



**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION**

DOCKET NO. 20210010-EI

IN RE: STORM PROTECTION PLAN COST RECOVERY CLAUSE

TESTIMONY AND EXHIBIT

OF

DAVID L. PLUSQUELLIC

FILED: April 1, 2021

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

DAVID L. PLUSQUELLIC

Q. Please state your name, address, occupation and employer.

A. My name is David L. Plusquellic. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Storm Protection Program Manager. The Tampa Electric business address is 820 South 78th Street, Tampa, FL 33619.

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

A. My duties and responsibilities include the governance and oversight of Tampa Electric's Storm Protection Plan ("SPP" or "the Plan") development, implementation, and execution. This includes leading the development of the Plan, prioritization of projects within each of the programs, development of project and program costs and overall implementation and execution of the Plan.

Q. Please provide a brief outline of your educational background and professional experience.

1 **A.** I graduated from Kent State University in June 1996 with
2 a Bachelor's degree in Finance. In December of 2000, I
3 graduated from the University of Akron with a Master of
4 Business Administration specializing again in Finance. I
5 have been employed at Tampa Electric since November of
6 2019. Prior to joining Tampa Electric, I was employed at
7 FirstEnergy from 1999 to 2018 in a variety of roles.
8 During my 20 years, I progressed from an Analyst to a
9 Director through roles covering financial reporting &
10 analysis, business analytics, fossil fuel generation,
11 renewable portfolio management, process & performance
12 improvement, and Transmission & Distribution ("T&D")
13 operations. For the final four years, I was a Director
14 of Operations Support at Ohio Edison, one of the
15 FirstEnergy T&D operating companies. Throughout the 19
16 years, I played a leadership role in efforts that ranged
17 from valuing businesses, entering into 20-year purchase
18 agreements, evaluating and implementing storm process
19 improvements, evaluating asset investments, and improving
20 operational and safety performance.

21
22 **Q.** What is the purpose of your testimony in this proceeding?
23

24 **A.** The purpose of my testimony is to present and support for
25 Commission review and approval of the company's actual

1 SPP costs and accomplishments incurred during the January
2 through December 2020 period. My testimony will also
3 provide the specific detail regarding variances that
4 support Tampa Electric's actual January through December
5 2020 SPP costs.

6
7 **Q.** Did you prepare any exhibits in support of your
8 testimony?

9
10 **A.** Yes. Exhibit No. DLP-1, entitled "Tampa Electric
11 Company, 2020 Storm Protection Plan Accomplishments" was
12 prepared under my direction and supervision.

13
14 **Q.** How is your testimony organized?

15
16 **A.** My testimony is organized by each of the company's SPP
17 Programs, which includes a description of the program,
18 describes the 2020 SPP accomplishments and includes any
19 detail when necessary for the variances between the
20 projected and actual January through December 2020 SPP
21 costs.

22
23 **Q.** Will your testimony address these topics for each of the
24 SPP Programs for which the company incurred costs in
25 2020?

1 **A.** Yes, my testimony is organized to cover all these topics
2 for each of the eight programs in the company's SPP, in
3 addition to the company's SPP Planning and Common
4 expenditures.

5
6 **Distribution Lateral Undergrounding**

7 **Q.** Please provide a description of the Distribution Lateral
8 Undergrounding Program.

9
10 **A.** Tampa Electric's Distribution Lateral Undergrounding
11 Program will convert existing overhead distribution
12 lateral facilities to underground to increase the
13 resiliency and reliability of the distribution system
14 serving the company's customers.

15
16 **Q.** How many Distribution Lateral Underground projects were
17 planned for 2020?

18
19 **A.** During the period, April 10, 2020 to December 31, 2020,
20 Tampa Electric projected that there would be 134 projects
21 initiated.

22
23 **Q.** How many Distribution Lateral Underground projects did
24 the company initiate in 2020?

1 **A.** During the period, April 10, 2020 to December 31, 2020,
2 Tampa Electric initiated 138 projects which is detailed
3 in my Exhibit No. DLP-1.

4
5 **Q.** What was the cost variance in the Distribution Lateral
6 Underground in 2020?

7
8 **A.** During the period, April 10, 2020 to December 31, 2020,
9 the Distribution Lateral Underground program had a
10 variance in revenue requirements of \$80,250 under budget.

11
12 **Q.** Can you explain why this project count is different and
13 what contributed to the variance amount?

14
15 **A.** Yes, Tampa Electric initiated the field assessment and
16 preliminary design process on 138 projects compared to
17 134 projects in the original forecast. The contingent of
18 internal and external resources were able to start four
19 additional projects more than was originally forecast.
20 Tampa Electric originally forecast to start and complete
21 two construction projects in 2020. Tampa Electric was
22 only able to begin construction on one project in 2020
23 and made less progress in construction than originally
24 projected.

Transmission Asset Upgrades

Q. Can you please provide a description of the Transmission Asset Upgrades Program?

A. The Transmission Asset Upgrades Program will proactively and systematically replace the company's remaining wood transmission poles with non-wood material.

Q. How many Transmission Asset Upgrade projects were planned for 2020?

A. Tampa Electric projected that 21 projects would be initiated, and nine projects would be completed between April 10, 2020 and December 31, 2020.

Q. How many Transmission Asset Upgrade projects did the company complete in 2020?

A. During the period, April 10, 2020 to December 31, 2020, Tampa Electric completed five projects that consisted of replacing 181 wood poles with non-wood structures which is detailed in my Exhibit No. DLP-1.

Q. What was the cost variance in the Transmission Asset Upgrades program in 2020?

1 **A.** During the period, April 10, 2020 to December 31, 2020,
2 the Transmission Asset Upgrades program had a variance in
3 revenue requirements of \$76,902 under budget.

4
5 **Q.** Can you explain why this project completion count is
6 different than the projected amount and what contributed
7 to the variance amount?

8
9 **A.** Yes. The main reason was due to Tampa Electric
10 construction resources being pulled to provide mutual
11 assistance for other utilities during storm season. The
12 company estimates that approximately two months of SPP
13 construction work was impacted. Tampa Electric added
14 internal construction resources as they became available
15 to attempt to minimize any delays that were occurring.
16 The company has also been gaining valuable lessons
17 learned in operating this program as a proactive
18 replacement program versus a reactive replacement program
19 upon failure as in the past. These lessons learned
20 include more realistic replacement times and the
21 importance of designing and engineering projects sooner,
22 so that any issues found can be navigated prior to
23 experiencing any delays or causing any down time of
24 construction.

Substation Extreme Weather Hardening

Q. Can you please provide a description of the Substation Extreme Weather Hardening Program?

A. This program will harden and protect the company's substation assets that are vulnerable to flooding or storm surge.

Q. How many Substation Extreme Weather Hardening projects were planned for 2020?

A. Tampa Electric proposed no projects for the April 10, 2020 to December 31, 2020 period.

Q. How many Substation Extreme Weather Hardening projects did the company complete in 2020?

A. The company did not complete or start any Substation Extreme Weather Hardening projects during the April 10, 2020 to December 31, 2020 period.

Q. What was the cost variance in the Substation Extreme Weather Hardening program in 2020?

A. During the period, April 10, 2020 to December 31, 2020,

1 the Substation Extreme Weather Hardening program had a
2 variance in revenue requirements of \$0, as the company
3 had no costs in this program.
4

5 **Distribution Overhead Feeder Hardening**

6 **Q.** Can you please provide a description of the Distribution
7 Overhead Feeder Hardening Program?
8

9 **A.** This program will include strategies to further enhance
10 the resiliency and reliability of the distribution
11 network by further hardening the grid to minimize
12 interruptions and reduce customer outage counts during
13 extreme weather events and abnormal system conditions.
14

15 **Q.** How many Distribution Overhead Feeder Hardening projects
16 were planned for 2020?
17

18 **A.** Tampa Electric projected to initiate 13 Distribution
19 Overhead Feeder Hardening projects in 2020.
20

21 **Q.** How many Distribution Overhead Feeder Hardening projects
22 did the company initiate in 2020?
23

24 **A.** During the period, April 10, 2020 to December 31, 2020,
25 Tampa Electric initiated five Distribution Overhead

1 Feeder Hardening projects which included the installation
2 of several pieces of storm protection equipment. The
3 detail of these projects is included in my Exhibit No.
4 DLP-1.

5
6 **Q.** What was the cost variance in the Distribution Overhead
7 Feeder Hardening program in 2020?

8
9 **A.** During the period, April 10, 2020 to December 31, 2020,
10 the Distribution Overhead Feeder Hardening program had a
11 variance in revenue requirements of \$39,986 under budget.
12 The variance was driven by completing less construction
13 that was originally forecast.

14
15 **Q.** Can you explain why this project completion count is
16 different than the projected amount and what contributed
17 to the variance amount?

18
19 **A.** Yes. The main reason was due to Tampa Electric
20 construction resources being pulled to provide mutual
21 assistance for other utilities during an active 2020
22 tropical storm season. The company estimates that
23 approximately two months of SPP construction work was
24 impacted. The company has also been gaining valuable
25 lessons learned in operating this program with several

1 separate internal and external departments. These
2 lessons learned include more realistic construction
3 times, the importance of designing and engineering
4 projects sooner so that any issues found can be navigated
5 prior to experiencing any delays and the importance of
6 clear cross departmental communication and documentation.
7

8 **Transmission Access Enhancement**

9 **Q.** Please provide a description of the Transmission Access
10 Enhancement Program.
11

12 **A.** This program will ensure the company always has access to
13 its transmission facilities so it can promptly restore
14 its transmission system when outages occur.
15

16 **Q.** How many Transmission Access Enhancement projects were
17 planned for 2020?
18

19 **A.** Tampa Electric proposed no Transmission Access
20 Enhancement projects for the April 10, 2020 to December
21 31, 2020 period.
22

23 **Q.** How many Transmission Access Enhancement projects did the
24 company complete in 2020?
25

1 **A.** The company did not complete or start any Transmission
2 Access Enhancement projects during the April 10, 2020 to
3 December 31, 2020 period.

4
5 **Q.** What was the cost variance in the Transmission Access
6 Enhancement program in 2020?

7
8 **A.** During the period, April 10, 2020 to December 31, 2020,
9 the Transmission Access Enhancement program had a
10 variance in revenue requirements of \$0, as the company
11 had no costs in this program.

12
13 **Vegetation Management**

14 **Q.** Can you please provide a description of the Vegetation
15 Management ("VM") Program?

16
17 **A.** The VM Program consists of three existing legacy storm
18 hardening VM activities and three new VM initiatives.
19 The three existing legacy storm hardening VM activities
20 include the following:

- 21 • Four-year distribution VM cycle (Planned)
- 22 • Two-year transmission VM cycle (Planned)
- 23 • Transmission VM Right of Way Maintenance (Planned)

24
25 The three new VM initiatives are:

1 • Initiative 1: Supplemental Distribution Circuit VM

2 • Initiative 2: Mid-Cycle Distribution VM

3 • Initiative 3: 69 kV VM Reclamation

4

5 **Q.** What level of Vegetation Management activity did the

6 company project for each initiative during the period

7 2020?

8

9 **A.** For the period January 1, 2020 to December 31, 2020, the

10 company projected the following activities:

11 • Distribution VM: 1,720 miles

12 • Transmission VM: 530 miles

13 For the period April 10, 2020 to December 31, 2020, the

14 company projected the following activities:

15 • Initiative 1: 402.3 miles

16 • Initiative 2: 0 miles

17 • Initiative 3: 0 miles

18

19 **Q.** What level of Vegetation Management activity did the

20 company complete for each initiative during 2020?

21

22 **A.** For the period January 1, 2020 to December 31, 2020, the

23 company completed the following activities:

24 • Distribution VM: 1,637.9 miles

25 • Transmission VM: 518.1 miles

1 For the period April 10, 2020 to December 31, 2020, the
2 company projects the following activities:

- 3 • Initiative 1: 396.5 miles
- 4 • Initiative 2: 37.0 miles
- 5 • Initiative 3: 0.0 miles

6
7 **Q.** What was the cost variance in the Vegetation Management
8 program in 2020?

9
10 **A.** During the period, April 10, 2020 to December 31, 2020,
11 the VM program had a variance in Operating and
12 Maintenance ("O&M") costs of \$659,350 under budget.

13
14 **Q.** Can you explain why these Vegetation Management
15 completion amounts are different than the projected
16 amount and what contributed to the variance amount?

17
18 **A.** Yes, the variance is made up of three amounts, Planned
19 Distribution VM had a variance of \$826,203 under budget;
20 Planned Transmission VM had a variance of \$170,322 over
21 budget, and Right of Way Transmission VM had a variance
22 of \$3,470 under budget.

23
24 The Distribution VM was under budget largely as a result
25 of losing distribution VM resources for several weeks to

1 support off-system restoration through the industry
2 mutual assistance process. These resources were
3 dispatched to other parts of the United States that
4 incurred significant storm damage from an active 2020
5 storm season. Similarly, transmission VM experienced
6 delays related to weather and construction, which pushed
7 some early month VM activities into the later months of
8 2020. This delay in trimming caused the company to meet
9 trimming requirements in a shorter timeframe which
10 required some of the time to be compensated at higher
11 overtime rates.

12 13 **Infrastructure Inspections**

14 **Q.** Can you please provide a description of the
15 Infrastructure Inspections Program?

16
17 **A.** This SPP program involves the inspections performed on
18 the company's T&D infrastructure including all wooden
19 distribution and transmission poles, transmission
20 structures and substations, as well as the audit of all
21 joint use attachments.

22
23 **Q.** How many infrastructure inspection projects did the
24 company project to complete in 2020?

A. Tampa Electric conducts thousands of inspections each year. The number of inspections by type planned for 2020 were as follows:

<u>Distribution:</u>	<u>2020</u>
Wood Pole:	22,500
Groundline:	13,275
<u>Transmission:</u>	<u>2020</u>
Wood Pole/Groundline:	702
Above Ground:	2,949
Aerial Infrared Patrol:	Annually
Ground Patrol:	Annually
Substations:	Annually

Q. How many infrastructure inspection projects did the company complete in 2020?

A. Tampa Electric completed the following inspections by type in 2020:

<u>Distribution:</u>	<u>2020</u>
Wood Pole:	24,962
Groundline:	24,290

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Transmission:	2020
Wood Pole/Groundline:	659
Above Ground:	3,228
Aerial Infrared Patrol:	Not Complete
Ground Patrol:	Complete
Substations:	Complete

Q. Can you explain why the company did not complete the Transmission Aerial Infrared Patrol?

A. Yes, traditionally, Tampa Electric performs the transmission aerial infrared inspections in a helicopter that requires a Tampa Electric employee to act as a navigator or copilot to the pilot and thermographer performing the inspection. In response to the COVID pandemic, the company’s policies restricting face-to-face interactions for safety reasons with customers, vendors, and employees, which included traveling with contractors and operating within confined spaces with others, prevented this inspection from occurring.

LEGACY STORM HARDENING INITIATIVES

Q. What are the legacy storm hardening initiatives?

A. These are storm hardening activities that were mandated

1 by the Commission as components of the company's prior
2 storm hardening plan.

3
4 **Q.** Are the legacy storm hardening initiatives the same for
5 the company's SPP as they were in the company's most
6 recent 2019-2021 three-year Storm Plan that was approved
7 by the Commission?

8
9 **A.** Yes, they are the same, but Tampa Electric extracted the
10 following legacy storm hardening initiatives to be
11 separate SPP Programs and will seek cost-recovery for
12 these through the SPPCRC:

- 13 • Four-year distribution vegetation management
- 14 • Two-year transmission vegetation management
- 15 • Transmission Right of Way vegetation management
- 16 • Distribution infrastructure inspections
- 17 • Transmission infrastructure inspections
- 18 • Transmission asset upgrades

19
20 **Q.** What are the other legacy storm hardening initiatives
21 that will not go through the SPPCRC?

22
23 **A.** The other legacy storm hardening initiatives that will
24 not go through the SPPCRC include the following:

- 25 • Unplanned distribution vegetation management

- Unplanned transmission vegetation management
- Geographic Information System
- Post-Storm Data Collection
- Outage Data - Overhead and Underground Systems
- Increased Coordination with Local Governments
- Collaborative Research
- Disaster Preparedness and Recovery Plan
- Distribution Wood Pole Replacements

COMMON STORM PROTECTION PLAN ACTIVITIES AND COSTS

Q. Will you please provide a description of the Common Costs?

A. Yes, the costs in the Common Costs category represent those costs that cannot be attributed to a specific Program. They are an accumulation of incremental costs associated with developing, implementing, managing, and administering the SPP.

Q. What type of costs are in the Common Costs category?

A. The Common Costs reflect those SPP costs that cannot be assigned to a specific SPP program or those costs which bring benefits to the entire portfolio of SPP programs. Examples of this include incremental internal labor to

1 support the administration of the SPP as a whole. In
2 addition, because the company has never prepared an SPP
3 before and has never performed the level of work
4 necessary for a successful SPP, Tampa Electric brought in
5 outside consultants to assist in the development of the
6 SPP. These consultants' costs were charged to Common
7 Costs as they provide benefits to more than one SPP
8 Program.

9
10 **Q.** Does that conclude your testimony?

11
12 **A.** Yes, it does.
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2020
STORM PROTECTION PLAN
ACCOMPLISHMENTS

2020 Storm Protection Plan Accomplishments



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2020 Storm Protection Plan Accomplishments

SUMMARY OF 2020

STORM PROTECTION PLAN ACCOMPLISHMENTS

Tampa Electric's Storm Protection Plan ("Plan" or "SPP") sets out a systematic and comprehensive approach to storm protection focused on those Programs and Projects that provide the highest level of reliability and resiliency benefits for the lowest relative cost. The company believes that these activities will achieve the Florida Legislature's goals of "reducing restoration costs and outage times associated with extreme weather events and enhancing reliability" in a cost-efficient manner.

Tampa Electric's 2020 Storm Protection Accomplishments Report covers the first year of the company's 2020-2029 Storm Protection Plan, which provides a comprehensive approach to protect and strengthen its electric utility infrastructure to withstand extreme weather conditions as well as to reduce restoration costs and outage times in a prudent, practical and cost-effective manner. Protecting and strengthening Tampa Electric's transmission and distribution electric utility infrastructure against extreme weather conditions can effectively reduce restoration costs and outage times to customers and improve overall service reliability for customers. Tampa Electric received approval of its 2020-2029 Storm Protection Plan in Docket No. 20200067-EI, Order No. PSC-2020-0224-AS-EI, issued June 30, 2020 and finalized by Consummating Order No. PSC-2020-0293-AS-EI issued August 28, 2020.

2020 Storm Protection Plan Accomplishments

Distribution Lateral Undergrounding

Tampa Electric's Distribution Lateral Undergrounding Program aims to strategically underground existing overhead lateral primary, lateral secondary and service lines. The expected benefits from this Program are:

- Reducing the number and severity of customer outages during extreme weather events;
- Reducing the amount of system damage during extreme weather;
- Reducing the material and manpower resources needed to respond to extreme weather events;
- Reducing the number of customer complaints from the reduction in outages during extreme weather events; and
- Reducing restoration costs following extreme weather events.

In addition to the many benefits that should be realized from distribution lateral undergrounding during extreme weather events, it will also provide additional blue-sky benefits such as:

- Reducing the number of momentary and prolonged unplanned outages;
- Reducing the number of customer complaints from outages; and
- Improving customer reliability and power quality.

The table below shows the number of distribution lateral undergrounding projects that were designed and constructed in 2020:

2020 Storm Protection Plan Accomplishments

Table DLU.1 – Distribution Lateral Undergrounding

2020 Distribution Lateral Undergrounding			
	Projects Planned	Projects Initiated	Projects Completed
Engineering Design and Right of Way Obtainment	134	138	1
Construction	5	1	0

Vegetation Management

Tampa Electric's Vegetation Management Program ("VMP") combines a continuation of its existing filed and approved distribution and transmission VMP activities with three additional strategic VM initiatives.

In 2020, Tampa Electric utilized approximately 25 contracted tree trim personnel to manage the company's transmission tree trimming requirements. In addition, Tampa Electric's Transmission Vegetation Management Program ("TVMP") continues to comply with the North American Electric Reliability Corporation ("NERC") standard for Transmission Vegetation Management FAC-003-3.

For 2020, Tampa Electric has 280 dedicated distribution tree trim personnel throughout the company's seven service areas. These dedicated resources are broken out into two categories: Proactive and Reactive. The proactive resources are utilized for circuit tree trimming activities and consist of 240 personnel. The reactive resources consist of 40 personnel and are employed for mid-cycle trims, customer requested work and work orders associated with circuit

2020 Storm Protection Plan Accomplishments

improvement process. Lastly, Tampa Electric has 25 dedicated personnel responsible for the vegetation management of the company's transmission system.

Tampa Electric continued its efforts toward effective vegetation management as part of a coordinated plan with local governments and communities. Tampa Electric's Line Clearance Department and External Affairs Department hold periodic meetings with local governments and communities related to vegetation maintenance activities, upcoming projects, and emergency recovery strategies. Tampa Electric's External Affairs Department is tasked with communicating with local and state government officials, residential and commercial customers on several topics, including vegetation management. The company's goal is to keep governmental officials aware and briefed on relevant issues regarding these topics while working with internal Tampa Electric departments to resolve vegetation management issues in and around the company's infrastructure in a timely and responsive manner.

In 2020, as part its Florida Arbor Day recognition, Tampa Electric donated 500 holly seedlings to four Hillsborough County Elementary Schools and spoke with students about proper tree planting and power line safety.

During the fourth quarter 2020, Tampa Electric submitted its renewal application to the National Arbor Day Foundation's Tree Line USA Program and expects to receive endorsement in the first quarter of 2021. This will be the thirteenth consecutive year Tampa Electric has received the National Arbor Day Foundation's prestigious Tree Line USA Program designation.

Distribution:

Tampa Electric trims the company's distribution system on a four-year cycle. This approach was approved by the Commission in Docket No. 20120038-EI, Order No. PSC 12-0303-PAA-EI, issued June 12, 2012. The four-year cycle is flexible enough to allow the company to change circuit prioritization utilizing the company's reliability-based methodology. The table below shows the number of Four-Year Cycle VM miles completed in 2020:

2020 Storm Protection Plan Accomplishments

Table VM.1 – Distribution Four-Year Cycle

2020 Distribution Vegetation Management Four-Year Cycle (Miles Trimmed)								
2nd Cycle, Year 4								
	Company Service Area							
	CSA	DCA	ESA	PCA	SHA	WSA	WHA	Total
4-Year VM Miles Goal	260.5	92.9	210.5	309.6	181.4	276.3	231.5	1,562.7
4-Year VM Miles Actual	247.5	74.9	215.9	403.1	120.8	288.8	286.9	1,637.9

Some area goals were adjusted during the year to account for customer demand and storm response.

Reactive:

Tampa Electric supports internal and external customer requests through its reactive initiative. Mid-cycle trims, customer requested work and work orders associated with circuit improvement process are the primary categories of reactive work. Work is tracked through the company's work management software. Each work request ("WR") is reviewed by Tampa Electric or contract staff. Those requiring trimming are issued to contract reactive crew. The table below shows the Reactive work requests reviewed and completed in 2020:

2020 Storm Protection Plan Accomplishments

Table VM.2 – Reactive Vegetation Management

2020 Reactive Vegetation Management (Work Requests)								
	Company Service Area							
	CSA	DCA	ESA	PCA	SHA	WSA	WHA	Total
Reactive Work Requests Reviewed	1,202	147	792	454	221	1,381	419	4,616
Reactive Work Requests Trimmed	890	128	630	419	170	1,064	367	3,668

Transmission:

Tampa Electric trims the company's transmission utilizing a comprehensive vegetation management strategy. The company operates three categories of transmission lines 230kV, 138kV, 69kV, and 34kV. For the circuits with voltages above 200kV, the company complies with Federal Energy Regulatory Commission ("FERC") standard FAC-003-4. This standard imposes performance-based, risk-based, and competency-based requirements for vegetation management on these circuits. The company imposes a two-year vegetation management cycle for 138kV circuits, and a three-year cycle for 69kV and 34kV circuits. The company's vegetation management strategy for its transmission system includes the maintenance of the transmission ROW's. The table below shows the Transmission VM completed in 2020 compared to the annual goal:

2020 Storm Protection Plan Accomplishments

Table VM.3 – Transmission Vegetation Management

2020 Transmission Vegetation Management				
	Bulk Transmission (miles)	Non-Bulk Transmission (miles)	Right of Way Transmission (acres)	Total Transmission (miles)
Transmission VM Miles Goal	264.8	253.3	4,000.0	518.1
Transmission VM Miles Actual	264.8	253.3	3,537.3	518.1

New Vegetation Management:

Tampa Electric initiated two additional distribution VM initiatives and one additional transmission VM initiative within the company's 2020-2029 SPP. The purpose of these additional VM initiatives is to enhance the company's current cycles, specifically for the purpose of system storm hardening. These additional VM initiatives are:

Initiative 1: Supplemental Distribution Circuit VM

Initiative 2: Mid-Cycle Distribution VM

Initiative 3: 69 kV VM Reclamation

Initiative 1: Tampa Electric initiated 700 miles of supplemental distribution circuit VM to enhance the current four-year distribution VM cycle to reduce the proximity between vegetation and electrical facilities. Circuit prioritization and selection was centered around storm resiliency and mitigating outage risk on those circuits most susceptible to storm damage. The table below shows the number of miles of supplemental VM by Service Area that were conducted in 2020:

2020 Storm Protection Plan Accomplishments

Table VM.4 – Supplemental Distribution Circuit Vegetation Management

2020 Supplemental Vegetation Management (Miles Trimmed)								
	Company Service Area							
	CSA	DCA	ESA	PCA	SHA	WSA	WHA	Total
Supplemental Miles Goal	77.9	99.9	99.8	76.7	15.3	16.8	15.7	402.1
Supplemental Miles Actual	76.2	100.2	93.2	75.4	15.3	17.3	18.9	396.5

Initiative 2: Tampa Electric initiated Mid-Cycle VM which is an inspection-based approach and is designed to identify and mitigate areas where, depending on the tree species, vegetation cannot be controlled effectively following a four-year distribution VM cycle. In 2020, the company focused on establishing the initiative's specifications, contracts, and plan; only a small sampling of work was performed. The table below shows the number of miles of Mid-Cycle VM by Service Area that was conducted in 2020:

Table VM.5 – Mid-Cycle Distribution Vegetation Management

2020 Mid-Cycle Distribution Vegetation Management (Miles Inspected)								
	Company Service Area							
	CSA	DCA	ESA	PCA	SHA	WSA	WHA	Total
Mid-Cycle Inspection Miles Goal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mid-Cycle Inspection Miles Actual	0.0	0.0	0.0	0.0	37.0	0.0	0.0	37.0

2020 Storm Protection Plan Accomplishments

Initiative 3: Tampa Electric initiated the 69kV Reclamation Project to “reclaim” specific areas of the company’s 69kV system that are particularly problematic due to vegetative conditions. The focus of this Project is to clear the vegetation undergrowth and remove the hazard trees. The company will clear the vegetation within the boundaries of the easement or property but outside of the current 15-foot vegetation-to-conductor clearance specification. The entire 69kV Reclamation Initiative is a short-term initiative planned for four years beginning in 2020 and concluding in 2023. In 2020, the company focused on establishing the initiative’s specifications, contracts, plan, and real estate research; no VM work was performed. The table below shows the number of miles of 69kV Reclamation VM that was conducted in 2020:

Table VM.6 – 69 kV Reclamation Initiative

2020 69 kV Reclamation Initiative			
	Real Estate Research (miles)	Survey (miles)	Vegetation Management (miles)
69 kV Reclamation Initiative Goal	76.0	0.0	0.0
69 kV Reclamation Initiative Actual	50.0	0.0	0.0

Transmission Asset Upgrades

The Transmission Asset Upgrades Program is a systematic and proactive replacement Program of all Tampa Electric’s remaining transmission wood poles with non-wood material. The company intends to complete this conversion from wood transmission poles to non-wood material poles during the timeframe of this initial ten-year SPP. Tampa Electric has over 25,000 transmission poles and structures with approximately 1,350 circuit miles of transmission

2020 Storm Protection Plan Accomplishments

facilities. The table below shows the number of transmission assets that were hardened in 2020:

Table TAU.1 – 2020 Transmission Asset Upgrades

2020 Transmission Asset Upgrades Structures Hardened / System Update		
	Goal	Actual
Transmission Structures – Poles - Non SPP (Note 1)	120	115
Transmission Structures – SPP	185	181
Transmission System Hardened (Percentage)	81.1%	81.7%

Note 1: pole replacement goal set prior to SPP implementation that includes preventative, corrective, and project-driven replacements

Substation Extreme Weather Hardening

Tampa Electric's Substation Extreme Weather Hardening Program will harden existing substations to minimize outages, reduce restoration times and enhance emergency response during extreme weather events.

In 2020, Tampa Electric began the process of preparing for the study to be conducted on twenty of the company's substations that are located closest to the coastline and of greatest risk from the impact of water intrusion due to storm surge into the substation control houses and equipment. The purpose of the study will be to identify and prioritize measures such as permanent or temporary barriers, elevating substation equipment, or relocating facilities to areas that are less prone to flooding to increase the resiliency and reliability of these substations.

Distribution Overhead Feeder Hardening

Tampa Electric's Distribution Overhead Feeder Hardening Program will strengthen the company's distribution system to withstand increased wind-loading and harsh environmental

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conditions associated with extreme weather events. The Distribution Overhead Feeder Hardening Program will focus on increasing the resiliency and sectionalizing capabilities of the distribution electrical system to better withstand extreme weather and minimize outages, outage durations and affected customer counts through two primary enhancements: Distribution Feeder Strengthening and Distribution Feeder Sectionalizing and Automation. The table directly below provides the work that was done for designing these enhancements and the table further below provides the actual equipment that was installed in 2020:

Table OVHF.1 – 2020 Distribution Overhead Feeder Hardening Designed Equipment

2020 Distribution Overhead Feeder Hardening Designed Equipment					
Circuit Number	13308	13533	13805	13807	13745
Pole Replacement / Upgrades	111	66	159	219	66
Three-Phase Recloser Installations	5	7	5	5	5
Single-Phase Recloser Installations	53	15	42	86	1
Fuse Coordination Replacements	62	11	127	117	13

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Table OVHF.2 – 2020 Distribution Overhead Feeder Hardening Installed Equipment

2020 Distribution Overhead Feeder Hardening Installed Equipment					
Circuit Number	13308	13533	13805	13807	13745
Pole Replacement / Upgrades	1	24	35	63	0
Three-Phase Recloser Installations	0	1	0	0	0
Single-Phase Recloser Installations	0	8	13	14	0
Fuse Coordination Replacements	2	3	9	43	0

Transmission Access Enhancements

The Transmission Access Enhancement Program will help ensure the company always has access to its transmission facilities for the performance of restoration. The Program is divided into two components: Access Roads and Access Bridges.

Access Roads: These Projects are designed to restore access to areas where changes in topography and hydrology have negatively impacted existing access roads or created the need to establish new access roads. In 2020, the company focused on establishing the program's specifications, contracts, and plan; no Access Road work was performed. The table below shows the number of access roads that were completed in 2020:

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Table TAE.1 – 2020 Transmission Access Enhancement (Access Roads)

2020 Transmission Access Enhancement (Access Roads)				
	Planned	Engineered	Constructed	Completed
Access Roads	0	0	0	0
2020-2029 SPP Access Roads				
	Planned	Completed	Percent Completed	
Access Roads	20	0	0.0%	

Access Bridges: These Projects are designed to enhance or replace the company's current system of bridges used to access its "off road" transmission facilities. In 2020, the company focused on establishing the program's specifications, contracts, and plan; no Access Bridge work was performed. The table below shows the number of access bridges that were completed in 2020:

Table TAE.1 – 2020 Transmission Access Enhancement (Access Roads)

2020 Transmission Access Enhancement (Access Bridges)				
	Planned	Engineered	Constructed	Completed
Access Bridges	0	0	0	0
2020-2029 SPP Access Bridges				
	Planned	Completed	Percent Completed	
Access Bridges	17	0	0.0%	

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Infrastructure Inspections

Tampa Electric's Infrastructure Inspection Program is a comprehensive inspection Program that combines the existing Commission approved Storm Hardening Plan Initiatives of: Wood Pole Inspections, Transmission Structure Inspections, and the Joint Use Pole Attachment Audit.

Wood Pole Inspection Program: Tampa Electric's Wood Pole Inspection Initiative is part of a comprehensive program initiated by the FPSC for Florida investor-owned electric utilities to harden the electric system against severe weather.

This inspection program complies with Order No. PSC-06-0144-PAA-EI, issued February 27, 2006 in Docket No. 060078-EI which requires each investor-owned electric utility to implement an inspection program of its wooden transmission and distribution poles on an eight-year cycle based on the requirements of the NESC. Tampa Electric has approximately 285,000 distribution and lighting wood poles and 26,000 transmission poles appropriate for inspection for a total pole inspection population of approximately 311,000. Approximately 12.5 percent of the known system will be targeted for inspections annually although the actual number of poles may vary from year to year due to recently constructed circuits, de-energized circuits, reconfigured circuits, etc. This program provides a systematic identification of poles that require repair, reinforcement or replacement to meet strength requirements of the NESC.

The wood pole inspections will be conducted on a substation circuit basis with a goal of inspecting the entire wood pole population every eight years. An average of 36,000 wooden distribution poles will be inspected annually with each pole receiving a visual inspection, a sound & bore procedure and a groundline/excavation inspection (except for chromated copper arsenate "CCA" poles less than 16 years of age.)

Inspection Method and Procedure: Tampa Electric will utilize three basic inspection procedures for determining the condition of wooden poles. These procedures include a visual inspection, sound and bore, and excavation when required.

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Visual Inspection: An initial visual inspection shall be made on all poles from the ground line to the pole top to determine the condition of the pole before any additional inspection work is completed. The visual inspection shall include a review of the pole condition itself and any attachments to the pole for conditions that jeopardize reliability and are in need of replacement, repair or minor follow-up. After a pole passes the initial visual inspection, the balance of the required inspection methods will be performed.

Sound and Bore: After passing the visual inspection, the pole shall be sounded to a minimum height of seven feet above the ground line to locate any rotten conditions or pockets of decay inside the pole. Borings shall be made to determine the location and extent of internal decay or voids. All borings shall be plugged with preservative treated wooden dowels. After the pole has passed the sound and bore inspection, an excavation inspection will be performed, if required.

Excavation: For poles requiring excavation, the pole shall be excavated to a minimum depth of 18 inches below the ground line. Any external decay shall be removed to expose the remaining sound wood. The remaining pole strength shall be calculated.

For a pole in concrete or pavement where excavation is not possible, Tampa Electric will utilize a shell boring technique. This will consist of boring two 3/8-inch holes at a 60-degree angle to a depth of 16 to 18 inches below ground level. Upon withdrawing the drill bit, the technician will examine the condition of the wood shavings to determine whether decay is present. A "Shell Gauge" is used to determine the thickness of the shell, which is then used to calculate the pole strength. All borings shall be plugged as previously described.

Hardware Inspection: The inspector shall inspect all of Tampa Electric's guying, grounding provisions and hardware that is visible from the ground. Any

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deficiencies or problems will be corrected as directed or reported to Tampa Electric to correct.

Inspection and Treatment Labeling: After completion of the ground line inspection, an aluminum tag identifying the contractor and date of inspection shall be attached to the pole above the birthmark. Additionally, a tag shall be attached identifying any preservative treatments applied and the date of application.

Data Collection: The collected data shall be managed in a database and include information related to pole class, material, vintage, location, pole strength and any pole deficiencies that required follow-up actions, if any.

Inspection in Conjunction with Other Field Work: As part of day-to-day operations, operation personnel are at times required to climb poles to perform different types of field work. Prior to climbing any pole, personnel will assess the condition of the pole. This will include a visual check and may include sounding to determine pole integrity. This type of inspection will supplement the systematic inspection approach otherwise outlined in this pole inspection program.

Disposition of Poles: Poles with early stage decay that do not require remediation to meet the NESC strength requirements shall be treated with an appropriate preservative treatment. Poles with moderate decay that have substantial sound wood shall be considered for reinforcement. Analysis shall be performed to determine if reinforcement will bring the deficient pole into compliance with the requirements of the NESC. If it is determined that the pole can be reinforced, the pole shall be treated with an appropriate preservative treatment and may be reinforced or replaced if needed. Poles with advanced decay shall fail the inspection and be replaced.

Shared Poles: Tampa Electric supports the Commission's effort to establish pole inspection requirements on the owners of all utility poles. Tampa Electric will

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coordinate with third-party owners of utility poles that carry the company's facilities. With regard to the third-party's inspection process, the company will rely upon the third-party's inspection requirements and share data requested by the third-party to be utilized in their inspection procedure. Tampa Electric will cooperate, as requested, in the work associated with pole replacement where joint use exists. Third-party poles are visually inspected and sounded for internal decay. Issues found are provided to the third-party owner for resolution.

Chromated Copper Arsenate Pole Inspections: In Docket No. 20080219-EI, Order No. PSC-2008-0615-PAA-EI, issued September 23, 2008 the FPSC approved a modification to Tampa Electric's Wood Pole Inspection Program involving chromated copper arsenate ("CCA") poles. Specifically, the modification requires CCA treated poles less than 16 years of age to be sound and selectively bored. Selective boring shall be performed on poles suspected of internal decay. Additionally, one percent of the annual number of CCA treated poles inspected less than 16 years of age shall be excavated to validate this inspection method. Finally, all CCA treated poles over 16 years of age shall be excavated.

Reporting: Tampa Electric includes the Annual Wood Pole Inspection Report with the company's Annual Reliability Performance Reports, by March 1st of each year in full accordance with the reporting requirements set forth in Docket No. 20070634-EI, Order No. PSC-2007-0918-PAA-PU, issued November 14, 2007.

Transmission and Substation Inspections: Tampa Electric continues to conduct the multi-pronged inspection approach the company has historically applied to the system which has led to the transmission system having a history of strong reliability performance. This approach includes the eight-year above ground structure inspection cycle, eight-year ground line wood inspection cycle, annual ground patrol, annual aerial infrared patrol, annual substation inspection cycle and the pre-climb inspection requirement. Tampa Electric continues these inspections and also continues the company's ongoing efforts to monitor and evaluate the appropriateness of its

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transmission structure inspection program to ensure that any cost-effective storm hardening, or reliability opportunities found are taken advantage of.

Standardized reports are provided for each of the formal inspections. Deficiencies identified during the inspections are entered into a maintenance database. This maintenance database is used to prioritize and manage required remediation. Deficiencies identified during the pre-climb inspections are assessed by the on-site crew and reported to supervisory personnel for determination of corrective action.

The table below shows the number of transmission inspections that were completed in 2020:

TRA.1 – 2020 Transmission Inspections

2020 Transmission Inspections		
Transmission Inspection Type	Number of Inspections (Circuits)	Number of Poles
Groundline	21	659
Above Ground	20	3,228
Ground Patrol	211	
Infrared Patrol	0	

Pre-climb Inspections: Tampa Electric crews are required to inspect wooden transmission & distribution poles prior to climbing. As part of these inspections, the employee is required to visually inspect each pole prior to climbing and sound each pole with a hammer if deemed necessary. These pre-climbing inspections serve to provide an additional safety-oriented integrity check of poles prior to the employee ascending the pole and may also result in the identification of any structural deterioration issues.

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Substation Inspections: Tampa Electric performs inspections of distribution substations and inspections of transmission substations annually. The substation inspections include visual inspection of the substation fence, equipment, structures, control buildings and the integrity of grounding system for all equipment and structures. The table below shows the number of distribution and transmission substation inspections that were completed in 2020:

Sub.1 – 2020 Substation Inspections

2020 Substation Inspections		
	Distribution Substations	Transmission Substations
Number of Inspections	373	164

Joint-Use Pole Attachments Audits: Tampa Electric continues to conduct comprehensive loading analyses to ensure the company's poles with joint use attachments are not overloaded and meet the NESC or Tampa Electric Standards, whichever is more stringent. These loading analyses are a direct effort to lessen storm related issues on poles with joint use attachments. All current joint use agreements require attaching entities to apply for and gain permission to make attachments to Tampa Electric's poles.

In 2020, Tampa Electric conducted comprehensive loading analyses and continued to streamline processes to better manage attachment requests from attaching entities. The comprehensive loading analysis was performed on 156 poles and all poles determined to be overloaded will be corrected.

For 2021, Tampa Electric will continue conducting comprehensive loading analyses where necessary.

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Due to the size of Tampa Electric's service area and the number of poles the company has, there will always be the potential for unknown foreign attachments to exist on facilities which could place additional loading on a facility which may create an overload situation. To help mitigate these potential overload situations, all Tampa Electric joint use agreements have provisions that allow for periodic inspections and/or audits of all joint use attachments to the company's facilities. In addition, all agreements have provisions that require the attaching party to build and maintain attachments within NESC guidelines or Tampa Electric specifications, whichever are more stringent. All of Tampa Electric's existing joint use agreements require attaching parties to receive authorization from the company prior to making all attachments to its facilities.

In 2020, Tampa Electric reviewed all known attachment records and verified that the company has joint use agreements with all attaching entities. Tampa Electric added one new third-party agreement for a total of 39 agreements in the Joint Use Department with attaching entities and continue negotiations with others requesting permission to attach to Tampa Electric poles.

In 2020, Tampa Electric had steady requests for small cell permit applications. The company's Joint Use department processed 43 pole attachment applications for 116 poles. As a result, the company identified 0 distribution poles that were overloaded due to joint use attachments and 3 poles that were overloaded due to Tampa Electric's attachments. Out of the 156 poles that were assessed through the pole attachment application process and the comprehensive loading analysis, there were 29 that had NESC violations due to joint use attachments and no poles with NESC violations due to Tampa Electric attachments. All poles with NESC violations were either corrected by adjustments to attachments, pole replacements or joint use entities' removal of the attachments in violation.

In 2020, effort was made by third party "attachers" to notify Tampa Electric of poles planned for over-lashing. Over-lashing is one specific area of concern which is when a

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joint use entity attaches to an existing attachment without prior Tampa Electric engineering and authorization.

For 2021, Tampa Electric's Joint Use Department will continue working with small cell companies to finalize attachment agreements. Tampa Electric will continue performing make ready for the small cell and fiber deployments across the company's entire service territory.

Infrastructure Inspections Summary

2020 Infrastructure Inspections Summary			
	Notes	Projected	Actual
Joint Use Audit	Note 1		
Joint Use Inspections			644
Distribution			
Wood Pole Inspections		22,500	24,962
Groundline Inspections		13,275	24,290
Transmission			
Wood Pole/Groundline Inspections		702	659
Above Ground Inspections		2,949	3,228
Aerial Infrared Patrols		Annually	Not Completed
Ground Patrols		Annually	Completed
Substation Inspections		Annually	Completed

Note 1: the Joint Use audit was completed in the first quarter of 2020

Legacy Storm Hardening Initiatives

The final category of storm protection activities consists of those legacy Storm Hardening Plan Initiatives that are well-established and steady state and for which the company did not propose any specific Storm Protection Projects for inclusion in the company's 2020-2029 SPP. Tampa Electric continues these activities because the company believes they continue to offer the storm resiliency benefits identified by the Commission in Order No. PSC-2006-0351-PAA-EI,

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which required the company to perform these activities. In addition, these initiatives are all integrated into the company's ongoing operations.

Geographic Information System: Tampa Electric's Geographic Information System ("GIS") will continue to serve as the foundational database for all transmission, substation and distribution facilities. Development and improvement of the GIS continues. All new computing technology requests and new initiatives are evaluated with a goal to eliminate redundant, exclusive and difficult to update databases as well as to place emphasis on full integration with Tampa Electric's business processes. These evaluations further cement GIS as the foundational database for Tampa Electric's facilities.

In 2020, Tampa Electric continued to implement changes and enhancements to the company's GIS system. These changes included data updates, plus metadata and functionality changes, to closer align with business processes and improve user performance.

Post-Storm Data Collection and Forensic Analysis: Tampa Electric has implemented a formal process to randomly sample system damage following a major weather event in a statistically significant manner. This information will be used to perform forensic analysis to categorize the root cause of equipment failure. From these reports, recommendations and possible changes will be made regarding engineering, equipment and construction standards and specifications. A hired third party of data collection specialists will patrol a representative sample of the damaged areas of the electric system following a major storm event and perform the data collection process. At a minimum, the following types of information will be collected:

- Pole/Structure – type of damage, size and type of pole, and likely cause of damage;
- Conductor – type of damage, conductor type and size, and likely cause of damage;

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- Equipment – type of damage, overhead or underground, size, and likely cause of damage; and
- Hardware – type of damage, size and likely cause of damage.

Third party engineering personnel will perform the forensic analysis of a representative sample of the data obtained to evaluate the root cause of failure and assess future preventive measures where possible and practical. This may include evaluating the type of material used, the type of construction and the environment where the damage occurred including existing vegetation and elevations. Changes may be recommended and implemented if more effective solutions are identified by the analysis team.

In 2020, Tampa Electric was not impacted by any major hurricanes. Tampa Electric in preparations for the potential impacts of Hurricane Eta, put the company's forensic consultant on notice 72 hours prior to the expected impact. The company cancelled the notice 24 hours later due to the shifting track of the storm and did not initiate any storm data collection to have forensic analysis performed. Tampa Electric has an established process in place to gather the necessary data for forensic analysis following a Category One or greater storm that significantly impacts the company's service area. This data will be used to determine the root cause of damage after a storm event.

Outage Data Differentiating Between Overhead and Underground Systems:

Tampa Electric tracks and stores the company's outage data for overhead and underground systems in a single database called the Distribution Outage Database ("DOD"). The DOD is linked to and receives outage data from the company's EMS and OMS. The DOD tracks outage records according to cause and equipment type and can support the following functionality:

- Centralized capture of outage related data;
- Analysis and clean-up of outage-related data;
- Maintenance and adjustment to distribution outage database data;
- Automatic Generation and distribution of canned reliability reports; and
- Generating ad hoc operational and managerial reports.

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The DOD is further programmed to distinguish between overhead and underground systems and is specifically designed to generate distribution service reliability reports that comply with Rule 25-6.0455, F.A.C.

In addition to the DOD and supporting processes, the company's overhead and underground systems are analyzed for accurate performance. The company also has established processes in place for collecting post-storm data and performing forensic analysis to ensure the performance of Tampa Electric's overhead and underground systems are correctly assessed.

Increase Coordination with Local Governments: Tampa Electric representatives continue to focus on maintaining existing vital governmental contacts and participating on disaster recovery committees to collaborate in planning, protection, response, recovery and mitigation efforts. In addition, Tampa Electric representatives will continue to communicate and coordinate with local governments on vegetation management, search and rescue operations, debris clearing, and identification of critical community facilities. Tampa Electric will participate with local and municipal government agencies within its service area, as well as the Florida Division of Emergency Management ("FDEM"), in planning and facilitating joint storm exercises. In addition, Tampa Electric will continue to be involved in improving emergency response to vulnerable populations.

In 2020, Tampa Electric's Emergency Management Department communication efforts continued to focus on local, state, and federal governments and agencies for all emergency management missions. Since COVID-19 consumed state and local agencies' resources, no storm-related exercises were conducted by external partners; however, Tampa Electric did conduct its own internal exercises. Communication efforts were focused on changes to emergency response plans and Emergency Operations Center ("EOC") activations during a pandemic, as well as health and safety protocols

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being followed. Tampa Electric participated in storm planning meetings with government officials and agencies in Hillsborough, Pasco, Pinellas, and Polk counties.

In 2020, community focused communications included pre-hurricane season news releases to all major media outlets that serve Tampa Electric customers. All releases were posted on Tampa Electric's website. Hurricane guides were published in several major newspapers including the Tampa Bay Times, Lakeland Ledger, the Winter Haven News Chief, Centro (Spanish), and the Florida Sentinel Bulletin. In addition, Tampa Electric continued to promote its storm restoration video, which is available on the company's website.

Emergency Operations Centers – Key Personnel Contact: In 2020, three (3) named tropical weather events (Hurricanes Isaias, Laura, and Eta) triggered various county and municipal agencies to activate their EOC at either full or partial activation levels to support emergency response activities. During Hurricane Eta, Tampa Electric was activated virtually by the cities of Oldsmar and Tampa, as well as Hillsborough, Pasco and Pinellas counties to support emergency response activities. During the other storms identified above, the EOCs were under partial activation for situational awareness and to support local activities, including sandbag operations and shelter management. Lastly, the State of Florida activated its EOC at full activation for Hurricanes Isaias, Laura, Sally and Eta. Tampa Electric personnel supported outage reporting and EOC requests virtually from Tallahassee.

The table below shows the activation levels for the tropical weather events by county or municipal EOC which covers Tampa Electric's service area:

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EOC	Hurricane Isaias	Hurricane Laura	Hurricane Sally	Hurricane Eta
City of Oldsmar		Partial		Partial
City of Plant City				
City of Tampa	Partial			Partial
City of Temple Terrace				
Hillsborough County	Partial			Partial
Pasco County	Partial			Partial
Pinellas County	Partial	Partial		Partial
Polk County	Partial			
State of Florida	Full	Full	Full	Full

Tampa Electric continues to work with local, state and federal governments to streamline the flow of information and incorporate lessons learned to restore electric service as quickly and as safely as possible. Prior to June 1st of each year, the company's Emergency Response Plan is reviewed and updated to ensure Tampa Electric representatives are fully trained to support EOC activation.

Staffing Practices at Local Emergency Operations Centers: Tampa Electric provides representatives to each of the four (4) County EOCs within the company's service territory, including Hillsborough, Pasco, Pinellas and Polk counties. In addition, depending upon the magnitude of the event, representatives are provided to the four (4) municipalities (Cities of Oldsmar, Plant City, Temple Terrace, and Tampa), when requested. The number of liaisons provided is dependent upon various factors (e.g., seating capacity at the EOC, amount of damage, EOC operating hours, available personnel, etc.). Lastly, representatives are also provided to support the State of Florida EOC to support the State and the Florida Public Service Commission ("FPSC") for power restoration issues.

The representatives who staff the EOCs have business acumen and experience in customer service and/or electric or gas distribution. Since the EOC representative role

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is not a day-to-day job function, the company strives to maintain a balance of seasoned and less experienced representatives during both day and night operations in the EOC when possible. In some EOCs, the company utilizes representatives from the gas company (Peoples Gas System) to supplement Tampa Electric personnel, especially in areas where the company has a natural gas presence. In any case, EOC representatives are trained to deal with both electric and gas issues.

Staffing hours at the EOC are dictated by each EOC's operational periods and are dependent upon the magnitude of the event. EOCs have and may require company representatives to report for duty before the onset of tropical storm force winds and ride-out the storm at the EOC with other Emergency Support Function ("ESF") personnel. Initially, EOCs may, at their discretion, operate 24 hours/day until the event is stabilized. To support the 24-hour cycle, company staffing hours at EOCs are generally based on two (2), 12-hour shifts based on the EOCs operational cycle and vary by County; however, the hours of operation may be adjusted based on EOC needs to support emergency response. In 2020, EOC representatives were not required to physically report to EOCs for any activations but instead were allowed to support efforts virtually to minimize risk of contracting or spreading COVID-19. If storm impacts were expected to be significant, EOC representatives may have been required and were prepared to report to their designated EOC.

The table below further shows the number of company representatives available to support EOC activation. The table does not represent the number of representatives on-site at the same time.

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Utility staffing practices at local EOCs		
EOC in Service Territory	Number of Utility staff	Planned daily hours scheduled for working in the EOC
Hillsborough County	6-8	Dependent on EOC operational period
City of Plant City	2	Dependent on EOC operational period
City of Oldsmar	2	Dependent on EOC operational period
City of Tampa	4	Dependent on EOC operational period
Pasco County	4	Dependent on EOC operational period
Pinellas County	3	Dependent on EOC operational period
Polk County	3	Dependent on EOC operational period

Responsibilities: The role of the company's EOC representative is to facilitate and respond to critical community issues in support of life safety and power restoration efforts. The representatives are responsible for maintaining situational awareness and communicating any public safety issues or concerns to the company. In addition, the representatives work closely with other ESF liaisons to facilitate or coordinate any requests made by the company or in support of community citizens. The representatives will utilize all available "lifelines" to respond to requests which originate from the EOC or company personnel. Lastly, the EOC representative communicates outage updates and provides restoration status, as requested.

Communications: Because the company has representatives dedicated to each of the county and city EOCs within its service territory, there are limited opportunities for an EOC to not be staffed. In the remote situation where an EOC representative is unavailable, the local EOCs have contact information for their assigned EOC representatives, as well as the company's Emergency Management personnel, which can be called upon for assistance. In addition, the company's External Affairs

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Department personnel have established relationships throughout the communities served and are also available to provide support, as needed.

Search and Rescue Teams – Assistance to Local Government: In 2020, Tampa Electric did not receive any requests for Search and Rescue Team assistance, therefore, no Tampa Electric resources were deployed to support local government.

Tree Ordinances, Planting Guides and Trip Procedures: For 2021, the company's Manager of Line Clearance will continue to work with Tampa Electric's External Affairs staff to offer meetings with local government's staff on how Tampa Electric can best work with city staff in pre-storm and post-storm events and to better coordinate the company's tree trimming procedures with governmental ordinances.

Utility's Coordination of Critical Facilities with local governments: Tampa Electric works closely with County Emergency Management ("EM") officials and other stakeholders throughout the year to identify and prioritize facilities deemed most critical to the overall health of the whole community (e.g., public health, safety, security or national/global economy). Tampa Electric has discussions with EM officials email and phone communications. The identification of public and private critical facilities during preparedness planning supports the goal of a coordinated and flexible restoration process for all critical infrastructure and is directly related to business continuity and continuity of the government. Critical facilities for municipalities are identified and incorporated into the respective County data.

The table below provides the dates that Tampa Electric had discussion with local governments during 2020 that involved critical facilities:

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Meetings with Local Government				
Entity	Date(s)	Topics	Pending Issues/Follow-up Items	Contact Information Provided to Local Authorities
Hillsborough County	1/31/2020 2/27/2020 3/04/2020	Critical Facility Discussion	N/A	Yes
Pasco County	2/20/2020 3/04/2020	Critical Facility Discussion	N/A	Yes
Pinellas County	3/03/2020	Critical Facility Discussion	N/A	Yes
Polk County	2/24/2020 3/04/2020 3/10/2020 3/11/2020	Critical Facility Discussion	N/A	Yes

Collaborative Research: Tampa Electric will continue the company’s participation in collaborative research effort with Florida’s other investor-owned electric utilities, several municipals and cooperatives to further the development of storm resilient electric utility infrastructure and technologies that reduce storm restoration costs and outages to customers.

This collaborative research is facilitated by the Public Utility Research Center (“PURC”) at the University of Florida. A steering committee comprised of one member from each of the participating utilities provides the direction for research initiatives. Tampa Electric signed an extension of the memorandum of understanding with PURC in December 2018, effective January 1, 2019, for two years. The memorandum of understanding will automatically extend for successive two-year terms on an evergreen basis until the

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utilities and PURC agree to terminate the agreement. Tampa Electric will file the updated PURC Collaborative Research Report with the company's annual SPP Report on June 1st.

Disaster Preparedness and Recovery Plan: A key element in minimizing storm-caused outages is having a natural disaster preparedness and recovery plan. A formal disaster plan provides an effective means to document lessons learned, improve disaster recovery training, pre-storm staging activities, and post-storm recovery. The Commission's Order No. PSC-2006-0351-PAA-E1, issued on April 25, 2006, within Docket No. 20060198-E1 required each investor-owned electric utility to develop a formal disaster preparedness and recovery plan that outlines its disaster recovery procedures and maintain a current copy of its utility disaster plan with the Commission.

Tampa Electric will continue to be active in many ongoing activities to support the restoration of the system before, during and after storm activation. The company will continue to lead or support disaster preparedness and recovery plan activities such as planning, training and working with other electric utilities and local government to continually refine and improve the company's ability to respond quickly and efficiently in any restoration situation.

Tampa Electric's Emergency Management plans address all hazards, including extreme weather events and are reviewed annually. Tampa Electric follows the policy set by TECO Energy for Emergency Management and Business Continuity which delineates responsibilities at the employee, company and community levels.

Tampa Electric will also continue to plan, participate in, and conduct internal and external preparedness exercises, collaborating with government emergency management agencies, at the local, state and federal levels. Internal company exercises focus on testing lessons learned from prior exercises/activations, new procedures, and educating new team members on roles and responsibilities in the areas of incident command,

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operations, logistics, planning and finance. The scope and type of internal exercises vary from year to year based on exercise objectives defined by a cross-functional exercise design team, following the Homeland Security Exercise and Evaluation Program ("HSEEP"). External preparedness exercises are coordinated by local, state and federal governmental emergency management agencies. Tampa Electric personnel participate in these exercises to test the company's internal emergency response plans, including coordination with Emergency Support Functions ("ESF") to maintain key business relationships at local Emergency Operation Centers ("EOC"). Like Tampa Electric, the exercise type (tabletop, functional or full-scale) and scope varies from year to year, and depending upon the emergency management agencies' exercise objectives, Tampa Electric participants may not be included.

With the exception of 2020, Tampa Electric annually participates in the State of Florida's hurricane exercise with the FPSC, which often coincides with exercises conducted by Hillsborough, Pasco, Pinellas and Polk counties. In addition, municipalities within Tampa Electric's service area (Oldsmar, Plant City, Tampa and Temple Terrace) may also host exercises and/or pre-storm season briefings. In early 2020, the State of Florida decided not to conduct its annual hurricane exercise, and as such, local counties and municipalities followed suit. Instead, Tampa Electric participated in pre-storm planning sessions with county emergency management agencies to review and discuss changes to emergency response and activation plans during a pandemic. In 2021, Tampa Electric expects to participate in storm-related exercises at local and state levels.

In 2020, Tampa Electric participated in the following disaster preparedness and recovery plan activities which included in-depth coordination with local, state and federal emergency management in the following areas:

- Principal member of the National Fire Protection Association ("NFPA") 1600 – Committee on Continuity, Emergency, and Crisis Management
- Member of NFPA Technical Committee
- Member of the Edison Electric Institute ("EEI") Business Continuity Leadership Team

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- Member of the EEI Mutual Assistance Committee
- Member of Post Disaster Redevelopment Planning ("PRDP") Committees
- Member of the Electric Subsector Coordinating Council ("ESCC") Leadership Working Group
- Member of the Local Mitigation Strategy ("LMS") and Vulnerable Population Committees
- Member of Critical Facility Working Group to review restoration priorities
- Member of the Florida Statewide Mutual Aid Assistance ("MAA") Working Group
- Member of the Southeastern Electric Exchange ("SEE") Mutual Assistance Committee
- Member of the SEE Logistics Subcommittee
- Member of the Florida Emergency Preparedness Association ("FEPA")
- Member of the FEPA Higher Education Working Group
- Member of the Association of Contingency Planners ("ACP")
- Member of the International Association of Emergency Managers ("IAEM")
- Member of the Disaster Recovery Institute ("DRI") International

Tampa Electric continues to participate in internal and external preparedness exercises, collaborating with government emergency management agencies, at local, state and federal levels.

For 2021, Tampa Electric will continue in leadership roles in county and national preparedness groups: Hillsborough County and the COT PDRP, EEI, FEPA Higher Education Working Group, ESCC, the NFPA 1600 Committee on Continuity, Emergency, and Crisis Management, and the NFPA Technical Committee. In addition, Tampa Electric will continue to be active participants in LMS, Vulnerable Population Committees, SEE's Mutual Assistance Committee and Logistics Subcommittee, EEI Mutual Assistance Committee, Florida Statewide MAA Working Group, as well as the Critical Facility Working Groups. Tampa Electric will also continue to promote growth of its website, Twitter and Facebook followers.

2020 Storm Protection Plan Accomplishments

Distribution Pole Replacements: Tampa Electric's distribution pole replacement initiative starts with the company's wood pole inspections and includes designing, utilizing conductors and/or supporting structures, and constructing distribution facilities that meet or exceed the company's current design criteria for the distribution system. The company will continue to appropriately address all poles identified through its Infrastructure Inspection Program.

Overhead to Underground Conversion of Interstate Highway Crossings: The continued focus of this activity is to harden limited access highway crossings to prevent the hindrance of first responders, emergency vehicles and others due to fallen distribution lines blocking traffic. The restoration of downed overhead power lines over interstate highways can be lengthy due to heavy traffic congestion following a major storm. Tampa Electric's current preferred construction standard requires all distribution line interstate crossings to be underground. Therefore, the company initially converted several overhead distribution line crossings to underground on major interstate highways. Through 2020, a total of 16 distribution crossings have been converted. Any remaining distribution interstate highway crossings will be converted to underground as part of the company's SPP or when construction and/or maintenance activities present opportunities.