BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF FRANCISCO PRIETO

DOCKET NO. 20220045-EI

APRIL 1, 2022

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I. INTRODUCTION AND SUMMARY

Q. Please state your name and business address.

A. My name is Francisco Prieto. My business address is 4200 W. Flagler Street, Miami, Florida 33134.

Q. By whom are you employed and what position do you hold?

A. I am employed by Florida Power & Light Company ("FPL" or the "Company") as Senior Manager, System Planning.

Q. Please describe your duties and responsibilities in that position.

A. My responsibilities include the direct supervision of engineers in the development of transmission plans for interconnection and integration of generation, transmission service for wholesale customers, and inter-utility ties ensuring compliance with North American Electric Reliability Corporation ("NERC") standards associated with transmission planning functions. I have held this position and performed these responsibilities since April of 2012.

Q. Please describe your educational background and professional experience.

A. I graduated from Florida International University with a Bachelor of Science degree in Electrical Engineering in May of 1990. From 2008 through April 2012, I worked as a Senior Manager of System Operations in charge of supervising the FPL Transmission System Operation personnel to ensure safe, reliable operation of the FPL Bulk Electric System ("BES") in compliance with NERC Reliability Standards. During this time, my primary duties and

responsibilities included the operation and coordination of the FPL Generation, Transmission, and Substation system in order to provide reliable service to FPL's customers in an efficient manner. In this role, I ensured on-going personnel training needs were met on all processes and procedures necessary to maintain situational awareness during normal and emergency conditions.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibits FP-1 through FP-4, which are attached to my direct testimony.

- Exhibit FP-1 FPL Electric Facilities Map (FPL general map)
- Exhibit FP-2 Map of Study Area with Existing Facilities and SWP
- Exhibit FP-3 Sweatt-Whidden Expected Construction Schedule
- Exhibit FP-4 List of Contingencies

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to sponsor and support FPL's request for a determination of need for the Sweatt-Whidden 230kV Transmission Project ("SWP" or "Project"). Specifically, my testimony presents the following information in support of the SWP:

- General overview of the FPL transmission system
- A general description of the SWP including the design and operating voltage of the proposed transmission line, the starting and ending points of the line, the approximate cost of the SWP, and the projected in-service date

- The specific conditions, contingencies, and factors which demonstrate the need for the SWP, including a discussion of FPL's transmission planning process and the reliability benefits of the SWP
- The alternatives to the SWP that were evaluated and rejected by FPL in favor of the SWP
- The adverse consequences to FPL's electric system and customers if the SWP is delayed or denied.

Q. Please summarize your testimony.

A. FPL is proposing to build a new 230kV transmission line extending from FPL's Sweatt Substation in Okeechobee County to FPL's Whidden Substation in DeSoto County. This transmission line would convert portions of FPL's existing Okeechobee-Whidden 69kV line to address the anticipated reliability limitations beginning in 2025, which were identified in FPL's transmission planning process. An analysis of transmission alternatives resulted in FPL's selection of the project as the most cost-effective and efficient means to: (a) improve reliability for FPL customers served from the existing 69kV circuit between Okeechobee and Whidden Substations; (b) increase east to west power transfer capabilities of the transmission network by providing a resilient, hardened 230kV circuit between the east and west areas of FPL's territory north of Lake Okeechobee; (c) relieve potential overloads and low voltage conditions under contingency events; and (d) reduce line loading on existing transmission circuits. The project is the most cost-effective alternative, taking into account the demand for electricity, enhancing electric

system reliability and integrity, and addressing the need for abundant, low-cost electrical energy to assure the economic well-being of the citizens of this state. Furthermore, the project meets area load requirements by serving existing customers and allowing for future industrial, commercial, and residential load growth. The estimated construction cost for the project is $213.5 million. The final cost of the project is subject to the ultimate line routing, length, and conditions of certification required by the Transmission Line Siting Board. FPL asserts that the estimated cost of the project is reasonable, and the transmission line will assure the economic well-being of the citizens of the state by providing electric service to projected new load in the region and improving the region's electric reliability by minimizing the region's exposure to double contingency events.

II. OVERVIEW OF FPL'S TRANSMISSION SYSTEM

Q. Please describe FPL's transmission system.

A. The FPL transmission system is comprised of approximately 9,174 circuit miles of transmission lines and 828 substations which integrate FPL's generation and distribution system. FPL transmission system interconnects with a larger transmission network that includes other utilities in Florida and the Eastern Interconnection ("EI") transmission network. The EI is a transmission network which provides electrical energy to a large area of the United States from the Great Plains to the Atlantic Ocean and also includes four Canadian provinces. The EI has multiple points of interconnection with

other utilities that enable power to be exchanged during planned and unplanned scenarios.

Q. How does FPL design its transmission system?

A. The FPL transmission system is designed to integrate all of FPL's generation resources to serve FPL's customers and to meet FPL's firm long-term transmission service obligations in a reliable and cost-effective manner. FPL plans, designs, and operates its transmission system to comply with NERC Reliability Standards. The Transmission System Planning Performance Requirements Reliability Standard (TPL-001-4) defines scenarios and expected levels of system performance that the BES should comply with in the long-term planning horizon.

Q. Please provide a brief description of the existing load and electric characteristics.

A. FPL's load characteristics consist primarily of residential and commercial load with limited industrial load. FPL's summer peak demand in recent years has been as high as 24,499 MW and the winter peak demand has been as high as 19,718 MW, serving approximately 5.7 million customers. An overview of FPL's existing electrical transmission network indicating the general location of generating plants, substations, and transmission lines is shown in Exhibit FP-1.

III. DESCRIPTION OF THE SWP

Q. Please describe the proposed SWP transmission line for which FPL is seeking a determination of need in this docket.

A. The SWP will consist of a new 230kV transmission line extending from FPL's Sweatt substation in Okeechobee County to FPL's Whidden substation in DeSoto County. It includes the construction of approximately 21 miles of a new single 230kV transmission line in Okeechobee County (to Basinger substation) and the conversion of approximately 59 miles of 69kV transmission line to 230kV transmission line in Okeechobee, Highlands and DeSoto Counties (subject to final certification under the Florida Transmission Line Siting Act or "TLSA"). The SWP will also include the rebuild/conversion from 69kV to 230kV of Brighton, Basinger (owned/operated by Glades Electric Cooperative, Inc. or "GEC"), Morgan Henderson (GEC), and Dorr Field substations.

The entire SWP will serve existing and future FPL distribution substations in FPL's service territory and increase capacity of the transmission network with a resilient, hardened 230kV line. This Project has the most cost-effective and efficient means to: (a) improve reliability for FPL customers served from the existing 69kV circuit between Okeechobee and Whidden substations; (b) increase east to west power transfer capabilities of the transmission network by providing an additional hardened, resilient 230kV circuit between the east and west areas of FPL's territory north of Lake Okeechobee; (c) relieve

potential overloads and low voltage conditions under contingency events; and (d) reduce line loading on existing transmission circuits.

Exhibit FP-2 is a map showing the SWP corridor route, along with the existing electrical facilities in the area. The corridor route is conceptual and for illustrative purposes only. The ultimate route will be selected through the TLSA process.

Q. What is FPL's timetable for licensing, design, and construction of the SWP?

A. For an indicative schedule of licensing, design, and construction, please see Exhibit FP-3.

Q. What is FPL's estimated construction cost of the SWP?

A. The estimated construction cost of the SWP is $213.5 million ($226.4 million CPVRR).

Q. What is the proposed in-service date for the SWP?

A. The projected in-service date is December 2025.

IV. FPL PLANNING PROCESS

Q. How does FPL determine the need for new transmission lines?

A. FPL identifies and analyzes the need for new transmission lines through its transmission planning process. The transmission planning process consists of five major steps: (1) the preparation of system models, (2) the assessment of the transmission system performance to comply with NERC Reliability Standards,

(3) the development and evaluation of transmission expansion alternatives, (4) the selection and approval of the preferred alternatives, and (5) the incorporation of the expansion plan into the Florida Reliability Coordinating Council ("FRCC") Regional Planning Process.

FPL plans, designs, and operates its transmission system to comply with NERC Reliability Standards. The TPL-001-4 defines scenarios and expected levels of system performance that the BES must comply with in the long-term planning horizon. In general, the system will remain stable and both thermal and voltage limits will be within applicable facility ratings for each of the contingency categories listed on Table 1 of TPL-001-4. In addition to the NERC reliability standards, FPL proposes projects in the short-term planning horizon to address additional changes across the BES. These include changes of power transfers across areas associated with transmission service, generator interconnection requests or generation retirements, potential generation-to-load area imbalance, and improvements to the overall reliability of the BES, such as providing loop service to customers and the addition of relay points on transmission lines with several distribution stations. The planned transmission system, with its expected loads and transfers, must be stable and within applicable ratings for all categories of contingency scenarios.

The design of new transmission connections should consider and minimize, to the extent practical, the adverse consequences of all contingency categories and improve system reliability.

Q. Did FPL perform any studies to determine the need for the SWP?

A. Yes. Transmission assessment studies were conducted by FPL in 2021. These studies identified potential system limitations that will require reliability improvements for Okeechobee, Highlands, DeSoto, Collier, Lee, Sarasota, and Manatee Counties. The studies also identified that by 2025, customer demand is increasing generation imbalance in the West Region of FPL's territory which can be alleviated by increasing the transfer capability into the area. Currently, the east to west power transfer capability under several contingency scenarios, such as generation unavailability and loss of the existing cross state 500kV transmission line, is limited and the existing 69kV line is operating normally open to avoid potential thermal overloads and unacceptable voltage levels.

Q. Please describe the contingencies that support the need for reliability improvements and increased transfer capacity.

A. FPL transmission assessment studies identified the contingency events shown in Exhibit FP-4 as the most critical scenarios for the Project Service Area.

V. NEED FOR THE PROJECT

Q. Please explain the need for the SWP.

A. The need for the SWP is based on the following considerations:

- The need to improve reliability for FPL customers served from the existing 69kV circuit between Okeechobee and Whidden substations;
- The need to provide an additional transmission path to increase east to west power transfer capabilities; and
- The need to mitigate potential overloads and low voltage conditions under contingency events.

The existing Okeechobee-Whidden 69kV line is operated in a radial configuration due to contingency loading limitations, with a normal open switch at Childs 69kV substation. As a result of the radial configuration, customers along this line have experienced service interruptions for single contingency scenarios in the transmission system. As discussed previously, transmission assessment studies conducted by FPL in 2021 have identified potential system limitations that will require reliability improvements for Okeechobee, Highlands, DeSoto, Collier, Lee, Sarasota, and Manatee Counties. These studies have also identified that by 2025, customer demand is increasing generation imbalance in the West Region. The east to west power transfer capability under several contingency scenarios is limited, supporting the need for an additional transmission path.

Q. Please explain the benefits of the SWP.

A. The construction of the SWP provides the following benefits to the Project Service Area:

- Provides a more reliable delivery of power to FPL customers now and into the future while addressing future customer load growth.

- Substantially mitigates customer impacts during contingency events.
- Provides resilient, hardened transmission service to the area.
- Improves voltage support in the area to efficiently and effectively serve existing and future customers in FPL distribution substations along the route of the project.
- Increases east to west power transfer capabilities of the transmission network by providing an additional circuit between the east and west areas of FPL's territory north of Lake Okeechobee. The increase in east to west transfer capability helps support customers in the populated areas of the southwest portion of the FPL service territory under several contingency situations that could occur during high customer demand periods and/or storm situations.
- Reduces line loading on existing transmission circuits.
- Reduces transmission losses by approximately 3 MW at peak load levels and approximately 2 MW at off peak load levels.
- Meets the Project Service Area's long-term reliability requirements.

Q. Is the SWP the most cost-effective alternative to meet the identified need based on the criteria in the applicable transmission line need determination statute, Section 403.537, Florida Statutes?

A. Yes. For the reasons discussed in my testimony, the SWP is the most cost-effective alternative, taking into account the demand for electricity, enhancing electric system reliability and integrity, and addressing the need for abundant,

low-cost electrical energy to assure the economic well-being of the citizens of this state.

VI. DISCUSSION OF TRANSMISSION ALTERNATIVES

Q. Did FPL consider transmission alternatives to the SWP?

A. Yes, FPL considered transmission alternatives to the SWP to meet the identified need.

Q. Please describe the transmission alternatives that were considered and explain the reasons why they were rejected.

A. FPL evaluated two transmission alternatives to the proposed SWP Project.

Alternative I: The Ft. Drum-Whidden Project consists of a new 230kV transmission line extending from FPL's Ft. Drum substation in Indian River County to FPL's Whidden substation in DeSoto County. The estimated construction cost of this alternative is $283.9 million ($300.3 million CPVRR). This alternative was rejected for the following reasons: 1) it does not provide the needed reliability improvements for all customers served from the existing 69kV circuit between Okeechobee and Whidden substations, 2) the cost of the alternative is approximately $70 million higher than the SWP, and 3) this alternative does not provide for future transmission network flexibility, nor does it substantially improve reliability in the Project Service Area because it only allows for reconfiguration of existing infrastructure on the 69kV network.

Alternative II: The Martin-Whidden Project consists of a new 230kV transmission line extending from FPL's Martin substation in Martin County, to FPL's Whidden substation in DeSoto County. The estimated construction cost of this alternative is $223.3 million (236.5 million CPVRR). This alternative was rejected for the following reasons: 1) does not provide the needed reliability improvements for all customers served from the existing 69kV circuit between Okeechobee and Whidden substations, 2) the cost of the alternative is approximately $10 million higher than the SWP, and 3) this alternative does not substantially improve reliability in the Project Service Area because it only allows for reconfiguration of existing infrastructure on the 69kV network.

VII. ADVERSE CONSEQUENCES OF DELAY OR DENIAL OF THE SWP

Q. Would there be adverse consequences to FPL's customers in the SWP Service Area if the SWP is not timely approved?

A. Yes. If the SWP is not built by December 2025, then sufficient transmission capacity would not be available to serve the existing and future industrial, commercial, and residential customers in the Project Service Area and, by virtue of the current radial transmission service configuration, system reliability and integrity would not be at the same level delivered to other FPL customers, which have normal looped transmission service.

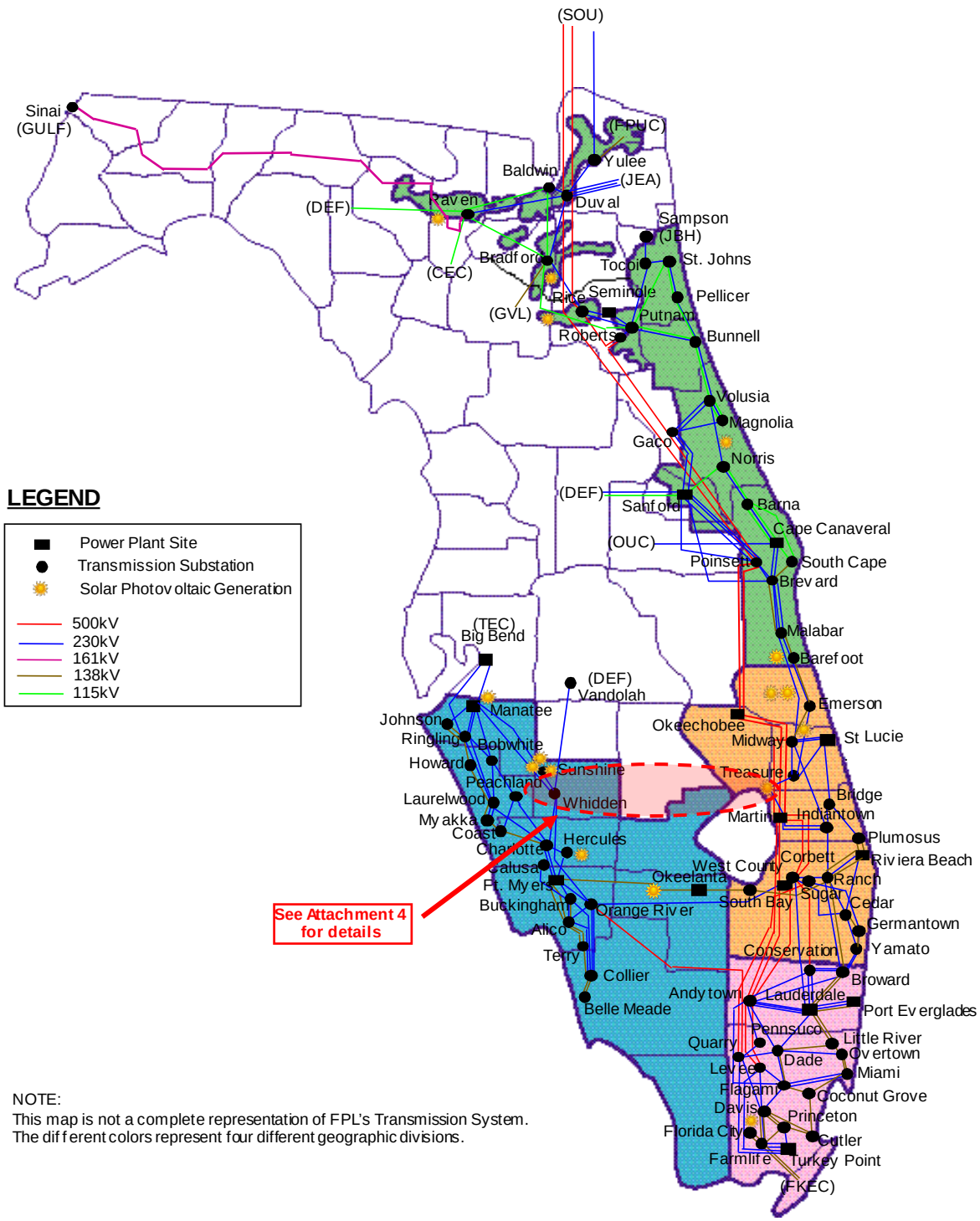
Q. Should the Florida Public Service Commission ("Commission") approve the need for the SWP?

A. Yes. For all the reasons described above, the Commission should determine that there is a need for the Sweatt-Whidden 230kV transmission line to preserve electric system reliability and integrity in the area and to maintain low-cost electrical energy for the economic well-being of the residents of Florida.

Q. Does this conclude your direct testimony?

A. Yes.

FPL Substation and Transmission System Configuration



LEGEND

- Power Plant Site
- Transmission Substation
- Solar Photovoltaic Generation
- 500kV
- 230kV
- 161kV
- 138kV
- 115kV

NOTE:
This map is not a complete representation of FPL's Transmission System.
The different colors represent four different geographic divisions.

Exhibit FP-2 is Confidential in Its Entirety

(Bates No. 000018)

Sweatt-Whidden Expected Construction Schedule

Milestone	Begin	End
TLSA/Need Determination Process (DEP must receive FPSC Need Determination approval by 8/1/22)	Apr, 2022	Apr, 2023
Transmission Line and ROW Design & Material Orders	Jan, 2022	Oct, 2023
Substation Design & Material Orders	Jan, 2022	Oct, 2023
Permitting (station & line)	Apr, 2022	May, 2024
Whidden Site Preparation	N/A	N/A
Sweatt Site Preparation	Oct, 2023	Apr, 2024
ROW Engineering/Surveying	Aug, 2022	Apr, 2023
ROW Acquisition	May, 2023	Dec, 2024
Transmission Line ROW Preparation	Jun, 2024	Mar, 2025
Substation Construction (Sweatt, Whidden)	Jan, 2024	Nov, 2025
Transmission Line Construction	Sept, 2024	Nov, 2025
In-service/Commissioning	-	Dec, 2025

Exhibit FP-4 is Confidential in Its Entirety

(Bates No. 000019)