IN RE: STORM PROTECTION PLAN COST RECOVERY CLAUSE

CORRECTED

FPSC DOCKET NO. 20210010-EI

DIRECT TESTIMONY OF BRIAN LLOYD

ON BEHALF OF DUKE ENERGY FLORIDA, LLC

JUNE 18, 2021

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name and business address.

A. My name is Brian M. Lloyd. My current business address is 3250 Bonnet Creek Road, Lake Buena Vista, FL 32830.

Q. By whom are you employed and in what capacity?

A. I am employed by Duke Energy Florida, LLC ("DEF" or the "Company") as General Manager, Florida Major Projects.

Q. What are your responsibilities as General Manager, Florida Major Projects?

A. My duties and responsibilities include planning for grid upgrades, system planning, and overall Distribution asset management strategy across Duke Energy Florida and the Project Management for executing the work identified.

Q. Please summarize your educational background and work experience.

A. I have a Bachelor of Science degree in Mechanical Engineering from Clemson University and am a registered Professional Engineer in the state of Florida. Throughout my 15 years at Duke Energy, I have held various positions within distribution ranging from Engineer to General Manager focusing on Asset Management, Asset Planning, Distribution Design and Project Management. My current position as General Manager of Region Major Projects began in January 2020.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to support the Company's request for recovery of Distribution-related costs associated with DEF's Storm Protection Plan ("SPP") through the Storm Protection Plan Cost Recovery Clause ("SPPCRC"). My testimony supports the Company's SPP costs incurred in 2020 and year to date 2021, details the Company's 2020 through 2022 SPP implementation activities along with projected costs through the remainder of 2021 and calendar year 2022, and explains how those activities and costs are consistent with DEF's SPP approved by the Commission in Docket No. 20200069-EI.

Q. Do you have any exhibits to your testimony as it relates to January 2020 through December 2021 Distribution investments?

A. No, but I am co-sponsoring portions of the schedules attached to Mr. Menendez's direct testimony, included as part of Exhibit No. __(CAM-1). Specifically, I am sponsoring the Distribution-related O&M project level information shown on Schedule Form 5E, the Distribution-related Capital Projects on Form 7E, the Program Description and Progress Report on Form 8E (pages 40-44 of 49), and the cost portions of:

- Form 5E (Page 5 of 49, Lines 1 through 1b), and
- Form 7E (Pages 12-14 of 49 and 21-39 of 49, Lines 1a and 1b), which includes the 2020 capital spend reflected in the Beginning Balance figures for the Feeder Hardening Program.

Q. Do you have any exhibits to your testimony as it relates to January 2022 through December 2022 Distribution investments?

A. No, but I am co-sponsoring portions of the schedules attached to Mr. Menendez's direct testimony, included as part of Exhibit No. __(CAM-2). Specifically, I am sponsoring the Distribution-related O&M project level information shown on Schedule Form 2P, the Distribution-related Capital Projects on Form 3P, and the cost portions of:

- Form 2P (Page 2 of 84, Lines 1 through 1b, 3.1, and 4 through 4b), and
- Form 4P (Pages 39-49 and 59-77 and 80 of 84, Lines 1a and 1b).

Q. Please summarize your testimony.

A. In 2020, the Distribution Feeder Hardening Program incurred costs related to engineering in preparation for the work to be completed in 2021; these limited costs are consistent with the 2020 SPP/SPPCRC Agreement filed on July 17, 2020,[1] paragraph 3(a). These investments are shown in the beginning balances on Schedule Forms 7E (Line 1a) in Exhibit No._(CAM-1). DEF is not requesting recovery of any of the 2020 revenue requirements associated with this spend but will include this amount in the SPPCRC rate base beginning in 2021 and recover associated revenue requirements from that point forward.

Additionally, I present the Distribution work included in DEF's SPP filed with the Commission on April 10, 2020 for years 2021 and 2022; the costs presented are also consistent with the estimates filed as part of DEF's SPP for these time periods. These costs are also not being recovered through base rates or any other clause mechanism, as such, they should be approved for recovery through the SPPCRC.

III. OVERVIEW OF SPP PROGRAMS SOUGHT FOR CURRENT COST RECOVERY

Q. Please identify what SPP Programs and activities you incurred costs for during 2020?

A. DEF incurred approximately $0.7M of total capital costs related to the Feeder Hardening Program in 2020, as can be seen in the beginning balance in Exhibit No.__(CAM-1) on Schedule Form 7E (pages 12-14 of 49), Line 1a, primarily related to engineering costs related to projects estimated to be completed in 2021

[1] Doc. No. 03874-2020, Docket Nos. 20200069-EI and 20200092-EI.

for this program. The CWIP balance for engineering work performed in 2020 for 2021 will be included in the SPPCRC rate base used to calculate 2021 revenue requirements. Consistent with the 2020 SPP/SPPCRC Settlement, no O&M related to this Program was incurred or requested for recovery in 2020.

Q. How do the 2020 actual spend amounts compare to the previously proposed 2020 estimated spend for the Feeder Hardening portion of the Storm Protection Plan?

A. DEF's actual 2020 spend was approximately $0.7M versus the proposed estimated engineering spend of $2.4M. DEF had planned to complete 40% of the total proposed engineering work in 2020 for the 2021 work plan but instead completed 12%. This was primarily due to timing related to program set up for Feeder Hardening such as training, employee and contractor placement, and standards updates.

Q. Describe the activities that will be performed for Distribution Feeder Hardening and its related costs?

A. The Feeder Hardening Program will enable the feeder backbone to better withstand extreme weather events. This includes increasing pole sizes, reducing span lengths, updating the basic insulation level ("BIL"), updating the conductor, relocating difficult to access facilities, and replacing equipment to align with current standards, as appropriate. The existing backbone is approximately 6,300 miles on 1,325 feeders.

In 2021, DEF expects to incur approximately $59.2M of total capital costs related to this activity, as shown in Schedule Form 7E (pages 12-14 of 49), Line 1a, and an associated amount of O&M totaling approximately $2.4M for this activity, shown in Schedule Form 5E (page 5 of 49), Line 1.1, in Exhibit No. __(CAM-1).

In 2022, DEF expects to incur approximately $90.5M of total capital costs related to this activity, as shown in Schedule Form 4P (pages 39-41 of 84), Line 1a, and an associated amount of O&M totaling approximately $3.6M for this activity, shown in Schedule Form 2P (page 2 of 84), Line 1, in Exhibit No. __(CAM-2).

Q. Describe the activities that will be performed for Lateral Hardening and its related costs?

A. The Lateral Hardening program will enable branch lines to better withstand extreme weather events. This will include undergrounding of the laterals most prone to damage during extreme weather events and overhead hardening of those laterals less prone to damage. Lateral Undergrounding focuses on branch lines that historically experience the most outage events, contain assets of greater vintage, are susceptible to damage from vegetation, and/or often have facilities that are inaccessible to trucks. These branch lines will be replaced with a modern, updated, and standard underground design of today. The Lateral Overhead hardening strategy will include structure strengthening, deteriorated conductor replacement, removing open secondary wires, replacing fuses with automated line devices, pole replacement (when needed), line relocation, and/or hazard tree removal.

In 2021, DEF expects to incur approximately $3.8M of total capital costs related to engineering costs in preparation for 2022 activity, which is included in the 2022 Beginning Balance as shown in Exhibit No. __(CAM-2) Schedule Form 4P, (pages 46-48 and 59-64 of 84), Line 1a. There is no associated amount of O&M for this engineering activity.

In 2022, DEF expects to incur approximately $59.1M of total capital costs related to the Lateral Hardening Overhead activity, as shown in Exhibit No. __(CAM-2) on Schedule Form 4P (pages 46-48 of 84), Line 1a, and approximately $85.4M of total capital costs related to the Lateral Hardening Undergrounding activity, as shown in Schedule Form 4P (pages 59-64 of 84), Line 1a, Exhibit No. __ (CAM-2).

An associated amount of O&M totaling approximately $1.9M for the Lateral Hardening Overhead activity, shown on Schedule Form 2P (page 2 of 84), Line 1.3, in Exhibit No. __(CAM-2), and an associated amount of O&M totaling approximately $1.1M for the Lateral Hardening Underground activity, shown on Schedule Form 2P (page 2 of 84), Line 4.2, in Exhibit No. __(CAM-2).

Q. Please describe the Pole Inspections and Replacement activities and identify the costs you expect to incur during 2021 and 2022?

A. As required by the Commission, pole inspections are performed on an 8-year cycle. These inspections determine the extent of pole decay and any associated loss of strength. The information gathered from these inspections is used to determine pole

replacements and to effectuate the extension of pole life through treatment and reinforcement.

For 2021, the O&M and Capital related to this activity is not included in Exhibit No. __(CAM-1), rather these costs are collected in base rates.

In 2022, DEF expects to incur approximately $14.7M of total capital costs related to Feeder - Pole Replacement activity, as shown in Schedule Form 4P (pages 42-45 of 84), Line 1a, and an associated amount of O&M totaling approximately $2.5M to this activity, shown on Schedule Form 2P (page 2 of 84), Line 1.2, in Exhibit No. __(CAM-2).

In 2022, DEF expects to incur approximately $41.3M of total capital costs related to Lateral Pole Replacement activity, as shown on Schedule Form 4P (page 49 of 84), Line 1a, and an associated amount of O&M totaling approximately $7.0M for this activity, shown on Schedule Form 2P (page 2 of 84), Line 1.4, in Exhibit No. __(CAM-2).

Q. Describe the activities that will be performed for Self-Optimizing Grid ("SOG") and its related costs?

A. The SOG program consists of three (3) major components: capacity, connectivity, and automation and intelligence. The SOG program redesigns key portions of the distribution system and transforms it into a dynamic smart-thinking, self-healing network. The grid will have the ability to automatically reroute power around trouble areas, like a tree on a power line, to quickly restore power to the maximum number of customers and rapidly dispatch line crews directly to the source of the

outage. Self-healing technologies can reduce outage impacts by as much as 75 percent on affected feeders. The SOG program started as part of DEF's Grid Investment Plan which was partially funded through the 2017 Revised and Restated Settlement Agreement. DEF plans to continue this program through the SPP and at completion in 2027, approximately 80% of the distribution feeders on the DEF system will have the ability to automatically reroute power around damaged line sections. 100% of the distribution feeders will have automated switching capability. DEF has budgeted $3.6M in 2021 for engineering costs in preparation of the 2022 SPP SOG construction activity, which is included in the 2022 Beginning Balance as shown in Exhibit No. __(CAM-2) Schedule Form 4P, (pages 65-74 of 84), Line 1a. There is no associated amount of O&M for this engineering activity.

In 2022, DEF expects to incur approximately $74.5M of total capital costs related to this activity, as shown in Schedule Form 4P (pages 65-74 of 84), Line 1a, and an associated amount of O&M totaling approximately $2.0M for this activity, shown on Schedule Form 2P (page 2 of 84), Line 1.5, in Exhibit No. __(CAM-2).

Q. Describe the activities that will be performed for Underground Flood Mitigation and its related costs?

A. Underground Flood Mitigation will harden existing underground lines and equipment to withstand a storm surge using DEF's current storm surge standards. This involves the installation of specialized stainless-steel equipment and submersible connections. The primary purpose of this hardening activity is to

minimize the damage caused by a storm surge to the equipment and thus reduce customer outages and/or expedite restoration after the storm surge has receded.

DEF expects to begin this Program in 2022 and incur approximately $0.5M of total capital costs related to this activity, as shown in Schedule Form 4P (pages 75-77 of 84), Line 1a, in Exhibit No. __ (CAM-2).

No associated amount of O&M is expected in 2022 related to this activity.

Q. Describe the activities that will be performed for Distribution Vegetation Management and its related costs?

A. DEF will continue to utilize a fully Integrated Vegetation Management ("IVM") program focused on trimming feeders and laterals on average 3- and 5-year cycles, respectively, to minimize the impact of vegetation on distribution assets. This corresponds to trimming approximately 1,930 miles of feeder backbone and 2,455 miles of laterals annually. The IVM program consists of the following: routine maintenance "trimming", hazard tree removal, herbicide applications, vine removal, customer requested work, and right-of-way brush "mowing" where applicable. The IVM program incorporates a combination of both cycle-based maintenance and reliability-driven prioritization of work to reduce event possibilities during extreme weather events and enhance overall reliability.

For 2021, the O&M and Capital related to this activity is not included in Exhibit No. __(CAM-1), rather these costs are collected in base rates.

In 2022, DEF expects to incur approximately $2.0M of total capital costs related to this activity, as shown in the on Schedule Form 4P (page 80 of 84), Line 1a, and an

associated amount of O&M totaling approximately $44.2M for this activity, shown on Schedule Form 2P (page 2 of 84), Line 3.1, in Exhibit No. __(CAM-2).

Q. Are the Programs and activities discussed above consistent with DEF's SPP?

A. Yes, the planned activities are consistent with the Programs described in detail in DEF's SPP, specifically Exhibit No. _ (JWO-2) in Docket No. 20200069-EI, filed on April 10, 2020, subsequently updated on June 24, 2020.

Q. Would you please provide a summary of the costs associated with the Programs and activities discussed above?

A. Yes, please refer to the table below that represents the SPP investments made in 2020 through February 2021 and projected for the remainder of 2021 and 2022.

($ Millions)	2020	2020	2020
SPP Program	**Capital**	**O&M**	**Total**
Feeder Hardening	$0.7	$0.0	$0.7

($ Millions)	2021	2021	2021
SPP Program	**Capital**	**O&M**	**Total**
Feeder Hardening	$59.2	$2.4	$61.6
Lateral Hardening	$3.8	$0.0	$3.8
Self-Optimizing Grid	$3.6	$0.0	$3.6
Total	$66.6	$2.4	$69.0

($ Millions)	2022	2022	2022
SPP Program	**Capital**	**O&M**	**Total**
Feeder Hardening	$105.1	$6.1	$111.2
Lateral Hardening	$185.8	$10.0	$195.8

Self-Optimizing Grid	$74.5	$2.0	$76.5
Underground Flood Mitigation	$0.5	$0.0	$0.5
D -Vegetation Management	$2.0	$44.2	$46.2
Total	$367.9	$62.3	$430.2

Q. Would you please provide a summary of any observed true-up variances including changes in the utility's prices of services and/or equipment, changes in the scope of work relative to the estimates provided pursuant to implementation of the approved Storm Protection Plan?

A. The estimated price projection for services and equipment have been in line with projections as of reported actuals ending in February 2021. DEF carried forward an expected 2020 engineering spend of $2.4M, however, actual 2020 engineering spend was $0.7M. DEF did not commence engineering until after the FPSC approval of DEF's filed SPP. DEF will still fully spend the remaining $1.7M engineering differential in 2021 as part of the 2021 work plan. DEF secured dedicated resources for these 2021 Feeder Hardening projects and completed onboarding actions in mid-January which delayed the start of construction resulting in actual spend for January and February 2021 that is less than previously proposed estimates provided in Exhibit No._(TGF-1) in Docket No. 20200069-EI. While

DEF spent less than estimated in 2020 on engineering, this simply represents a timing shift into 2021 due to ramp up time.

DEF has implemented a 2022 workplan in line with the criteria outlined in Exhibit Nos._ (JWO-1) and (JWO-2) in Docket No. 20200069-EI. In preparing 2022 budgets, consistent with Exhibit Nos._(JWO-1) and (JWO-2), DEF updated actuals through 2020. This update showed a higher pole failure rate, which is driving an increase in projected pole replacements and associated O&M. DEF has also shifted funding from Lateral Hardening Underground to Lateral Hardening Overhead. Upon initial review of the selected 2022 feeders, a higher ratio of the existing laterals will benefit from overhead hardening efforts. As DEF's execution team moves forward with detailed designs, this ratio could shift. DEF has also shifted proposed funding from Capacity & Connectivity to Automation under the SOG program due to a limited number of opportunities under Capacity & Connectivity versus automation for the selected targets.

Q. Describe steps or programs DEF has taken during SPP initiation to ensure timely work completion and efficiency.

A. DEF is initiating a substation optimization plan whereby DEF will address all distribution level components of SPP from the substation outward. DEF will select a feeder target with the greatest opportunity for improvement using the priority methodology previously outlined in Exhibit No. _ (JWO-2) in Docket No. 20200069-EI. DEF will then review all feeders out of the substation associated with the selected feeder. Any other feeder(s) from the substation which appear(s) on the

priority list in the next 5 years will be moved to current year and will be built to the Feeder Hardening, Lateral Hardening and Self-Optimizing Grid programs within SPP. Using this approach, DEF will have greater engineering oversight, more efficient design, and better project controls. which will allow for streamlined customer communications, reduced service disruptions and mitigate repeat site visits. DEF construction resources will be more efficient and effective by concentrating work in a targeted area, allowing crews to move to nearby or adjacent work locations when impediments like maintenance of traffic or outage scheduling impact their ability to complete a specific scope.

Q. Does this conclude your testimony?

A. Yes, it does.