21 West Church Street
Jacksonville, Florida 32202-3139

January 19, 2018

JEA

ELECTRIC

WATER

SEWER

Ms. Carlotta S. Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Docket No. 20170215-EU - Review of electric utility hurricane preparedness and restoration actions

Dear Ms. Stauffer:

Please find attached JEA's response to the FPSC Staff's Second Data Request for the referenced docket.

Please contact me at 904/509-0521 or via email kilgna@jea.com if you have further questions or need clarification.

We appreciate the opportunity to provide the information to the Commission.

Sincerely,

Nancy K. Veasey
Director, Government Relations

cc: Wesley Taylor, Esq., FPSC, via email
Amy Zubaly, FMEA, via email

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STATE OF FLORIDA

OFFICE OF THE GENERAL COUNSEL
KEITH C. HETRICK
GENERAL COUNSEL
(850) 413-6199

Public Service Commission

December 18, 2017

STAFF'S SECOND DATA REQUEST
via email

To:

Duke Energy Florida, LLC (Matthew.Bernier@duke-energy.com, dianne.triplett@duke-energy.com)
Florida Power & Light Company (ken.rubin@fpl.com, kevin.donaldson@fpl.com)
Florida Public Utilities Company (bkeating@gunster.com)
Gulf Power Company (jastone@southernco.com, rab@beggslane.com)
Tampa Electric Company (jbeasley@ausley.com)
Municipal Group (AZubaly@publicpower.com)
Lee County (dennie.hamilton@lcec.net)
Cooperative Group (mhershel@feca.com)

Re: Docket No. 20170215-EU - Review of electric utility hurricane preparedness and restoration actions.

To Whom It May Concern:

By this letter, the Commission staff requests that each utility provide responses to the following data requests.

JEA Response

Unless otherwise noted, JEA was not impacted by Hurricanes Maria and Nate.

Underground Facilities

1. For each year, please complete the following tables summarizing the number of miles of transmission and distribution underground facilities by county from 2006 through 2017.

Transmission			
Years 2006 - 2017			
County	Overhead to Underground	UG New Construction	UG Total Miles

Duval	0	0	52.5

Distribution			
Year 2006			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	65.9	2,313.6
St Johns	0	6.5	159.5
Clay	0	0.1	19.0
Year 2007			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	8.2	183.1	2,379.5
St Johns	0	36.7	166
Clay	0	0.3	19
Year 2008			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	340.5	2,570.9
St Johns	0	29.6	202.7
Clay	0	3.7	19.3
Year 2009			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	110.4	2,911.4
St Johns	0	19.9	232.3
Clay	0	0.1	23.0
Year 2010			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	76.1	3,021.7
St Johns	0	7.9	252.2
Clay	0	0.1	23.1
Year 2011			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	40.5	3,097.8
St Johns	0	12.9	260.1
Clay	0	0.1	23.2
Year 2012			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	44.6	3,138.3
St Johns	0	6.0	273.0
Clay	0	0	23.3
Year 2013			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0.1	60.3	3,198.8
St Johns	0	18.0	291.0

Clay	0	0	23.3
Year 2014			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0.4	53.7	3,252.9
St Johns	0	12.5	303.5
Clay	0	0.3	23.6
Year 2015			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	60.6	3,313.5
St Johns	0	31.0	334.5
Clay	0	0.2	23.8
Year 2016			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	1.4	72.2	3,387.1
St Johns	0	33.3	367.8
Clay	0	0	23.8
Year 2017			
County	**Overhead to Underground**	**UG New Construction**	**UG Total Miles**
Duval	0	69.7	3,456.8
St Johns	0	30.3	398.1
Clay	0	0.3	24.1

Forensic Data

2. For Hurricanes Hermine, Matthew, Irma, Maria, and Nate, please provide a complete copy of the utility's post-storm forensic review of damaged infrastructure. If a forensic review was not performed or not documented, please explain why.

No post-storm forensic review of damaged infrastructure was performed after any of the storms listed above. Hermine did not have a major impact on the JEA service territory as it weakened significantly before arriving in the JEA service territory. In assessing the storm damage for Hurricane Matthew and Hurricane Irma, downed large, mature trees were identified as the overwhelming cause of damage. Normal hardening techniques such as concrete poles would not have the desired effect of preventing customer outages due to the downed large, mature trees.

The flooding during Hurricane Irma has increased the focus on the underground distribution network infrastructure in the core downtown Jacksonville area. A forensic review has not been performed on the underground distribution network; however, the JEA Transmission & Distribution Standards group is reviewing ways to improve vaults for

network transformers to be more flood resistant as well as to find ways to better protect spot network transformers and network protectors from flooding.

Coordination

3. For Hurricanes Hermine, Matthew, Irma, Maria, and Nate, please provide the name, frequency, and description of non-Emergency Operations Centers related coordination efforts with local governments before, during, and after restoration, including the following.

   a. Storm preparation

   b. Critical infrastructure

   c. Tree trimming, planting or relocation of trees

   d. Hardening and underground projects

   e. Shared facilities

   f. Other

Each year prior to storm season, JEA conducts a hurricane exercise. In 2017, a joint exercise was held with JEA, Duval County, and the Northeast Florida Regional Planning Council (NEFRPC). Several meetings with various agencies including the Jacksonville Sheriff's Office (JSO), Jacksonville Fire & Rescue (JRFD), City of Jacksonville Public Works, Jacksonville Transportation Authority (JTA), and Duval County Public Schools were held to plan the exercise and to increase coordination efforts. Also, with guidance from Duval County Emergency Preparedness Division, JEA participated in reviewing and updating multiple Inter-Agency Coordinating Procedures along with other Duval County authorities, agencies, and departments.

For Hurricanes Hermine, Matthew, and Irma, JEA coordinated with City of Jacksonville Public Works on Emergency Road Access Teams (ERAT) as well as Cut & Toss Teams before and after each storm. This coordination was to help insure safe removal of trees from roadways in the event an electric utility wire was in contact with the debris in the roads. JEA also had personnel in contact with the Duval County School Board to confirm restoration of schools so the Duval County school system could decide when to reopen schools. There was no set frequency for these coordination efforts except on an as- needed basis.

Also, each year prior to storm season, JEA personnel meets with service area's Emergency Preparedness staff in JEA's service territory and identifies critical infrastructure JEA serves in those counties and validates correct restoration priorities.

JEA examined the distribution circuits which served the designated shelters in the JEA service territory before Hurricanes Hermine, Matthew, and Irma for potential problems including at risk vegetation. If any issue was noted, actions were taken immediately to resolve the issue before the storm arrived. Again, no set frequency of coordination efforts except for updates when the task was complete.

First Coast Radio System and vehicle fueling stations/depot are facilities that are shared between JEA and the City of Jacksonville. JEA also has a fuel supply contract with a vendor in addition to the City of Jacksonville. Personnel contacts are kept current to address problems/issues; however, no set frequency of coordination efforts except updates when events occur.

4. Please complete the following tables on county and state Emergency Operations Centers staffing for Hurricanes Hermine, Matthew, Irma, Maria, and Nate.

Hurricane Hermine

Staffing for County Emergency Operations Centers		
Number of Utility Personnel	**Function**	**Total Man-Hours**
1	EOC Liaison for Clay County*	8
1	EOC Liaison for St. Johns County	19.5
2	EOC Liaisons for Duval County	48

* Issues were handled remotely

Staffing for State Emergency Operations Center		
Number of Utility Personnel	**Function**	**Total Man-Hours**

Hurricane Matthew

Staffing for County Emergency Operations Centers		
Number of Utility Personnel	**Function**	**Total Man-Hours**
1	EOC Liaison for Clay County*	32
2	EOC Liaisons for Nassau County* & St. Johns County	160
2	EOC Liaisons for Duval County	192

* Issues were handled remotely

Staffing for State Emergency Operations Center		
Number of Utility Personnel	**Function**	**Total Man-Hours**
2	JEA Liaisons*	Unknown

* Issues were handled remotely – either through FMEA or through other State EOC representatives

Hurricane Irma

Staffing for County Emergency Operations Centers		
Number of Utility Personnel	**Function**	**Total Man-Hours**
1	EOC Liaison for Clay County*	45
1	EOC Liaison for Nassau County**	95
2	EOC Liaisons for St. Johns County	179.25
3	EOC Liaisons for Duval County	300

* Issues were handled remotely

** Issues were handled onsite as well as remotely

Staffing for State Emergency Operations Center		
Number of Utility Personnel	**Function**	**Total Man-Hours**
2	JEA Liaisons*	Unknown

* Issues were handled remotely – either through FMEA or through other State EOC representatives

Solar

5. Please provide the following information for utility interconnections with customer-owned solar generation that did not operate as designed and consistent with the tariff during the extreme weather events that occurred in 2015 through 2017.

   a. The number of failures.

   b. A description of the cause or causes of such failures.

   c. Possible failure remediation and associated cost.

   d. Discuss whether the failures contributed to an increase or decrease in the utility's service restoration time and, if possible, provide an estimate of the duration impact.

e. Discuss whether the failures contributed to an increase or decrease in the utility's service restoration costs and, if possible, provide an estimate of the restoration cost impact.

JEA is not aware of any customer who reported that their solar generation system did not operate as designed or was damaged during extreme weather. Solar generation systems automatically shut-down when utility power is missing or when not connected to an energy storage system.

There were no failures reported or information received about increasing restoration costs related to these interconnections.

Solar contractors did not report any issues with their customers' solar PV systems during weather events. In particular, the largest local solar contractor reported only one call to reinstall a single panel after Irma.

JEA collects meter data about energy (kWh) that customers with solar PV systems send to the grid or buy from JEA. A review of that data as submitted by JEA in the annual PSC Net Metering Reports for 2015 and 2016 reflects no significant changes in the monthly amount of energy sent to the grid from interconnected solar customers during the months when the storms occurred nor changes in the amount of energy they obtained from JEA. The same results were found in the most recent data for 2017.

6. Please provide the following information for utility interconnections with customer-owned solar generation that operated as designed and consistent with the tariff during the extreme weather events that occurred in 2015 through 2017.

a. Discuss whether these interconnections contributed to an increase or decrease in the utility's service restoration time and, if possible, provide an estimate of the duration impact.

b. Discuss whether these interconnections increased or decreased the utility's service restoration costs and, if possible, provide an estimate of the restoration cost impact.

JEA is not aware of any increase or decrease in the utility's service restoration cost.

7. Without compromising safety, are there changes to the utility's interconnection with customer-owned solar generation that would enable the customer's facilities to be energized by its solar generation should the utility be unable to provide electric service due to a future storm damaging utility infrastructure?

   a. If yes, please provide the following information:

      - Please describe the suggested changes to the utility's interconnection.
      - If the utility is not pursuing the interconnection changes please explain why.

JEA is designing a program to incentivize customers to complement their customer-owned solar PV generation systems with energy storage (battery) equipment. Depending on the system and technology they installed, customers may have the option to charge batteries with solar energy and power their homes during some outages. The battery rebate incentive is scheduled to start on April 2018.

8. Without compromising safety, please describe potential changes to a customer's facilities that the customer can implement to enable the customer's facilities to be energized by its solar generation should the utility be unable to provide electric service due to a future storm event that damages utility infrastructure. Include in your response whether the utility makes it a practice to inform the customer of such options.

JEA is designing a program to incentivize customers to complement their customer-owned solar PV generation systems with energy storage (battery) equipment. Depending on the system and technology installed, customers may have the option to charge batteries with solar energy and power their homes during some outages. The battery rebate incentive is scheduled to start on April 2018.

9. Without compromising safety, please describe any potential changes to rules or tariffs pertaining to utility interconnections with customer-owned solar generation that would

enable the customer's facilities to be energized by its solar generation should the utility be unable to provide electric service due to a future storm event that damages utility infrastructure.

JEA is designing a program to incentivize customers to complement their customer-owned solar PV generation systems with energy storage (battery) equipment. Depending on the system and technology installed, customers may have the option to charge batteries with solar energy and power their homes during some outages. The battery rebate incentive is scheduled to start on April 2018.

10. Please provide the following information for utility interconnections with utility-scale solar generation that did not operate as designed during the extreme weather events that occurred in 2015 through 2017.

    a. The number of failures.

    b. A description of the cause or causes of such failures.

    c. Possible failure remediation and associated cost.

    d. Discuss whether the failures contributed to an increase or decrease in the utility's service restoration time and, if possible, provide an estimate of the duration impact.

    e. Discuss whether the failures contributed to an increase or decrease in the utility's service restoration costs and, if possible, provide an estimate of the restoration cost impact.

JEA had only one utility-scale solar facility during the extreme weather events that occurred in 2015 through 2016. JEA had two utility-scale solar facilities during the extreme weather events that occurred in 2017. JEA did not have any issues with the utility-scale solar generation not operating as designed during the extreme weather events that occurred in 2015 through 2017.

11. Please provide the following information for utility interconnections with utility-scale solar generation that operated as designed during the extreme weather events that occurred in 2015 through 2017.

a. Discuss whether these interconnections contributed to an increase or decrease in the utility's service restoration time and, if possible, provide an estimate of the duration impact.

b. Discuss whether these interconnections increased or decreased the utility's service restoration costs and, if possible, provide an estimate of the restoration cost impact.

As mentioned in Item 10 above, JEA had only one utility-scale solar generation facility during the extreme weather events that occurred in 2015 through 2016. JEA had two utility-scale solar facility during the extreme weather events that occurred in 2017. The utility-scale solar generation that operated as designed did not impact restoration time as the utility-scale solar generation facility was offline. Estimated restoration cost impact due to utility-scale solar was minimal if any impact at all.

Please file all responses electronically no later than January 18, 2018 from the Commission's website at www.floridapsc.com, by selecting the **Clerk's Office** tab and **Electronic Filing Web Form**. Please contact me at wtaylor@psc.state.fl.us or at 850.413.6175 if you have any legal questions, or contact Emily Knoblauch for technical questions at eknoblau@psc.state.fl.us or at 850.413.6632.

Sincerely,

/s/*Wesley Taylor*

Wesley Taylor
Attorney

WDT/as

cc: Office of Commission Clerk
Office of Public Counsel (kelly.jr@leg.state.fl.us, sayler.erik@leg.state.fl.us)