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PAUL RENNER
*Speaker of the House of
Representatives*

June 6, 2024

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

Re: Docket No. 20240026 - EI

Dear Mr. Teitzman,

Please find enclosed for filing in the above referenced docket the Direct Testimony and Exhibits of Kevin J. Mara, P.E.

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

Sincerely,

Walter Trierweiler
Public Counsel

/s/ Patricia A. Christensen
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CERTIFICATE OF SERVICE
DOCKET NO. 20240026-EI

I **HEREBY CERTIFY** that a true and correct copy of the foregoing has been furnished by electronic mail on this 6th day of June, 2024, to the following:

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition rate increase by Tampa Electric
Company

Docket No. 20240026-EI

Filed: June 6, 2024

DIRECT TESTIMONY

OF

KEVIN J. MARA, P.E.

ON BEHALF OF THE CITIZENS

OF

THE STATE OF FLORIDA

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PETITION FOR RATE INCREASE BY TAMPA ELECTRIC COMPANY

DOCKET NO: 20240026-EI

DIRECT TESTIMONY

OF

KEVIN J. MARA, P.E.

ON BEHALF OF THE CITIZENS OF THE STATE OF FLORIDA

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1 **DIRECT TESTIMONY**

2 **OF**

3 **KEVIN J. MARA**

4 On Behalf of the Citizens of the State of Florida

5 Before the

6 Florida Public Service Commission

7 DOCKET NO: 20240026-EI

8
9 **I. INTRODUCTION**

10 **Q. WHAT ARE 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
13 Associates, Inc. ("GDS") and Principal Engineer for a GDS company doing
14 business as Hi-Line Engineering. I am a licensed engineer in Florida and 22
15 additional states.

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

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

1 which specialized in the design and planning of electric distribution systems. In
2 2000, Hi-Line Associates became a wholly owned subsidiary of GDS Associates,
3 Inc. and the name of the firm was changed to Hi-Line Engineering, LLC. In 2001,
4 we merged our operations with GDS Associates, Inc., and Hi-Line Engineering
5 became a department within GDS. I serve as the Principal Engineer for Hi-Line
6 Engineering and am Executive Vice President of GDS. I have field experience in
7 the operation, maintenance, and design of transmission and distribution systems. I
8 have performed numerous planning studies for electric cooperatives and municipal
9 systems. I have prepared short circuit models and overcurrent protection schemes
10 for numerous electric utilities. I have also provided general consulting,
11 underground distribution design, and territorial assistance.

12

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

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

1 groups or associations of customers, and government agencies.

2

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

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

- 5 • Vermont Department of Public Service;
- 6 • Federal Energy Regulatory Commission;
- 7 • District of Columbia Public Service Commission;
- 8 • Public Utility Commission of Texas;
- 9 • Maryland Public Service Commission;
- 10 • Corporation Commission of Oklahoma;
- 11 • Public Service Commission of South Carolina; and
- 12 • Florida Public Service Commission (“PSC” or “Commission”).

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

15

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

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

20

21 **Q. ON WHOSE BEHALF ARE YOU APPEARING?**

22 A. GDS was retained by the Florida Office of Public Counsel (“OPC”) to provide
23 technical assistance regarding Tampa Electric Company’s (“Tampa Electric” or

1 “Company”) petition for a rate increase. Accordingly, I am appearing on behalf of
2 the Citizens of the State of Florida.

3

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

6 A. I have reviewed the transmission and distribution costs for inclusion in base rates.
7 I have focused on the subsequent year adjustments (“SYAs”) related to the Grid
8 Reliability and Resiliency Program and on the separation of Storm Preparation Plan
9 costs and base rates costs.

10

11 **Q. WHAT INFORMATION DID YOU REVIEW IN PREPARATION OF**
12 **YOUR TESTIMONY?**

13 A. I reviewed the Company’s filing, including the direct testimony and exhibits. I also
14 reviewed the Company’s responses to OPC’s discovery, the Company’s responses
15 to the Commission’s Staff’s discovery, deposition testimony, and other materials
16 pertaining to the case and its impacts on the Company.

17

18 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS BASED ON YOUR**
19 **REVIEW OF THE COMPANY’S TRANSMISSION AND DISTRIBUTION**
20 **INVESTMENT.**

21 A. In summary, I recommend:

22 1. The total costs associated with the Grid Reliability and Resiliency Programs
23 be excluded from the SYAs.

1 2. A disallowance of \$7.94 million for an excessive number of spare power
2 transformers.

3 3. That all Distribution Feeder Hardening costs be included in the SPP. This
4 will disallow \$7.97 million from the revenue request which includes costs for 2025.
5 I will need to amend this value once I receive responses from Tampa Electric asking
6 for data for 2024 costs.

7 **Q. WHAT IS YOUR UNDERSTANDING OF THE TEST YEAR USED IN THIS**
8 **CASE?**

9 A. Tampa Electric is proposing a test year of 2025 with SYAs for 2026 and 2027. My
10 focus is on the transmission and distribution costs and how those costs are captured
11 in the test year and the SYAs.

13 **Q. WHAT IS YOUR UNDERSTANDING OF CAPITAL COSTS INCLUDED**
14 **IN THIS RATE CASE AND OF THOSE CAPITAL COSTS THAT ARE**
15 **INCLUDED IN THE STORM PROTECTION PLAN (“SPP”)?**

16 A. Tampa Electric obtained approval for certain projects to be included in their SPP
17 and the true-up of the actual costs of the SPP programs are accomplished through
18 the Storm Protection Plan Costs Recover Clause (“SPPCRC”). These costs should
19 be excluded from the capital costs within this rate case. My understanding is that
20 Tampa Electric uses accounting attributes for funding projects, work orders, and

1 plant maintenance orders to separate SPP costs from rate base projects that are
 2 incorporated into base rates.¹

3

4 **II. GRID RELIABILITY AND RESILIENCY PROJECT**

5

6 **Q. CAN YOU DESCRIBE THE GRID RESILIENCY AND RELIABILITY**
 7 **PROJECT?**

8 A. Yes. This is Tampa Electric’s long-term plans for significant investments for grid
 9 resilience and reliability.² The program consists of projects across six primary
 10 domains including: (1) telecommunications; (2) control center operational
 11 technology; (3) back-office information technology; (4) distributed energy
 12 resources (“DER”) infrastructure; (5) field devices; and (6) substations. I have
 13 summarized the actual capital costs and future capital budgets for this long-term
 14 program in Table 1. More details are included in Exhibit KJM-2 of my testimony.

Table 1
Grid Reliability and Resiliency Projects
Source: Response to OPC Interrogatory 126

Primary Domains	2024	2025	2026	2027	2028	2029	2030	Total 2024-2030
Telecom:	\$11,868,996	\$54,579,471	\$31,351,255	\$4,183,006	\$0	\$0	\$0	\$101,982,728
Control System OT:	\$9,170,282	\$21,747,762	\$37,721,010	\$20,458,794	\$9,918,014	\$27,181,135	\$789,056	\$126,986,054
Back-Office IT	\$8,605,127	\$48,635,557	\$59,551,961	\$16,444,573	\$6,645,398	\$35,883,957	\$120,000	\$175,886,574
DER Infrastructure	\$0	\$7,188,850	\$12,731,332	\$13,198,867	\$20,343,265	\$9,385,248	\$13,439,850	\$76,287,411
Field Devices:	\$1,314,738	\$14,686,083	\$35,008,116	\$48,319,418	\$53,199,069	\$51,515,734	\$73,102,795	\$277,145,954
Substations:	\$2,000,000	\$11,136,809	\$19,496,030	\$22,113,043	\$16,887,529	\$16,196,616	\$12,205,345	\$100,035,372
Totals	\$32,959,142	\$157,974,532	\$195,859,705	\$124,717,701	\$106,993,276	\$140,162,690	\$99,657,046	\$858,324,092

15

¹ Response to OPC Interrogatory No. 44.

² Whitworth Direct Testimony, page 21, lines 13-15.

1 **Q. HAS TAMPA ELECTRIC INCLUDED THE CAPITAL COSTS FOR THE**
2 **GRID RELIABILITY AND RESILIENCY PROGRAM (“GRRP”) IN THE**
3 **SYAS?**

4 A. Yes. Mr. Whitworth stated that some of the costs associated with the GRRP are
5 included in the 2026 and 2027 SYA.³ Mr. Lukcic stated that the specific items
6 included in the SYAs include the following:⁴

- 7 • Private LTE implementation;
- 8 • Line Sensor Software;
- 9 • Work Management System (“WMS”); and
- 10 • Distribution Planning Software upgrades.

11 However, the budgeted values in these systems do not exactly match with the SYAs
12 values contained in Mr. Lotta’s Exhibit Document 5, page 1 of 2 (subsequently
13 adopted by Mr. Chronister). I have summarized a comparison of these values in
14 Table 2. I believe the budgeted amounts in 2025 will carry over to 2026 and 2027,
15 so I have compared the budgeted amounts for 2025-2027 to the SYA values for
16 2026 and 2027. OPC has requested additional detail as to the exact programs and
17 costs contained in the SYA and based on those responses I may amend my
18 testimony.

³ Whitworth Direct Testimony, page 36, lines 24-25 and page 37 line 1.

⁴ Lukcic Direct Testimony, page 56, lines 17-21.

Table 2
Programs included in the SYAs

	2025	2026	2027	Total 2026 -2027	Source:
GRRP in SYA	\$	33,327,710	\$	128,546,521	\$ 161,874,231 Latta Document 5 page 1 of 2
	2025	2026	2027	Total 2025 - 2027	
GRRP Telecomm	\$ 54,579,471	\$ 31,351,255	\$ 4,183,006	\$ 90,113,732	OPC IRR 7-126
GRRP Line Sensor Software	\$ 2,459,785	\$ 7,379,355	\$ -	\$ 9,839,140	OPC IRR 7-126
GRRP Work Mgmt	\$ 24,953,877	\$ 19,664,333	\$ -	\$ 44,618,210	OPC IRR 7-126
GRRP Planning Upgrades					OPC IRR 7-126
Short Cycle Work Mgt Upgrade	\$ -	\$ 6,633,931	\$ 5,939,009	\$ 12,572,940	OPC IRR 7-126
Distribution Design Tool	\$ 3,875,451	\$ 7,635,533	\$ 3,875,451	\$ 15,386,435	OPC IRR 7-126
Sys Planning / Reliab Tool Upgrade	\$ -	\$ 1,049,304	\$ -	\$ 1,049,304	OPC IRR 7-126
			Total	\$ 173,579,761	

1

2

3 **Q. HOW ARE THE TYPE OF PROGRAMS IN THE GRRP USUALLY**
4 **TREATED FOR RATEMAKING PURPOSES?**

5 A. In traditional ratemaking, the capital projects are planned for and deployed between
6 rate cases or during the test year of the current rate case, then the costs are reviewed
7 for prudence in the next base rate case or current rate case. Further, the types of
8 maintenance and replacement of obsolete equipment are normally included in the
9 Company's annual budgets and would be accounted for in a representative test year
10 which includes costs and revenue one year into the future. However, increases in
11 the test year costs for these routine type of activities above normal levels
12 unnecessarily increases costs for customers and should be scrutinized for imprudent
13 spending.

14

15 **Q. WHAT ARE THE CONCERNS WITH THESE PROGRAMS IN A SYA?**

16 A. These GRRP in the SYAs, with their forecasted costs of forecasted programs, have
17 compounded the problem of the speculative nature of the costs and deployment
18 timing since they are further out into future (i.e. the further out into the future, the

1 less reliable the forecast). This shifts the risk of deploying these complex systems
2 from the utility, where it should be, to the customers. Even if the Commission were
3 to grant the additional revenues for these projects, the company is under no
4 obligation to spend the revenues on these projects. The Company could choose to
5 use the revenue elsewhere or not at all. In a traditional rate case, deployment with
6 any problems or failures can be viewed from the prospective of prudent
7 management and costs.

8

9 **Q. IN YOUR OPINION IS IT NECESSARY TO USE THE SYA FOR GRRP?**

10 A. No. I believe there are several reasons why the SYA is not the proper funding
11 mechanism for the GRRP. First, GRRP is collectively a long term project which
12 will not be fully completed by the end of SYAs, as evidenced in Table 1 of my
13 testimony which shows spending beyond 2027. Prudent management and
14 deployment of these complex systems are necessary and should be judged without
15 forecasted costs. Second, many of these projects are simply planned replacement
16 of aged or obsolete infrastructure. Replacement of aging or obsolete infrastructure
17 should be accounted for during the test year in a traditional rate case and does not
18 require subsequent post-test year adjustments. Third, none of this project -- in
19 either its sub-parts or its totality – had been approved by either the Tampa Electric
20 or Emera Boards of Directors at the time the case was filed.⁵ Finally, the projects
21 to be included in GRRP will not be completed until 2030, a significant period of

⁵ Whitmore Deposition, page 69, lines 20-25 and page 70 lines 1-8.

1 time after the projected 2025 test year, and therefore should not be included in the
2 costs associated with this rate case.

3

4 **Q. DO YOU AGREE THAT TELECOMM COSTS WHICH ARE PART OF**
5 **THE GRRP SHOULD BE INCLUDED IN THE SYAS?**

6 A. No. The cornerstone of the telecom activity is replacement of an older, obsolete
7 communication system. Specifically, according to Mr. Whitworth the existing old
8 radio system needs to be replaced.⁶ The new system which is a private cellular
9 network (“PLTE”) has advantages in terms of communication security, greater
10 bandwidth, and lower latency (faster communication speed). These are significant
11 advantages. However, Tampa Electric has a legacy system that needed an upgrade,
12 and the Company should prudently plan for its replacement. In fact, in 2022 Tampa
13 Electric engaged a consultant to help analyze options for the communication
14 system.⁷ This type of replacement of an older obsolete system is consistent with
15 standard rate design which accounts for cost recovery in the next test year and the
16 new system would become part of the rate base when it is used and useful. There
17 is no need for use of an extraordinary treatment with a SYA to account for these
18 normal type of replacement activities which should be reasonably anticipated and
19 budgeted for in system planning. The traditional test year should be sufficient to
20 allow for the systematic deployment of these capital expenditures.

⁶ Whitworth Deposition, page 26 line 23-25 and page 27 lines 1-18.

⁷ Lukcic Direct Testimony page 31, lines 18-21.

1 **Q. WHAT IS YOUR UNDERSTANDING WHEN THE PLTE WILL BE**
2 **COMPLETED?**

3 A. The rollout of the system will require three years and will have a 20-year
4 deployment of technologies enabled by the network.⁸ The completion date of the
5 system is projected to be December 2026⁹ which is after the end of the test year.
6 Further, this system is used to enable other technologies (DER, field devices, etc.)
7 that will not be fully capable during the affected rate period.

8 **Q. WHAT ABOUT THE OTHER TELECOMM SUBPROGRAM, SHOULD**
9 **THESE COSTS BE INCLUDED IN SYAS?**

10 A. No. These communication upgrades are needed for greater bandwidth than the
11 existing communication system can provide.¹⁰ Essentially the existing system is
12 obsolete in terms of capacity and upgrades for capacity should be accomplished by
13 means of standard rate design and not by means of the SYAs.

14

15 **Q. SHOULD THE LINE SENSOR SOFTWARE WHICH IS PART OF THE**
16 **CONTROL SYSTEM BE INCLUDED IN SYAS?**

17 A. No. This is new software to manage data from line sensors and other field devices
18 and provide data analytics.¹¹ This system will not be completed until 2026.¹² The
19 software requires input from field devices which will be installed between 2025

⁸ Lukcic Direct Testimony page 32, lines 14-16.

⁹ Lukcic Deposition, page 83, lines 11-17.

¹⁰ Lukcic Deposition, page 98, lines 19-23.

¹¹ Lukcic Direct Testimony, page 36, lines 15-19.

¹² Lukcic Deposition, page 82, lines 8-9.

1 and 2030. Thus, the effective usefulness of the system will not be experienced
2 without these field devices.

3

4 **Q. REGARDING THE WORK ORDER MANAGEMENT SYSTEM, SHOULD**
5 **THIS COST BE INCLUDED IN SYAS?**

6 A. No. The system upgrades contained in the Back-Office IT are simply upgrades to
7 existing IT systems and these capital costs are more appropriately included in a
8 traditional rate case. The largest project cost in the Back-Office IT is the upgrade
9 to the existing work order management system. This system will not be completed
10 until the end of 2026¹³ which is significantly after the end of the test year. Since
11 this is an upgrade of an existing system, and can be planned and budgeted
12 accordingly, I do not believe these programs need to be in SYAs.

13

14 **Q. ARE ANY OF THE BACK-OFFICE IT SYSTEMS IN NEED OF**
15 **REPLACEMENT?**

16 A. Yes. Tampa Electric's core work management system (WorkPro), short-cycle
17 work management system (PragmaCAD), and distribution system planning model
18 (Synergi) are either at end of life, obsolete, or unable to support Tampa Electric
19 future needs.¹⁴ Further, according to Tampa Electric, these systems are no longer in
20 line with industry best practice.¹⁵

21

¹³ Lukcic Direct Testimony, page 56, lines 19-23.

¹⁴ Response to OPC Interrogatory No. 140.

¹⁵ *Id.*

1 **Q. IS THE WORK ORDER MANAGEMENT SYSTEM DIFFERENT FROM**
2 **THE ENERGY MANAGEMENT SYSTEM?**

3 A. Yes, these systems are different. The Work Order Management System (“WMS”)
4 is at its core an accounting system to manage the flow of work. Projects are
5 identified in the WMS, then these projects are tracked and scheduled, and costs are
6 collected to this system. The Energy Management System, when coupled with the
7 Advanced Distribution Management system is used to control field devices, grid
8 edge devices (behind the meter solar), and monitor the electric grid.

9
10 **Q. SHOULD THE DISTRIBUTION PLANNING SOFTWARE UPGRADES**
11 **WHICH ARE PART OF THE BACK-OFFICE IT BE INCLUDED IN SYAS?**

12 A. No. As stated earlier, the distribution system planning model (Synergi) is at its end
13 of life, obsolete, or unable to support Tampa Electric future needs.¹⁶ The collection
14 of new planning modules includes the short cycle work management upgrades,
15 distribution design tool, and the system planning/reliability tool upgrade. Two of
16 the projects are upgrades to existing software solutions and the distribution design
17 tool is a replacement of an existing program. These software applications are
18 scheduled for completion 12 months¹⁷ after the end of the fully projected 2025 test
19 year. These costs that occur after 2025 should be covered by traditional base rates
20 rate base and need not be included in SYAs.

¹⁶ Response to OPC Interrogatory No. 140.

¹⁷ Lukcic Direct Testimony, page 56, lines 19-23.

1 **Q. ARE THERE OTHER GRRP PROJECTS INCLUDED IN THE SYAS?**

2 A. Requests have been made to Tampa Electric for details of projects and costs
3 included in the SYAs. Based on those responses, I may need to amend my
4 testimony.

5

6 **III. POWER TRANSFORMERS**

7 **Q. WHAT ARE YOUR OBSERVATIONS REGARDING THE**
8 **REPLACEMENT OF POWER TRANSFORMERS?**

9 A. Some power transformer replacements are being replaced as part of the GRRP due
10 to obsolescence and to accommodate the Fault Location, Isolation, and Service
11 Restoration (“FLISR”) system,¹⁸ while other transformers are being replaced and
12 having capacity increased due to traditional distribution system planning.

13

14 **Q. DO YOU HAVE CONCERNS REGARDING REPLACEMENT OF POWER**
15 **TRANSFORMERS IN GRRP?**

16 A. Yes. The power transformer replacements needed for FLISR should be
17 accomplished as part of Tampa Electric traditional planning for grid capacity
18 expansion. Some power transformer replacements are being replaced as part of the
19 GRRP to accommodate FLISR. A FLISR system will automatically transfer load
20 from a failed feeder or failed power transformer to an adjacent feeder or adjacent
21 substation. This can result in a shift from normal loading on a feeder or substation
22 to emergency loading. However, Tampa Electric planning criteria requires the

¹⁸ Lukcic Deposition, page 59, lines 24-25 and page 60, lines 1-4.

1 distribution system be able to carry the system summer instantaneous peak load
2 following an outage (and restoration switching) of any single system component
3 failure.¹⁹ As such, the need for additional capacity strictly for FLISR would
4 indicate that Tampa Electric failed to design their system in accordance with their
5 own planning criteria. The determination of capacity increases needs to be justified
6 per Tampa Electric's traditional planning criteria.

7

8 **Q. DO YOU HAVE ANY OTHER OBSERVATIONS REGARDING POWER**
9 **TRANSFORMER REPLACEMENTS?**

10 A. Yes. Tampa Electric provided a list of power transformers purchased for the years
11 2021 to 2023 and the budgets for future transformer purchases. My observation is
12 that Tampa Electric has been, and is, budgeting to purchase an inordinate number
13 of spare transformers. As shown in Table 3, the number of spare transformers for
14 the period of 2021 through 2027 is 29 and the number of transformers assigned to
15 substations is 33. These units range in cost from \$975,000 to \$1,250,000. The
16 budgeted fleet of spare transformers for 2024 to 2027 is \$16,785,000. Normally,
17 utilities will standardize on transformer sizes to minimize their fleet of spare
18 transformers. This number of spares budgeted in the future appears to be excessive.
19 This is another reason why including power
20 transformers in SYA is not necessary and limits the opportunity for prudence
21 review.

¹⁹ Response to OPC Interrogatory No. 127.

Table 3
Power Transformer Purchases
 Source: Response to OPC IRR 7-114

	Assigned to Substation	Spare Unit
2021	9	3
2022	3	3
2023	4	7
2024	6	4
2025	5	4
2026	2	4
2027	4	4
Total	33	29

2

3 **Q. DO YOU HAVE A RECOMMENDATION REGARDING THE SPARE**
 4 **TRANSFORMERS?**

5 A. Yes. I recommend that four 37 MVA transformers be excluded from rate base. The
 6 number of spares is excessive. Even with excluding four 37 MVA transformers,
 7 Tampa Electric would still have four spares (one for each service area) and
 8 additional six spares purchased between 2021 and 2023. The Table 4 below details
 9 the transformers and costs I recommend be excluded from rate base.

Table 4
 Power Transformers

Year		Size	Budget	Exclude from Rate Base
2024	Spare	28MVA	\$ 780,000	
2024	Spare	37MVA	\$ 975,000	
2024	Spare	37MVA	\$ 975,000	
2024	Spare	37MVA	\$ 975,000	Yes
2025	Spare	37MVA	\$ 975,000	Yes
2025	Spare	37MVA	\$ 975,000	Yes
2025	Spare	37MVA	\$ 975,000	Yes

2025	Spare	37MVA	\$	975,000
		Total	\$	7,605,000
		Amount to be Excluded		\$ 3,900,000

1

2

IV. SPP COSTS EXCLUDED FROM BASE RATES

3

4 **Q. ARE THE CAPITAL COSTS ASSOCIATED WITH SPP PROJECTS**
5 **INCLUDED IN BASE RATES?**

6 A. No. My understanding is that investments in SPP are recovered through the
7 SPPCRC and are separated from the base rates.

8

9 **Q. HOW DOES TAMPA ELECTRIC MANAGE THE SEPARATION OF SPP**
10 **CAPITAL COSTS AND BASE RATES CAPITAL COSTS?**

11 A. I understand that SPP costs are identified using Tampa Electric’s accounting system
12 attributes to assign a specific number which is labeled with a code indicating to
13 which SPP program the costs are attributable.²⁰

14

15 **Q. ARE FEEDER HARDENING ACTIVITIES A SPP CAPITAL**
16 **EXPENDITURE?**

17 A. Yes. Storm hardening of distribution feeders was included in Tampa Electric’s SPP
18 plan. Further, in Mr. Whitworth’s testimony he noted that 27 feeders were
19 hardened as part of the SPP.²¹

²⁰ Response to OPC Interrogatory No. 44.

²¹ Whitworth Direct Testimony, page 18, line 11.

1 **Q. WERE ALL OF THE COSTS FOR THE STORM HARDENING FOR**
 2 **THESE 27 FEEDERS EXCLUDED FROM THE BASE RATES?**

3 A. No. A portion of the costs for this storm hardening work was assigned to the SPP
 4 and a portion was assigned to rate base that Tampa Electric proposes to include in
 5 base rates.

6

7 **Q. WHAT DO TAMPA ELECTRIC’S ANNUAL BUDGETS FOR 2022-2031**
 8 **SPP REVEAL FOR FEEDER HARDENING?**

9 A. Tampa Electric’s 2022-2031 SPP defined set amounts for Feeder Hardening and
 10 Order No. PSC-2022-0386-FOF-EI approved the budgets for 2021, 2022, and 2023.
 11 I have created Table 5 illustrating these budgets along with the actual and projected
 12 spending through 2027 except for 2024. I am waiting for a response to a data
 13 request for the information for 2024. The data shows Tampa Electric is projected
 14 to spend up to the limit of the annual approved budgets for the SPP for feeder
 15 hardening and excess feeder hardening costs appear to be shifted to base rates.

Table 5
 Feeder Hardening
 Budgets

Year	Budget (1)	PSC Approved(2)	SPP Spending or Budget (3)	Base rates Spending or Budget (3)
2022	\$32.84	\$33.40	\$9.29	\$2.48
2023	\$30.12	\$30.70	\$4.94	\$1.59
2024	\$30.00	\$30.70	(3)	(3)
2025	\$29.99		\$30.00	\$3.90
2026	\$29.99		\$30.50	\$3.90
2027	\$30.00		\$30.00	\$3.90
2028	\$29.99			
2029	\$29.99			

2030 \$36.99
2031 \$36.99

(1) Docket 2022048-EI Witness Pickles Page 70 of 78
(2) Order No. PSC-2022-0386-FOF-EI, Docket No. 20220048-EI Table 2.
(3) Response to OPC Interrogatory No.121.

1 **Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING THE**
2 **SPENDING FOR THE FEEDER HARDENING?**

3 A. Yes. Currently, the spending even on the feeder level is split between SPP and base
4 rates which suggests Tampa Electric’s method for tracking SPP and rate base
5 projects is not working as intended or Tampa Electric is purposefully moving
6 dollars from the SPP to base rates. I recommend that all feeder hardening costs be
7 shifted to the SPP. As such the total downward adjustment to the base rates rate
8 base would be \$7.97 million which includes costs for 2025. I will need to amend
9 this value once I receive responses from Tampa Electric for data for 2024.

10
11 **Q. ARE LATERAL UNDERGROUNDING PROJECTS A SPP CAPITAL**
12 **EXPENDITURE?**

13 A. Yes. Lateral undergrounding projects are included in Tampa Electric’s SPP plan.
14 Further, in Mr. Whitworth’s testimony he noted that 239 lateral undergrounding
15 projects were completed as part of the SPP.²²

²² Whitworth Direct Testimony, pages 18 line 11.

1 **Q. WERE ALL OF THE COSTS FOR THE LATERAL UNDERGROUNDING**
 2 **PROJECTS FOR THESE 239 FEEDERS EXCLUDED FROM THE RATE**
 3 **CASE?**

4 A. No. A portion of the costs for these lateral undergrounding projects was assigned
 5 to the SPP and a portion was assigned to base rates.

6

7 **Q. WHAT ANNUAL BUDGETS DOES TAMPA ELECTRIC’S 2022-2031 SPP**
 8 **HAVE FOR LATERAL UNDERGROUNDING?**

9 A. Tampa Electric’s 2022-2031 SPP defined set amounts for Lateral Undergrounding
 10 and Order No. PSC-2022-0386-FOF-EI approved the budgets for 2021, 2022, and
 11 2023. I have created Table 6 with these budgets along with the actual and projected
 12 spending through 2027 except for 2024. I am waiting for a response to a data
 13 request for the information for 2024.

Table 6
 Lateral Undergrounding

Year	Budget (1)	PSC Approved(2)	SPP Spending or Budget (3)	Rate Base Spending or Budget (3)
2022	\$105.66	\$105.80	\$86.60	\$5.50
2023	\$104.54	\$104.70	\$86.60	\$4.30
2024	\$105.00	\$105.20	(3)	
2025	\$105.00		\$128.20	\$7.20
2026	\$105.00		\$148.00	\$10.10
2027	\$105.00		\$150.50	\$10.30
2028	\$105.00			
2029	\$105.00			
2030	\$115.00			
2031	\$115.00			

(1) Docket 2022048-EI Witness Pickles Page 70 of 78.

1

2 **Q. CAN YOU EXPLAIN THE LATERAL UNDERGROUNDING COSTS**
3 **ASSIGNED TO BASE RATES?**

4 A. Yes. Tampa Electric receives requests from customers for undergrounding and
5 these undergrounding costs are assigned to base rates.²³

6

7 **Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING THE**
8 **SPENDING FOR THE LATERAL UNDERGROUNDING COST**
9 **ASSIGNED TO BASE RATES?**

10 A. No. However, I am concerned about the accelerated costs for undergrounding
11 especially since this was an issue in the SPP. Within Docket 20220048-EI, some
12 parties argued for restraint in undergrounding costs which represented 60% of the
13 Tampa Electric's SPP budget. The data in Table 6, indicates that Tampa Electric
14 has budgeted for significantly larger levels of undergrounding spending and will
15 necessitate review in subsequent SPPCRC review.

16

17 **Q. WILL YOU UPDATE YOUR DIRECT TESTIMONY BASED ON**
18 **INFORMATION THAT BECOMES AVAILABLE?**

²³ Response to OPC Interrogatory No. 115.

1 A. Yes. I reserve the right to revise my recommendations via supplemental testimony
2 should new information not previously provided by the Company, or other sources,
3 become available.

4

5 **Q. DOES THIS COMPLETE YOUR DIRECT PREFILED TESTIMONY?**

6 A. Yes, at this time. However, the compressed procedural schedule in this proceeding
7 for filing Intervenor testimony has limited the time to complete OPC's investigation
8 into the issues and effects of those issues on the Company's petition. Consequently,
9 it is my understanding that OPC reserves the right to file supplemental testimony
10 to fully address these issues and effects of those issues, if necessary.

KEVIN MARA

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PRINCIPAL ENGINEER, P.E.



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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

EXPERTISE

Overhead & Underground
Distribution Design
Distribution System Planning
Power System Modeling & Analysis
Training

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
- Blue Ridge EMC, South Carolina
- Buckeye REC, Ohio
- Little River ECI, South Carolina
- Lackland Air Force Base
- Maxwell Air Force Base



KEVIN MARA

EXECUTIVE VICE PRESIDENT &
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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, Wadmaw 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-01-5167 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

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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 2021, 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 Oder 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 Prudence of 2011 and 2012 Storm Costs*, 2013 – 2014, State of New Jersey Division of Rate Counsel, BPU Docket No. AX13030196 and EO13070611



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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, Plaintiff 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.



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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*



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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.*



OPC'S SEVENTH SET OF Interrogatories No. 126
15-May-24

FP #	Funding Project Description	PowerPlant WO Description	2024	2025	2026	2027	2028	2029	2030	2024-2030
Telecom:										
NCP-16137	GR&R - Comm - PLTE Implementation	multiple WM orders	\$11,868,996	\$17,030,621	\$22,324,080	\$0	\$0	\$0	\$0	\$51,223,697
NCP-16192	GR&R - Comm - PLTE Spectrum	multiple WM orders	\$0	\$27,600,000	\$0	\$0	\$0	\$0	\$0	\$27,600,000
NCP-16879	GR&R - Comm - Fiber Build Out	multiple WM orders	\$0	\$3,450,721	\$4,139,654	\$0	\$0	\$0	\$0	\$7,590,375
NCP-16820	GR&R - Comm - Sub Ethernet Buildout	by substation	\$0	\$4,254,384	\$2,295,288	\$0	\$0	\$0	\$0	\$6,549,672
NCP-16821	GR&R - Comm - Sub Serial DNP3 Upgrd	by substation	\$0	\$2,243,745	\$2,592,233	\$4,183,006	\$0	\$0	\$0	\$9,018,984
			\$11,868,996	\$54,579,471	\$31,351,255	\$4,183,006	\$0	\$0	\$0	\$101,982,728
Control System OT:										
NCP-17148	GR&R – Control Systems Ops Tech	UIQ Integration	\$4,725,282	\$0	\$0	\$0	\$0	\$0	\$0	\$4,725,282
NCP-17148	GR&R – Control Systems Ops Tech	Meter Firmware Improvements	\$2,695,000	\$0	\$0	\$0	\$0	\$0	\$0	\$2,695,000
NCP-17148	GR&R – Control Systems Ops Tech	AMI/SVL Network Convergence to GenX	\$500,000	\$2,126,684	\$1,932,651	\$72,000	\$0	\$0	\$0	\$4,631,335
NCP-17148	GR&R – Control Systems Ops Tech	RCC Tool Expansion & Staffing	\$500,000	\$2,488,532	\$1,095,520	\$1,246,842	\$1,233,422	\$500,656	\$0	\$7,064,972
NCP-17148	GR&R – Control Systems Ops Tech	Diagnostic & Drone Center Tools	\$750,000	\$3,002,052	\$2,276,706	\$2,418,543	\$1,865,076	\$23,098,467	\$789,056	\$34,199,900
NCP-17148	GR&R – Control Systems Ops Tech	Line Sensing Software	\$0	\$2,459,785	\$7,379,355	\$0	\$0	\$0	\$0	\$9,839,140
NCP-17148	GR&R – Control Systems Ops Tech	Dist Energy Resource Mgt Syst (DERMS)	\$0	\$11,670,710	\$9,568,279	\$4,288,235	\$0	\$0	\$0	\$25,527,224
NCP-17148	GR&R – Control Systems Ops Tech	DERMS Aggregation Capabilities	\$0	\$0	\$2,237,504	\$3,775,163	\$3,237,504	\$0	\$0	\$9,250,171
NCP-17148	GR&R – Control Systems Ops Tech	DERMS Functionality Expan & Upgrades	\$0	\$0	\$0	\$0	\$3,582,012	\$3,582,012	\$0	\$7,164,024
NCP-17148	GR&R – Control Systems Ops Tech	ADMS 3.18+	\$0	\$0	\$13,230,995	\$8,658,011	\$0	\$0	\$0	\$21,889,006
			\$9,170,282	\$21,747,762	\$37,721,010	\$20,458,794	\$9,918,014	\$27,181,135	\$789,056	\$126,986,054
Back-Office IT										
NCP-17149	GR&R – Field Ops Technical Systems	CRB Device Expansion	\$2,000,000	\$10,549,954	\$10,549,954	\$0	\$0	\$0	\$0	\$23,099,908
NCP-17149	GR&R – Field Ops Technical Systems	Work Management System Upgrade	\$4,300,001	\$24,953,877	\$19,664,333	\$0	\$0	\$0	\$0	\$48,918,210
NCP-17149	GR&R – Field Ops Technical Systems	Short Cycle Work Mgt Upgrade	\$0	\$0	\$6,633,931	\$5,939,009	\$0	\$0	\$0	\$12,572,941

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15-May-24

FP #	Funding Project Description	PowerPlant WO Description	2024	2025	2026	2027	2028	2029	2030	2024-2030
Telecom:										
NCP-17149	GR&R – Field Ops Technical Systems	GIS Replace, Migrate, Integrate	\$2,305,126	\$8,147,269	\$12,254,165	\$5,127,391	\$0	\$0	\$0	\$27,833,951
NCP-17149	GR&R – Field Ops Technical Systems	GIS Visualizations & Field Maps	\$0	\$1,109,006	\$1,764,741	\$1,502,722	\$6,645,398	\$35,883,957	\$120,000	\$47,025,824
NCP-17149	GR&R – Field Ops Technical Systems	Distribution Design Tool	\$0	\$3,875,451	\$7,635,533	\$3,875,451	\$0	\$0	\$0	\$15,386,436
NCP-17149	GR&R – Field Ops Technical Systems	Sys Planning / Reliab Tool Upgrade	\$0	\$0	\$1,049,304	\$0	\$0	\$0	\$0	\$1,049,304
			\$8,605,127	\$48,635,557	\$59,551,961	\$16,444,573	\$6,645,398	\$35,883,957	\$120,000	\$175,886,574
DER Infrastructure										
NCP-17151	GR&R - DER Infrastructure	EV Charging Dist Infra-Txs & Secdry	\$0	\$500,000	\$1,579,367	\$4,510,188	\$6,451,675	\$5,659,200	\$9,652,075	\$28,352,505
NCP-17151	GR&R - DER Infrastructure	DER Dist Infrastructure Expansion	\$0	\$500,000	\$572,170	\$793,454	\$1,015,675	\$830,492	\$849,063	\$4,560,854
NCP-17151	GR&R - DER Infrastructure	DERMS Controlled DERs (500 kW+)	\$0	\$500,000	\$567,614	\$878,651	\$1,192,143	\$899,420	\$900,246	\$4,938,074
NCP-17151	GR&R - DER Infrastructure	DERMS Storage Interconcnct (500 kW-)	\$0	\$500,000	\$566,669	\$1,178,770	\$1,794,949	\$1,203,393	\$1,239,564	\$6,483,345
NCP-17151	GR&R - DER Infrastructure	DERMS PV Interconnections (500 kW-)	\$0	\$500,000	\$562,722	\$773,359	\$985,889	\$792,743	\$798,902	\$4,413,615
NCP-17151	GR&R - DER Infrastructure	Smart Inverter Development	\$0	\$2,352,951	\$2,894,688	\$1,776,004	\$5,913,148	\$0	\$0	\$12,936,791
NCP-17151	GR&R - DER Infrastructure	Smart Charging Development	\$0	\$1,258,322	\$1,482,224	\$1,710,864	\$1,560,371	\$0	\$0	\$6,011,781
NCP-17151	GR&R - DER Infrastructure	PV Awareness	\$0	\$0	\$2,881,975	\$0	\$0	\$0	\$0	\$2,881,975
NCP-17151	GR&R - DER Infrastructure	Grid Readiness DAP	\$0	\$1,077,577	\$1,623,903	\$1,577,577	\$1,429,415	\$0	\$0	\$5,708,472
			\$0	\$7,188,850	\$12,731,332	\$13,198,867	\$20,343,265	\$9,385,248	\$13,439,850	\$76,287,411
Field Devices:										
NCP-17152	GR&R – Dist Automation Equipment	IVVC Cap Banks (Retire Triliant)	\$1,314,738	\$2,298,177	\$2,445,839	\$0	\$0	\$0	\$0	\$6,058,754
NCP-17152	GR&R – Dist Automation Equipment	Line Sensors	\$0	\$1,500,789	\$4,731,066	\$6,036,770	\$7,858,273	\$7,626,310	\$6,946,703	\$34,699,911
NCP-17152	GR&R – Dist Automation Equipment	Premium Network Services	\$0	\$1,325,593	\$3,056,224	\$4,269,302	\$0	\$0	\$0	\$8,651,119
NCP-17152	GR&R – Dist Automation Equipment	Regulators	\$0	\$602,630	\$1,490,833	\$1,990,090	\$2,908,854	\$2,241,930	\$2,272,458	\$11,506,795
NCP-17152	GR&R – Dist Automation Equipment	SCADA Based Switchgear	\$0	\$1,491,616	\$3,548,580	\$5,841,935	\$7,657,775	\$6,766,660	\$5,927,952	\$31,234,518
NCP-17152	GR&R – Dist Automation Equipment	Reclosers	\$0	\$2,210,850	\$5,890,317	\$9,186,437	\$11,454,653	\$10,640,450	\$34,209,435	\$73,592,142

OPC'S SEVENTH SET OF Interrogatories No. 126
15-May-24

FP #	Funding Project Description	PowerPlant WO Description	2024	2025	2026	2027	2028	2029	2030	2024-2030
Telecom:										
NCP-17152	GR&R – Dist Automation Equipment	Automatic Lateral Switches (ALS)	\$0	\$5,256,428	\$13,845,257	\$20,994,884	\$23,319,514	\$24,240,384	\$23,746,247	\$111,402,714
			\$1,314,738	\$14,686,083	\$35,008,116	\$48,319,418	\$53,199,069	\$51,515,734	\$73,102,795	\$277,145,954
Substations:										
NEW-15635	GR&R - Sub - CBs & Digital Relays	by substation	\$2,000,000	\$3,666,322	\$6,083,008	\$7,326,071	\$0	\$0	\$0	\$19,075,401
PRE-10196	GR&R - Sub - Transformer Replace	by substation	\$0	\$1,953,840	\$4,316,978	\$4,211,240	\$4,156,594	\$4,113,000	\$0	\$18,751,652
CRR-17411	GR&R - Sub - SEL-351, 221F Relays	by substation	\$0	\$1,691,388	\$2,925,038	\$2,702,151	\$2,313,707	\$2,054,000	\$0	\$11,686,284
NCP-16826	GR&R - Sub - LTC Upgrades	by substation	\$0	\$2,556,600	\$4,688,426	\$4,852,379	\$5,765,203	\$6,132,000	\$0	\$23,994,608
NCP-16848	GR&R - Sub - RTU & Network Upgrades	by substation	\$0	\$1,268,659	\$1,482,580	\$3,021,202	\$4,652,026	\$3,897,616	\$12,205,345	\$26,527,428
			\$2,000,000	\$11,136,809	\$19,496,030	\$22,113,043	\$16,887,529	\$16,196,616	\$12,205,345	\$100,035,372
		Total	\$32,959,142	\$157,974,532	\$195,859,705	\$124,717,701	\$106,993,276	\$140,162,690	\$99,657,046	\$858,324,092