TCEC Tri-County Electric Cooperative, Inc.

A Touchstone Energy® Cooperative

December 19,2017

State of Florida
Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Response to Staff's First Data Request
Docket No. 20170215-EU
Review of Electric Utility Hurricane Preparedness and Restoration Actions

Dear Madam or Sir:

Enclosed please find Tri-County Electric Cooperative, Inc.'s Response to Staff's First Data Request for the above-referenced matter which are being filed electronically on this date via Clerk's Office tab and Electronic Filing Web form.

Please do not hesitate to contact me if you have any questions or comments.

Sincerely,

H. Julius Hackett
Chief Executive Officer

HJH/eh
Enclosures

2862 West US 90 ■ Madison, Florida 32340
850.973.2285 ■ 800.999.2285 ■ Fax 850.973.1209
www.tcec.com

RE: Docket No.: 20170215-EU – Review of Electric Utility Preparedness and Restoration Actions

"TRI-COUNTY ELECTRIC COOPERATIVE, INC.'S RESPONSE TO STAFF'S FIRST DATA REQUEST"

Staging for Utility Personnel and Mutual Aid

1. ***Hermine***

a. Informal storm preparedness discussions are held with department managers at least seven days in advance of potential storm impact within our service territory. Our Cooperative's Emergency Restoration Plan (ERP) and assigned employees are included in daily planning discussions within 96 hours of storm impact within our region.

b. Storm discussions includes availability of utility personnel, equipment and materials, projected storm impacts and other logistical challenges. First conference call meeting held Sep. 1, 2016 with Florida Electric Cooperatives Association (FECA) and member cooperatives.

Mutual aid requirements were assessed and discussed by phone and/or email with FECA Sep. 1 – 2, 2016.

c. Aug. 30, 2016 requested mutual aid consisting of six full construction crews via FECA.

Irma

a. Information storm discussions are held with department managers at least seven days in advance of potential storm impact within our service territory. Our Cooperative's ERP and assigned employees are included in daily planning discussions within 96 hours of storm impact within our region.

b. Conference call with FECA and member cooperatives to discuss potential storm impacts and available mutual aid resources began on September 6, 2017. Follow up calls and/or emails to discuss mutual aid/logistics held daily until storm restoration was completed.

c. Mutual aid requested on Sep. 8, 2017.

Matthew

a. Informal storm preparedness discussions are held with department managers at least seven days in advance of potential storm impact within our service territory. Our Cooperative's ERP and assigned employees are included in daily planning discussions within 96 hours of storm impact within our region.

b. Conference call with FECA and other member cooperatives on Oct. 4 – 5, 2017. No major storm impact was anticipated.

c. None requested.

2. All employees are involved in a major storm restoration effort as described in the Cooperative's ERP 2017. The Table of Contents of the ERP is attached as **Exhibit "A"** and the full ERP can be viewed locally at our Cooperative's Headquarters Office in Madison, Florida.

3. Costs begin to accrue for mutual aid once the crews begin their travel to our service territory. (in accordance with their personnel policy)

Damage Assessment Process

4. Utility personnel begin assessing the damage by observing wind speed reports and incoming calls and visual evidence of downed trees. These indicators serve as a barometer of the amount of damage on the electric system. The Supervisory Control and Acquisition (SCADA) system sends alarms when transmission or substation circuits open. Reports of field conditions are forwarded to the operations center from crews who are initially assigned to areas of high priority. All field personnel are involved with assessing and reporting damage while they are enroute to their work assignments. We did not use dedicated damage assessment teams since the level of damage allowed a "find and fix" strategy. [Storm damage

photographs can be view at the Cooperative's Headquarters Office in Madison, Florida]

5. Field assessments and repairs are performed concurrently. Once a crew is mobilized and working at a location on a specific circuit, another crew member will patrol the remainder of the circuit and advise System Control (Dispatch Center) of their findings. Assessment data is recorded on the outage device within the Outage Management System (OMS). Reports are generated daily and disseminated to key personnel using the information in OMS.

Restoration Workload

6. As soon as it is safe to work, outage restoration efforts begin. Restoration efforts start with repairs to transmission facilities, then substation outages, then critical loads, then the circuits highest number of people out.

7.

Hermine

Title	Years of Experience	Number of field personnel
Manager of Operations	37	109

Matthew
N/A

Irma

Manager of Operations	38	124

Maria
N/A

Nate
N/A

8. At the end of each work day, all open outages are reassessed and re-prioritized and assigned to appropriate crews based on their level of experience and the types of vehicles and equipment of the crew.

9. When the system has reached approximately 98 percent of completed restoration, mutual aid crews are released.

Staffing Considerations

10.

	Hermine	***Irma***
a.	7 days	none
b.	9 days	7 days
c.	1554	1275
d.	1512	1086
e.	none	none
f.	none	none
g.	none	none
h.	none	none

11. Fully restored when 98% of members who are able to receive electric service safely are energized.

Customer Communication

12. a. Total number of meters

Hermine

Jefferson	3474
Madison	6893
Taylor	6945
Dixie	579
Lafayette	48

Irma

Jefferson	3519
Madison	6980
Taylor	7059

Dixie	595
Lafayette	49

b. Customers Out by County

Hermine

Jefferson	2449
Madison	5210
Taylor	4638
Dixie	529
Lafayette	44

Irma

Jefferson	3383
Madison	6116
Taylor	6649
Dixie	590
Lafayette	47

13. Customer Service Representatives work within the call center. They are tasked with answering phone inquiries regarding restoration and any additional service requests Their storm responsibilities were consistent with previous extended outages but with extended work hours.

14. 7-9

a. No, many cooperative employees from various departments have the training and technology to assist members via phone and email during the restoration process. These employees were utilized in both named storm events affecting TCEC.

15. ***Hermine*** – 13,727 calls; ***Irma*** – 14,804 calls

16. Call Center, Email, Social Media (Facebook), TCEC Website, TCEC Mobile App, Text messaging software and face-to-face communication in headquarters or district offices in Madison, Jefferson and two offices in Taylor county.

17. Member contacts are processed by the Call Center. Outage information is entered into the OMS System. Information specific to their outage is highlighted and reviewed by personnel in the control center to assess and determine the priority

a. No

18. Member contacts are classified and handled differently based on member type (i.e. agricultural, residential, industrial, medical essential service, community essential services, or general priority concerns).

19. A script is provided along with access to internal outage map and open internal communication through email, phone, and instant messaging between MSRs, staff and personnel in system operations.

a. Frequently Asked Question documents with corresponding scripts are distributed to Member Service Representatives at the beginning of the restoration process. Updates are distributed at 8:00 AM daily during extended outage situations and every 3-4 hours throughout restoration progress.

Scripts are created using information provided to the Community Relations Specialist from system operations, outage map data, frequent customer enquiry responses and CEO/ department manager updates.

20. **a.** System Operation personnel provides estimates based on reported field conditions and allocated resources.

b. Customers are notified through Text message if enrolled. Times, when available, are updated on outage map. Social Media is also used to update customers on restoration times that will affect a large area or population.

c. System Operation updates times with the OMS System.

d. Viewed on the Outage Map on our website.

Material Considerations

21. a. We have our own fuel storage tanks used for both utility personnel and mutual aid partners.
b. During Irma, diesel and gas were both unavailable in our Taylor county areas.
c. We were able to work around the fuel shortages.
d. No issues

22. None

Restoration Process

23. ***Hermine***

a. Preparation and planning began days in advance.
b. Mutual Aid was ordered on August 30. 2016.
c. 1st outage was September 1, 2016 at 2:21 P.M.
d. Internal crews were deployed and worked until September 1, 11:30 P.M and came in for stand-down.
e. Landfall occurred September 2, 2016 1:30 A.M.
f. Approximately 13,000 were out of power initially.
g. Restoration efforts began at 6 am September 2, 2016 for utility personnel.
h. Mutual aid crews began to assist cooperative on the afternoon of Thursday, September 1st.
i. More crews were added each day.
j. All mutual aid crews were released on Tuesday, September 6th as the last outages were being closed.

Irma

a. Preparation and planning began days in advance.
b. Mutual Aid was finalized on September 8, 2017.
c. 1st outage was during the afternoon of September 10, 2017.
d. Internal crews were deployed and worked until 11:59 P.M. on September 10, 2017 and came in for stand-down.
e. Landfall occurred September 11,2017 around 4:00 A.M.

f. Approximately 16,000 were out of power on September 11, 2017 at 9 A.M.
g. Restoration efforts began at 10 am on September 11, 2017 for utility personnel.
h. Mutual aid crews began to assist the cooperative on September 12, 2017.
i. More crews were added each day as they became available.
j. All mutual aid crews were released on Friday, September 15, 2017 as the last outages were being closed.

24. a. We review the plan collectively as a staff.

b. The ERP is updated annually to reflect changes to available resources, work environment, regulations and general lessons learned.

c. Only minor adjustments were made to the ERP between 2015 – 2017 to reflect changes in personnel.

25. Response is the same as stated in 24.

Outages

26. For both Hurricanes Hermine and Irma, the following counties were affected: Jefferson, Madison, Taylor, Dixie.

27.

Weather Impact				
County	Max Sustained Winds (MPH)	Max Gusts (MPH)	Max Rainfall (inches)	Max Storm Surge (Feet)
Matthew	N/A	N/A	N/A	N/A
Hermine	Taylor (75 mph) Jefferson (75 mph) Madison (65 mph)	Taylor (90 mph) Jefferson (90 mph) Madison (80 mph)	Taylor (7”) Jefferson (7”) Madison (7”)	Taylor (5-6 ft.) Jefferson (N/A) Madison (N/A)
Irma	Taylor Jefferson Madison	Taylor (48 mph) Jefferson (60 mph) Madison (62 mph)	Taylor (4”) Jefferson (3”) Madison (4”)	Taylor (1 ft.) Jefferson (N/A) Madison (N/A)
Maria	N/A	N/A	N/A	N/A
Nate	N/A	N/A	N/A	N/A

Hardened and Non-Hardened Structures

28. Available for on-site inspection.

29. Available for on-site inspection.

30. Available for on-site inspection.

31. ***Hermine***

1. Tree failures due to high winds contacting power lines
2. Storm surge
3. Flood damage to underground or pad mounted equipment
4. Thunderstorms during the restoration period

Irma

1. Tree failures due to high winds contacting power lines
2. Flood damage to underground or pad mounted equipment
3. Thunderstorms during the restoration period
4. Power supplier transmission outage

Maria

N/A

Nate

N/A

32. ***Hermine***

1. Trees across roads
2. Flooding
3. Power supplier transmission outage
4.

Irma

1. Power supplier transmission outages (unacceptable response times)
2. Not allowed to make repairs to power supplier's transmission lines
3. Travel delays for mutual aid crews (heavy traffic volume)
4. Access to lodgings for mutual aid crews

Maria

N/A

Nate

N/A

33. N/A

34. None

Critical Infrastructure Restoration

35. See attached **Exhibit "B"**

Underground Facilities

36. During Hermine, we had one single phase underground primary outage with five people affected.

37. **a.** None – Member pays cost difference for underground utilities

b. None – Member pays cost difference for underground utilities

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Hurricane Hermine - CIF							
Facility Type	County	Restoration Time Minutes	Outage Cause	Repair	Number of Facilities Requiring		
Dairy	Jefferson	212	Weather	Substation	Distribution	Repair	Replace
Nursing Home	Madison	583	Trees	Feeder OH	Substation	1	0
Water Plant	Taylor	3	Trees	Feeder OH	Feeder OH	26	0
Lift Station	Madison	340	Weather	Feeder OH	Lateral OH	40	0
Lift Station	Madison	340	Weather	Feeder OH	Service OH	1	0
Lift Station	Madison	340	Weather	Feeder OH			
Lift Station	Madison	212	Weather	Substation			
Lift Station	Madison	121	Tree	Feeder OH			
Lift Station	Madison	1345	Wind	Lateral OH			
Lift Station	Madison	583	Trees	Feeder OH			
Lift Station	Madison	583	Trees	Feeder OH			
Lift station	Madison	349	Trees	Feeder OH			
Cell Tower	Jefferson	891	Trees	Lateral OH			
Cell Tower	Madison	349	Trees	Lateral OH			
Cell Tower	Taylor	466	Weather	Lateral OH			
Cell Tower	Taylor	74	Tree	Lateral OH			
Cell Tower	Madison	583	Weather	Feeder OH			
Cell Tower	Jefferson	3899	Trees	Lateral OH			
Cell Tower	Taylor	777	Trees	Lateral OH			
Cell Tower	Taylor	1062	Wind	Lateral OH			
Cell Tower	Madison	128	Weather	Feeder OH			
Cell Tower	Madison	1083	Trees	Lateral OH			
Cell Tower	Madison	128	Trees	Feeder OH			
Cell Tower	Jefferson	2945	Weather	Lateral OH			
Cell Tower	Jefferson	3156	Trees	Lateral OH			
Cell Tower	Taylor	719	Trees	Lateral OH			
Cell Tower	Madison	1438	Trees	Lateral OH			
Cell Tower	Taylor	5481	Trees	Lateral OH			
Cell Tower	Taylor	4589	Trees	Feeder OH			
Cell Tower	Taylor	250	Trees	Lateral OH			
Cell Tower	Taylor	1265	Trees	Lateral OH			
Cell Tower	Taylor	399	Trees	Feeder OH			
Cell Tower	Madison	777	Trees	Lateral OH			
Cell Tower	Taylor	719	Wind	Lateral OH			
Cell Tower	Taylor	506	Trees	Feeder OH			
Cell Tower	Taylor	399	Trees	Feeder OH			
Cell Tower	Jefferson	56	Wind	Lateral OH			
Cell Tower	Jefferson	1463	Weather	Lateral OH			
Cell Tower	Jefferson	891	Wind	Lateral OH			
Cell Tower	Taylor	1154	Wind	Lateral OH			
Cell Tower	Taylor	192	Trees	Feeder OH			
Cell Tower	Madison	635	Trees	Lateral OH			
Cell Tower	Jefferson	1127	Wind	Feeder OH			
Cell Tower	Madison	1083	Wind	Lateral OH			
Cell Tower	Madison	743	Trees	Lateral OH			
Cell Tower	Taylor	735	Trees	Lateral OH			
Cell Tower	Jefferson	2945	Transformer	Service OH			
Cell Tower	Taylor	1154	Wind	Lateral OH			
Cell Tower	Madison	795	Trees	Lateral OH			
Cell Tower	Taylor	506	Trees	Feeder OH			
Cell Tower	Taylor	192	Trees	Feeder OH			
Cell Tower	Madison	340	Trees	Feeder OH			
Cell Tower	Jefferson	1005	Wind	Feeder OH			
Cell Tower	Madison	3442	Trees	Lateral OH			
Cell Tower	Taylor	4589	Trees	Feeder OH			
Cell Tower	Jefferson	2945	Transformer	Service OH			
Cell Tower	Jefferson	2801	Trees	Lateral OH			
Cell Tower	Madison	49	Weather	Feeder OH			
Cell Tower	Taylor	1138	Wind	Lateral OH			
Cell Tower	Taylor	5481	Trees	Lateral OH			
Cell Tower	Madison	1702	Trees	Lateral OH			
Cell Tower	Madison	1128	Trees	Lateral OH			
Cell Tower	Jefferson	619	Weather	Lateral OH			
Cell Tower	Taylor	1138	Wind	Lateral OH			
Cell Tower	Madison	777	Trees	Lateral OH			
Cell Tower	Madison	517	Trees	Feeder OH			
Cell Tower	Taylor	3369	Trees	Lateral OH			
Cell Tower	Taylor	4589	Trees	Feeder OH			
Cell Tower	Taylor	5481	Trees	Lateral OH			
Cell Tower	Madison	1975	Trees	Lateral OH			

Hurricane Irma - CIF							
Facility Type	County	Restoration Time Minutes	Outage Cause	Repair	Number of Facilities Requiring	Repair	Replace
Dairy	Jefferson	2244	Trees	Feeder OH			
Nursing Home	Madison	2	Trees	Feeder OH	Transmission Structure	2	0
Nursing Home	Madison	245	Trees	Feeder OH			
Sherriff	Madison	245	Trees	Feeder OH	Distribution		
Water plant	Taylor	1174	Wind	Transmission Structure	Feeder OH	28	0
Sewer plant	Taylor	1174	Wind	Transmission Structure	Lateral OH	15	0
Lift station	Taylor	1174	Wind	Transmission Structure			
Lift station	Taylor	1174	Wind	Transmission Structure			
Lift station	Taylor	1174	Wind	Transmission Structure			
Lift station	Madison	1763	Trees	Feeder OH			
Lift station	Madison	3175	Trees	Feeder OH			
Lift station	Madison	1763	Trees	Feeder OH			
Lift station	Madison	299	Trees	Feeder OH			
Lift station	Madison	514	Trees	Feeder OH			
Lift station	Madison	2770	Trees	Feeder OH			
Well	Madison	737	Trees	Feeder OH			
Lift station	Madison	245	Trees	Feeder OH			
Lift station	Madison	514	Trees	Feeder OH			
Lift station	Madison	514	Trees	Feeder OH			
Cell Tower	Jefferson	147	Trees	Feeder OH			
Cell Tower	Taylor	77	Trees	Feeder OH			
Cell Tower	Jefferson	4626	Trees	Lateral OH			
Cell Tower	Taylor	1900	Trees	Lateral OH			
Cell Tower	Taylor	28	Trees	Lateral OH			
Cell Tower	Madison	3180	Trees	Lateral OH			
Cell Tower	Madison	4396	Trees	Feeder OH			
Cell Tower	Jefferson	5	Trees	Lateral OH			
Cell Tower	Madison	1388	Trees	Lateral OH			
Cell Tower	Taylor	1230	Broken Pole	Transmission Structure			
Cell Tower	Taylor	3221	Trees	Feeder OH			
Cell Tower	Taylor	1283	Broken Pole	Transmission Structure			
Cell Tower	Madison	3127	Trees	Lateral OH			
Cell Tower	Taylor	394	Trees	Feeder OH			
Cell Tower	Taylor	1194	Broken Pole	Transmission Structure			
Cell Tower	Taylor	1230	Broken Pole	Transmission Structure			
Cell Tower	Jefferson	90	Trees	Feeder OH			
Cell Tower	Jefferson	147	Trees	Feeder OH			
Cell Tower	Taylor	282	Trees	Lateral OH			
Cell Tower	Jefferson	251	Wind	Feeder OH			
Cell Tower	Madison	3051	Trees	Lateral OH			
Cell Tower	Taylor	46	Trees	Feeder OH			
Cell Tower	Jefferson	28	Trees	Lateral OH			
Cell Tower	Jefferson	28	Trees	Lateral OH			
Cell Tower	Taylor	394	Trees	Feeder OH			
Cell Tower	Madison	3175	Trees	Lateral OH			
Cell Tower	Taylor	1230	Broken Pole	Transmission Structure			
Cell Tower	Jefferson	1758	Trees	Feeder OH			
Cell Tower	Taylor	1283	Broken Pole	Transmission Structure			
Cell Tower	Taylor	3221	Trees	Feeder OH			
Cell Tower	Madison	111	Trees	Feeder OH			
Cell Tower	Taylor	1647	Trees	Lateral OH			
Cell Tower	Madison	3127	Trees	Lateral OH			
Cell Tower	Madison	2880	Trees	Feeder OH			
Cell Tower	Taylor	1230	Broken Pole	Transmission Structure			
Cell Tower	Taylor	1283	Broken Pole	Transmission Structure			
Cell Tower	Taylor	3221	Trees	Lateral OH			
Cell Tower	Madison	1388	Trees	Lateral OH			