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June 4, 2014

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

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COMMISSION  
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**Re: Docket No. 140082-EI – *Petition for Change to Pole Inspection & Load Assessment Requirements*  
FPL’s Response to Staff’s First Data Request**

Dear Ms. Stauffer:

Enclosed for filing on behalf of Florida Power & Light Company (“FPL”) are the original and five copies of FPL’s responses to Staff’s First Data Request dated May 21, 2014, relating to FPL’s Petition for Change to Pole Inspection & Land Assessment Requirements.

If you have any questions regarding this filing, please do not hesitate to contact me at (561) 304-5633 or [scott.goorland@fpl.com](mailto:scott.goorland@fpl.com). Thank you for your assistance.

Respectfully submitted,

Scott A. Goorland  
Principal Attorney

Attachment

COM	
AFD	1
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CLK	

**Florida Power & Light Company  
Docket No. 140082-EI  
Staff's First Data Request  
Data Request No. 1**

**Q.**

**Paragraph 5 on Page 2 indicates that this docket would not involve reversal or modification of the Commission's decision.**

- a. If the Commission approves FPL's petition for change to pole inspection and load assessment requirements, is that not a reversal or modification to the applicable Orders? Please explain your response.**

**A.**

FPL agrees that if the Commission approves FPL's petition for change to pole inspection and load assessment requirements, it would constitute a modification to Order No. PSC-06-0144-PAA-EI. The Petition addresses the specific facts that FPL contends warrant modification of Order SC-06-0144-PAA-EI, which may be summarized as follows: For the change in the exemption approved by the Commission in Order No. PSC-08-0615-PAA-EI from the requirement to excavate for inspections of CCA poles that are less than 16 years of age, so that the exemption applies to poles that are less than 28 years of age, FPL's approved exemption on excavation was based on data available at that time which showed that the rejection rate for poles under the age of 16 was 0.08%. As a result of completing its first eight-year pole inspection cycle from 2006-2013, FPL now has significantly more data on CCA pole failures. This new data indicates that CCA poles up to the age of 28 have the same low failure rate of 0.08% that FPL originally measured for poles under the age of 16. FPL projects an incremental savings of approximately \$1.0 million annually, or \$8.1 million over the eight-year cycle, as a result of this deviation from its pole inspection excavation requirements. All wood poles will continue to be inspected as a result of visual and sound and bore inspections. For the exemption from the requirement to perform load assessments during FPL's second eight-year pole inspection cycle (2014-2021) on any pole that had a load assessment test result during the first eight-year inspection cycle of less than 80% of full load, as a result of the data gathered in the initial eight-year pole inspection cycle inspection test results, together with analyses conducted in support of this request, FPL has determined that the vast majority of FPL's poles were not close to their 100% loading, the risk associated with not conducting load assessments during FPL's second eight-year cycle on poles which were previously determined to be loaded at below 80% of full loading is extremely low, and FPL projects an incremental savings of approximately \$528,000 annually or approximately \$4.2 million over the full second eight-year pole inspection cycle for this load assessment test exemption.

**Florida Power & Light Company  
Docket No. 140082-EI  
Staff's First Data Request  
Data Request No. 2**

**Q.**

**Paragraph 12 on Page 5 indicates that the Joint Petitioners agreed to modify their request to continue sound and bore inspections for all CCA poles that are under 16 years, but to eliminate the requirement to perform full excavation on these poles, and instead perform excavation sampling on these poles.**

- a. If FPL is granted the exemption, of eliminating full excavation on poles that are less than 28 years, to Order No. PSC-08-0615-PAA-EI, which CCA poles, if any, would FPL continue to inspect via sound and bore? Please explain your response.**
- b. Would excavation sampling on poles less than 28 years be an option for FPL? If not, why not.**
- c. If excavation sampling is a viable option, how many poles should be sampled and what would the cost be?**

**A.**

- a. Yes. FPL will continue to sound and bore all wood poles.**
- b. Yes.**
- c. FPL believes the previously approved 1% sample size would continue to be sufficient. FPL estimates this would incrementally increase the current annual cost to perform the 1% sample (currently approximately \$18K/year) by approximately \$11K.**

**Florida Power & Light Company  
Docket No. 140082-EI  
Staff's First Data Request  
Data Request No. 3**

**Q.**

**Please provide an inventory of FPL's CCA poles. In your response, please include the number of poles by region, county, and age: 0-5 Years, 6-10 Years, 11-15 Years, 16-20 Years, 21-25 Years, 26-30 Years, 31-35 Years, 36-40 Years, 41-45 Years, 46-50 Years, 51-55 Years, 56-60 Years, and Unknown.**

**A.**

See attached.

**Florida Power & Light Company  
Docket No. 140082-EI  
Staff's First Data Request  
Data Request No. 4**

**Q.**

**In FPL's 2014 Status/Update report on Storm Hardening/Preparedness and Distribution Reliability, FPL reported 12.8 percent of wooden poles failed.**

- a. How many of the 12.8 percent are CCA poles?**
- b. Please describe and explain what caused the failure of the CCA poles.**

**A.**

- a. Of the 16,678 poles that failed in 2013 ( $16,678/130,037= 12.8\%$ ), 6,191 were CCA poles.
- b. 4,629                      Overloaded
- 1,246                      Strength (above ground) – 734 woodpecker holes; 229 split/decayed tops; 111 external decay; 18 internal decay; and 154 other
- 316                        Strength (below ground) – 296 external decay; and 20 internal decay
- 6,191

**Florida Power & Light Company  
Docket No. 140082-EI  
Staff's First Data Request  
Data Request No. 5**

**Q.**

**Paragraph 17 on Page 7 indicates that the vast majority of FPL's poles were not close to their 100 percent loading and the risk associated with not conducting load assessments during FPL's second eight-year cycle on poles which were previously determined to be loaded at below 80 percent of full loading is extremely low.**

- a. Please explain in detail the basis for your conclusion that the risk is extremely low.**
- b. Please provide the data which indicates that the vast majority of FPL's poles were not close to their 100 percent loading.**
- c. Please explain the process and procedure that would be put in place, if any, to account for poles that were deemed to be loaded below the 80 percent threshold at the beginning of the eight-year cycle but may be modified, during that cycle i.e., attachment or equipment is added? Would FPL add these poles to the inspection cycle?**
- d. Please explain in detail why FPL believes 80 percent is the appropriate threshold.**

**A.**

- a. The conclusion is primarily supported by the fact that not a single pole in FPL's statistically valid random sample that tested at less than 80% of full load in the first eight-year cycle now exceeds full load. Additionally, the results of a Monte Carlo simulation (more fully described in FPL's response to Question 5c) indicated that the probability of a pole that tested below 80% of full load during the first eight-year cycle failing a load assessment test in the second-eight-year cycle is only 0.07%.**

- b. % of Population    % of Full Load**

10%	10-20%
30%	21-40%
27%	41-60%
19%	61-80%
10%	81-100%
4%	Overloaded
100%	

**Florida Power & Light Company**  
**Docket No. 140082-EI**  
**Staff's First Data Request**  
**Data Request No. 5**

- c. FPL currently has processes/procedures in place to address poles that may be modified as a result of equipment or additional attachments. This includes: (1) FPL's pole attachment permit process (administered by a third party vendor) for all new cable TV and communication pole attachments, which requires these attaching entities to provide wind load analysis/calculations to demonstrate the pole is not overloaded when a new attachment is being added; If the wind load analysis indicates the pole is overloaded, the attaching entity must replace/upgrade the pole (at the attaching entity's expense) to meet required load standards; and (2) FPL's joint use agreements, which require that joint use poles meet National Electrical Safety Code (NESC) standards, including wind load standards.

Additionally, in order to assess the risk of associated with not performing a load assessment test during the second-eight-year cycle on a pole that tested below 80% of full load during the first eight-year cycle, FPL utilized a Monte Carlo simulation. The simulation determined the probability that such a pole would fail a load test during the second eight-year pole inspection cycle, using the three main factors (additional attachments, reduced pole circumference and communication over lashing) that caused the five poles to fail (see the five poles that failed on pages 7 and 8 of Exhibit B) to generate 10,000 different outcomes. The Monte Carlo simulation results indicated that the probability of a pole that tested below 80% of full load during the first eight-year cycle failing a load assessment test in the second-eight-year cycle is only 0.07%. This very small probability is less than the historical 0.08% failure for FPL's CCA poles less than 16 years old, which served as the basis for FPL's initial CCA pole exemption when it was approved by the FPSC in Order No. PSC-08-0615-PAA-EI.

As a result of the processes/procedure in place and the Monte Carlo simulation results, FPL would not perform load assessment tests on these poles in its second eight-year cycle.

- d. FPL believes the 80% threshold is the appropriate threshold since it balances an extremely low risk (see FPL's responses to Questions 5a and 5c) with significant cost savings (\$528,000 annually/\$4.2 million over the eight-year cycle).

**Florida Power & Light Company  
Docket No. 140082-EI  
Staff's First Data Request  
Data Request No. 6**

**Q.**

**Please refer to Exhibit A of FPL's Petition. Please provide the data in Exhibit A in the following format:**

**A.**

See attached.



**Florida Power & Light Company**  
**Docket No. 140082-EI**  
**Staff's First Data Request**  
**Data Request No. 7**

**Q.**

**Please refer to Exhibit B of FPL's Petition.**

- a. Please explain in detail how FPL developed the sample that was used to generate Exhibit B.**
- b. In reviewing Exhibit B, staff noticed there were several feeders that were tested more than once. Please explain why FPL tested these feeders more than once.**
- c. Please identify the feeders on Exhibit B that would be included in the eight year cycle for load assessment. Also, please identify the feeders that would be included in the eight year cycle for load assessment that are not included in Exhibit B.**

**A.**

- a. First, FPL identified all poles inspected during 2007-2012. A record for each of the poles inspected during this time was compiled into one master excel file. Using the "RAND" function in excel, a random real number was generated for each pole. FPL then sorted the excel-generated random real numbers for each pole/record, from smallest to largest. From this sort, the first 384 poles were chosen for the sample. The sample size was obtained through the use of a sampler calculator, which determined that a sample size of 384 randomly selected poles would produce a statistically valid sample (using a 95% confidence interval).**
- b. Each line in Exhibit B actually represents a specific pole's test results. The feeder column simply identifies the feeder for each pole listed. A feeder (which on average serves approximately 1,500 customers) contains many poles. In several instances, different poles from the same feeder were randomly selected.**
- c. See FPL's response to Question 7 (b) above regarding feeders/poles. Any pole on Exhibit B that originally tested at 80% of full load or higher would be required to have a load test performed during the second eight-year inspection cycle. In Exhibit B, this would include the last 56 poles listed on pages 7 and 8, starting with the pole identified as Elkton Substation/St. Johns County/Feeder 5832 on page 7 (15 poles up from the bottom).**

As indicated in FPL's response to Question 5(b), inspection results show that a little more than 14% of the poles tested at 80% of full load or higher during the period 2007-2012. With an FPL distribution pole population of approximately 1.16 million poles at the end of 2013, this would indicate that FPL would be performing load tests on more than 162,000 poles during the second eight-year cycle. If Staff requires the identification/location of these poles, FPL can subsequently provide this voluminous information. Of course, as previously mentioned, all wood poles will continue to be inspected as a result of visual and sound and bore inspections.

Docket No. 140082-EI  
 Staff's First Data Request  
 FPL's Response to Question 3

Region	County	Pole Age												Grand Total	
		0-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60		Uknown
1- North	Suwannee	33	550	730	787	1,179	862	784	83	0	0	0	0	0	5,008
1- North	Columbia	21	1,001	1,556	1,427	2,393	1,832	1,604	294	9	0	0	0	0	10,137
1- North	Baker	15	364	807	576	997	644	587	80	2	0	0	0	0	4,072
1- North	Union	0	122	437	216	324	164	258	31	6	0	0	0	0	1,558
1- North	Bradford	101	720	765	688	918	1,025	983	55	0	0	0	0	0	5,255
1- North	Alachua	1	114	257	102	88	296	216	29	0	0	0	0	0	1,103
1- North	Clay	1	46	249	63	321	168	100	14	0	0	0	0	0	962
1- North	Duval	0	5	0	0	2	2	1	0	0	0	0	0	0	10
1- North	Nassau	817	1,326	2,038	1,157	1,851	1,674	1,392	181	1	0	0	2	0	10,439
1- North	Saint Johns	195	2,520	4,066	3,639	3,914	4,924	2,722	471	22	10	2	1	0	22,486
1- North	Putnam	86	1,104	1,575	970	1,728	2,559	1,346	340	220	0	0	0	0	9,928
<b>Region 1 Total</b>		<b>1,270</b>	<b>7,872</b>	<b>12,480</b>	<b>9,625</b>	<b>13,715</b>	<b>14,150</b>	<b>9,993</b>	<b>1,578</b>	<b>260</b>	<b>10</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>70,958</b>
2 - Central	Flagler	280	4,551	6,798	5,611	5,836	5,287	3,523	454	54	2	2	1	1	32,400
2 - Central	Volusia	483	3,289	4,909	3,885	6,923	9,115	5,239	1,007	140	14	8	2	0	35,014
2 - Central	Seminole	236	1,618	1,774	1,291	2,458	2,720	1,483	449	35	2	1	0	0	12,067
<b>Region 2 Total</b>		<b>999</b>	<b>9,458</b>	<b>13,481</b>	<b>10,787</b>	<b>15,217</b>	<b>17,122</b>	<b>10,245</b>	<b>1,910</b>	<b>229</b>	<b>18</b>	<b>11</b>	<b>3</b>	<b>1</b>	<b>79,481</b>
3- Brevard	Brevard	680	6,086	7,003	5,923	12,068	17,990	14,944	3,830	244	30	7	3	4	68,812
3- Brevard	Orange	0	4	5	0	0	3	1	0	0	0	0	0	0	13
<b>Region 3 Total</b>		<b>680</b>	<b>6,090</b>	<b>7,008</b>	<b>5,923</b>	<b>12,068</b>	<b>17,993</b>	<b>14,945</b>	<b>3,830</b>	<b>244</b>	<b>30</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>68,825</b>
4- Treasure Coast	Indian River	253	2,506	2,702	1,562	4,026	3,878	3,539	1,009	69	1	3	0	0	19,548
4- Treasure Coast	Okeechobee	209	1,138	1,511	711	1,839	1,703	1,573	240	9	0	0	0	0	8,933
4- Treasure Coast	Highlands	10	15	8	18	55	25	50	0	0	0	0	0	0	181
4- Treasure Coast	Saint Lucie	544	4,340	3,940	2,126	4,360	6,644	5,589	593	119	1	1	0	1	28,258
4- Treasure Coast	Martin	259	2,279	2,091	1,947	3,178	3,960	3,023	349	88	8	2	1	0	17,185
<b>Region 4 Total</b>		<b>1,275</b>	<b>10,278</b>	<b>10,252</b>	<b>6,364</b>	<b>13,458</b>	<b>16,210</b>	<b>13,774</b>	<b>2,191</b>	<b>285</b>	<b>10</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>74,105</b>
<b>Region 5 Total</b>	Palm Beach	<b>1,316</b>	<b>8,096</b>	<b>11,186</b>	<b>10,606</b>	<b>15,456</b>	<b>13,703</b>	<b>8,111</b>	<b>1,226</b>	<b>152</b>	<b>35</b>	<b>35</b>	<b>20</b>	<b>0</b>	<b>69,942</b>
<b>Region 6 Total</b>	Broward	<b>408</b>	<b>5,690</b>	<b>5,374</b>	<b>4,789</b>	<b>7,125</b>	<b>8,593</b>	<b>6,022</b>	<b>2,146</b>	<b>791</b>	<b>23</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>40,970</b>
7 - Miami-Dade	Miami-Dade	1,399	8,078	8,566	7,365	22,466	8,629	5,916	759	59	18	8	2	4	63,269
7 - Miami-Dade	Monroe	1	16	16	48	39	23	39	2	1	0	0	0	0	185
<b>Region 7 Total</b>		<b>1,400</b>	<b>8,094</b>	<b>8,582</b>	<b>7,413</b>	<b>22,505</b>	<b>8,652</b>	<b>5,955</b>	<b>761</b>	<b>60</b>	<b>18</b>	<b>8</b>	<b>2</b>	<b>4</b>	<b>63,454</b>
8 - West	Collier	164	3,224	5,950	3,601	4,157	4,307	3,150	541	113	10	0	0	1	25,218
8 - West	Hendry	48	1,941	752	905	1,369	1,427	1,057	253	60	0	1	0	0	7,813
8 - West	Lee	228	13,025	7,886	3,341	5,400	7,183	6,491	1,231	93	1	3	0	0	44,882
8 - West	Glades	7	432	376	197	432	587	464	57	3	1	0	0	0	2,556
8 - West	Charlotte	512	9,823	5,526	3,212	7,747	9,917	7,230	1,475	138	5	2	2	2	45,591
8 - West	De Soto	128	1,780	1,322	668	1,621	1,549	1,595	229	24	2	0	1	0	8,919
<b>Region 8 Total</b>		<b>1,087</b>	<b>30,225</b>	<b>21,812</b>	<b>11,924</b>	<b>20,726</b>	<b>24,970</b>	<b>19,987</b>	<b>3,786</b>	<b>431</b>	<b>19</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>134,979</b>
9 - Manasota	Manatee	231	1,593	2,475	1,783	3,232	4,327	3,576	478	41	6	2	1	5	17,750
9 - Manasota	Sarasota	472	10,365	7,790	5,031	6,745	9,898	5,834	869	241	19	10	1	1	47,276
9 - Manasota	Hillsborough	2	0	0	1	1	2	1	0	0	0	0	0	0	7
<b>Region 9 Total</b>		<b>705</b>	<b>11,958</b>	<b>10,265</b>	<b>6,815</b>	<b>9,978</b>	<b>14,227</b>	<b>9,411</b>	<b>1,347</b>	<b>282</b>	<b>25</b>	<b>12</b>	<b>2</b>	<b>6</b>	<b>65,033</b>
<b>Grand Total</b>		<b>9,140</b>	<b>97,761</b>	<b>100,440</b>	<b>74,246</b>	<b>130,248</b>	<b>135,620</b>	<b>98,443</b>	<b>18,775</b>	<b>2,734</b>	<b>188</b>	<b>90</b>	<b>40</b>	<b>22</b>	<b>667,747</b>

Docket No. 140082-EI  
 Staffs First Data Request  
 FPL's Response to Question 6

Year	Total # of CCA Poles Inspected	Cum. # of CCA Poles Inspected	Excavation Failures													
			Rejected (Replaced)				Decaying/Weakened (Reinforced)				Total Poles Rejected/Replaced or Decayed/Reinforced					
			Interior Decay	Outer Decay	Total Decay	% of Total	Interior Decay	Outer Decay	Total Decay	% of Total	Internal Decay	Outer Decay	Total Decay	% of Total	Cum. Count	Cum. % of Total
0-5	70,318	70,318	0	0	0	0.000%	0	1	1	0.001%	0	1	1	0.001%	1	0.001%
6-10	116,237	186,555	0	2	2	0.002%	0	4	4	0.003%	0	6	6	0.005%	7	0.004%
11-15	86,426	272,981	2	5	7	0.01%	2	14	16	0.02%	4	19	23	0.03%	30	0.01%
16-20	109,240	382,221	3	8	11	0.01%	3	66	69	0.06%	6	74	80	0.07%	110	0.03%
21-25	134,989	517,210	3	23	26	0.02%	20	181	201	0.15%	23	204	227	0.17%	337	0.07%
<27	24,034	541,244	0	3	3	0.01%	4	49	53	0.22%	4	52	56	0.23%	393	0.07%
<b>&lt;28</b>	<b>23,895</b>	<b>565,139</b>	0	4	4	0.02%	4	54	58	0.24%	4	58	62	0.26%	<b>455</b>	<b>0.08%</b>
<29	21,980	587,119	3	4	7	0.03%	0	72	72	0.33%	3	76	79	0.36%	534	0.09%
<30	19,306	606,425	0	6	6	0.03%	5	80	85	0.44%	5	86	91	0.47%	625	0.10%
<31	16,702	623,127	1	5	6	0.04%	8	46	54	0.32%	9	51	60	0.36%	685	0.11%
26-30	105,917	623,127	4	22	26	0.02%	21	301	322	0.30%	25	323	348	0.33%	685	0.11%
31-35	40,117	663,244	4	12	16	0.04%	19	233	252	0.63%	23	245	268	0.67%	953	0.14%
36-40	3,847	667,091	4	9	13	0.34%	4	40	44	1.14%	8	49	57	1.48%	1,010	0.15%
41-45	500	667,591	1	6	7	1.40%	0	17	17	3.40%	1	23	24	4.80%	1,034	0.15%
46-50	91	667,682	0	1	1	1.10%	0	3	3	3.30%	0	4	4	4.40%	1,038	0.16%
51-55	22	667,704	0	1	1	4.55%	0	0	0	0.00%	0	1	1	4.55%	1,039	0.16%
56-60	27	667,731	0	0	0	0.00%	0	1	1	3.70%	0	1	1	3.70%	1,040	0.16%
Unknown	16	667,747	0	0	0	0.00%	0	1	1	6.25%	0	1	1	6.25%	1,041	0.16%
<b>Total</b>	<b>667,747</b>	<b>667,747</b>	<b>21</b>	<b>89</b>	<b>110</b>	<b>0.02%</b>	<b>69</b>	<b>862</b>	<b>931</b>	<b>0.14%</b>	<b>90</b>	<b>951</b>	<b>1,041</b>	<b>0.16%</b>	<b>1,041</b>	<b>0.16%</b>

Note:

- (1) FPL does not specifically track decay "more or less than 1" from surface. "Interior decay" includes internal pockets, heart rot and internal decay.  
 "Exterior decay includes exposed pockets, shell rot and rotten butt.