April 24, 2018

Ms. Carlotta Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399

Re: Docket No. 20170215-EU – Review of electric utility hurricane preparedness and restoration actions

Dear Ms. Stauffer:

Attached is the Florida Municipal Electric Association, Inc.’s slide presentation for filing in the above-referenced docket.

This was also submitted electronically on April 14, 2018, to Commission staff.

Thank you for your assistance.

Sincerely,

Amy Zubaly
Executive Director
Hurricane Irma

Florida Public Power
Mutual Aid and Storm Readiness

Jody Finklea
General Counsel
Florida Municipal Electric Association
Florida Municipal Power Agency
Jody.finklea@fmpa.com
Who is Public Power?
2,011 PUBLIC POWER UTILITIES PROVIDE ELECTRICITY TO 49 MILLION PEOPLE* IN 49 STATES AND 5 U.S. TERRITORIES

1 IN 7 ELECTRICITY CUSTOMERS IN THE U.S. ARE SERVED BY PUBLIC POWER
## Public Power Customers

1,352 public power utilities have **under 4,000 customers**.

- **332** public power utilities have **4-10K customers**.
- **247** public power utilities have **10-40K customers**.
- **45** public power utilities have **40-100K customers**.
- **30** public power utilities have **100K+ customers**.

**How many customers does a public power utility have?**

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#FLPublicPower
# Electric Utilities in America

- **Public Power Utilities**: 60%
- **Rural Electric Cooperatives**: 26%
- **Power Marketers**: 9%
- **Investor Owned Utilities**: 6%
- **Federal Power Agencies**: 0.3%

*Florida Public Power • Building Strong Communities*
Electricity Customers Served By:

- **Public Power Utilities**: 68%
- **Rural Electric Cooperatives**: 15%
- **Power Marketers**: 13%
- **Investor-Owned Utilities**: 4%

Mostly in Texas
Who is Florida Public Power?
Florida Public Power

- 34 municipal electric utilities
- 1.3 million customer meters
- 14% of Florida’s population

**Large Utilities**
- JEA (Jacksonville): 404,000 customers
- OUC (Orlando): 198,000 customers
- Tallahassee: 113,000 customers

**Small Utilities**
- Moore Haven: 1,015 customers
- Bushnell: 1,065 customers

**Combined, 3rd largest utility behind FPL & Duke Energy Florida**

Estimated 2017 Florida population: 21,002,678 people
Florida Public Power

Florida Public Power • Building Strong Communities

Florida Public Power

#FLPublicPower
Florida Public Power

Florida Electric Utility Market Share %

- DUKE ENERGY: 17%
- FLORIDA PUBLIC POWER: 14%
- FLORIDA ELECTRIC COOPERATIVES: 10%
- TAMPA ELECTRIC COMPANY: 7%
- GULF POWER: 4%
- FLORIDA POWER & LIGHT: 48%
Public Power: Power Supply

• How do the small utilities generate power?
  – They don’t...

• Only 12 of 34 generate electricity

• Others purchase power from:
  – Florida Municipal Power Agency
    • 13 purchase all, 11 have committed to purchase some
  – Duke Energy Florida
  – Florida Power & Light
  – Other Municipals
Mutual Aid – Many Options

• Florida Mutual Aid
  – Mutual Aid agreements in place between public power and ALL Florida electric utilities

• Southeastern Mutual Aid

• National Mutual Aid
Mutual Aid – By the Numbers

• Florida mutual aid network
  – 34 municipal electric utilities
  – 17 electric cooperatives
  – 5 investor-owned utilities

• National mutual aid
  – More than 2,000 municipal electric utilities
  – More than 800 electric cooperatives
Mutual Aid – Agreements and Procedures

• FMEA coordinates mutual aid support for its members
  – Serves as statewide mutual aid network coordinator
  – Works directly with national association (APPA) and other network coordinators
    • Meet together in person twice a year
  – Member utilities communicate needs (or availability) to FMEA
Mutual Aid – Near and Far
National Mutual Aid
# National Mutual Aid

<table>
<thead>
<tr>
<th>Level</th>
<th>Tier 1: Utility Coordinator</th>
<th>Tier 2: Network Coordinator</th>
<th>Tier 3: National Coordinator (American Public Power Association)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steady State</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>No outages</td>
<td>• Update contact and resources lists and communicate periodically with network coordinator</td>
<td>• Compile contact and resources lists from utilities within network</td>
</tr>
<tr>
<td>1</td>
<td>Isolated event</td>
<td>• Assess need, respond to event, and determine if escalation is needed</td>
<td>• None generally, but may assist with information as requested</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Local/State Mutual Aid Activated</th>
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<tbody>
<tr>
<td>2</td>
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</table>

<table>
<thead>
<tr>
<th>Regional Mutual Aid Activated</th>
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<tbody>
<tr>
<td>3</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>National Mutual Aid Activated</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
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<tr>
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</tbody>
</table>
Disaster Preparedness
Disaster Preparedness

Year Round Planning

- Public Power prepares year round
  - Review and Update Internal Plans
- FMEA conducts pre-season preparation workshop with members
- Participate in statewide FCG mutual aid workshop
- Individual utilities conduct exercises, briefings and meetings to discuss their preparation
  - FMEA participates in state EOC and national Association
- Key feature: Municipal electric utilities coordinate with all city departments, including local EOCs
Disaster Preparedness

- All municipal utilities have completed the first round of their 8-year inspection cycle.
- Since 2007, pole replacement has been in the range of 2-10%
Disaster Preparedness

Vegetation Management

- FMEA members generally on a 3-year trim cycle
- Our local governing boards and customers seek the improved aesthetics and reliability from a 3-year cycle
- Right tree, right place
Disaster Preparedness

Communications

• Develop pre-written social media responses
  – Preparedness, pre-storm, post-storm, safety

• Use various platforms
  – Facebook, Twitter, News, Text-Alerts

• Communicate often
  – Restoration process
  – ETR’s – Realistic and factual
  – Areas being worked
Disaster Preparedness

• We are local governments
• Work closely with all city and county departments and officials
  – In planning, preparations, and during storms
• Direct communications with local emergency management personnel and local emergency operations centers
Hurricane Irma
September 10-11, 2017
Hurricane Irma

Storm landfalls

Sunday, September 10, 2017 9:10am
Category 4: Cudjoe Key

Sunday, September 10, 2017 2:51pm
Category 3: Marco Island

Monday, September 11, 2017 12:00pm
Tropical Storm: North Florida/Panhandle

Irma Track History
September 9-11, 2017

Tropical Storm
Hurricane
Cat 3+

Sunday, September 10, 2017 2:51pm
Category 3: Marco Island

Sunday, September 10, 2017 9:10am
Category 4: Cudjoe Key
Hurricane Irma

- 6.7 million Floridians out at peak
  - 827,000 from public power
- Every electric utility impacted, including all 34 public power utilities
- More than 2,000 public power linemen responded from approximately 200 utilities from 26 states plus Canada.
- 23 of Florida’s 34 public power utilities used mutual aid assistance.

### Mutual Aid Assistance

<table>
<thead>
<tr>
<th>Alabama</th>
<th>Louisiana</th>
<th>Oklahoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>Maryland</td>
<td>Pennsylvania</td>
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<tr>
<td>Connecticut</td>
<td>Massachusetts</td>
<td>Rhode Island</td>
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<td>Georgia</td>
<td>Michigan</td>
<td>South Carolina</td>
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<td>Illinois</td>
<td>Minnesota</td>
<td>Tennessee</td>
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<td>Missouri</td>
<td>Texas</td>
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<td>Iowa</td>
<td>Nebraska</td>
<td>Virginia</td>
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<tr>
<td>Kansas</td>
<td>North Carolina</td>
<td>Wisconsin</td>
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<tr>
<td>Kentucky</td>
<td>Ohio</td>
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</tr>
</tbody>
</table>

FMEAA
Florida Municipal Electric Association
Hurricane Irma

- All 34 public power utilities impacted
- More than 827,000 public power customers out at peak
- Nearly 50% of those restored in 24 hours
- More than 80% of total customers restored in 48 hours
- 98% restored in less than a week

<table>
<thead>
<tr>
<th>DATE</th>
<th># Customers Out</th>
<th>% Customers Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 11, 2017</td>
<td>827,664</td>
<td>57%</td>
</tr>
<tr>
<td>Sept 12, 2017</td>
<td>397,941</td>
<td>27%</td>
</tr>
<tr>
<td>Sept 13, 2017</td>
<td>255,185</td>
<td>18%</td>
</tr>
<tr>
<td>Sept 14, 2017</td>
<td>149,482</td>
<td>10%</td>
</tr>
<tr>
<td>Sept 15, 2017</td>
<td>84,032</td>
<td>6%</td>
</tr>
<tr>
<td>Sept 16, 2017</td>
<td>39,532</td>
<td>3%</td>
</tr>
<tr>
<td>Sept 17, 2017</td>
<td>22,338</td>
<td>2%</td>
</tr>
</tbody>
</table>
Hurricane Irma Response Challenges

• Lodging in neighboring states limited
• Significant fuel shortages for responding crews
• Restaurants and convenience stores closed
• Severe traffic
  – 7 million + tourists evacuated
• Potential I-75 closure due to flooding
Keys Energy Services
Ground Zero

- Serve approximately 28,000 customers
- Life threatening – approximately 60 employees stayed CAT 5 bldg
- No communications – satellite phones only – for days
- No water, no sewer – for days
- No police, fire, EMT services – for days
- Bridges needed to be inspected before any travel
- Tie line damaged, repeated faults
- Food and water logistics
- Damage recovery supplies far exceeding warehouse capabilities
- Supply and transport problems

Hurricane Irma
Hurricane Irma

Keys Energy Services
Ground Zero

- Direct Impact as Category 4
  - Sustained winds excess 120 mph
  - Gusts up to 150 mph
- Lost transmission and communications – 11:05 pm Sept. 9
  - Repeated faults
  - Communications out for days
- Replaced ten damaged transmission poles
  - Majority being water crossing poles
- Replaced 625 distribution poles
- Replaced 650 transformers
- No storm hardened poles failed
Keys Energy Services
Ground Zero

Hurricane Irma

• More than 500 personnel in restoration efforts
• Provided 4,300 nights of lodging
• Served more than 19,400 meals
• Laundered over 100 loads of laundry daily
• More than 38,000 gallons of gas and diesel for vehicles and equipment
Hurricane Irma

Keys Energy Services

Ground Zero
Communications is critical
  – Communicate often
  – Factual and realistic

Pre-planning mutual aid is critical

Mutual aid agreements in place before storms
  – Used reciprocally
  – Sharing of supplies and resources

Preparations are key!
Contact Information

Florida Municipal Electric Association

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