Antonia Hover

From: Office of Commissioner Brown
Sent: Monday, June 24, 2019 2:52 PM
To: Commissioner Correspondence
Subject: FW: Duke's storm hardening plan & flood zone concerns Docket No. 20180146-EI

Good Afternoon,

Please place the attached email in Docket No. 20180146-EI.

Thank you,

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From: kcisarik@aol.com [mailto:kcisarik@aol.com]
Sent: Monday, June 24, 2019 2:25 PM
To: Office Of Commissioner Clark; Office of Commissioner Brown; Commissioner.Graham@psc.fl.us; Office of Commissioner Polmann; Office of Commissioner Fay
Cc: Penny Buys; Luis Salvador; Robert Graves; Emily Knoblauch; Laura King; Jim Breman; Shelby Eichler; Brandon Wendel; Dale Eastmond; Walter Trierweiler; Jcrawford@psc.state.fl.us; Adam Teitzman; JR Kelly; christensen.patty@leg.state.fl.us
Subject: Duke's storm hardening plan & flood zone concerns Docket No. 20180146-EI

Dear Commissioners,

I am a Duke Energy Florida customer and full time resident of Indian Rocks Beach in Pinellas County, FL. I have some specific concerns and questions (listed at the bottom) that I want to pose to you and your staff for review as part of the Duke Energy Florida LLC's 2019-2021 Storm Hardening Plan approval process. My concerns center around the suitability of placing oil filled, pad-mounted transformers on the ground in coastal areas where storm surge is a major concern. I would like to see some guidelines established by the PSC regarding when underground utilities should and should not be placed in coastal flood zones in areas that are subject to salt water storm surge. After passage of the new "Public Utility Storm Protection Plans" (Senate Bill 796) I believe we will see increased pressure on our utilities and the PSC to allow electric distribution lines to be placed underground in flood zones. As I read that new law, utility customers will be asked to subsidize storm hardening projects that may or may not benefit them directly so I want to make sure this technology has been rigorously tested before it is allowed to be retrofitted on a large scale basis in flood zone areas like mine.

On St. George Island in Franklin County, Duke's underground system was subjected to Hurricane Michael's storm surge on October 10, 2018. Has Duke provided a post storm analysis of how this system performed? St. George Island was referenced in Duke's 2013-2015 Storm Hardening Plan on page 7. According to DEF, the St. George Island project was a 2007 test project utilizing *Duke's Submersible Technology* including: Stainless steel equipment; Submersible connectors, Raised mounting boxes, Cold shrink sealing tubes and Submersible secondary blocks. A link to that plan and an excerpt from page 7 are provided at the bottom of this email.

I am concerned about the much higher expense of the transformers used for underground systems and the much greater weight and bulk of pad mounted transformers and switch gears. Will there be sufficient supply of this equipment available to rapidly restore underground systems in flood zone areas after major hurricanes? If a storm surge takes out hundreds of pad mounted transformers over a 20-30 mile coastal area, could repair times be extended to many weeks or months before restoration would be complete?

I believe my concerns fall under Rule 25-6.0342(3) which states: "Each utility storm hardening plan shall contain a detailed description of the construction standards, policies, and procedures employed to enhance the reliability of overhead and underground electrical transmission and distribution facilities". I don't believe my city has projects that fall under the latest storm hardening plan, but I want to provide it as an example of how cities and counties are utilizing Duke to put their utilities underground.

Here's a real world example:

> **In Indian Rocks Beach where I live, two underground electric utility projects are in the works along Gulf Boulevard (both in a FEMA special flood hazard zone). That road is the closest major north-south coastal road to the Gulf of Mexico. The first project is currently underway in the southern half of the city along a section called "the Narrows" because it also borders the intracoastal waterway, just a hundred feet or less away in some areas. (This is a section of state road). The second project is a proposed project under my county's Capital Improvement Project budget for the coming year along county road sections of Gulf Blvd. going through both my city and multiple other towns.**
> **My understanding is :**
> **1) These projects are considered upgrades whereby the county or city pays for costs over and above the current costs to provide new overhead service.**
> **2) Duke pays the base cost.**
>
> **Pinellas County has provided supplemental funds for multiple cities to do "upgrade" projects all along Gulf Boulevard (CR 183) over the last decade primarily for beautification purposes. These projects were mostly completed by Duke's predecessor, Progress Energy. They were not approved as storm hardening plans, but with passage of the new SB 796, there may be similar projects proposed in future storm hardening plans. Pinellas will have approximately 30 miles of Duke underground utilities all along Gulf Boulevard in a special flood hazard zone if the current County Capital Improvement Plan budget is approved in the next three months. If a storm surge effects the entirety of Gulf Boulevard in Pinellas, there could be hundreds of these very expensive pad mounted transformers requiring repairs or replacement. Pinellas is the most densely populated county in Florida and coastal Gulf Blvd. is among its most densely populated areas.**

I contacted Duke officials to try to get answers about my local undergrounding project and in doing so, I realized that my questions should be addressed by the PSC related to Duke's Storm Hardening Plan because large scale undergrounding projects impact the whole Duke customer base. These questions at the bottom of the email are ones I'd like to see addressed before approval of the Duke Energy Florida 2019-2021 Storm Hardening Plan.

I hope you are as concerned as I am about the need to determine the suitability of Duke's Submersible Technology (currently being used in flood zone areas subject to storm surge). I would appreciate it if staff members assisting on this plan approval can copy me with any answers they receive to the concerns I laid out below.

Thank you for taking the time to review my concerns.

Sincerely,

Kelly Cisarik
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Indian Rocks Beach, Florida 33785
kcisarik@aol.com

Questions for Duke related to their underground systems in flood zones:

1. **Does Duke have an oil filled, pad mounted transformer spec'd out for flood zone projects whose electrical connections are sealed in such a manner that they would NOT require disassembly and cleaning after being submerged in salt water?**
2. **Duke's Storm Hardening Plans as shown in PSC documents going back to at least 2013, include a "submersible underground strategy" using submersible connectors and cold shrink sealing tubes. Duke stated they would analyze test results for these mitigation techniques. Is this analysis available ?**
3. **Who manufactures the transformers that will be used for flood zone areas? Does Duke have test results from the transformer manufacturer showing how their equipment performed after immersion in salt water?**
4. **If Duke needs to disassemble and clean the transformers, connections or switching equipment after saltwater intrusion, can this be done onsite? How many weeks is it likely to take if a hundred or more of these transformers go underwater? What specialty equipment is required to replace the heavier, larger switch gears and larger transformers.**
5. **How many pad mounted transformers is Duke planning to stock in reserve for a major hurricane with storm surge affecting an area like Pinellas County?**
6. **Duke Energy Florida, in 2007 completed an underground utility pilot project in St. George Island. That project was subjected to storm surge in Hurricane Michael. Duke stated "*Throughout the year after a significant weather event, DEF will monitor these installations to collect and analyze data to determine how this equipment performs**. Is there a report available on how those transformers and switches performed after hurricane Michael?**

* Page 7: http://www.psc.state.fl.us/library/filings/2013/02378-2013/02378-**2013**.pdf

From Duke 2013-2015 Storm Hardening Plan p. 7 :
St. George Island in Franklin County was one of the areas where DEF used its **submersible underground strategy** to retrofit its existing facilities using the submersible standards listed above. St George Island is a good example of an area that would be susceptible to surges during a severe storm. The project was completed in 2007 and subsequent construction has conformed to the design standard for areas susceptible to storm surge.

In areas where underground equipment may be exposed to minor storm surge and/or shorter term water intrusion, DEF has used its prioritization model (discussed in detail below) to identify areas where certain mitigation projects will be put into place to test whether flood mitigation techniques and devices can be used to protect equipment such as switchgears, padmounted transformers and pedestals. In these selected project sites, DEF will test:

- Stainless steel equipment;
- Submersible connectors;
- Raised mounting boxes;
- Cold shrink sealing tubes; and
- Submersible secondary blocks .

Throughout the year after a significant weather event, DEF will monitor these installations to collect and analyze data to determine how this equipment performs relative to DEF's current design with respect to outage prevention, reduced maintenance, and reduced restoration times. From this process, DEF will continue to learn and will adapt its flood and storm surge strategies based on information that it will collect and based on the information gathered by other utilities in Florida and throughout the nation as new standards and applications are applied and tested.