BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Staff's First Data Request on OUC's Review of Electric Utility Hurricane Preparedness and Restoration Actions

Docket No. 20170215-EU

Filed: December 15, 2017

ORLANDO UTILITIES COMMISSION RESPONSES TO STAFF'S FIRST DATA REQUEST

The Orlando Utilities Commission (OUC), by and through its undersigned counsel, provides the following responses to Staff's First Data Request.

Staff Question 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.**
b. **Dates and topics of external communication pertaining to mutual aid held after each storm was named.**
c. **Date mutual aid was requested and nature of request.**

OUC Response:

In any storm, OUC follows the National Incident Management System (NIMS) structure. The Incident Commander performs all major ICS command and staff responsibilities. Exhibit 1.1 shows the OUC Incident Command Structure. OUC initiates the different phases of storm activation based on the following Activation Levels:

Level III - Threat possible to OUC General day-to-day operations continues. The threat is identified and a heightened state of awareness is observed as the threat continues.

Level II - Pre-emergency Period (Threat possible within 72 hours) - The Emergency Plan may partially be activated at the discretion of the Incident Commander depending on the decision to bring in additional resources.

Level I - Imminent Danger (Threat possible within 12 -36 hours) - This is full activation of the Emergency Plan The operation is carried out for 24 hours and operational periods are established.

In all storms, upon declaring Activation Level III, the Incident Commander holds a series of Incident Command Planning and Section Chief Meetings to ensure that preparations were coordinated across the Commission. During Pre-Storm Meetings. The Incident Commander briefs Section Chiefs on the current plan for Incident Command Activation and details of the hurricane's strength, speed and path based on then available weather data. Section Chiefs representing Planning, Logistics, Finance/Administration, Liaison Office, Safety and Public Information provide the Incident Commander with updates on their preparation, recently completed tasks and next steps. As the storm progresses, this process is repeated one or more times each day as deemed appropriate by the Incident Commander.

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

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

Hurricane Matthew Pre-Storm Section Chief Meetings dates and times included:
October 4, 2016, 12:30-1:00
October 5, 2016, 8:30-10:00

(iii) Hurricane Irma.

Hurricane Irma Pre-storm Section Chief Meetings dates and times included:
September 6, 2017, 8:00 am
September 7, 2017, 8:00 am
September 8, 2017, 8:00 am, 2:30 pm
September 9, 2017, 8:30 am, 5:30 pm
September 10, 11:30 am, 5:30 pm

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

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

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Irma.

See Exhibit 1.2

(iii) Hurricane Matthew.

See Exhibit 1.2

(vi) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(vii) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

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

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

See Exhibit 1.2

(iii) Hurricane Irma.

See Exhibit 1.2

(viii) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(ix) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 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.

OUC Response:

OUC utilizes the National Incident Management System (NIMS), and has organized its personnel into functional groups that align with the Incident Command System (ICS). Exhibit 2 attached hereto shows the allocation of OUC personnel and their duties within the NIMS reporting structure.

Staff Question 3.

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

OUC Response:

OUC generally begins to accrue storm costs once the Incident Commander declares activation Level 2. OUC uses a combination of internal contract resources, pre-negotiated mutual aid agreement and outside vendors to meet its needs for services, supplemental labor and supplies. OUC pre-negotiates a set of storm contracts and updates those on an annual basis before the storm season. As a last resort, OUC makes calls to extended vendor networks to obtain supplemental assistance as needed. Generally speaking, both mutual aid and third party vendors begin to charge OUC from the time the providing entity's equipment and personnel are deployed to assist until they return to their home base or are released to another utility in need.

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew. OUC began accruing storm costs for Hurricane Matthew on or about Tuesday, September 5, 2016, as reported to FEMA.

(iii) Hurricane Irma. OUC began accruing storm costs for Hurricane Irma on or about Tuesday October 4, 2017, as reported to FEMA.

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 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.

OUC Response:

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew

Status of electric and water facilities was tracked during the storm via EMS/SCADA, Outage Management Systems and other monitoring systems, customer and employee reports and AMI metering. OUC electric generating facilities, electric transmission/substation facilities, water plants, chilled water plants, administrative buildings, etc. are inspected by specifically assigned employees who normally work in those areas and who have the requisite knowledge. Some of the more critical facilities had personnel assigned to remain on-site during the storm.

As the storm impacts our service territory, making it unsafe to remain in the field, electronic systems are gathering the outage data. Once a determination is made that it is safe to travel, assessment of facilities begins. OUC utilizes the industry standard of wind speeds below 35 mph sustained winds as safe to deploy restoration crews. For the electric distribution system, Safety Inspection Teams are assigned either at a substation or circuit level. Feeder Restoration also begins as soon as it is safe to travel. Safety Inspection and Feeder Restoration are occurring simultaneously and independently. During Hurricane Matthew, OUC initially had 17 two-person safety inspection teams. Each two-person team consists of a driver and an assessor in a single vehicle. These teams consisted of OUC employees, the majority of which were electric distribution engineers.

Each Safety Inspection team inspects their assigned circuits. Damage information is recorded in the software program ARM360. The program has the OUC electric GIS map and asset information in it. Periodically, each team is required to upload their information. The damage information is then available to the Planning Section personnel in the Emergency Operations Center. The Planning Section uses the damage information to assist in making resource decisions and estimated times of restoration, (ETR).

Physical damage to the OUC electric distribution system was not very heavy from Hurricane Matthew. There was not a need to perform safety inspection on the entire system as the restoration effort was quickly transitioned from Feeder Restoration to Lateral Restoration.

(iii) Hurricane Irma

Status of electric and water facilities was tracked during the storm via EMS/SCADA, Outage Management Systems and other monitoring systems, customer and employee reports and AMI metering. OUC electric generating facilities, electric transmission/substation facilities, water plants, chilled water plants, administrative buildings, etc. are inspected by specifically assigned employees who normally work in those areas and who have the requisite knowledge. Some of the more critical facilities had personnel assigned to remain on-site during the storm.

As the storm impacts our service territory, making it unsafe to remain in the field, electronic systems are gathering the outage data. Once a determination is made that it is safe to travel, assessment of facilities begins. For the electric distribution system, Safety Inspection Teams are assigned either at a substation or circuit level. Feeder Restoration also begins as soon as it is safe to travel. Safety Inspection and Feeder Restoration are occurring simultaneously and independently. During Hurricane Irma, OUC had 24 internal and 28

external contractor two-person safety inspection teams. Each two-person team consists of a driver and an assessor in a single vehicle.

Each Safety Inspection team inspects their assigned circuits. Damage information is recorded in the software program ARM360. The program has the OUC electric GIS map and asset information in it. Periodically, each team is required to upload their information. The damage information is then available to the Planning Section personnel in the Emergency Operations Center and to anyone who has access to ARM360. The Planning Section uses the ARM360 damage information to assist in making resource decisions and estimated times of restoration.

The entire OUC electric distribution system was inspected in approximately 36 hours. Complete assessment results can be provided.

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 5.

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

OUC Response:

OUC utilizes a system called ARM360 for the collection of damage information. ARM360 is a Geographical Information System (GIS) based data collection system that utilizes mobile electronic devices for the collection of information. As safety inspection teams collect data, they periodically access Wi-Fi at our substations to upload the information. This information is then available across the enterprise for viewing and updating.

Staff Question 6.

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

OUC Response:

The OUC Emergency Response Plan attached hereto as Exhibit 3 and addresses restoration stages and priorities of restoration. There are two basic types of priority to consider. One is facilities and one is customers.

For electric system facilities, the order of priority is generally generation, transmission, substation and distribution. Generation being the most important because you can serve no customers without sufficient generation. Transmission and substations impact large numbers of customers and areas, therefore they are generally more important than individual circuits. In all hurricanes dating back to and including 2004, OUC did not lose generation, transmission or substation facilities that caused a retail customer outage.

For the electric distribution system, the OUC plan includes multiple stages of restoration for a large event. The first phase is Feeder Restoration and it is performed and managed based on a Customer Priority level which is assigned to every feeder. The most critical customer facilities are Hospitals with a feeder priority level of 1. There are a total of eight levels of customer priority.

Staff Question 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

OUC Response:

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

Personnel Responsible for Restoration Workload Assignments Matthew		
Title	**Years of Experience**	**Number of Crews Managed***
Director – Distribution Construction & Maintenance	**29**	**Co-managed 663**
Manager – Distribution Construction & Maintenance	**21**	**Co-managed 663**
Construction Coordinator	**36**	**Co-managed 663**

* Crews were co-managed by the personnel listed in column 1 rather than being split among the three.

(iii) Hurricane Irma.

Personnel Responsible for Restoration Workload Assignments Irma		
Title	**Years of Experience**	**Number of Crews Managed***
Director – Distribution Construction & Maintenance	**29**	**Co-managed 737**
Manager – Distribution Construction & Maintenance	**22**	**Co-managed 737**
Manager – Distribution Construction & Maintenance	**21**	**Co-managed 737**
Construction Coordinator	**36**	**Co-managed 737**

* Crews were co-managed by the personnel listed in column 1 rather than being split among the three.

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 8.

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

OUC Response:

The OUC incident response plan has a goal of completing damage assessment within a 48 hour window. During this time period, crews are primarily focused on feeder restoration activities, and facilities that have more than minor damage are not being addressed. This allows the Planning Section to develop an overall restoration plan that incorporates all known damage and does not require updates for additional damage. The restoration workload is adjusted in the overnight hours based on the progress achieved during the day light work period. The Planning Section provides guidance to the Operations Section on where crews should be assigned during the next operational period in order to meet established estimated times of restoration.

Staff Question 9.

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

OUC Response:

In all storms, the Planning Section in the Incident Command Structure is responsible for tracking the status of all resources and restoration activities. The Planning Section develops the daily plan and makes estimates of resource needs and when all customers will be restored. The decision of when, who and how to release resources was made by the Command Group based on Planning Section forecasts of when OUC would have more resources than necessary to effect restoration and post-restoration activities.

Staff Question 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)
b) Days of lodging provided for mutual aid partners (Person-Days)
c) Number of meals provided for Utility personnel
d) Number of meals provided for mutual aid partners
e) Number of Utility personnel injuries
f) Number of mutual aid partner injuries
g) Number of Utility personnel fatalities
h) Number of mutual aid partner fatalities

Please note any delays in restoration associated with items e-h above.

OUC Response:

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

OUC Response to Subpart a - b:

Lodging: During Hurricane Matthew, OUC provided lodging to 505 mutual aid partners.

OUC Response to Subpart c - d:

Meals: During Hurricane Matthew, OUC provided approximately 1,390 meals over 3 days (including breakfast, lunch and dinner) to internal Utility personnel and mutual aid partners.

OUC Response to Subpart e – h:

OUC sustained no recordable injuries or fatalities during Hurricane Matthew.

(iii) Hurricane Irma.

OUC Response to Subpart a - b:

Lodging: See Exhibit 10.1

OUC Response to Subpart c - d:

Meals:

Hurricane Irma
Total Resources

	On site Resources	Offsite Resources	Total	Provided by:
Line Technicians(Distribution)	150	400	550	Julie
Service Line Support (Terry's Electric)	21		21	Julie
Transmission/Substation Resources	17	8	25	Julie
Tree Trimmers	43	280	323	Julie
Damage/Safety Assessors	40	64	104	Julie
TOTAL	271	752	**1023**	
OUC / ICC personnel	200	N/A	200	Lisa
TOTAL MEALS SERVED (DAILY)	**471**	**752**	**1223**	

PSC reporting:
Number of meals provided for Utility personnel: 471 daily
Number of meals provided for mutual aid partners: 752 daily

OUC Response to Subpart e – h:

During Hurricane Irma, OUC reported three recordable injuries and no fatalities and our mutual aid partners reported no recordable injuries and no fatalities.

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 11.

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

OUC Response:

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

OUC considered its system fully restored on or about October 9, 2016

(iii) Hurricane Irma.

OUC considered its system fully restored on or about September 17, 2017

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(x) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 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

OUC Response:

The OUC service territory extends to portions of two counties – Orange & Osceola. At this time, a breakdown by county is not available, so totals are across all customers.

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

a. Total number of customer accounts (meters)
226,716

b. Peak number of outages (meters)
20,000

(iii) Hurricane Irma.

a. Total number of customer accounts (meters)
241,000

b. Peak number of outages (meters)
144,700

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 13.

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

OUC Response:

On all storms, Customer Service Representatives (CSR) in the contact center are used in the same consistent manner:

Before the storm – Regular call center activities continue until such time staff must be sent home. Select CSRs contact medical alert customers and those customers who have pending field activities related to service requests since their service or request may be impacted by the storm.

During the storm – A team of CSRs, usually made up of 6 to 8 individuals, ride out the storm and remain available to respond to customer calls and emails. Appropriate contact details are recorded in our PragmaWeb system.

After the storm – Ride out CSRs continue to handle customer contacts via phone and email until relief CSRs are able to come in. Shifts continue to rotate providing 24/7 coverage until customer demand reduces and then contact center staff is reduced. Appropriate contact details are recorded in our PragmaWeb system.

Staff Question 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?

OUC Response:

During all storms, OUC utilizes employees from other departments within Customer Service as necessary to provide maximum coverage (phone agents, e-mail and social media responders). In more recent years, OUC has added additional staff to monitor and respond to the ever increasing forms of communications through social media as the trend continues to move towards customer communication via mobile devices.

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew. Number of Customer Services Representatives over the storm period: 78

(iii) Hurricane Irma. Number of Customer Services Representatives over the storm period: 197

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 15.

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

OUC Response:

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

OUC received a total of 119,225 contacts during Hurricane Matthew as follows:

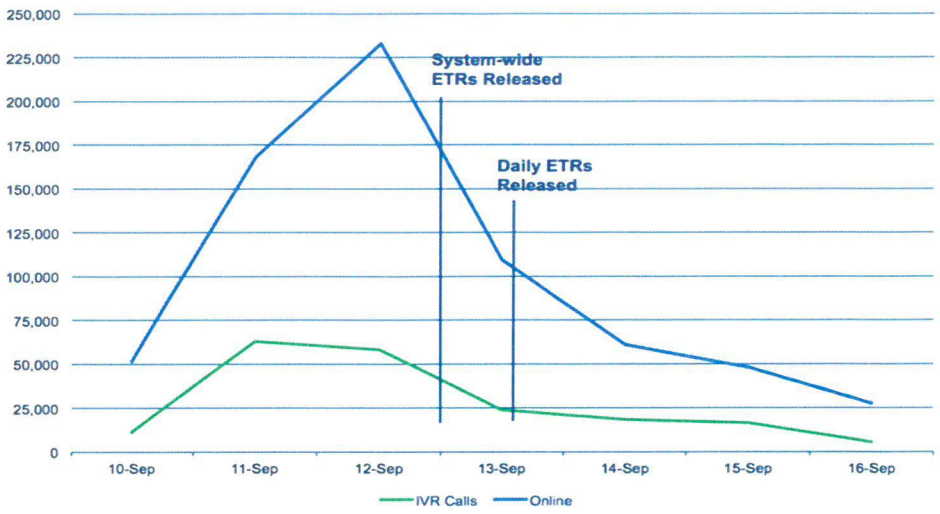
- Customer Service
  - Customer Service: 6,108 calls and 2,490 emails
- Web & IVR
  - OUC.com: 68,849 visits
  - IVR: 28,873 calls
- Social Media
  - 8,056 Facebook and 3,476 Twitter engagements (11,532 total engagements)
  - 1,127 Facebook and 246 Twitter private messages (1,373 total messages)

(iii) Hurricane Irma.

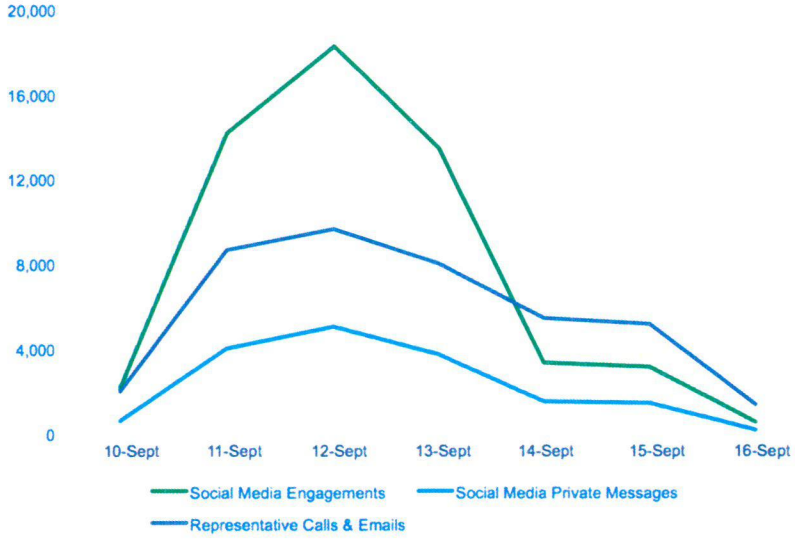
OUC received a total of 987,671 contacts during Hurricane Matthew as outlined here:

- Customer Service
  - Customer Service: 41,329 calls and 3,871 emails
- Web & IVR
  - OUC.com: 204,581 visits
  - Online Outage Map: 493,778
  - IVR: 145,456 calls
- Social Media
  - 35,180 Facebook, 44,986 Twitter and 1,516 Next-door engagements (81,682 total engagements)
  - 13,778 Facebook, 3,074 Twitter and 122 Next-door private messages (16,974 total messages)

- Hurricane Irma Self-Service Contacts



- **Hurricane Irma Social Media and Representative Contacts**



(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 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.

OUC Response:

OUC utilizes many different forms of communication to collect and disseminate information to customers, emergency managers, and elected officials during storms. The following are the primary methods used:

- Utility Websites (www.ouc.com and online outage map)
- Interactive Voice Response (IVR) system
- Social Media Engagements and Private Messages
- Customer Service Representative calls and emails
- Key Account Representative calls and emails
- Emergency Operations Center representatives in neighboring cities and counties

Staff Question 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.

OUC Response:

OUC is available to customers through every stage of a hurricane. However, OUC does change the options and information available to customers during different phases of the storm to ensure that customer contacts across channels provide accurate and timely information.

Before the Storm:
OUC operates normally before the storm although some systems are placed into "storm mode" to stop remote disconnects for non-payment. All communication channels and representatives provide storm safety messages and information to help customers understand how OUC will operate during and after the storm.

During the Storm:
Once the Incident Command has made the call to move into "storm mode," self-service via the web and IVR are blocked with the exception of reporting outages. ETRs are removed from the outage map and messaging across all channels informs customers that OUC has limited customer service while the storm is moving through the service territory and explains that crews will not be in the field while winds are high.

After the Storm – Feeder Restoration:
Customers are informed that we are assessing damage in an effort to provide ETRs. All channels accept outage and water problem reports and provide storm safety information about downed lines, generators, etc. Customers are encouraged to verify if an outage is due to damage to their equipment and, if so, they are told to contact a licensed contractor to make the repair and secure permitting from the city or county. OUC provides a list of contractors at ouc.com/pcn. Once the system-wide ETR is established, it is communicated across all channels.

After the Storm – Lateral Restoration:

Customers are provided individual ETRs and updates through all channels. When possible, meters are pinged so representatives can inform customers when the issue is due to equipment damage at their home or business.

Restoration – Transition to Normal:
OUC transitions all systems back to normal and transacting with customers for payments, service requests, etc. Any remaining outages are handled on an individual basis.

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.**

OUC Response:
OUC did no experience any restoration delays stemming from addressing customer contacts during the storm

Staff Question 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?

OUC Response:

See the OUC Emergency Response Plan attached as Exhibit 3. If a hurricane causes large-scale power outages and therefore an increase in customer contacts, OUC immediately launches an established restoration response plan that is communicated to customers. OUC will:

1) Evaluate damage to our electric system.
2) Begin restoring power to critical areas like hospitals, police/fire stations, and other emergency facilities.
3) Work from the substation out bringing back feeder lines in order to restore service to the largest number of customers as possible.
4) Repair damage to laterals that often affect only a few individual customers at each location.
5) Restore power to homes with damaged service lines once the needed repair work is performed by an electrician and an inspection has been conducted by the appropriate City/County.

Contacts are categorized as they fit into this process, meaning that critical facilities are escalated and handled appropriately as well as other hazardous conditions that are reported.

Staff Question 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?**

OUC Response:

Customer Service Representatives are kept informed of the restoration process through notes and talking points provided to them by the Communications team in the PIO group. High-level talking points are provided for the pre-, during- and after- storm activities, which include standard information on what OUC is doing to prepare, what customers should do to prepare, and when OUC crews will or will not be in the field, etc.

Once the storm has passed, Customer Service Representatives are given talking points to help explain the assessment phase of restoration and manage customers' expectations on when ETRs will be provided. This information includes the number of outages, how OUC's restores power, equipment damage and post-storm safety.

These scripts and updates are developed by the Communications lead, typically after the Section Chiefs meetings when the PIO debriefs the full Communications team and outlines key messages and issues to address in the next phase of the restoration. At any time, when new or important information is shared, the Communications lead writes a general statement that is then sent to channel leads to modify as appropriate for their needs and sent out simultaneously.

Representatives also have access to systems with near real-time information including the online outage map and Pragma Call used to help customers with individual information.

Staff Question 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.

OUC Response:
The Planning Section utilizes system status and damage assessment information to estimate total electric crew and tree crew resource needs. Based on current and proposed resource availability as well as the safety inspection summary data, a system-wide estimated time of restoration ("ETR") is forecast. A Daily Plan is then developed to perform all necessary restoration activities to meet the system-wide ETR. ETRs are established for every circuit and all customers on that circuit. At the appropriate time during the restoration process, the outage management system ("OMS") is populated with the individual ETRs for access by and communication to customers.

b. How customers are notified.

OUC Response:
Customer are notified of restoration times through multiple channels including: www.ouc.com, the online outage map, an upfront message on the IVR, social media posts, news media updates, outbound calls, representative calls and email. Representatives at the local and state level EOCs also provide restoration information. OUC also provides daily ETR and other information to key stakeholders, such as the Mayor and City Commissioners, and County Commissioners, and they also help to communicate ETRs to their constituents.

See Response to Question 16 for detailed discussion on methods of communication used by OUC.

c. How restoration time estimates are updated.

OUC Response:
The restoration time estimates (ETR) are updated on a daily basis as part of the Daily Plan of Action prepared by the Planning Section.

d. How restoration time estimates are disseminated internally, to the county and state Emergency Operations Centers, and to the public.

OUC Response:

Once the Planning section provides the system-wide ETR during the Section Chief meetings, the PIO office drafts key talking points and pushes out updates to all channel leads as outlined above. This includes updating the websites and IVR, providing details to customer service and the representatives working in City/County and State Emergency Operation Centers, sending a media release, posting to social media channels and emailing key stakeholders.

As daily ETRs and individual ETRs are provided, all channels are updated and customers are encouraged to use the outage map, IVR or call representatives for individual ETRs.

When Planning reports that an ETR to specific area will be missed, customers are proactively messaged through targeted social media and outbound calls that include the reason for the delay and a new ETR. Additionally, the City or County Commissioner of that area is called and informed of the new time and cause of delay directly by the PIO.

Staff Question 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:

OUC Response:
OUC procured all fuel from pre-storm fuel suppliers under contract with OUC. In addition, OUC uses local vendors to fuel some offsite generators both during and after storms.

a. Whether or not the Utility has fuel stored for these types of events

OUC Response:
OUC has the ability to store 43,000 gallons of diesel and 31,000 gallons of gasoline. OUC also owns two 9,200 gallon fuel tankers. Prior to a hurricane, OUC will top off all generators, vehicles, and equipment and then top off all storage tanks and tankers.

b. Whether or not fuel shortage was an issue during these events

OUC Response:
OUC did not experience any fuel shortages during the events listed.

c. Whether or not there were any delays due to fuel shortage

OUC Response:
OUC did not experience any delays related to fuel.

d. Whether or not there were enough vehicles available during these events/any issues mobilizing crews

OUC Response:
OUC had had sufficient vehicles for field work but did rent buses and multi passenger vans for foreign crew transportation to and from hotels and staging areas

Staff Question 22.

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

OUC Response:

The OUC Logistics team encountered no issues or delays that would have caused shortages on deliveries of material for power restoration post Hurricane Matthew and Irma.

Staff Question 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.

OUC Response:

(i) Hurricane Hermine. OUC did not activate its full NIMS response for Hurricane Hermine.

(ii) Hurricane Matthew.

a. 10/4/16 – Started securing outside resources.
b. 10/5/16 – Conducted internal planning meetings. Continued securing outside resources.
c. 10/6/16 – Activated OUC's Incident Command Center (ICC).
d. 10/7/16 – Ceased field operation activities at 3:00am due to high winds. Storm restoration efforts began at 10:00am. Safety inspection teams deployed to targeted areas of damage.
e. 10/8/16 – ICC members released and ICC closed at 6:00pm. At 6:15pm, all reported no-light storm related outages were restored.
f. 10/9/16 - Released outside resources.

(iii) Hurricane Irma.

a. 9/5/17 – Started securing outside resources. Started internal planning meetings.
b. 9/6/17 – 9/7/17 – Continued securing outside resources. Continued with internal planning meetings.
c. 9/8/17 – Outside resources started arriving.
d. 9/9/17 – Activated OUC's ICC at 9:00am. Planning meetings continued.
e. 9/10/17 – Ceased field operation activities at due to high winds.
f. 9/11/17 – Storm restoration efforts began at 10:00am. Began safety inspection of electric distribution system.
g. 9/12/17 – Continued storm restoration activities. Completed safety inspection of electric distribution system. Additional outside resources arrived.
h. 9/13/17 – Continued storm restoration activities.
i. 9/14/17 – Continued storm restoration activities. Additional outside resources arrived.
j. 9/15/17 – Continued storm restoration activities. Started demobilization planning meetings for outside resources. Deployed reinstate teams to connect electric services that were damaged during the hurricane.
k. 9/16/17 – Continued storm restoration activities for remaining outages. Continued service reinstate activities. Started releasing outside resources.
l. 9/17/17 – ICC closed. Continued releasing outside resources. All storm related outages were restored.

(iv) Hurricane Maria. OUC did not activate its full NIMS response for Hurricane Maria.

(v) Hurricane Nate. OUC did not activate its full NIMS response for Hurricane Nate.

Staff Question 24.

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

OUC Response:

OUC utilizes the NIMS Incident Command Structure to respond to man-made and natural disasters. For a complete discussion of the NIMS structure used by OUC, see response to Question 1. The NIMS structure allows OUC to evaluate and respond to incidents of any kind or size in a consistent and methodical way. It allows personnel to assume a common management structure during the emergency while providing logistical and administrative support to operational staff.

During most hurricanes, OUC utilizes a 12 or 16 hour operational period during the day and 8 – 12 hour period during the night. The NIMS command staff hold meetings at the end of each operational period to address the changing conditions encountered and ensure the personnel working remain on task and deployed in the most efficient way.

The Planning Section Chief creates a list of priorities and tasks at the beginning of each operational period. This list is reviewed at the end of each period and adjusted for each planning period accordingly to address any new or changing incident.

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

N/A

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

N/A

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.

N/A

Staff Question 25.

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.

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

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.

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

OUC Response:

See response to question number 24.

Staff Question 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.

OUC Response:

(i) Hurricane Hermine. OUC did not have hurricane damage during Hurricane Hermine.

(ii) Hurricane Matthew.

OUC experienced damage in Osceola County, Orange County, and Brevard County. In Brevard County, OUC does not provide electric distribution services; therefore, the only damage OUC reported was related to OUC owned generation and distribution facilities located in Brevard County.

(iii) Hurricane Irma.

OUC experienced damage in Osceola County, Orange County, and Brevard County. In Brevard County, OUC does not provide electric distribution services; therefore, the only damage OUC reported was related to OUC owned generation and distribution facilities located in Brevard County.

(iv) Hurricane Maria. OUC did not have hurricane damage during Hurricane Maria.

(v) Hurricane Nate. OUC did not have hurricane damage during Hurricane Nate.

Staff Question 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 IRMA				
County	**Maximum Sustained Winds (MPH)**	**Maximum Gusts (MPH)**	**Maximum Rainfall (inches)**	**Maximum Storm Surge (Feet)**

OUC Response:
OUC does not collect data on wind speed. OUC utilizes third party services to gather weather data generally, including wind speed, rainfall, and storm path. Services used by OUC include:

a. University of South Alabama – Coastal Weather Research Center
b. Local News Meteorologist
c. NOAA/ National Hurricane Center

OUC has not experienced flooding within its system caused by these storms.

Staff Question 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.

OUC Response:

OUC has employed 'storm hardening' engineering design principles for at least 30 years in the design of its electric transmission, substation and distribution systems. All OUC facilities are designed to meet the applicable NESC extreme wind loading characteristics for our geographical areas. OUC has proactively advanced undergrounding of facilities and the portions of OUC's system within the City of Orlando are more than 64% underground. OUC has proactively used steel and concrete poles for new installations and replacements in truck accessible areas as the standard design. All major hospitals in the City of Orlando portions of the OUC service area are served by all underground distribution circuits.

Staff Question 29.

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

Hardened Facilities		
Hurricane	**Number of Facilities Requiring**	
	Repair	**Replacement**
Transmission		
Structures		
Substations		
Total		
Distribution		
Poles		
Substation		
Feeder OH		
Feeder UG		
Feeder Combined		
Lateral OH		
Lateral UG		
Lateral Combined		
Total		
Service		
Service OH		
Service UG		
Service Combined		
Total		

OUC Response:

See response to Question 28

Staff Question 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	**Number of Facilities Requiring**	
	Repair	**Replacement**
Transmission		
Structures		
Substations		
Total		
Distribution		
Poles		
Substation		
Feeder OH		
Feeder UG		
Feeder Combined		
Lateral OH		
Lateral UG		
Lateral Combined		
Total		
Service		
Service OH		
Service UG		
Service Combined		
Total		

OUC Response:

See response to Question 28

Staff Question 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.

OUC Response:

During all hurricanes, the cause code entered into the Outage Management System for all outage incidents is "Storm", therefore, there is no data available for a statistical analysis of outage causation.

However, anecdotally, the top cause by far is trees & tree limbs causing circuit faults and impacting conductors and poles.

Staff Question 32.

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

OUC Response to Questions 32:

OUC has not experienced protracted restoration times for the storms. For Hurricane's Matthew and Irma, OUC's restoration time tends to be most impacted by the following:

a. Removal of downed trees within roadways
b. Limited access to rear lot line structures
c. Customer side systems needing repair and permitting before power can be restored
d. Due to the path of the storms (Irma), competition for in-state and out-of-state distribution crews

Staff Question 33.

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

OUC Response:

N/A

Staff Question 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.

OUC Response to Questions 34:

None.

Staff Question 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 (Name) – CIF						
CIF Name/Type (i.e. Hospital)	**County/ Location**	**Restoration Time**	**Outage Cause**	**Number of Facilities Requiring**		
					Repair	**Replace**
				Transmission		
				Structures		
				Substations		
				Total		
				Distribution		
				Poles		
				Substation		
				Feeder OH		
				Feeder UG		
				Feeder Combined		
				Lateral OH		
				Lateral UG		
				Lateral Combined		
				Total		
				Service		
				Service OH		
				Service UG		
				Service Combined		
				Total		

OUC Response:

OUC has a list of restoration priorities discussed in the OUC Emergency Response Plan. For purposes of this response, OUC assumed CIF's to be Hospitals within OUC's electric service territory. CIF's were impacted as follows:

Florida Hospital, Orange, did not lose power
Orlando Regional Health System, Orange, did not lose power
Veterans Administration Hospital, Orange, did not lose power
Nemours Children's Hospital, Orange, did not lose power
St. Cloud Hospital, Osceola, less than 24 hours, overhead distribution feeder lockout, minor tree damage

Staff Question 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.

OUC Response:

In general, underground facilities tend to perform well during hurricanes as they are only occasionally impacted by our primary source of outages – trees. There are a few instances where falling trees will strike underground equipment or have roots that pull up underground conductors when the tree falls over. Water intrusion can also be an issue for some pad mounted equipment.

(i) Hurricane Hermine. OUC did not have hurricane damage during Hurricane Hermine.

(ii) Hurricane Matthew.

Outage data for Matthew did not distinguish between overhead and underground facilities. Therefore, statistical data for Matthew is not available regarding underground related outages.

(iii) Hurricane Irma.

During Irma, there were some underground related outages in the OUC system. The outages included nine failed underground primary voltage conductors and fifteen failed pad mounted transformers.

(iv) Hurricane Maria. OUC did not have hurricane damage during Hurricane Maria.

(v) Hurricane Nate. OUC did not have hurricane damage during Hurricane Nate.

Staff Question 37.

Please provide a discussion what programs/tariffs the utility has in place to promote

a. Undergrounding of new construction (e.g., subdivisions)

b.

OUC Response:

i. All new residential subdivisions are required to install underground electric infrastructure.

ii. Commercial developments have a choice between overhead and underground systems. However, the majority of commercial developments utilize underground electric facilities due to electric load, density, and other considerations.

c. Conversion of overhead to underground

OUC Response:

Customers who want to convert their overhead electric facilities to underground are charged the differential between an overhead and underground system. OUC is also

currently working with a consultant to benchmark overhead to underground conversion costs. In addition, OUC is working with the City of Orlando to determine if there are any existing programs or funding mechanisms to assist with the cost of converting overhead electric distribution systems to underground.

Respectfully submitted,

W. CHRISTOPHER BROWDER
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EXHIBIT 1.1

OUC INCIDENT COMMAND STRUCTURE

EXHIBIT 1.2

DATES AND TOPICS OF EXTERNAL COMMUNICATION PERTAINING TO MUTUAL AID HELD AFTER EACH STORM WAS NAMED

EXHIBIT 2

ALLOCATION OF OUC PERSONNEL AND DUTIES WITHIN THE NIMS REPORTING STRUCTURE

EXHIBIT 3

OUC EMERGENCY RESPONSE PLAN

EXHIBIT 10.1

HURRICANE IRMA LODGING DATA