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June 30, 2022

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. 20220050-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 Brian M. Lloyd with Exhibit No. ___ (BML-4);
- DEF's Rebuttal Testimony of Christopher Menendez; and
- DEF's Rebuttal Testimony of Amy Howe.

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/mw
Enclosures

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CERTIFICATE OF SERVICE
Docket No. 20220050-EI

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished to the following by electronic mail this 30th day of June, 2022, to all parties of record as indicated below.

s/ Matthew R. Bernier
Attorney

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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. 20220050-EI

REBUTTAL TESTIMONY OF BRIAN M. LLOYD

ON BEHALF OF DUKE ENERGY FLORIDA, LLC

JUNE 30, 2022

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name and business address.

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

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

A. Yes, I filed direct testimony supporting the Company's SPP on April 11, 2022.

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

A. Yes.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my testimony is to provide the Company's rebuttal to certain assertions and conclusions contained in the direct testimonies of OPC's witnesses Kollen and Mara. Ms. Howe and Mr. Menendez will present additional rebuttal of the testimonies of OPC's witnesses Kollen and Mara.

Q. Do you have any exhibits to your testimony?

A. Yes, I am sponsoring the following exhibit to my rebuttal testimony:

- Exhibit No. __ (BML-4), 712 Self-Healing Team Benefits Report

This exhibit was prepared by the Company in the normal course of business and is true and correct to the best of my information and belief.

Q. At the outset, do you have any over-arching concerns with OPC's positions in this docket?

A. Yes, I do. While I am not a lawyer (though I note that neither of OPC's witnesses are lawyers either), it appears to DEF that their interpretation of the SPP statute and rule is overly constricted, to the point of essentially eliminating much of what DEF believes was the Legislature's and Commission's intent in enacting the statute and rules.

Q. Can you explain what you mean?

A. Yes. From DEF's perspective, the Legislature directed the utilities to develop integrated storm protection plans that as a whole achieve the goals of reducing restoration costs and outage times to customers and improving overall service reliability. DEF has followed that directive by crafting a systematic Plan that includes a suite of programs that, overall, are intended to accomplish these goals, over time, in a cost-effective manner. If, as OPC and specifically Mr. Mara suggest, the Company was required to limit its proposed programs to just those that themselves are projected to accomplish the goals set out in the statute, the ability to systematically harden the system against the effects of extreme weather would be seriously curtailed.

Said differently, I believe OPC has lost the forest for the trees. DEF operates an integrated system, from generation, to transmission, and then ultimately distribution to our customers. As such, system planning requires a highly integrated and interconnected approach, taking into account the impact actions directed at one component will have on the remainder of the system. That is, assuming without agreeing that an individual program "only" reduced restoration costs while another "only" reduced outage times, the two programs combined would achieve the legislature's goals. DEF believes this is what the legislature intended when it directed the utilities to file a plan explaining the Company's systematic approach to achieving the identified goals.

Moreover, DEF is required to plan for a range of contingencies and cannot assume a "one size fits all" approach. For example, the "extreme weather conditions" we must be prepared for include, but are not limited to, heavy rain events, lightning, coastal flooding, inland flooding (e.g., rivers), and gale-force winds. These events can occur on almost any given day and are not constrained to tropical weather systems, though those are the most oft thought of example of extreme weather in Florida. Further, even within the context of tropical weather systems, we know that each storm is unique in the degree, type, and concentration of damage – for example, Irma impacted almost the entirety of the state causing widespread damage while Michael was much more concentrated but nevertheless caused extreme damage in the impacted areas.

The point being, our intent, which we believe aligns with the legislature's directive, was to propose a holistic Plan to systematically harden the system to better withstand the range of extreme weather conditions expected to impact the state. The Plan, as a whole, is projected to achieve the multi-pronged goals of reducing storm restoration costs, outage times, and improving overall reliability. Taking the myopic approach offered by OPC would improperly hinder those efforts to the detriment of our customers and the state itself.

Q. Please summarize your testimony.

A. My testimony will focus on Witness Mara's and Witness Kollen's testimonies and explain the misinformation contained within. I will focus on three main areas: Benefits to Cost Analysis, Qualification for Inclusion in the Storm Protection Plan, and Staging Costs. As provided below, the programs DEF proposed in its SPP 2023-2032 ("SPP 2023"), all of which are extensions of the programs included in DEF's current SPP 2020-2029 ("SPP 2020"), are appropriate, consistent with the statute and rule, and should be approved by the Commission.

III. BENEFITS TO COST ANALYSIS ("BCA") DISCUSSION

Q. Both Witness Mara and Witness Kollen allege that the costs of DEF's SPP 2023 are higher than the benefits provided by the Plan. Are the Witnesses' allegations accurate?

A. No, both witnesses are incorrect. Table 1, below, summarizes present value benefits, present value costs, net present value (i.e., benefits minus costs), and the benefits to cost ratio for each program in DEF's SPP 2023. Table 1 clearly shows, without question, that DEF's programs have a benefits to cost ratio greater than 1, which indicates that the benefits are greater than the costs. DEF's Plan, as outlined in Exhibits BML-1 and BML-2, provides long-term benefits to the customers and State of Florida. I will provide further details as to why Witness Mara's and Witness Kollen's commentary on the benefits and costs are incorrect.

Table 1

Program	PV Benefits	PV Costs	NPV	B/C Ratio
D1: Feeder Hardening	$3,829,367,264	$2,016,634,712	$1,812,732,552	1.9
D2: Lateral Hardening	$8,005,067,340	$2,495,576,854	$5,509,490,486	3.21
D3: Self-Optimizing Grid (SOG)	$6,974,753,639	$228,987,548	$6,745,766,092	30.46
D4: Underground Flood Mitigation	$30,838,403	$14,369,826	$16,468,577	2.15
T1: Structure Hardening	$1,912,020,741	$1,489,983,733	$422,037,008	1.28
T2: Substation Flood Mitigation	$272,287,898	$73,697,798	$198,590,100	3.69
T3: Loop Radially Fed Substations	$110,329,885	$72,889,856	$37,440,029	1.51
T4: Substation Hardening	$287,436,172	$121,128,264	$166,307,908	2.37
Total	***$21,422,101,343***	***$6,513,268,591***	***$14,908,832,752***	***3.29***

Q. In Witness Mara's opening discussion of section 366.96, he states that "Clearly, the goal (of SPP) is to invest in storm hardening activities that benefit the customers of the of the electric utilities at a cost that is reasonable relative to those benefits." Do you agree with this statement?

A. Yes, I do agree with this statement as it is the basis for DEF's overall Storm Protection Plan. As outlined in BML-2, DEF and Guidehouse utilized a detailed analysis that measured the benefits, including customer benefits as estimated by Interruption Cost Estimator (which I will discuss below) and restoration costs savings, compared with the costs of the programs. All of DEF's SPP 2023 programs have a benefit to cost ratio greater than 1, as shown above in Table 1. I believe that DEF's SPP 2023 meets both the requirements laid forth in the Statute and rule as well as Witness Mara's statement noted above.

Q. Do you agree with Mr. Mara's contention that DEF only considered resource availability as a possible limitation to the SPP Programs' budgets?

A. Absolutely not. As DEF explained in response to interrogatory number 78, DEF began the planning process with a consideration of the appropriate level of investment to properly balance the goal of strengthening the system as directed by the legislature with the impact on customers' bills:

> DEF establishes its overall SPP program spend, including capital expenditures, with consideration of the impact to customer rates as a key consideration, but must also balance this impact with the goals and requirements of the Storm Protection Plan statute and rule and the outage risk a non-hardened grid creates during extreme weather events. The establishment of SPP program spend is accomplished at the outset of the plan development process and therefore represents an express decision not to expend greater amounts which would have a greater impact on customer rates. Thus, the entirety of the plan represents a balancing of the goals of the SPP with impact on customers' rates.

Further, Exhibit BML-2, includes Figure A-2, which is a Detailed Modeling Approach Flow Diagram. As part of the decision-making process regarding program scope, after Guidehouse identified its preferred Portfolio of programs and projects, it then moved to Step M, the "Funding and Timing Constraints" provided to it by DEF: "Guidehouse applied program- and portfolio-level funding constraints, which DEF provided. ***These represent practical limits on program implementation***." (e.s.).

Mr. Mara's opinion to the contrary ignores DEF's planning process as outlined in Exhibit BML-2 and DEF's responses to OPC's discovery requests. Moreover, I note that Mr. Mara provides no citation to where he claims DEF asserted the "only limit to the magnitude of the budgets was the limitation of resources" to complete the Plan's goals, and it appears to DEF that Mr. Mara has taken a statement regarding the consideration of "available resources" made in the context of prioritizing project deployment (see, Program Descriptions in Ex. BML-1) and conflated it with the development of Program scope.

To say that Mr. Mara has mixed apples and oranges to reach his conclusion would be an understatement. As demonstrated in Ex. BML-2 and expounded upon in DEF's response to Interrogatory 78, DEF's determination of the appropriate funding level (which by definition includes a decision on acceptable level of customer bill impact) operated as an explicit limitation on Program scope.

Q. Witness Kollen recommends that the Commission reject all proposed SPP projects that do not have a benefit-to-cost ratio of at least 100%. Do you see an issue with this recommendation?

A. Yes, I do. Although all of DEF's programs contained within its SPP 2023 have a benefit-to-cost ratio of at least 100% (as shown in Table 1), there are individual projects within those programs that do not meet a 100% benefits-to-cost ratio. The rule does not require *projects* to meet a specific threshold, but rather requires a comparison of the description of projected *Program* benefits to costs. In fact, Mr. Mara's newly proposed requirement would exclude a large number of DEF's customers who may live in areas where hardening is necessary but may not be as economically practical as areas with greater customer density from receiving any direct benefits from the hardening programs they are helping to fund. This litmus test would exclude many customers from outage relief during a major storm event solely based on geography or the relative cost of needed upgrades in their area, although these same customers would be paying the same rates as those who have received these benefits. DEF completely disagrees that such a result was intended by the legislature or Commission.

The transmission and distribution systems are integrated and work together while serving our customers. As Witness Howe discusses in detail in her testimony, the coalescence of the individual pieces form the connected grid and applying the Storm Protection Plan programs to them in the manner outlined in DEF's plan ensures all links in the chain are addressed to serve customers.

Q. Witness Mara claimed that the benefits of hardening will be reduced over time as the hardening sub-program is applied to feeders that are not as vulnerable to extreme wind and may have less tree cover or stronger poles already in place. Do you agree with this assessment?

A. While I agree in principle that DEF is prioritizing projects for the most "vulnerable" areas first, as outlined in DEF's benefits to cost analysis, Rule 25-6.030 requires DEF to update its SPP at least every three years, which I believe was a very well contemplated rule as it allows an opportunity to reevaluate the system and adjust plans accordingly. For example, if a circuit is hardened through means outside of the SPP, such as during a highway relocation project or customer requested undergrounding project, the circuit could be assessed, and the plan changed. However, I am concerned that Witness Mara is discounting the customers that are served by the circuits that he says are less "vulnerable." Those customers can still be impacted by extreme weather events and, as I stated above, should have the opportunity for their circuits to be hardened even if the benefits to cost ratio is lower than higher prioritized projects.

Q. Witness Kollen states that DEF's benefits to cost analysis was "flawed and used to calculate excessive benefits by including the societal value of customer interruptions," that these costs are "highly subjective," are not "cost[s] ... actually incurred or avoided by the utility or customer" and "should be excluded from the justification of SPP programs and projects." Do you find flaws in Witness Kollen's statements?

A. Yes, I believe that Witness Kollen's statements on societal benefits and their inclusion in the benefits/cost analysis are misguided. Dismissing the societal benefits misses the overall purpose of the SPP which is to protect and strengthen the grid to reduce the impact from extreme weather events so the State of Florida can return to normal business as quickly as possible. Medical facilities functioning to full capacity; roadways opened; students back in school; businesses employing workers and serving customers; citizens being able to stock their refrigerators, wash clothes and take hot showers; and tourists returning to the State's amazing destinations. All of these societal norms have value to the customers that OPC represents beyond the reduced restoration costs, even if they are not directly realized by the utility or customer.

Personally, I have felt the "cost" of being without electricity for multiple days following an extreme weather event, costs such as bringing ice home every night so my wife, who was eight months pregnant at the time, could keep my one-year old's milk cold. I am also certain that my wife and son paid a cost of sitting in the heat and would have benefitted from having power at the house for those days.

Another example that shows the true value of having electric service to customers is, after Hurricane Irma, a customer was in such need for service that they called in a bomb threat against the facility where I was working. Obviously, this is extremely out of line, but it reinforces how customers are dependent on electricity to power their lives and benefit from having service. Not attributing a value to that benefit is shortsighted and ignores the reality faced by customers.

That said, DEF took a conservative approach in quantifying these benefits through use of the Interruption Cost Estimator ("ICE") model. The ICE model was developed by Lawrence Berkeley National Laboratory ("LBNL") and Nexant, Inc. This tool is designed for electric reliability planners at utilities, government organizations, and other entities that are interested in estimating interruption costs and/or the benefits associated with reliability improvements in the United States. The ICE Calculator is funded by the Energy Resilience Division of the U.S. Department of Energy's Office of Electricity. This non-electric benefit model has been used throughout the industry and in regulatory proceedings.

Q. Witness Mara utilizes ten years of benefits when calculating a benefit to cost ratio for the Lateral Hardening program. Is this a proper methodology for comparing programs' benefits and costs?

A. No, this is not a proper methodology for comparing programs' benefits and costs because electric utility asset investments are not intended to only last ten years, so assuming only ten years' worth of benefits compared to the costs of the programs would be understating the value of the investments. DEF's methodology properly considered the benefits programs will deliver over the life of the assets, as outlined in Exhibit BML-2, by assessing costs and benefits over a 30-year period for distribution programs and a 40-year period for transmission programs.

Q. In Witness Mara's testimony, he states "rate payers are paying more for the SPP and 'reduced' storm costs than they would if the electric utilities did no storm hardening." Do you agree with the statement?

A. No, I do not agree with Witness Mara's statement. First, to the extent Witness Mara is either arguing against the legislature's decision to create the SPP in the first place or implying that DEF should not follow the legislature's and Commission's direction to further harden the system, DEF disagrees. Second, and this is indicative of OPC's witnesses' lack of consistent comparisons, he is comparing ten years of future investment spend to only five years of historical restoration costs, when, as described above, DEF is making these investments expecting 30 to 40 years of benefits. Additionally, DEF utilized FEMA's HAZUS study which includes approximately 200 years of hurricane data, as described in Exhibit BML-2, providing a much more robust calculation of probabilistic extreme weather events and their associated restoration costs over the 30-40 year life of the hardened asset. Third, Witness Mara is only focusing on DEF's direct restoration costs savings and leaves out the true total cost of a storm to the customers as I described above.

IV. QUALIFICATION FOR INCLUSION IN THE STORM PROTECTION PLAN

Q. On June 27, 2022, OPC filed a motion to accept amended testimony along with amendments to both Witnesses' pre-filed direct testimonies. Have you reviewed the amended testimonies, and if so, what impacts do the amendments have on your rebuttal testimony?

A. Yes, I have reviewed the proposed amended testimonies. As I understand the proposed amendments, the witnesses are acknowledging that DEF's 2021 Settlement Agreement includes a provision that the costs incurred with DEF's SPP are properly recovered through the SPPCRC and have been removed from base rates as required by the SPP Statute and Rule. As such, I understand that the witnesses are no longer advocating for exclusion of any Programs from the Plan (at least for cost recovery years 2023-2024). I agree with this result, but would argue further that Programs appropriate for inclusion in the Plan (and recovered through the SPPCRC) for two years of the planning period are likewise appropriate for the Plan (and SPPCRC recovery) for the third year as well.

Because the amended testimonies continue to include the incorrect premises and assumptions, mischaracterizations and misunderstandings, and unreasonably constricted interpretation of the governing statute and rule, I continue to believe it is appropriate to address those issues for the Commission notwithstanding that the witnesses are no longer advoacating for exclusion of certain programs.

Q. In Witness Mara's testimony, he opines that not all of DEF's SPP programs qualify for the Plan and therefore should be excluded from the Plan by the Commission. Do you agree with Witness Mara's opinion?

A. No, I do not agree with Witness Mara's opinion as I believe all of DEF's SPP Programs qualify for inclusion per the statute and rule and should be approved by the FPSC. I also note that they are the same Programs included in DEF's current SPP 2020 approved by the Commission in 2020. The programs submitted are projected to reduce restoration costs and/or reduce outage durations during extreme weather events, while improving overall reliability, and therefore the Plan as a whole will meet the objectives of the statute and rule. I will address why I disagree with Witness Mara's opinion and inaccuracies in the testimony for the Distribution programs Feeder Hardening, Lateral Hardening, Self-Optimizing Grid, and Underground Flood Mitigation. Witness Howe will address DEF's disagreements with Mr. Mara's incorrect assertions and conclusions regarding DEF's Transmission programs and subprograms.

Q. Witness Mara recommends that the Feeder Hardening and Lateral Hardening programs be capped at \$1.5B and \$2.2B, respectively, to align with DEF's SPP 2020-2029 instead of the "substantial increase in capital expenditures proposed by DEF." Did DEF propose a "substantial increase" over its SPP 2020-2029?

A. No, DEF has not proposed a "substantial increase" when compared to its SPP 2020. The original SPP included transitional years 2020 and 2021 as the Company worked to complete other projects and ramp up engineering and construction resources to prepare for the SPP. As shown in Docket No. 20200069, Exhibit JWO-2, DEF had zero work planned under SPPCRC in 2020 and only had Feeder Hardening and Structure Hardening for 2021. DEF's proposed SPP 2023 reaches a steady state and the last three years of this Plan replace the first three years of SPP 2020, making it appear to be an increase when it is truly a continuation of the plan that was previously approved in Docket No. 20200069. Mr. Menendez provides additional detail on this point in his rebuttal testimony.

Q. Do you agree with Witness Mara's assertion that the cost for corrective actions to address clearance encroachments should not be included in the Storm Protection Plan?

A. No, I do not aggree with Witness Mara's assertion on page 18 of his testimony. Given that new pole locations, sizes and guying will be required when designing a hardened system, DEF will indeed find situations where proper clearances cannot be met with existing overhead structures along and in the public right of way. DEF also must maintain clearance to other existing public and privately owned underground facilities which can further reduce potential pole and guying locations. DEF maintains that newly installed facilities should remain open to truck access for maintenance purposes and should be in easements or adjacent to roadways as outlined in Rule 25-6.0341 (Location of the Utility's Electric Distribution Facilities). DEF is not in agreement with any portion of Witness Mara's conclusion relative to clearance encroachments as outlined on pages 17 and 18 as it does not consider these issues, even though they were discussed in Exhibit BML-1 on pages 7 and 17.

Q. The Self-Optimizing Grid program was addressed by Witness Mara as a program that should not qualify for the Storm Protection Plan as it does not reduce the number of outages. Do you agree with Witness Mara's assessment?

A. No, I do not agree with this assessment because the Self Optimizing Grid program does reduce the number of outages. The design and function of the Self Optimizing Grid, as described in Exhibit BML-1, is to sectionalize the grid into sections that serve smaller number of customers and creates ties between circuits to allow the transferring of customers when a fault occurs during an extreme weather event. On a typical circuit, this will reduce the number of outages caused by a fault during extreme weather by approximately 75%.

Q. But Witness Mara states that the Self Optimizing Grid "system is not effective during an extreme weather event" because it is "doubtful that adjacent feeders will be available because the adjacent feeders will likely have suffered an outage as well" and that "DEF has not provided any evidence the system will be a benefit during extreme weather events." Do you agree with Witness Mara's opinion?

A. No, I do not agree with Witness Mara's conclusion, nor do I agree with his highly speculative premise regarding the availability of neighboring feeders, which is based on a very specific instance of hypothetical damage that is then over-generalized for purposes of reaching a predetermined conclusion. Although I concede that if a Category 5 hurricane were to cause severe damage to a concentrated area similar to what occurred with Hurricane Michael, the adjacent feeder is "likely [to] have suffered an outage," I would state that DEF, as I described in my summary, is deploying Self Optimizing Grid, and all of its SPP, to reduce outages during all levels of extreme weather events, including, but not limited to, Tropical Depressions; Tropical Storms; Hurricanes; tornadoes; coastal and inland flooding; and lightning storms. During these types of events, it is very likely that adjacent feeders will be available for customer transfers, thus reducing the number and duration of outages. Additionally, DEF's Feeder Hardening program is designed to strengthen the feeders to increase the likelihood that adjacent circuits are available, which underscores the inter-related nature of the SPP.

In fact, had OPC requested the information prior to filing its testimony, DEF could have shared that the Self Optimizing Grid system has proven to be very effective during extreme weather events. As shown in Exhibit BML-4, since the inception of the Self Optimizing Grid, and its predecessor Self-Healing Teams, over 25% of the total customer minutes of interruption saved by the systems have been during extreme weather events.

Q. If the Self Optimizing Grid program was disallowed as Witness Mara recommends, would there be negative impacts to DEF's overall Storm Protection Plan?

A. Yes, there would be negative impacts. DEF's Storm Protection Plan is the sum of its parts with the programs working together to reduce restoration costs and outage times associated with extreme weather events. As I stated above, during an extreme weather event, the Feeder Hardening and Self Optimizing Grid programs work in tandem to reduce outages by allowing customers to be served via multiple, hardened circuits.

Q. Witness Mara states that DEF's Underground Flood Mitigation program should be eliminated because it is obvious to him that it is being used to fund the replacement of aging equipment. Do you agree with Witness Mara's assessment?

A. No, I do not agree with Witness Mara's assessment because it is, once again, built upon a false premise. Witness Mara's conclusion is apparently based on the assumption that the replacement of 7 switchgear and 24 transformers in 2021 were passed through the Storm Protection Plan Cost Recovery Clause ("SPPCRC"). This is incorrect; these replacements were included in base rates as Witness Mara said should have been the case. In DEF's SPP 2020 and in subsequent SPPCRC filings, it was shown that the Underground Flood Mitigation program was not going to begin as a part of SPPCRC until 2022. This demonstrates the conflation of the SPP and recovery of costs through the SPPCRC more thoroughly discussed by Mr. Menendez.

Q. Could aging equipment be replaced in the Underground Flood Mitigation program?

A. The focus of the program, as described in Exhibit BML-1, is to harden existing underground distribution facilities in locations that are prone to storm surge during extreme weather events. Although the program could include aging equipment being replaced, that is not the driving factor for target selection.

Q. Witness Mara notes that the Floramar project planned for 2023 is likely to have livefront transformers. Is this accurate?

A. No, it is not accurate. Mr. Mara opined that it was likely to have livefront transformers (plural). Yet, of the 110 transformers in the Floramar area targeted for Underground Flood Mitigation, DEF's records show that only one (1) transformer (singular) is an existing livefront. 1 out of 110. This reinforces that DEF is not selecting targets to address aging units, but instead is focusing on areas that are prone to storm surge during extreme weather events.

Q. Witness Mara states that "hardening means to design and build components to a strength that would not normally be required" and that "aging infrastructure" should not be replaced in the Storm Protection Plan. Do you agree with Witness Mara's statement?

A. No, I do not agree with Witness Mara's statement. As Witness Howe describes in detail in her testimony, replacing "aging infrastructure" hardens the system. With my disagreement with Witness Mara's recommendation that the Underground Flood Mitigation program should be eliminated from SPP (page 26 lines 8 through 10), I will note that DEF plans to replace existing conventional switchgear, what would normally be required, with submersible switchgear designed to withstand the potential storm surge and flood waters thus meeting Witness Mara's proposed requirements.

Q. But Witness Mara believes that DEF is not using submersible switchgear within the Underground Flood Mitigation program. Is he correct?

A. No, Witness Mara is not correct. He is misinterpreting information DEF provided in response to OPC's Request for Production of Documents ("POD") 21 and omitting information provided in response to OPC's POD 15. POD 21, as shown in the table on page 26 of Witness Mara's testimony, provides the names of base rate projects; Witness Mara misinterprets the types of existing switchgear as the type that would be installed upon replacement. As provided in response to POD 15, DEF's Distribution Standard Manual states that "Flooding and Storm Surge Requirements" are the use of "Submersible Switchgear."

V. STAGING COSTS

Q. Witness Mara states that if DEF's system is hardened, it "should logically spend less on pre-staging and would be expected to limit the amount of staging they do ahead of a storm." Can you please explain why Mara's statement is counter to the intent of the Storm Protection Plan statute and rule?

A. Yes. The statute and rule are focused on enhancing the utility's existing infrastructure for the purposes of reducing restoration costs and reducing outage times. The SPP rule does not require the utility to provide details on its restoration processes. DEF scales its restoration efforts to meet the magnitude of the expected extreme weather event, pre-staging included.

Pre-staging resources is a critical step in the restoration planning process as it ensures that the necessary personnel are in place and ready to perform necessary activities to reduce outage times and return the State of Florida to normal operations. When the SPP hardening efforts are completed, the overall restoration efforts will be reduced but DEF will still pre-stage resources as necessary to respond to the anticipated scope of the impending event to ensure customers impacted by extreme weather events are restored as safely and swiftly as possible.

VI. CONCLUSION

Q. Mr. Lloyd, your rebuttal covers a lot of ground, but did you respond to every contention regarding the Company's proposed plan in your rebuttal?

A. No. Intervenor testimony on the SPP involved many pages of testimony and I could not reasonably respond to every single statement or assertion and, therefore, I focused on the issues that I thought were most important in my rebuttal testimony. As a result, my silence on any particular assertion in the intervenor testimony should not be read as agreement with or consent to that assertion.

Q. Does this conclude your testimony?

A. Yes.

SHT Benefits

Juris	Success	CI Saved	CMI Saved	Failed	CI	CMI
DEF	1,378.9	1,243,688	91,487,294	66.1	82,642	3,975,314
Total	**1,378.9**	**1,243,688**	**91,487,294**	**66.1**	**82,642**	**3,975,314**

SHTs Installed

Juris	2015	2016	2017	2018	2019	2020	2021	2022	Total
DEF	8	32	29	24	11	8	27	16	**155**
Total	**8**	**32**	**29**	**24**	**11**	**8**	**27**	**16**	**155**

CMI Saved During Major Event Days

Juris	Colin	Eta	Fred	Hermine	Irma	Izzy	Matthew	Michael	Storm	Total
DEF	2,015,198	1,748,073	1,218,815	3,263,334	5,120,640	645,158	159,467	1,836,134	9,170,422	**25,177,241**
Total	**2,015,198**	**1,748,073**	**1,218,815**	**3,263,334**	**5,120,640**	**645,158**	**159,467**	**1,836,134**	**9,170,422**	**25,177,241**

Year and Month Date Range

All

Jurisdiction

- Select all
- DEC
- DEF
- DEI
- DEK
- DEO
- DEP

State

- Select all
- Florida

MED

- Select all
- No
- Yes

Zone

- Select all
- North Central
- North Coastal
- South Central
- South Coastal

Ops Center

- Select all
- Apopka
- Buena Vista
- Clearwater
- Clermont
- Deland
- Highlands
- Inverness
- Jamestown
- Lake Wales
- Longwood
- Monticello
- Ocala
- SE Orlando
- Seven Springs
- St. Petersburg
- Walsingham
- Winter Garden
- Zephyrhills

County

- Select all
- ALACHUA
- CITRUS
- FRANKLIN
- GULF
- HERNANDO
- HIGHLANDS
- JEFFERSON FL
- LAKE
- LEVY
- MADISON
- MARION FL
- ORANGE
- OSCEOLA
- PASCO
- PINELLAS
- POLK
- SEMINOLE
- TAYLOR
- VOLUSIA
- WAKULLA

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. 20220050-EI

REBUTTAL TESTIMONY OF CHRISTOPHER A. MENENDEZ

ON BEHALF OF DUKE ENERGY FLORIDA, LLC

JUNE 30, 2022

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name and business address.

A. My name is Christopher A. Menendez. My business address is Duke Energy Florida, LLC, 299 1st Avenue North, St. Petersburg, Florida 33701.

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

A. Yes, I filed direct testimony supporting the Company's Storm Protection Plan ("SPP" or "DEF 2023 SPP") on April 11, 2022.

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

A. Yes.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my testimony is to provide the Company's rebuttal to certain assertions and conclusions contained in the direct testimonies of OPC's witnesses Kollen and Mara. Mr. Lloyd and Ms. Howe will present additional rebuttal of the testimonies of OPC's witnesses Kollen and Mara.

Q. Do you have any exhibits to your testimony?

A. No..

Q. Please summarize your testimony.

A. My testimony addresses certain assertions and conclusions contained in OPC Witness Mara's and Witness Kollen's testimonies. I have not attempted to rebut each and every factual error or misconception contained in these testimonies.

With regard to Witness Mara's testimony, I generally focus on the capital investment level for the 10-year plan (2023-2032). With regard to Witness Kollen's testimony, I generally focus on five topics:

- Clarification on how DEF implemented Paragraph 4 of DEF's 2021 Settlement Agreement in Docket No. 20210016-EI[1] into DEF's 2023 SPP filing;
- Clarification on DEF's 2020 Settlement Agreement,[2] where the Signatories agreed that the record supports a finding that DEF's SPP programs are in the public interest, and that DEF proceeding to implement these SPP programs is not evidence of imprudence and how that Agreement impacts DEF's 2023 SPP filing;

[1] Approved by Final Order No. PSC-2021-0202-AS-EI.
[2] Approved by Order No. PSC-2020-0293-AS-EI.

- Address Witness Kollen's misinterpretations of Section 366.96, Florida Statutes, SPP Rule 25-6.030, and the Storm Protection Plan Cost Recovery Clause ("SPPCRC") Rule 25-6.031;
- Address Witness Kollen's incorrect concerns regarding DEF's calculations of the estimated revenue requirements; and
- Address Witness Kollen's concern that ratepayers will not receive the benefits of future reduced costs in base rates that result from SPP implementation.

III. WITNESS MARA

Q. Do you agree with the assertion that, "All of the utilities' SPPs are based on the premise that by investing in storm hardening activities the electric utility infrastructure will be more resilient to the effects of extreme weather events. This resiliency means lower costs for restoration from the storms and reduced outage times experienced by the customers. Some programs have a greater impact on reducing outages times and lowering restoration costs than other programs. Clearly, the goal is to invest in storm hardening activities that benefit the customers of the electric utilities at a cost that is reasonable relative to those benefits."

A. Yes, DEF agrees with Mr. Mara's premise and while I cannot speak for the other companies' filings, DEF's 2023 SPP filing was predicated on these very ideas, which are irrefutable. To that end, DEF agrees with Mr. Mara's assertion.

Q. Witness Mara asserts DEF's proposed SPP includes a substantial increase in capital expenditures when compared to DEF's SPP 2020-2029. Do you agree with his conclusion?

A. No. To call the proposed Plan's capital expenditures "a substantial increase" is a gross mischaracterization of the data being compared. Without going line by line through his table and pointing out exceptions by program, I can state in fact, that the investment levels presented over the common years 2023-2029 decreased in total in DEF's 2023 SPP; the years that extend beyond DEF's 2020 SPP (i.e., 2030-2032) are merely an extension of the 2029 investment levels. The "significant increase" Mr. Mara identified is simply a result of comparing the first three years of DEF's original SPP, where the SPP programs were either in the planning stage or the infancy of implementation, with three years of investments in programs that are fully up and running, delivering value to our customers.

Recalling Mr. Oliver's testimony in Docket No. 20200069-EI:

> The current Storm Hardening Plan (and its previous iterations) provided the foundation upon which the SPP builds. Indeed, because Year 1 of the SPP is 2020, the activities included in the Storm Hardening Plan for 2020 are already planned and in flight, DEF was unable to pivot and change course on those projects for 2020. Accordingly, DEF has summarized the activities in the Storm Hardening Plan that will carry over as projects for year 1 of the SPP, as required by the SPP Rule. Starting in year 2021 (or year 2 of the SPP), DEF will begin a transition to a more holistic system vision for hardening against extreme weather events and enhancing reliability.[3]

It was not until year 3 (2022) of the 2020 SPP that DEF began fully funding the original SPP. Of course, when Mr. Mara compares 8 years of full program funding to 10 years of full program funding as presented in this docket, there will be a variance, but to characterize it as a "significant increase" is simply incorrect.

IV. WITNESS KOLLEN

[3] Oliver Testimony, p. 5, ll. 5-17 (doc. No. 01943-2020, Docket No. 20200069-EI).

Q. Witness Kollen asserts that, "section 366.96(8), Fla. Stat. limits SPP programs and projects to costs not recovered through the utility's base rates." Do you agree with this assertion?

A: No, because section 366.96(8) is referring to cost recovery through the SPPCRC, not the SPP. There is no requirement in this statute to exclude programs with costs recovered through base rates from the SPP. To this point, DEF's 2020-2029 SPP included both programs with costs recovered through base rates and programs with costs recovered through the SPPCRC. This argument underscores Mr. Kollen's and OPC's confusion over the purpose of this proceeding versus the purpose of the SPPCRC. This proceeding is intended to determine the proper scope of the Plan, the SPPCRC is intended to determine the proper amount to be collected through the clause itself and to ensure there is no double-recovery. I discuss this concept in a little more detail below.

Q. With the understanding that you disagree that programs recovered through base rates are ineligible for inclusion in the Plan, what evidence do you have that shows DEF's compliance with the requirement that Storm Protection Plan costs are not recovered through both base rates and the SPPCRC?

A. In Paragraph 4 of DEF's 2021 Settlement Agreement,[4] the Parties (including OPC) agreed that DEF has properly removed all costs associated with the Storm Protection Plan from the costs included in DEF's MFRs as all such costs spent on approved SPP programs are properly recoverable through the SPP Cost Recovery Clause. This clearly shows that DEF removed all SPP costs from base rates for the settlement period, 2022-2024. Further, Mr.

[4] *See* Docket No. 20210016-EI (approved by Final Order PSC-2021-0202-AS-EI).

Kollen and OPC are once again conflating the SPP docket and the SPPCRC docket. The SPPCRC docket is the appropriate place to ensure no costs are being recovered through both base rates and SPPCRC; however, as is clear from DEF's 2021 Settlement Agreement, both OPC and DEF agree this is properly reflected in DEF's filings.

Q. As part of DEF's updated SPP filing for the period 2023-2032 ("SPP 2023"), did DEF include any new programs beyond those approved in DEF's originally approved SPP ("SPP 2020")?

A. No. DEF's SPP 2023 contains no new programs from those previously approved for inclusion in DEF's SPP 2020.[5]

Q. As part of DEF's SPP 2023, did DEF materially expand the scope of the programs and associated expenditures it seeks to recover for the years 2020-2022 beyond those that are included in the estimates shown on page 40 of Exhibit JWO-2, filed on April 10, 2020, updated on June 24, 2020?

A. No. DEF held to the terms of the 2020 Settlement Agreement. In fact, the investment levels presented over the common years 2023-2029 decreased in total over this time period.

2023 SPP	2023	2024	2025	2026	2027	2028	2029	TOTAL
Capital	$ 602,662,131	$ 693,408,744	$ 775,170,171	$ 748,783,297	$ 747,669,844	$ 749,676,339	$ 748,511,641	$ 5,065,882,169
O&M	$ 72,094,065	$ 77,093,403	$ 78,955,292	$ 78,099,796	$ 78,985,429	$ 81,823,026	$ 82,413,243	$ 549,464,254
2020 SPP	2023	2024	2025	2026	2027	2028	2029	TOTAL
Capital	$ 596,980,947	$ 685,818,676	$ 767,965,146	$ 813,820,584	$ 779,185,223	$ 739,559,303	$ 739,943,069	$ 5,123,272,948
O&M	$ 74,785,933	$ 78,218,981	$ 81,350,604	$ 84,259,130	$ 85,273,993	$ 86,239,131	$ 88,056,022	$ 578,183,793
Variance 2023 vs. 2020	2023	2024	2025	2026	2027	2028	2029	TOTAL
Capital Variance	$ 5,681,184	$ 7,590,068	$ 7,205,025	$ (65,037,287)	$ (31,515,379)	$ 10,117,036	$ 8,568,572	$ (57,390,779)
O&M Variance	$ (2,691,868)	$ (1,125,578)	$ (2,395,312)	$ (6,159,334)	$ (6,288,564)	$ (4,416,105)	$ (5,642,779)	$ (28,719,539)
Total Variance	$ 2,989,316	$ 6,464,490	$ 4,809,713	$ (71,196,620)	$ (37,803,942)	$ 5,700,932	$ 2,925,794	$ (86,110,318)

[5] Approved by Order PSC-2020-0293-AS-EI, issued on August 28, 2020.

Q. Witness Kollen alleges that, "DEF [has] included programs and projects that are within the scope of their existing base rate programs and base rate recoveries in the normal course of business. These programs and projects are listed and addressed in greater detail by Witness Mara. These programs and projects should be excluded from the SPPs, and the costs should be excluded from recovery through the SPPCRCs..." Do you agree with this conclusion?

A. No. This argument is beyond dispute. As Messrs. Mara and Kollen recognize in their amended testimony, the 2021 Settlement Agreement eliminates any and all doubt that DEF's programs are appropriately included in DEF's SPP 2023. That said, Mr. Kollen is again conflating recovery of costs through the SPPCRC with the inclusion of programs in the SPP; regardless, as DEF's 2021 Settlement Agreement and OPC's Motion to amend Messrs. Mara and Kollen's testimony makes clear, the recovery of these costs in the current SPPCRC is also appropriate. Further, DEF's SPP 2023 only contains programs that were carried over from its SPP 2020. Per the terms of the 2021 Settlement Agreement, any argument to the contrary has been rendered moot, as recognized by the amended testimonies.

Q. Is Witness Kollen's interpretation of the Statute correct when he states, "To qualify for inclusion in the SPP proceedings and cost recovery in the SPPCRC proceedings, the projects and the costs of the projects must be incremental, not simply displacements of base rate costs that would have been incurred during the normal course of business…"?

A. No. I note that this is a very similar argument to one addressed earlier (i.e., that the Plan cannot include any programs with costs recovered through base rates). OPC is again conflating two related, but distinct, concepts: the Plan and the SPPCRC. DEF agrees it is impermissible to recover SPP program costs through the SPPCRC if those same program costs are also included in base rates, but DEF disagrees that the cost recovery component has any bearing on the Plan's suite of programs. As referenced previously, DEF's SPP 2020 included programs with costs that were at the time being recovered through either base rates or the SPPCRC – when DEF reset its base rates through the 2021 Settlement Agreement, those programs being recovered through base rates were shifted to the clause – but the point is, DEF does not believe the means of cost recovery controls the make-up of the SPP.

Q. Is Witness Kollen's interpretation that "Section 366.96, Fla. Stat., and the SPPCRC Rule limit the costs eligible for recovery through the SPPCRC to incremental costs net of avoided costs (savings)" accurate?

A. No. Witness Kollen's interpretations are woefully inaccurate. Nothing in the Statute nor the Rule states or implies anything remotely close to the effect of limiting the costs eligible for recovery through the SPPCRC to incremental costs net of avoided costs (savings), as Witness Kollen alleges.

The statute and the rule sections that he cites[6] specifically require the exclusion of costs recovered through base rates and other clause forms of ratemaking recovery from recovery through the SPPCRC, which fundamentally is a different concept altogether than he argues.

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[6] Mr. Kollen cites section 366.96(8), Florida Statutes, and Rule 25-6.031(6)(a), Florida Administrative Code. See, pg. 14, fn. 3. Again, it is worth noting that the rule cited governs the SPPCRC, not the SPP.

Neither the statute nor the rules limit SPP programs or program costs to only incremental costs or require a reduction for avoided costs or savings, as these concepts are simply not "double-recovery." Mr. Kollen is either misconstruing the purpose of these sections or is trying to expand the limitations and definition of double-recovery; both are improper and should be disregarded.

Q. Witness Kollen believes that the return on Construction Work In Process ("CWIP") should not be included in calculation of the SPP revenue requirement, do you agree?

A. No. Mr. Kollen uses the SPPCRC Rule and section 366.96(9) in his attempt to argue that SPP projects should not earn a return on CWIP; this is incorrect and contradictory with traditional ratemaking. Florida utilities are permitted to earn a return on invested capital, including CWIP; this is true in base rates as well as the other cost recovery clauses. Rule 25-6.0141, "AFUDC Rule", addresses the return on invested capital. Projects that meet that rule's eligibility requirement may earn AFUDC. Part 2 states "Construction work in progress (CWIP)... not under a lease agreement that is not included in rate base may accrue allowance for funds used during construction (AFUDC)." The AFUDC rule recognizes that projects that do not meet the AFUDC requirements, will be included in rate base. For the 2023 SPP, DEF's projects do not meet the requirements to accrue AFUDC; therefore, DEF has included these projects in SPP rate base and the revenue requirements calculations for the 2023 SPP.

Additionally, a return on CWIP is recognized in other clauses. For example, in Order No. PSC-1994-0044-FOF-EI, the Commission found that

> [t]he utility's investment in plant under construction can be accounted for by either of two methods. An Allowance for Funds Used During

> Construction (AFUDC) may be applied to the balance to be capitalized and later recovered through depreciation charges once the plant is placed in service. When this method is chosen, the financial statements of the utility reflect income 'credits' associated with AFUDC, but the utility realizes no current cash earnings from the investment in CWIP. Alternatively, CWIP may be included as a portion of rate base. Where the latter treatment is allowed, CWIP generates cash earnings.

Further paragraph 3(a) of the 2020 SPP/SPPCRC Agreement[7] states that "[f]or those programs that are approved by the Commission in DEF's proposed SPP in 2020, DEF will include the Construction Work In Progress ('CWIP') balances as of January 1, 2021 as the beginning SPPCRC Rate Base balances and calculate a return on these costs from January 1, 2021 forward for cost recovery in 2021." DEF's treatment of CWIP in the 2023 SPP is consistent with DEF's treatment of CWIP in the 2020 SPP and the SPPCRC filings made in 2020, 2021 and 2022.

In summary, traditional ratemaking allows a utility to earn a return on invested capital, including CWIP; to deny this return in SPP (or more accurately, SPPCRC) is improper ratemaking.

Q. Witness Kollen offers alternatives to recovering a return on CWIP immediately, such as deferring CWIP either as allowance for funds used during construction ("AFUDC") or as a miscellaneous deferred debit, do you agree with either approach?

A. No. As previously stated, section 2(a) of the AFUDC Rule addresses the eligibility for a project to accrue AFUDC, and DEF's SPP 2023 projects do not meet those requirements and are thus ineligible to accrue AFUDC. Moreover, the use of miscellaneous deferred debit is wholly inappropriate and is inconsistent with the AFUDC rule. This idea of

[7] Approved in Order No. PSC-2020-0410-AS-EI (Docket No. 20200092-EI, issued Oct. 27, 2020).

deferring debits was discussed and rejected by Commission Staff during the SPP and SPPCRC rulemaking process and properly rejected in Staff's Recommendation and Analysis:[8]

> Under OPC's interpretation, an IOU would incur costs in one year but couldn't request recovery of those costs until the next year's SPPCRC. If the Commission approved those costs in the SPPCRC, the utility could not begin recovering the costs until the year after. This leaves customers paying carrying costs for two years. Thus, using a cost recovery mechanism that should minimize that regulatory lag, as staff is recommending in draft Rule 25-6.031, F.A.C., should also minimize the carrying costs customers have to pay.

Further in Staff's analysis,

> Staff envisions the SPPCRC mirroring other Commission cost recovery clauses. In the Nuclear Cost Recovery Clause (NCRC), Energy Conservation Cost Recovery Clause (ECCR), and Environmental Cost Recovery Clause (ECRC), the Commission projects the costs the utility will incur in the next year and sets a factor that will allow the company to recover those costs from customers as the costs are incurred.

Finally Staff stated,

> Second, allowing for the recovery of projected costs enables the IOUs to recover costs as they are incurred. This reduces regulatory lag and, ultimately, the costs passed on to customers, which is the purpose of cost recovery clauses. Staff believes IOUs will be entitled to recover carrying costs associated with the lag between when they incurred costs and when they recover them.

Q. Mr. Kollen asserts that, "[c]osts cannot be deemed prudent or reasonable unless and until the costs are charged to specific projects, construction is completed (or prudently abandoned), and the CWIP is converted to plant in service." Do you agree that this is the appropriate docket to make such an argument?

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[8] *See* Docket No. 20190131-EU, Issue 1 (filed Sept. 20, 2019).

A. No, Mr. Kollen is addressing items specific to the SPPCRC. Rule 25-6.031(3) requires the Commission to hold an annual SPPCRC hearing to address petitions for recovery of SPP costs that "will be limited to determining the reasonableness of projected Storm Protection Plan costs, the prudence of actual Storm Protection Plan costs incurred by the utility, and to establish Storm Protection Plan cost recovery factors . . ." That is, this docket is not the appropriate forum for determining cost recovery issues.

In fact, the only place where "reasonableness" is mentioned with regard to the Plan itself is in Rule 25-6.030(3)(c), which requires a utility to provide a description its service area, including prioritized areas and any areas the "utility has determined that enhancement of the utility's existing transmission and distribution facilities would not be feasible, *reasonable*, or practical. Such description must include . . . the utility's reasoning for prioritizing certain areas for enhanced performance and for designating other areas of the system as not feasible, *reasonable*, or practical." Nowhere in Rule 25-6.030 is the word "prudent" or a test of "prudency" mentioned or required because the Plan establishment phase is not the point for determining cost recovery, where prudence becomes an issue, but rather it is the time for the Commission to determine whether the Plan as a whole is in the public interest.

Q. Mr. Kollen asserts that DEF's calculations of the estimated revenue requirements had errors that needed to be corrected. Do you agree with that allegation?

A. No. DEF fully complied with Rule 25-6.030(3)(g)'s requirement that it provide "An estimate of the annual jurisdictional revenue requirements for each year of the Storm Protection Plan." It is important to recognize these estimates are not used to set rates or clause factors; these are calculations to provide reasonable estimates for the capital, O&M, and revenue requirements of the SPP for planning purposes. The actual clause factors will be determined in the SPPCRC. DEF properly included the appropriate elements for ratemaking in its calculations: CWIP; Depreciation; and Property Tax.

Witness Kollen claims that DEF improperly calculated depreciation expense on CWIP at the end of the prior year, but also failed to calculate depreciation expense on current year plant additions. Mr. Kollen's statements are incorrect as explained in DEF's response to OPC Interrogatory No. 58:

> Consistent with the revenue requirement calculation in DEF's SPP 2020, DEF's CWIP balance is incorporated into the 'Investment' line for each SPP program. DEF has accounted for CWIP within the depreciation expense calculation. Within the current year, a portion of each program is assumed to be placed in-service. Therefore, the amount of investment not yet placed in-service is representative of the CWIP balance.

For programs that assumed that CWIP was placed in service throughout the current year (e.g., Transmission Structure Hardening), DEF did calculate depreciation expense on current year plant additions. DEF also has programs that incur investment on individual projects throughout the year but are placed in-service when all work within a target location is complete; for financial modeling purposes, DEF assumed an end of year in-service for these programs.

Regarding Mr. Kollen's statements on the calculation of property tax expense, the expenses included in DEF's SPP 2023 are simply estimates for the 10-year period developed to provide the estimate of the annual jurisdictional revenue requirements as required by Rule 25-6.030(3)(g). DEF uses reasonable methods to estimate the property tax expense for the SPP programs over the planning timeframe, but ultimately property tax expenses collected from customers are based on the projections filed in the SPPCRC filings, not DEF's 2023

SPP, and those projected amounts are subject to true-up based on the actual property taxes incurred. Therefore, a revision to the calculation of estimated property tax expense in DEF's SPP 2023 filing is unnecessary. Further, the Commission should not establish a property tax expense calculation, as contemplated by Mr. Kollen, that would override the true-up based on actual expenses as that would defeat the purpose of the true-up to actual expenses in the SPPCRC and would create a departure in the true-up of property tax expense in the SPPCRC compared to other clauses such as ECRC and ECCR. Finally, the Commission, Commission Staff and intervenor parties have the right to review the actual property tax expenses submitted in the SPPCRC filings.

DEF believes the figures presented on page 56 of 56 in Exhibit No.__(BML-1) appropriately represent the estimated annual jurisdictional revenue requirements for each year of the SPP. Actual cost recovery will occur through the annual SPPCRC process.

Q. Mr. Kollen contends that the utilities will retain the avoided cost savings for costs presently recovered in base rates unless these costs are addressed in this proceeding and the SPPCRC proceedings or otherwise included in a negotiated resolution. Do you agree?

A. No. It is not true now, just as it was not true when then OPC Witness Schultz made a similar statement in Docket No. 20200069-EI, "that there is a risk that ratepayers will be paying for improvements that will reduce the Company's costs in base rates, but those savings will not be passed through to the ratepayers." In rebuttal, DEF Witness Foster stated:

> The SPP statute addresses new investments to strengthen the electric utility infrastructure to withstand extreme weather conditions and improve overall service reliability. It creates a cost recovery clause for investments to accomplish this goal. It also ensures there is no double recovery for these

> costs by stating in paragraph (8) that "storm protection plan costs may not include costs recovered through the public utility's base rates." This clearly addresses the double recovery concern. Rule 25-6.031(6)(b) implements this statutory directive by stating "Storm Protection Plan costs recoverable through the clause shall not include costs recovered through the utility's base rates or any other cost recovery mechanism."
>
> It is the normal process for base rate costs to change over time and this creates regulatory lag. Some costs will decrease, others will increase. The SPP Statute was not developed to address appropriate levels of costs in base rates, it was developed to facilitate investment in work that will strengthen the transmission and distribution systems from extreme weather to help reduce restoration times and costs. There is in fact already a way that the Commission monitors Florida utilities to ensure no excessive recovery is occurring. The Commission requires monthly Earnings Surveillance reports. These reports show the earned return on equity (ROE). In a rate case, the FPSC authorizes an allowed ROE for utilities. If a utility reports a ROE that is too high, the parties or the Commission itself may call the Utility in for a rate case. Unlike cost recovery clauses, the normal and established process for base rates involves regulatory lag.

Mr. Foster's remarks still hold true and I would reiterate them in response to Mr. Kollen's contention.

DEF addressed compliance on this issue in the response to OPC's Interrogatory 59. In that response, DEF explained that these adjustments are included in the SPPCRC filings.

> "Consistent with the model that was developed by DEF for its April 10, 2020, SPP filing, DEF did not include any assumptions for reductions assumed in the calculation of depreciation expense associated with retirements for plant that was previously recovered in base rates. In DEF's annual SPPCRC filings, DEF includes credits associated with the depreciation expense for base rate assets retired as part of an SPP program. When the value of the base asset is removed from EPIS during a subsequent rate case, the depreciation expense credit included in the SPPCRC filings associated with these assets should simultaneously cease. DEF does not make assumptions for timing and outcomes of rate cases that would be necessary to accurately reflect a reasonable amount of credit within the SPP Revenue Requirement model. DEF believes that this is the appropriate approach since the credits are included in the SPPCRC filings which are used to set customer rates and are subject to true-up.

Again, the purpose of the SPP is not to prepare the precise calculations for clause factor development; that process takes place in the SPPCRC. As DEF notes in its response, DEF has included these credits in the SPPCRC filings in Docket 20220010-EI.

V. CONCLUSION

Q. Mr. Menendez, your rebuttal covers a lot of ground, but did you respond to every contention regarding the Company's proposed plan in your rebuttal?

A. No. Intervenor testimony on the SPP involved many pages of testimony and I could not reasonably respond to every single statement or assertion and, therefore, I focused on the issues that I thought were most important. As a result, my silence on any particular assertion in the intervenor testimony should not be read as agreement with or consent to that assertion.

I specifically did not challenge many of Mr. Kollen's suggestions or recommendations he makes related to changing methodologies for calculating revenue requirements and rate calculations in the SPPCRC proceeding, again not because I agree with them, but rather I believe he is treading on Rulemaking grounds which is not appropriate for consideration or argument at this time.

Q. Does this conclude your testimony?

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. 20220050-EI

REBUTTAL TESTIMONY OF AMY HOWE

ON BEHALF OF DUKE ENERGY FLORIDA, LLC

JUNE 30, 2022

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name and business address.

A. My name is Amy M. Howe. My current business address is 13338 Interlaken Road, Odessa, FL 33556.

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

A. Yes, I filed direct testimony supporting the Company's SPP on April 11, 2022.

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

A. Yes.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my testimony is to provide the Company's rebuttal to assertions and conclusions regarding the Transmission specific aspects of DEF's 2023-2032 Storm Protection Plan ("SPP 2023" or "Plan") contained in the direct testimonies of OPC's witnesses Kollen and Mara. Mr. Lloyd and Mr. Menendez will present additional rebuttal of the testimonies of OPC's witnesses.

Q. Do you have any exhibits to your testimony?

A. No.

Q. Please summarize your testimony.

A. My testimony focuses on Witness Mara's and Witness Kollen's testimonies as they relate to Transmission-specific programs and subprograms and rebut the misinformation and incorrect conclusions contained within. In sum, when the Transmission programs are properly understood as an integral part of the overall Plan, which is designed as a holistic approach intended to meet the objectives identified by the legislature in section 366.96 (the "SPP Statute"), it is clear the programs are properly included in the Company's SPP and should be approved. OPC's witnesses' arguments to the contrary demonstrate a lack of understanding of the programs themselves and are based on a narrow interpretation of Rule 25-6.030 (the "SPP Rule") that, in DEF's belief, unnecessarily curtails the scope of the SPP contrary to the legislature's intent. Their testimony should be rejected by the Commission.

Q. In general, do you agree with the overall concerns and points of disagreement with Witness Mara's and Kollen's testimonies expressed by Mr. Lloyd?

A. Yes. I have reviewed Mr. Lloyd's testimony and I completely agree with his general concerns and points regarding Mr. Mara's and Mr. Kollen's novel interpretations of the SPP Statute and Rule and note that many of Mr. Lloyd's points apply with equal force to the transmission programs as they do the customer delivery (distribution) level programs, so I will not repeat those points here. I will therefore limit my points of rebuttal to transmission-specific issues. Additionally, Mr. Menendez provides the Company's rebuttal of ratemaking related concerns, which is an area outside of my responsibility, so I express no opinion on those matters.

Q. Mr. Kollen contends that each SPP Project should pass a cost-effectiveness test as a condition of being included in the SPP. Based on your knowledge of the transmission system, is there any reason why such a test would be problematic?

A. Yes, my concern is, due to the configuration of the transmission system, Mr. Kollen's test would potentially exclude many transmission projects thereby limiting the effectiveness of transmission programs. Within the Guidehouse model, if Bulk Electric System ("BES") lines or substations were not directly serving our customers, the customer count was reflected as zero (0) which may contribute to a benefit to cost ratio of less than 100%. In other scenarios, if there were several lines serving a substation the customer count may have been shown as zero (0) on those lines due to the inherent redundancy of the system and again that would likely contribute to a benefit to cost ratio of less than 100%, and the same is true for a tapped line to serve wholesale customers would reflect zero (0) retail customers even though the tapped lines are generally served from the same lines that serve substations with retail customers (i.e., daisy chained, which I will describe in more detail further down in my testimony). In most cases, when a tapped line experiences an outage, the full transmission line is interrupted until the faulted section can be isolated and repaired, hence, tapped lines need to be hardened.

It is essential that the Transmission system configuration is taken into consideration. The transmission system is an integrated grid and therefore upgrading only a portion will not provide the full effectiveness of a program to our customers. Limiting programs to only hardening facilities with a benefit to cost ratio of greater than 100% would be shortsighted and would exclude the BES transmission facilities as well as other facilities that do not directly serve our retail customers although they are critical to the overall Transmission grid.

Q: Are there any other reasons why the configuration of the transmission system is a relevant consideration?

A: Yes. The transmission and distribution systems are integrated and work together to serve our customers. Many industrial and wholesale customers receive electric service straight from the transmission system, specifically at 69kV, which means that any upgrades to the transmission system will directly increase continuity of service and improve overall reliability for those customers. Additionally, service for all customers originates from the transmission system (which acts as a bridge between the generation and the distribution system); therefore, any upgrades to the transmission system will have a positive impact on the overall level of service provided to our customers even if, as described above, due to redundancy reasons a given line is shown as “serving” zero (0) customers.

The BES is the highest voltage portion of the transmission system, consisting of transmission lines and equipment operating above 100kV and serving to transmit large amounts of power throughout the system. 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 standards require sufficient redundancy within the BES to allow continued operation even when one or more elements of the system is out of service.

That said, most of DEF's BES assets do not directly serve customers but instead serve as critical infrastructure maintaining power flow within and between DEF, neighboring utilities, and Independent Power Producers.

As a result, failure of a single BES element will often not cause a direct outage to our customers but removes a level of redundancy for the entire BES. Sequential failures within the system can cause significant disruption to power flows and cause extensive customer interruptions as could occur during extreme weather events and therefore it is critical to harden these facilities for extreme weather events and to reliably serve our customers. The BES transmission system is the linkage between the generation facilities to our 69kV system and distribution system that ultimately serves our customers' homes and businesses. Thus, although strengthening the BES may not have a direct impact or quantifiable reduction to customer outages due to the inherent redundancy of the BES, it is a critical component to reliably serving our customers and as such it would defy all logic and sound planning to deny DEF (or any utility) the ability to include such hardening programs and projects in an SPP intended to strengthen the grid as a whole based on an artificial cost-benefit standard that has no support in either the governing statute or rule.

The 69kV transmission lines and equipment are not considered a part of the BES but are transmission lines that deliver power to many of the distribution substations. The level of redundancy, or in this scenario alternate sources, in the 69kV portion of the transmission system, and its ability to withstand an outage of an element of the system without resulting in customer outages, is different from the higher voltage lines within the BES.

DEF's 69kV lines typically run from a circuit breaker in one source substation to a circuit breaker in another source substation, with several distribution substations fed along the circuit in a "daisy chain" fashion. These two sources to the circuit provide a certain level of redundancy. A fault within a segment of such a 69kV line will often result in an outage to the substations and distribution circuits between the circuit breakers, until the faulted section can be identified and the switches along the line opened or closed to isolate the faulted section and restore power to the substations from the un-faulted portions of the circuit.

Q. At the outset, do you have any over-arching concerns with OPC's position in this docket?

A. Yes, I do. I agree with Witness Lloyd in that, while I am not a lawyer (though I note that neither of OPC's witnesses are lawyers either), it appears to DEF that their interpretation of the SPP Statute and Rule is very constricted by limiting SPP eligibility to projects and programs that both decrease outage restoration costs and outages/outage duration. Specific to transmission, the included programs contribute to the systematic nature of the overall Plan that accomplishes these goals, over time, in a cost-effective manner; however, not every program and/or subprogram is intended to reduce *both* restoration costs and outage times. For example, Structure Hardening in its entirety is focused on reduction of outage times and restoration costs, however, the primary benefit of the Gang Operated Air Break ("GOAB") sub-program is reduction of outage times. Of course, by reducing the outage time and sectionalizing the facilities impacted by the extreme weather event inherently there are restoration cost savings that are hard to quantify. That said, DEF simply cannot agree that either the Legislature or Commission intended to exclude any project or program (or sub-program) from inclusion in the Plan because it does not, on its own, accomplish each of the goals identified in the SPP statute and rule.

Q. Have you fully described the transmission programs within the SPP?

A. Yes. The transmission programs have been described in Witness Lloyd's Exhibit BML-1 – Program Descriptions, and further explained in my previously filed direct testimony. In this rebuttal testimony, I will only address the specific contentions raised by OPC's witnesses.

Q. Do the transmission programs put forward under DEF'S SPP meet the requirements of Rule 25-6.030, F.A.C.?

A. Yes, in fact they are the same programs that are included in DEF's currently approved SPP.

Q. In Witness Mara's testimony, he opines that not all of DEF's Storm Protection Plan Programs should be approved by the Florida Public Service Commission. Do you agree with Witness Mara's opinion?

A. No, I do not agree with Witness Mara's opinion; I believe all programs DEF included in its SPP should be approved as they all contribute to the overall efficacy of the Plan. The Plan DEF submitted meets the requirements of the Statute and Rule as it will reduce restoration costs and reduce outage durations during extreme weather events; it does so through a suite of programs that each play a part in achieving the Plan's goals. I will address why I disagree with Witness Mara's opinion regarding each Transmission program and subprogram he discussed and further explain how they meet the requirements of Rule 25-6.030.

Q. Mr. Mara contends the SPP rule requires programs to increase asset strength beyond the original design of the asset being replaced. Do you agree?

A. No, that is not my understanding. While I agree programs that increase strength beyond original design would certainly qualify for the SPP, I am not aware of any such limitation in the Statute or Rule, nor has either of OPC's witnesses cited one. As I understand the Statute and Rule, SPP programs and projects are intended to protect and enhance the system for the purposes of reducing restoration costs, reducing outage times, and improving overall service reliability. Again, though I am not an attorney, it seems logical and consistent with the SPP's goals to include enhancements that, while they may not strengthen facilities relative to the original design, work to arrest the natural weakening or deterioration of those assets, thereby preserving the strength of the facilities so they can better resist the impacts of extreme weather conditions. To DEF, this is a cost-effective means of enhancing the system that will provide real benefits to our customers (as opposed to, for example, simply replacing all transmission facilities).

Examples of sub-programs that protect the strength of the Transmission system and are projected to reduce outage times and restoration costs resulting from extreme weather are Cathodic Protection and Replacing Overhead Ground Wire.

Below, I will further describe both cathodic protection and OHGW subprograms within the Structure Hardening program and how they meet the objectives of the rule as important components of a comprehensive Plan.

Q. Witness Mara states that "hardening means to design and build components to a strength that would not normally be required" and that "aging infrastructure" should not be replaced as part of the Storm Protection Plan. Do you agree with Witness Mara's statement?

A. No, I cannot agree with that assertion because it simply ignores the reality of operating a utility system. Obviously, our system is exposed to the elements all the time, and in Florida those elements can be brutal on utility infrastructure. As a result, "aging" infrastructure not yet at the end of its expected life and therefore still accomplishing its purpose could be replaced with a new component that will simply perform better, thereby strengthening the overall system relative to the status quo, which I believe is the goal of the SPP. A program that includes such replacements (for example, structure hardening and the overhead ground wire replacement sub-program I will discuss later) is properly included in the Plan. To the extent OPC's position relative to inclusion of these types of programs within the SPP is based on cost-recovery concerns (i.e., double recovery of costs in base rates and through the SPPCRC), those concerns are addressed by Mr. Menendez's rebuttal testimony.

Q. Would you agree with Witness Mara's conclusions relative to transmission construction using the NESC (National Electric Safety Code)?

A. On page 7 of Witness Mara's testimony, he states specifically relative to transmission poles: "In transmission system hardening, many utilities are using non-wood poles (steel or concrete) to replace existing wood poles. The upgrade to non-wood poles is not required by the NESC but these non-wood poles have proven to reduce outages and reduce outage times due to the superior ability of the non-wood poles to survive during extreme windstorms." DEF agrees that conversion from wood to non-wood poles has proven to reduce outages and outage times and meets the requirement of the Rule. In fact, all the costs proposed in DEF's SPP related to transmission poles are to replace wood poles with non-wood poles, so Mr. Mara agrees that those costs are properly recoverable under the SPP.

Q. Do you agree with Mr. Mara's assertion that the lattice tower replacement subprogram should be eliminated from the plan?

A. No, absolutely not, nor do I agree with any of the points Mr. Mara relies on in reaching his conclusion. First, Mr. Mara stated "Transmission lines have been required by the NESC to be built for extreme wind events since at least 1977. Failure due to design flaw should not be a SPP activity."[1] However, Mr. Mara chose to ignore, or possibly did not know because he failed to ask, that the lattice towers in question predate 1977, therefore there was no NESC required extreme wind loading standard at the time (by his own admission) and the towers did not suffer from a "design flaw" any more than any component that has been updated over time (or which was built to a given standard that has been subsequently modified). Thus, this support for his conclusion fails.

He continues, "If DEF owns towers that fail to meet strength requirements when constructed, then replacement costs should not be considered an 'upgrade' and therefore should not be funded through the SPP."[2] It is irrelevant whether DEF agrees with this general proposition or not, as Mr. Mara offers it without identifying any such towers, he believes failed to meet strength requirements when constructed. To DEF's knowledge, no such towers exist, nor does he opine that the design *was* flawed, but merely states "if" it was flawed it should not have been accepted and thus cannot be a proper SPP program (again, with no support). Thus, this contention likewise fails.

Mr. Mara's next attempt at supporting his conclusion fares no better as it is simply a repeat of his contention that a program that replaces aging infrastructure should be excluded, though this time stated as an accepted fact rather than a dubious proposition.[3]

Mr. Mara next claims "Replacing towers with new towers that meet the same weather loading condition will not add to resiliency. Rather it simply maintains the status quo in terms of strength." As discussed generally above, this argument ignores reality by seeming

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[1] Mara Testimony, pg. 28, ll. 20-22.
[2] *Id.* at pg. 28, l. 22 – pg. 29, l. 2; *see also id*. at pg. 29, ll. 6-7 ("If the tower design was flawed, it would have been imprudent for DEF to accept the design and construction of the tower in which case the cost should also be excluded from the SPP.").
[3] *See id.* at p. 29 ll. 2-4.

to believe that the resiliency of the system is somehow a static measure that does not change over time, and that somehow a piece of infrastructure should rationally be expected to retain all its strength throughout its service life. While I wish that were the case, it simply is not. In the real world, accelerated change outs of aging infrastructure increases resiliency and reliability as there would be less infrastructure damaged during an extreme weather event, resulting in fewer failures to mitigate and quicker restoration time for DEF customers. Moreover, Mr. Mara fails to recognize that Tower Upgrades are designed to the latest NESC code, which is updated in 5 years cycles. Equipment standards, both internal and external, are continuously reviewed and updated. Thus, new equipment installations include the improvements as part of DEF's updated standards, meaning the towers are not being replaced "like for like" at all.

This subprogram is proper and should be retained.

Q. Witness Mara asserts that deteriorated overhead ground wire is simply an aging infrastructure the replacement of which does not increase strength. Can you please explain what was meant in your testimony by the term deteriorated OHGW and why the subprogram is appropriate for SPP?

A. Yes, but first I would reiterate my points above that programs or subprograms intended to replace aging infrastructure that are not functioning to the level they did when originally installed due to the passage of time and/or because they have simply been performing as designed but cannot realistically be expected to do so indefinitely, are properly included in the SPP.

With that said, Deteriorated Overhead Ground Wire ("OHGW") is static conductor that has lost some of its strength but still performs the designed function, albeit at reduced capacity. Overhead static wire deterioration occurs when the protective galvanization has been sacrificed and static in this condition is more prone to failure. It is known and accepted that all static sizes and material combinations will lose their galvanization and eventually rust, thus reaching the end of life. Not only is the static more susceptible to failure from both wind and lightning events, but the grounding qualities become compromised. Therefore, the OHGW is not "deteriorated" in the sense of having been poorly designed or maintained; rather, it is simply an asset that, if replaced, will strengthen and better protect the system against the effects of extreme weather relative to the state of the system as it exists today. The OHGW is a contributor to CMI and restoration costs during extreme weather events and therefore, its enhancement serves to strengthen the system as intended by the SPP statute and rule.

Q. The Gang Operated Air Break ("GOAB") Line Switch Automation subprogram was addressed by Witness Mara as a subprogram that should not qualify for the Storm Protection Plan as it does not reduce the restoration costs. Do you agree with his assessment?

A. No, I do not agree with Witness Mara's assessment. As stated in Witness Lloyd's testimony, "From DEF's perspective, the Legislature directed the utilities to develop integrated storm protection plans that as a whole are intended to achieve the goals of reducing restoration costs and outage times to customers and improving overall service reliability. DEF's Storm Protection Plan is the sum of its parts with the programs working together to reduce restoration costs and outages times associated with extreme weather events." The GOAB subprogram is a piece of the overall Structure Hardening program that promotes minimal outage time by providing the ability to perform remote sectionalizing to restore the customer. It also provides relay information on the location of the event. Logically, the time for a crew to patrol the line is reduced and in turn, the cause of the event can be addressed without additional outage time to customers. The benefit of greatly reducing the outage time for our customers should not be discounted. In some of DEF's remote areas, this could reduce from hours to minutes to resolve the outage. Minimizing outage time also effectively manages overall cost required to address the cause of the event. Thus, it is DEF's position that the GOAB subprogram has multiple benefits and is a part of the overall reduction in restoration costs projected from the Structure Hardening program.

Q. Mr. Mara contends that the Cathodic Protection subprogram within the Transmission Structure Hardening Program should be excluded from the Plan because it does not increase strength or improve resiliency. Do you agree?

A. No, I do not agree. As discussed above, I think a subprogram that arrests the natural degradation of a component, thereby maintaining its strength for a greater period of time, makes the asset more resistant to the effect of extreme weather and therefore makes the system as a whole more resilient. The Cathodic Protection sub-program meets the requirements of Rule 25-6.030 through the mitigation of the degradation to structure capacity from groundline corrosion and systematic identification of structures that need kitting or replacement. This program aims to cost effectively address corrosion issues across the entire DEF lattice fleet without prematurely replacing the assets, which directly provides reliability benefits by preserving overall system strength on a larger scale than individual asset change-out. The program also installs reinforcement kits on structures with existing groundline corrosion that are in otherwise good health. As Witness Mara correctly notes "When the strength of a tower or structure decays below a certain level, per the NESC, the structure must be replaced or rehabilitated." Restoring groundline capacity of the structure allows the structure to perform as originally designed for a greater period of time at a fraction of the cost to customers compared to structure replacement. In the end, this subprogram reduces restoration time after major storms through verification and preservation of DEF's lattice towers system health, and through mitigation of existing vulnerabilities from ground line corrosion. As a result, I recommend that this sub-program be included in the SPP.

Q. Mr. Mara recommends excluding portions of the Transmission Substation Flood Mitigation Program. Do you agree with his contentions regarding the need for the challenged aspects of the program?

A. No, I do not. First, I would note that all substations were built to the existing standards in the year they were installed. Witness Mara asserts that: "substations built after 1973 should have been designed with the knowledge of potential flood waters and designs should have accounted for this predictable occurrence." The SPP Flood Mitigation program is directed to the substations at the highest risk of flooding per the most current 100-Year Federal Emergency Management Agency ("FEMA") flood plain, which is under continuous review and updated as needed. For example, the FEMA Floodplain map for the coastal area was updated in June of 2020. These flood plain changes can result in substations that were not within the flood plain at construction being "reclassified" such that the original design, which was appropriate at the time, is no longer sufficient. The model established for Substation Flood Mitigation evaluates substations in the flood plain with the potential based on historical data to have at least four (4) feet of flood mitigation, and then DEF resources perform further analytics to ensure the prudency and most cost-effective measure for mitigation.

Q. What is your response to the comment that DEF has not suffered outage time due to flooding of DEF's substations?

A. Witness Mara shared his understanding that DEF has not had any outages due to flooding of its substations in recent years, stating, "there was one instance where sandbags were deployed at a control house but there were no outages." Witness Mara seems to indicate that a 3-year flood history is indicative of a 100-year flood, but substations are built to remain functioning over a prolonged period, so a 3-year window is not sufficient to prudently plan for the long-term functionality and service of the substation (as discussed above, the NESC code is updated regularly while the FEMA flood plain is updated as necessary, both of which can result in changed requirements at specific locations).

I recommend retaining the Substation Flood Mitigation Program in its entirety.

Q. Mr. Mara recommends eliminating the Loop Radially Fed Substation Program from the plan in favor of prioritizing hardening transmission lines through replacing wood structures with non-wooden structures. Do you agree with this approach?

A. No, I do not agree for a couple of reasons. For one thing, accepting what he said regarding the lower rate of failure for hardened structures as true, it does not mean that hardened structures will be able to withstand each and every extreme weather event that may eventually occur. Hence, the looping of radially fed substations (as discussed below) will further harden the system against the impacts of extreme weather events in a cost-effective manner.

The looping of radially fed substations is targeted at specific existing "single point of failure" vulnerabilities. For example, a short 69kV radial tap serves a substation that cannot be isolated and restored through switching if a line fault occurs on that tap. A typical design allows for a slight adjustment to the line route to "loop through" the substation so there is no portion of the transmission line that would prevent restoring power to the substation. Looping through the substation in this manner allows the transmission line to be "sectionalized" by operating switches to isolate a faulted section of the line and to restore the electric supply to the substation in the event of a line outage. Switches installed within the substation can also be equipped with remote monitoring and control more easily than switches located on the transmission line at a distance from the substation.

The ability to isolate events or damage due to extreme weather events allows for reduction of outage times. Restoration costs are reduced because of the ability to quickly restore customers out of service and have a more planned approach to any repairs required versus dedicating resources to first identify and then repair damage in an emergency response.

Q. Mr. Mara recommends eliminating the Substation Hardening Program from the plan indicating that the BCA is only 1%. Do you agree?

A. No, I do not agree. I referred to Exhibit KML-2 and it was unclear how the 1% BCA he refers to was calculated. The 1% BCA does not match Table 1 located in Witness Lloyd's Testimony. Table 1 clearly shows all of DEF's programs have a benefits-to-cost ratio greater than 1, which is inclusive of the Substation Hardening program. As a result, I recommend that this program be included in the SPP.

Q. Describe why the Transmission Substation Hardening Program meets the requirements of Rule 25-6.030, F.A.C.

A. The Transmission Substation Hardening program is intended to upgrade targeted equipment that is generally more vulnerable during extreme weather events to protect the integrity of the grid. Simply put, relays and breakers are needed as a combination to protect the Transmission and Distribution systems to ensure reliable service for our customers. Witness Mara opines that "outages will still occur and therefore the cost to restore will not be reduced." Rather than provide a basis for eliminating the program, this opinion supports the need for the Substation Hardening program. As faults occur on the system, the breakers and relays are relied upon to operate and safely isolate the faulted segment, which reduces outages and outage durations to customers connected to facilities that are not damaged. During extreme weather events, breakers and relays are called upon to operate more frequently and failure to operate, when necessary, would result in longer outage durations for our customers. We also expect that the ability to isolate the faulted segment will also decrease restoration costs by saving time identifying areas of need, thereby allowing DEF's restoration crews to focus efforts appropriately.

Q. Do you agree with Witness Mara that there are no significant performance changes with using modern breakers?

A. No. During extreme weather events, breakers and relays will operate multiple times as the weather affects the transmission and distribution systems. Oil breakers have a limited number of operations especially in circumstances where they are operating numerous times over a short period, such as during extreme weather events. When oil circuit breakers are repeatedly called to operate, they can generate arcing gasses within the oil tank that can accumulate and result in catastrophic failure. Replacement of the breakers with gas or vacuum breakers, upgrades to a faster response time and they can withstand a higher number of operations. Failure to operate fast enough to clear fault currents will activate backup protection systems, potentially leading to a larger outage for our customers.

Q. Do you agree with Witness Mara that def has no choice but to replace electromechanical relays with digital?

A. Not necessarily; DEF does have a choice regarding the timing of the upgrade from electromechanical to digital relays. Electromechanical relays still perform the designed function, and DEF has an available inventory of electromechanical relays it can use, however, they do not offer the additional benefits that I describe below. DEF has implemented electromechanical for electromechanical relay replacements to extend the life of the facility and maintain reliability for our customers. DEF agrees the upgrade of non-communicating electromechanical relays to digital relays provides enhanced monitoring and communication capability and eventually all relays on the system will be upgraded to digital, but to perform that upgrade at this time would be cost prohibitive.

Protection systems (i.e., grouping of relays) are designed to detect and isolate faults or disturbances on the transmission or distribution systems. During extreme weather events, relays are needed to quickly identify the fault thereby limiting the severity and spread of system disturbances and preventing possible damage to equipment. Additionally, some digital relays enable the use of device data to calculate the distance of a line fault allowing for faster identification and restoration. Substation Hardening reduces restoration cost and outage time through the reduced resource time needed to manually patrol the length of the transmission line or facility prior to restoring customers or the BES transmission system.

Q. On June 27, 2022, OPC filed a Motion to Accept Amended Testimony along with amendments to both witnesses' pre-filed direct testimonies. Have you reviewed the amended testimonies, and if so, what impacts do the amendments have on your rebuttal testimony?

A. Yes, I have reviewed the proposed amended testimonies, as well as Mr. Lloyd's response contained in his rebuttal testimony. I fully agree with Mr. Lloyd and also believe that, because OPC's witnesses' testimonies continue to include their faulty reasoning and conclusions, as I have discussed in the foregoing testimony, it is important to present the Company's response as it pertains to the Transmission specific portions of the Plan.

III. CONCLUSION

Q. Mrs. Howe, your rebuttal covers a lot of ground, but did you respond to every contention regarding the Company's proposed plan in your rebuttal?

A. No. Intervenor testimony on the SPP involved many pages of testimony and I could not reasonably respond to every single statement or assertion and, therefore, I focused on the issues that I thought were most important in my rebuttal testimony. As a result, my silence on any particular assertion in the intervenor testimony should not be read as agreement with or consent to that assertion.

Q. Does this conclude your testimony?

A. Yes.