



Matthew R. Bernier  
Associate General Counsel

April 2, 2025

**VIA ELECTRONIC FILING**

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

Re: *Review of Storm Protection Plan, pursuant to Rule 25-6.030, F.A.C., Duke Energy Florida, LLC*; Docket No. 20250015-EI

Dear Mr. Teitzman:

On behalf of Duke Energy Florida, LLC ("DEF"), please find enclosed for electronic filing in the above-referenced docket:

- DEF's Rebuttal Testimony of Alexandra M. Vazquez; and
- DEF's Rebuttal Testimony of Brian M. Lloyd.

Thank you for your assistance in this matter. Please feel free to call me at (850) 521-1428 should you have any questions concerning this filing.

Respectfully,

/s/ Matthew R. Bernier  
Matthew R. Bernier

MRB/mh  
Enclosures

**CERTIFICATE OF SERVICE**  
**Docket No. 20250015-EI**

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished to the following by electronic mail this 2<sup>nd</sup> day of April 2025, to all parties of record as indicated below.

/s/ Matthew R. Bernier  
Attorney

<p>Jacob Imig  Jennifer Augspurgen  Office of General Counsel  Florida Public Service Commission  2540 Shumard Oak Blvd.  Tallahassee, FL 32399-0850  <a href="mailto:jimig@psc.state.fl.us">jimig@psc.state.fl.us</a>  <a href="mailto:jaugspur@psc.state.fl.us">jaugspur@psc.state.fl.us</a></p>	<p>Walt Trierweiler / Charles J. Rehwinkel /  Mary Wessling / Austin Watrous  Office of Public Counsel  111 W. Madison St., Rm 812  Tallahassee, FL 32399  <a href="mailto:rehwinkel.charles@leg.state.fl.us">rehwinkel.charles@leg.state.fl.us</a>  <a href="mailto:trierweiler.walt@leg.state.fl.us">trierweiler.walt@leg.state.fl.us</a>  <a href="mailto:watrous.austin@leg.state.fl.us">watrous.austin@leg.state.fl.us</a>  <a href="mailto:wessling.mary@leg.state.fl.us">wessling.mary@leg.state.fl.us</a></p>	<p>James W. Brew / Laura Wynn Baker /  Sarah B. Newman  Stone Mattheis Xenopoulos &amp; Brew, PC  PCS Phosphate-White Springs  1025 Thomas Jefferson Street, NW  Suite 800 West  Washington, DC 20007-5201  <a href="mailto:jbrew@smxblaw.com">jbrew@smxblaw.com</a>  <a href="mailto:lwb@smxblaw.com">lwb@smxblaw.com</a>  <a href="mailto:sbn@smxblaw.com">sbn@smxblaw.com</a></p>	<p>Paula K. Brown  Tampa Electric Company  P. O. Box 111  Tampa FL 33601-0111  <a href="mailto:regdept@tecoenergy.com">regdept@tecoenergy.com</a></p>
<p>Jon C. Moyle, Jr. / Karen A. Putnal  Moyle Law Firm, P.A.  FIPUG  118 North Gadsden Street  Tallahassee, Florida 32301  <a href="mailto:jmoyle@moylelaw.com">jmoyle@moylelaw.com</a>  <a href="mailto:kputnal@moylelaw.com">kputnal@moylelaw.com</a></p>	<p>Bradley Marshall / Jordan Luebkemann /  Hema Lochan  Earthjustice  LULAC &amp; FL Rising  111 S. Martin Luther King Jr. Blvd.  Tallahassee, Florida 32301  <a href="mailto:bmarshall@earthjustice.org">bmarshall@earthjustice.org</a>  <a href="mailto:jluebkemann@earthjustice.org">jluebkemann@earthjustice.org</a>  <a href="mailto:hlochan@earthjustice.org">hlochan@earthjustice.org</a>  <a href="mailto:flcaseupdates@earthjustice.org">flcaseupdates@earthjustice.org</a></p>	<p>William C. Garner  Law Office of William C. Garner, PLLC  SACE  3425 Bannerman Road  Unit 105, No. 414  Tallahassee, FL 32312  <a href="mailto:bgarner@wclawoffice.com">bgarner@wclawoffice.com</a></p>	<p>Mike Cassel / Michelle D.  Napier  FPUC  208 Wildlight Ave.  Yulee FL 32097  <a href="mailto:mcassel@fpuc.com">mcassel@fpuc.com</a></p>
<p>Tony Mendoza / Patrick Woolsey  Sierra Club  2101 Webster Street Suite 1300  Oakland, CA 94612  <a href="mailto:tony.mendoza@sierraclub.org">tony.mendoza@sierraclub.org</a>  <a href="mailto:patrick.woolsey@sierraclub.org">patrick.woolsey@sierraclub.org</a></p>	<p>Robert Scheffel Wright / John T. LaVia,  III  Gardner, Bist, Bowden, Dee, LaVia,  Wright, Perry &amp; Harper, P.A.  Florida Retail Federation  1300 Thomaswood Drive  Tallahassee, Florida 32308  <a href="mailto:schef@gbwlegal.com">schef@gbwlegal.com</a>  <a href="mailto:jlavia@gbwlegal.com">jlavia@gbwlegal.com</a></p>	<p>Nikhil Vijaykar  Keyes &amp; Fox LLP  EVgo Services, LLC  580 California St., 12th Floor  San Francisco, CA 94104  <a href="mailto:nvijaykar@keyesfox.com">nvijaykar@keyesfox.com</a></p>	<p>Christopher T. Wright  Florida Power &amp; Light  Company  700 Universe Boulevard  Juno Beach, FL 33408-0420  <a href="mailto:christopher.wright@fpl.com">christopher.wright@fpl.com</a></p>
<p>Sari Amiel  Sierra Club  50 F St. NW, Eighth Floor  Washington, DC 20001  <a href="mailto:sari.amiel@sierraclub.org">sari.amiel@sierraclub.org</a></p>	<p>Peter J. Mattheis / Michael K. Lavanga /  Joseph R. Brisicar  Stone Mattheis Xenopoulos &amp; Brew, PC  NUCOR  1025 Thomas Jefferson Street, NW  Suite 800 West  Washington, DC 20007-5201  <a href="mailto:pjm@smxblaw.com">pjm@smxblaw.com</a>  <a href="mailto:mkl@smxblaw.com">mkl@smxblaw.com</a>  <a href="mailto:jrb@smxblaw.com">jrb@smxblaw.com</a></p>	<p>Lindsey Stegall  EVgo Services, LLC  11835 W. Olympic Blvd., Ste. 900E  Los Angeles, CA 90064  <a href="mailto:Lindsey.Stegall@evgo.com">Lindsey.Stegall@evgo.com</a></p>	<p>Kenneth A. Hoffman  Florida Power &amp; Light  Company  134 West Jefferson Street  Tallahassee, FL 32301-1713  <a href="mailto:ken.hoffman@fpl.com">ken.hoffman@fpl.com</a></p>
<p>J. Jeffrey Wahlen / Malcolm M.  Means  Ausley McMullen  Tampa Electric Company  Post Office Box 391  Tallahassee, Florida 32302  <a href="mailto:jwahlen@ausley.com">jwahlen@ausley.com</a>  <a href="mailto:mmeans@ausley.com">mmeans@ausley.com</a></p>	<p>Beth Keating  Gunster, Yoakley &amp; Stewart, P.A.  FPUC  215 South Monroe St., Suite 601  Tallahassee, FL 32301  <a href="mailto:BKeating@gunster.com">BKeating@gunster.com</a></p>	<p>Frederick L. Aschauer, Jr., Esq.  Allan J. Charles, Esq.  Lori Killinger, Esq.  Lewis, Longman &amp; Walker P.A.  AAE / Circle K / RaceTrac / Wawa  106 East College Avenue, Suite 1500  Tallahassee, Florida 32301  <a href="mailto:fAschauer@llw-law.com">fAschauer@llw-law.com</a>  <a href="mailto:acharles@llw-law.com">acharles@llw-law.com</a>  <a href="mailto:killinger@llw-law.com">killinger@llw-law.com</a>  <a href="mailto:jmelchior@llw-law.com">jmelchior@llw-law.com</a></p>	

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**  
**REVIEW OF STORM PROTECTION PLAN, PURSUANT TO RULE 25-6.030, F.A.C.,**  
**DUKE ENERGY FLORIDA, LLC.**

**DOCKET NO. 20250015-EI**

**REBUTTAL TESTIMONY OF ALEXANDRA M. VAZQUEZ**  
**ON BEHALF OF DUKE ENERGY FLORIDA, LLC**

**APRIL 2, 2025**

1 **I. INTRODUCTION AND QUALIFICATIONS.**

2 **Q. Please state your name and business address.**

3 A. My name is Alexandra M. Vazquez. My current business address is 3300 Exchange Place,  
4 Lake Mary, FL. 32746.

5

6 **Q. Have you previously filed direct testimony in this docket?**

7 A. Yes, I filed direct testimony supporting the Company's SPP on January 15, 2025.

8

9 **Q. Has your employment status and job responsibilities remained the same since**  
10 **discussed in your previous testimony?**

11 A. Yes. My title has changed to Manager, Power Grid Operations Asset Management  
12 Governance, but my job responsibilities are the same.

13

14

1 **II. PURPOSE AND SUMMARY OF TESTIMONY.**

2 **Q. What is the purpose of your rebuttal testimony?**

3 A. The purpose of my testimony is to provide the Company’s rebuttal to certain assertions and  
4 conclusions regarding the Transmission specific aspects of DEF’s 2026-2035 Storm  
5 Protection Plan (“SPP 2026” or “Plan”) contained in the direct testimony of OPC’s witness  
6 Mara. Mr. Lloyd presents additional rebuttal of Mr. Mara’s testimony.

7  
8 **Q. Do you have any exhibits to your testimony?**

9 A. No, I do not.

10

11 **Q. Please summarize your testimony.**

12 A. My testimony focuses on Witness Mara’s testimony as it relates to Transmission specific  
13 programs and subprograms and rebuts the incorrect conclusions contained within. In sum,  
14 when the Transmission programs are properly understood, it is clear the programs are  
15 rightfully included in the Company’s SPP and should be approved. OPC’s witness’  
16 arguments to the contrary demonstrate a lack of understanding of the programs themselves  
17 and are based on a narrow interpretation of Rule 25-6.030 (the “SPP Rule”) that, in DEF’s  
18 belief, unnecessarily curtails the scope of the SPP contrary to what appears to be the  
19 legislature’s intent. Witness Mara’s recommendations should be rejected by the  
20 Commission.

21

22 **Q. At a high level, did anything stand out to you in your review of Mr. Mara’s testimony?**

1 A. Yes. After reviewing Witness Mara’s Curriculum Vitae provided in Exhibit No. (KJM-1),  
2 it does not appear that Mr. Mara has experience operating a Transmission system. Based  
3 on my experience working on DEF’s Transmission assets, I will address why I disagree  
4 with Witness Mara’s opinion regarding each Transmission subprogram he discussed and  
5 further explain how they are designed to accomplish the goals of reducing outages and  
6 restoration costs resulting from extreme weather events.

7  
8 **Q. Have you fully described the Transmission programs within the SPP?**

9 A. Yes. The Transmission programs were described in Exhibit No. (BML-1) – Program  
10 Descriptions and further explained in my previously filed direct testimony. In this rebuttal  
11 testimony, I will only address certain specific contentions raised by OPC’s witness, Mr.  
12 Mara.

13  
14 **III. INSULATOR UPGRADES**

15 **Q. Please describe how the Transmission Insulator upgrades subprogram meets the**  
16 **intent of the SPP Statute and Rule.**

17 A. The Transmission Insulator Upgrades subprogram is intended to upgrade targeted  
18 equipment that is more vulnerable during extreme weather events to protect the integrity  
19 of the grid. Simply put, this subprogram of Structure Hardening will mitigate outages  
20 during extreme weather events. Structure hardening in its entirety is focused on reduction  
21 of outage times and restoration costs, however, the primary benefit of the Insulator  
22 upgrades subprogram is reduction in outages, thus improving operation of the grid during  
23 extreme weather events.

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**Q. Does this subprogram’s scope include various types of insulators?**

A. Yes. DEF’s Insulator upgrade subprogram is not limited to a specific type of insulator or application. Criteria for this subprogram is based on material properties and not insulator application or configuration (e.g., post). Post insulator refers to the application and use of the insulator, not the material. Therefore, post insulators are included.

**Q. OPC Witness Mara pointed out that DEF did not include certain information regarding this subprogram in its Exhibit No. (BML-1). Do you agree?**

A. Yes, Witness Mara is correct. DEF inadvertently omitted the Insulator upgrades subprogram Year 1 location information in its Exhibit No. (BML-1) and filed a revised version on March 13, 2025. The Year 1 Project List for Insulator Upgrades subprogram is included in this corrected version on page 45 of 56.

**Q. Can you explain why the Year 1 Project List for Insulator upgrades shows a customer count of 0 for the locations identified?**

A. Yes. Service for all customers originates from the transmission system, which acts as a bridge between the generation and the distribution system. The transmission system consists of different voltages with the highest voltage portion (100kv and above) being the bulk electric system (“BES”). The BES is subjected to mandatory reliability standards published and administered by the North American Electric Reliability Council (“NERC”) under the authority of the Federal Energy Regulatory Commission (“FERC”). These

1 standards require sufficient redundancy within the BES to allow continued operation even  
2 when one or more elements of the system is out of service.

3  
4 Therefore, most of DEF's BES assets do not directly serve customers but instead serve as  
5 critical infrastructure maintaining power flow within and between DEF, neighboring  
6 utilities, and Independent Power Producers. As a result, failure of a single BES element  
7 will often not cause a direct outage to our customers but removes a level of resiliency for  
8 the entire BES. Sequential failures within the system can cause significant disruption to  
9 power flows and cause extensive customer interruptions, including during an extreme  
10 weather event.

11  
12 Imagine a highway facilitating long-distance travel, much like Transmission lines carry  
13 power over long distances at higher voltages. Both are designed for high-volume, long-  
14 distance transport. The substations are like rest stops along a highway, where the voltage  
15 can be adjusted (stepped up or down) to match the needs of the distribution system, similar  
16 to how rest stops provide amenities for travelers. If there is an issue along the highway (i.e.,  
17 accident, closed path, etc.), the driver has alternative exits and routes to continue navigating  
18 to their destination; however, the driver is still impacted by the incident. Similarly, if there  
19 is a failure on a transmission line, power may have an alternate path, but the grid is still  
20 impacted and ultimately the customer may be impacted. Thus, it is critical to harden these  
21 facilities against the effects of extreme weather events as the hardening will have a positive  
22 impact on the overall level of service provided to our customers even if, as described above,  
23 a given line is shown as "serving" 0 customers.

1 **Q. Referencing the Insulator upgrades subprogram, Witness Mara states that “this**  
2 **program replaces a system component with another component with similar strength**  
3 **and purpose” and “this is not an upgrade.” Do you agree with Witness Mara’s**  
4 **statements?**

5 A. No, I do not agree with Witness Mara’s assertions. Mr. Mara may have overlooked the  
6 section in Exhibit No. (BML-1) where it states that the line insulator subprogram is targeting  
7 porcelain insulators which show pin erosion ‘penciling’ of the connections between the  
8 insulators. The glass replacement insulators utilize a more uniform matrix than porcelain,  
9 with a design change that includes a zinc sleeve to mitigate the pin erosion for a better  
10 mechanical connection. The implementation of the improved design in the bell and  
11 connection is to reduce the effects of penciling over time, ultimately mitigating failure  
12 during extreme weather events and minimizing outage events.

13  
14 Additionally, in DEF’s response to Staff’s First Set of Interrogatories, DEF shared that  
15 ceramic/porcelain is made from a combination of different raw materials, and this affects  
16 grain structure, void formation, and consequently long-term performance of porcelain bells.  
17 The uniformity of glass insulator material and better control of the manufacturing process  
18 produces insulators that do not have as much variation in strength as ceramic/porcelain  
19 insulators. This material has lower failure rates during extreme weather events, constituting  
20 a major upgrade in resilience during storms. Therefore, Mr. Mara is incorrect to say that the  
21 hardened insulators have similar strength.

22  
23 **Q. Can you describe the prioritization methodology for the Insulator upgrade**  
24 **subprogram?**

1 Yes, but first let me state that Mr. Mara is incorrect in suggesting that “DEF did not indicate  
2 prioritization.” Like other equipment upgrade subprograms within DEF’s SPP, the  
3 prioritization of the insulators is conducted in a rigorous 2-step process, as documented in  
4 Exhibit Nos. (BML-1) and (BML-2). In the first step, the SPP model is run against the  
5 existing conditions under simulated weather modeling including extreme weather events  
6 and against a hardened condition for every location on the grid in DEF’s territory. Failures  
7 of all equipment types are calculated, and downstream costs and benefits are estimated  
8 quantitatively through this detailed simulation.

9  
10 The output of the modeling is a data driven list of locations, by sub-program, prioritized  
11 by the projects’ benefit-cost ratios, such that the most cost-effective locations are placed  
12 earlier in time. In the second-step, DEF engineers carefully conduct a desk-review to  
13 evaluate the data driven generated prioritization based on their experience and knowledge  
14 of the location to determine if there are on-ground conditions that were not captured in the  
15 model that would change the rank of the location within the plan. Please see Appendix A  
16 of Exhibit No. (BML-2) for further details on this methodology.

17  
18 **Q. Witness Mara also states that DEF “did not provide a comparison of costs and**  
19 **benefits for the new program” and “it is not possible to make a comparison necessary**  
20 **for the PSC to determine if implementation of the program is in the public interest.”**

21 **Do you agree with Witness Mara’s claims?**

22 A. No. I do not agree with Witness Mara’s claims. Insulator upgrades is a subprogram of the  
23 Transmission Structure Hardening program. DEF provided cost and benefit details at the

1 program level, as required by Rule 25-6.030, F.A.C. Furthermore, specifically for the  
2 Insulator upgrades subprogram, benefits are described on page 39 of Exhibit No. (BML-  
3 1). Additionally, as requested, costs were provided for Insulator Upgrades in response to  
4 OPC's First Set of Interrogatories (No. 44).

5 This subprogram will help to harden the system against the effects of extreme weather and  
6 should be included in DEF's SPP.

#### 7 8 **IV. TOWER UPGRADES AND OVERHEAD GROUND WIRE**

9 **Q. Mr. Mara recommends that the Tower Upgrade and Overhead Ground Wire**  
10 **subprograms should be removed from the SPP because, in his opinion, these**  
11 **subprograms are “like for like” replacements that serve the same purpose without**  
12 **improving system performance. Has Witness Mara expressed similar or equivalent**  
13 **sentiments regarding DEF's Transmission Tower Upgrades and Overhead Ground**  
14 **Wire subprograms?**

15 A. Yes. Witness Mara filed testimony in DEF's SPP 2023-2032 docket, Docket No.  
16 20220050-EI. He advocated for similar conclusions based on similar reasoning as in this  
17 docket including recommending the Commission eliminate Transmission Tower  
18 Upgrades and Overhead Ground Wire from DEF's SPP.

19  
20 **Q. Did DEF file rebuttal testimony in Docket No. 20220050-EI?**

21 A. Yes. DEF's Witness Amy Howe filed extensive rebuttal testimony<sup>1</sup> rebutting many of  
22 Witness Mara's assertions.

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<sup>1</sup> Second Amended Testimony of A. Howe, doc. no. 05229-2022, Docket No. 20220050-EI (filed Aug. 4, 2022).

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**Q. Do you agree with Witness Howe’s previous statements regarding these two subprograms?**

A. Yes, and I would adopt Ms. Howe’s testimony on these points, in addition to my testimony below regarding the appropriateness of the subprograms.

**Q. Describe why the Transmission Tower Upgrades subprogram meets the requirements of Rule 25-6.030, F.A.C.**

A. As stated in Exhibit No. (BML-1), the Transmission Tower Upgrades subprogram will replace tower types that have previously failed during extreme weather events, as well as those identified by inspections. Prior experience has shown that, after wood poles are removed from the system, that next point of vulnerability are the identified towers. As described in Exhibit No. (BML-2), Tower Upgrades is a standards-based activity, in which towers are upgraded to the current design standard. Existing transmission towers will be upgraded with a new steel tower or a steel/concrete structure. Upgrading prioritized steel, wood/steel towers with a new cathodic protection steel tower lowers the risk of in-service failure during extreme weather conditions. The system is also hardened, as the upgraded tower is less susceptible to extreme weather and wind damage.

**Q. Witness Mara references the number of towers DEF expects to replace as part of its Tower Upgrade subprogram noting that it appears DEF’s current proposed Plan anticipates replacing a greater number of towers, can you explain the change?**

1 A. Yes. As stated in DEF’s Response to OPC’s First Set of Interrogatories (No. 52), the  
2 Transmission Tower Upgrade subprogram’s overall intent and selection criteria has not  
3 changed over the iterations of DEF’s Storm Protection Plan filings. DEF’s SPP 2023 stated  
4 that there were over 700 towers identified as having a similar design type to those that had  
5 previously failed during extreme weather (e.g., hurricanes Irma and Michael) and thus  
6 would be prioritized for upgrade under the subprogram. This number represents a subset,  
7 not the full complement, of the towers within the subprogram’s criteria. DEF believes that  
8 Witness Mara’s understanding is not complete.

9  
10 **Q. Do you agree with Witness Mara’s recommendation that the Transmission Tower**  
11 **Upgrade subprogram should be eliminated from DEF’s SPP?**

12 A. No, I do not agree with Witness Mara’s recommendation that the Transmission Tower  
13 Upgrade subprogram should be eliminated from the SPP because, as I explain below, his  
14 conclusion is based upon a number of faulty premises.

15 First, Mr. Mara states “The replacement of towers is a like-for-like replacement. This is  
16 different than replacing a wood transmission pole with a metal or concrete pole with greater  
17 resiliency to extreme winds.”<sup>2</sup> Mr. Mara fails to recognize that tower upgrades are designed  
18 to the latest standards. Equipment standards, both internal and external, are continuously  
19 reviewed and updated. Thus, new equipment installations include the improvements as part  
20 of DEF’s updated standards, meaning the towers are not being replaced “like for like” at  
21 all.

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<sup>2</sup> Mara Testimony, p. 11, ll. 9-11.

1 Mr. Mara continues, “If age is a criterion and the towers are beyond their useful life, then  
2 replacement of the towers is an aging infrastructure project and therefore should not be  
3 included in the SPP.”<sup>3</sup> This argument ignores reality by seeming to believe that the  
4 resiliency of the system is somehow a static measure that does not change over time, that  
5 infrastructure should rationally be expected to retain all its strength throughout its service  
6 life. The reality is that resiliency of an aging system decreases over time. Replacing these  
7 aging towers to today’s design standards increases reliability by reducing risks of  
8 infrastructure damage. “Aging” infrastructure, but not yet beyond its useful life (still  
9 accomplishing its purpose), performs better when replaced with a new component, thereby  
10 strengthening the overall system relative to the status quo, which I believe is the goal of  
11 the SPP. Accelerated change outs of aging infrastructure increases resiliency and  
12 reliability, as less damage occurs during extreme weather events with upgraded equipment.  
13 Finally, DEF inspects its infrastructure pursuant to Commission-approved schedules and  
14 towers identified as beyond their useful life would be replaced as part of DEF’s standard  
15 maintenance work (i.e., base rate work) and not pursuant to this subprogram.

16  
17 Mr. Mara also states, “Transmission lines have been required by the NESC to be built for  
18 extreme wind events since at least 1977. . . . Replacing towers with new towers that meet  
19 the same weather loading condition will not add to resiliency.”<sup>4</sup> The National Electric  
20 Safety Code (“NESC”) establishes minimum requirements to ensure safety and reliability.  
21 This national standard changes over time and therefore the standards as they existed in  
22 1977 are not identical to the standards adopted in 2023. In some cases, NESC-mandated

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<sup>3</sup> *Id.* at ll. 14-15.

<sup>4</sup> *Id.* at ll. 12-17.

1 wind speed tolerances may decrease. DEF, however, does not decrease wind speed  
2 tolerances when the NESC allows. DEF extreme wind design standards meet and exceed  
3 the current and past NESC requirements which of course cover more criteria than wind-  
4 loading. This assures designs balance meeting safety minimums, construction variables,  
5 reliability, costs, and long-term performance based on project locations and circuit  
6 criticality. To the extent Mr. Mara is basing his understanding of DEF's design standards  
7 on responses provided in Mr. Lloyd's deposition, I would note that I am sponsoring the  
8 Transmission-specific portions of the SPP, and that Mr. Lloyd's job responsibilities do not  
9 encompass transmission work – as he noted in that deposition.<sup>5</sup>

10  
11 Witness Mara continues “If the tower design was flawed, it would have been imprudent  
12 for DEF to have originally constructed the tower in which case the cost should also be  
13 denied from the SPP.” To DEF's knowledge, no such towers exist, nor does Witness Mara  
14 opine that the design *was* flawed but merely states “if” it was flawed it should not have  
15 been accepted. As mentioned above, tower construction has always been and continues to  
16 be driven by design standards. This includes designs before and after the adoption of the  
17 1977 NESC extreme wind criteria. Mr. Mara chose to ignore that the lattice towers in  
18 question predate 1977, or possibly did not know because he failed to ask. And (by his own  
19 admission), there was no NESC extreme wind loading requirement at the time of design.  
20 Therefore, the towers do not suffer from a “design” flaw any more than any component  
21 that has been updated over time (or which was built to a given standard that has been  
22 subsequently modified).

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<sup>5</sup> See, e.g., Lloyd Deposition, p. 12, ll. 7-15; p. 33, ll. 4-8; p. 34, ll. 15-21; p. 40, ll. 20-21.

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Mr. Mara next states that “Replacing a tower with another tower of the same strength does not increase resiliency. Rather it simply maintains the status quo in terms of strength. . . . Clearly replacing new towers with the same strength and same materials is not a clear improvement in outage cost or times, therefore the project does not meet the requirements” of the Rule. As I previously noted, this opinion ignores reality by assuming the system’s strength is static and infrastructure retains its original strength throughout its operational life – unfortunately, that is just not the case. Moreover, as stated above, DEF upgrades towers to DEF extreme wind guidelines that exceed NESC requirements, providing increased strength and resiliency. Additionally, as a result of past extreme weather event performance, DEF engineering criteria for tower construction was enhanced to not only satisfy NESC minimum requirements, but to also mitigate cascading failure.

This subprogram should be retained.

**Q. Witness Mara states neither Florida Power & Light nor Tampa Electric include the replacement of lattice towers in their respective SPPs. Do you think this should prevent DEF from including this hardening activity in its own SPP?**

A. No. I am not aware of any requirement that all utilities have the exact same programs included in their respective SPPs - for good reason - each utility’s system is unique. DEF’s SPP is specific to its system’s needs and includes programs designed to strengthen *that* system to provide customers the benefits the legislature has identified while meeting the requirements of the SPP Rule.

1 **Q. Describe how the Transmission Overhead Ground Wire subprogram meets the**  
2 **requirements of Rule 25-6.030, F.A.C.**

3 A. As described in Exhibit No. (BML-2), the Transmission Overhead Ground Wire  
4 (“OHGW”) subprogram is a standards-based activity that targets replacement of  
5 transmission OHGW susceptible to damage or failure with optical ground wire (“OPGW”).  
6 OPGW provides improved grounding and lightning protection as well as high-speed data  
7 transmission for system protection, control, and communications. As stated in Exhibit No.  
8 (BML-1), deteriorated OHGW reduces the protection of the conductor and exposes the line  
9 to repeated lightning damage and risk of failure impacting the system. By targeting  
10 deteriorated OHGW on lines with high lightning events, the benefits of this subprogram  
11 will be maximized. Additionally, the redundant sources of fiber optic communications for  
12 system protection and control supports faster identification of trouble spots on the  
13 transmission system and enables faster restoration following line faults, thus reducing  
14 outage restoration times.

15  
16 **Q. Witness Mara asserts DEF is “simply replacing old overhead ground wire with**  
17 **another conductor that serves the same purpose without any increase in performance**  
18 **of the transmission line during extreme weather events.” Can you please explain what**  
19 **was meant by the term “deteriorated OHGW” used in Exhibit No. (BML-1) and why**  
20 **the subprogram is appropriate for SPP?**

21 A. Yes, but first I would stress that, in my opinion, programs or subprograms aimed at  
22 replacing aging infrastructure – whether due to wear over time or because they have simply  
23 been performing as intended but cannot realistically be expected to do so indefinitely – are

1 properly included in the SPP. The OHGW subprogram is a contributor to system  
2 interruptions during extreme weather events and therefore, its enhancement serves to  
3 strengthen the system and provide a more resilient grid as intended by the SPP statute and  
4 rule.

5  
6 With that said, deteriorated OHGW is static conductor that has lost some of its strength but  
7 still performs the designed function, albeit at reduced capacity. This deterioration occurs  
8 when the protective galvanization has been sacrificed; static in this condition is more prone  
9 to failure. It is known and accepted that all static sizes and material combinations will lose  
10 their galvanization and eventually rust, thus reaching end of life. When this occurs, not  
11 only is the static more susceptible to failure from both wind and lightning events, but the  
12 grounding qualities become compromised. The OHGW is not “deteriorated” in the sense  
13 of having been poorly designed or maintained; rather, it is simply an asset that, when  
14 replaced, will strengthen the system against the effects of extreme weather relative to the  
15 state of the system as it exists today.

16  
17 **Q. Do you agree with Witness Mara that DEF may or may not use the communication**  
18 **capabilities of the optical overhead ground wire it is installing?**

19 A. No, nor do I know the factual basis upon which Mr. Mara based this speculative conclusion,  
20 other than his correct recognition that fiber optic cable must be integrated in a system of  
21 like cables – but that is one of the purposes of the subprogram – to accelerate the  
22 completion of that system. We have every intention of using the communication  
23 capabilities of OPGW. In some cases, we may need other upgrades to occur on adjacent

1 transmission stations and circuits before allowing use of the communication. Once all  
2 upgrades are completed, we will have full communication capability. OPGW serves both  
3 purposes of shielding and offering communication, and as previously provided in DEF's  
4 response to OPC's First set of Interrogatories (No. 40), OPGW is our standard for new  
5 construction and replacements. This fiber optic cable enables the migration to fiber-based  
6 protection and control logic which strategically offers short- and long- term infrastructure  
7 bandwidth solutions. Fiber enables fast, reliable, and advanced protection and control  
8 system functionality for the transmission grid. Additionally, it minimizes the impacts to  
9 customers by reducing incidents of grid operations while also reducing grid restoration  
10 times. From a construction standpoint, it is more cost effective and less customer invasive  
11 to install OPGW while performing other work rather than going back again to install it  
12 when the need arises.

13  
14 **Q: Can you describe the prioritization methodology for OHGW?**

15 A: Fundamentally, OPGW aims to increase the resilience of the grid over the existing baseline  
16 by improving grounding. The risk of outages due to lightning strikes and mechanical  
17 failures are heightened during extreme weather conditions due to higher magnitude and  
18 frequency lightning events. Advanced replacement of functional wire that is susceptible to  
19 failure (e.g., degraded) under extreme weather conditions with new optical wire provides  
20 an effective solution to mitigate these risks.

21  
22 The prioritization of locations for OPGW follows the two-step methodology described for  
23 insulators above and in Appendix A of Exhibit No. (BML-2), which includes rigorous

1 weather modeling and detailed engineering desk-review. For OPGW, the prioritization  
2 modeling focuses on the main purpose of the hardening activity, by modeling benefits from  
3 reduction in customer minutes of interruption (“CMI”) due to increased resilience to  
4 lightning strikes.

5  
6 **Q. Would you characterize the benefits of installing OPGW as “a minor side benefit?”**

7 A. I would not characterize the benefits of installing OPGW as a “minor side benefit.”<sup>6</sup> DEF  
8 is replacing the existing OHGW following the current Duke Energy OPGW standards,  
9 provided in DEF’s response to OPC’s First Set of Interrogatories (No. 40) and Production  
10 of Documents Request (No. 12). These standards are cost-effective, as the additional  
11 material cost is negligible compared to the total construction cost and provide additional  
12 benefits to the system. Installing OPGW not only provides the benefit of communication,  
13 but it also provides additional strength of the element (higher breaking strength). As  
14 mentioned above, communication enablement is a large benefit. Fiber optic cable installed  
15 in the overhead static wire position on transmission lines enables the migration to a fiber-  
16 based protection and control logic. This strategically offers DEF an optimum short- and  
17 long-term infrastructure bandwidth solution. Fiber enables fast, reliable, and advanced  
18 protection and control system functionality for the transmission grid and strategically  
19 impacts reliability by reducing incidences of grid operations, while reducing grid  
20 restoration times.

21  

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<sup>6</sup> Mara Testimony, p. 13, l. 13.

1 **Q. Do you agree with Witness Mara’s allegation “the new OHGW will meet the same**  
2 **NESC loading limits for extreme wind, so there is no increase in strength and thus no**  
3 **reduction in restoration costs.”?**<sup>7</sup>

4 A. No. I do not agree with Witness Mara’s assertion. Design standards are reviewed and  
5 revised over time and components replaced through this program (including OHGW) are  
6 reviewed and checked to these current design standards for compliance. Replacing OHGW  
7 to today’s design standards minimizes the probability of failures during extreme wind  
8 events, minimizing future restoration times.  
9 For all these reasons, I disagree with Mr. Mara’s conclusion that this subprogram should  
10 be removed from the SPP.

11  
12 **Q. Are Transmission Tower Upgrades and Overhead Ground Wire currently included**  
13 **in DEF’s SPP approved by the Florida Public Service Commission?**

14 A. Yes. These two subprograms have been approved by the Florida Public Service  
15 Commission in both DEF’s SPP 2020-2029, Docket No. 20200069-EI, as well as DEF’s  
16 SPP 2023-2032, Docket No. 20220050-EI.

17  
18 **V. SPP DEPLOYMENT PACE**

19 **Q. Does Witness Mara make a recommendation to reduce the pace at which DEF deploys**  
20 **certain SPP subprograms in his testimony?**

21 A. Yes. Witness Mara recommends DEF reduce its deployment of certain SPP subprograms  
22 to a level Staff inquired about in its seventh interrogatory.

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<sup>7</sup> *Id.* at p. 13, ll. 19-20.

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**Q. Can you describe Witness Mara’s recommendation for Transmission subprogram deployment?**

A. Yes. Witness Mara recommended “limiting transmission structure upgrades to 462 structures per year.”<sup>8</sup> This translates to a unit deployment reduction of around 75% in 2026 and 2027 for these affected subprograms. Witness Mara seemingly ignores, or at least does not acknowledge, that a roughly 4% reduction in revenue requirements he recommends would be a much more dramatic decrease in subprogram deployment.

**Q. Do you agree with Witness Mara’s assertion that this reduction will not materially affect the response to major events in the near term?**

A. No, I do not. First of all, as I explained in my direct testimony, DEF has not had a hardened transmission structure fail during a storm event. As described in DEF’s response to the Staff’s Interrogatory, limiting deployment to 462 transmission structures (i.e., poles and towers) over the entire 10-year plan (2026 through 2035) would delay these proven benefits to customers by extending the risk of non-hardened structure failures through an additional 6 to 7 storm seasons and at the conclusion of the first three-years of the proposed SPP (i.e., end of year 2028) this recommended reduction would result in close to 3,000 wood transmission poles remaining on the system rather than 0 as proposed by DEF.

In sum, adoption of this proposed reduction in work scope 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 facilities and prisons, cell

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<sup>8</sup> *Id.* at p. 14, l. 8.

1 towers, fueling stations, and water treatment plants, assisted living and hospice facilities,  
2 schools, shelters, and financial institutions – not to mention the impacts to other customers  
3 of all classes and types.  
4

## 5 VI. CONCLUSION

6 **Q. Ms. Vazquez, your rebuttal covers a lot of ground, but did you respond to every**  
7 **contention regarding the Company’s proposed plan in your rebuttal?**

8 A. No. Mr. Mara’s testimony involved numerous assertions, opinions and conclusions and I  
9 could not reasonably respond to each and, therefore, I focused on the issues that I thought  
10 were most important. As a result, my silence on any particular assertion in the intervenor  
11 testimony should not be read as agreement with or consent to that assertion, opinion, or  
12 conclusion.  
13

14 **Q. Does this conclude your testimony?**

15 A. Yes.

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**  
**REVIEW OF STORM PROTECTION PLAN, PURSUANT TO RULE 25-6.030, F.A.C.,**  
**DUKE ENERGY FLORIDA, LLC.**

**DOCKET NO. 20250015-EI**

**REBUTTAL TESTIMONY OF BRIAN M. LLOYD**  
**ON BEHALF OF DUKE ENERGY FLORIDA, LLC**

**APRIL 2, 2025**

1       **I. INTRODUCTION AND QUALIFICATIONS.**

2       **Q.           Please state your name and business address.**

3       A.           My name is Brian M. Lloyd. My current business address is 3250 Bonnet Creek  
4                   Road, Lake Buena Vista, FL 32830.

5

6       **Q.           Have you previously filed direct testimony in this docket?**

7       A.           Yes, I filed direct testimony supporting the Company's SPP on January 15, 2024.

8

9       **Q.           Has your employment status and job responsibilities remained the same since**  
10                   **discussed in your previous testimony?**

11      A.           Yes.

12

13       **II. PURPOSE AND SUMMARY OF TESTIMONY.**

14      **Q.           What is the purpose of your rebuttal testimony?**

1 A. The purpose of my testimony is to provide the Company's rebuttal to certain  
2 assertions and conclusions contained in the direct testimony of OPC's witness  
3 Mara. Mrs. Vazquez also presents rebuttal of the testimony of Witness Mara.

4  
5 **Q. Do you have any exhibits to your testimony?**

6 A. No, I do not.

7  
8 **Q. Please summarize your testimony.**

9 A. My testimony will explain the adverse consequences of adopting Witness Mara's  
10 recommended reduction in the pace at which DEF would deploy Distribution  
11 Feeder Hardening and Lateral Hardening work.

12

13 **III. SPP DEPLOYMENT PACE**

14 **Q. Does Witness Mara make a recommendation to reduce the pace at which DEF**  
15 **deploys certain SPP subprograms in his testimony?**

16 A. Yes. Mr. Mara recommends DEF slow the deployment pace of subprograms within  
17 the Feeder and Lateral Hardening Programs to the level Staff inquired about in its  
18 seventh interrogatory.

19

20 **Q. Can you describe Witness Mara's recommendation for Distribution**  
21 **subprogram deployment?**

22 A. Yes. Witness Mara recommended limiting "the number of feeders to be hardened  
23 from 120 to 105 feeders and lateral hardening from 130 laterals per year to 122

1 laterals per year.”<sup>1</sup> I’d like to first point out that DEF’s response, as shown in  
2 Exhibit No. (KJM-5), stated “hardening only 105, instead of approximately 150,  
3 miles of feeders per year...” and not the “120 miles” Witness Mara incorrectly  
4 included in his testimony. Like Mrs. Vazquez’s response to his recommendation  
5 on the Transmission subprogram deployment, the recommended reduction in the  
6 Distribution subprogram deployment also requires a much larger than roughly 4%  
7 reduction in units.

8 If the Commission were to adopt his recommendation, it would translate to a  
9 reduction in unit deployment of around 20% in 2027 and 2028. As I explain below,  
10 based on my experience with storm restoration efforts, I believe an approximately  
11 20% reduction in this important work, for the relatively small reduction in revenue  
12 requirements of approximately 3.9%, is short-sighted and will have a larger impact  
13 on storm restoration efforts than Mr. Mara recognizes.

14  
15 **Q. Do you agree with Witness Mara’s assertion that this reduction will not**  
16 **materially affect the response to major events in the near term?**

17 A. No, I do not. First of all, as I explained in my direct testimony, DEF’s has not had  
18 a hardened distribution structure fail during a storm event. As DEF stated in  
19 response to the Staff’s interrogatory, limiting the feeder and lateral hardening work  
20 to the units suggested would extend Feeder Hardening and Lateral Hardening  
21 deployment timelines by approximately 20 and 10-15 storm seasons, respectively.  
22 Of course, delays in deployment would translate into a delay of the benefits these

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<sup>1</sup> Mara testimony, pg. 14

1 hardening efforts provide to customers who are and will be served by these  
2 hardened assets.

3 The near-term impacts of this proposed reduction in pace would be seen in 2027  
4 and 2028. Limiting the number of miles hardened could reduce the number of  
5 customers benefitting from hardened distribution feeders and laterals by over  
6 20,000 customers in 2027 alone, a figure that would then grow in 2028 as DEF falls  
7 even farther behind the deployment pace established in the Plan.

8  
9 **Q. Can you please describe your “storm role”?**

10 A. My “storm role” is Planning Section Chief for Duke Energy Florida. In this storm  
11 role, which is activated during the Company’s response to an extreme weather  
12 event, I oversee a team of Duke Energy employees who are responsible for  
13 collecting, evaluating, disseminating, and using incident information to forecast the  
14 impact an extreme weather event could have on the DEF distribution system;  
15 estimate the number of resources needed to respond to the forecasted damage;  
16 provide vital information to the resources responding to the event; and tracking  
17 progress of restoration. This critical information is shared with other storm response  
18 teams to ensure that the communities we serve are restored to normalcy as safely  
19 and efficiently as possible following an extreme weather event. The team that I lead  
20 also conducts the forensics damage assessment and reviews the data to determine  
21 how DEF’s distribution system and its hardening measures fared against the  
22 weather.

1       **Q.       Have your experiences shaped your views on the value of storm hardening**  
2       **efforts?**

3       A.       Yes, definitely. My experiences not only as a long-time Florida resident but also as  
4       someone responsible for assisting the Company in storm restoration activities have  
5       provided key insights into the value storm hardened assets can bring to the  
6       communities DEF serves.

7       Seeing the destruction extreme weather events inflict on residents and businesses  
8       further underscores the importance of DEF’s storm hardening measures. A lasting  
9       memory of mine following Hurricane Michael is hearing customers cheer when the  
10      first streetlight illuminated after being out of commission for a length of time. After  
11      such an impactful storm that destroyed so much for those communities, seeing a  
12      simple streetlight return to service was enough to illicit that response.

13      Lastly, in my brief review of Witness Mara’s testimony in FPL’s SPP 2026-2035  
14      docket, I noticed he commented that he is “not an expert in logistics of storm  
15      restoration activity.”<sup>2</sup> If he had the experience in storm restoration activities that I  
16      have, he would not have come to the short-sighted conclusion that his  
17      recommended reduction in DEF’s SPP deployment pace would not materially  
18      impact the Company’s response to major events in the near term. Further, I doubt  
19      the 20,000 customers impacted by the delayed hardening efforts in 2027 would  
20      agree with Mr. Mara, as they may well be the ones cheering when that first  
21      streetlight comes back on.

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<sup>2</sup> See doc. no. 01539-2025, pg. 8, Docket No. 20250014-EI.

1        **IV. CONCLUSION**

2        **Q.        Mr. Lloyd did you respond to every contention regarding the Company's**  
3                    **proposed plan in your rebuttal?**

4        A.        No. Mr. Mara's testimony involved numerous assertions, opinions and conclusions  
5                    and I could not reasonably respond to each and, therefore, I focused on the issues  
6                    that I thought were most important. As a result, my silence on any particular  
7                    assertion in the intervenor testimony should not be read as agreement with or  
8                    consent to that assertion, opinion, or conclusion.

9

10       **Q.        Does this conclude your testimony?**

11       A.        Yes.