



BEN ALBRITTON
President of the Senate

**STATE OF FLORIDA
OFFICE OF PUBLIC COUNSEL**

c/o THE FLORIDA LEGISLATURE
111 WEST MADISON ST.
SUITE 812
TALLAHASSEE, FLORIDA 32399-1400
850-488-9330

EMAIL: OPC_WEBSITE@LEG.STATE.FL.US
WWW.FLORIDAOPC.GOV



DANIEL PEREZ
*Speaker of the House of
Representatives*

March 12, 2025

Adam J. Teitzman, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

**Re: Docket No. 20250015-EI
Duke Energy Florida 2026-2035 Storm Protection Plan**

Dear Mr. Teitzman:

Please find enclosed for filing in the above referenced docket the Direct Testimony and Exhibits of Kevin J. Mara. This filing is being made via the Florida Public Service Commission's web-based electronic filing portal.

If you have any questions or concerns, please do not hesitate to contact me. Thank you for your assistance in this matter.

Sincerely,

Walt Trierweiler
Public Counsel

/s/Charles J. Rehwinkel
Charles J. Rehwinkel
Deputy Public Counsel
rehwinkel.charles@leg.state.fl.us

CERTIFICATE OF SERVICE
DOCKET NOS. 20250014-EI, 20250015-EI,
20250016-EI, and 20250017-EI

I **HEREBY CERTIFY** that a true and correct copy of the foregoing has been furnished by electronic mail on this 12th day of March, 2025, to the following:

Jacob Imig
Timothy Sparks
Jennifer Augspurger
Saad Farooqi
Carlos Marquez
Florida Public Service Commission
Office of General Counsel
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850
jimig@psc.state.fl.us
tsparks@psc.state.fl.us
jaugspur@psc.state.fl.us
sfarooqi@psc.state.fl.us
cmarquez@psc.state.fl.us
discovery-gcl@psc.state.fl.us

Kenneth A. Hoffman
Florida Power & Light Company
134 West Jefferson Street
Tallahassee, FL 32301-1713
ken.hoffman@fpl.com

Christopher T. Wright
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
christopher.wright@fpl.com

Dianne M. Triplett
Duke Energy Florida, LLC
299 First Avenue North
St. Petersburg, FL 33701
dianne.triplett@duke-energy.com

Matthew R. Bernier
Stephanie Cuello
Duke Energy Florida, LLC
106 East College Avenue, Suite 800
Tallahassee, FL 32301
matt.bernier@duke-energy.com
stephanie.cuello@duke-energy.com
FLRegulatoryLegal@duke-energy.com

J. Jeffrey Wahlen
Malcolm N. Means
Virginia Ponder
Ausley McMullen
P. O. Box 391
Tallahassee, FL 32302
jwahlen@ausley.com
mmeans@ausley.com
vponder@ausley.com

James W. Brew
Laura Wyn Baker
Sarah B. Newman
Stone Mattheis Xenopoulos & Brew
1025 Thomas Jefferson Street, NW
Suite 800 West
Washington, DC 20007-5201
jbrew@smxblaw.com
lwb@smxblaw.com
sbn@smxblaw.com

Robert Pickels
Duke Energy Florida, LLC
106 East College Avenue, Suite 800
Tallahassee, FL 32301-7740
robert.pickels@duke-energy.com

Paula K. Brown
Tampa Electric Company
P. O. Box 111
Tampa, FL 33601-0111
regdept@tecoenergy.com

Beth Keating
Gunster, Yoakley & Stewart, P.A.
215 South Monroe Street, Suite 601
Tallahassee, FL 32301-1839
bkeating@gunster.com

Mark Cutshaw
Florida Public Utilities Company
780 Amelia Island Parkway
Fernandina Beach, FL 32034
mcutshaw@fpuc.com

Michelle D. Napier
Florida Public Utilities Company
208 Wildlight Avenue
Yulee, FL 32097
mnapier@fpuc.com

Mike Cassel
Florida Public Utilities Company
208 Wildlight Avenue
Yulee, FL 32097
mcassel@fpuc.com

/s/ Charles J. Rehwinkel
Charles J. Rehwinkel
Deputy Public Counsel
Rehwinkel.charles@leg.state.fl.us

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Review of 2026-2035 Storm Protection Plan, pursuant to Rule 25-6.030, F.A.C., Florida Power & Light Company.

DOCKET NO.: 20250014-EI

In re: Review of 2026-2035 Storm Protection Plan, pursuant to Rule 25-6.030, F.A.C., Duke Energy Florida, LLC.

DOCKET NO.: 20250015-EI

In re: Review of 2026-2035 Storm Protection Plan, pursuant to Rule 25-6.030, F.A.C., Tampa Electric Company.

DOCKET NO.: 20250016-EI

In re: Review of 2026-2035 Storm Protection Plan, pursuant to Rule 25-6.030, F.A.C., Florida Public Utilities Company.

DOCKET NO.: 20250017-EI

FILED: March 12, 2025

DIRECT TESTIMONY

OF

KEVIN J. MARA, P.E.

ON BEHALF OF THE CITIZENS OF THE STATE OF FLORIDA

Walt Trierweiler
Public Counsel

Charles J. Rehwinkel
Deputy Public Counsel

Office of Public Counsel
c/o The Florida Legislature
111 West Madison Street, Suite 812
Tallahassee, FL 32399-1400
(850) 488-9330

*Attorneys for the Citizens
of the State of Florida*

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	DISCUSSION	6

EXHIBITS

Curriculum Vitae	KJM-1
FPL Response to OPC's First Set of Interrogatories, No. 25	KJM-2
Excerpt of TECO Exhibit KEP-1, Appendix I, pages 2, 57-58	KJM-3
DEF Response to OPC's First Set of Interrogatories, No. 52	KJM-4
DEF Response to Staff's First Set of Interrogatories, No. 7	KJM-5

1 **DIRECT TESTIMONY**

2 **OF**

3 **KEVIN J. MARA**

4 On Behalf of the Office of Public Counsel

5 Before the

6 Florida Public Service Commission

7 DOCKET NO: 20250015-EI

8
9 **I. INTRODUCTION**

10 **Q. WHAT IS YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS?**

11 A. My name is Kevin J. Mara. My business address is 1850 Parkway Place, Suite 800,
12 Marietta, Georgia 30067. I am the Executive Vice President of the firm GDS Associates,
13 Inc. ("GDS") and Principal Engineer for a GDS company doing business as Hi-Line
14 Engineering. I am a registered professional engineer (P.E.) in Florida and 22 additional
15 states.

16
17 **Q. PLEASE STATE YOUR PROFESSIONAL EXPERIENCE.**

18 A. I received a Bachelor of Science degree in Electrical Engineering from Georgia Institute
19 of Technology in 1982. Between 1983 and 1988, I worked at Savannah Electric and Power
20 as a distribution engineer designing new services to residential, commercial, and industrial
21 customers. From 1989-1998, I was employed by Southern Engineering Company as a
22 planning engineer providing planning, design, and consulting services for electric
23 cooperatives and publicly-owned electric utilities. In 1998, I, along with a partner, formed
24 a new firm, Hi-Line Associates, which specialized in the design and planning of electric
25 distribution systems. In 2000, Hi-Line Associates became a wholly owned subsidiary of

1 GDS Associates, Inc. and the name of the firm was changed to Hi-Line Engineering, LLC.
2 In 2001, we merged our operations with GDS Associates, Inc., and Hi-Line Engineering
3 became a department within GDS. I serve as the Principal Engineer for Hi-Line
4 Engineering and am Executive Vice President of GDS. I have field experience in the
5 operation, maintenance, and design of transmission and distribution systems. I have
6 performed numerous planning studies for electric cooperatives and municipal systems. I
7 have prepared short circuit models and overcurrent protection schemes for numerous
8 electric utilities. I have also provided general consulting, underground distribution design,
9 and territorial assistance.

10

11 **Q. PLEASE DESCRIBE GDS ASSOCIATES, INC.**

12 A. GDS is an engineering and consulting firm with offices in Marietta, Georgia; Austin,
13 Texas; Auburn, Alabama; Bedford, New Hampshire; Augusta, Maine; Orlando, Florida;
14 Folsom, California; Redmond, Washington; and Madison, Wisconsin. GDS has over 180
15 employees with backgrounds in engineering, accounting, management, economics,
16 finance, and statistics. GDS provides rate and regulatory consulting services in the electric,
17 natural gas, water, and telephone utility industries. GDS also provides a variety of other
18 services in the electric utility industry including power supply planning, generation support
19 services, financial analysis, load forecasting, and statistical services. Our clients are
20 primarily publicly owned utilities, municipalities, customers of privately-owned utilities,
21 groups or associations of customers, and government agencies.

22

23 **Q. HAVE YOU TESTIFIED BEFORE ANY REGULATORY COMMISSIONS?**

24 A. Yes, I have submitted testimony before the following regulatory bodies:

25 • Vermont Department of Public Service;

- Federal Energy Regulatory Commission (“FERC”);
- District of Columbia Public Service Commission;
- Public Utility Commission of Texas;
- Maryland Public Service Commission;
- Corporation Commission of Oklahoma;
- Public Service Commission of South Carolina; and
- Florida Public Service Commission.

I have also submitted expert opinion reports before United States District Courts in Alabama, California, South Carolina, and New Mexico.

Q. HAVE YOU PREPARED AN EXHIBIT DESCRIBING YOUR QUALIFICATIONS AND EXPERIENCE?

A. Yes. I have attached Exhibit KJM-1, which is a summary of my regulatory experience and qualifications.

Q. ON WHOSE BEHALF ARE YOU APPEARING?

A. GDS was retained by the Florida Office of Public Counsel (“OPC”) to provide technical assistance and expert testimony regarding review of the 2026-2035 Storm Protection Plan, pursuant to Rule 25-6.030, Florida Administrative Code (“F.A.C.”), of Duke Energy Florida, LLC (“DEF” or “Duke”). Accordingly, I am appearing on behalf of the Citizens of the State of Florida.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I am presenting my expert opinion regarding the reasonableness of DEF's proposed

1 2026 - 2035 Storm Protection Plan (“SPP” or “Plan”) and its consistency with the
2 applicable standards for the Commission to consider the SPP.

3 The fact that I do not address any specific element of the company’s SPP or address
4 any other particular issues in my testimony or am silent with respect to any portion of the
5 company’s direct testimony in this proceeding should not be interpreted as an approval of
6 any position taken by that company in the testimony to which I have had an opportunity to
7 respond.

8

9 **Q. WHAT INFORMATION DID YOU REVIEW IN PREPARATION OF YOUR**
10 **TESTIMONY?**

11 A. I reviewed the Company’s filing, including the direct testimony and exhibits. I also
12 reviewed the Company’s responses to OPC’s discovery (including deposition testimony),
13 the Company’s responses to the Florida Public Service Commission (“PSC” or
14 “Commission”) Staff’s discovery, and other materials pertaining to the SPP and its impacts
15 on the Company. In addition, I reviewed section 366.96, Florida Statutes (“F.S.”), which
16 requires the filing of the SPP and authorized the Commission to adopt the relevant rules,
17 including Rule 25-6.030, F.A.C., which addresses the Commission's approval of a
18 Transmission and Distribution SPP that covers a utility's immediate 10-year planning
19 period.

20

21 **Q. DID THE SCHEDULE IN THIS CASE IMPOSE LIMITATIONS ON YOUR**
22 **ABILITY TO FULLY ANALYZE THIS SPP FILING?**

23 A. Yes.

1 **Q. PLEASE EXPLAIN HOW THESE LIMITATIONS AFFECTED YOUR ANALYSIS**
2 **IN THIS CASE?**

3 A. The limitation in time did not allow adequate time for analysis of certain programs or to
4 follow up on Staff's Interrogatories related to reducing the activities of the SPP,
5 concurrently with the single round of written discovery we were able to propound to four
6 separate companies with minimal time to analyze the discovery, prepare for and take four
7 depositions and prepare four sets of testimony.

8

9 **Q. PLEASE DESCRIBE HOW THE REMAINDER OF YOUR TESTIMONY IS**
10 **ORGANIZED.**

11 A. I have focused my testimony on the Tower Upgrade program and the OHGW Upgrade
12 program proposed by DEF in the 2026 SPP. I also address the new program for Insulator
13 Upgrades. Finally, I will address the Legacy Storm Hardening programs.

14

15 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

16 A. In summary:

17 1. I recommend the new Insulator Upgrade program be excluded from the SPP for
18 non-compliance with the filing requirements.

19 2. I recommend the Tower Upgrade program be excluded from the SPP because this
20 program is a like for like replacement. Further, Tampa Electric and Florida Power
21 & Light ("FPL") do not include the cost of lattice tower replacement in their
22 respective SPP.

23 3. I recommend the Overhead Ground Wire Upgrade program be excluded from the
24 SPP because this program is simply replacing old overhead ground wire with

another conductor that serves the same purpose without any increase in performance of the transmission line during extreme weather events.

4. I recommend a reduction in the pace of the SPP which results in a reduction of 3.9% in the jurisdictional revenue requirements and therefore provides some level of rate relief for customers.

II. DISCUSSION

Q. WITH REGARD TO THE FLORIDA SUPREME COURT’S 2024 DECISION IN CITIZENS OF STATE V. FAY, 396 SO. 3D 549 (FLA. 2024), THAT A PRUDENCE OR COST EFFECTIVENESS DETERMINATION WAS NOT REQUIRED AND THUS NOT A PROPER SUBJECT OF INTERVENOR TESTIMONY, WAS THERE ANY ANALYSIS THAT YOU BELIEVED WAS THUS BARRED THAT WOULD HAVE OTHERWISE BEEN HELPFUL OR NECESSARY TO THE COMMISSION TO DETERMINE WHETHER THE SPP OF TECO IS IN THE PUBLIC INTEREST AND MEETS THE INTENT OF THE LEGISLATURE AS EXPRESSED IN THE SPP STATUTE?

A. Yes. Rule 25-6.030, F.A.C. (“SPP Rule”), sets forth comprehensive requirements for a Utility’s Storm Protection Plan. Specifically, Rule 25-6.030(3)(d)(1), F.A.C., and Rule 25-6.030(3)(d)(3), F.A.C., calls for benefit and cost estimates for each Program within the Plan, and Rule 25-6.030(3)(d)(4), F.A.C., calls for cost to benefit comparison for each Program. In light of the Florida Supreme Court’s interpretation of section 366.96, F.S., and the SPP Rule, I believe it is necessary for me to express my opinion that without the requirement of an up-front prudence or cost-effectiveness determination, consumers are at risk of exposure to runaway budgets and expenditures over the life of these plans. With no evidence allowed or taken on prudence or cost effectiveness, substantial changes in SPP

1 Programs and Program budgets may be overlooked and may not be considered resulting in
2 an increased burden on the rate payers. This scenario effectively cuts the Commission off
3 from determining whether enormous sums of money are being spent to achieve diminishing
4 returns both in the form of benefits to customers and in the interest of state of Florida as a
5 whole.

6

7 **Q. DO YOU HAVE AN UNDERSTANDING OF THE INFORMATION THE**
8 **COMMISSION USES TO EVALUATE A FILED SPP?**

9 A. Yes. In PSC ruling for the prior SPP, the PSC states the information used to evaluate a plan
10 is contained in Subsection 366.96(4), F.S., which provides:

11 (4) In its review of each transmission and distribution storm
12 protection plan filed pursuant to this section, the commission shall
13 consider:

14

15 (a) The extent to which the plan is expected to reduce
16 restoration costs and outage times associated with
17 extreme weather events and enhance reliability,
18 including whether the plan prioritizes areas of lower
19 reliability performance.

20

21 (b) The extent to which storm protection of transmission and
22 distribution infrastructure is feasible, reasonable, or
23 practical in certain areas of the utility's service territory,
24 including, but not limited to, flood zones and rural areas.

25

26 (c) The estimated costs and benefits to the utility and its
27 customers of making the improvements proposed in the
28 plan.

29

30 (d) The estimated annual rate impact resulting from
31 implementation of the plan during the first 3 years
32 addressed in the plan.¹

¹ Docket No. 20220048-EI, Order No. PSC-2022-0388-FOF-EI, p. 6., Docket No. 20220051-EI Order No. PSC-2022-0389-FOF-EI, p. 6, Docket No. 20220049-EI, Order No. PSC-2022-0387-FOF-EI, p. 5., and Docket No. 20220050-EI, Order No. PSC-2022-0388-FOF-EI, p. 6.

1 **Q. WHAT ELEMENTS DOES RULE 25-6.030(3), F.A.C., REQUIRE FOR A**
2 **PROGRAM TO BE INCLUDED IN SPP?**

3 A. Rule 25-6.030(3), F.A.C, requires a utility to provide the following key components:
4 a description of the utility's service area, including areas prioritized for enhancement and
5 any areas where the utility determined that enhancement of the utility's existing
6 transmission and distribution facilities would not be feasible, reasonable, or practical.²

7 Each SPP must contain:

8 (a) A description of how implementation of the proposed Storm Protection
9 Plan will strengthen electric utility infrastructure to withstand extreme
10 weather conditions...

11
12 (b) A description of how implementation of the proposed Storm Protection
13 Plan will reduce restoration costs and outage times associated with
14 extreme weather conditions...

15
16 (c) A description of the utility's service area, including areas prioritized for
17 enhancement and any areas where the utility has determined that
18 enhancement of the utility's existing transmission and distribution
19 facilities would not be feasible, reasonable, or practical. Such
20 description must include:

- 21
22 • A general map of the area under consideration,
23 • The number of customers served within each area,
24 • Reasoning for areas prioritized for enhancement, and
25 • Reasoning for areas deemed not suitable for enhancement.
26

27 (d) A description of each proposed storm protection program that includes:

- 28
29 1. A description of how each proposed storm protection program is
30 designed to enhance the utility's existing transmission and
31 distribution facilities including an estimate of the resulting reduction
32 in outage times and restoration costs due to extreme weather
33 conditions;
34
35 2. If applicable, the actual or estimated start and completion dates of
36 the program;
37
38 3. A cost estimate including capital and operating expenses;
39
40 4. A comparison of the costs identified in subparagraph (3)(d)3. and
41 the benefits identified in subparagraph (3)(d)1.; and

² Docket No. 20220050-EI, Order No. PSC-2022-0388-FOF-EI, p. 6.

1 5. A description of the criteria used to select and prioritize proposed
2 storm protection programs.
3

4 **Q. DOES DEF'S NEW LINE INSULATOR UPGRADES PROGRAM MEET THE**
5 **REQUIREMENTS SET FORTH IN RULE 25-6.030, F.A.C.?**

6 A. No. DEF did not indicate the number of customers affected by the program. Also DEF
7 did not indicate prioritization other than "based on inspection" and weather modeling. I
8 would note that weather modeling does provide an indication of corrosion.
9

10 **Q. IN YOUR OPINION SHOULD THE LINE INSULATOR UPGRADES PROGRAM**
11 **BE INCLUDED IN THE SPP?**

12 A. No. This program replaces a system component with another component with similar
13 strength and purpose. In my opinion, this is not an upgrade. Rather DEF is proposing to
14 replace insulator strings that are prone to corrosion which DEF installed in the salt/humid
15 environment. The following image is an example of pin erosion.



Photo Source:
<https://www.inmr.com/comparing-failure-modes-of-line-insulators/>

1 **Q. IS IT YOUR UNDERSTANDING THAT DEF WILL BE REPLACING**
2 **TRANSMISSION POST INSULATORS?**

3 A. No. The description of the program does not address post insulators. However, DEF shows
4 a photograph of a post insulator, implying replacement of these components, on page 39
5 of 56 of the 2026 SPP.

6

7 **Q. REGARDING DEF’S NEW LINE INSULATOR UPGRADES PROGRAM, DID**
8 **DEF PROVIDE AN ESTIMATED COST FOR THE PROGRAM AS REQUIRED**
9 **IN RULE 25-6.030, F.A.C.?**

10 A. No. There is not a separate cost for the insulator replacement program. DEF provides an
11 estimate for all the “transmission hardening” programs combined into one program. But
12 realistically these are not subprograms but rather individual programs which should be
13 justified based on their individual merits. Therefore, no, DEF did not provide a cost for
14 the insulator replacement program.

15

16 **Q. REGARDING DEF’S NEW LINE INSULATOR UPGRADES PROGRAM, DID**
17 **DEF PROVIDE A COMPARISON OF COSTS AND BENEFITS FOR THE**
18 **PROGRAM AS REQUIRED IN RULE 25-6.030, F.A.C.?**

19 A. No. DEF did not provide a comparison of costs and benefits for the new program. The
20 only comparison was for the entire transmission hardening program. But since DEF
21 bundled the line insulator program into the larger group, it is not possible to make a
22 comparison necessary for the PSC to determine if implementation of the program is in the
23 public interest.

1 **Q. CAN YOU DESCRIBE THE TOWER UPGRADE SUB-PROGRAM?**

2 A. Yes, the Tower Upgrade program contains upgrade activities which will replace towers.
3 The term tower, as used by DEF for this program can also be described as a lattice steel
4 tower. In the 2023 SPP, DEF identified 700 towers for replacement³ and in the current
5 SPP DEF now states there are 2,000 towers to replace.⁴ DEF stated that the number of
6 towers to be replaced has not changed since the 2023 SPP and remains at 720 towers.⁵

7
8 **Q. DO YOU HAVE AN OPINION ON THE NEED TO REPLACE TOWERS?**

9 A. Yes. The replacement of towers is a like-for-like replacement. This is different than
10 replacing a wood transmission pole with a metal or concrete pole with greater resiliency to
11 extreme winds. Witness Lloyd stated that the, “new tower is going to be brought up to the
12 current standards as defined by NESC 2023 and ASCE 74.”⁶ However, transmission lines
13 have been required by the NESC to be built for extreme wind events since at least 1977.⁷
14 If age is a criterion and the towers are beyond their useful life, then replacement of the
15 towers is an aging infrastructure project and therefore should not be included in the SPP.
16 Replacing towers with new towers that meet the same weather loading condition will not
17 add to resiliency. If the tower design was flawed, it would have been imprudent for DEF
18 to have originally constructed the tower in which case the cost should also be denied from
19 the SPP.

20

21 **Q. WHAT IS YOUR UNDERSTANDING OF LATICE TOWER REPLACEMENT BY**
22 **OTHER UTILITIES IN FLORIDA?**

³ Docket No. 20220050-EI, Witness: Lloyd Exhibit No. BML-1, Page 40 of 56.

⁴ See Revised Exhibit BML-1, p. 40 of 56.

⁵ See Exhibit KJM-4, DEF Response to OPC’s First Set of Interrogatories, No. 52.

⁶ Deposition of Brian Lloyd, March 5, 2025, p. 46, lines 8-11.

⁷ 2017 NESC Handbook, Fourth Edition, IEEE Standard Press, August 1, 2016 (“NESC”).

1 A. My understanding is the Florida Power & Light (FPL) does not include the replacement of
2 lattice tower in their SPP. These costs are included in base rates for FPL.⁸ Tampa Electric
3 noted they have 209 lattice towers and Tampa Electric does not include any costs for
4 upgrades or replacements of these towers in the SPP. Instead, Tampa Electric also includes
5 these costs in base rates.⁹

6

7 **Q. WHAT ABOUT REPLACEMENT OF OLD LATTICE TOWERS, SHOULD**
8 **THESE BE INCLUDED IN THE SPP?**

9 A. No. Replacing a tower with another tower of the same strength does not increase resiliency.
10 Rather it simply maintains the status quo in terms of strength. In order to meet Rule 25-
11 6.030, F.A.C., a program must have a “purpose of reducing restoration costs and reducing
12 outage times associated with extreme weather conditions therefore improving overall
13 service reliability.”¹⁰

14 Clearly replacing new towers with the same strength and same materials is not a
15 clear improvement in outage costs or times, therefore, the project does not meet the
16 requirements of Rule 25-6.030(3)(a), F.A.C.¹¹

17 I recommend that this program be eliminated from the SPP.

18

19 **Q. CAN YOU DESCRIBE THE OVERHEAD GROUND WIRE (“OHGW”) SUB-**
20 **PROGRAM?**

21 A. Yes, the sub-program replaces deteriorated overhead ground wires. DEF proposes
22 installing a new OHGW equipped with a fiber optic cable embedded in the OHGW.¹²

⁸ See Exhibit KJM-2, FPL Response to OPC’s First Set of Interrogatories, No. 25.

⁹ See Exhibit KJM-3, Excerpt of Exhibit No. KEP-1, Appendix I, pages 2, 57-58 of 58.

¹⁰ Rule 25-6.030 (2)(a), F.A.C.

¹¹ Rule 25-6.030 (3)(a), F.A.C.

¹² See Revised Exhibit BML-1, page 38 of 56.

1 **Q. DOES THIS SUB-PROGRAM OF REPLACING OHGW IMPROVE RESILIENCY**
2 **AND REDUCE RESTORATION COSTS?**

3 A. No. DEF has a duty to maintain its systems within the strength requirements of the NESC.
4 If the OHGW is deteriorated, it should be replaced. The replaced conductor does not add
5 strength or resiliency compared to the original well-maintained structure. Thus, there will
6 be no reduction in outage restoration costs and no reduction in the outage times. This is
7 simply an aging infrastructure replacement sub-program. DEF is adding fiber optic
8 OHGW which adds communication capabilities which may or may not be used. In fact,
9 from my experience, most new transmission lines have fiber optic OHGW installed as
10 standard design. For fiber optic cable to be used and useful it must be integrated into a
11 system of fiber optic cables and have data flowing over the newly installed fiber optic
12 cable. The focus of the sub-program is replacing deteriorated OHGW. Fiber Optic OHGW
13 is a minor side benefit.

15 **Q. WHAT IS YOUR RECOMMENDATION FOR THE OVERHEAD GROUND WIRE**
16 **SUB-PROGRAM?**

17 A. I recommend eliminating this program from the 2026 SPP. The sub-program does not meet
18 the requirements in Rule 25-6.030(3)(a), F.A.C., for reducing outage restoration costs and
19 reducing outage times. The new OHGW will meet the same NESC loading limits for
20 extreme wind, so there is no increase in strength and thus no reduction in restoration costs.
21 Any improvement in communication speed is only a side benefit of the program. If
22 communication improvement was the primary purpose of the program, then the priority for
23 replacing the existing OHGW would not be the condition of the existing wire but rather
24 creating improved paths for communication.

1 **Q. IN RESPONSE TO STAFF’S FIRST SET OF INTERROGATORIES 1-7, DEF**
2 **PROVIDED THE IMPACTS TO CUSTOMERS IF THE PACE OF THE SPP WAS**
3 **REDUCED. WHAT IS YOUR OPINION OF SLOWING THE DOWN THE PACE**
4 **OF THE SPP?**

5 A. Staff inquired about reducing the SPP by the following parameters:

- 6 1. The number of feeders to be hardened from 120 feeders to 105 feeders,
- 7 2. Lateral hardening from 130 laterals per year to 122 laterals per year, and
- 8 3. Limiting transmission structure upgrades to 462 structures per year.

9 DEF responded with estimated annual jurisdictional revenue requirements for the years
10 2026 to 2031. I totaled the revenue requirements for 2026 to 2028, which is \$1,279
11 million.¹³ This is a reduction of 3.9% from the jurisdictional revenue requirements from
12 the Revised Exhibit BML-1.¹⁴ In my opinion, this reduction in the pace will not materially
13 affect the response to major events in the near term and will make electric service for all
14 DEF customers more affordable.

15

16 **Q. DOES THIS COMPLETE YOUR PREFILED TESTIMONY?**

17 A. Yes, it does.

¹³ See Exhibit KJM-5, DEF Response to Staff’s First Set of Interrogatories, No. 7.

¹⁴ See Revised Exhibit BML-1, page 56 of 56.



KEVIN MARA

EXECUTIVE VICE PRESIDENT &
PRINCIPAL ENGINEER, P.E.

Docket No. 20250015-EI
Curriculum Vitae
Exhibit KJM-1
Page 1 of 6



PROFILE

Mr. Mara has over 30 years of experience as a distribution engineer. He worked six years at Savannah Electric as a Distribution Engineer and ten years with Southern Engineering Company as a Project Manager. At Savannah Electric, Mr. Mara gained invaluable field experience in the operation, maintenance, and design of transmission and distribution systems. While at Southern Engineering, Mr. Mara performed planning studies, general consulting, underground distribution design, territorial assistance, and training services. Presently, Mr. Mara is a Vice President at GDS Associates, Inc. and serves as the Principal Engineer for GDS Associates' engineering services company known as its trade name Hi-Line Engineering.

Overhead Distribution System Design. Mr. Mara is in responsible charge of the design of distribution lines for many different utilities located in a variety of different terrains and loading conditions. Mr. Mara is in responsible charge of the design of over 500 miles of distribution line conversions, upgrades, and line re-insulation each year. Many of these projects include acquisition of right-of-way, obtaining easements, and obtaining permits from various local, state and federal agencies. In addition, Mr. Mara performs inspections at various stages of completion of line construction projects to verify compliance of construction and materials with design specifications and applicable codes and standards.

Underground Distribution System Design. Mr. Mara has developed underground specifications for utilities and was an active participant on the Insulated Conductor Committee for IEEE. He has designed underground service to subdivisions, malls, commercial, and industrial areas in various terrains. These designs include concrete-encased ductlines, direct-burial, bridge attachments, long-bores, submarine, and tunneling projects. He has developed overcurrent and overvoltage protection schemes for underground systems for a variety of clients with different operating parameters.

TRAINING SEMINARS

Mr. Mara has developed engineering training courses on the general subject of distribution power line design. These seminars have become extremely popular with more than 25 seminars being presented annually and with more than 4,000 people having attended seminars presented by Mr. Mara. A 3-week certification program is offered by Hi-Line Engineering in eleven states. The following is a list of the training material developed and/or presented:

- Application and Use of the National Electric Safety Code
- How to Design Service to Large Underground Subdivisions
- Cost-Effective Methods for Reducing Losses/Engineering Economics
- Underground System Design
- Joint-Use Contracts – Anatomy of Joint-Use Contract
- Overhead Structure Design
- Easement Acquisition
- Transformer Sizing and Voltage Drop

Construction Specifications for Electric Utilities. Mr. Mara has developed overhead construction specifications including overhead and underground systems for several different utilities. The design included overcurrent protection for padmounted and pole mounted transformers. The following is a representative list of past and present clients:

- | | |
|--|------------------------------------|
| - Cullman EMC, Alabama | - Three Notch EMC, Georgia |
| - Blue Ridge EMC, South Carolina | - Little River ECI, South Carolina |
| - Buckeye Rural Electric Cooperative, Ohio | - Lackland Air Force Base |
| | - Maxwell Air Force Base |

CONTACT

770-425-8100
Kevin.mara@gdsassociates.com
gdsassociates.com
Marietta GA 30067

EDUCATION

Bachelor of Science, Electrical Engineering, Georgia Institute of Technology, 1982

PROFESSIONAL AFFILIATIONS / CERTIFICATIONS

Registered Professional Engineer in Alabama, Arkansas, Georgia, Florida, Idaho, Indiana, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Missouri, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Virginia, Washington, and Wisconsin.

Institute of Electrical and Electronic Engineers Power Engineering Society: Senior Member

National Electric Safety Code Subcommittee 5: Alternate Member

Past Member: Insulated Conductor Committee

EXPERTISE

Overhead & Underground Distribution Design

Distribution System Planning

Power System Modeling & Analysis Training



www.gdsassociates.com

KEVIN MARA

EXECUTIVE VICE PRESIDENT &
PRINCIPAL ENGINEER, P.E.

Docket No. 20250015-EI
Curriculum Vitae
Exhibit KJM-1
Page 2 of 6

CONTACT

-  770-425-8100
-  Kevin.mara@gdsassociates.com
-  gdsassociates.com
-  Marietta GA 30067

SYSTEM PRIVATIZATION/EVALUATION

Central Electric Power Cooperative, Columbia, SC

- 2017 Independent Certification of Transmission Asset Valuation, Silver Bluff to N. Augusts 115kV
- 2015 Independent Certification of Transmission Asset Valuation, Wadmalaw 115kV

Choctawhatchee Electric Cooperative, DeFuniak Springs, FL

- Inventory and valuation of electrical system assets at Eglin AFB prior to 40-year lease to private-sector entity.

PUBLICATIONS

- Co-author of the NRECA “Simplified Overhead Distribution Staking Manual” including editions 2, 3 and 4.
- Author of “Field Staking Information for Overhead Distribution Lines”
- Author of four chapters of “TVPPA Transmission and Distribution Standards and Specifications”

TESTIMONIES & DEPOSITIONS

Mr. Mara has testified as an expert at trial or by deposition in the following actions.

- *Deposition related to condemnation of property*, Newberry ECI v. Fretwell, 2005, State of South Carolina
- *Testimony in Arbitration regarding territory dispute*, Newberry ECI v. City of Newberry, 2003, State of South Carolina, Civil Action No. 2003-CP-36-0277
- *Expert Report and Deposition, 2005*, United States of America v. Southern California Edison Company, Case No CIV F-o1-5167 OWW DLB
- *Expert Report and Deposition, 2005*, Contesting a transmission condemnation, Moore v. South Carolina Electric and Gas Company, United States District Court of South Carolina, Case No. 1:05-1509-MBS
- *Affidavit October 2007*, FERC Docket No. ER04-1421 and ER04-1422, Intervene in Open Access Transmission Tariff filed by Dominion Virginia Power
- *Affidavit February 26, 2008*, FERC Docket No. ER08-573-000 and ER08-574-000, Service Agreement between Dominion Virginia Power and WM Renewable Energy, LLC
- *Direct Filed Testimony* date December 15, 2006, before the Public Utility Commission of Texas, SOAH Docket No 473-06-2536, PUC Docket No. 32766
- *Expert Report and Direct Testimony* April 2008, United States Tax Court, Docket 25132-06, Entergy Corporation v. Commissioner Internal Revenue
- *Direct Testimony* September 17, 2009, Public Service Commission of the District of Columbia, Formal Case 1076, Reliability Issues
- *Filed Testimony regarding the prudence of hurricane restoration costs on behalf of the City of Houston, TX*, 2009, Cozen O’Connor P.C., TX PUC Docket No. 32093 – Hurricane Restoration Costs
- *Technical Assistance and Filed Comments regarding line losses and distributive generation, interconnection issues*, 2011, Office of the Ohio Consumer’s Counsel, OCC Contract 1107, OBM PO# 938 for Energy Efficiency T & D



KEVIN MARA

EXECUTIVE VICE PRESIDENT &
PRINCIPAL ENGINEER, P.E.

Docket No. 20250015-EI
Curriculum Vitae
Exhibit KJM-1
Page 3 of 6

CONTACT

770-425-8100
Kevin.mara@gdsassociates.com
gdsassociates.com
Marietta GA 30067

TESTIMONIES & DEPOSITIONS [continued]

- *Technical Assistance, Filed Comments, and Recommendations evaluating Pepco's response to Commission Order 15941* concerning worst reliable feeders in the District of Columbia, 2011, 2012 Office of the People's Counsel of the District of Columbia, Formal Case No. 766
- *Technical Assistance, Filed Comments, and Recommendations on proposed rulemaking by the District of Columbia PSC amending the Electric Quality of Service Standards (EQSS)*, 2011, Office of the People's Counsel of the District of Columbia, Formal Case No. 766
- *Yearly Technical Review, Filed Comments, and Recommendations evaluating Pepco's Annual Consolidated Report* for 2011 through 2024, Office of the People's Counsel of the District of Columbia, Formal Case Nos. 766; 766-ACR; PEPACR(YEAR)
- *Technical Evaluation, Filed Comments, and Recommendations evaluating Pepco's response to a major service outage occurring May 31, 2011.* (2011), Office of the People's Counsel of the District of Columbia, Formal Case Nos. 766 and 1062
- *Technical Assistance, Filed Comments, and Recommendations evaluating Pepco's response to Commission Order 164261 concerning worst reliable neighborhoods in the District of Columbia*, 2011, Office of the People's Counsel of the District of Columbia, Formal Case No. 766
- *Technical Review, Filed Comments, and Recommendations on Pepco's Incident Response Plan (IRP) and Crisis Management Plan (CMP)*, 2011, Office of the People's Counsel of the District of Columbia
- Formal Case No. 766
- *Technical Assistance, Filed Comments, and Recommendations assessing Pepco's Vegetation, Management Program and trim cycle* in response to Order 16830, 2012, Office of the People's Counsel of the District of Columbia, Formal Case No. 766
- *Technical Review, Filed Comments, and Recommendations on Pepco's Secondary Splice Pilot Program* in response to Order 16426, 2012, Office of the People's Counsel of the District of Columbia, Formal Case No. 766 and 991
- *Technical Review, Filed Comments, and Recommendations on Pepco's Major Storm Outage Plan (MSO)*, 2012 – active, Office of the People's Counsel of the District of Columbia, Formal Case No. 766
- *Technical Assistance and Direct Filed Testimony for fully litigated rate case*, 2011-2012, Office of the People's Counsel of the District of Columbia, Formal Case No. 1087 – Pepco 2011 Rate Case, Hearing transcript date: February 12, 2012.
- *Evaluation of and Filed Comments on Pepco's Storm Response*, 2012, Office of the People's Counsel of the District of Columbia, Storm Dockets SO-02, 03, and 04-E-2012
- *Technical Assistance and Direct Filed Testimony for fully litigated rate case*, 2013 – 2014, Office of the People's Counsel of the District of Columbia, Formal Case No. 1103 – Pepco 2013 Rate Case. Hearing transcript date: November 6, 2013.
- *Evaluation of and Filed Comments on Prudency of 2011 and 2012 Storm Costs*, 2013 – 2014, State of New Jersey Division of Rate Counsel, BPU Docket No. AX13030196 and EO13070611



KEVIN MARA

EXECUTIVE VICE PRESIDENT &
PRINCIPAL ENGINEER, P.E.

Docket No. 20250015-EI
Curriculum Vitae
Exhibit KJM-1
Page 4 of 6

CONTACT

770-425-8100
Kevin.mara@gdsassociates.com
gdsassociates.com
Marietta GA 30067

TESTIMONIES & DEPOSITIONS [continued]

- *Technical Assistance and Direct Filed Testimony for DTE Acquisition of Detroit Public Lighting Department*, 2013 – 2014, Office of the State of Michigan Attorney General, Docket U-17437, Evaluation of and Filed Comments on the Siemens Management Audit of Pepco System Reliability and the Liberty Management Audit, 2014, Office of the People's Counsel of the District of Columbia, Formal Case No. 1076
- *Expert witness for personal injury case*, District of Columbia, Koontz, McKenney, Johnson, DePaolis & Lightfoot LLP, Ghafoorian v Pepco 2013 – 2016, Plaintive expert assistance regarding electric utility design. operation of distribution systems and overcurrent protection systems.
- *Technical Assistance and Direct Filed Testimony in the Matter of the Application for approval of the Triennial Underground Infrastructure Improvement Projects Plan*, 2014 – 2017, Office of the People's Counsel of the District of Columbia, Formal Case No. 1116
- *Technical Assistance and Direct Filed Testimony in the Matter of the Merger of Exelon Corporation, Pepco Holdings, Inc., Potomac Electric Power Company, Exelon Energy Delivery Company, LLC and New Special Purpose Entity, LLC*, 2014 – 2016, Office of the People's Counsel of the District of Columbia, Formal Case No. 1119. Hearing transcript date: April 21, 2015.
- *Technical Assistance to Inform and advise the OPC in the matter of the investigation into modernizing the energy delivery system for increased sustainability*. 2015 – active, Office of the People's Counsel of the District of Columbia, Formal Case No 1130.
- *Technical Assistance and Direct Filed Testimony in the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc.*, 2014 – 2016, State of Maryland and the Maryland Energy Administration, Case No. 9361.
- *Technical Assistance and Direct Filed Testimony for fully litigated rate case*, 2015 – 2016, State of Oklahoma Office of the Attorney General, Cause No. PUD 201500273 - OG&E 2016 Rate Case, Hearing transcript date: May 17, 2016.
- *Technical Assistance and Filed Comments on Notice of Inquiry, The Commission's Investigation into Electricity Quality of Service Standards and Reliability Performance*, 2016 – 2018, Office of the People's Counsel of the District of Columbia, Formal Case No. 1076; RM36-2016-01-E.
- *Technical Assistance and Direct Filed Testimony for fully litigated rate case*, 2016 – 2017, Office of the People's Counsel of the District of Columbia, Formal Case No. 1139 – Pepco 2016 Rate Case. Hearing transcript date: March 21, 2017.
- *Technical Assistance in the Matter of the Application for approval of the Biennial Underground Infrastructure Improvement Projects Plan*, 2017- active, Office of the People's Counsel of the District of Columbia, Formal Case No. 1145
- *Technical Assistance to Inform and advise the OPC Regarding Pepco's Capital Grid Project*, 2017 – active, Office of the People's Counsel of the District of Columbia, Formal Case No. 1144. Confidential Comments and Confidential Affidavit filed November 29, 2017.
- *Expert witness for personal injury case Mecklenburg County, NC, Tin, Fulton, Walker & Owen, PLLC, Norton v Duke, Witness testimony* December 1, 2017, Technical assistance and pre-filed Direct Testimony on behalf of the Joint Municipal Intervenors in a rate case before the Indiana Utility Regulatory Commission, Cause No. 44967. Testimony filed November 7, 2017.
- *Prefiled Direct Testimony and Prefiled Surrebuttal Testimony on behalf of the Vermont Department of Public Service in a case before the State of Vermont Public Utility Commission, Tariff Filing of Green Mountain Power Corp.*, Case No. 18-0974-TF. Direct Testimony Filed August 10, 2018. Surrebuttal Testimony Filed October 8, 2018.



KEVIN MARA

EXECUTIVE VICE PRESIDENT &
PRINCIPAL ENGINEER, P.E.

Docket No. 20250015-EI
Curriculum Vitae
Exhibit KJM-1
Page 5 of 6

CONTACT

770-425-8100
Kevin.mara@gdsassociates.com
gdsassociates.com
Marietta GA 30067

TESTIMONIES & DEPOSITIONS [continued]

- *Technical assistance and pre-filed Direct Testimony on behalf of McCord Development, Inc. and Generation Park Management District against CenterPoint Energy Houston Electric, LLC in a case before the State Office of Administrative Hearings of Texas, TX PUC Docket No. 48583. Direct Testimony filed April 5, 2019.*
- *Technical Assistance, Direct Filed Testimony, Rebuttal Testimony, Surrebuttal Testimony, and Supplemental Testimony for fully litigated rate case, 2019 – active, Office of the People's Counsel of the District of Columbia, Formal Case No. 1156 – Pepco 2019 Rate Case. Direct Testimony Filed March 6, 2020. Rebuttal Testimony Filed April 8, 2020. Surrebuttal Testimony Filed June 1, 2020. Supplemental Testimony filed July 27, 2020.*
- *Technical assistance and pre-filed Direct Testimony on behalf of The State of Florida Public Counsel for Review of 2020-2029 Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Docket No. 20200071-EI, Gulf Power SPP. Direct Testimony filed May 26, 2020, Florida Power & Light Company SPP. Direct Testimony filed May 28, 2020.*
- *Prefiled Direct Testimony on behalf of the Vermont Department of Public Service in a case before the State of Vermont Public Utility Commission, Petition of Green Mountain Power for approval of its climate Plan pursuant to the Multi-Year Regulation Plan, Case No. 20-0276-PET. Direct Testimony Filed May 29, 2020.*
- *Technical assistance and Filed Comments on behalf of East Texas Electric Cooperative on a Proposal for Publication by the Public Utility Commission of Texas on Project 51841 Review of 16 TAC § 25.53 Relating to Electric Service Emergency Operations Plans, Project 51841. Comments filed January 4, 2022.*
- *Technical assistance, filed affidavit and direct testimony on behalf of Bloomfield, NM in an action concerning Bloomfield's exercise of its right to acquire from Farmington the electric utility system serving Bloomfield, Bloomfield v Farmington, NM. State of New Mexico, County of San Juan, Eleventh Judicial District Court Action No. D-1116-CV-1959-07581.*
- *Technical assistance and pre-filed Direct Testimony on behalf of Sawnee EMC in a territorial dispute with Electrify America, Public Service Commission State of Georgia, Sawnee Electric Membership Corporation v Georgia Power Corporation, Docket No. 43899. Direct Testimony Filed September 9, 2021*
- *Prefiled Direct Testimony on behalf of the Vermont Department of Public Service in a case before the State of Vermont Public Utility Commission, Petition of Green Mountain Power for approval of a Multi-Year Rate Plan pursuant to 30 V.S.A. Sections 209, 218, and 218d, Case No. 21-3707-PET. Direct Testimony Filed April 20, 2022.*
- *Technical assistance and pre-filed Direct Testimony on behalf of The State of Florida Public Counsel for Review of Storm Protection Plans pursuant to Rule 25-6.030, F.A.C., all testimony filed May 31, 2022*
 - Docket No. 20220048-EI Tampa Electric Company
 - Docket No. 20220049-EI Florida Public Utilities Company
 - Docket No. 20220050-EI Duke Energy Florida
 - Docket No. 20220051-EI Florida Power & Light
- *Technical assistance and pre-filed Direct Testimony on behalf of The State of Florida Public Counsel for Review of Storm Protection Plan Cost Recovery Clause, Docket No. 20220010-EI. Testimony filed September 2, 2022*

KEVIN MARA

EXECUTIVE VICE PRESIDENT &
PRINCIPAL ENGINEER, P.E.

Docket No. 20250015-EI
Curriculum Vitae
Exhibit KJM-1
Page 6 of 6

CONTACT

 770-425-8100
 Kevin.mara@gdsassociates.com
 gdsassociates.com
 Marietta GA 30067

TESTIMONIES & DEPOSITIONS [continued]

- *Prefiled Direct Testimony on behalf of the Vermont Department of Public Service in a case before the State of Vermont Public Utility Commission, Petition of Green Mountain Power for approval of its zero outages initiative as a strategic opportunity pursuant to 30 V.S.A. § 218d and GMP's multi-year rate plan, Case No. 23-3501-PET. Direct Testimony Filed March 15, 2021.*
- *Prefiled Direct Testimony and Rebuttal Testimony on behalf of South Carolina Office of Regulatory Staff with the Public Service Commission of South Carolina, regarding Duke Energy Carolinas, LLC's Application for Increase in Electric Rates, Adjustments in Electric Rate Schedules and Tariffs, and Request for an Accounting Order, Docket No. 2023-388-E and 2023-403-E. Direct Testimony Filed April 8, 2024. Rebuttal Testimony Filed April 29, 2024.*
- *Technical assistance and pre-filed Direct Testimony on behalf of The State of Florida Public Counsel in a case before the Florida Public Service Commission, Petition for Rate Increase by Duke Energy Florida, LLC, Docket No. 20240025-EI. Direct Testimony filed June 11, 2024.*
- *Technical assistance and pre-filed Direct Testimony on behalf of The State of Florida Public Counsel in a case before the Florida Public Service Commission, Petition for Rate Increase by Tampa Electric Company, Docket No. 20240026-EI. Direct Testimony filed June 6, 2024.*



Florida Power & Light Company
Docket No. 20250014-EI
OPC's First Set of Interrogatories
Interrogatory No. 25
Page 1 of 1

QUESTION:

Does FPL's Transmission Hardening Program include replacement of lattice steel transmission towers? If so, please provide the cost per year for tower replacement from 2021-2024.

RESPONSE:

No. FPL's 2026 SPP does not include the replacements of lattice steel transmission towers as part of its Transmission Hardening Program, which is a continuation of the Transmission Hardening Program in FPL's Commission approved 2023 SPP.

DECLARATION

I Michael Jarro, sponsor the answers to Interrogatory Nos. 1-7 and 9-32 and co-sponsor the answer to Interrogatory No. 8 from OPC's First Set of Interrogatories to Florida Power & Light Company in Docket No. 20250014-EI, and the responses are true and correct based on my personal knowledge.

Under penalties of perjury, I declare that I have read the foregoing declaration, and the interrogatory answers identified above, and that the facts stated therein are true.



Michael Jarro

Date: 2/25/25

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20250016-EI
EXHIBIT NO. KEP-1
WITNESS: PALLADINO
APPENDIX I
PAGE 2 OF 84
FILED: 01/15/2025**



2026-2035 STORM PROTECTION PLAN RESILIENCE BENEFITS REPORT

TAMPA ELECTRIC COMPANY

TAMPA ELECTRIC COMPANY RESILIENCE PLAN
PROJECT NO. 162728

January 9, 2025

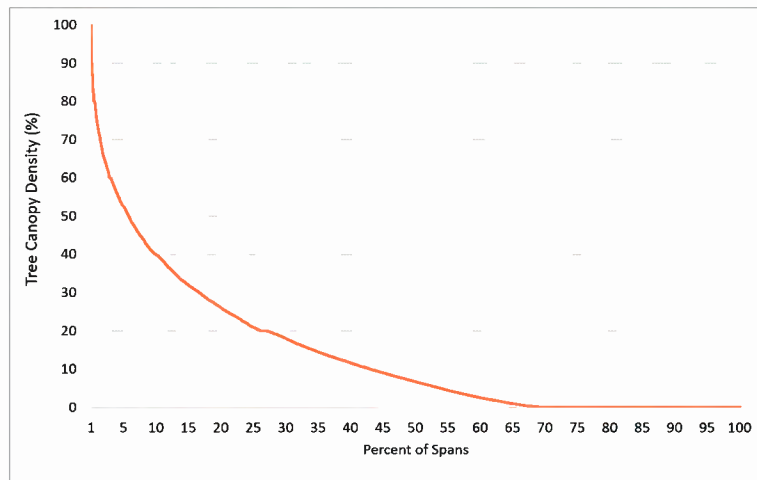
TAMPA ELECTRIC COMPANY
DOCKET NO. 20250016-EI
EXHIBIT NO. KEP-1
WITNESS: PALLADINO
APPENDIX I
PAGE 58 OF 84
FILED: 01/15/2025

SPP Assessment & Benefits Report

Revision 0

Storm Impact Model

Figure 4-3: Vegetation Density on TEC Transmission Conductor



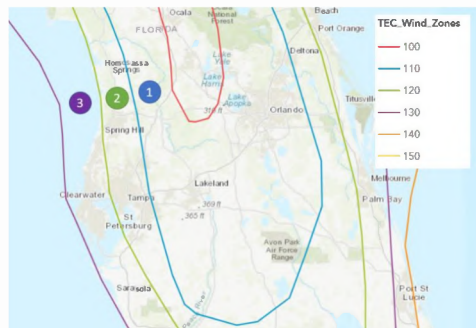
4.1.5 Wood Pole Inspection Data

A compromised, or semi-compromised, pole will fail at lower dynamic load levels than poles with their original design strength. The Storm Impact Model utilizes wood pole inspection data within the 1898 & Co. asset health algorithm to calculate an Asset Health Index and 'effective' age for each pole. Section 4.2.2 outlines the approach for using the 'effective' age for assets to calculate the age and condition-based LOF.

4.1.6 Wind Zone

A third driver of storm-based failure is the asset's location with respect to wind speeds. Wind zones have been created across the United States for infrastructure design purposes. The National Electric Safety Code (NESC) provides wind and ice loading zones. The zones show that wind speeds are typically higher closer to the coast and lower the further inland as shown in the adjacent figure. The Storm Impact Model

utilizes the provided wind zone data from the public records and the asset geospatial



**TAMPA ELECTRIC COMPANY
DOCKET NO. 20250016-EI
EXHIBIT NO. KEP-1
WITNESS: PALLADINO
APPENDIX I
PAGE 59 OF 84
FILED: 01/15/2025**

SPP Assessment & Benefits Report

Revision 0

Storm Impact Model

location from GIS to designate the appropriate wind zone. Figure 4-7 shows distribution of assets within each wind zone. As shown in the figure, most of the poles are in the 120 mph and 110 mph zones, while a smaller percentage are in the 130 mph zone near the coast.

4.2 Weighted Storm Likelihood of Failure Module

The Weighted Storm LOF Module of the Storm Impact Model identifies the parts of the system that are likely to fail given the specific storm loaded from the Major Storm Event Database. The module is grounded in the primary failure mode of the asset base; storm surge and associated flooding for substations and wind, asset condition, and vegetation for circuit assets.

4.2.1 Substation Storm Likelihood of Failure

The main driver of substation failures during major storm events is flooding. The Major Storm Event Database designates the number of substations expected to have minor and major flooding for each of the 99 storm scenarios. Only the storm scenarios with hurricanes coming from the Gulf of Mexico provide the necessary conditions to produce storm surge that would cause substation flooding.

To identify which substations would be the most likely to experience flooding, the Storm Impact Model uses the substation flood modeling described in Section 4.5.3. This model provides the estimated feet of flooding above site elevation, assuming the maximum of maximum approach, a worst of the worst-case scenario. Because of this extreme, worst-case scenario, the results are not reflective of a typical hurricane category that would hit the TEC service territory. The flood modeling has flood height data for all 5 hurricane category types. The Storm Impact Model uses the flooding height values as likelihood scores to identify the substation Probability of Failure (POF) for each storm event in the Major Storms Event Database.

4.2.2 Circuits Storm Likelihood of Failure

The main driver of circuit failures during storms is wind blowing vegetation (and other debris) into conductor. The conductor is weighed down. The additional weight, when combined with the wind loading, causes the structures holding up the conductor to fail. Typically, the vegetation touching the conductor triggers the protection device to operate, however, the enhanced loading on the poles causes asset failures that are costly to repair both in terms of restoration costs and in CMI. The storm LOF of an overhead distribution asset is a function of the vegetation around it, the age and

Furthermore, for the year 2025, DEF will file on May 1, 2025, in Docket No. 20250010-EI, DEF's 2025 Actuals/Estimated True-Up SPPCRC, and updated expenditures can be referenced at that time in Exhibit No. (CAM-2).

DEF's Structure Hardening – Transmission Tower Upgrades subprogram budgeted expenditures for 2026-2028 is provided in the table below:

2026		2027		2028	
<i>Capital</i>	<i>O&M</i>	<i>Capital</i>	<i>O&M</i>	<i>Capital</i>	<i>O&M</i>
\$20.0M	\$0.2M	\$20.0M	\$0.2M	\$40.5M	\$0.4M

- h. DEF restates and incorporates its objection to this interrogatory submitted contemporaneously with this response.
52. In DEF's 2023-2032 SPP, DEF noted that 700 tower replacements were required over 10 years. In the current SPP at page 40 of 56 of Exhibit BML-1, DEF now states that there are 2,000 tower replacements required in 10 years. Accordingly:
- a. Explain the reason for the increase in the number of replacements.
 - b. Describe any changes in criteria for determining tower replacement from the 2023 SPP.
 - c. Provide the number of towers in service.

Response:

- a. The Transmission Tower Upgrade subprogram's overall intent has not changed over the series of DEF's Storm Protection Plan filings. Rather, because DEF is nearing the completion of the Transmission Wood to Non-Wood Upgrade subprogram and considering the potential impact during extreme weather events on the susceptible towers, DEF is transitioning focus and resources to the Tower Upgrades subprogram, enabling customers to receive benefits of avoiding future outages and restoration costs sooner than under the cadence contemplated in the 2023 SPP. DEF also notes that the 2023 filing did not indicate that "700 tower replacements were required over 10 years" as referenced in the question, but stated that there were over 700 towers identified as having a similar design type to those that had previously failed during extreme weather (e.g., hurricanes Irma and Michael).
- After reviewing pages 40-41 of Exhibit No. (BML-1) (as filed in Docket No. 20220050-EI), DEF believes that the confusion regarding the criteria of the program is based on a figure in the previous filing that represented a subset, not the full complement, of the towers within the subprogram's criteria. On page 41, DEF cited that 720 tower replacements would occur under this subprogram at completion; however, that figure represented the number of towers on the system that are the same/similar vintage/design as the towers that failed in hurricanes Irma and Michael and thus that would be prioritized for upgrade under the subprogram. The actual criteria

for determining towers, described in Exhibit No. (BML-2) and unchanged in this filing, was never limited to those specific towers.

b. DEF has made no changes in criteria for determining tower replacement.

c. There are currently over 2,900 lattice towers in DEF's service territory.

53. Provide the design criteria to be used for the new towers and describe how these criteria are different from the criteria to design these same towers.

Response:

Lattice Tower replacements are brought up to current code, NESC 2023 and ASCE 74 design criteria. Today's code uses non-linear analysis and is more stringent than previous codes.

54. Identify the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing all root cause analyses of your towers that previously failed. Additionally,

a. Provide the date of the failures.

b. Provide the design criteria of those towers that failed.

Response:

Subject to and without waiving DEF's contemporaneously served objection to this request, DEF has identified root cause analyses for lattice tower failures that occurred during Hurricanes Irma and Michael as indicative samples of the failures this subprogram is intended to mitigate against.

a. Please see documents provided in response to OPC POD 1-11.

b. Please see documents provided in response to OPC POD 1-11.

55. Regarding Substation Hardening, please provide the following:

a. Identify inspection reports justifying the breaker replacement.

b. Provide the specifications for each type of replacement Breaker.

c. Provide the specifications for relays to install as part of the breaker replacement.

d. Provide, by year, the age of the breakers replaced in 2021, 2022, 2023, and 2024.

e. Identify the locations of breaker replacement for 2025, 2026, 2027 and 2028.

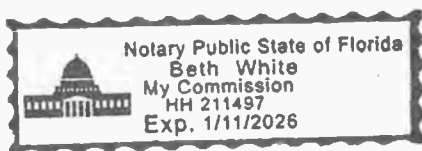
AFFIDAVIT

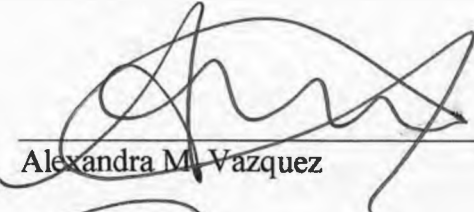
STATE OF FLORIDA

COUNTY OF SEMINOLE


I hereby certify that on this 21 day of February, 2025, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared **ALEXANDRA M. VAZQUEZ**, who is personally known to me or provided FL Drivers License as identification, and she acknowledged before me that she provided the answers to interrogatory numbers 32a through 32e, 33a and 33b, 34a and 34b, 35, 36a through 36d, 37, 39, 40, 41, 42, 43, 44a through 44f, 45, 47, 48, 50, 51a through 51h, 52a through 52c, 53, 54a and 54b, 55a through 55g, 56, 57, 58, 59, 60 and 61, in CITIZENS' FIRST SET OF INTERROGATORIES TO DUKE ENERGY FLORIDA, LLC (NOS. 1-61) in Docket No. 20250015-EI, and that the responses are true and correct based on her personal knowledge.

In Witness Whereof, I have hereunto set my hand and seal in the State and County aforesaid as of this 21 day of February, 2025.





Alexandra M. Vazquez



Notary Public BETH WHITE
State of Florida, at Large

01/11/2026

My Commission Expires:

1. Beyond 2026, DEF does not have a final prioritized list by location.
2. Many of DEF's SPP programs include multiple subprograms that have various units of measure. While DEF has summed these for purposes of this response, the overall number of projects/activities per SPP program does not contain consistent units of measure. For example, the Feeder Hardening Program number of projects/activities shown in the table sums Feeder Hardening rebuilds (miles), Feeder Hardening Pole Inspections (inspection per pole) and Feeder Hardening Pole Replacements (poles).

Please see the populated table in the following attachment bearing Bates numbers 20250015-DEF-00000616. The Excel version is also attached.

7. Please refer to Exhibit BML-1. What would be the estimated revenue requirements and rate impacts for the SPP if the following schedule of components were completed in lieu of the Utility's proposed plan if:
 - a. 105 feeders were hardened per year;
 - b. 122 laterals were hardened per year, and;
 - c. 462 transmission structures were hardened per year.

Response:

To truly understand the implications of a reduction in DEF's proposed plan, DEF would have to re-run the prioritization model. A reduction in the 10-year deployment of the hardening projects would also reduce customer benefits, or at a minimum drastically delay their realization by customers.

- a. Hardening only 105, instead of approximately 150, miles of feeders per year would add roughly 20 years to the subprogram's deployment timeline. This delay will also create a delay in the Lateral Hardening program by delaying the shift in resources.
- b. Hardening only 122, instead of approximately 130, miles of laterals per year would add roughly 10-15 years to the subprogram's deployment timeline and incrementally delay the benefits of hardening efforts to those customers whose laterals will be completed later than currently proposed.
- c. Limiting deployment to 462 transmission structures (i.e., poles and towers) over the entire 10-year plan (2026 through 2035) would delay expected benefits to customers by extending the risk of non-hardened structure failures through an additional 6 to 7 storm seasons. This could lead to prolonged system impacts during extreme weather events, affecting a multitude of critical customers such as urgent care and medical centers, fire stations, law enforcement and prisons, cell towers, fuel, and cement plants, assisted living and hospice facilities, schools, shelters, and financial institutions.

With the adjustments to the specific subprograms, as described above, the revenue requirements and rate impacts would be as follows:

Estimated Annual Jurisdictional Revenue Requirements for Each Year of the Storm Protection Plan										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
(\$ Millions)	\$ 363.9	\$ 427.5	\$ 489.9	\$ 552.2	\$ 614.5	\$ 674.1	\$ 733.0	\$ 789.8	\$ 847.1	\$ 904.8

Estimated SPP Rate Impacts			
	2026	2027	2028
(1) Typical Residential % Increase from prior year Bill	1.9%	1.3%	1.2%
(2) Typical Commercial % Increase from prior year Bill	1.6%-1.9%	1.1%-1.3%	1.0%-1.3%
(3) Typical Industrial % Increase from prior year Bill	1.6%-2.2%	1.1%-1.4%	1.0%-1.4%

Note: Residential Rate is based on \$/1,000 kWh

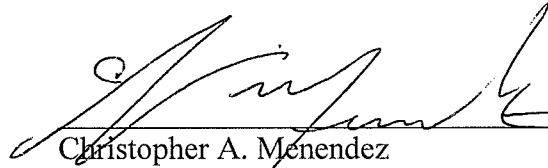
AFFIDAVIT

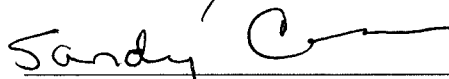
STATE OF FLORIDA

COUNTY OF PINELLAS

I hereby certify that on this 27th day of February, 2025, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared **CHRISTOPHER A. MENENDEZ**, who is personally known to me or provided _____ as identification, and he acknowledged before me that he provided the answers to interrogatory numbers 5 and 7a through 7c. in Staff's First Set of Interrogatories to Duke Energy Florida (NOS.1-7) in Docket No. 20250015-EI, and that the responses are true and correct based on his personal knowledge.

In Witness Whereof, I have hereunto set my hand and seal in the State and County aforesaid as of this 27th day of February, 2025.


Christopher A. Menendez


Sandy Cope
Notary Public
State of Florida, at Large

