State of Florida

Public Service Commission

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-M-E-M-O-R-A-N-D-U-M-

DATE: February 19, 2018

TO: Carlotta S. Stauffer, Commission Clerk, Office of Commission Clerk

FROM: Emily Knoblauch, Engineering Specialist, Division of Engineering EK

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

Please file the attached FPL's response to OPC's 1st set of interrogatories (Nos. 1-43) in the above mentioned docket file.

Thank you

QUESTION:
Please describe the Company's storm hardening activities on an annual basis from 2006 through 2017 to date excluding vegetation management and tree trimming activities.

RESPONSE:
FPL's Distribution and Transmission storm hardening activities during 2006-2017 have included the following (excluding vegetation management/tree trimming):

Hardening per Rule 25-6.0342 (See Note 1)
Distribution:

- Hardening existing critical infrastructure feeders to extreme wind loading criteria 2006-2017;
- Hardening existing community feeders up to/including extreme wind loading criteria 2007-2017;
- Storm surge/flooding mitigation – Downtown Miami network flood prone vaults 2014-2015; and
- Hardening existing wind zone/geographical feeders to extreme wind loading criteria 2016-2017.

Transmission:

- Replacing ceramic post insulators on concrete poles 2007-2014;
- Replacing wood structures 2007-2017; and
- Storm surge/flooding mitigation at flood prone substations 2013-2014.

Inspections
Distribution:

- 8-Year Pole Inspections 2006-2017 (See Note 2)

Transmission:

- Structures/substations/equipment 2006-2017 (See Note 3)

Incentives for Municipal OH/UG Conversions 2007-2017 (See Note 4)

Notes:
(1) For more details, see FPL's approved 3-year hardening plan filings (2007, 2010, 2013 and 2016) and FPL's annual March 1 Reliability Report filings (2007-2017)
(2) For more details, see FPL's approved pole inspection plan filing (2006), subsequent approved deviations (2008 and 2014) and FPL's annual March 1 Reliability Report filings (2007-2017)

(3) For more details, see FPL's approved pole inspection plan filing (2006), storm preparedness initiative plan filing (2006) and FPL's annual March 1 Reliability Report filings (2007-2017)
(4) For more details see FPL's annual March 1 Reliability Report filings (2007-2017) and FPL's approved overhead to underground conversion tariff

QUESTION:
How much did the Company spend (capital and O&M expenditures) on storm hardening activities on an annual basis from 2006 through 2017 to date excluding vegetation management and tree trimming activities?

RESPONSE:
Please see Attachment No. 1 to this response.

Docket No. 20170215 OPC 1st Set of Interrogatories, Interrogatory No.2 ATTACHMENT 1

Actuals

($ Millions) Total	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Hardening per 25-6.0342, F.A.C.													
Distribution													
Feeders	17.0	26.8	54.6	80.2	45.4	43.0	50.5	105.6	154.9	201.0	362.9	420.0	1561.9
Storm Surge/Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.6	0.1	0.0	4.1
Total Distribution	17.0	26.8	54.6	80.2	45.4	43.0	50.5	105.6	156.3	203.6	363.0	420.0	1566.0
Transmission													
Replacing CPOCs	0.0	6.5	5.9	4.0	0.7	0.9	1.2	4.9	2.9	0.7	0.0	0.0	27.7
Replacing Wood Structures (1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	49.0	55.4	53.8	199.6
Storm Surge / Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	0.0	0.0	0.0	2.1
Total Transmission	0.0	6.5	5.9	4.0	0.7	0.9	1.2	6.0	45.3	49.7	55.4	53.8	229.4
OH/UG Conversions (2)	0.0	0.0	0.8	6.8	3.9	5.2	4.4	2.7	2.6	1.7	1.0	4.1	33.2
Inspections													
Distribution Pole Inspections	11.1	35.5	39.9	36.0	50.0	67.0	67.5	69.7	70.1	73.0	61.9	51.8	633.5
Transmission Inspections (1)	1.5	15.2	16.3	17.5	24.3	24.5	27.5	31.0	31.2	36.2	35.4	40.2	300.8
Total Inspections	12.6	50.7	56.2	53.5	74.3	91.5	95.0	100.7	101.3	109.2	97.3	92.0	934.3
Grand Total	29.6	84.0	117.5	144.5	124.3	140.6	151.1	215.0	305.5	364.2	516.7	569.9	2762.9

(1) For 2007-2013 transmission inspections costs only reflect conditions assessment and/or hardening project costs, as wood structure replacement costs completed under other work activities were not specifically tracked.
(2) 25% investment in OH/UG conversion projects

O&M

Hardening per 25-6.0342, F.A.C.													
Distribution													
Feeders	2.0	2.6	5.2	6.6	2.9	2.1	2.3	5.9	-0.3	4.2	7.9	4.6	46.0
Storm Surge/Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Distribution	2.0	2.6	5.2	6.6	2.9	2.1	2.3	5.9	-0.3	4.2	7.9	4.6	46.0
Transmission													0.0
Replacing CPOCs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Replacing Wood Structures (1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.9
Storm Surge / Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	0.0	0.0	0.0	2.1
Total Transmission	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.3	0.3	0.2	0.1	3.0
OH/UG Conversions (2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.4
Inspections													
Distribution Pole Inspections	3.9	8.6	12.7	10.9	10.7	17.5	14.8	14.2	3.8	6.0	5.1	3.7	112.0
Transmission Inspections (1)	0.0	1.7	1.5	2.2	2.2	0.6	3.1	3.3	2.5	2.5	2.3	2.2	24.1
Total Inspections	3.9	10.3	14.2	13.1	12.9	18.1	17.9	17.5	6.3	8.5	7.4	5.9	136.1
Grand Total - O&M	5.9	12.9	19.4	19.7	15.8	20.2	20.2	24.6	7.5	13.0	15.6	10.8	185.5

Capital

Hardening per 25-6.0342, F.A.C.													
Distribution													
Feeders	15.0	24.2	49.4	73.6	42.5	40.9	48.2	99.7	155.3	196.8	355.1	415.4	1516.1
Storm Surge/Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.6	0.1	0.0	4.0
Total Distribution	15.0	24.2	49.4	73.6	42.5	40.9	48.2	99.7	156.6	199.4	355.2	415.4	1520.0
Transmission													
Replacing CPOCs	0.0	6.5	5.9	4.0	0.7	0.9	1.2	4.9	2.9	0.7	0.0	0.0	27.7
Replacing Wood Structures (1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.1	48.7	55.2	53.7	198.7
Storm Surge / Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Transmission	0.0	6.5	5.9	4.0	0.7	0.9	1.2	4.9	44.0	49.4	55.2	53.7	226.4
OH/UG Conversions (2)	0.0	0.0	0.8	6.8	3.9	5.2	4.4	2.6	2.4	1.7	0.9	4.0	32.8
Inspections													
Distribution Pole Inspections	7.2	26.9	27.0	25.2	39.3	49.5	52.7	55.5	66.2	67.1	56.7	48.0	521.3
Transmission Inspections (1)	1.5	13.5	14.8	15.3	22.1	23.9	24.4	27.7	28.7	33.7	33.1	38.0	276.7
Total Inspections	8.7	40.4	41.8	40.5	61.4	73.4	77.1	83.2	94.9	100.8	89.8	86.0	798.0
Grand Total - Capital	23.7	71.1	97.9	124.9	108.5	120.4	130.9	190.4	298.0	351.3	501.1	559.1	2577.3

QUESTION:
For storm hardening activities 2006 through 2017 to date,

a. How much did the Company budget annually for storm hardening activities? Please provide a break-out for transmission, distribution, pole replacement, line replacement, and other storm hardening activities.
b. How much did the Company spend annually on storm hardening activities? Please provide a break-out for transmission, distribution, pole replacement, line replacement, and other storm hardening activities.
c. Please explain the year-by-year variances between the budgeted amount and actual amount, and why the variances occurred.
d. How much of the hardening costs were capitalized to rate base and how much was expensed?
e. Were those cost recovered through base rates or some other mechanism?

RESPONSE:
a. Please see Attachment No. 1 to this response.
b. Please see Attachment No. 1 to this response.
c. As indicated in Attachment No. 1, the total annual year-to-year budget-to-actual variances/percentages are relatively immaterial and the total budget and actual amounts for all years (2006-2017) are essentially the same.
d. Please see Attachment No. 1 provided in FPL's response to OPC's First Set of Interrogatories No. 2. All capital costs were capitalized to rate base and all O&M costs were expensed.
e. Storm hardening costs are currently being recovered through base rates.

Docket No. 20170215 OPC 1st Set of Interrogatories, Interrogatory No. 3 (a & b) ATTACHMENT 1

Budget

($ Millions)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Hardening per 25-6.0342, F.A.C.													
Distribution													
Feeders	9.0	35.0	62.2	89.2	46.7	48.7	43.7	106.0	140.0	184.8	357.2	487.2	1609.7
Storm Surge/Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0	3.0
Total Distribution	9.0	35.0	62.2	89.2	46.7	48.7	43.7	106.0	141.5	186.3	357.2	487.2	1612.7
Transmission													
Replacing CPOCs	0.0	2.2	1.8	1.3	n.a	0.6	1.5	1.8	2.9	0.0	0.0	0.0	12.1
Replacing Wood Structures (1)	0.0	5.1	4.4	12.0	n/a	n/a	n/a	n/a	40.6	44.8	45.1	50.2	202.2
Storm Surge / Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.2
Total Transmission	0.0	7.3	6.2	13.3	0.0	0.6	1.5	1.8	44.7	44.8	45.1	50.2	215.5
OH/UG Conversions (2)	0.0	2.1	4.0	3.8	5.6	5.9	5.3	7.1	9.2	6.9	7.5	7.5	64.9
Inspections													
Distribution Pole Inspections	0.6	27.1	39.3	39.5	52.1	66.8	69.0	68.8	69.5	55.8	45.7	52.1	586.3
Transmission Inspections (1)	10.7	13.8	14.3	16.8	21.9	24.8	25.5	28.5	28.8	27.3	32.0	32.6	277.0
Total Inspections	11.3	40.9	53.6	56.3	74.0	91.6	94.5	97.3	98.3	83.1	77.7	84.7	863.3
Grand Total	20.3	85.3	126.0	162.6	126.3	146.8	145.0	212.2	293.7	321.1	487.5	629.6	2756.4

Actual

($ Millions)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Hardening per 25-6.0342, F.A.C.													
Distribution													
Feeders	17.0	26.8	54.6	80.2	45.4	43.0	50.5	105.6	154.9	201.0	362.9	420.0	1561.9
Storm Surge/Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.6	0.1	0.0	4.1
Total Distribution	17.0	26.8	54.6	80.2	45.4	43.0	50.5	105.6	156.3	203.6	363.0	420.0	1566.0
Transmission													
Replacing CPOCs	0.0	6.5	5.9	4.0	0.7	0.9	1.2	4.9	2.9	0.7	0.0	0.0	27.7
Replacing Wood Structures (1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	49.0	55.4	53.8	199.6
Storm Surge / Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	0.0	0.0	0.0	2.1
Total Transmission	0.0	6.5	5.9	4.0	0.7	0.9	1.2	6.0	45.3	49.7	55.4	53.8	229.4
OH/UG Conversions (2)	0.0	0.0	0.8	6.8	3.9	5.2	4.4	2.7	2.6	1.7	1.0	4.1	33.2
Inspections													
Distribution Pole Inspections	11.1	35.5	39.9	36.0	50.0	67.0	67.5	69.7	70.1	73.0	61.9	51.8	633.5
Transmission Inspections (1)	1.5	15.2	16.3	17.5	24.3	24.5	27.5	31.0	31.2	36.2	35.4	40.2	300.8
Total Inspections	12.6	50.7	56.2	53.5	74.3	91.5	95.0	100.7	101.3	109.2	97.3	92.0	934.3
Grand Total	29.6	84.0	117.5	144.5	124.3	140.6	151.1	215.0	305.5	364.2	516.7	569.9	2762.9

Variance

($ Millions)													
Hardening per 25-6.0342, F.A.C.													
Distribution													
Feeders	8.0	-8.2	-7.6	-9.0	-1.3	-5.7	6.8	-0.4	14.9	16.2	5.7	-67.2	-47.8
Storm Surge/Flooding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.1	0.1	0.0	1.1
Total Distribution	-8.0	8.2	7.6	9.0	1.3	5.7	-6.8	0.4	-14.8	-17.3	-5.8	67.2	46.7
Transmission	0.0	4.3	4.1	2.7	n/a	0.3	-0.3	3.1	0.0	0.7	0.0	0.0	15.6
Replacing CPOCs	0.0	-5.1	-4.4	-12.0	n/a	n/a	n/a	n/a	0.8	4.2	10.3	3.6	-2.6
Replacing Wood Structures (1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	-0.2	0.0	0.0	0.0	0.9
Storm Surge / Flooding	0.0	-0.8	-0.3	-9.3	0.7	0.3	-0.3	4.2	0.6	4.9	10.3	3.6	13.9
Total Transmission	0.0	0.8	0.3	9.3	-0.7	-0.3	0.3	-4.2	-0.6	-4.9	-10.3	-3.6	-13.9
OH/UG Conversions (2)	0.0	-2.1	-3.2	3.0	-1.7	-0.7	-0.9	-4.4	-6.6	-5.2	-6.5	-3.4	-31.7
Inspections													
Distribution Pole Inspections	10.5	8.4	0.6	-3.5	-2.1	0.2	-1.5	0.9	0.6	17.2	16.2	-0.3	47.2
Transmission Inspections (1)	-9.2	1.4	2.0	0.7	2.4	-0.3	2.0	2.5	2.4	8.9	3.4	7.6	23.8
Total Inspections	-1.3	-9.8	-2.6	2.8	-0.3	0.1	-0.5	-3.4	-3.0	-26.1	-19.6	-7.3	-71.0
Grand Total	9.3	-1.3	-8.5	-18.1	-2.0	-6.2	6.1	2.8	11.8	43.1	29.2	-59.7	6.5
Variance	31%	-2%	-7%	-13%	-2%	-4%	4%	1%	4%	12%	6%	-10%	0%

(1) For 2007-2013 transmission inspections costs only reflect conditions assessment and/or hardening project costs, as wood structure replacement costs completed under other work activities were not specifically tracked

(2) 25% investment in OH/UG conversion projects

QUESTION:
Please describe the Company's vegetation management and tree trimming activities (tree trimming) on an annual basis from 2006 through 2017 to date. Please include if there is a long-range plan, how the process is staffed (whether through employees or outside contractors, or a mix of both), the cyclical time frames, any geographical considerations, and other priorities.

RESPONSE:
In 2006, FPL's feeders were trimmed on a 3-year average cycle, laterals were trimmed based on reliability performance and mid-cycle trimming (or hot spot trimming based on condition assessments, reliability performance or if it is a hardened feeder serving critical infrastructure) was also performed on feeders. From 2007 through 2017, FPL has executed its FPSC-approved vegetation management plan, whereby feeders are trimmed on a 3-year average cycle, laterals are trimmed on a 6-year average cycle and mid-cycle trimming is also performed on feeders. Additionally, each year FPL also completes trimming on most of the hardened feeders (e.g., critical infrastructure and community feeders) before storm season begins (June 1) and completes trimming on all hardened feeders by July 31.

Another important component of FPL's vegetation management program is its Right Tree Right Place program, which provides information to municipalities and customers to educate them on FPL's trimming program, practices, safety issues and the importance of placing trees in the proper location.

100% of FPL's feeder, lateral and mid-cycle trimming is performed by contractors. FPL currently has a staff of 33 individuals that manage the vegetation program. This staff manages day-to-day activities, including scheduling, budgeting and analysis of the vegetation program.

For more details on FPL's approved distribution vegetation management plan, please see FPL's approved plan filings (2006 and 2007) and FPL's annual March 1 Reliability Report filings (2007-2017).

Note: FPL has interpreted this question to be associated with Commission Storm Preparedness Initiative No. 1.

QUESTION:
How much did the Company spend (capital and O&M expenditures) on vegetation management and tree trimming activities on an annual basis from 2006 through 2017 to date?

RESPONSE:
Please see the top section of Attachment No. 1 to this response under the heading "Actual". All vegetation management cycle and maintenance tree trimming activities are recorded as O&M expenses.

Note: FPL has interpreted this question to be associated with Commission Storm Preparedness Initiative No. 1.

Docket No. 20170215-EU OPC Int. 5
Vegetation Management/Trimming Activities

($ Millions)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Actual										
Distribution										
O&M	52.6	65.2	57.9	52.6	57.6	60.6	61.7	63.1	58.5	62.9
Budget										
Distribution										
O&M	54.8	65.1	63.9	68.3	61.0	60.0	59.4	65.7	62.2	63.1
Variance										
Distribution										
O&M	2.2	-0.1	6.0	15.7	3.4	-0.6	-2.3	2.6	3.7	0.2

QUESTION:
For vegetation management and tree trimming activities 2006 through 2017 to date,

a. How much did the Company budget annually for tree trimming activities?
b. How much did the Company spend annually on tree trimming activities?
c. Please explain the year-by-year variances between the budgeted amount and actual amount, and why the variances occurred.
d. How much, if any, of the tree trimming costs were capitalized to rate base and how much was expensed?
e. Were those cost recovered through base rates or some other mechanism?
f. How did the Company decide which areas were to be trimmed each year?
g. Were some areas trimmed more frequently than others, if so, how often, and how did the Company make those decisions?

RESPONSE:

a. Please see Attachment No. 1 provided in FPL's response to OPC's First Set of Interrogatories No. 5.
b. Please see Attachment No. 1 provided in FPL's response to OPC's First Set of Interrogatories No. 5.
c. Generally, year-to-year variances occur as a result of the mix of miles trimmed (e.g., feeder, lateral and mid-cycle – actual vs. budget), contractor rate adjustments and storm/weather impacts. As can be seen in the Attachment No. 1 provided in FPL's response to OPC's First Set of Interrogatories No. 5, the annual variances are relatively immaterial, as is the total variance for 2006-2017. FPL notes that while dollar variances occurred, FPL was still able to meet the required trimming cycles during 2006-2017.
d. No costs associated with vegetation management cycle and maintenance tree trimming activities were capitalized.
e. Non-storm vegetation management costs are recovered through base rates.
f. Annual feeder and lateral cycle trimming is based on last trim date and reliability criteria. Mid-cycle trimming primarily occurs as a result of critical infrastructure designation and/or reliability performance.
g. Yes. A feeder may be trimmed more often (known as mid-cycle or hot spot trimming) based on condition assessments, reliability performance or if it is a hardened feeder serving critical infrastructure. There are feeders in FPL's system requiring at least some form of trimming (either cycle or mid-cycle) annually or every two years.

Note: FPL has interpreted this question to be associated with Commission Storm Preparedness Initiative No. 1.

QUESTION:
For wooden poles inspected from 2006 through 2017 to date:

a. Please describe the Company's wooden pole inspection cycle,

b. How many wooden poles were planned to be inspected each year,

c. How may wooden poles were inspected each year,

d. Please explain the variance between the planned number and actual number inspected each year.

RESPONSE:
a. Distribution – From mid-2006 to 2017 to date, FPL has been executing its FPSC-approved wood pole inspection plan, which includes inspecting wood poles on an 8-year cycle. To test strength, wood poles first undergo a visual inspection. If the poles pass the visual inspection, the poles are excavated to a depth of 18" (if applicable) and sounded and bored to determine their internal condition. If poles pass the sound and bore tests, they receive an external and/or internal preservative treatment. Certain poles, currently CCA poles less than 28 years old, have been granted a waiver (based on historical inspection results), and are not excavated. However, FPL excavates a 1% sample of these poles to ensure the waiver is not compromising safety or storm hardening programs. To test loading on the pole, mobile computing technology is used. Poles that fail loading tests are replaced with stronger poles. Poles that fail any inspection are replaced by the end of the following calendar year.

Transmission – From mid-2006 to 2017 to date, FPL has been executing its FPSC-approved wood pole/structure inspection plan, which includes performing visual inspections of all wood poles/structures annually and climbing or bucket truck inspections on wood poles on a 6-year cycle. If a pole, scheduled for a cycle inspection, passes the visual test, a sound test and then a bore test are performed. All poles that pass these three tests are treated with a preservative treatment. Poles/structures identified for replacement are replaced by the end of the following calendar year.

See also FPL's response to OPC's First Set of Interrogatories No. 1.

b. Wooden poles planned to be inspected each year

(000s)				
	Distribution		Transmission	
	Plan	Actual	Plan	Actual
2006*	85	86	3	4
2007	120	129	4	4
2008	133	132	6	5
2009	126	127	4	6
2010	155	131	2	2
2011	126	127	3	3**
2012	126	131	3	3
2013	126	130***	2	3
2014	133	134	2	2
2015	133	133	2	2
2016	133	121	2	2
2017	134	123	3	3**

* Approved inspection plans initiated mid-year
** FPL achieved its 6-year cycle inspection requirement
*** FPL achieved its 8-year cycle inspection requirement

c. Wooden poles inspected each year
Please see FPL's response to subpart (b) above.

d. Variance between the planned number and the actual number inspected each year

As provided in FPL's response to subpart (b) above, FPL achieved or exceeded the annual planned inspections for the vast majority of the years during the requested period. While year-to-year variances occur, it is the system 6-year and 8-year cycles which FPL is required

to and did achieve. For Distribution, year-to-year variances primarily occur due to the mix of wood and concrete poles (which FPL also inspects on an 8-year cycle) inspected annually.

QUESTION:
For wooden poles replaced from 2006 through 2017 to date:

a. Please describe the Company's wooden pole replacement plan.
b. How many wooden poles were planned to be replaced annually?
c. How many wooden poles were replaced annually?
d. Please explain the variance between the planned and replaced number of poles.
e. In each named storm since 2006, how many wooden poles were affected (damaged requiring repair or replacement) during the named storm?

RESPONSE:

a. Distribution – FPL does not have a distribution wood pole replacement plan, per se. However, as a result of storm hardening, pole inspections, overhead to underground conversion projects and daily work activities, FPL replaces (or removes in the case of overhead to underground conversions) wood distribution poles with wood or concrete poles, based on its current construction standards. FPL does not specifically track or aggregate the number of distribution wood poles removed as a result of overhead to underground conversion projects or replaced as a result of daily work activities.

   Transmission – FPL replaces wood transmission poles/structures based on its current standards (i.e., with concrete or steel) per its FPSC-approved plans provided for Storm Preparedness Initiative No. 4 (filed in 2006) and its Storm Hardening filings (filed in 2007, 2010, 2013 and 2016), which provide a planned number of transmission poles/structures to be replaced annually. FPL notes that it currently expects to have all transmission wood poles/structures replaced by 2020.

b. Distribution – Please see FPL's response to subpart (a) above.

   Transmission – See below Plan/Actual for wood transmission poles/structures replacements for 2006-2017:

	Plan	Actual
2006	0	307
2007	300	1471
2008	300	1966
2009	300	3206
2010	650-950	1409
2011	650-950	1559
2012	650-950	816
2013	1100-1600	1106
2014	1100-1600	2070
2015	1100-1600	1888
2016	1400-1800	1737
2017	1400-1800	1934

c. Distribution* -

2006	2,334**
2007	8,164
2008	7,533
2009	7,342
2010	10,639
2011	9,942
2012	10,454
2013	13,639
2014	12,777
2015	15,089
2016	12,067
2017	8,486

* Includes only wood poles replaced as a result of pole inspection and hardening initiatives, as poles replaced in other programs/initiatives are not specifically tracked/aggregated.

** Includes only poles replaced as a result of pole inspection initiative, as poles replaced in other programs/initiatives were not specifically tracked/aggregated.

Transmission – Please see FPL's response to subpart (b) above.

d. Distribution – Not applicable.

Transmission - Please see FPL's response to subpart (b) above, FPL achieved or exceeded its plan each year, as it strives to remove all transmission wood poles/structures by 2020.

e. Please See the below table for wooden poles that were affected from each named storm since 2006.

Year	Storm	Wood Poles Affected
2006	Alberto	9
2006	Ernesto	8
2007	TS Barry	11
2008	TS Fay	114
2011	Irene	0
2012	Beryl	11
2012	Debby	25
2012	Isaac	15
2012	Sandy	22
2013	Andrea	7
2016	Hermine	19
2016	Matthew	654
2017	Irma	4,561
	Grand Total	5,456

FPL does not track pole replacements for all storms. Pole replacements are only tracked for those named storms where a storm work order is established.

QUESTION:
For poles upgraded to concrete from 2006 through 2017 to date:

a. Please describe the Company's plan to replace poles with concrete poles.
b. How many poles were planned to be replaced with concrete annually?
c. How many wooden poles were replaced with concrete annually?
d. What other types of poles were replaced with concrete and of those how many were replaced annually?
e. Please explain the variance between the planned and replaced number of poles.
f. In each named storm since 2006, how many concrete poles were affected (damaged requiring repair or replacement) during the named storm?

RESPONSE:
a. Please see FPL's response to OPC's First Set of Interrogatories No. 8 subpart (a).

b. Please see FPL's response to OPC's First Set of Interrogatories No. 8 subpart (b).

c.

Distribution* -	
2006	**
2007	872
2008	1,943
2009	1,814
2010	915
2011	1,233
2012	1,086
2013	3,481
2014	2,847
2015	5,296
2016	6,414
2017	5,930

* Only includes wood poles replaced as a result of hardening initiative, as wood poles replaced by other initiatives are not tracked or aggregated.

** Not tracked in 2006.

Transmission – Please see FPL's response to OPC's First Set of Interrogatories No. subpart 8 (b).

d. Distribution – No other pole types were replaced with concrete.

Transmission – No other pole types were replaced with concrete.

e. Distribution – Not applicable.

Transmission – Please see FPL's response to OPC's First Set of Interrogatories No. 8 subpart (d).

f. Please see the below table for concrete poles that were affected from each named storm since 2006.

Year	Storm	Concrete Poles Affected
2006	Alberto	0
2006	Ernesto	1
2007	TS Barry	0
2008	TS Fay	1
2011	Irene	0
2012	Beryl	0
2012	Debby	0
2012	Isaac	0
2012	Sandy	0
2013	Andrea	0
2016	Hermine	0
2016	Matthew	2
2017	Irma	3
	Grand Total	7

FPL does not track pole replacements for all named storms. Pole replacements are only tracked for those named storms where a storm work order is established.

QUESTION:
Were any wooden poles replaced with steel for fiberglass reinforced poles from 2006 through 2017 to date? Please give the number of poles replaced by different type each year.

RESPONSE:
Only in 2017, when 8 wood transmission structures were replaced with steel structures.

QUESTION:
In each named storm since 2006, how many steel or fiberglass reinforced poles were affected (damaged requiring repair or replacement) during the named storm?

RESPONSE:
FPL had no steel or fiberglass reinforced poles affected in any named storm since 2006.

QUESTION:
Please describe the distribution system inspection cycle and hardening efforts.

RESPONSE:
Please see FPL's responses to OPC's First Set of Interrogatories Nos. 1, 4 and 7 for descriptions of FPL's distribution storm hardening, vegetation management and pole inspection programs. Additionally, other distribution inspection initiatives are contained within FPL's reliability programs. This would include programs such as: Priority Feeder; Priority Lateral; Handhole Inspections; Padmounted Transformers; Overhead Line Inspections; and Vault Inspections. Descriptions of these programs can be found in FPL's annual March 1, 2017 filing.

QUESTION:
Please describe the transmission structure inspection cycle and the hardening of those structures.

RESPONSE:
Please see FPL's responses to OPC's First Set of Interrogatories Nos. 1 and 7.

QUESTION:
Please describe the tree trimming quality control review performed by the Company on the work of its contract tree trimming crews?

RESPONSE:
To ensure quality control for maintenance trimming (i.e., feeder and lateral cycle trimming), FPL inspects 100% of the trimming completed on every feeder trimmed. FPL also inspects a minimum of 10% of the trimming completed on every lateral trimmed. This review is performed by an FPL employee or contract forester who evaluates the work performed to determine if contract specifications were met. FPL's tree trimming contractors are required to remedy all conditions that do not meet contract specifications.

QUESTION:
Please describe the tree trimming quality control review performed by the Company on the work of its employees performing tree trimming?

RESPONSE:
Not applicable. Please see FPL's response to OPC's First Set of Interrogatories No. 4.

QUESTION:
Please describe whether the Company was prohibited or restricted in its tree trimming activities by local governments, ordinances, or franchise agreements, and if so, where and why.

RESPONSE:
The Company is not aware of any ordinances that specifically prohibit tree trimming activities, and FPL's franchise agreements with the government entities in its service territory similarly do not prohibit tree trimming activities. There are, however, instances where municipalities prohibit or restrict tree trimming practices, even though the restrictions or limitations are not necessarily included in any written document or ordinance. For example, in one town, FPL has been prohibited from performing tree trimming maintenance during the winter months (when most residents are present). Additionally, in another town, the municipality advises FPL that it can only "hotspot" trim twice a year certain town-planted non-native exotic trees that are adjacent to several feeders. Additionally, there are municipalities that do not adhere to or embrace FPL's "Right Tree, Right Place" guidelines, e.g., planting trees directly under FPL's power lines and resisting FPL's requests to correct such mistakes.

QUESTION:
Please describe the ways the Company communicates information to its customers prior to, during, and after a named storm since 2015.

RESPONSE:
The methods FPL uses to communicate information to customers before, during and after a storm are noted below. For Hurricanes Nate and Maria, call center customer service representatives and M&C communication channels followed normal non-storm processes.

Hurricane Hermine			
Method	**Before**	**During**	**After**
Call Center CSR	✓	✓	✓
Interactive Voice Response System	✓	✓	✓
High Volume Call Answering System	N/A	N/A	N/A
Better Business Bureau	N/A	N/A	N/A
Community Action Team	N/A	N/A	N/A
Area Information Managers	✓	✓	✓
Non-Call Center Direct Contact (phone, email)	✓	✓	✓
FPL.com	✓	✓	✓
Mobile application	N/A	N/A	N/A
Social media	✓	✓	✓
Advertising	✓	✓	✓
News Releases	✓	✓	✓
News conferences/media events	✓	✓	✓
Residential Email//Phone Calls	✓	N/A	✓
Commercial Email/Phone Calls	✓	N/A	✓
Emails to Federal, State and Local Leaders	✓	N/A	✓
Stakeholder Outreach	✓	✓	✓
Government Portal	✓	✓	✓

Hurricane Matthew			
Method	**Before**	**During**	**After**
Call Center CSR	✓	✓	✓
Interactive Voice Response System	✓	✓	✓
High Volume Call Answering System	✓	✓	✓
Better Business Bureau	✓	✓	✓
Community Action Team	N/A	N/A	✓
Area Information Managers	✓	✓	✓
Non-Call Center Direct Contact (phone, email)	✓	✓	✓
FPL.com	✓	✓	✓
Mobile application	N/A	N/A	N/A
Social media	✓	✓	✓
Advertising	✓	✓	✓
News Releases	✓	✓	✓
News conferences/media events	✓	✓	✓
Residential Email/Phone Calls	✓	N/A	✓
Commercial Email//Phone Calls	✓	N/A	✓
Emails to Federal, State and Local Leaders	✓	N/A	✓
Stakeholder Outreach	✓	✓	✓
Government Portal	✓	✓	✓
Automated Call	✓	N/A	N/A

Hurricane Irma			
Method	**Before**	**During**	**After**
Call Center CSR	✓	✓	✓
Interactive Voice Response System	✓	✓	✓
High Volume Call Answering System	✓	✓	✓
Better Business Bureau	✓	✓	✓
Community Action Team	N/A	N/A	✓
Area Information Managers	✓	✓	✓
Non-Call Center Direct Contact (phone, email)	✓	✓	✓
FPL.com	✓	✓	✓
Mobile application	✓	✓	✓
Social media	✓	✓	✓
Advertising	✓	✓	✓
News Releases	✓	✓	✓
News conferences/media events	✓	✓	✓
Residential Email/Texts/Phone Calls	✓	N/A	✓
Commercial Email/Texts/Phone Calls	✓	N/A	✓
Emails to Federal, State and Local Leaders	✓	N/A	✓
Stakeholder Outreach	✓	✓	✓
Government Portal	✓	✓	✓
Automated Call	✓	N/A	✓

QUESTION:
Please describe the ways customers can communicate information to the Company prior to, during, and after a named storm since 2015.

RESPONSE:
The methods customers utilized to communicate information to FPL before, during and after a storm are noted below. For Hurricanes Nate and Maria, call center customer service representatives and M&C communication channels followed normal non-storm processes.

Hurricane Hermine			
Method	**Before**	**During**	**After**
Call Center CSR	✓	✓	✓
Interactive Voice Response System	✓	✓	✓
High Volume Call Answering System	N/A	N/A	N/A
Florida Public Service Commission Warm Transfers	✓	✓	✓
Internal Referrals	✓	✓	✓
Better Business Bureau	✓	✓	✓
Community Action Team	N/A	N/A	N/A
Area Information Managers	✓	✓	✓
Non-Call Center Direct Contact (phone, email)	✓	✓	✓
FPL.com	✓	✓	✓
Mobile application	N/A	N/A	N/A
Social media	✓	✓	✓

Hurricane Matthew			
Method	**Before**	**During**	**After**
Call Center CSR	✓	✓	✓
Interactive Voice Response System	✓	✓	✓
High Volume Call Answering System	✓	✓	✓
Florida Public Service Commission Warm Transfers	✓	✓	✓
Internal Referrals	✓	✓	✓
Better Business Bureau	✓	✓	✓
Community Action Team	N/A	N/A	✓
Area Information Managers	✓	✓	✓
Non-Call Center Direct Contact (phone, email)	✓	✓	✓
FPL.com	✓	✓	✓
Mobile application	N/A	N/A	N/A
Social media	✓	✓	✓

Hurricane Irma			
Method	**Before**	**During**	**After**
Call Center CSR	✓	✓	✓
Interactive Voice Response System	✓	✓	✓
High Volume Call Answering System	✓	✓	✓
Florida Public Service Commission Warm Transfers	✓	✓	✓
Internal Referrals	✓	✓	✓
Better Business Bureau	✓	✓	✓
Community Action Team	N/A	N/A	✓
Area Information Managers	✓	✓	✓
Non-Call Center Direct Contact (phone, email)	✓	✓	✓
FPL.com	✓	✓	✓
Mobile application	✓	✓	✓
Social media	✓	✓	✓

QUESTION:
Please describe how customers can report power outages.

RESPONSE:
Customers can report power outages to FPL by:

- Calling 1-800-4-OUTAGE;
- Calling the phone number located on the bottom of their bill;
- Using FPL.com; and
- Using the FPL mobile app.

QUESTION:
Please describe how customers can report maintenance needs such as leaning poles or overgrown lines, both during a storm recovery and in ongoing operations.

RESPONSE:
During ongoing operations, customers can report maintenance needs such as leaning poles or overgrown lines by contacting the Customer Care Center and speaking to a representative or via FPL.com. Representatives will ask the customer several questions to better understand the nature of the report and enter the appropriate work request based on the customer's report. Once the request is entered, the representative is able to provide the customer the expected service level for the issued request. Customers are also able to report pole conditions and enter tree inspection requests on FPL.com by logging into their account and accessing the "power issues" page. Customers will answer a series of questions which are used to help determine the condition being reported and will result in the submission of an online form. The form is received by FPL's back office organization and the appropriate work request is created and a confirmation email is sent to the customer.

During a storm, the process for reporting maintenance by contacting the Customer Care Center remains the same; however, adjusted service levels may be provided due to the reassignment of resources to storm restoration efforts. In addition, there may be times when FPL will temporarily suspend the issuance of tree inspection requests. This typically begins 72 hours in advance of the storm's projected landfall and absent electrical safety-related issues, tree inspection requests are not resumed until after all storm restoration efforts have concluded. If a tree condition is urgent in nature, such as a tree has fallen onto equipment or power lines, an outage report will be issued for the restoration team to respond as soon as possible.

During a storm, the reporting of these conditions on FPL.com may be disabled. This is because our normal maintenance processes are halted in order to direct all work and resources to the restoration. Reporting of these conditions is enabled once restoration is complete. For example, during Hurricane Irma tree trimming requests and pole down reporting was disabled and replaced with a message to contact the Customer Care Center.

QUESTION:
Several customers filed comments stating they were unable to communicate with the Company regarding unsafe conditions such as live downed power lines or trees on wires. Does the Company have a process for these people to report such conditions? Please describe and explain how it functioned after Irma.

RESPONSE:
Yes, FPL has a process for customers to report conditions such as downed power lines or trees on wires. Customers are advised to call the Customer Care Center at 1-800-4-OUTAGE (1-800-468-8243) and they are advised to call 911 for life threatening emergencies. Customers cannot report this type of condition via self-service applications, and must speak to a representative to issue this report.

During and after a storm, outage calls are initially directed to our high volume overflow system which provides an automated outage reporting and status option to customers. Customers cannot report a downed wire or tree condition via the automated system so they are transferred to a customer care representative to make their report. At times of high call volume when the high volume overflow system is in use, customers unable to provide a correct account number or a telephone number associated with the account may not be transferred to a representative and are advised to call back with their account number to report their outage.

For Hurricane Irma, the process noted above was followed. During the time that the storm was impacting nearly all of FPL's service territory, customer care representatives handled outage related and emergency calls such as downed power lines and trees on wires calls in real time. Due to the very high volume of calls and the large number of customers who selected the option of reporting a wire down or other condition, customers could have experienced longer wait times than under normal conditions to speak to a representative. Post landfall during the restoration process, at full staffing levels, FPL continued to experience extremely high call volume and longer than customary wait times that resulted in customers having to wait to speak to a representative. In addition, a relatively small number of customers were disconnected due to system thresholds and line capacities being exceeded. These customers heard a message advising them that we were unable to transfer their call to a representative. For ways in which FPL is improving these processes including the consistency, accuracy and timeliness of storm-related communications with customers, please see FPL's responses to OPC's First Set of Interrogatories Nos. 29-31.

Social media is not a promoted channel for reporting dangerous conditions, such as a downed power line. That said, when we see customers reporting dangerous conditions through our social media channels, we respond broadly with messaging regarding safety and redirect customers to contact 911 or 1-800-4-OUTAGE (1-800-468-8243). As the restoration progresses and we begin to engage with customers individually through our social media channels, we provide the same messages.

QUESTION:
Please describe smart phone apps, website services, social media, and other means of relaying information to customers prior to, during, and after a named storm.

RESPONSE:
The table below reflects all the channels available for communicating with customers before, during and after a named storm.

Communication Channels			
Method	**Before**	**During**	**After**
Call Center CSR	✓	✓	✓
Interactive Voice Response System	✓	✓	✓
High Volume Call Answering System	✓	✓	✓
Better Business Bureau	✓	✓	✓
Community Action Team	N/A	N/A	✓
Area Information Managers	✓	✓	✓
Non-Call Center Direct Contact (phone, email)	✓	✓	✓
FPL.com	✓	✓	✓
Mobile application	✓	✓	✓
Social media	✓	✓	✓
Advertising	✓	✓	✓
News Releases	✓	✓	✓
News conferences/media events	✓	✓	✓
Residential Email/Texts/Phone Calls	✓	✓	✓
Commercial Email/Texts/Phone Calls	✓	✓	✓
Emails to Federal, State and Local Leaders	✓	✓	✓
Stakeholder Outreach	✓	✓	✓
Government Portal	✓	✓	✓
Automated call	✓	N/A	N/A

Pre-Season

We execute an extensive communication campaign to help customers understand that we have a plan for restoring power, should a storm impact our service area. The campaign also is meant to encourage customers to have a plan and be prepared.

We use broadcast/digital advertising to achieve the greatest reach to our customers.

We follow the advertising campaign with an extensive media and social media campaign to encourage customers to have a plan for hurricane season. We complete media events and special interviews in all media markets. This last year we completed multiple social campaigns featuring line personnel and others to drive preparation and safety messages.

Information about how to prepare for storm season and stay connected with FPL is shared via customer channels (bill insert, newsletter, FPL.com and FPL Welcome Series Communication).

The customer contact information is verified and updated in the Customer Information System for large business and governmental accounts that are assigned a Customer Advisor.

In addition, Customer Advisors inform the EOC's of the restoration process and a restoration overview is available to business customers upon request.

Customers who are enrolled in the Medically Essential Service Program (MESP) receive annual communications and special communications during emergency events. Prior to storm season, during May of each year, FPL contacts MESP customers to remind them that storm season is approaching and to recommend that they have their emergency plans in place.

Pre-Storm

We begin communicating 96 hours prior to a storm making landfall, and we continue communicating to customers through landfall.

We utilize automated calls, residential and commercial email and texts, social media (Facebook and Twitter posts), FPL.com and the mobile app to reach customers digitally.

Additionally, we reach customers by leveraging traditional media (television, radio and print) through news conferences, media events and news releases.

We also invite media to ride out the storm in our FPL Command Center and provide them as much insight and information to help them reach our customers through their outlet.

FPL representatives staff Emergency Operations Centers across our 35-county service territory to provide localized information regarding the status of our restoration effort.

For large business and governmental accounts that are assigned a Customer Advisor, the Customer Advisors send letters via e-mail to the customers to share important information and resources available to help the customer stay informed. The letter addresses hurricane preparedness, outage reporting and identifies who the customer can contact with questions on their accounts in the event the Customer Advisor is supporting storm restoration and is unable to be reached.

FPL will call MESP customers advising them of the possibility of FPL's territory being impacted by the storm and for them to be ready to activate their emergency plan.

During Storm

We continue to use as many of our communication channels as possible to stay connected with our customers. We leverage agencies and employees throughout Florida, as well as out of state, to execute communications should our connectivity be affected by the storm.

We have communication modules (media relations, social media and visual communication professionals) assigned to regions forecast to be affected by the storm. This allows active communications within a particular region by both headquarters and boots-on-the-ground teams.

Some of our blue-sky communication channels, such as Power Tracker, continue to be operational but provide modified information due to system impacts of the storm.

FPL representatives ride out the storm at Emergency Operations Centers across our 35-county service territory to provide localized information regarding the status of our restoration effort.

Customer facing employees are provided approved messaging prepared by the Emergency Communication Team (ECT). This ensures the customers are provided with timely and consistent information across all contact channels.

For Call Center, Customer Service Representatives' scripts are developed from key messages provided by the ECT.

Post-Storm / Restoration

We ramp up our communications using all channels listed above and focus on information about the damage, the number of customers affected and estimated times of restoration (ETR). We provide safety messages to our customers, particularly dealing with downed lines, driving through intersections without traffic lights and using generators – to name a few.

We issue at least one news release a day. We conduct daily news briefings and media events. We post images and messaging to social media, targeting our communications as much as possible to make it more relevant to customers. We send regular emails and texts and we update Power Tracker every hour with restoration information.

We target to provide system ETRs within 24 hours, county level ETRs within 48 hours, sub-county information within 72 hours as available. We continue to refine customer ETRs as work is assigned in the field. As ETRs evolve throughout the restoration, all our systems (IVR, mobile app, website, etc.) are updated to make sure customers have access to the most current information.

Customer facing employees are provided approved messaging prepared by the ECT. This ensures the customers are provided with timely and consistent information across all contact channels.

For Call Center, Customer Service Representatives' scripts are developed from key messages provided by the ECT.

The Community Action Team and Area Information Managers are activated and use the same messaging provided by the ECT, which is issued in a talking point document daily. Functions and facilities, previously referred to as top CIF customers and which, going forward, will be referred to as CIFs, are contacted by phone or via site visits to confirm status of electrical service.

Additionally, FPL may activate the Easing Assistance for Storm Emergencies (EASE) Program. Customer Advocates will reach out to MESP customers in affected areas in an attempt to assess their needs. The advocate may provide assistance and information about relief sites or agencies where the customer may get additional assistance.

QUESTION:
How many complaints did the Company receive during and after the named storm?

RESPONSE:
Complaints are defined as all customer contacts with the FPSC (transfer connect via telephone or email, 3 day responses, full responses, etc.), FPL Executives, Regulatory Request, Media and Better Business Bureau/DOACS.

For Hurricane Matthew, FPL received a total of 217 complaints. Additionally, it received 1,872 complaints related to Hurricane Irma. FPL did not receive any complaints related to Hurricanes Hermine, Nate, and Maria. These totals exclude any non-storm related complaints.

	FPSC Logged	FPSC Courtesy	Executive Request	Regulatory Request	Media	BBB/ DOACS	Total
Matthew	5	173	28	1	2	8	217
Irma*	185	1,425	202	8	9	43	1,872

**Totals for Irma are as of January 12, 2018*

Note that FPL may receive a significant number of inquiries from customers during and after a named storm. These inquiries are not captured or tracked through the complaint channels identified above.

QUESTION:
Please provide the number of maintenance requests (e.g., leaning poles, overgrown lines, trees on poles/lines, etc.) per year from 2006-present from customers and how each request was resolved.

RESPONSE:
When a customer calls with a maintenance request (e.g., leaning poles, overgrown lines, trees on poles/lines, etc.), the request is referred to the appropriate management area. The management area investigates the request, and assigns the work to a crew depending on the type of work and the level urgency the request requires. Upon completion of the work, the customer is notified by the crew or another company representative of the resolution. FPL does not track these requests/resolutions and therefore is unable to provide the number of maintenance requests (e.g., leaning poles, overgrown lines, trees on poles/lines, etc.) per year from 2006-present from customers.

QUESTION:
Please describe how customers with medically necessary equipment are identified, how they are communicated with, and if they receive a higher priority for restoration efforts.

RESPONSE:
FPL identifies those customers who meet the certification criteria and enroll in the Medically Essential Service Program (MESP) as described in FPL's tariff sheet 6.011, and Section 366.15, Florida Statutes. These customers have a specific MESP identification code recorded in our Customer Information System.

Customers enrolled in our MESP program receive annual communications and special communications during emergency events. Prior to storm season, during May of each year, FPL contacts MESP customers to remind them that storm season is approaching and to recommend that they have their emergency plans in place. Prior to an event, upon a named storm approaching FPL's service territory, MESP customers receive a phone call advising them of the possibility of FPL's territory being impacted by the storm and for them to be ready to activate their emergency plan.

After an event, FPL may activate the Easing Assistance for Storm Emergencies (EASE) Program. Customer Advocates will reach out to MESP customers in affected areas in an attempt to assess their needs for ice, water, gas for generator, etc. Upon the customer expressing a need, and depending on resources, FPL may provide assistance. The advocate may also provide information about relief sites or agencies where the customer may get additional assistance.

FPL also sends MESP customers who are on our Load Control Shed Program a letter each November in preparation for the cooler weather season.

Because of the number and geographic diversity of MESP customers, while FPL takes the additional steps described above, MESP customers cannot be guaranteed uninterrupted service and do not receive a higher priority for restoration efforts.

QUESTION:
Please describe how the Company communicates with customers who do not have access to the internet or phone, both during a storm recovery and in ongoing operations.

RESPONSE:
During a storm and throughout a restoration, FPL communicates to customers who do not have access to the internet or phone by conducting news conferences/media briefings and through radio advertising.

Post-storm, we offer walkup sites throughout the company's service area. Customers are also able to obtain information by visiting one of the company's staging sites or their local Emergency Operations Center, which is staffed by company employees.

During ongoing operations, FPL communicates to customers who do not have access to the internet or phone through bill messages, bill inserts and direct mail communications (letters).

QUESTION:
Please describe how the Company communicates using the radio or postal service.

RESPONSE:
Throughout the year, FPL conducts various radio campaigns regarding a number of topics, including storm preparedness. Before, during and after a major storm, FPL utilizes radio advertisements regarding safety and restoration information.

Throughout the year, FPL conducts normal business transactions with customers through the mail who choose not to communicate via email. Additionally, the company communicates to customers through messages on printed bills as well as bill inserts.

QUESTION:
Please describe how the Company communicates with customers whose first language is neither English nor Spanish.

RESPONSE:
FPL translates written material, including news releases during major storms, into Creole. Company spokespersons fluent in Creole also conduct interviews with Creole media, both during a storm and normal operations. The company also posts critical content in Creole to FPL.com. In addition, our Call Center has Creole speaking representatives to address customer calls.

QUESTION:
Has the Company reviewed all comments addressing customer communication and power restoration (received by the Company, received during post recovery at the Commission, filed for purposes of this docket, as well as complaints received by governmental units and other entities)? What follow up has the Company initiated with the customer?

RESPONSE:
Yes, FPL has reviewed all comments addressing customer communication and power restoration related to Hurricane Irma. These include comments received directly by the Company, received post–restoration at the Commission that were filed for purposes of this Hurricane Preparedness and Restoration Actions docket, as well as comments received from governmental units and other entities.

A review of the comments submitted in this docket reflects that a significant number of customers summarized their experiences before, during and after Hurricane Irma. In many instances, it was difficult to identify the actual customer based on the information provided in his or her filing. When FPL was able to accurately identify the customer and the comment suggested the need for follow-up from an operational or safety standpoint, FPL initiated follow-up actions to correct the issue or communicated with the customer regarding his or her correspondence.

FPL's Customer Service Customer Advisors, who manage governmental and large commercial accounts, reviewed the comments from these governmental and large commercial customers. This process included communications with each of these customers asking for feedback to better understand what went well from the customer's perspective and where FPL can improve. The feedback from customers will be considered and addressed in FPL's planning for future communications and restoration efforts.

In addition, FPL provided a post-Irma restoration overview, which included lessons learned, to EOC, businesses, governmental entities and organizations upon request.

For communications with individual customers please see FPL's response to OPC's First Set of Interrogatories No. 23.

QUESTION:
What problem areas has the Company identified with customer communication and power restoration based on experience and customer complaints during the recovery period after Hurricane Irma?

RESPONSE:
Hurricane Irma was an unprecedented storm that impacted more than 4.4 million FPL customers across the company's entire 35-county service area. Our customer-facing website and digital communication channels perform well during normal operations and in smaller storm events, but we have now learned with the scale and magnitude of storms like Irma, these channels need to be improved so we can continue to provide consistent, accurate and timely restoration information that customers and stakeholders need.

During the Hurricane Irma restoration, FPL's website and digital systems experienced extremely high customer traffic. The back-end systems that provide information to the website were not able to handle the volume of customer inquiries, causing website performance problems that affected our customers' ability to get information.

We are working to improve the capacity of our digital and mobile systems, and working on solutions to help provide consistent, accurate and more timely restoration information to our customers and stakeholders.

Regarding power restoration efforts, vegetation presented challenges throughout FPL's service territory, even in areas with recent FPL vegetation management, as large uprooted and fallen trees and branches located outside of utility easements and authorized rights-of-way caused broken poles, damage to other FPL facilities (e.g., wire, cable and transformers) and outages. This resulted in impacts to both overhead and underground service. Additionally, the uprooted and fallen trees and branches impacted restoration efforts as they blocked roadways and impaired traffic.

QUESTION:
How does the Company plan to address these problem areas?

RESPONSE:
FPL is committed to providing consistent, accurate and timelier restoration information to our customers and stakeholders. As part of FPL's drive toward continuous improvement, following any small or large event, FPL conducts reviews of its performance to address areas that need to perform better for our customers. Based on the issues highlighted above, FPL teams are working on solutions to help provide consistent, more accurate and timelier restoration information to our customers and stakeholders.

We have evaluated the information provided to our customers through FPL channels during the Hurricane Irma response, and identified areas of improvement. We have completed initial system improvements to ensure the capacity of our digital systems, including FPL.com, can handle extreme volumes of customer traffic, well beyond what we experienced during Hurricane Irma. We've also worked to improve the consistency of restoration information across all communication channels.

Currently, we have an extensive FPL cross-functional team working to develop solutions that will help improve the accuracy of information provided to customers and stakeholders. As part of that effort, FPL is reviewing its processes related to establishing estimated times of restoration (ETR) and is working to identify and implement improvements in operational processes to ensure more accurate restoration information is provided to communication channels and shared with customers and stakeholders.

Regarding vegetation management issues, electric utilities need support from our state and local officials to help mitigate vegetation-related issues that occur during severe weather events and subsequent restoration. For example, ordinances that restrict the type and location of vegetation that can be planted near power lines, together with enforcement of those ordinances, would be extremely beneficial. Additionally, ordinances limiting or preventing property owners from obstructing electric utilities from clearing or removing vegetation near its lines, together with enforcement of those ordinances, would similarly benefit customers and FPL during severe weather and subsequent restoration activities. Further, local governmental entities should adhere to FPL's "Right Tree, Right Place" principles with respect to vegetation planted and maintained by the governmental entity itself. FPL recognizes that these are significant changes for municipalities and their residents, but if these situations and issues are ignored, Florida residents will continue to see similar vegetation-related issues that prolong restoration in the future. FPL is committed to work with the state and our local governments and communities to help address these issues. FPL is encouraged by the fact that several local municipalities in Broward and Palm Beach Counties are beginning to consider such changes.

QUESTION:
Please explain why some customers lost power prior to the storm making landfall (i.e., high winds experienced in the customers' vicinity).

RESPONSE:
The effects (e.g., winds and rain) of storms on land are typically experienced in advance of a storm making landfall. An example of this occurred with Hurricane Irma, a large storm with significant feeder bands and tropical force winds that extended outward over 200 miles from the center while impacting Florida. As a result, outages began to occur before Hurricane Irma made landfall in FPL's service territory.

QUESTION:
Did the Company de-energize the grid in advance of the storm, if so, when, why, and what was communicated to customers prior to the Company's actions?

RESPONSE:
No facilities were de-energized in advance of Hurricanes Hermine, Matthew, Irma, Nate or Maria.

QUESTION:
How many linear feet of overhead lines does the Company have, and what percentage suffered an outage?

RESPONSE:
As of December 31, 2017, FPL had approximately 36 million feet or nearly 7,000 miles of transmission overhead lines and approximately 223 million feet or over 42,000 miles of distribution overhead lines. FPL does not track or maintain outages for its overhead lines by footage; however, FPL tracks the percentage of overhead and underground distribution feeders and laterals experiencing an outage. For Hurricane Irma, approximately 84% of the hybrid feeders (i.e., a combination of overhead and underground facilities), 89% of the overhead feeders and 24% of the overhead laterals that were impacted by Hurricane Irma experienced an outage. For transmission, approximately 21% of the overhead transmission line sections that were impacted by Hurricane Irma experienced an outage.

Note: Since the vast majority of FPL's customers are served from circuits that are hybrid and FPL does not specifically track or maintain the exact location an outage occurs on a feeder (i.e., whether it occurred on an overhead or underground section), FPL classifies its feeders as hybrid, overhead or underground. For laterals, FPL is able to discern and, therefore, tracks and maintains data identifying whether an outage occurs on an overhead or underground section of a lateral.

QUESTION:
How many linear feet of underground lines does the Company have and what percentage suffered an outage?

RESPONSE:
As of December 31, 2017, FPL had approximately 0.5 million feet or over 100 miles of transmission underground lines and approximately 136 million feet or nearly 26,000 miles of distribution underground lines. FPL does not track or maintain storm outages for its underground lines by footage; however, FPL tracks the percentage of overhead and underground distribution feeders and laterals experiencing an outage. For Hurricane Irma, approximately 84% of the hybrid feeders, 30% of the underground feeders and 4% of the underground laterals that were impacted by Hurricane Irma experienced an outage. For transmission, 0% of the transmission underground line sections that were impacted by Hurricane Irma experienced an outage.

Note: Since the vast majority of FPL's customers are served from circuits that are hybrid and FPL does not specifically track or maintain the exact location an outage occurs on a feeder (i.e., whether it occurred on an overhead or underground section), FPL classifies its feeders as hybrid, overhead or underground. For laterals, FPL is able to discern and, therefore, tracks and maintains data identifying whether an outage occurs on an overhead or underground section of a lateral.

QUESTION:
What analysis has the Company performed regarding the outage frequency for overhead versus underground power lines, and please describe the results

RESPONSE:
For recent storms, FPL has developed forensics analyses and developed system-wide overhead vs. underground performance metrics like those provided in FPL's response to OPC's First Set of Interrogatories Nos. 34 and 35.

For day-to-day overhead vs. underground reliability performance, see FPL's annual March 1 Reliability filings where FPL provides reliability metrics (SAIDI, SAIFI, CAIDI and LBar) for overhead and underground feeders for the most recent five years.

As can be seen in the data referenced in this response, except for day-to-day LBar, underground facilities have better reliability than overhead facilities – both day-to-day and during storms.

QUESTION:
Please explain what caused power outages in areas that had underground power lines.

RESPONSE:
In recent storms, causes for power outages in areas served by underground lines included: storm surge; flooding; uprooting of trees; windblown trees/debris impacting certain underground-related equipment (e.g., padmount transformers); and outages of overhead facilities feeding underground areas.

QUESTION:
How many homes that have underground power lines experience power outages?

RESPONSE:
FPL does not track or maintain outage information at this level of detail. However, as provided in FPL's responses to OPC's First Set of Interrogatories Nos. 35 and 36 as well as in FPL's Annual March 1 Reliability Filing (e.g., see page 91 of FPL's March 1, 2017 Annual Reliability Filing), FPL's underground facilities have had significantly fewer interruptions than overhead facilities, both day-to-day as well as during storms.

QUESTION:
How many substations does the Company own?

RESPONSE:
At the end of 2017, FPL had 622 distribution and transmission substations.

QUESTION:
How many of the Company's substations had to be de-energized due to flooding?

RESPONSE:
For recent storms impacting FPL's service territory, there are two storms in which FPL had to de-energize substations due to flooding. For Hurricane Matthew, one substation (St. Augustine) was de-energized due to flooding and for Hurricane Irma, 2 substations (St. Augustine and South Daytona) were de-energized due to flooding. The proactive de-energizing of these substations, which occurred only as a result of installed flood-monitoring equipment (a storm hardening initiative implemented as a result of lessons learned from Hurricane Sandy), prevented significant substation damage and repair costs.

QUESTION:
How many of the Company's substations were taken out of service due to tree or debris damage?

RESPONSE:
For recent storms that impacted FPL's service territory, including Hurricanes Hermine, Matthew, Irma, and Nate, no substations were taken out of service due to tree or debris damage.

QUESTION:
What does the Company plan to do in the future to eliminate flooding and tree/debris damage at the Company's substations?

RESPONSE:
FPL's substation flood-monitoring initiative has proven to be successful (e.g., potentially significant damage at FPL's St. Augustine substation was prevented due to it being proactively de-energized during Hurricanes Matthew and Irma as a result of notifications from flood-monitoring equipment). Additionally, prior to storm season, FPL patrols (by air) its transmission system (including substations) to identify/address vegetation management issues. As provided in FPL's response to OPC's First Set of Interrogatories No. 41, no substations were taken out of service as a result of tree or debris damage. At this time, no other future actions have been determined. However, FPL is evaluating potential flood mitigation solutions to reduce flooding at FPL's more flood prone substations.

QUESTION:
If applicable, has the securitization for the prior 2004 and 2005 storms ended? If yes, when; if not, when?

RESPONSE:
FPL assumes this request is referring to the storm securitization charge related to the recovery of unrecovered 2004 and 2005 storm restoration costs, and the replenishment of the storm reserve authorized by the Commission in Order No. PSC-06-0464-FOF-EI, Docket No. 060038-EI.

No, FPL's storm securitization charge has not yet ended. The last bond payment is scheduled for August 1, 2019. Per the Storm-Recovery Property Servicing Agreement between FPL Recovery Funding, LLC (bond issuer) and FPL (servicer) approved by the Commission, FPL is authorized to file a routine true-up adjustment to its storm securitization charge on or after the scheduled final payment date to adjust for any over or under collections associated with the final bond payment.