State of Florida
Public Service Commission
INTERNAL AFFAIRS AGENDA
Tuesday – October 29, 2024
9:30 AM
Room 105 – Gerald L. Gunter Building

1. Presentation on Economic Development in a Modern Florida Economy

   Salome Garcia, Senior Policy Principal, Advanced Energy United
   Christopher J. Maier, Senior Vice President, Implementation, Cielo Digital Infrastructure
   Jason Houck, Form Energy (Attachment 1)

2. Draft 2024 Status Report on Storm Protection Plan Activities of Florida Investor-Owned Utilities (Attachment 2)

3. General Counsel's Report

4. Executive Director's report

5. Other Matters

BB/aml

OUTSIDE PERSONS WISHING TO ADDRESS THE COMMISSION ON ANY OF THE AGENDAED ITEMS SHOULD CONTACT THE OFFICE OF THE EXECUTIVE DIRECTOR AT (850) 413-6463.

Attachment 1

ADVANCED ENERGY UNITED

Economic Development in a Modern Florida Economy:

DATA-CENTERS, MANUFACTURING, MULTI-DAY STORAGE & ARTIFICIAL INTELLIGENCE

October 29, 2024

Advanced Energy United

Advanced Energy United is the only business association in the United States that represents the full range of advanced energy technologies and services, both grid-scale and distributed, including advanced nuclear, electric vehicles, energy efficiency, renewables, demand response, and electrification technologies.

ADVANCED ENERGY UNITED

Advanced Energy United

We provide:

- ✓ **Credible research and analysis** about the advanced energy industry
- ✓ **Knowledge about technologies** and services available to consumers and the power grid
- ✓ **Policies and regulations** that drive advanced energy in the power sector, the built environment, and in transportation.

ADVANCED ENERGY UNITED

3

Agenda

- 9:00-9:02am **Welcome,** Chair LaRosa
- 9:02-9:06am **Intro,** Salome Garcia, Advanced Energy United
- 9:06-9:15am **Conversation Starting Presentations on Drivers of Econ Dev**
  - § Artificial Intelligence for Utility Customers: Lynda Powers, Resource Innovations
  - ▪ Data Centers: Christopher J. Maier, Cielo Digital Infrastructure
  - ▪ Manufacturing & Building Multi-Day Storage: Jason Houck, Form Energy
- o 9:15-9:30am **Roundtable Discussion**
- o 9:30-10am **Open Q&A**

ADVANCED ENERGY UNITED

4

RI provides clean energy and tech enabled services

Resource Innovations boasts over two decades of expertise in program design, delivery, and grid management software and services, and is powered by a robust team of more than 80 energy engineers.

RI's team of over 800 employees provides a comprehensive range of innovative technology -enabled services, software, and consulting to over 1 50 electric and gas utility clients across North America and internationally, ensuring a wide breadth of program services that extend from grid operations to the customer level.

No.12
Inc's 2023 Fastest Growing Private Energy Company

800+
Employees

150+
Global Clients

880+
Programs and Projects managed since 2019

825K
Metric Tons of CO_2 emissions avoided in 2022

AI for a Smarter Grid and Economic Stimulation

1. AI for additional data validation and correction
2. AI for load, generation, and price forecasting - short-term (hours/days) and long -term (years)
3. AI-based advisory tools for grid operators - knowledge base
    a. Storm preparation (crew and equipment pre -positioning)
    b. Outage prevention (tree trimming), hardening (underground cabling), equipment (transformer) replacement, load analysis
    c. Increased EV load and/or PV generation accommodation
    d. New commercial EV Supply Equipment (charging stations) location and sizing
4. AI-based analysis of end use functions
    a. Interval data disaggregation for improved analysis
    b. Targeted marketing for greater impact

Using AI will increase the utility's ability to make sense of data and deploy solutions –solutions that require technicians, energy auditors, and trades specialists –so that customers have greater control and meaningful engagement.

Questions?

Lynda Powers, Resource Innovations

ADVANCED ENERGY UNITED™

Data Centers

From driving tax revenues to attracting investment

Florida is emerging as a data center destination due to demand & proximity to other Southeast Regional options

- Data centers enable economic development, both at state & local levels
  - A typical 300 MW data center cost between $2-3B to build (property tax revenue)
  - Cyclical tech refreshes can cost as much as half the build and can occur as often as every 3-5 years (sales tax revenue)
- Regulatory environments in other States can impact Florida, as well as Florida's environment can attract data centers
  - The PSC can look to create a framework to allow IOU's to be nimbler and more responsive
- Florida must overcome the misconception that we are only hurricanes, power outages, and flood zones
  - The PSC can assist in messaging our State's storm resiliency and restoration timelines
  - Power leads the story - the faster and cheaper, the better

ADVANCED ENERGY UNITED

Questions?

C.J. Maier , Cielo Digital Infrastructure

ADVANCED ENERGY UNITED™

Manufacturing and Building Multi -Day Storage

Form Energy Overview

LED BY ENERGY STORAGE VETERANS

Decades of cumulative experience in energy storage

- 100's of MW of storage deployed

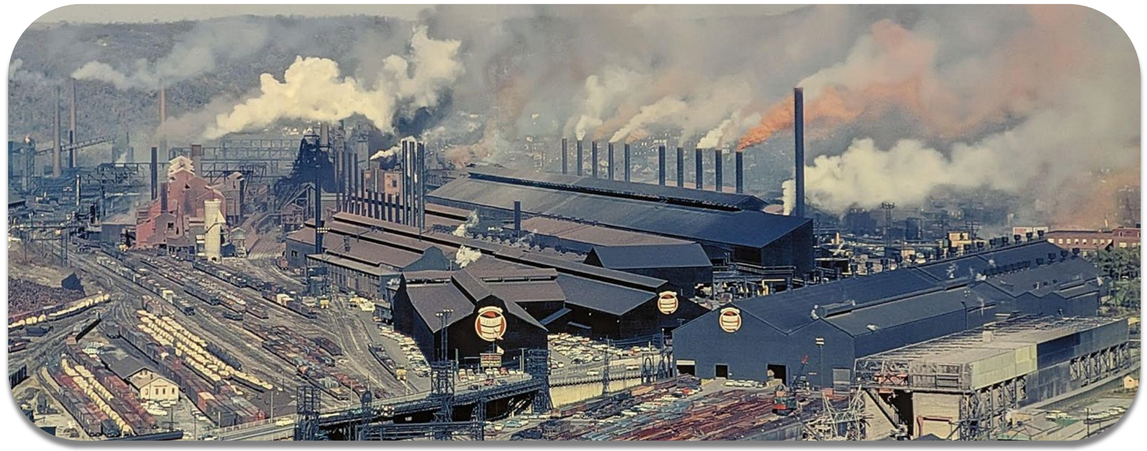
OUR INVESTORS: LONG-TERM AND IMPACT-FOCUSED

$1.2B+ in venture capital from top investors including: T. Rowe Price, GE Vernova, Breakthrough Energy Ventures (BEV), TPG's Climate Rise Fund, Coatue Management, GIC, NGP Energy Technology Partners III, ArcelorMittal, Temasek, Energy Impact Partners, Prelude Ventures, MIT's The Engine, Capricorn Investment Group, Eni Next, Macquarie Capital, Canada Pension Plan Investment Board, and other long-term, impact oriented investors

Form Factory 1: Commercial-Scale Battery Manufacturing

Why Weirton?

- **Selection Process:** year-long, 500 sites
- **Production Capacity:** 500 MW / 50 GWh annually by 2028
- **Selection Factors:**
  - Local manufacturing know-how (steel country)
  - Strong natural infrastructure (river, rail, highways)
  - Reliable, low-cost power
- **Local Investment:** $760 million
- **Jobs:** Minimum 750 full-time jobs
- **Construction Start:** Early 2023
- **Production Start:** September 2024

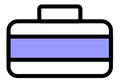


Weirton Steel site, 1950s

Form Factory 1: July 2024

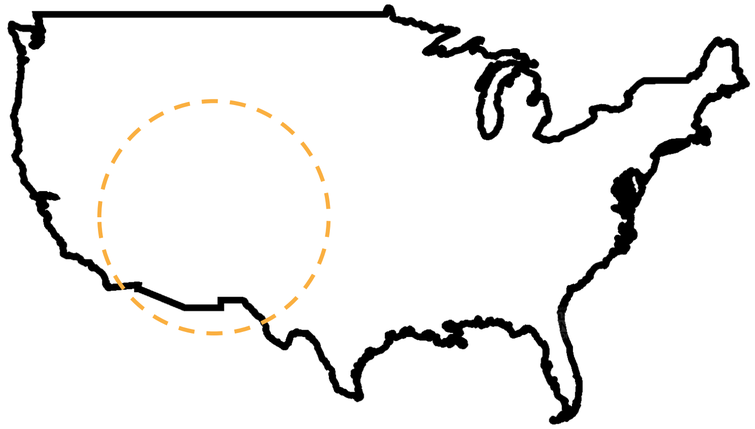
Grid-Tied Multi-day Storage Supports Resilience at Low-Cost

	Short-duration storage *Example: 4 hr Liion Battery*	Intra-day LDES *Example: 12 hr Flow Battery*	Multi-day Storage *Example: 100 hr Ironair Battery*	Comparison
Energy capacity / duration How much energy can the reservoir hold?	1 MW = 4 MWh stored energy = 4 hours of continuous energy supply	1 MW = 12 MWh stored energy = 12 hours of continuous energy supply	1 MW = 100 MWh stored energy = 100 hours of continuous energy supply	Multi-day storage holds **25x more energy** than a short-duration storage with the same MW capacity
Cost How much does the reservoir cost, in terms of energy (duration) and capacity (max output)?	~$250 per kWh of energy (reservoir size) ~$1,000 per kW of power (reservoir max output)	~$150 per kWh of energy (reservoir size) ~$2,000 per kW of power (reservoir max output)	~$20 per kWh of energy (reservoir size) ~$2,000 per kW of power (reservoir max output)	Multi-day Storage stores energy at ~**1/10th the cost** of a short-duration battery



Multi-day storage supports economic growth

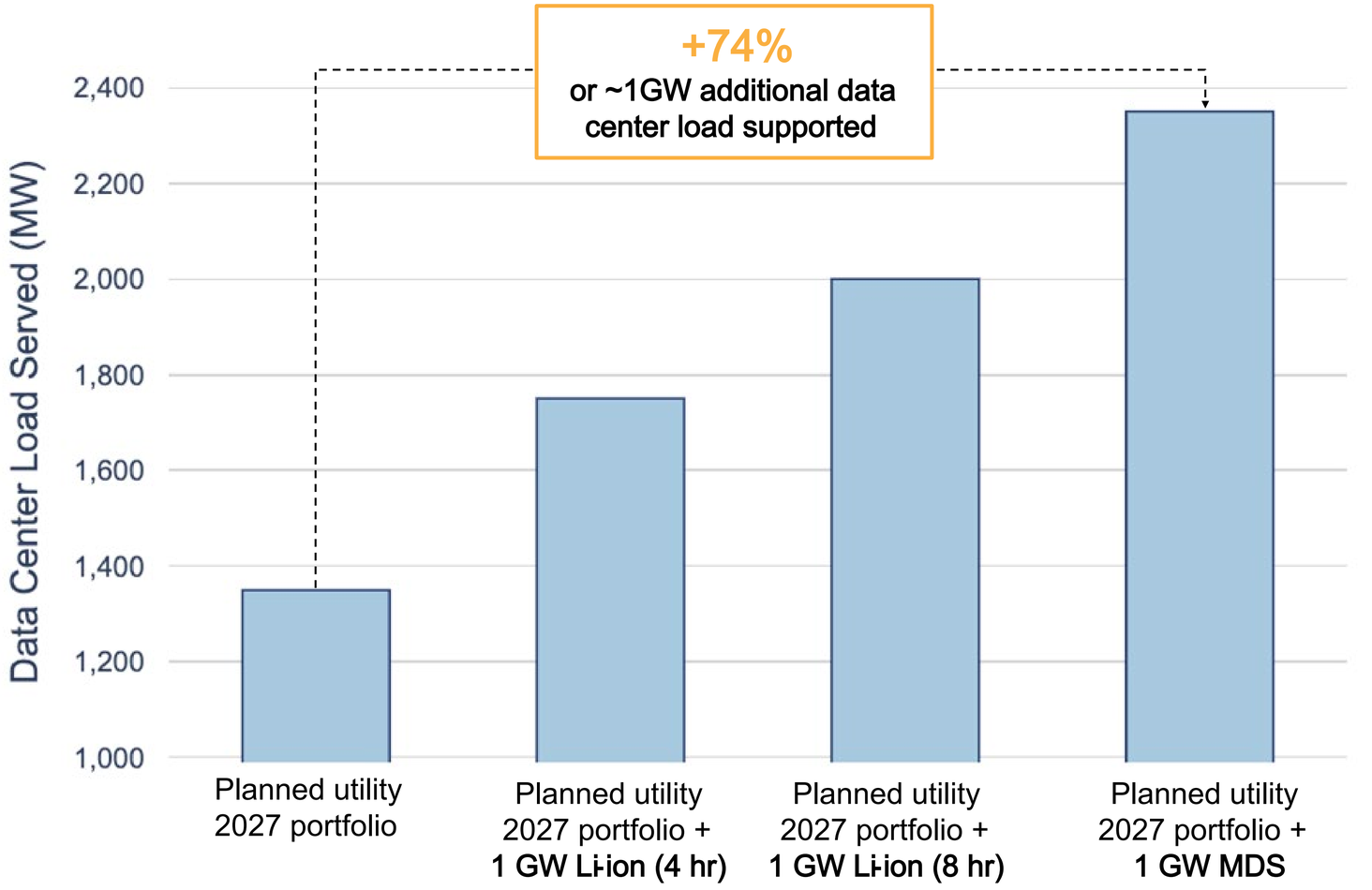
Southwest Utility Case Study



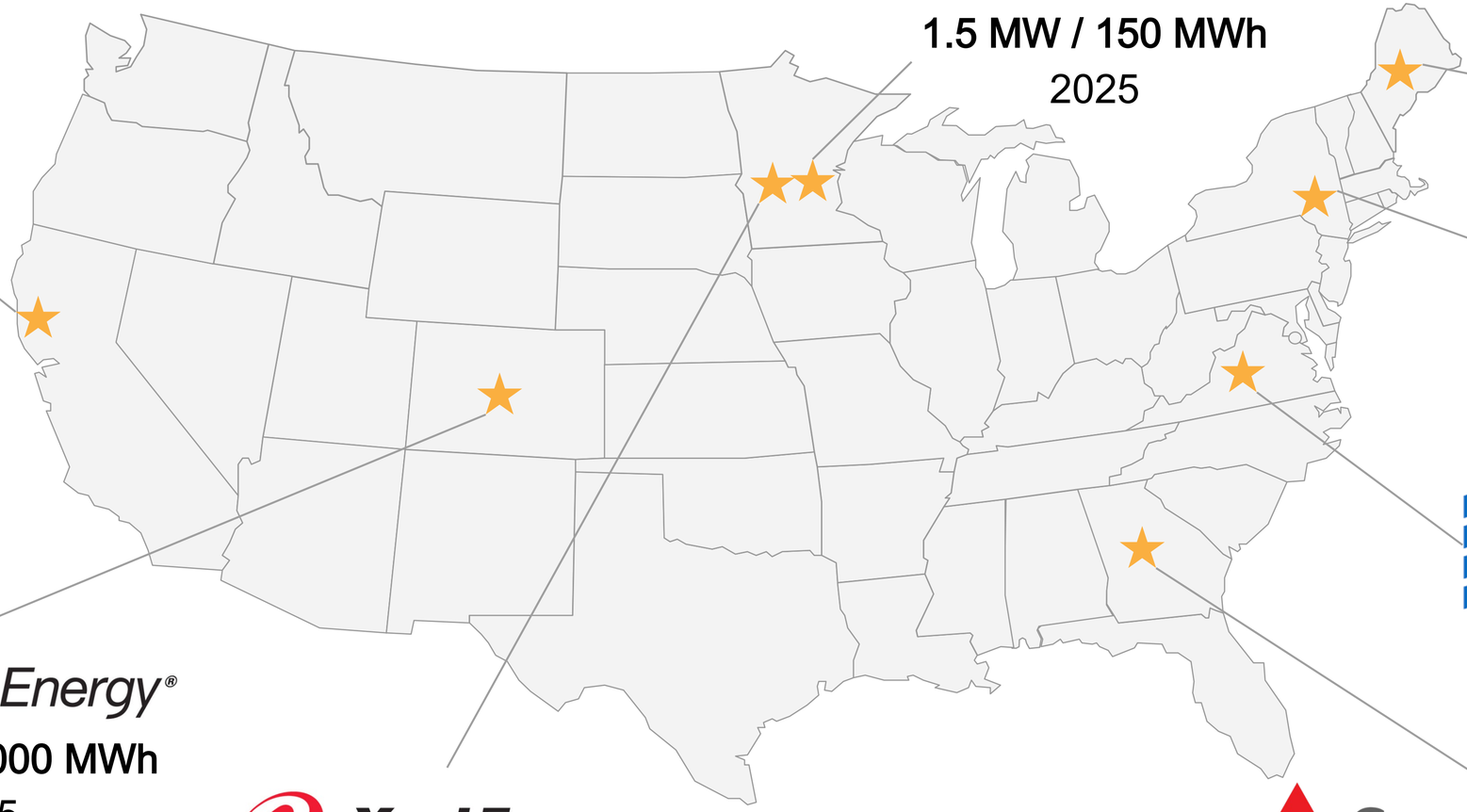
Multi-Day Storage supports 2.5x more data center load growth than short-duration storage tech

- Deploying **1 GW of MDS supports 1 GWof additional data center load** - providing 100% firm capacity
- **In contrast, 1 GW of Li-ion (4 hr) is only 40% firm**, supporting only 0.4 GW of additional data center load

New data center load that can be connected to the Utility's 2027 grid while maintaining system reliability standards



Over 14 GWh of Iron-Air Deployments to Support Growth



GREAT RIVER ENERGY™

1.5 MW / 150 MWh
2025

85 MW / 8,500 MWh
2027-2028

NEW YORK STATE | NYSERDA

10 MW / 1,000 MWh
2026

5 MW / 500 MWh
2026

Dominion Energy®

5 MW / 500 MWh
2025

Xcel Energy®

10 MW / 1,000 MWh
2025

Xcel Energy®

10 MW / 1,000 MWh
2026

Georgia Power

15 MW / 1,500 MWh
2026

Questions?

Jason Houck Form Energy

ADVANCED ENERGY UNITED™

Thank you.

Salome Garcia, Senior Principal
sgarcia@advancedenergyunited.org

Christina Kurre, Associate
ckurre@advancedenergyunited.org

ADVANCED ENERGY UNITED™

advancedenergyunited.org
@AdvEnergyUnited

1801 Pennsylvania Avenue NW, Suite 410
Washington, DC 20006

Attachment 2

Draft 10/21/24

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

As Required by Section 366.96(10), Florida Statutes

NOVEMBER 2024

Draft 10/21/24

Draft 10/21/24

Table of Contents

Draft 10/21/24

List of Tables

Draft 10/21/24

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

Draft 10/21/24

Draft 10/21/24

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 of Representatives, on the status of the utility's 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.

[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.*

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

Throughout 2020 and 2021, the Commission approved various Settlement Agreements and Stipulations that moved existing storm protection costs from base rates to the SPPCRC. Today, more than 90% of the utilities' storm protection costs are being recovered through the SPPCRC. 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 ensures that the SPPCRC rates or factors do not include costs recovered through base rates.

Because the majority of storm protection costs have now transitioned to the SPPCRC, this report will deemphasize the base rate component of such costs. Going forward, this will provide a clearer summary of the impacts resulting from the legislative changes. Table A provides a summary of each IOU's reported estimated and actual total storm protection plan expenditures collected through the SPPCRC. Table B is a summary of each utility's reported estimated and actual total bill impacts for a typical residential customer resulting from the approved SPPCRC factor. For reference purposes, only the initial year 2020 contains a base rate component because this was prior to any additional SPP activities or transition of such costs.

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

Table A
Summary of SPP Costs

Utility	2020* Actual (Millions)	2023 Estimated (Millions)	2023 Actual (Millions)	2024 Estimated (Millions)
Duke Energy Florida, LLC	$239.3	$669.9	$684.2	$770.9
Florida Power & Light/ Gulf Power Company	$1,037.2 $36.6	$1,307	$1,379	$1,540
Florida Public Utilities Company**		$9.4	$8.8	$15.8
Tampa Electric Company	$36.9	$215.5	$208.9	$212.5
Totals	**$1,350.0**	**$2,201.8**	**$2,280.9**	**$2,539.2**

*Note: The 2020 Actual amounts are from the Company's 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.

Draft 10/21/24

Table B

Summary of Total SPP Bill Impacts (in dollars)

Utility	2020* Actual Residential Bill Impact ($/1,000 kWh)	2023 Estimated*** Residential Bill Impact ($/1,000 kWh)	2023 Actual*** Residential Bill Impact ($/1,000 kWh)	2024 Estimated Residential Bill Impact ($/1,000 kWh)
Duke Energy Florida, LLC	$2.05	$4.21	$4.21	$5.10
Florida Power & Light/ Gulf Power Company	$1.29 $0.98	$3.82	$3.82	$5.57
Florida Public Utilities Company**		$2.51	$2.51	$4.32
Tampa Electric Company	$1.03	$3.76	$3.76	$6.58

*Note: The 2020 Actual amounts are from the Company's 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.

***Note: The estimated and actual bill impacts for 2023 are identical because any additional costs incurred during 2023 are reflected in the subsequent year's SPPCRC factor.

Draft 10/21/24

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 initial Commission-approved SPPs with the addition of some newly proposed programs for each respective IOU.[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.[8] 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.[9]

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, 2024, and the Commission approved several stipulations on October 10, 2024, which established SPPCRC factors for 2025.[10]

---

[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]Order Nos. PSC-2022-0386A-FOF-EI, PSC-2022-0387-FOF-EI, PSC-2022-0388A-FOF-EI, and PSC-2022-0389-FOF-EI
[9]Case No. SC2022-1733, filed December 15, 2022, *In re: Notice of Appeal.*
[10]Docket No. 20240010-EI, *In re: Storm Protection Plan Cost Recovery Clause.*

Draft 10/21/24

Section 2 - Summary of Filings

DEF, FPL, FPUC, and TECO timely filed their annual status reports regarding their SPP programs.[11] 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 2023.
- 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 2024.

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.

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

Draft 10/21/24

Section 3 - Duke Energy Florida, LLC

Program Descriptions

Below are DEF's current programs. Further details of the programs are in DEF's SPP[12] or its annual SPP report.[13]

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 Pole Replacements and Inspections

DEF inspects wood distribution 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.

Distribution Lateral Hardening (Overhead and Underground)

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

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

[13]https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2023/2023%20Duke%20Energy%20Florida,%20Inc.%20SPP%20Annual%20Status%20Report.pdf.

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 wood transmission 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 wood transmission 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 will upgrade 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. As shown in Table 3-1, there has been no activity regarding this program in 2023 or 2024.

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 2023 and the projects and activities planned for 2024. In addition, the table include a comparison of the estimated and actual costs of the projects and activities for 2023 and the estimated costs for 2024.

Table 3-1
DEF's SPP Projects Planned & Completed for 2023–2024
(SPPCRC Only)

Program name	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)	Projects/ Activities Completed in 2023	Actual Cost for 2023 (Millions)	Projects/ Activities Planned for 2024	Estimated Cost for 2024 (Millions)
Dist. Self-Optimizing Grid	746	$ 84.1	280	$ 86.3	944	$ 79.5
Dist. Feeder Hardening	78	$145.5	125	$139.9	117	$157.6
Dist. Feeder Hardening Pole Replacements (poles)	1,730	$ 17.3	1,249	$ 15.9	1,955	$ 20.7
Dist. Feeder Hardening Pole Inspections (poles)	24,501	$ 0.9	30,900	$ 1.1	28,221	$ 1.1
Dist. Lateral Hardening-Overhead	82	$ 87.4	104	$ 94.5	113	$ 87.5
Dist. Lateral Hardening Pole Replacements (poles)	7,058	$ 70.6	7,303	$ 67.1	6,545	$ 69.3
Dist. Lateral Hardening Pole Inspections (poles)	77,591	$ 2.8	70,710	$ 2.9	72,569	$ 2.9
Dist. Lateral Hardening-Underground	27	$ 40.0	79	$ 68.1	24	$112.4
Dist. Underground Flood Mitigation	3	$ 0.5	4	$ 0.2	7	$ 0.3
Dist. Vegetation Management (miles)	4,413	$ 47.5	4,474	$ 47.2	4,179	$ 49.0
Trans. Pole/Tower Inspections/Drone Inspections	12,459	$ 0.6	11,975	$ 0.5	12,820	$ 0.6
Trans. Pole Replacements (poles)	1,909	$121.7	1,970	$120.1	1,853	$121.7
Trans. Tower Upgrades	4	$ 5.1	5	$ 3.2	2	$ 11.9
Trans. Overhead Ground Wire	6	$ 7.5	17	$ 5.3	7	$ 11.0
Trans. GOAB Automation	4	$ 5.0	22	$ 3.3	7	$ 8.3
Trans. Cathodic Protection	3	$ 2.6	11	$ 2.2	3	$ 2.5
Trans. Substation Hardening	8	$ 9.5	8	$ 4.9	22	$ 11.7
Trans. Substation Flood Mitigation	0	$ 0.0	0	$ 0.0	0	$ 0.0
Trans. Vegetation Management (miles)	519	$ 21.3	576	$ 21.5	755	$ 22.9
Totals		**$ 669.9**		**$684.4**		**$771.0**

Source: DEF's 2023 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 recovered through the SPPCRC. For reference purposes, only the initial year 2020 contains a base rate component because this was prior to any additional SPP activities or transition of such costs.

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

2020* Actual		2023 Estimated**		2023Actual**		2024 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	$669.9	$4.21	$684.4	$4.21	$771.0	$5.10

Source: DEF's 2023 SPP Annual Report and responses to staff's data requests.
*Note: The 2020 Actual amounts are from the Company's 2020 SPP Annual Report.
** Note: The estimated and actual bill impacts for 2023 are identical because any additional costs incurred during 2023 are reflected in the subsequent year's SPPCRC factor.

Draft 10/21/24

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 FPL's current programs. Further details of the programs are in FPL's SPP[14] or in its annual SPP report.[15]

Distribution Inspection
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
This program ensures that wood, steel, and concrete transmission 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
FPL hardens feeders 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
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
This program replaces all wood transmission structures with steel or concrete structures. As of year-end 2023, 96 percent of FPL's transmission structures are steel or concrete with approximately 3,600 wood transmission structures remaining in the Northwest Florida service area.

Distribution Vegetation Management
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

[14]Docket No. 20220051-EI, *In re: Review of Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Florida Power & Light Company.*
[15]https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2023/2023%20Florida%20Power%20&%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

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

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 for 2023 and the projects and activities planned for 2024. In addition, the table include a comparison of the estimated and actual costs of the projects and activities for 2023 and the estimated costs for 2024.

Table 4-1
FPL's SPP Projects Planned & Completed for 2023–2024
(SPPCRC Only)

Program Name	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)	Projects/ Activities Completed in 2023	Actual Cost for 2023 (Millions)	Projects/ Activities Planned for 2024	Estimated Cost for 2024 (Millions)
Dist. Inspection (poles)	180,000	$ 40.4	180,261	$ 36.4	180,000	$ 41.5
Trans. Inspections	84,000	$ 62.6	83,295	$ 55.7	84,000	$ 52.0
Dist. Feeder Hardening	447	$ 594.5	398	$ 646.2	385	$ 680.6
Dist. Lateral Hardening	746	$ 486.5	839	$ 486.1	1,092	$ 602.6
Trans. Hardening	469	$ 30.2	339	$ 42.4	463	$ 25.5
Dist. Vegetation Management (miles)	16,690	$ 73.0	17,039	$ 86.8	18,268	$ 117.8
Trans. Vegetation Management (miles)	9,350	$ 11.8	9,371	$ 14.5	9,410	$ 12.5
Substation Storm Surge/Flood Mitigation	3	$ 8.0	2	$ 6.5	1	$ 8.0
Totals (Billions)		**$1,307.01**		**$1,374.6**		**$1,540.5**

Source: FPL's 2023 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's SPP programs. These values represent the total costs of FPL's SPP activities which are recovered through the SPPCRC. For reference purposes, only the initial year 2020 contains a base rate component because this was prior to any additional SPP activities or transition of such costs.

Table 4-2
FPL's Actual and Projected Bill Impacts (in dollars)

	2020* Actual		2023 Estimated**		2023 Actual**		2024 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						
Gulf	$36.6	$0.98	$1,307	$3.82	$1,374	$3.82	$1,540	$5.57

Source: FPL's 2023 SPP Annual Report and responses to staff's data requests.

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

** Note: The estimated and actual bill impacts for 2023 are identical because any additional costs incurred during 2023 are reflected in the subsequent year's SPPCRC factor.

Section 5 - Florida Public Utilities Company

Program Descriptions

Below are FPUC's current programs. Further details of the programs are in FPUC's SPP[16] or its annual SPP report.[17]

Distribution Overhead Feeder Hardening

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

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

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 Inspections and Replacement

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

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 are also on a four-year cycle, as parts of the transmission system run along the same rights-of-way as the distribution system. The transmission system is monitored on an annual basis in order to address any conditions that may impact the reliability of the system.

Transmission Inspection and Hardening

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

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

[17]https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2023/2023%20Florida%20Public%20Utilities%20Company%20SPP%20Annual%20Status%20Report.pdf.

system consists of 122 concrete poles and 95 wood poles. As necessary, wood poles will be replaced with concrete poles that meet NESC standards.

Table 5-1 provides a list of the projects and activities planned and completed by FPUC for 2023 and the projects and activities planned for 2024. In addition, the table includes a comparison of the estimated and actual costs of the projects and activities for 2023 and the estimated costs for 2024.

Table 5-1
FPUC's SPP Projects Planned & Completed for 2023–2024
(SPPCRC Only)

Program Name	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)	Projects/ Activities Completed in 2023	Actual Cost for 2023 (Millions)	Projects/ Activities Planned for 2024	Estimated Cost for 2024 (Millions)
Dist. OH Feeder Hardening	10	$3.5	7	$4.1	12	$5.4
Dist. OH Lateral Hardening	9	$0.5	7	$0.6	45	$2.3
Dist. OH Lateral Hardening UG	16	$2.1	13	$1.0	27	$4.5
Dist. Pole Inspection & Replacement (poles)	3,810	$2.0	4,072	$2.0	3,170	$0.8
Trans & Dist. Vegetation Management (miles)	183	$0.4	163	$1.0	178	$1.7
Trans. Inspection & Hardening	12	$0.9	0	$0.1	11	$1.1
SPP Program Management	N/A	$0.0	N/A	$0.0	N/A	$0.0
Totals		**$9.4**		**$8.8**		**$15.8**

Source: FPUC's 2023 SPP Annual Report and responses to staff's data requests.
Note: Trans. = Transmission; Dist. = Distribution; OH = Overhead; UG = Undergrounding.

Table 5-2 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 recovered through the SPPCRC. For reference purposes, only the initial year 2022 contains a base rate component because this was prior to any additional SPP activities or transition of such costs.

Table 5-2
FPUC's Actual and Projected Bill Impacts (in dollars)

	2022* Actual		2023 Estimated**		2023 Actual**		2024 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	$1.5	$0.84	$9.4	$2.51	$8.8	$2.51	$15.8	$4.32

Source: FPUC's 2023 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.

** Note: The estimated and actual bill impacts for 2023 are identical because any additional costs incurred during 2023 are reflected in the subsequent year's SPPCRC factor.

Section 6 - Tampa Electric Company

Program Descriptions

Below are TECO's current programs. Further details of the programs are in TECO's SPP[18] or in its annual SPP report.[19]

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.

Distribution and Transmission 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 wood transmission 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 program included in TECO's SPP. TECO identified nine substations to be hardened. One project was planned for 2023 and completed in 2024, which hardened one of the nine identified substations.

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.

Distribution and Transmission 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 wood distribution pole inspections are on an eight-year cycle program consisting of visual inspections, sound and bore inspections,

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

[19]https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/StormProtectionPlans/2023/2023%20Tampa%20Electric%20Company%20SPP%20Annual%20Status%20Report.pdf.

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 6-1 provides a list of the projects and activities planned and completed for 2023 and the projects and activities planned for 2024. In addition, the table includes a comparison of the estimated and actual costs of the projects and activities for 2023 and the estimated costs for 2024. The table identifies the costs recovered through the SPPCRC.

Table 6-1
TECO's SPP Projects Planned & Completed for 2023–2024
(SPPCRC Only)

Program Name	Projects/ Activities Planned for 2023	Estimated Cost for 2023 (Millions)	Projects/ Activities Completed in 2023	Actual Cost for 2023 (Millions)	Projects/ Activities Planned for 2024	Estimated Cost for 2024 (Millions)
Dist. Lateral Undergrounding	594	$149.1	89	$140.6	305	$134.4
Dist. Vegetation Management (miles)	3,279	$ 24.3	2,898	$ 25.1	3,250	$ 24.2
Trans. Vegetation Management (miles)	567	$ 3.9	601	$ 5.0	540	$ 3.0
Trans. Asset Upgrades (poles)	463	$ 17.7	466	$ 18.7	472	$ 17.9
Substation Extreme Weather Hardening	1	$ 0.4	1	$ 0.3	1	$ 4.5
Dist. Overhead Feeder Hardening	67	$ 17.5	7	$ 16.2	37	$ 25.4
Dist. Infrastructure Inspections (pole and structures)	35,625	$ 1.1	36,601	$ 1.3	35,625	$ 1.4
Trans. Infrastructure Inspections (poles and structures)	3,020	$ 0.5	3,064	$ 0.5	3,052	$ 0.6
SPP Planning & Common	N/A	$ 1.0	N/A	$ 1.2	N/A	$ 1.1
Totals		**$ 215.5**		**$ 208.9**		**$ 212.5**

Source: TECO's 2023 SPP Annual Report and responses to staff's data requests.
Note: Trans. = Transmission; Dist. = Distribution.

Table 6-2 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 recovered through the SPPCRC. For reference purposes, only the initial year 2020 contains a base rate component because this was prior to any additional SPP activities or transition of such costs.

Table 6-2
TECO's Actual and Projected Bill Impacts (in dollars)

2020* Actual		2023 Estimated**		2023 Actual**		2024 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	$215.5	$3.76	$208.9	$3.76	$212.5	$6.58

Source: TECO's 2023 SPP Annual Report and responses to staff's data requests.
*Note: The 2020 Actual amounts are from the Company's 2020 SPP Annual Reports.
** Note: The estimated and actual bill impacts for 2023 are identical because any additional costs incurred during 2023 are reflected in the subsequent year's SPPCRC factor.

Section 7 - Appendix

Table 7-1 provides the actual costs for each company's SPP for 2020-2023. Table 7-2 provides the typical residential customer's bill impact for the implementation of each company's SPP programs for 2020-2023. For Table 7-2, only the initial year 2020 contains a base rate component because this was prior to any additional SPP activities or transition of such costs.

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	$343.5	$1,149.5		$96.3	$115.1	$1,704.4
2022	$493.5	$1,501.3	$1.7		$219.7	$2,216.2
2023	$684.2	$1,379	$8.8		$208.9	$2,280.9

Source: The Company's 2020-2023 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	$0.31	$0.42		$0.36	$2.39
2022	$3.29	$2.14	$0.84		$2.91
2023	$4.21	$3.82	$2.51		$3.76

Source: The Company's 2020-2023 SPP Annual Reports and SPPCRC Dockets.

*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.