



FLORIDA
PUBLIC
SERVICE
COMMISSION

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

As Required by Section 366.96(10), Florida Statutes



NOVEMBER 2022

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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, 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 Commission 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), 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 5 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)/Gulf Power Company (Gulf), and Tampa Electric Company (TECO). A majority of these SPP programs are a continuation of the utility’s previously approved Storm Hardening Plan¹ and SPP.² This report does not include any data from Florida Public Utilities Company (FPUC), as the Commission granted a motion to defer its 2020 SPP filing and refrain from participating in the Storm Protection Plan Cost Recovery Clause (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. NextEra Energy Inc., FPL’s parent company acquired Gulf Power Company through a purchase that closed during the first half of 2019. The companies continued to exist as separate entities under the Commission’s jurisdiction and submitted separate SPPs which were approved by the Commission in 2020. The Commission approved the unification of FPL and Gulf’s systems for ratemaking purposes, effective January 1, 2022. Accordingly, FPL’s SPP will, going forward, address the combined territory and customers of the unified company.

Table A provides a summary of each utility’s reported estimated and actual total storm protection expenditures.³ While most of these expenditures are being recovered through the SPPCRC, some costs

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. 20200067-EI (TECO), Docket No. 20200069-EI (DEF), Docket No. 2020070-EI (Gulf), and Docket No. 20200071-EI (FPL), *In re: Review of 2020-2029 Storm Protection Plan pursuant to Rule 25-6.030, F.A.C.*

³ The Commission is not drawing any conclusions or making any findings in this report. Any findings about current or future storm protection program cost recovery will be considered as part of a docketed proceeding and subsequent Commission order.

continue to be recovered through the utility's base rates. Table B is a summary of each utility's reported estimated and actual bill impacts for a typical residential customer. For reference purposes, the values initially reported for 2020 are also included in both tables.

**Table A
Summary of SPP Costs**

Utility	2020* Actual (Millions)	2021 Estimated (Millions)	2021 Actual (Millions)	2022** Estimated (Millions)
Duke Energy Florida, LLC	\$239.3	\$409.3	\$343.5	\$651.2
Florida Power & Light/ Gulf Power Company	\$1,037.2	\$1,090.6	\$1,149.5	\$1,360.0
	\$36.6	\$100.8	\$96.3	
Tampa Electric Company***	\$36.9	\$137.7	\$115.1	\$181.4
Totals	\$1,350.0	\$1,738.4	\$1,704.4	\$2,192.6

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

**Note: Consists of consolidated amounts for FPL and Gulf.

***Note: TECO's SPP costs reflect only the actual/estimated SPPCRC costs.

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

Utility	2020* Actual Residential Bill Impact (\$/1,000 kWh)	2021 Estimated Residential Bill Impact (\$/1,000 kWh)	2021 Actual Residential Bill Impact (\$/1,000 kWh)	2022** Estimated Residential Bill Impact (\$/1,000 kWh)
Duke Energy Florida, LLC	\$2.05	\$2.65	\$2.40	\$3.15
Florida Power & Light/ Gulf Power Company	\$1.29	\$1.36	\$1.39	\$1.48
	\$0.98	\$1.44	\$1.38	
Tampa Electric Company	\$1.03	\$1.90	\$2.09	\$3.26

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

**Note: Consists of consolidated amounts for FPL and Gulf.

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.⁴ However, the rules were challenged and an administrative hearing was held on December 20, 2019, at the Department of Administrative Hearings.⁵ 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.⁶ These plans are largely a continuation of the IOUs' initial Commission-approved SPPs with the addition of some newly proposed programs.⁷ 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, 2022.⁸

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 modified plans are to be filed within 30 days of the final order for administrative approval.

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, 2022, and the Commission is scheduled to make a final decision on this docket by the end of the year.⁹

⁴ 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.*

⁵ 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.*

⁶ 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.*

⁷ TECO and FPUC's SPPs are for 2022 through 2031. DEF and FPL's SPPs are for 2023 through 2032.

⁸ Docket No. 20220049-EI, *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C.*

⁹ Docket No. 20220010-EI, *In re: Storm Protection Plan Cost Recovery Clause.*

Section 2 - Summary of Filings

On June 1, 2022, DEF, FPL, 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 2021.
- 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 2022.

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 [http://www.floridapsc.com/ElectricNaturalGas/StormProtectionPlans Annual Status Reports](http://www.floridapsc.com/ElectricNaturalGas/StormProtectionPlans%20Annual%20Status%20Reports)

Section 3 - Duke Energy Florida, LLC

Program Descriptions

Below are the programs that DEF implemented in 2021 or will implement in 2022. Further details of the programs are in DEF's SPP¹¹ 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 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 standard.

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

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<http://www.floridapsc.com/Files/PDF/Utilities/Electricgas/StormProtectionPlans/2020/2020%20Duke%20Energy%20Florida,%20Inc.%20SPP%20Annual%20Status%20Report.pdf>

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 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 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).

Table 3-1 provides a list of the projects and activities planned and completed for 2021 and the projects and activities planned for 2022. In addition, the table includes a comparison of the estimated and actual costs of the projects and activities for 2021 and the estimated costs for 2022.

**Table 3-1
DEF's SPP Projects and Activities Planned and Completed for 2021 - 2022**

Program name	Projects/ Activities Planned for 2021	Estimated Cost for 2021 (Millions)	Projects/ Activities Completed in 2021	Actual Cost for 2021 (Millions)	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)
Dist. Self-Optimizing Grid	741	\$ 75.3	378	\$ 58.2	715	\$ 79.6
Dist. Targeted Underground	204	\$ 65.2	344	\$ 57.7	157	\$ 36.6
Dist. Deteriorated Conductor	17	\$ 28.2	31	\$ 17.4	21	\$ 7.5
Dist. Pole Inspections (poles)	153,573	\$ 6.3	121,244	\$ 4.9	0	\$ 0.0
Dist. Pole Inspections (poles) – Feeder Hardening	0	\$ 0.0	0	\$ 0.0	31,857	\$ 1.5
Dist. Pole Inspections (poles) – Lateral Hardening	0	\$ 0.0	0	\$ 0.0	90,567	\$ 4.2
Dist. Pole Replacements (poles)	3,433	\$ 25.1	2,251	\$ 19.8	2,651	\$ 23.5
Dist. Pole Replacements (poles) – Feeder Hardening	0	\$ 0.0	0	\$ 0.0	1,826	\$14.5
Dist. Pole Replacements (poles) – Lateral Hardening	0	\$ 0.0	0	\$ 0.0	5,143	\$40.7
Dist. Feeder Hardening	17	\$ 59.5	17	\$ 35.7	42	\$ 79.4
Dist. Lateral Hardening - Overhead	0	\$ 0.0	0	\$ 2.0	28	\$64.0
Dist. Lateral Hardening - Underground	0	\$ 0.0	0	\$ 2.9	25	\$99.5
Dist. Underground Flood Mitigation	0	\$ 0.0	0	\$ 0.0	3	\$ 0.8
Dist. Vegetation Management (miles)	4,361	\$ 46.5	4,517	\$ 44.3	4,227	\$ 46.2
Trans. Pole/Tower Inspections/Drone Inspections	13,900	\$ 0.5	14,329	\$ 0.4	12,747	\$ 0.5
Trans. Pole Replacements (poles)	1,495	\$ 69.7	1,271	\$ 66.0	2,180	\$111.5
Trans. Tower Upgrades	3	\$ 1.8	1	\$ 1.4	2	\$ 4.3
Trans. Overhead Ground Wire	2	\$ 1.5	7	\$ 1.4	4	\$ 4.2
Trans. GOAB Automation	0	\$ 0.0	0	\$ 0.0	2	\$ 1.0
Trans. Cathodic Protection	3	\$ 1.2	3	\$ 2.5	2	\$ 0.9
Trans. Substation Hardening	15	\$ 5.5	5	\$ 5.6	9	\$ 7.8
Trans. Vegetation Management (miles)	335	\$ 23.0	394	\$ 23.5	426	\$ 23.0
Totals		\$409.3		\$343.5		\$651.2

Source: DEF's 2021 SPP Annual Report and responses to staff's data requests.

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

Table 3-2 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.

**Table 3-2
DEF’s Actual and Projected Bill Impacts (in dollars)**

2020* Actual		2021 Estimated		2021 Actual		2022 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	\$409.3	\$2.65	\$343.5	\$2.40	\$651.2	\$3.15

Source: DEF’s 2021 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/Gulf Power Company

Program Descriptions

Gulf was merged with FPL in 2021, however, the utilities remained separate ratemaking entities. As such, the utilities separately administered their SPP programs and projects during 2021. In 2022, the utilities were consolidated for ratemaking purposes. Below are the programs that FPL and Gulf implemented in 2021. Further details of the programs are in FPL's SPP¹³ or in its annual SPP report.¹⁴

Distribution Inspection Program

This program includes an eight-year pole inspection cycle for all distribution poles. FPL established nine inspection zones to ensure inspection coverage throughout its service area. In addition, joint-use audits are conducted at the same time as 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 2019, FPL reported that 96 percent of its transmission system is steel or concrete; therefore, less than 2,900 (4 percent) wood transmission structures need to be replaced. As of year-end 2019, 62 percent of Gulf's transmission structures were steel or concrete with 38 percent (approximately 4,600) wood transmission structures remaining.

Distribution Vegetation Management Program

To maintain current cycles, FPL plans to inspect and maintain, on average, approximately 12,177 miles of feeders and 5,057 miles of laterals, which is consistent with historically recorded miles.

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 <http://www.floridapsc.com/Files/PDF/Utilities/Electricgas/StormProtectionPlans/2020/2020%20Florida%20Power%20and%20Light%20Company%20SPP%20Annual%20Status%20Report.pdf>

This program includes a three-year average vegetation maintenance cycle for feeders, mid-cycle targeted 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.

Table 4-1 provides a list of the projects and activities planned and completed by FPL and Gulf for 2021 and the projects and activities planned by FPL for 2022. In addition, the table includes a comparison of the estimated and actual costs of the projects and activities for 2021 and the estimated costs for 2022.

**Table 4-1
FPL/Gulf's SPP Projects & Activities Planned & Completed for 2021 - 2022**

Program Name	Projects/ Activities Planned for 2021	Estimated Cost for 2021 (Millions)	Projects/ Activities Completed in 2021	Actual Cost for 2021 (Millions)	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)
Dist. Inspection (poles)- FPL	150,000	\$ 57.9	151,114	\$ 62.3	180,000	\$ 60.9
Dist. Inspection (poles)- Gulf	26,000	\$ 3.0	27,283	\$ 4.6		
Trans. Inspections - FPL	69,000	\$ 32.2	69,158	\$ 34.4	81,000	\$ 32.8
Trans. Inspections - Gulf	2,400	\$ 3.6	1,798	\$ 2.0		
Dist. Feeder Hardening -FPL	350	\$664.9	300	\$ 675.2	347	\$ 728.2
Dist. Feeder Hardening -Gulf	21	\$ 35.9	11	\$ 39.4		
Dist. Lateral Hardening -FPL	350	\$212.5	440	\$ 245.6	630	\$ 368.2
Dist. Lateral Hardening -Gulf	8	\$ 5.2	1	\$ 2.5		
Trans. Hardening - FPL	822	\$ 42.9	587	\$ 52.9	1,271	\$ 81.1
Trans. Hardening - Gulf	384	\$ 45.5	278	\$ 40.6		
Dist. Vegetation Management (miles)-FPL	15,200	\$ 61.3	15,369	\$ 62.6	16,690	\$ 67.0
Dist. Vegetation Management (miles)-Gulf	2,000	\$ 4.7	1,318	\$ 5.0		
Trans. Vegetation Management (miles)-FPL	7,000	\$ 8.9	7,385	\$ 8.7	9,062	\$ 11.8
Trans. Vegetation Management (miles)-Gulf	1,675	\$ 2.9	1,677	\$ 2.2		
Substation Storm Surge/Flood Mitigation	2	\$ 10.0	3	\$ 7.8	3	\$ 10.0
Totals		\$1,191.4		\$1,245.8		\$1,360.0

Source: FPL's 2021 SPP Annual Report and responses to staff's data requests.

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

Table 4-2 provides the typical residential customer’s bill impact for the implementation of FPL and Gulf’s SPP programs. These values represent the total costs of FPL’s SPP activities, some of which are recovered through base rates and others through the SPPCRC.

**Table 4-2
FPL/Gulf’s Actual and Projected Bill Impacts (in dollars)**

	2020* Actual		2021 Estimated		2021 Actual		2022 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	\$1,090.6	\$1.36	\$1,149.5	\$1.39	\$1,360.0	\$1.48
Gulf	\$36.6	\$0.98	\$100.8	\$1.44	\$96.3	\$1.38		

Source: FPL’s 2021 SPP Annual Report and responses to staff’s data requests.

*Note: The 2020 Actual amounts are from the Companies’ 2020 SPP Annual Reports.

**Note: Consists of consolidated amounts for FPL and Gulf.

Section 5 - Tampa Electric Company

Program Descriptions

Below are the programs that TECO implemented in its initial 2020-2029 SPP. The first full year of implementation of this SPP was 2021. Further details of the programs are in TECO's SPP¹⁵ or in its annual SPP report.¹⁶

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 three-year cycle.

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 2021 under this program as TECO finished its studies on the substations. Nine substations are recommended for hardening; however, the projects are projected to 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 did not plan or complete any projects in 2021 as the Utility continued to focus on the program's

¹⁵ Docket No. 20220048-EI, *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Tampa Electric Company*.

¹⁶<http://www.floridapsc.com/Files/PDF/Utilities/Electricgas/StormProtectionPlans/2020/2020%20Tampa%20Electric%20Company%20SPP%20Annual%20Status%20Report.pdf>

specifications, contracts, and plans. However, the utility plans to complete 25 road projects and 19 bridge projects during the 2020-2029 time frame.

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.

Table 5-1 provides a list of the projects and activities planned and completed for 2021 and the projects and activities planned for 2022. In addition, the table includes a comparison of the estimated and actual costs of the projects and activities for 2021 and the estimated costs for 2022.

Table 5-1
TECO's SPP Projects and Activities Planned and Completed for 2021 - 2022

Program name**	Projects/ Activities Planned for 2021	Estimated Cost for 2021 (Millions)	Projects/ Activities Completed in 2021	Actual Cost for 2021 (Millions)	Projects/ Activities Planned for 2022	Estimated Cost for 2022 (Millions)
Dist. Lateral Undergrounding	520	\$ 79.5	169	\$ 53.7	698	\$108.1
Dist. Vegetation Management (miles)	2,317	\$ 19.8	2,348	\$ 19.4	2,448	\$ 21.2
Trans. Vegetation Management (miles)	523	\$ 3.5	523	\$ 3.0	557	\$ 3.6
Trans. Asset Upgrades (poles)	577	\$ 15.5	637	\$ 18.5	474	\$ 15.3
Substation Extreme Weather Hardening*	0	\$ 0.3	Hi0	\$ 0.1	0	\$ 0.0
Dist. Overhead Feeder Hardening	1,291	\$ 15.8	1,222	\$ 17.4	47	\$ 30.0
Trans. Access Enhancements	18	\$ 1.4	0	\$ 0.7	26	\$ 1.5
Dist. Infrastructure Inspections (pole and structures)	19,650	\$ 1.0	19,861	\$ 0.6	35,625	\$ 1.0
Trans. Infrastructure Inspections (poles and structures)	4,110	\$ 0.5	4,170	\$ 0.5	4,049	\$ 0.5
SPP Planning & Common	N/A	\$ 0.4	N/A	\$ 1.2	N/A	\$ 0.2
Totals		\$137.7		\$115.1		\$181.4

Source: TECO's 2021 SPP Annual Report and responses to staff's data requests.

*Note: TECO performed a study to evaluate hardening options for 24 existing transmission and distribution substations. The projects are projected to begin 2023 and estimates are given for engineering, permitting, project management, testing, and commissioning.

**Note: This table represents the programs and costs that TECO is requesting cost recovery through the SPPCRC.

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

Table 5-2 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.

**Table 5-2
TECO’s Actual and Projected Bill Impacts (in dollars)**

2020* Actual		2021 Estimated		2021 Actual		2022 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	\$142.9	\$1.90	\$115.1	\$2.09	\$186.1	\$3.26

Source: TECO’s 2021 SPP Annual Report and responses to staff’s data requests.

*Note: The 2020 Actual amounts are from the Company’s 2020 SPP Annual Reports.