Kenneth M. Rubin
Senior Counsel
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
(561) 691-2512
(561) 691-7135 (Facsimile)
E-mail: Ken.Rubin@fpl.com

April 18, 2019

VIA ELECTRONIC FILING
Mr. Adam Teitzman, Commission Clerk
Division of the Commission Clerk and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Re: Docket No. 20180144-EI

Dear Mr. Teitzman:

Enclosed for filing please find Florida Power & Light Company's non-confidential responses to Staff's Third Data Request Nos. 1 through 14 in the above referenced file. A Request for Confidential Classification of the confidential document produced in partial response to Data Request No. 14 has also been filed today.

Please contact me if you or your Staff has any questions regarding this filing.

Sincerely,

Kenneth M. Rubin

Enclosure
cc: Counsel for Parties of Record (w/enclosures)

QUESTION:
National Electrical Safety Code (NESC) Compliance

Please refer to page 9 and page 4 of the addendum for extreme wind loading. Does FPL currently use the NESC construction grade B and Rule 250C for all situations when installing or replacing distribution facilities?

RESPONSE:
No. There are exceptions. For instance, see Item No. 2 (under General) on the first page of FPL's Distribution Design Guidelines contained in FPL filing, which provides for exceptions when performing maintenance on existing non-top-CIF pole lines.

QUESTION:
Extreme Wind Loading (EWL) Standards

Please refer to page 12 and page 45 of the addendum for extreme wind loading.

a. What is a "class 2" pole?
b. What is the difference between class 4, class 3 and class 2 poles?
c. How many classes of poles are there?
d. Which pole class is considered the strongest?
e. Are all class 2, class 3 and class 4 poles made of wood?

RESPONSE:
a. The American National Standards Institute (ANSI) sets the standards by which utility poles are classified based on size. The greatest variations in these classifications are in length and tip circumference, however, the classifications also incorporate information about load-bearing capability, which is related to size and other factors regarding the integrity of the material out of which the poles are made. See chart below for "class 2" pole characteristics.

Table 3. ANSI classification of wood poles

Pole class	Horizontal load (lb)	length range (ft)	Minimum tip circumference (inch)
H5	10,000	45-125	37
H4	8,700	40-125	35
H3	7,500	40-125	33
H2	6,400	35-125	31
H1	5,400	35-125	29
1	4,500	35-125	27
2	3,700	20-125	25
3	3,000	20-90	23
4	2,400	20-70	21
5	1,900	20-50	19
6	1,500	20-45	17
7	1,200	20-35	15
9	740	20-30	15
10	370	20-25	12

b. The differences in horizontal load, length range and minimum tip circumference of class 4, class 3 and class 2 poles are shown in Table 3, ANSI classification of wood poles, provided in FPL's response to subpart (a) above.

c. There are 15 classes of wood poles as shown in Table 3, ANSI classification of wood poles, provided in FPL's response to subpart (a) above.

d. Class H5 wood pole is considered the strongest wood pole as shown in Table 3, ANSI classification of wood poles, provided in FPL's response to subpart (a) above.

e. Yes. Pole class sizes for concrete poles are different.

QUESTION:
Extreme Wind Loading (EWL) Standards

When does FPL use the Pole Foreman software?

RESPONSE:
FPL uses Pole Foreman as a verification tool to check potential pole overloading conditions on poles identified during initial screening with Loadcalc.

QUESTION:
Extreme Wind Loading (EWL) Standards

Which version of the Pole Foreman software does FPL use?

RESPONSE:
FPL is currently using Version 7.0.12.

QUESTION:
Extreme Wind Loading (EWL) Standards

Please refer to the addendum "Pole Sizing Guidelines," Feeder or Three Phase Lateral table. What is the meaning of accessible and inaccessible?

RESPONSE:
Accessible/inaccessible refers to the ability to access a pole with a bucket truck. For instance, a pole in a public ROW that presents no obstructions or barriers to access for a bucket truck is referred to as accessible. A pole in a customer's back yard that cannot be accessed by a bucket truck and must be climbed is an example of a pole considered inaccessible.

QUESTION:
Mitigation of Flooding and Storm Surge Damage

Please refer to page 18.

a. Has FPL adopted and/or implemented any new procedure to build underground distribution to mitigate damage due to flooding and Storm Surges, like the installation of submersible equipment to mitigate the impact of significant water intrusion in the 12 Miami downtown electric network vaults?
b. Has FPL conducted any testing to check the reliability of the underground system in the event of flooding in the area where the underground system has been installed? If yes, please explain the results and findings.
c. Has FPL learned any lessons from previous underground projects? If yes, please explain the lessons learned.
d. Does FPL consider the terrain's characteristics, soil consistency, historical data and FEMA flooding maps when selecting the Storm hardening underground project selection? Please explain.

RESPONSE:
a. Yes. In 2016, FPL began to use 24" concrete pads for transformers that are located in more flood prone areas. These pads provide an additional 18" of flood protection compared to pads previously used by FPL.

b. FPL has not conducted any such analysis/testing in recent years.

c. Flooding/storm surge lessons learned from previous underground projects include the benefits of utilizing submersible and stainless steel equipment and the excellent overall performance of underground facilities during Hurricanes Matthew and Irma.

d. Historical data and FEMA flooding maps are considered when selecting laterals for overhead to underground conversion. However, terrain characteristics and soil consistency are not critical determining factors, as bore machines utilized by FPL are capable of handling all terrains and soil types in Florida.

QUESTION:
Facility Placement

On page 14, referring to undergrounding laterals, FPL reports that its goal is to have all overhead facilities, including non-electric facilities, converted to underground facilities. FPL also reports that some non-electric entities will elect to maintain their facilities overhead.

a. Has this been an issue with the underground lateral pilot program?
b. If the non-electric entity elected to maintain their facilities overhead, does FPL still own the poles?
c. If so, will FPL still harden the poles even though its facilities are underground?

RESPONSE:
a. On the targeted projects involving the conversion of overhead laterals to underground, it is FPL's goal to have all overhead facilities, including non-electric attachments, converted to underground facilities. However, pilot projects have been completed where poles have remained, with non-electric (e.g., telephone/cable) facilities still attached.

b. Currently, yes. However, the disposition of these existing poles (as well as similar future poles) is currently being evaluated.

c. As noted in FPL's response to subpart (b) above, the disposition of these poles is currently being evaluated.

QUESTION:
Deployment Strategies

Please refer to page 15.

d. Why is there a large increase in the number of overhead laterals to underground conversions for 2020 and 2021 when compared to 2019 (250-500 laterals annually for 2020 and 2021, 2019- 152 laterals)?

e. Is the 3-year underground pilot program designed to underground all laterals?

f. Was there any changes to FPL's DCS from the 2016-2018 plan?

RESPONSE:

d. The number of laterals planned increases by year to take advantage of experiences gained and to incorporate lessons learned, as FPL expands the benefits of undergrounding to more of its customers. While the annual year-to-year increases may appear large, 500 laterals represent less than 1% of all overhead laterals in FPL's system.

e. No. The 3-year pilot targets < 1% of all overhead laterals in FPL's system.

f. Yes. The instructions/standards regarding the installation of meter base adaptors (see pages 13 and 14 of FPL's Hardening Plan filing) and the 24" inch transformer pad discussed in FPL's response to Staff's Third Data Request No. 6 are now included in the DCS.

QUESTION:
Deployment Strategies

Please refer to page 17. Please explain the pole reinforcement method called the ET Truss.

RESPONSE:
The "Extended and Tapered Truss" (ET Truss) is a pole strengthening method developed by Osmose Utilities Services, Inc. The ET Truss: is fabricated from high-strength steel; galvanized; extends from below the ground line up to just below where communication cables are attached to a pole; and looks similar to a riser on a pole. It is constructed to exceed NESC requirements and can upgrade the capacity of a pole by up to several classes. It is also cost-effective, as it is significantly less costly than replacing a pole.

QUESTION:
Deployment Strategies

Please refer to page 18. FPL reports as a lesson learned from Hurricane Sandy, the Utility installed submersible equipment in the downtown Miami distribution system. How did this equipment performed during Hurricane Irma?

RESPONSE:
While flooding from Hurricane Irma occurred in the downtown Miami area (up to roughly 2 feet above existing grade elevation in some areas) and in several Miami downtown vaults, none of the flooded vaults lost power.

QUESTION:
Deployment Strategies

Please refer to the Appendix. Please list each type of feeder hardening project with a total number for the 312 feeder projects listed in the Appendix. Include a description of the different types of projects.

RESPONSE:
All 312 feeder projects are essentially the same, in that all 312 feeders will be hardened to EWL. However, the methods used to achieve EWL for each feeder will be different. See Section 5.3 Hardening Existing Overhead Feeders, pages 12 and 13 of FPL's Hardening Plan filing for a description of how FPL determines how to harden each feeder. Also, as discussed in Section 4.0, pages 10 and 11 of FPL's filing, the location of each feeder project dictates the wind region and required wind speeds (i.e., 105/130/145 mph) in order to achieve EWL.

QUESTION:

Wooden Pole Inspection Program

Please provide a summary of FPL' s Wooden Pole Inspection Program.

RESPONSE:

See FPL's March 1, 2019 Annual Reliability Filing, pages 9-19.

QUESTION:
Ten Initiatives

Please provide a summary of FPL's Ten Initiatives.

RESPONSE:
See FPL's March 1, 2019 Annual Reliability Filing, pages 34-75.

QUESTION:
Ten Initiatives

Please complete the table attached.

RESPONSE:
See Attachment No. 1 for the completed table and Attachment No. 2 for NextEra Energy's confidential Corporate Emergency Management Plan responsive to Activity 10 requesting the Natural Disaster Preparedness and Recovery Program.

	Activity	Any change from current plan (Y/N) *	Actual Cost									Estimated Cost								
			2016			2017			2018			2019			2020 (A)			2021 (A)		
			O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total	O&M	Capital	Total
	8-Year Wooden Pol Inspection Program - Distribution	N	$ 5.0	$ 57.0	$ 62.0	$ 4.0	$ 48.0	$ 52.0	$ 4.0	$ 46.0	$ 50.0	$ 4.0	$ 46.0	$45-55	N/A	N/A	N/A	N/A	N/A	N/A
1	A Three-Year vegetation management Cycle for Distribution Circuits	N	$ 59.9	$ -	$ 59.9	$ 63.5	$ -	$ 63.5	$ 61.3	$ 4.2	$ 65.5	$ 61.8	$ 4.0	$ 65.8	N/A	N/A	N/A	N/A	N/A	N/A
2	An Audit of Joint-Use Attachment Agreements	*FPL does not specifically track or budget for these costs.*																		
3	A Six-year Transmission Structure Inspection program	N	$ 2.1	$ 33.3	$ 35.4	$ 2.0	$ 38.0	$ 40.0	$ 1.6	$ 35.2	$ 36.8	$ 1.8	$ 30.9	$ 32.7	N/A	N/A	N/A	N/A	N/A	N/A
4	Hardening of Existing Transmission Structures	N	$ -	$ 55.0	$ 55.0	$ -	$ 53.7	$ 53.7	$ -	$ 27.0	$ 27.0	$ -	$35-50	$35-50	$ -	$35-50	$35-50	$ -	$35-50	$35-50
5	Transmission and Distribution GIS	*FPL does not specifically track or budget for these costs.*																		
6	Post-Storm Data Collection and Forensic Analysis	*FPL does not specifically track or budget for these costs.*																		
7	Collection of Detailed Outage data Differentiating between Reliability Performance of Overhead and Underground Systems	*FPL does not specifically track or budget for these costs.*																		
8	Increased Utility Coordination with Local Governments	*FPL does not specifically track or budget for these costs.*																		
9	Collaborative research on Effects of Hurricane Winds and Storm Surge	*FPL does not specifically track or budget for these costs.*																		
10	A Natural Disaster Preparedness and Recovery Program **	*FPL does not specifically track or budget for these costs.*																		
	Totals (B)																			
	Any other Key Elements or Proposed Initiatives	*NONE*																		

* Please explain any changes from the current plan

** Please provide a copy of the disaster plan

Corporate Emergency Management Plan
Is confidential in its entirety