions and Control Systems
PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.

#### Status of Applications
- USACE Section 404 Permit received: NA
- Florida Environmental Resources Permit (ERP) received: February 26, 2019
**Preferred Site #25 Chautauqua Solar Energy Center, Walton County**

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<td>Q4 2021</td>
</tr>
<tr>
<td>For PV facilities: tracking or fixed</td>
<td>Tracking</td>
</tr>
<tr>
<td>Reference Maps</td>
<td></td>
</tr>
<tr>
<td>a. USGS Map</td>
<td></td>
</tr>
<tr>
<td>b. Proposed Facilities Layout</td>
<td></td>
</tr>
<tr>
<td>c. Map of Site and Adjacent Areas</td>
<td>See Figures at the end of this chapter</td>
</tr>
<tr>
<td>d. Land Use Map of site and Adjacent Areas</td>
<td></td>
</tr>
<tr>
<td>e. Existing Land Uses</td>
<td>Site: Agricultural crops and pastureland Adjacent Areas: Agricultural and low density residential</td>
</tr>
<tr>
<td>f. General Environment Features On and In the Site Vicinity</td>
<td>1. Natural Environment: Site is predominately agricultural with some forested uplands and wetlands.</td>
</tr>
<tr>
<td></td>
<td>2. Listed Species: Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.</td>
</tr>
<tr>
<td></td>
<td>3. Natural Resources of Regional Significance Status: No natural resources of regional significance status at or adjacent to the site.</td>
</tr>
<tr>
<td></td>
<td>4. Other Significant Features: Gulf and FPL are not aware of any other significant features of the site.</td>
</tr>
<tr>
<td>g. Design Features and Mitigation Options</td>
<td>The design includes an approximately 74.5 solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.</td>
</tr>
<tr>
<td>h. Local Government Future Land Use Designations</td>
<td>Solar power generation is allowed within existing Agricultural land use designation.</td>
</tr>
<tr>
<td>i. Site Selection Criteria Factors</td>
<td>The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).</td>
</tr>
<tr>
<td>j. Water Resources</td>
<td>Existing onsite water resources will be used to meet water requirements.</td>
</tr>
<tr>
<td>k. Geological Features of Site and Adjacent Areas</td>
<td>See Figure at the end of this Chapter site is located in the Panhandle Florida region.</td>
</tr>
<tr>
<td>m. Water Supply Sources by Type</td>
<td>Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.</td>
</tr>
<tr>
<td>n. Water Conservation Strategies Under Consideration</td>
<td>Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.</td>
</tr>
<tr>
<td>o. Water Discharges and Pollution Control</td>
<td>Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.</td>
</tr>
<tr>
<td>p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control</td>
<td>Solar does not require fuel and no waste products will be generated at the site.</td>
</tr>
<tr>
<td>q. Air Emissions and Control Systems</td>
<td>Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable</td>
</tr>
<tr>
<td>r. Noise Emissions and Control Systems</td>
<td>0</td>
</tr>
<tr>
<td>s. Status of Applications</td>
<td>USACE Permit received: NA Florida Environmental Resources Permit (ERP): pending, application filed</td>
</tr>
</tbody>
</table>
## Preferred Site #26 Crist Unit 8, Escambia County

<table>
<thead>
<tr>
<th>Facility Acreage</th>
<th>58</th>
</tr>
</thead>
<tbody>
<tr>
<td>COD</td>
<td>Q4 2021</td>
</tr>
<tr>
<td>For PV facilities: tracking or fixed</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Reference Maps
- a. USGS Map
- b. Proposed Facilities Layout
- c. Map of Site and Adjacent Areas
- d. Land Use Map of site and Adjacent Areas
  - e. Site
    - Industrial (Electrical Generating Facility)
  - f. Adjacent Areas
    - Public, Low & Medium Density Residential

### Existing Land Uses
- g. General Environment Features On and In the Site Vicinity
  - 1. Natural Environment
    - The site is located in uplands within existing fenced plant property and consists of primarily of a pine and hardwood mix. The site has historically had silviculture operations.
  - 2. Listed Species
    - No adverse impacts to listed species are anticipated. However, Gopher Tortoise do occur in local area.
  - 3. Natural Resources of Regional Significance Status
    - Drainage from the site ultimately discharges into the Escambia river.
  - 4. Other Significant Features
    - Gulf is not aware of any other significant features of the site.

### Design Features and Mitigation Options
- g. The design includes construction of four 235 MW combustion turbines, a switchyard, and associated wastewater and stormwater management systems. The site location has been selected in uplands with a significant buffer to any sensitive habitats. Final grading has been designed to match natural grades.

### Local Government Future Land Use Designations
- h. The site is zoned General Industrial.

### Site Selection Criteria Factors
- i. The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).

### Water Resources
- j. Groundwater will be used to meet water requirements.

### Geological Features of Site and Adjacent Areas
- k. The site is located in the Panhandle Florida region.

### Project Water Quantities for Various Uses
- l. NOx control: 1.95 MGD during fuel oil operations
  - Process: 1.9 MGD
  - Potable: 0.01 MGD

### Water Supply Sources by Type
- m. Process: Exiting permitted groundwater usage; Coast Utilities Authority
  - Potable: Emerald

### Water Conservation Strategies Under Consideration
- n. No additional water resources are required beyond currently permitted usage.

### Water Discharges and Pollution Control
- o. The existing Plant Crist industrial wastewater treatment system will be utilized for the project. A new stormwater management system will be constructed to ensure the post development discharge rate is not greater than the predevelopment conditions. Best management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.

### Fuel Delivery, Storage, Waste Disposal, and Pollution Control
- p. Natural gas will be transported via a new pipeline. Ultra Low Sulfur Distillate (ULSD) will be trucked to the facility and stored in a new ULSD tank.

### Air Emissions and Control Systems
- q. Fuel - Use of cleaner natural gas and Ultra-Low Sulfur Distillate
  - Natural Gas - Dry-low NOx combustion technology will control NOx emissions, Greenhouse gas emissions will be substantially lower than the Environmental Protection Agency’s proposed new source performance standard.
  - ULSD - Water injection will be used to reduce NOx emissions
  - Combustion Control - will minimize formation of sulfur dioxide, particulate matter, nitrogen oxides (NOx), and other fuel-bound contaminants
  - Combustor Design - will limit formation of carbon monoxide and volatile organic compounds

### Noise Emissions and Control Systems
- r. Noise from the operation of the new unit will be within allowable levels.

### Status of Applications
- s. USACE Jurisdictional Determination Received: September 20, 2019
  - ERP Permit Received: October 14, 2019
  - UIC Permit Received: October 25, 2019
  - PSD Permit Received: February 5, 2020
  - IWW Permit Revision: In Progress
IV.G.2 Potential Sites

There are 13 Potential Sites that have currently been identified for future generation and storage additions to meet projected capacity and energy needs. Each of these Potential Sites offers a range of considerations relative to engineering and/or costs associated with the construction and operation of feasible technologies. In addition, each Potential Site has different characteristics that would require further definition and attention. Unless otherwise noted, the water quantities discussed below are in reference to universal solar PV generation rather than for gas-fueled generation.

Permits are presently considered to be obtainable for each of these sites. No significant environmental constraints are currently known for any of these sites. At this time, FPL and Gulf consider each site to be equally viable. The Potential Sites briefly discussed below are presented in alphabetical order of Site name for those in FPL’s area and by name of County for those in Gulf’s area.

Table IV.G.2: List of FPL & Gulf Potential Sites

<table>
<thead>
<tr>
<th>Site Name</th>
<th>County</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elder Branch</td>
<td>Manatee</td>
<td>Solar</td>
</tr>
<tr>
<td>Everglades</td>
<td>Miami-Dade</td>
<td>Solar</td>
</tr>
<tr>
<td>Ghost Orchid</td>
<td>Hendry</td>
<td>Solar</td>
</tr>
<tr>
<td>Sawgrass</td>
<td>Hendry</td>
<td>Solar</td>
</tr>
<tr>
<td>Sundew</td>
<td>St Lucie</td>
<td>Solar</td>
</tr>
<tr>
<td>White Tail</td>
<td>Martin</td>
<td>Solar</td>
</tr>
<tr>
<td>TBD</td>
<td>Calhoun</td>
<td>Solar</td>
</tr>
<tr>
<td>TBD</td>
<td>Calhoun</td>
<td>Solar</td>
</tr>
<tr>
<td>TBD</td>
<td>Escambia</td>
<td>Solar</td>
</tr>
<tr>
<td>TBD</td>
<td>Gadsden</td>
<td>Solar</td>
</tr>
<tr>
<td>TBD</td>
<td>Jackson</td>
<td>Solar</td>
</tr>
<tr>
<td>TBD</td>
<td>Okaloosa</td>
<td>Solar</td>
</tr>
<tr>
<td>TBD</td>
<td>Santa Rosa</td>
<td>Solar</td>
</tr>
</tbody>
</table>

As has been described in previous FPL Site Plans, a number of other locations are also possible sites for future generation additions. These include the remainder of FPL’s and Gulf’s existing generation sites and other greenfield sites. Specific greenfield sites may not be specifically identified as Potential Sites in order to protect the economic interests of the utility and its customers.
FPL Area Potential Site # 1: Elder Branch
This potential site in Manatee County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily fallow crop land surrounded by agricultural land, low density residential, and conservation lands.

c. **Environmental Features**
   Site is predominately fallow cropland with some forested wetland. Site is located adjacent to publicly owned conservation lands. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Minimal for PV.
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Not Applicable for PV.
   Panel Cleaning: Trucked in if and when needed for PV.
FPL Area Potential Site # 2: Everglades
This potential site in Miami-Dade County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily agricultural land surrounded by other agricultural lands.

c. **Environmental Features**
   Site is agricultural land with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Minimal for PV.
   - Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Not Applicable for PV.
   - Panel Cleaning: Trucked in if and when needed for PV.
FPL Area Potential Site # 3: Ghost Orchid

This potential site in Hendry County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   
   Existing land use is primarily agricultural and surrounded by predominately agricultural and low density residential.

c. **Environmental Features**
   
   Site is predominately agricultural with some forested wetlands with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   
   Cooling: Not Applicable for PV.
   
   Process: Not Applicable for PV.
   
   Potable: Minimal for PV.
   
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   
   Cooling: Not Applicable for PV.
   
   Process: Not Applicable for PV.
   
   Potable: Not Applicable for PV.
   
   Panel Cleaning: Trucked in if and when needed for PV.
FPL Area Potential Site # 4: Sawgrass
This potential site in Hendry County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map
   See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas
   Site is primarily pastureland and surrounded by agricultural lands and forested wetlands.

c. Environmental Features
   Site is predominately pastureland with a mosaic of forested wetlands throughout the site. Subject property is located almost entirely within the primary panther zone. No adverse impacts to listed species are anticipated.

d. Water Quantities Required
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Minimal for PV.
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Not Applicable for PV.
   Panel Cleaning: Trucked in if and when needed for PV.
FPL Area Potential Site # 5: Sundew

This potential site in St. Lucie County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily Improved pasture and fallow citrus groves surrounded by agricultural lands.

c. **Environmental Features**
   Site is improved pasture and fallow citrus with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Minimal for PV.
   - Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Not Applicable for PV.
   - Panel Cleaning: Trucked in if and when needed for PV.
**FPL Area Potential Site # 6: White Tail**

This potential site in Martin County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   
   Site is predominately fallow cropland surrounded by agricultural lands.

c. **Environmental Features**
   
   Site is mostly fallow cropland with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   
   Cooling: Not Applicable for PV.
   
   Process: Not Applicable for PV.
   
   Potable: Minimal for PV.
   
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   
   Cooling: Not Applicable for PV.
   
   Process: Not Applicable for PV.
   
   Potable: Not Applicable for PV.
   
   Panel Cleaning: Trucked in if and when needed for PV.
**Gulf Area Potential Site # 1: Calhoun County**

A potential site in Calhoun County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily pine plantation surrounded by pine plantation and low density residential.

c. **Environmental Features**
   Site is predominately pine plantation with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Minimal for PV.
   - Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Not Applicable for PV.
   - Panel Cleaning: Trucked in if and when needed for PV.
Gulf Area Potential Site # 2: Calhoun County
Another potential site in Calhoun County is also under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map
   See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas
   Site is primarily pine plantation and pastureland surrounded by agricultural land and low
density residential.

c. Environmental Features
   Site is predominately agricultural with some forested uplands and wetlands and no
significant environmental features on or nearby this site. No adverse impacts to listed
species are anticipated.

d. Water Quantities Required
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Minimal for PV.
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Not Applicable for PV.
   Panel Cleaning: Trucked in if and when needed for PV.
Gulf Area Potential Site # 3: Escambia County
A potential site in Escambia County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily pine plantation surrounded by other pine plantations and pastureland.

c. **Environmental Features**
   Site is predominately pine plantation with forested wetlands and no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Minimal for PV.
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Not Applicable for PV.
   Panel Cleaning: Trucked in if and when needed for PV.
Gulf Area Potential Site # 4: Gadsden County
A potential site in Gadsden County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily pine plantation surrounded by pine plantation and forested wetlands.

c. **Environmental Features**
   Site is predominately pine plantation with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Minimal for PV.
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Not Applicable for PV.
   Panel Cleaning: Trucked in if and when needed for PV.
Gulf Area Potential Site # 5: Jackson County
A potential site in Jackson County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map
See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas
Site primarily pine plantation surrounded by pastureland and low density residential.

c. Environmental Features
Site is predominately pine plantation with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. Water Quantities Required
Cooling: Not Applicable for PV.
Process: Not Applicable for PV.
Potable: Minimal for PV.
Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources
Cooling: Not Applicable for PV.
Process: Not Applicable for PV.
Potable: Not Applicable for PV.
Panel Cleaning: Trucked in if and when needed for PV.
Gulf Area Potential Site # 6: Okaloosa County
A potential site in Okaloosa County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily pine plantation with some pastureland and is surrounded by agricultural lands and low density residential.

c. **Environmental Features**
   Site is predominately pine plantation with forested uplands and some pastureland with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Minimal for PV.
   Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   Cooling: Not Applicable for PV.
   Process: Not Applicable for PV.
   Potable: Not Applicable for PV.
   Panel Cleaning: Trucked in if and when needed for PV.
**Gulf Area Potential Site # 7: Santa Rosa County**
A potential site in Santa Rosa County is under evaluation for future PV.

a. **U.S. Geological Survey (USGS) Map**
   See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**
   Site is primarily pine plantation surrounded by pine plantations and low density residential.

c. **Environmental Features**
   Site is predominately pine plantation with no significant environmental features on or nearby this site. No adverse impacts to listed species are anticipated.

d. **Water Quantities Required**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Minimal for PV.
   - Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. **Supply Sources**
   - Cooling: Not Applicable for PV.
   - Process: Not Applicable for PV.
   - Potable: Not Applicable for PV.
   - Panel Cleaning: Trucked in if and when needed for PV.