Beaches Energy Services –
PSC Storm Information Request

December 15, 2017

Allen Putnam, Director of Beaches Energy Services

Staging for Utility Personnel and Mutual Aid

1. Please describe the pre-storm coordination process for Hurricanes Hermine, Matthew, Irma, Maria, and Nate. The description should include:

   a. Dates and topics of internal meetings held after each storm was named.

Hurricane Hermine:
09/01/2016:
- 9:00 AM - Tropical storm update/briefing – storm track and preparations update
- 4:00 PM – Hurricane Briefing – storm track and storm preparations update

Hurricane Matthew:
10/05/2016:
- 11:00 AM – Hurricane Planning Meeting – storm track and preparations update

10/06/2016:
- 9:00 AM – Hurricane Preparation Meeting – storm track and preparations update
- 2:00 PM – Hurricane Preparation Meeting – storm track and preparations update
- 4:30 PM – Hurricane Preparation Meeting – storm track and preparations update

Hurricane Irma:
09/06/2017:
- 11:00 AM – Hurricane Planning Meeting – storm track and preparations update

09/08/2017:
- 9:30 AM – Hurricane Briefing – storm track and preparations update

09/09/2017:
- 10:30 AM – Hurricane Briefing – storm track and preparations update

09/10/2017:

- 9:00 AM – Hurricane Briefing – storm track and preparations update

Hurricane Maria: Not applicable
Hurricane Nate: Not applicable

b. Dates and topics of external communication pertaining to mutual aid held after each storm was named.

Hurricane Hermine: Not applicable

Hurricane Matthew:
10/05/2017:

- 9:00 AM - Contacted Lewis Tree Service concerning additional tree crews for Hurricane Matthew

10/06/2017:

- 10:19 AM – Sent back signed copy of tree crew rates from Lewis Tree Service (crews en-route from Texas and Ohio – one (1) crew each (4) personnel from each state – 8 total personnel and equipment)
- 12:11 PM – Confirmed mutual aid from GRDA – sending three (3) crews (10 personnel), three (3) bucket trucks, one (1) digger derrick truck and one (1) pole trailer

10/07/2017:

- 6:00 AM – GRDA crews arrive from Oklahoma
- 3:00 PM – Contacted Gainesville Regional Utilities (GRU) to request a transmission crew for tomorrow to assist in putting the transmission feed from Sampson substation back up. Confirmed that a transmission crew would head our way mid-morning on 10/08/2017.

10/08/2017:

- 2:30 PM – GRU transmission crew arrives, transmission line repaired at 3:30 PM

10/09/2017:

- 7:00 AM- Out of state tree crews contracted through Lewis Tree Service arrive.
- 12:00 AM – GRDA crews released to assist JEA

10/10/2017:

- 4:00 PM – Sent four (4) Beaches Energy crews to assist JEA.

10/12/2017:

- 11:00 PM – Beaches Energy crews return from providing mutual aid assistance to JEA

10/14/2017:

- 11:00 AM – Out of state tree crews sent home to Texas and Ohio. In state additional tree crews sent home. Return to normal vegetation management schedule.

Hurricane Irma:

09/05/2017:

- 8:10 AM – Emailed Stan Connally of Gulf Power regarding Statewide Mutual Aid Compact and having an agreement signed between our two utilities.
- 8:23 AM - Contacted Amy Zubaly at FMEA recommending that a link to the most up to date APPA mutual aid listing be sent out. Reason: If the path stays as predicted no one will be willing to release crews.
- 8:55 AM – Contacted FMEA: We would like to reach out to someone in west or northwest Georgia or eastern Alabama who may have 3 or 4 crews that can work 26kV. Who would you suggest we contact?
- 10:33 AM – Contacted Julie Jones at Gulf Power regarding a mutual aid agreement
- 3:07 PM – Contacted Julie Jones at Gulf Power requesting that she forward me a copy of Gulf Power's current Memorandum of Understanding as to Mutual Assistance as soon as possible

09/06/2017:

- 12:18 PM – Sent signed Memorandum of Understanding as to Mutual Assistance to Gulf Power Company
- 1:53 PM – Request mutual aid from Gulf Power Company (Johnathan Gates)- If and when you can release resources can you provide mutual aid services to include: One (1) Transmission crew with associated equipment and three (3) Line Crews with three (3) bucket trucks (minimum 40' working height) and two (2) digger derricks

09/07/2017:

- 4:55 PM – Response from Johnathan Gates of Gulf Power received: At this time, we are still analyzing Southern Company needs as well as needs in the Southeastern Electric Exchange (SEE). Until we feel confident the storm track will not change to affect us, we are still in a "holding" pattern. As soon as I can determine where our resources will go, I'll let you know.

Hurricane Maria: Not applicable
Hurricane Nate: Not applicable

c. Date mutual aid was requested and nature of request.

Hurricane Hermine: Not applicable
Hurricane Matthew:

10/05/2017:

- 9:00 AM - Contacted Lewis Tree Service concerning adding two (2) additional tree crews and equipment
- Confirmed mutual aid from GRDA through FMEA – requested three (3) crews (10 personnel), three (3) bucket trucks, one (1) digger derrick truck and one (1) pole trailer

Hurricane Irma:
09/05/2017:

- 8:10 AM – Emailed Stan Connally of Gulf Power regarding Statewide Mutual Aid Compact and having an agreement signed between our two utilities.

09/06/2017:

- 12:18 PM – Sent signed Memorandum of Understanding as to Mutual Assistance to Gulf Power Company
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Hurricane Maria: Not applicable
Hurricane Nate: Not applicable

2. Please provide a detailed description of the utility's allocation of storm duties for all personnel. This should include a description of each function and the number of utility personnel assigned.

Duties (includes supervisors)	Number of Personnel
System Operations/SCADA Operations	10
Call Center/Runners/Food Preparations	17
Relay-Substation operations & restoration	6
Emergency Operations Center	4
Assessment - laterals and wire down	4
Transmission-distribution restoration	28
Storeroom/Purchasing	3
Storm Management - restoration priorities	3
	75

3. When did the costs for Hurricanes Hermine, Matthew, Irma, Maria, and Nate begin to accrue for receiving mutual aid?

Hurricane Hermine – Not applicable
Hurricane Matthew - 10/6/2016 12:00 pm
Hurricane Irma – Not applicable
Hurricane Maria – Not applicable
Hurricane Nate – Not applicable

Damage Assessment Process

4. Please provide a detailed overview of the initial damage assessment process for Hurricanes Hermine, Matthew, Irma, Maria, and Nate, including the number of utility employees or contractors involved, their duties, and how initial damage assessment is disseminated within the utility to assist in restoration activities. Additionally, please provide photographs or other visual media that memorializes storm damage, which was documented during the initial damage assessment process.

For **Hurricane Matthew** we knew that all circuits and all customers were without power due to all three transmission lines from the mainland being damaged. However, we knew the major extent of the damage prior to pulling the crews in when sustained winds reached 40 mph. This allowed us to contact Gainesville Regional Utilities to request a transmission crew and bucket truck. In addition, it allowed us to pre-assign crews to the areas where we knew we needed to make repairs before we sent the crews out during the evening after the storm had passed. The assessment team consisted of 5 employees. If we had not known the extent of the damage we would have followed our restoration plan by restoring transmission followed by our list of critical circuits.

For **Hurricane Irma** we knew that all but two circuits were out and 5 customers were without power due to two of the three transmission lines from the mainland being damaged. The assessment team consisted of 8 employees. If we had not known the extent of the damage we would have followed our restoration plan by restoring transmission followed by our list of critical circuits.

Initial damage is discussed within the senior management team and priorities, assignments and goals are set.

5. Please provide a description of how damage assessment data is updated and communicated internally.

Damage assessment is updated immediately via radio to System Operations. This data is disseminated at least hourly to the City of Jacksonville Beach EOC, Beaches Energy Managing Director. Employees answering the phones and posting on social media are also provided with this same information.

Restoration Workload

6. Please provide a detailed description of how the utility determines when and where to start restoration efforts.

   Beaches Energy Services utilizes our priority restoration list to determine where to start restoration. "When" is as soon as it is safe for our crews to work.

7. For Hurricanes Hermine, Matthew, Irma, Maria, and Nate, please complete the following table on workload priority:

Personnel Responsible for Restoration Workload Assignments		
Title	**Years of experience**	**Number of crews managed**
Utilities Superintendent	31	3
C&M Supervisor	17	4
C&M Supervisor	30	6
Managing Director	21	N/A

8. Please provide a description of how restoration workload adjusts based on work completed and updates to damage assessments.

   Workloads adjust based on progress on the priority circuits and direction from the Managing Director and Utilities Superintendent. Damage Assessment is fairly quick for our service territory due to its size. Rarely are any changes required to priorities unless we are made aware of a threat to life or property.

9. If applicable, please describe how mutual aid was determined to be no longer needed following Hurricanes Hermine, Matthew, Irma, Maria, and Nate.

   We did not require mutual aid since we saw no impact from Hurricanes Hermine, Maria and Nate. For Hurricane Irma we had substantially restored our service territory before mutual aid was offered. For Hurricane Matthew we offered our mutual aid crews from Grand River Dam Authority in Oklahoma to both New Smyrna Beach and JEA after day two since we had substantially restored all customers after all of our over 35,000 customers were without power.

Staffing Considerations

10. Regarding Hurricanes Hermine, Matthew, Irma, Maria, and Nate, please respond to the following, please provide the following:

    a. Days of lodging provided for Utility personnel (Person-Days)
       Hurricane Matthew = 2 Days Hurricane Irma = 2 Days

b. Days of lodging provided for mutual aid partners (Person-Days)
Hurricane Matthew – 2 Days Hurricane Irma = N/A
c. Number of meals provided for Utility personnel
Hurricane Matthew – 9 meals Hurricane Irma = 15 meals
d. Number of meals provided for mutual aid partners
Hurricane Matthew - 7 meals Hurricane Irma – N/A
e. Number of Utility personnel injuries
Hurricane Matthew = 0 Hurricane Irma – 1
f. Number of mutual aid partner injuries
Hurricane Matthew = 0 Hurricane Irma – N/A
g. Number of Utility personnel fatalities
Hurricane Matthew = 0 Hurricane Irma – 0
h. Number of mutual aid partner fatalities
Hurricane Matthew =0 Hurricane Irma – N/A

Please note any delays in restoration associated with items e-h above. – Not applicable

11. Please provide a detailed description of when your Utility was considered fully restored from each named storm event.

Hurricane Matthew – 10/09/2016 5:50 PM
Hurricane Irma – 09/13/2017 4:00 PM

Hurricanes Hermine, Maria and Nate – Not applicable

Customer Communication

12. Regarding Hurricanes Hermine, Matthew, Irma, Maria, and Nate, please respond to the following for each county in the Utility's service territory affected by the storms.
a. Total number of customer accounts
b. Peak number of outages

Hurricane Matthew
a. Total number of customer accounts – 35,034
b. Peak number of outages – 35,034

Hurricane Irma
a. Total number of customer accounts – 35,191
b. Peak number of outages – 33,097

Hurricanes Hermine, Maria and Nate – Not applicable

13. Please provide how call center customer service representatives were utilized before, during and after Hurricanes Hermine, Matthew, Irma, Maria, and Nate.

Hurricanes Irma and Matthew:

Before – Informing and preparing our customers through the website and social media.
During – Updating social media and responding to email outage questions.
After – Assisting after-hours emergency call center for post-storm information collection. A phone bank was set up at System Operations where representatives collected, documented, and forwarded trouble calls to Emergency Dispatch. Additionally, representatives responded to social media and updated social media information to the public.

14. Please provide the number of customer service representatives the Utility had during Hurricanes Hermine, Matthew, Irma, Maria, and Nate.
    a. Were there additional personal deployed or 3rd party entities utilized to help address customer contacts during each named storm event? If so, how many?

Hurricane Hermine – Not Applicable
Hurricane Matthew – 6
Hurricane Irma – 15
Hurricane Maria – Not applicable
Hurricane Nate – Not applicable

Yes, other personnel were utilized in our back-up call center as shown in the table above under question 2. Additionally, the City's Deputy City Manager and the City Manager's Administrative Assistant assisted with social media.

15. Please provide the number of customer contacts received by the customer call center(s) during Hurricanes Hermine, Matthew, Irma, Maria, and Nate.

Hurricane Hermine – Not Applicable
Hurricane Matthew – 6,000
Hurricane Irma – 8,800
Hurricane Maria – Not applicable
Hurricane Nate – Not applicable

16. Please provide all methods (call centers, email, Utility website, etc.) utilized to submit and collect customer contacts before, during, and after Hurricanes Hermine, Matthew, Irma, Maria, and Nate.

Hurricane Hermine – Not Applicable
Hurricane Matthew – Call Center, Emergency Call Center Personnel, Dispatch, CodeRed, Email, Facebook, Twitter, and personnel in the field
Hurricane Irma – Call Center, Emergency Call Center Personnel, Dispatch, CodeRed, Email, Facebook, Twitter, and personnel in the field
Hurricane Maria – Not applicable
Hurricane Nate – Not applicable

17. Please describe the step by step process(es) by which customer contacts are addressed before, during, and after a named storm event. If different during each timeframe, please describe the step by step process during each separately.

For Hurricanes Matthew and Irma:

For Hurricanes Matthew and Irma:

1. All Life Support customers are contacted pre-storm to be sure they are either evacuating or have an emergency plan in place.
2. All customers are provided the following:
   - **a.** evacuation information
   - **b.** Hurricane Watch/Warning info
   - **c.** Notifications as to if/when conditions become too dangerous for our crews to work safely and
   - **d.** when restoration will commence after conditions improve
3. Customer service and dispatch provide storm and restoration information via phone, social media, and CodeRed Emergency Alert System pre-storm, during and post-storm.

a. Did the Utility identify any delays in restoration as a result of addressing customer contacts related to Hurricanes Hermine, Matthew, Irma, Maria, and Nate? If so, please provide detail.

We did not experience any delays in restoration as a result of addressing customer contacts for Hurricanes Matthew and Irma. For Hermine, Maria and Nate this is not applicable.

18. Please provide whether or not customer contacts are categorized (by concern, complaint, information request, etc.) If so, how are they categorized? If not, why not?

Hurricane Irma and Matthew all customer calls were categorized and prioritized by:

Emergency or "dangerous situation" are given the highest priority- (live wire(s) down, wires on fire, wire on vehicle, poles down, etc.). No power calls are given the next highest priority and partial/fluctuating power, tree limbs on wires, etc. are assigned the next highest priority. By circuit outage- if customers were reporting a power outage and they were on a circuit that was locked out, they were categorized as such, but still retained for call-back once the circuit is restored.

19. Please provide a detailed description of how customer service representatives are informed of restoration progress.

a. Is there a script provided to each customer service representative to relay restoration progress to customers? If so, what is the process by which the script is created?

As circuits are restored, customer service was notified by the System Operations department as to which areas should be restored. Customer service was also given a Circuit

identifier sheet that outlined the major roads that fell under each circuit. A script was also provided to each customer service representative to help guide them to collect critical information necessary to categorize, prioritize, and then resolve each issue

20. Please describe the process the Utility uses to notify customers of approximate restoration times. The response should include at a minimum:
    a. How restoration time estimates were determined – Times were estimated based on the amount of damage and the available crews and equipment
    b. How customers are notified – Customers were notified via phone, CodeRed (text, email, phone), our website and through social media
    c. How restoration time estimates are updated – estimated restoration times are updated related to progress against restoration goals and are re-assessed based on additional resources (line crews and tree crew) if and when mutual aid assistance is utilized
    d. How restoration time estimates are disseminated internally, to the county and state Emergency Operations Centers, and to the public – System Operations along with utility employees at the City's EOC document and review the data hourly and disseminate to all parties who request the data. We are a member of the Florida Municipal Electric Association (FMEA); therefore, we report our outage numbers and restoration estimates to the State EOC via FMEA. Restoration times are also communicated to customers and the public via phone, CodeRed (text, email, phone), our website and through social media. In addition, we are assessing outage management systems (OMS) in order to better communicate outage information via an outage map.

Material Considerations

21. Regarding Hurricanes Hermine, Matthew, Irma, Maria, and Nate, please provide a description of how vehicle fuel was procured for Utility personnel and mutual aid partners. As part of the response, please answer the following:
    a. Whether or not the Utility has fuel stored for these types of events
    b. Whether or not fuel shortage was an issue during these events
    c. Whether or not there were any delays due to fuel shortage
    d. Whether or not there were enough vehicles available during these events/any issues mobilizing crews

        a. Fuel is stored on site at our Operations and Maintenance facility
        b. Fuel was not an issue for either Hurricanes Matthew or Irma. For Hermine, Maria and Nate this was not applicable.
        c. No shortage was experienced.
        d. There were enough vehicles and no issues mobilizing crews.

22. Please detail any complications or delays such as shortage or delayed delivery of materials for Hurricanes Hermine, Matthew, Irma, Maria, and Nate.

There were no complications or delays in restoration. We did not experience a shortage or delay in delivery of any materials.

Restoration Process

23. Please provide a summary timeline of the utility's restoration process for each hurricane: Hermine, Matthew, Irma, Maria, and Nate. The timeline should include, but not limited to, staging, stand-down, deployment, re-deployment, allocation, mutual aid, release of mutual aid, and date last outage was restored.

Hurricane Matthew:

1. Staging – 10/3/2016 to 10/7/2016
2. stand-down – 10/7/2016 2:30 PM
3. deployment – 10/7/2016 8:00 PM
4. re-deployment – N/A
5. allocation – N/A
6. mutual aid – 10/8/2016 7:00 AM
7. release of mutual aid – 10/09/2016 4:00 PM
8. date last outage was restored – 10/9/2016

Hurricane Irma:

1. Staging – 09/04/2017 to 09/06/2017
2. stand-down – 09/10/2017 9:00 PM
3. deployment – 09/11/2017 10:00 AM
4. re-deployment – N/A
5. allocation – N/A
6. mutual aid – N/A
7. release of mutual aid – N/A
8. date last outage was restored – 09/13/2017

24. Please explain how the Utility validates adherences and departures from its storm preparation plan.
    a. If the Utility does not assess departures from its storm plan, explain why not.
        - Not applicable
    b. If the Utility does not document or otherwise memorialize departures from its storm plan, explain why not.
        - Not applicable
    c. Have departures from the Utility's storm preparation plan resulted in modification of the storm preparation plan during 2015 through 2017? If so, please explain how with examples.
        - Yes, after each storm we meet as a team to discuss any departures from our storm plan and document lessons learned

25. Please explain how the Utility validates adherences and departures from its storm restoration plan.

a. If the Utility does not assess departures from its storm restoration plan, explain why not.
   - Not applicable

b. If the Utility does not document or otherwise memorialize departures from its restoration storm plan, explain why not.
   - Not applicable

c. Have departures from the Utility's storm restoration plan resulted in modification of the storm restoration plan during 2015 through 2017? If so, please explain how with examples.
   - Yes, we have assigned storm duties to certain employees/employee groups and changed some of our storm processes as far as assigned personnel are concerned. In addition, from the lessons learned we have procured equipment and changed the requirements for new equipment (heavy equipment and vehicles) to better assist us in restoring power.

Outages

26. Please identify all counties, including reporting regions/division for each county if applicable, that were impacted (had outages or damage) due to Hurricanes Matthew, Hermine, Irma, Maria, and Nate.

Hurricane Matthew:
Duval County service territory (Jacksonville Beach and Neptune Beach)
St. Johns County service territory (Ponte Vedra Beach)

Hurricane Irma:
Duval County service territory (Jacksonville Beach and Neptune Beach)
St. Johns County service territory (Ponte Vedra Beach)

27. Please complete the table below summarizing the wind speed and flooding impacts by county in the utility's service area. If the requested information is not available by county, please provide the information on a system basis. Please provide this information for Hurricanes Matthew, Hermine, Irma, Maria, and Nate.

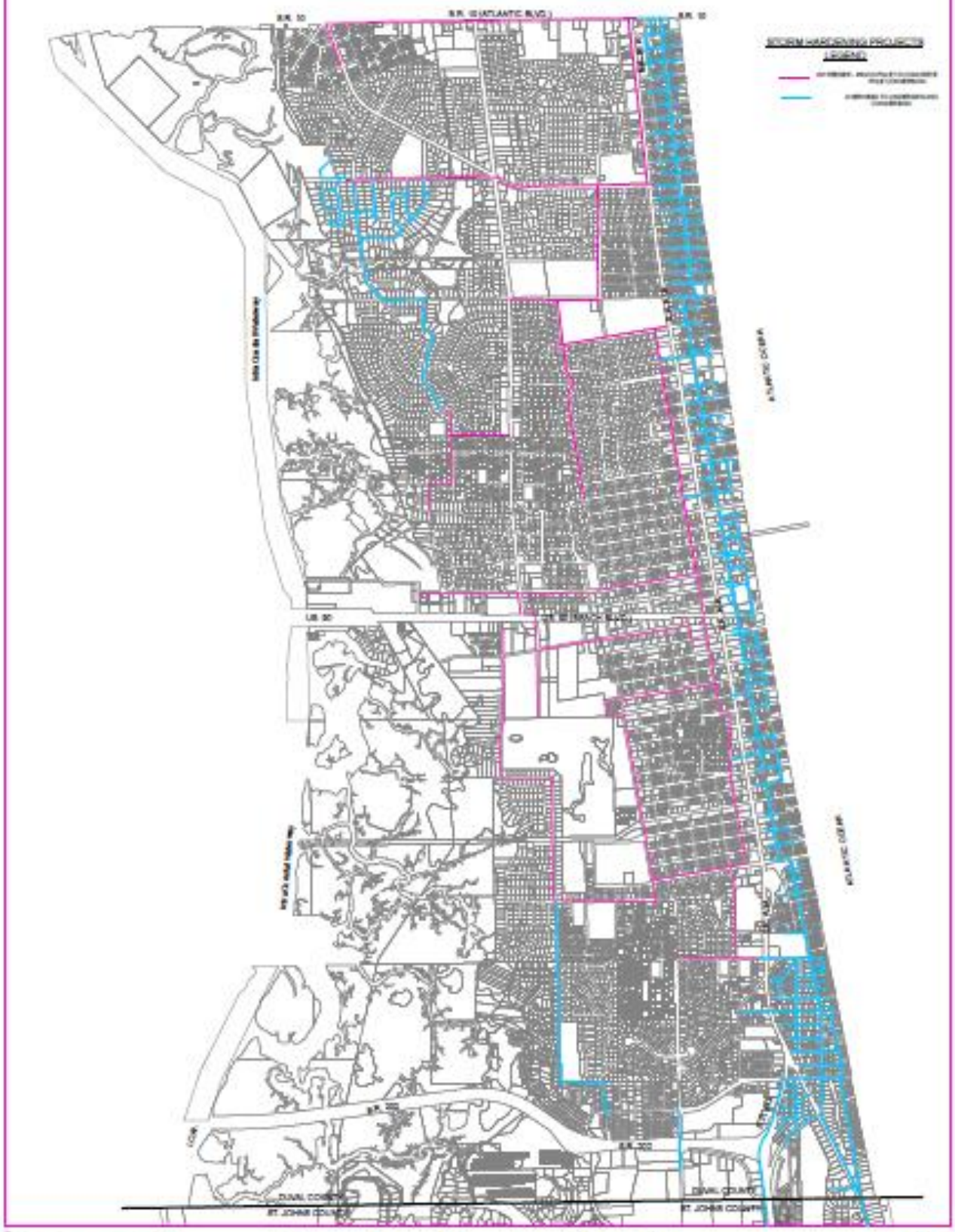
Weather Impact					
Storm	County	Maximum Sustained Winds (MPH)	Maximum Gusts (MPH)	Maximum Rainfall (inches)	Maximum Storm Surge (Feet)
Hermine	Duval	40	53	2.14	0.86
Matthew	Duval	61	76	7.89	4.69
Irma	Duval	56	75	7.96	6.44

This info came from NOAA with the wind speeds and rainfall coming from the Jacksonville Beach Pier, the storm surge gauge is from Mayport. We had no real impact from Maria or Nate so we have no info available.

Hardened and Non-Hardened Structures

28. Please provide a county map or graphic indicating the geographic locations where the Utility's infrastructure was storm hardened after 2006. For purposes of this question, do not include vegetation management.

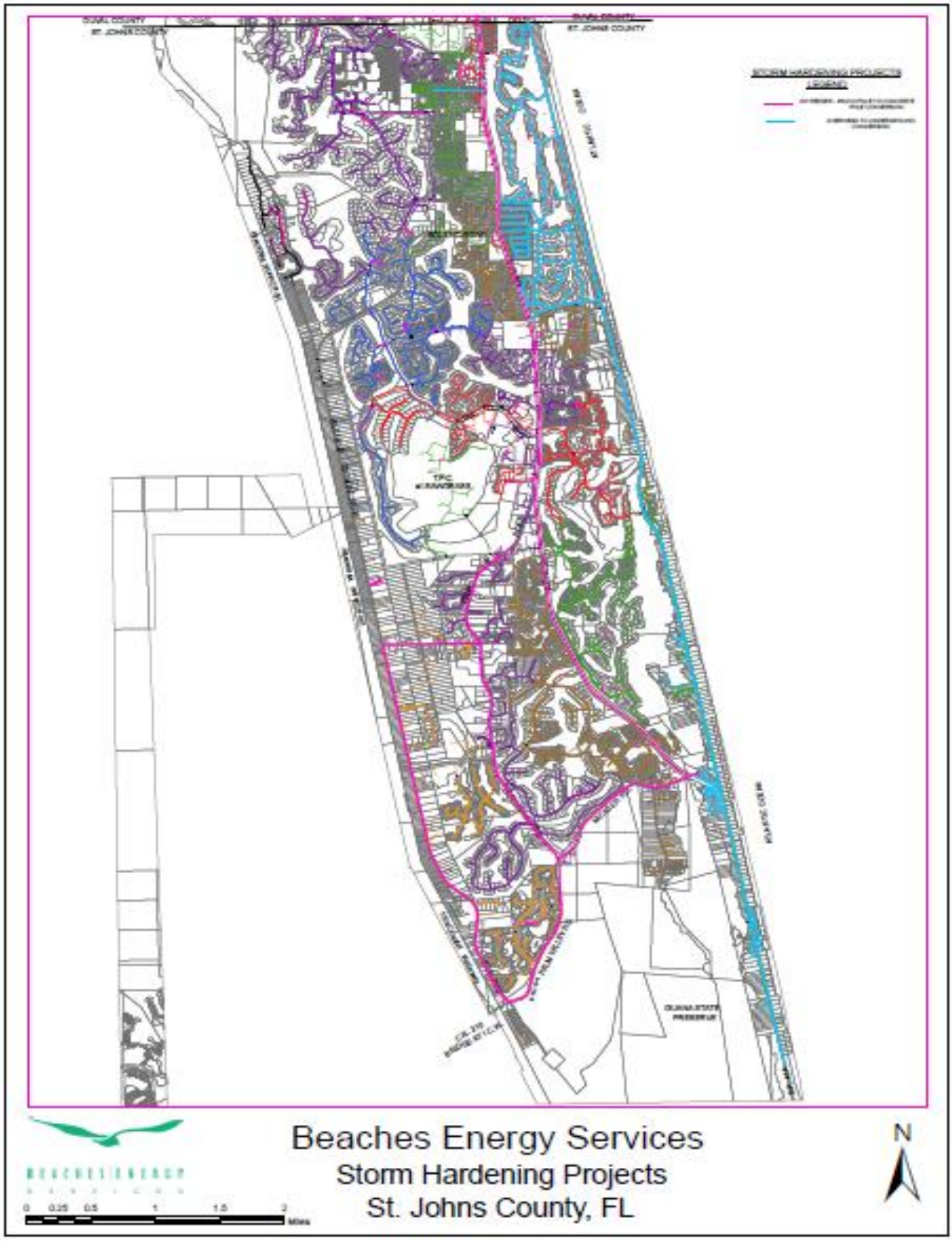
See Next page



Beaches Energy Services

Storm Hardening Projects

Duval County, FL


Beaches Energy Services
Storm Hardening Projects
St. Johns County, FL
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29.

Hardened Facilities - Hurricane Irma		
Hurricane	**Number of Facilities Requiring**	
	Repair	**Replacement**
Transmission		
Structures	3	0
Substations	0	0
Total	**3**	**0**
Distribution		
Poles	1	0
Substation	1	0
Feeder OH	0	0
Feeder UG	2	0
Feeder Combined	27	0
Lateral OH	70	0
Lateral UG	0	0
Lateral Combined	20	0
Total	**121**	**0**
Service		
Service OH	25	0
Service UG	15	0
Service Combined	100	0
Total	**140**	**0**

30. Please complete the table below summarizing non-hardened facilities that required repair or replacement as a result of Hurricanes Matthew, Hermine, Irma, Maria, and Nate.

Non-Hardened Facilities - Hurricane Matthew		
Hurricane	**Number of Facilities Requiring**	
	Repair	**Replacement**
Transmission		
Structures	0	0
Substations	0	0
Total	**0**	**0**
Distribution		
Poles	1	0
Substation	0	0
Feeder OH	0	0
Feeder UG	0	0
Feeder Combined	4	2
Lateral OH	5	0
Lateral UG	0	0
Lateral Combined	10	0
Total	**20**	**2**
Service		
Service OH	20	0
Service UG	15	0
Service Combined	50	0
Total	**85**	**0**

Non-Hardened Facilities - Irma		
Hurricane	**Number of Facilities Requiring**	
	Repair	**Replacement**
Transmission		
Structures	0	0
Substations	0	0
Total	**0**	**0**
Distribution		
Poles	0	0
Substation	0	0
Feeder OH	0	0
Feeder UG	0	0
Feeder Combined	1	2
Lateral OH	20	0
Lateral UG	0	0
Lateral Combined	10	0
Total	**31**	**2**
Service		
Service OH	20	0
Service UG	20	0
Service Combined	15	0
Total	**55**	**0**

31. For Hurricanes Matthew, Hermine, Irma, Maria, and Nate, please provide a ranking of the five highest volume of outage causation that impacted the Utility's service area.

For both Hurricanes Matthew and Irma:

Rank	Cause
1	Trees
2	Loss of interconnection
3	Wind
4	Debris
5	Rain

Not applicable for Hurricanes Hermine, Maria and Nate.

32. For Hurricanes Matthew, Hermine, Irma, Maria, and Nate, please provide a ranking of the top five drivers that protracted service restoration time.

For both Hurricanes Matthew and Irma:

Rank	Driver that protracted restoration time
1	Downed trees on lines
2	Debris obstructing roadways
3	Damaged customer equipment
4	Residents returning from evacuation
5	Interconnection restoration

Not applicable for Hurricanes Hermine, Maria and Nate.

33. If applicable, please describe any damage prevented by flood monitors during Hurricanes Matthew, Hermine, Irma, Maria, and Nate.

Beaches Energy Services does not currently employ flood monitors.

34. How many outages were avoided by automated feeder switches during Hurricanes Matthew, Hermine, Irma, Maria, and Nate? Please explain how the data for each event was collected.

One. Baptist Beaches Hospital has an automatic transfer switch to switch from the primary feeder to the reserve feeder. The reserve feeder remained energized at the time

the primary feeder lost power. The data was collected and recorded by our SCADA system.

Critical Infrastructure Restoration

35. Please complete the table below for all critical infrastructure facilities (CIFs), by location (city/county) and facility type, which lost power, the restoration time for the CIFs and the cause of the outage (such as wind, storm-surge, flooding, debris, etc.) and facilities structure type that required replacement and/or repair. Please provide this information for Hurricanes Matthew, Hermine, Irma, Maria, and Nate.

Hurricane (Matthew) – CIF						
CIF Name/Type (i.e. Hospital)	**County/ Location**	**Restoration Time (hours)**	**Outage Cause**	**Number of Facilities Requiring****		
					Repair	**Replace**
Beaches Hospital	Duval	24	Loss of transmission interconnection	***Transmission***		
Neputne Beach Water	Duval	36	Loss of transmission interconnection	Structures	0	0
Neptune Beach Sewer	Duval	36	Loss of transmission interconnection	Substations	0	0
Jacksonville Beach Water #1	Duval	24	Loss of transmission interconnection	**Total**	0	0
Jacksonville Beach Water #2	Duval	24	Loss of transmission interconnection	***Distribution***		
Jacksonville Beach Sewer	Duval	24	Loss of transmission interconnection	Poles	0	0
Sewer St. Johns County				Substation	0	0
ML	St. Johns	48	Loss of transmission interconnection	Feeder OH	1	0
TPC	St. Johns	48	Loss of transmission interconnection	Feeder UG	0	0
Plantation	St. Johns	36	Loss of transmission interconnection	Feeder Combined	0	0
Sawgrass	St. Johns	36	Loss of transmission interconnection	Lateral OH	0	0
Water St. Johns Co			Loss of transmission interconnection	Lateral UG	0	0
ML	St. Johns	48	Loss of transmission interconnection	Lateral Combined	0	0
TPC	St. Johns	48	Loss of transmission interconnection	**Total**	1	0
Plantation	St. Johns	36	Loss of transmission interconnection	***Service***		
Sawgrass	St. Johns	36	Loss of transmission interconnection	Service OH	0	0
				Service UG	0	0
				Service Combined	0	0
				Total	0	0

**Beaches receives power via transmission lines from neighboring utilities on the mainland. Power to both interconnections was lost during Hurricane Matthew.

Hurricane (Irma) – CIF						
CIF Name/Type (i.e. Hospital)	**County/ Location**	**Restoration Time**	**Outage Cause**	**Number of Facilities Requiring**		
					Repair	**Replace**
Beaches Hospital	Duval	12	Trees	***Transmission***		
Neptune Beach Water	Duval	12	Trees	Structures	2	0
Neptune Beach Sewer	Duval	12	Trees	Substations	0	0
Jacksonville Beach Water #1	Duval	12	Trees	**Total**	2	0
Jacksonville Beach Water #2	Duval	12	Trees	***Distribution***		
Jacksonville Beach Sewer	Duval	12	Trees	Poles	0	0
Sewer St Johns Co				Substation	0	0
ML	St. Johns	12	Trees	Feeder OH	12	0
TPC	St. Johns	24	Trees	Feeder UG	0	0
Plantation	St. Johns	12	Trees	Feeder Combined	0	0
Sawgrass	St. Johns	0	N/A	Lateral OH	0	0
Water St Johns Co				Lateral UG	0	0
ML	St. Johns	12	Trees	Lateral Combined	0	0
TPC	St. Johns	24	Trees	**Total**	12	0
Plantation	St. Johns	12	Trees	***Service***		
Sawgrass	St. Johns	0	N/A	Service OH	0	0
				Service UG	0	0
				Service Combined	0	0
				Total	0	0

Underground Facilities

36. Please provide an assessment of the performance of underground facilities during Hurricanes Matthew, Hermine, Irma, Maria, and Nate. As part of this assessment please summarize the number of underground facilities that required repair or replacement for each event.

    Overall, the underground electric facilities performed very well during each hurricane event. The outages due to faults on underground equipment were minimal compared to the overall outages. In addition, a majority of the outages on the underground facilities were caused by flooding near the beach and soon after the flooding receded, Beaches Energy was able to restore service to those areas.

Hurricane Matthew – The underground system once again performed very well.

- Outages were caused by flooding of secondary connections. As a precautionary measure during tidal flooding, Beaches Energy Services de-energized a portion of underground residential distribution that was 3-4 feet under water.

Hurricane Irma – The underground system performed well with only 2 issues on the high voltage system

- Wind blew over a cabinet because the anchors were rusted. Flooding caused water intrusion in secondary connections causing outages.

37. Please provide a discussion what programs/tariffs the utility has in place to promote
    a. Undergrounding of new construction (e.g., subdivisions)

       The City of Jacksonville Beach d/b/a Beaches Energy Services requires all new services to be installed underground. This was done by Resolution in 1985.

    b. Conversion of overhead to underground

       Additionally, all overhead circuits east of A1A in the cities of Jacksonville Beach, Neptune Beach and Ponte Vedra Beach were placed underground in addition to other critical circuits. This was done without increasing costs to our customers and was completed while reducing rates by $21 per 1,000 kWh for all customers. In addition to circuits, post-Matthew we identified other areas where trees were an issue that slowed restoration progress. During this current fiscal year we budgeted the capital to place these long laterals underground as well.