Before the Florida Public Service Commission

Docket No. 20220049-EI

In re: Petition for Review of Storm Protection Plan

Rebuttal Testimony of P. Mark Cutshaw

On Behalf of

Florida Public Utilities Company

Date of Filing: June 21, 2022

I. Background

Q. Please state your name and business address.

A. My name is P. Mark Cutshaw. My business address is 208 Wildlight Avenue, Yulee, Florida 32097.

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

A. Yes, I filed direct testimony on behalf of Florida Public Utilities Company ("FPUC" or "Company").

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

A. Yes.

Q. Are you providing any exhibits with your rebuttal testimony?

A. No.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my testimony is to rebut various conclusions contained in the direct testimony of the Office of Public Counsel's ("OPC") witness Kevin Mara pertaining to the analysis of new programs proposed by FPUC in its Storm Protection Plan ("SPP") petition.

Q. Do you agree with any of Witness Mara's conclusions as presented in his direct testimony?

A. While I disagree with most of Mr. Mara's recommendations, I do agree with his assessment of the goal of the SPP where he states, "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."[1]

Q. Do you agree with Mr. Mara's assessment that FPUC provided nothing "other than vague language about reducing restoration costs[2]."

A. No. FPUC believes all the programs and projects presented in its SPP provide economic benefit in multiple ways, one of which is reduced restoration costs. The calculated or perceived financial benefit to specific customers because of the availability of power varies by customer, circumstance, and personal choice. Mr. Mara's view of quantifying value

[1] Direct Testimony of Kevin J. Mara, p.6, lines 9-11
[2] Direct Testimony of Kevin J. Mara, p.11, line 19

solely on a perceived savings compared to a potential future storm event yields illusory results as there are no established parameters that accurately measure avoided cost values, quantitatively or otherwise, to residential customers, hospitals or long-term care facilities, retail stores, etc. The Company cannot logically attempt to quantify the perceived economical value of reduced outages or outage restoration times for each of its 30,000+ customers. The SPP investment is made in an effort to avoid more catastrophic costs for our customers resulting from an extreme weather event. As such, attempting to specifically define economic value of the Company's SPP by comparing the investment of the projects in the plan to a future potential event is not the only means of measuring value.

Additionally, Mr. Mara states in his direct testimony on page 8, lines 11 - 14, "By installing poles with greater strength needed to meet this new design standard, these hardened poles will reduce restoration costs because there will be fewer pole failures and will reduce restoration time because there will be fewer failed poles to repair." Though not directly stated, the context of this statement appears to suggest that FPUC is proposing the replacement of failed poles with the same construction standard facilities. If that is, indeed, Mr. Mara's understanding, his understanding is incorrect. As FPUC has stated within its SPP, as well as its prior Storm Hardening filings dating back to 2008, FPUC replaces, and plans to continue to replace, failed poles with a hardened standard; be it extreme wind capable for Distribution facilities, or spun concrete for Transmission facilities. The Company agrees with Mr. Mara's assessment that requiring higher loading and strength factors for new facilities as part of replacements will reduce restoration time and subsequent costs as required by the Rule.

Q. Do you agree with Mr. Mara's statement regarding sectionalizing equipment on page 9, line 16 - 17 that states "While the devices do reduce outage times, they fail to reduce outage costs."

A. No. While I agree that the time to replace the pole is the same in all cases, there are many other factors that drive costs during power restoration activities; both during extreme and non-extreme weather events. As stated by Mr. Mara, these devices reduce outage times. Contrary to his testimony however, they also reduce outage costs. Less time spent patrolling lines in search of damage or mobilizing and demobilizing resources between grid isolation points (switches) as an example reduces the chargeable hours to restore power. When there are thousands of outages present, as there typically are during extreme weather events, these time savings quickly multiply. Additionally, Mr. Mara fails to account for cost savings on the customer's side resulting from eliminated or accelerated restoration times. Things such as lost business, spoiled refrigerated goods, early closing, and other real dollar savings for the customers are realized when these types of enhancements are implemented within an electric distribution grid.

Q. Do you agree with Mr. Mara's statement on page 13, line 17 that "FPUC's spending per customer is extremely high when compared to the other utilities in Florida?"

A. No. What Mr. Mara fails to consider in this overly simplistic chart is that the factors that go into a cost per customer are not all equal. As a demonstrative example, a utility replaces an old wooden pole with a storm hardened pole for $5,000 and spreads the $5,000 across all of its customers. In that scenario, a utility with 30 customers would expect to see a

customer impact of approximately $167 per customer, whereas a utility with 100 customers would expect a customer impact of approximately $50 per customer. The value to each customer on each system in having facilities less susceptible to storm damage is the same, but because one utility has fewer customers to spread the costs across, the cost benefit ratio appears very different. Witness Mara's analysis thus seems to suggest that smaller utilities, like FPUC, should do less to protect their system and their customers from storm-related power outages, but this perspective is not compatible with the Legislature's direction to "each utility" to "mitigate restoration costs and outage times". [3] This is particularly true with utilities whose service territory is more rural such as that of FPUC when compared to the other Florida IOUs. Witness Mara also fails to recognize that the costs proposed in FPUC's plan are comparable to the other Florida IOU's when comparing the total 10-year investment against total system overhead miles and below average when comparing 10-year investments costs in feeder and lateral hardening programs against total system overhead miles or square miles of service territory. These alternate evaluation methods normalize investments based on required facilities to serve and account for discrepancies in the capital utility investments required in an urban setting where one transformer may be able to serve 4 to 8 homes versus a rural setting where home spacing may not provide the opportunity to leverage a transformer for more than one residence.

Q. Do you agree with Mr. Mara's proposed reductions in the SPP which are identified on Page 14, Line 10 of his testimony.

[3] S. 366.96(1)(e), F.S.

A. No, I do not. FPUC has considered the customer impact along with benefits to the customer during preparation of the plan. Currently, FPUC customers have a surcharge of $0.0128/KWH based on Hurricane Michael cost recovery which will terminate in December 2025. As such, FPUC has taken that significant surcharge into consideration and endeavored to delay incurring additional costs associated with the SPPCR until after the termination of the Hurricane Michael surcharge. This conscious effort by FPUC on behalf of its customers shifted investments from the early years of the plan to the later years where Mr. Mara is proposing a reduction. FPUC's proposed investments are prudent and necessary to both comply with the requirements of the Rule and to achieve these objectives within a reasonable timeframe for the benefit of all FPUC Customers. Mr. Mara's proposed reductions are arbitrary and based on a flawed comparison of costs against total customers as I have explained above. FPUC takes offense to Mr. Mara's recommendation which implies that customers in metropolitan urban areas such as Miami-Dade, Tampa, or Orlando are more worthy of enjoying the benefits of a strengthened electric distribution grid than the deserving customers of FPUC's mostly rural service territory.

Q. Do you agree with Mr. Mara's belief that the SPP programs should be dependent on the most recent history of storm activity?

A. Absolutely not. First, as an investor-owned electric utility, FPUC is mandated by Rule 25-6.030, Florida Administrative Code, to produce a storm protection plan. To my knowledge, that Rule makes no consideration for frequency of storms. Historical frequency of storms is not a good measure of prudency. It has been FPUC's experience that preparation,

especially in the "10-year period of relative quiet" that Mr. Mara speaks of, is the right time to prepare. Second, FPUC has learned from real world experience that no matter how prepared you are, when severe storms hit, the restoration options available become very narrow and more expensive. Had they been in place in 2018, FPUC's proposed investments in the core hardening programs such as feeder and lateral hardening would have mitigated impact, costs, and outage durations during this historically anomalous storm. We believe the customers whose availability of electric service was impacted by Hurricane Michael would wholeheartedly agree that once is enough and they will leave the statistical projection of hurricane frequency to the experts at Colorado State University and depend on FPUC to strengthen the grid ahead of time.

Q. Do you agree with Mr. Mara's reduction in Distribution-OH Lateral Hardening?

A. No. On page 19 line 20 of his testimony, Mr. Mara proposes a $12.1M budget which is nearly a 50% reduction from the proposed ten-year investment plan. He cites as the basis for the reduction FPUC's failure "to demonstrate that the benefits to FPUC's customers outweighs the costs for hardening overhead laterals" and that the FPUC SPP "has a very high cost per customer."

Q. Would you please explain why?

A. Overhead Laterals make up a significant part of the FPUC Distribution system and include 575 miles of overhead single, two and three phase circuits in both urban and rural settings. These facilities are the final segment of facilities delivering electrical service to our

customers. In fact, laterals on the FPUC system are responsible for approximately 65% of the CMI over the analyzed period. Arbitrarily reducing the overhead lateral hardening program is contrary to the requirements of the rule to reduce outage times associated with extreme weather events. Overhead Laterals were reviewed based upon the Resiliency Risk Model within the SPP to determine which laterals meet the criteria to be included in the early stages of the upgrades. Based on the proposed plan and assuming both the Overhead Lateral Hardening and Overhead Lateral Undergrounding are approved as submitted, it will take 30 years to accomplish the hardening. If the reductions occur based on Mr. Mara's proposal, the completion of this integral work to harden these facilities could be pushed out to approximately 60 years. For those customers at the end of the line, that is a long delay in achieving the reduced outage times contemplated by the Legislature, particularly given the historical impact of storms in recent years on areas of FPUC's system.

Additionally, Witness Mara takes issue with our reliance upon the 2018 FPSC report entitled *Review of Florida's Electric Utility Hurricane Preparedness and Restoration Actions 2018* as support for FPUC's hardening of overhead laterals. Mr. Mara states that "the data demonstrating better performance was limited to feeder hardening and therefore not directly applicable to this program for hardening laterals." Contrary to Witness Mara's assertion, the tactics associated with the proposed Feeder Hardening Program and the Overhead Lateral Hardening program are nearly identical. It therefore stands to reason that an analysis of the performance of overhead feeders built to the NESC extreme wind standards is a reasonable proxy for the performance of overhead lateral lines built to the same standard.

Q. Do you agree with Mr. Mara's reduction in Distribution-OH Lateral Underground?

A. No. On page 22 line 7 of his testimony, Mr. Mara proposes a $32.22M budget which is greater than 50% reduction from the proposed ten-year investment plan. He cites as the basis for the reduction FPUC's failure "to demonstrate that the benefits to FPUC's customers outweighs the costs for hardening overhead laterals" and that the FPUC SPP "has a very high cost per customer."

Q. Would you please explain why?

A. As previously mentioned, Overhead Laterals make up a significant part of the FPUC Distribution system and include 575 miles of overhead single, two and three phase circuits in both urban and rural settings and are that final segment to actually provide electrical service to customers. In fact, laterals on the FPUC system are responsible for approximately 65% of the CMI over the analyzed period. Arbitrarily reducing the overhead lateral undergrounding program is contrary to the requirements of the rule to reduce outage times associated with extreme weather events. The single-phase Overhead Laterals included in this program were reviewed based upon the Resiliency Risk Model within the SPP to determine which laterals meet the criteria to be included in the early stages of the undergrounding. Based on the proposed plan and assuming both the Overhead Lateral Hardening and Overhead Lateral Undergrounding are approved as submitted, it will take 30 years to accomplish the hardening. If the reductions occur based on Mr. Mara's

proposal, the completion could be pushed out to approximately 60 years. For those customers at the end of the line, that is a long time.

Q. Do you agree with Mr. Mara's disallowance of Transmission/Substation Resiliency?

A. No. On page 25 line 16 and page 27 line 20 of his testimony, Mr. Mara proposes eliminating this project "because it is not a prudent investment…based on my review of the existing system configuration…" and because "this project is not a storm hardening project; it is an energy delivery/energy access project."

Q. Would you please elaborate on why you are opposed to the disallowance of the 138 KV line?

A. I do agree with Mr. Mara that the proposed length of the new 138 KV line is not optimal for resolving the issue to provide another line to Amelia Island. However, this is the closest point to the FPL system that is capable of providing an additional source. When focusing on the existing lines, the steel lattice structures, which were installed in 1973 are of concern. Although the structures have been well maintained, they are almost 50 years old and have been exposed to several hurricanes that have caused damage to the area, most recently Hurricane Matthew (2016), Hurricane Irma (2017) and Hurricane Dorian (2019). Additionally, the location of the steel lattice structures places them in the direct flight path of the Fernandina Beach Municipal Airport and adjacent to the bridge used to access Amelia Island. The likelihood that the proximity of either of these transportation facilities resulting in damage to the towers is unlikely, but their proximity does increase the risk.

Q. **Are the steel lattice structures not already sufficient to withstand extreme wind and storm surge associated with extreme weather events?**

A. Not necessarily. While these structures are stable and not at risk of imminent failure, storms can produce steel lattice structure failures. By way of example, the structure below is a transmission tower on Entergy's system in Orleans Parish, Louisiana and is somewhat similar to some of the structures used by FPUC. The picture on the following page reflects the impact of Hurricane Ida on the facility, which collapsed leaving the attached facilities in the Mississippi River.

The specific photo above is accessible at: https://www.dailymail.co.uk/news/article-9955983/Striking-aerial-images-major-Louisiana-transmission-tower-toppled-Hurricane-Ida.html. Other contemporary news articles regarding failure of the pole, indicate that the pole had not been replaced because it was "robustly engineered," had recently passed inspection, and had survived Hurricane Katrina. https://www.wwltv.com/article/news/investigations/david-hammer/an-island-without-power-why-a-massive-entergy-transmission-tower-crumbled-and-all-8-sources-of-outside-power-were-lost/289-bc36e2e4-b19e-4bf0-af3f-97c25f44460f ; (4WWWL CBS News/August 30, 2021 – Hammer); quoting Entergy Louisiana CEO Phillip May. Other articles reflect the political aftermath, in which the decisions of Entergy, as well as state and local officials, were called into question by both residents and other industry stakeholders as to why transmission facilities had not been upgraded, and why other upgrades had not been accomplished more expeditiously. https://www.nytimes.com/2021/09/17/business/energy-environment/hurricane-ida-entergy-power-outage-new-orleans.html (NY Times/September 17, 2021 - Eavis and Penn). I understand that these questions led to a class action lawsuit that has not yet been resolved.[4]

My point in mentioning the Entergy transmission tower being that it is easy to focus on FPUC's transmission project and highlight it as being too expensive. However, if the line does go down and the island is without power for several weeks without other alternatives

[4] See, Stewart v. Entergy; No. 22-30177 (5th Cir. May. 27, 2022), affirming, in part, lower court's remand of case to the state court for lack of federal jurisdiction.

for restoration, I suspect the criticisms we receive will be directly contrary to Witness Mara's argument in this case.

Q. Would you please elaborate on why you are opposed to the disallowance of the 69 KV line and substation hardening?

A. If the 138 KV transmission line is not approved, the 69 KV line and substation hardening is even more critical for the resiliency for Amelia Island. Approximately $5.4 million of the $86.07 million total in the Transmission and Substation Resiliency program is attributable to the 69 KV line and substation hardening which can provide an additional source of energy for Amelia Island during emergencies. The line and substation hardening will upgrade the interconnection to the WestRock papermill, which produces electricity using steam turbines driven by boilers fed by coal and natural gas. These are not black start capable and would need grid power to start the process which does take some time. However, using the existing Eight Flags Energy CHP or a future CHP, these facilities would be able to start and provide valuable power to the island and get critical customers and industries back in operation.

Mandatory evacuations can be required on Amelia Island, so all industrial processes are shut down prior to the hurricane landfall. Using CHP technology, these units can be up and running in as little as four hours after the operators are allowed back on the island which demonstrates the value of CHP technology on Amelia Island.

Q. Do you agree with Mr. Mara's disallowance of Future T&D Enhancements?

A. No. On page 30 line 5 of his testimony, Mr. Mara proposes the project be "eliminated from FPUC's SPP because it fails to meet the two prong criteria" specifically Mr. Mara states the program "does not reduce outage costs."

Q. Would you please elaborate on why?

A. As mentioned above, while I agree that the time to replace the pole is the same in all cases, there are many other factors that drive costs during power restoration activities; both during extreme and non-extreme weather events. As stated by Mr. Mara, these devices reduce outage times. Contrary to his testimony however, they also reduce outage costs. Less time spent patrolling lines in search of damage or mobilizing and demobilizing resources between grid isolation points (switches) as an example reduces the chargeable hours to restore power. When there are thousands of outages present, as there typically are during extreme weather events, these savings quickly multiply. Additionally, Mr. Mara fails to account for cost savings on the customer's side resulting from eliminated or accelerated restoration times. Things such as lost business, spoiled refrigerated goods, early closing, and other real dollar savings for the customers are realized when these types of enhancements are implemented within an electric distribution grid.

Q. Does this conclude your testimony?

A. Yes, it does.