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January 18, 2017

Mr. Wesley Taylor, Attorney  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

**SUBJECT:** Docket No. 20170215-EU – Review of Electric Utility Hurricane  
Preparedness and Restoration Actions – STAFF’S SECOND DATA  
REQUEST

Dear Mr. Taylor:

Please find attached the Lee County Electric Cooperative, Inc., (LCEC) report for the Review of Electric Utility Hurricane Preparedness and Restoration Actions, Docket No. 20170215-EU – STAFF’S SECOND DATA REQUEST.

If you have any questions regarding this submission, please feel free to contact me at (239) 656-2399 or email me at [Denise.Vidal@lcec.net](mailto:Denise.Vidal@lcec.net).

Sincerely,

s/ Denise Vidal

Denise Vidal  
Director, Finance & Accounting/CFO

Attachment

cc: Dennie Hamilton, EVP & CEO, LCEC

**Lee County Electric Cooperative, Incorporated, LCEC  
 Report to the Florida Public Service Commission for  
 Docket No. 20170215-EU – Staff’s Second Data Request  
 Review of Electric Utility Hurricane Preparedness and Restoration Actions**

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**Lee County Electric Cooperative, Incorporated, LCEC  
Report to the Florida Public Service Commission for  
Docket No. 20170215-EU – Staff’s Second Data Request  
Review of Electric Utility Hurricane Preparedness and Restoration Actions**

**NOTE: LCEC was not affected by Hurricanes Hermine, Matthew, Maria, and Nate.  
All data request responses are for Hurricane Irma only.**

**Underground Facilities**

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

LCEC SYSTEM TOTAL Miles of Distribution Line

Overhead	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	2,801.7	2,799.9	2,801.5	2,806.1	2,813.3	2,820.4	2,828.5	2,852.0	2,869.5	2,873.3	2,846.6
2 phase	102.0	102.7	102.8	103.0	104.5	105.0	104.8	103.3	103.8	104.2	107.4
3 phase	1,049.8	1,047.8	1,047.0	1,039.0	1,029.7	1,015.5	1,005.7	984.3	957.6	937.1	894.0
<b>TOTAL</b>	<b>3,953.5</b>	<b>3,950.4</b>	<b>3,951.3</b>	<b>3,948.1</b>	<b>3,947.5</b>	<b>3,941.0</b>	<b>3,939.0</b>	<b>3,939.6</b>	<b>3,930.9</b>	<b>3,914.6</b>	<b>3,848.0</b>

LCEC SYSTEM TOTAL Miles of Distribution Line

Underground	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	405.7	399.8	396.7	402.1	437.8	449.3	453.6	456.3	452.3	443.3	595.2
2 phase	10.6	10.6	11.3	10.0	7.0	4.1	3.2	3.2	3.2	3.1	0.2
3 phase	195.4	191.0	186.8	182.6	167.4	158.9	155.2	149.2	144.7	137.7	49.0
<b>TOTAL</b>	<b>611.7</b>	<b>601.4</b>	<b>594.8</b>	<b>594.7</b>	<b>612.2</b>	<b>612.3</b>	<b>612.0</b>	<b>608.7</b>	<b>600.2</b>	<b>584.0</b>	<b>644.5</b>

Note: These numbers do not include Secondary or Service Conductor. Transmission is listed in Table below.

LCEC Response to Docket No. 20170215-EU – 2<sup>nd</sup> Request

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Charlotte County (LCEC Territory) Miles of Distribution Line

Overhead	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	62.9	62.9	62.9	62.8	62.7	62.7	62.6	63.2	63.1	62.7	61.4
2 phase	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
3 phase	20.4	20.7	20.7	20.7	20.7	20.7	20.5	20.5	20.5	20.6	20.7
TOTAL	85.4	85.8	85.8	85.7	85.6	85.6	85.3	85.9	85.8	85.5	84.3

Charlotte County (LCEC Territory) Miles of Distribution Line

Underground	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	0.7	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	2.7
2 phase	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 phase	1.6	1.2	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.1	0.2
TOTAL	2.3	1.5	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.6	2.9

Note: These numbers do not include Secondary or Service Conductor. Transmission is listed in Table below.

Lee County (LCEC Territory) Miles of Distribution Line

Overhead	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	2,278.0	2,276.9	2,277.6	2,282.5	2,288.3	2,294.2	2,300.8	2,318.0	2,336.1	2,337.4	2,315.4
2 phase	46.1	46.4	46.3	46.5	46.0	45.8	46.1	45.8	46.1	46.4	48.3
3 phase	651.4	650.5	649.9	642.1	637.5	625.4	616.9	599.2	574.8	561.9	522.1
TOTAL	2,975.5	2,973.8	2,973.8	2,971.1	2,971.7	2,965.5	2,963.9	2,963.0	2,956.9	2,945.8	2,885.8

Lee County (LCEC Territory) Miles of Distribution Line

Underground	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	327.9	327.3	326.9	329.0	352.9	358.0	362.8	366.8	363.6	356.7	478.7
2 phase	6.8	6.8	6.8	6.5	4.1	3.5	2.6	2.2	2.3	2.3	0.2
3 phase	127.7	125.9	124.6	122.0	112.4	106.4	102.9	100.5	97.4	92.1	29.5
TOTAL	462.4	459.9	458.3	457.5	469.4	467.9	468.3	469.5	463.3	451.1	508.5

Note: These numbers do not include Secondary or Service Conductor. Transmission is listed in Table below.

LCEC Response to Docket No. 20170215-EU – 2<sup>nd</sup> Request

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Collier County (LCEC Territory) Miles of Distribution Line

Overhead	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	386.6	385.8	386.7	386.6	387.7	388.9	391.0	396.2	396.8	400.3	400.9
2 phase	43.9	44.0	44.1	44.1	46.3	46.8	46.4	45.1	45.3	45.3	46.9
3 phase	290.3	288.9	288.7	288.5	285.7	283.6	282.0	278.3	276.8	270.0	268.1
TOTAL	720.8	718.6	719.5	719.2	719.6	719.4	719.4	719.6	718.8	715.6	716.0

Collier County (LCEC Territory) Miles of Distribution Line

Underground	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	75.8	71.1	68.3	71.6	83.4	89.9	89.4	88.0	87.2	85.0	111.6
2 phase	3.8	3.8	4.5	3.5	3.0	0.6	0.6	0.9	0.8	0.8	0.0
3 phase	63.1	60.8	58.0	56.3	51.1	48.7	48.5	45.0	43.5	41.8	17.0
TOTAL	142.7	135.7	130.7	131.4	137.5	139.2	138.4	133.9	131.6	127.6	128.7

Note: These numbers do not include Secondary or Service Conductor. Transmission is listed in Table below.

Hendry County (LCEC Territory) Miles of Distribution Line

Overhead	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	72.5	72.5	72.5	72.6	72.8	72.7	72.1	71.7	70.7	70.0	67.1
2 phase	9.8	10.3	10.2	10.2	10.2	10.2	10.2	10.1	10.1	10.1	10.0
3 phase	68.3	68.3	68.3	68.3	66.4	66.2	66.7	66.0	65.2	64.1	63.5
TOTAL	150.6	151.0	151.0	151.0	149.4	149.1	149.0	147.7	145.9	144.2	140.6

Hendry County (LCEC Territory) Miles of Distribution Line

Underground	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	1.5
2 phase	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 phase	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.0
TOTAL	1.6	1.5	1.5	1.5	1.1	1.0	1.0	1.0	1.0	0.9	1.5

Note: These numbers do not include Secondary or Service Conductor. Transmission is listed in Table below.

LCEC Response to Docket No. 20170215-EU – 2<sup>nd</sup> Request

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Broward County (LCEC Territory) Miles of Distribution Line

Overhead	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.0	3.0	3.0	1.7
2 phase	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
3 phase	19.6	19.6	19.6	19.6	19.6	19.6	19.6	20.3	20.4	20.4	19.6
TOTAL	21.4	21.4	21.4	21.4	21.4	21.4	21.4	23.4	23.5	23.5	21.3

Broward County (LCEC Territory) Miles of Distribution Line

Underground	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1 phase	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7
2 phase	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 phase	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2
TOTAL	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9

Note: These numbers do not include Secondary or Service Conductor. Transmission is listed in Table below.

LCEC Total Miles of Transmission Line

2017	2016	2015	2014	2013	2012	2011	2010
165	165	165	228	219.3	196	194	194

LCEC purchased transmission line from Seminole Electric Cooperative and sold transmission lines to FP&L.

## Forensic Data

2. **For Hurricane Irma, please provide a complete copy of the utility’s post-storm forensic review of damaged infrastructure. If a forensic review was not performed or not documented, please explain why.**

The post-storm forensic review of damaged infrastructure is ongoing and is yet to be completed. The forensic review is being undertaken concurrently with the required FEMA documentation. Design and Engineering Subgroup had documented the damages and placed them on maps in LCEC’s GIS. When the FEMA documentation is complete, LCEC will review the damage as part of the Design Standards Committee Review meeting. As yet, this meeting has not been completed. LCEC is in the process of implementing an Enterprise Software package that will impact the Distribution Design and Warehouse functions. This upgrade will require a review of the Design Standards. A decision was made to update the Design Standards as part of the software upgrade. This Design Standards review was scheduled for 2018 before Hurricane Irma restoration. It has been determined that the most cost efficient process for LCEC is to incorporate any changes identified in the Irma forensic review into the Software Upgrade Standards.

## Coordination

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

**a. Storm preparation**

Key Account Executives meet regularly with each local government entity regarding restoration planning, response efforts, and planning related to communication, restoration, and other mutual assistance needed to include law enforcement, bridge closings, mandatory evacuation, shelters, critical facilities, etc. PR Manager is frequently in contact with Lee County PIO regarding communication and safety planning.

**b. Critical infrastructure**

Normal routine contact with local governments is made as needed for permitting new facilities.

**c. Tree trimming, planting or relocation of trees**

- Participated in Arbor Day activities (April 21, 2017) with the City of Cape Coral. Theme “Right Tree, Right Place”
- Worked our Main Feeder Targeted Tree Removal initiative in Marco, Sanibel and Big Cypress. We coordinate this initiative with Key Accounts and city/government officials
- Participate in Cape Coral Leadership visits to LCEC and manning a station to talk about “Right Tree’ Right Place”
- Notify Sanibel, Marco, and Cape Coral when circuit trim work will be performed for the year.
- Monthly Mailers

**d. Hardening and underground projects**

Facilities and system are operated and maintained on a continual basis, and contact with local, state, and federal governmental agencies is made as needed for construction.

**e. Shared facilities**

None

**f. Other**

None

**4. Please complete the following tables on county and state Emergency Operations Centers staffing for Hurricane Irma.**

<b>Staffing for City/County Emergency Operations Centers</b>			
<b>Number of Utility Personnel</b>	<b>Function</b>	<b>Hours Available</b>	<b>Hours On-Site/Active</b>
1	Liaison for Lee County	24/7 until all restored	~252
2	Liaison for Collier County	24/7 until all restored	~282
1	Liaison for City of Cape Coral	24/7 until all restored	~216
1	Liaison for City of Sanibel	24/7 until all restored	~30
1	Liaison for City of Marco Island	24/7 until all restored	~20
1	Liaison for Everglades City	24/7 until all restored	~192



<b>Staffing for State Emergency Operations Centers</b>			
<b>Number of Utility Personnel</b>	<b>Function</b>	<b>Hours Available</b>	<b>Hours On-Site/Active</b>
1	Remote liaison for State	24/7 until all restored	~30

**Solar**

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

In order to operate safely, net metering locations require an automatic transfer switch (ATS). This switch is designed to open anytime source (utility) power is lost. The reason for this is to help insure the safety of the Utility Linemen and women who are working to restore power. If the ATS does not open, and the net metering account produces power, it will back feed through the line and energize the line presenting an electrocution potential.

It is worth noting, the Transfer Switch is a requirement for backup generators as well. If the backup/emergency generator has an automatic start function, an Automatic Transfer Switch (ATS) is required. These rules are established by the National Electric Code (NEC).

Because the solar system is the property of the consumer, LCEC is not typically made aware of any failures. If the consumer’s equipment is operating properly, the solar system should protect itself from damage as well as prevent power from being feed back onto the utility grid during an outage. Should this equipment fail, the safety procedures in place for the Lineworks should protect them from harm.

**a. The number of failures**

See above.

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

See above.

**c. Possible failure remediation and associated cost.**

See above.

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

See above.

- e. Discuss whether the failures contributed to an increase or decrease in the utility's service.**

See above.

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

See above.

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

LCEC follows standard safety protocols and procedures to insure Lineworkers safety during all phases of restoration, and normal day to day work. It is hoped that all consumer owned generation, both solar and backup generators, is operating safely as specified by the National Electric Code, NEC. All Lineworkers follow safety procedures in order to remain safe in the event the consumer owned generation is not operating as required by NEC.

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

See above.

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

See above.

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

Most Net Metering installations require a utility supplied power source to use as a reference in order to produce the 120/240 VAC 60 Hz power. In order to operate without the utility supplied reference, the consumer would be entirely responsible for the required equipment.

- a. If yes, please provide the following information:**

- Please describe the suggested changes to the utility's interconnection.**

See above.

- If the utility is not pursuing the interconnection changes please explain why.**

See above.

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

The consumer will have to purchase equipment to allow the system inverter to produce power at the required voltage and frequency. This is entirely the consumer's responsibility.

- 9. Without compromising safety, please describe any potential changes to rules or tariffs pertaining to utility interconnections with customer-owned solar generation that would enable the customer's facilities to be energized by its solar generation should the utility be unable to provide electric service due to a future storm event that damages utility infrastructure.**

The consumer will have to purchase equipment to allow the system inverter to produce power at the required voltage and frequency. This is entirely the consumer's responsibility.

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

LCEC has no utility-scale solar generation.

- a. The number of failures.**

See above.

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

See above.

- c. Possible failure remediation and associated cost.**

See above.

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

See above.

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

See above.

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

LCEC has no utility-scale solar generation.

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

See above.

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

See above.