Annual Status Report on Storm Protection Plan Activities of Florida Investor-Owned Utilities

As Required by Section 366.96(10), Florida Statutes

NOVEMBER 2023

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Acronyms

DEF	Duke Energy Florida, LLC
EWL	Extreme Wind Loading
F.A.C.	Florida Administrative Code
FPL	Florida Power & Light Company
FPUC	Florida Public Utilities Company
F.S.	Florida Statutes
GULF	Gulf Power Company
IOU	Investor-Owned Electric Utility
NESC	National Electric Safety Code
OPC	Office of Public Counsel
SPP	Storm Protection Plan
SPPCRC	Storm Protection Plan Cost Recovery Clause
TECO	Tampa Electric Company

Executive Summary

In 2019, the Florida Legislature passed Senate Bill 796 to enact Section 366.96, Florida Statues (F.S.), entitled "Storm Protection Plan Cost Recovery" Section 366.96, F.S., requires each investor-owned electric utility (IOU) to file a transmission and distribution Storm Protection Plan (SPP) that covers the immediate 10-year planning period. The plans are required to be filed with the Florida Public Service Commission (the Commission or FPSC) at least every three years and must explain the systematic approach the utility will follow to achieve the objectives of reducing restoration costs and outage times associated with extreme weather events and enhancing reliability. Pursuant to Section 366.96(7), F.S., the Commission shall conduct an annual proceeding to determine the utility's prudently incurred SPP costs. In addition, Section 366.96(10), F.S., requires that the Commission submit an annual report to the Governor, President of the Senate, and Speaker of the House, on the status of the utilities' storm protection activities and costs, which is the purpose of this report. The Commission's rules implementing this new statute became effective on February 18, 2020.

This report is a summary of information provided pursuant to Rule 25-6.030(4), Florida Administrative Code (F.A.C.), which includes:

- Planned and completed SPP programs and projects in the previous year.
- Actual costs and rate impacts associated with completed SPP programs compared to the estimated costs and rate impacts for the same activities.
- Estimated costs and rate impacts associated with SPP programs planned for the next year.

Sections 3 through 6 of this report summarize the information required pursuant to Section 366.96(10) F.S., for Duke Energy Florida, LLC (DEF), Florida Power & Light Company (FPL), Florida Public Utilities Company (FPUC), and Tampa Electric Company (TECO). A majority of these SPP programs are a continuation of the utility's previously approved Storm Hardening Plan[1] and SPP.[2]

Section 366.96(7), F.S., requires the FPSC to conduct an annual proceeding to determine the utility's prudently incurred transmission and distribution storm protection plan costs and allow the utility to recover such costs through a charge separate and apart from its base rates, to be referred to as the storm protection plan cost recovery clause (SPPCRC). Prior to enactment of Section 366.96, F.S., costs to strengthen or harden an IOU's transmission and distribution infrastructure to withstand extreme wind events were recovered through base rates. The FPSC changes base rates infrequently but conducts an evidentiary proceeding or rate case, upon petition by an IOU or if the earnings of the IOU indicate that existing base rates may no longer be fair, just, reasonable or compensatory. Examples of costs recovered by base rates include new power plants such as solar facilities, modifications to existing power plants, transmission and distribution facilities, and other costs to maintain these facilities and operate the utility.

Beginning in 2020, the FPSC holds an annual evidentiary hearing for the SPPCRC that features a review of projected costs and a true-up of actual costs to establish SPPCRC factors or rates charged to

[1] Docket No. 20180144-EI (FPL), Docket No. 2018045-EI (TECO), Docket No. 20180146-EI (DEF), Docket No. 20180147-EI (Gulf) and Docket No. 20180148-EI (FPUC), *In re: Review of 2019-2021 storm hardening plan.*
[2] Docket No. 20220048-EI (TECO), Docket No. 20220049-EI (FPUC), Docket No. 20220050-EI (DEF), and Docket No. 20220051-EI (FPL), *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C.*

customers. This recurring, self-correcting process balances cost over-recoveries and under-recoveries to more closely reflect actual costs in any given period.

The majority of costs associated with an IOU's SPP activities are being recovered through the SPPCRC; however, some legacy costs continue to be recovered through an IOU's base rates. Section 366.96(8), F.S., requires that costs recovered through the SPPCRC may not include costs recovered through an IOU's base rates. As part of its implementation of the SPPCRC for each IOU, the FPSC ensured that the SPPCRC rates or factors did not include costs recovered through base rates.

Table A provides a summary of each IOU's reported estimated and actual total storm protection plan expenditures (base rates and SPPCRC). Table B is a summary of each utility's reported estimated and actual total bill impacts for a typical residential customer. The bill impacts shown in this report are based on expenses of completing SPP projects in a single year and are the result of dividing these costs by electricity sales. These bill impacts are a metric to assess trends in SPP expenditures and are not intended to match SPPCRC rates.

Section 7 includes summary tables of the actual SPP costs and bill impacts for each company for 2020–2022 or since inception of the SPPs.

Table A
Summary of SPP Costs

Utility	2020* Actual (Millions)	2022 Estimated (Millions)	2022 Actual (Millions)	2023 Estimated (Millions)
Duke Energy Florida, LLC	$239.3	$651.2	$493.5	$669.9
Florida Power & Light/ Gulf Power Company	$1,037.2 $36.6	$1,360.0	$1,501.3	$1,479.1
Florida Public Utilities Company**		$2.5	$1.7	$10.4
Tampa Electric Company	$36.9	$201.1	$219.7	$199.6
Totals	**$1,350.0**	**$2,214.8**	**$2,216.2**	**$2,359.0**

*Note: The 2020 Actual amounts are from the Companies' 2020 SPP Annual reports.

**Note: The Commission granted a motion to defer FPUC's 2020 SPP filing and refrain from participating in the SPPCRC proceeding due to circumstances affecting the utility as a result of Hurricane Michael in 2020. FPUC's first SPP was approved, with modifications, at the October 4, 2022 Commission Conference.

Table B
Summary of Total SPP Bill Impacts (in dollars)

Utility	2020* Actual Residential Bill Impact ($/1,000 kWh)	2022 Estimated Residential Bill Impact ($/1,000 kWh)	2022 Actual Residential Bill Impact ($/1,000 kWh)	2023 Estimated Residential Bill Impact ($/1,000 kWh)
Duke Energy Florida, LLC	$2.05	$3.15	$2.65	$3.08
Florida Power & Light/ Gulf Power Company	$1.29 $0.98	$1.48	$1.64	$1.79
Florida Public Utilities Company**		$0.57	$0.84	$2.72
Tampa Electric Company	$1.03	$3.26	$3.26	$4.96

*Note: The 2020 Actual amounts are from the Companies' 2020 SPP Annual reports.

**Note: The Commission granted a motion to defer FPUC's 2020 SPP filing and refrain from participating in the SPPCRC proceeding due to circumstances affecting the utility as a result of Hurricane Michael in 2020. FPUC's first SPP was approved, with modifications, at the October 4, 2022 Commission Conference.

Section 1 – Background

In order to implement the new statute, the Commission staff held two rule development workshops, on June 25, 2019, and August 20, 2019, to obtain stakeholder comments on the draft rules. Representatives from each IOU, Florida Retail Federation, Florida Industrial Power Users Group, and the Office of Public Counsel (OPC) participated at the workshops and submitted post-workshop comments. Additionally, representatives from Florida Electric Cooperatives Association, Inc., and Florida Municipal Electric Association submitted post-workshop comments.

The Commission proposed the adoption of Rules 25-6.030, F.A.C, Storm Protection Plan, and 25-6.031, F.A.C., Storm Protection Plan Cost Recovery Clause, at its October 3, 2019 Commission Conference.[3] However, the rules were challenged and an administrative hearing was held on December 20, 2019, at the Department of Administrative Hearings.[4] The Administrative Law Judge issued a final order on January 21, 2020, deeming the rules as valid and the rules became effective on February 18, 2020.

On April 11, 2022, DEF, FPL, and TECO each filed their second SPP for Commission approval.[5] These plans are largely a continuation of the IOUs' initial Commission-approved SPPs with the addition of some newly proposed programs.[6] The initial SPPs were approved by the Commission through individual settlement agreements. In addition, FPUC filed its first SPP for Commission approval on April 11, 2022.[7]

The Commission held a technical hearing on August 2-4, 2022, to address all four dockets. On October 4, 2022, the Commission voted to approve the plans with modifications. The utilities filed their modified SPPs on November 14 and 15, 2022, as required. However, the Commission's Orders approving the plans with modifications were appealed. The appeal is still pending at the Florida Supreme Court.[8]

Pursuant to Section 366.96(8), F.S., and Rule 25-6.031, F.A.C., SPP costs that are being recovered through the SPPCRC cannot be recovered through base rates or any other cost recovery method. SPP costs that are being recovered through the SPPCRC are evaluated by the Commission on an annual basis via the SPPCRC docket. The most recent SPPCRC docket was opened on January 3, 2023, and the Commission is scheduled to make a final decision on this docket by the end of the year.[9]

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[3] Docket No. 20190131-EU, *In re: Proposed adoption of Rule 25-6.030, F.A.C., Storm Protection Plan and Rule 25-6.031, F.A.C., Storm Protection Plan Cost Recovery Clause.*

[4] Case No. 19-006137RP, *In re: Petitioner and Intervenor had standing to challenge the proposed rules, but the evidence showed that the proposed rules are not invalid exercises of delegated legislative authority.*

[5] Docket No. 20220048-EI (TECO), Docket No. 20220050-EI (DEF), and Docket No. 20220051-EI (FPL), *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C.*

[6] TECO and FPUC's SPPs are for 2022 through 2031. DEF and FPL's SPPs are for 2023 through 2032.

[7] Docket No. 20220049-EI (FPUC), *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C.*

[8] Case No. SC2022-1733, filed December 15, 2022, *In re: Notice of Appeal*

[9] Docket No. 20230010-EI, *In re: Storm Protection Plan Cost Recovery Clause.*

Section 2 - Summary of Filings

On June 1, 2023, DEF, FPL, FPUC, and TECO filed their annual status reports regarding their SPP programs.[10] As required by Section 366.96(10), F.S., these status reports include:

- A description of all planned and completed SPP programs and projects in 2022.
- Actual costs and rate impacts associated with completed SPP programs compared to the estimated costs and rate impacts for the same activities.
- Estimated costs and rate impacts associated with SPP programs planned for 2023.

Each section below contains a brief description of each utility's SPP programs. A majority of these programs are a continuation of the utility's SPP previously approved by the Commission. The tables contained within each section summarize the information required pursuant to Section 366.96(10), F.S. Additional details of the programs are also contained in each utility's annual status report and its filings in the annual SPPCRC proceeding.

[10] https://www.psc.state.fl.us/storm-protection-plans.

Section 3 - Duke Energy Florida, LLC

Program Descriptions

Below are the programs that DEF implemented in 2022 or will implement in 2023. Further details of the programs are in DEF's SPP[11] or its annual SPP report.[12]

Distribution Self-Optimizing Grid

This program utilizes automated switching which allows most circuits to be restored from alternate sources. The program has connectivity projects that create tie points between circuits and adds segmentation such that the distribution circuits have much smaller line segments, thus reducing the number of customers that are affected by outages.

Distribution Targeted Underground

Existing overhead distribution lines are converted to underground in accessible locations to reduce tree and debris-related outages in heavily vegetated neighborhoods. DEF selects and prioritizes locations based on a 10-year reliability assessment of protective devices and outage history.

Distribution Deteriorated Conductor

The primary purpose of this program is to replace over-dutied overhead conductors that are prone to outages due to brittle composition, small load capacity, and reduced connection quality. The selected areas will have all of the copper and smaller aluminum conductors brought up to the current aluminum equivalent. In addition, poles, transformers, other primary equipment, and vegetation will be brought up to DEF's current standards.

Distribution Pole Replacements and Inspections

DEF inspects distribution wood poles on an average eight-year cycle to determine the extent of pole decay and any associated loss of strength. The information gathered from the inspections is used to determine if the pole needs to be replaced or if treatment and reinforcement will extend the life of the pole. DEF completes a loading analysis on poles with joint-use attachments on its system on an average eight-year cycle.

Distribution Feeder Hardening

This program will enable the feeder backbone to better withstand extreme weather events. This includes strengthening or replacing structures, updating basic insulation levels and conductors to current standards, relocating difficult to access facilities, and incorporates the Company's pole inspection and replacement activities. All new structures will meet the National Electric Safety Code (NESC) 250C extreme wind load (EWL) standard.

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[11] Docket No. 20220050-EI, *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Duke Energy Florida, LLC.*

[12] https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2022/2022%20Duke%20Energy%20Florida,%20Inc.%20SPP%20Annual%20Status%20Report.pdf

Distribution Lateral Hardening

This program will enable branch lines to better withstand extreme weather events. The Lateral Hardening Program includes undergrounding of the laterals that are most prone to damage during extreme weather events and are in inaccessible locations, and overhead hardening of those laterals less prone to damage. Laterals will also be relocated to accessible locations, where practical.

Distribution Underground Flood Mitigation

This program will harden existing underground facilities in locations that are prone to storm surge during extreme weather events. This involves the installation of specialized stainless-steel equipment, submersible connections, and concrete pads with increased mass.

Distribution Vegetation Management

The program consists of routine maintenance trimming, hazard tree removal, herbicide applications, vine removal, customer requested work, and right-of-way brush mowing where applicable. DEF trims its feeders on an average three-year cycle and trims its laterals on an average five-year cycle.

Transmission Structure and Drone Inspections

The transmission system's inspection activities include all types of structures, line hardware, guying, and anchoring systems. Ground-line inspections determine the extent of pole decay and any associated loss of strength. The transmission wood poles are inspected on a four-year cycle and the transmission non-wooden poles and towers are inspected on a six-year cycle. Drone inspections provide high-resolution imagery for structure, hardware and insulation vulnerabilities that otherwise would be difficult to see.

Transmission Pole Replacements

This program's activities are based on the results of the inspections of transmission wood poles. This activity upgrades wood poles to non-wood material such as steel or concrete. Other related hardware upgrades will occur simultaneously, such as insulators, crossarms, switches, and guys.

Transmission Tower Upgrades

This program focuses on the replacement of tower types that failed during extreme weather events as well as lattice towers identified during inspection results and cathodic protection data. It will prioritize towers based on inspection data and enhanced weather modeling.

Transmission Overhead Ground Wire

This program targets lines to improve lightning protection. The program prioritizes the replacement of deteriorated overhead ground wires by targeting lines with frequent lightning events, outage histories, structure design types, overhead ground wire materials, and inspection results.

Transmission GOAB Automation

The Gang Operated Air Break (GOAB) line switch automation project is a 20-year initiative that will upgrade 160 switch locations with modern switches enabled with remote-control capabilities. The GOAB upgrades increase the number of remote-control switches to support faster isolation of trouble spots on the transmission system and more rapid restoration following line faults.

Transmission Cathodic Protection

This program mitigates active ground level corrosion on the steel lattice tower system. The Cathodic Protection program includes the installation of passive cathodic protection systems comprised of anodes on each leg of the lattice towers. The anodes serve as sacrificial assets that corrode in place of the structural steel, preventing loss of structure strength due to corrosion.

Transmission Substation Flood Mitigation

The Substation Flood Mitigation program, using flood plain and storm surge data, includes a systematic review and prioritization of substations at risk of flooding to determine the proper mitigation solution. The mitigation solutions may include elevating or modifying equipment or relocating substations altogether.

Transmission Substation Hardening

The replacement of oil circuit breakers with state-of-the-art breakers will result in the transmission system being able to more effectively and consistently isolate faults, reclose after momentary interruptions, and improve the customer experience through fewer interruptions. The replacement of electro-mechanical relays with electronic relays is designed to provide rapid communication capabilities and microprocessor technology, which enables a quicker recovery from events. Relay upgrades will be matched with breaker replacements.

Transmission Vegetation Management

DEF's Transmission vegetation management program focuses on ensuring the safe and reliable operation of the transmission system by minimizing vegetation-related interruptions and adequate conductor-to-vegetation clearances. The program consists of planned threat and condition-based work, hazard tree mitigation, and floor management (herbicide, mowing, and hand cutting).

Tables 3-1 and 3-2 provide a list of the projects and activities planned and completed for 2022 and the projects and activities planned for 2023. In addition, the tables include a comparison of the estimated and actual costs of the projects and activities for 2022 and the estimated costs for 2023. The tables separately identify the costs recovered through the SPPCRC and base rates. As shown in Table 3-2, there are SPP projects or activities being recovered through base rates for 2022-2023, which includes costs associated with the retirement of older non-hardened assets.

Table 3-1
DEF's SPP Projects Planned & Completed for 2022–2023
(SPPCRC Only)

Program name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. Self-Optimizing Grid	632	$ 73.8	238	$ 43.8	746	$ 84.1
Dist. Targeted Underground	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Deteriorated Conductor	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Pole Replacements	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Feeder Hardening	42	$ 79.4	85	$ 57.1	78	$ 145.5
Dist. Feeder Hardening Pole Replacements (poles)	1,826	$14.5	457	$ 4.9	1,730	$17.3
Dist. Feeder Hardening Pole Inspections (poles)	31,857	$ 1.5	24,961	$ 0.9	24,501	$ 0.9
Dist. Lateral Hardening-Overhead	28	$64.0	71	$ 38.2	82	$87.4
Dist. Lateral Hardening Pole Replacements (poles)	5,143	$40.7	2,113	$ 18.1	7,058	$70.6
Dist. Lateral Hardening Pole Inspections (poles)	90,567	$ 4.2	71,039	$ 2.7	77,591	$ 2.8
Dist. Lateral Hardening-Underground	25	$99.5	53	$ 56.4	27	$40
Dist. Underground Flood Mitigation	3	$ 0.8	3	$ 0.3	3	$ 0.5
Dist. Vegetation Management (miles)	4,227	$ 46.2	4,126	$ 45.8	4,413	$ 47.5
Trans. Pole/Tower Inspections/Drone Inspections	12,747	$ 0.5	12,404	$ 0.6	12,459	$ 0.6
Trans. Pole Replacements (poles)	2,180	$111.5	1,987	$116.5	1,909	$ 121.7
Trans. Tower Upgrades	2	$ 4.3	4	$ 1.6	4	$ 5.1
Trans. Overhead Ground Wire	4	$ 4.2	3	$ 1.6	6	$ 7.5
Trans. GOAB Automation	2	$ 1.0	7	$ 0.3	4	$ 5.0
Trans. Cathodic Protection	2	$ 0.9	13	$ 0.8	3	$ 2.6
Trans. Substation Hardening	9	$ 7.8	11	$ 3.3	8	$ 9.5
Trans. Vegetation Management (miles)	426	$ 23.0	501	$ 23.6	519	$ 21.3
Totals		**$577.8**		**$416.5**		**$ 669.9**

Source: DEF's 2022 SPP Annual Report and responses to staff's data requests.

Note: Trans. = Transmission, Dist. = Distribution.

Table 3-2
DEF's SPP Projects Planned & Completed for 2022–2023
(Base Rates Only)

Program name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. Self-Optimizing Grid	83	$ 5.8	73	$ 5.6	0	$ 0.0
Dist. Targeted Underground	157	$ 36.6	203	$ 44.8	0	$ 0.0
Dist. Deteriorated Conductor	21	$ 7.5	19	$ 2.4	0	$ 0.0
Dist. Pole Replacements	2,651	$ 23.5	2,571	$ 24.2	0	$ 0.0
Dist. Feeder Hardening	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Feeder Hardening Pole Replacements (poles)	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Feeder Hardening Pole Inspections (poles)	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Lateral Hardening-Overhead	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Lateral Hardening Pole Replacements (poles)	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Lateral Hardening Pole Inspections (poles)	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Lateral Hardening-Underground	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Underground Flood Mitigation	0	$ 0.0	0	$ 0.0	0	$ 0.0
Dist. Vegetation Management (miles)	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Pole/Tower Inspections/Drone Inspections	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Pole Replacements (poles)	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Tower Upgrades	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Overhead Ground Wire	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. GOAB Automation	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Cathodic Protection	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Substation Hardening	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Vegetation Management (miles)	0	$ 0.0	0	$ 0.0	0	$ 0.0
Totals		**$ 73.4**		**$ 77.0**		**$ 0.0**

Source: DEF's 2022 SPP Annual Report and responses to staff's data requests.

Note: Trans. = Transmission, Dist. = Distribution.

Table 3-3 provides the typical residential customer's bill impact for the implementation of DEF's SPP programs. These values represent the total costs of DEF's SPP activities, some of which are recovered through base rates and others through the SPPCRC. For reference purposes, DEF's 2023 SPPCRC factor results in a residential bill impact of approximately $4.14 for similar usage.

Table 3-3
DEF's Actual and Projected Bill Impacts (in dollars)

2020* Actual		2022 Estimated		2022 Actual		2023 Estimated	
Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)
$239.3	$2.05	$651.2	$3.15	$493.5	$2.65	$669.9	$3.08

Source: DEF's 2022 SPP Annual Report and responses to staff's data requests.
*Note: The 2020 Actual amounts are from the Company's 2020 SPP Annual Report.

Section 4 - Florida Power & Light

Program Descriptions

Gulf Power Company (Gulf) was merged with FPL in 2021 and 2022; the utilities were consolidated for ratemaking purposes as FPL. Below are the programs that FPL implemented in 2022. Further details of the programs are in FPL's SPP[13] or in its annual SPP report.[14]

Distribution Inspection Program

This program includes an eight-year pole inspection cycle for all distribution poles throughout its service area. In addition, joint use poles are inspected as part of the Distribution Inspection Program.

Transmission Inspection Program

This program ensures that transmission wood, steel, and concrete structures are visually inspected on an annual basis. Transmission circuits and substations will be inspected on a six-year cycle. Climbing or bucket truck inspections on wood structures will be on a six-year cycle and climbing or bucket truck inspections on steel and concrete structures will be on a ten-year cycle.

Distribution Feeder Hardening Program

FPL hardens feeder throughout its service area, considering historical reliability performance, restoration difficulties, ongoing/upcoming projects, and geographic locations. This includes FPL's initiative of design and construction practices to meet the NESC EWL criteria.

Distribution Lateral Hardening Program

FPL originally started this program as a pilot program in 2018 and has continued the program as part of its SPP. This program targets certain overhead laterals, which were impacted by recent storms and have a history of vegetation-related outages and other reliability issues, for conversion from overhead to underground.

Transmission Hardening Program

This program replaces all wood transmission structures with steel or concrete structures. As of year-end 2022, 100 percent of former FPL's transmission structures are steel or concrete and 67 percent of the former Gulf's transmission structures are steel or concrete with 33 percent (approximately 4,100 structures) wood transmission structures remaining.

Distribution Vegetation Management Program

To maintain current cycles, FPL plans to inspect and maintain, on average, approximately 17,000 miles of feeders and laterals, which is consistent with historically recorded miles. This program includes a three-year average vegetation maintenance cycle for feeders, mid-cycle targeted

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[13] Docket No. 20220051-EI, *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Florida Power & Light Company.*

[14] https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2022/2022%20Florida%20Power%20and%20Light%20Company%20SPP%20Annual%20Status%20Report.pdf

vegetation maintenance cycle for certain feeders, six-year average vegetation maintenance cycle for laterals, and continued customer education through FPL's "Right Tree, Right Place" initiative.

Transmission Vegetation Management Program

FPL plans to inspect and maintain, on average, approximately 9,000 miles of its transmission lines annually, which is comparable to the historically maintained miles. This program includes inspecting the rights-of-way of transmission infrastructure, documenting vegetation inspection results and findings, and prescribing and executing a work plan.

Substation Storm Surge/Flood Mitigation Program

The Substation Storm Surge/Flood Mitigation program is a continuing program, first established in FPL's 2020 SPP. Damage to substations that are susceptible to storm surge and flooding during extreme weather events can be prevented and/or mitigated by raising the equipment at certain substations above flood level and constructing flood protection walls around other substations.

Tables 4-1 and 4-2 provide a list of the projects and activities planned and completed by FPL for 2022 and the projects and activities planned for 2023. In addition, the tables include a comparison of the estimated and actual costs of the projects and activities for 2022 and the estimated costs for 2023. The tables separately identify the costs recovered through the SPPCRC and base rates. As shown in Table 4-2, there are no SPP projects or activities being recovered through base rates for 2022-2023. However, costs associated with the retirement of non-hardened assets that were part of FPL's system prior to 2021 are recovered through base rates.

Table 4-1
FPL's SPP Projects Planned & Completed for 2022–2023
(SPPCRC Only)

Program Name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. Inspection (poles)	180,000	$ 39.3	190,275	$ 39.4	180,000	$ 40.4
Trans. Inspections	81,000	$ 30.1	82,768	$ 43.3	84,000	$ 62.6
Dist. Feeder Hardening	347	$ 629.2	324	$ 706.5	447	$ 594.5
Dist. Lateral Hardening	630	$ 342.1	608	$ 355.2	746	$ 486.5
Trans. Hardening	1,271	$ 70.2	900	$ 56.5	469	$ 30.2
Dist. Vegetation Management (miles)	16,690	$ 67.0	19,283	$ 71.0	16,690	$ 73.0
Trans. Vegetation Management (miles)	9,062	$ 11.8	9,303	$ 15.8	9,350	$ 11.8
Substation Storm Surge/Flood Mitigation	3	$ 9.6	0	$ 4.7	3	$ 8.0
Totals		**$1,199.3**		**$1,292.4**		**$1,307.1**

Source: FPL's 2022 SPP Annual Report and responses to staff's data requests.
Note: Trans. = Transmission, Dist. = Distribution.

Table 4-2
FPL's Retirements of Assets Planned & Completed for 2022–2023
(Base Rates Only)

Program Name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. Inspection (poles)		$ 21.6		$ 23.7		$ 22.3
Trans. Inspections		$ 2.8		$ 12.3		$ 13.3
Dist. Feeder Hardening		$ 98.9		$ 139.5		$ 94.5
Dist. Lateral Hardening		$ 26.1		$ 21.8		$ 36.6
Trans. Hardening		$ 10.9		$ 12.0		$ 5.4
Dist. Vegetation Management (miles)		$ 0.0		$ 0.0		$ 0.0
Trans. Vegetation Management (miles)		$ 0.0		$ 0.0		$ 0.0
Substation Storm Surge/Flood Mitigation		$ 0.4		$ (0.1)		$ 0.0
Totals		**$160.7**		**$209.2**		**$172.0**

Source: FPL's 2022 SPP Annual Report and responses to staff's data requests.
Note: Trans. = Transmission, Dist. = Distribution.

Table 4-3 provides the typical residential customer's bill impact for the implementation of FPL's SPP programs. These values represent the total costs of FPL's SPP activities, which are recovered through the SPPCRC and base rates. For reference purposes, FPL's 2023 SPPCRC factor results in a residential bill impact of approximately $3.82 for similar usage.

Table 4-3
FPL's Actual and Projected Bill Impacts (in dollars)

	2020* Actual		2022 Estimated		2022 Actual		2023 Estimated	
	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)
FPL	$1,037.2	$1.29	$1,360.0	$1.48	$1,501.6	$1.64	$1,479.1	$1.79
Gulf	$36.6	$0.98						

Source: FPL's 2022 SPP Annual Report and responses to staff's data requests.
*Note: The 2020 Actual amounts are from the Companies' 2020 SPP Annual Reports.

Section 5 - Florida Public Utilities Company

Program Descriptions

Below are the programs that FPUC implemented in 2022 or will implement in 2023. Further details of the programs are in FPUC's SPP[15] or its annual SPP report.[16]

Distribution Overhead Feeder Hardening Program

FPUC will analyze its feeders, leveraging specialized software, to ensure the feeder is adhering to NESC 250C EWL standards. If applicable, upgrades could include upgrading the class of the pole or adding intermediate poles.

Distribution Overhead Lateral Hardening Program

FPUC will analyze its overhead laterals, leveraging specialized software, to ensure the feeder is adhering to NESC 250C EWL standards. If applicable, upgrades could include upgrading the class of the pole or adding intermediate poles.

Distribution Overhead Lateral Undergrounding Program

This program addresses the systematic undergrounding or relocation and undergrounding of the single-phase overhead laterals. Many of these laterals are located in heavily vegetated areas, environmentally sensitive areas, or in areas where upgrading the overhead laterals to NESC EWL standards is not practical or consistent with industry design standards.

Distribution Pole Inspection and Replacement Program

All of FPUC's distribution poles are on an eight-year inspection cycle. Distribution poles are inspected by visual inspection techniques, sound and bores, and excavations with treatments. The poles are replaced using the NESC EWL standards.

Transmission and Distribution Vegetation Management Program

This program includes a new four-year cycle on the feeders and laterals, increased participation with local governments to address overall reliability due to tree related outages, and information made available to customers regarding the maintenance and placement of trees. The transmission lines have been on a three-year cycle. In 2022, FPUC continued its prior three-year feeder/six-year lateral cycle for its vegetation management as FPUC transitions to the new four-year cycle.

Transmission Inspection and Hardening Program

FPUC's transmission structures are on a six-year detailed inspection cycle. The next inspection is scheduled for 2024. FPUC's substation equipment is inspected annually. FPUC's 138kV transmission system includes concrete poles, steel poles, and steel towers. Its 69kV transmission system consists of 122 concrete poles and 95 wooden poles. As necessary, wood poles will be replaced with concrete poles that meet NESC standards.

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[15] Docket No. 20220049-EI, *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Florida Public Utilities Company.*

[16] https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2022/2022%20Florida%20Public%20Utilities%20Company%20SPP%20Annual%20Status%20Report.pdf

Tables 5-1 and 5-2 provide a list of the projects and activities planned and completed by FPUC for 2022 and the projects and activities planned for 2023. In addition, the tables include a comparison of the estimated and actual costs of the projects and activities for 2022 and the estimated costs for 2023. The tables separately identify the costs recovered through the SPPCRC and base rates. As shown in Table 5-2, there are SPP projects or activities being recovered through base rates for 2022-2023, which includes costs associated with the retirement of older non-hardened assets.

Table 5-1
FPUC's SPP Projects Planned & Completed for 2022–2023
(SPPCRC Only)

Program Name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. OH Feeder Hardening	3	$0.3	0	$0.2	10	$3.5
Dist. OH Lateral Hardening	4	$0.1	0	$0.1	9	$0.5
Dist. OH Lateral Hardening UG	3	$0.1	0	$0.1	16	$2.1
Dist. Pole Inspection & Replacement (poles)	N/A	$0.7	3,248	$0.0	3,810	$2.0
Trans & Dist. Vegetation Management (miles)	77	$0.2	116	$0.5	183	$0.4
Trans. Inspection & Hardening	6	$0.4	0	$0.0	12	$0.9
SPP Program Management	N/A	$0.0	N/A	$0.1	N/A	$0.0
Totals		**$1.8**		**$1.0**		**$9.4**

Source: FPUC's 2022 SPP Annual Report and responses to staff's data requests.

Note: Trans. = Transmission, Dist. = Distribution, OH = Overhead, UG = Undergrounding.

Table 5-2
FPUC's SPP Projects Planned & Completed for 2022–2023
(Base Rates Only)

Program Name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. OH Feeder Hardening	0	$0.0	0	$0.0	0	$0.0
Dist. OH Lateral Hardening	0	$0.0	0	$0.0	0	$0.0
Dist. OH Lateral Hardening UG	0	$0.0	0	$0.0	0	$0.0
Dist. Pole Inspection & Replacement (poles)	N/A	$0.1	N/A	$0.1	N/A	$0.1
Trans & Dist. Vegetation Management (miles)	N/A	$0.6	N/A	$0.6	N/A	$0.9
Trans. Inspection & Hardening	0	$0.0	0	$0.0	0	$0.0
SPP Program Management	N/A	$0.0	N/A	$0.0	N/A	$0.0
Totals		**$0.7**		**$0.7**		**$1.0**

Source: FPUC's 2022 SPP Annual Report and responses to staff's data requests.

Note: Trans. = Transmission, Dist. = Distribution, OH = Overhead, UG = Undergrounding.

Table 5-3 provides the typical residential customer's bill impact for the implementation of FPUC's SPP programs. These values represent the total costs of FPUC's SPP activities, some of which are recovered through base rates and others through the SPPCRC. For reference purposes, FPUC's 2023 SPPCRC factor results in a residential bill impact of approximately $2.50 for similar usage.

Table 5-3
FPUC's Actual and Projected Bill Impacts (in dollars)

	2020* Actual		2022 Estimated		2022 Actual		2023 Estimated	
	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)
FPUC			$2.5	$0.57	$1.5	$0.84	$10.3	$2.72

Source: FPUC's 2022 SPP Annual Report and responses to staff's data requests.

*Note: The Commission granted a motion to defer FPUC's 2020 SPP filing and refrain from participating in the SPPCRC proceeding due to circumstances affecting the utility as a result of Hurricane Michael in 2020. FPUC's first SPP was approved, with modifications, at the October 4, 2022 Commission Conference.

Section 6 - Tampa Electric Company

Program Descriptions

Below are the programs that TECO implemented in 2022 or will implement in 2023. Further details of the programs are in TECO's SPP[17] or in its annual SPP report.[18]

Distribution Lateral Undergrounding

TECO's Distribution Lateral Undergrounding program is a program that strategically undergrounds existing overhead laterals. The primary factor in prioritizing laterals to be underground is based on reliability performance during extreme weather events.

Vegetation Management

TECO's distribution and transmission vegetation management activities are both addressed in this program. TECO's distribution tree trimming program includes circuit tree trimming activities, mid-cycle trimming activities, customer requested work, and work orders associated with circuit improvement processes. TECO's distribution system is on a four-year cycle and the transmission system is on a two- or three-year cycle depending on voltage level.

Transmission Asset Upgrades

TECO plans to replace its remaining transmission wood poles with non-wood material by the end of its initial 2020-2029 SPP. This is a continuation of TECO's existing storm hardening pole replacement program, which includes replacing poles based on preventative, corrective or project-driven assessments.

Substation Extreme Weather Hardening

Hardening existing substations to minimize outages, reduce restoration times and enhance emergency response during extreme weather events is a new program included in TECO's SPP. No projects were planned or completed for 2022 under this program as TECO finished its studies on the substations. TECO identified nine substations to be hardened, of which, one project will start in 2023.

Distribution Overhead Feeder Hardening

TECO's distribution system will be hardened to withstand increased wind-loading and harsh environmental conditions associated with extreme weather events by increasing the resiliency and sectionalizing capabilities of the system.

Transmission Access Enhancements

In order to have continuous access to its transmission facilities for restoration, TECO implemented this program in its SPP to maintain the access roads and bridges leading to its facilities. TECO

[17] Docket No. 20220048-EI, *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Tampa Electric Company.*

[18] https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2022/2022%20Tampa%20Electric%20Company%20SPP%20Annual%20Status%20Report.pdf

completed four projects in 2022. The Commission voted to eliminate this program from TECO's 2023 SPP and as a result, this program ended December 31, 2022.

Infrastructure Inspections

TECO's distribution wood pole inspections and transmission structure inspections, and the joint use pole attachment audit are combined into one program. The distribution wood pole inspections are on an eight-year cycle program consisting of visual inspections, sound and bore inspections, and excavations at least 18 inches below ground line. The transmission structure inspections include a range of inspections from ground to aerial infrared patrols with a range of cycles from annual to eight years. The joint use pole attachment audit is a comprehensive loading analysis to ensure TECO's poles with joint use attachments are not overloaded and meet the NESC standards. This audit will be performed every four to five years.

Tables 6-1 and 6-2 provide a list of the projects and activities planned and completed for 2022 and the projects and activities planned for 2023. In addition, the table includes a comparison of the estimated and actual costs of the projects and activities for 2022 and the estimated costs for 2023. The tables separately identify the costs recovered through the SPPCRC and base rates. As shown in Table 6-2, there are SPP projects or activities being recovered through base rates for 2022-2023, which includes costs associated with the retirement of older non-hardened assets.

Table 6-1
TECO's SPP Projects Planned & Completed for 2022–2023
(SPPCRC Only)

Program name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. Lateral Undergrounding	698	$106.1	120	$127.4	399	$104.7
Dist. Vegetation Management (miles)	2,448	$ 21.2	2,536	$ 19.8	3,279	$ 24.0
Trans. Vegetation Management (miles)	557	$ 3.6	532	$ 3.4	557	$ 3.7
Trans. Asset Upgrades (poles)	474	$ 17.0	526	$ 20.9	463	$ 18.0
Substation Extreme Weather Hardening	0	$ 0.0	0	$ 0.0	1	$ 0.7
Dist. Overhead Feeder Hardening	47*	$ 33.4	1,654*	$ 26.0	31	$ 30.7
Trans. Access Enhancements	26	$ 2.4	4	$ 2.2	0	$ 0.0
Dist. Infrastructure Inspections (pole and structures)	35,625	$ 1.0	35,779	$ 1.2	35,625	$ 1.0
Trans. Infrastructure Inspections (poles and structures)	4,049	$ 0.6	3,784	$ 0.6	3,120	$ 0.5
SPP Planning & Common	N/A	$ 0.8	N/A	$ 0.9	N/A	$ 0.9
Totals		**$186.1**		**$202.4**		**$184.2**

Source: TECO's 2022 SPP Annual Report and responses to staff's data requests.

Note: Trans. = Transmission, Dist. = Distribution.

*Note: Projects planned for 2022 are in circuit units and projects completed in 2022 are in equipment units.

Table 6-2
TECO's SPP Projects Planned & Completed for 2022–2023
(Base Rates Only)

Program name	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)	Projects/ Activities Completed in 2022	Actual Cost for 2022 (Millions)	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)
Dist. Lateral Undergrounding	0	$0.0	0	$0.0	0	$0.0
Dist. Vegetation Management (miles)-unplanned	3,700	$1.4	3,398	$1.7	3,700	$1.4
Trans. Vegetation Management (miles)-unplanned	0	$0.0	0	$0.0	0	$0.0
Trans. Asset Upgrades (poles)	0	$0.0	0	$0.0	0	$0.0
Substation Extreme Weather Hardening	0	$0.0	0	$0.0	0	$0.0
Dist. Overhead Feeder Hardening	0	$0.0	0	$0.0	0	$0.0
Trans. Access Enhancements	0	$0.0	0	$0.0	0	$0.0
Dist. Infrastructure Inspections (pole and structures)	0	$0.0	0	$0.0	0	$0.0
Trans. Infrastructure Inspections (poles and structures)	0	$0.0	0	$0.0	0	$0.0
SPP Planning & Common	N/A	$0.0	N/A	$0.0	N/A	$0.0
Dist. Pole Replacements	2,690	$13.3	459	$14.9	450	$13.7
Legacy Storm Hardening	0	$0.3	4	$0.7	0	$0.3
Totals		**$15.0**		**$17.3**		**$15.4**

Source: TECO's 2022 SPP Annual Report and responses to staff's data requests.
Note: Trans. = Transmission, Dist. = Distribution.

Table 6-3 provides the typical residential customer's bill impact for the implementation of TECO's SPP programs. These values represent the total costs of TECO's SPP activities, some of which are recovered through base rates and others through the SPPCRC. For reference purposes, TECO's 2023 SPPCRC factor results in a residential bill impact of approximately $3.73 for similar usage.

Table 6-3
TECO's Actual and Projected Bill Impacts (in dollars)

2020* Actual		2022 Estimated		2022 Actual		2023 Estimated	
Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)	Total Costs (Millions)	Residential Bill Impact ($/1,000 kWh)
$36.9	$1.03	$201.1	$3.26	$219.7	$3.26	$199.6	$4.96

Source: TECO's 2022 SPP Annual Report and responses to staff's data requests.
*Note: The 2020 Actual amounts are from the Company's 2020 SPP Annual Reports.

Section 7 - Appendix

Table 7-1 provides the actual costs for each company's SPP for 2020-2022. Table 7-2 provides the typical residential customer's bill impact for the implementation of each company's SPP programs for 2020-2022.

Table 7-1
Actual Total SPP Costs (Millions)

	DEF	FPL	FPUC*	Gulf**	TECO	Total
2020	$239.3	$1,037.2		$36.6	$36.9	$1,350.0
2021	$343.7	$1,149.5		$96.3	$115.2	$1,704.7
2022	$493.5	$1,501.3	$1.7		$219.7	$2,216.2

Source: The Company's 2020-2022 SPP Annual Reports.

*Note: The Commission granted a motion to defer FPUC's 2020 SPP filing and refrain from participating in the SPPCRC proceeding due to circumstances affecting the utility as a result of Hurricane Michael in 2020. FPUC's first SPP was approved, with modifications, at the October 4, 2022 Commission Conference.

**Note: Gulf was merged with FPL in 2021 and 2022; the utilities were consolidated for ratemaking purposes into FPL.

Table 7-2
Actual SPP Bill Impacts (Residential $/1,000 kWh)

	DEF	FPL	FPUC*	Gulf**	TECO
2020	$2.05	$1.29		$0.98	$1.03
2021	$2.40	$1.39		$1.38	$2.09
2022	$2.65	$1.64	$0.84		$3.26

Source: The Company's 2020-2022 SPP Annual Reports.

*Note: The Commission granted a motion to defer FPUC's 2020 SPP filing and refrain from participating in the SPPCRC proceeding due to circumstances affecting the utility as a result of Hurricane Michael in 2020. FPUC's first SPP was approved, with modifications, at the October 4, 2022 Commission Conference.

**Note: Gulf was merged with FPL in 2021 and in 2022; the utilities were consolidated for ratemaking purposes.