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April 16, 2018

-VIA ELECTRONIC FILING-

Ms. Carlotta S. Stauffer, Commission Clerk
Office of Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Docket No. 20170215-EU

Dear Ms. Stauffer:

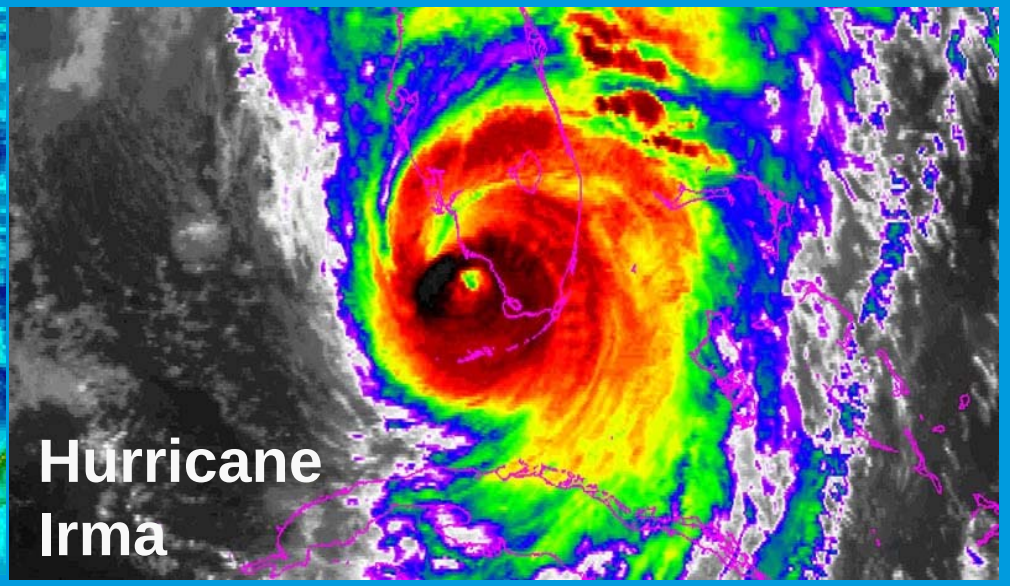
Enclosed for filing is Florida Power & Light Company's Power Point presentation for the Commission Workshop scheduled for May 2-3, 2018.

If you should have any questions regarding this transmittal, please contact me at (561) 691-2512.

Respectfully submitted,

/s/ Kenneth M. Rubin
Kenneth M. Rubin
Fla. Bar No. 349038

Enclosures
cc: Counsel for Parties of Record (w/encl.)



May 2, 2018 FPSC Workshop
Storm Preparedness/Response

Bryan Olnick, Vice-President - Distribution Operations

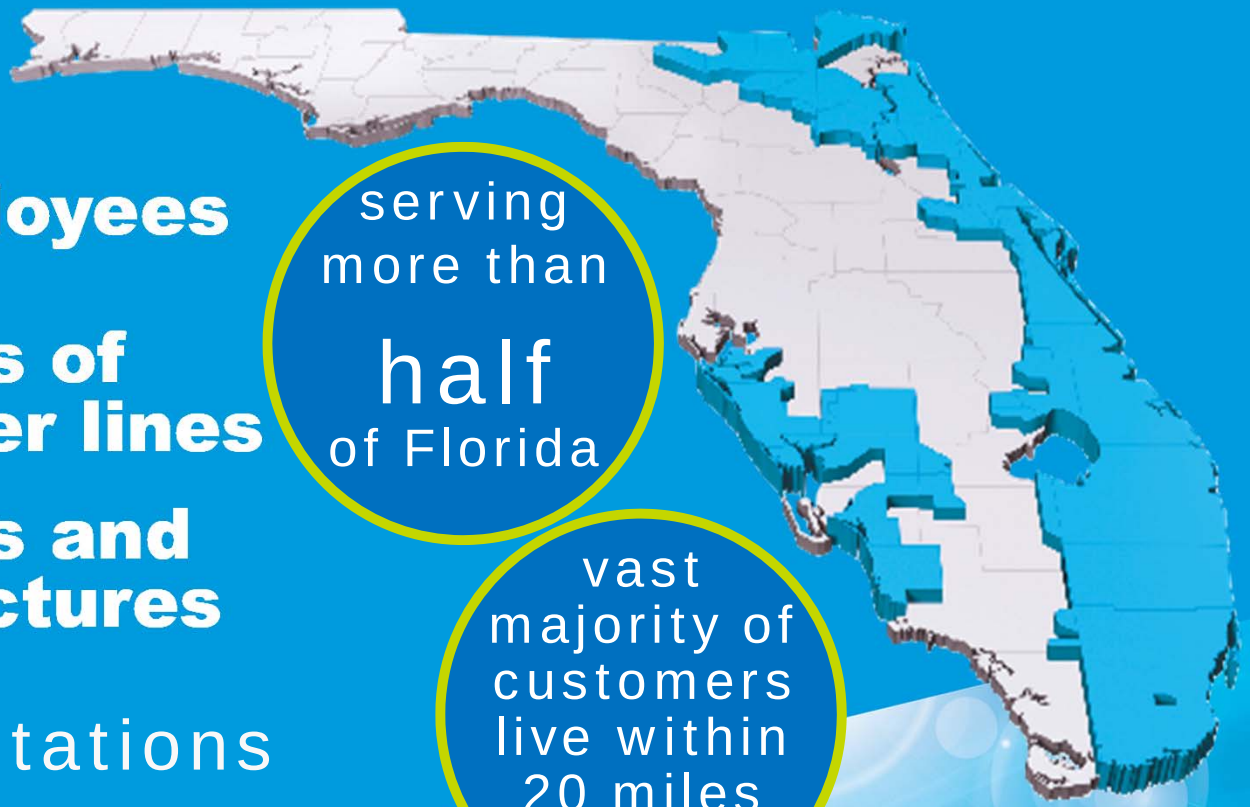
FPL Power Delivery (Transmission and Distribution)

3,000 employees

75,000 miles of power lines

1.2 million poles and structures

600+ substations



serving more than half of Florida

vast majority of customers live within 20 miles of coast

Requested Workshop Presentation Topics

- Overview - Prevention & Restoration
- Infrastructure Performance – Hardened vs. Non-hardened / Other
- Infrastructure Performance – Overhead vs. Underground Facilities
- Impediments to Restoration
- Customer and Stakeholder Communication
- Suggested Improvements

2016 & 2017 Storm Seasons Overview

- FPL's service territory threatened with Category 4 and 5 storms
- Hurricanes Matthew and Irma were massive storms that impacted FPL's entire service territory
- For both Matthew and Irma, FPL's infrastructure hardening investments, storm preparedness initiatives and well-tested storm restoration processes resulted in improved infrastructure resiliency performance and reduced restoration times

Overview - Prevention & Restoration

- Infrastructure hardening
- Smart grid / technology
- Pole/structure inspections
- Tree trimming / vegetation management
- Storm preparedness
- Restoration

Infrastructure Hardening - Distribution

- **Investments in feeder hardening have reduced outages and restoration times**
  - Day-to-day and storm reliability benefits
  - 95% of CIF/Community feeders hardened
  - >40% of all feeders hardened / UG
  - By 2024, 100% of feeders hardened / UG
- **Consistently supports municipal OH to UG conversions**
- **Hardening does not prevent all outages, but provides for faster restoration when outages occur**

Infrastructure Hardening - Transmission

- **Two initiatives completed**
  - Replaced all ceramic post insulators (line protective device) – Wilma lesson learned
  - Installed flood monitoring/mitigation equipment in over one-third of FPL's substations - Sandy lesson learned
- **Replacing all wood structures**
  - >90% are now steel / concrete
  - 100% steel / concrete by 2022
- **Hardened transmission system performed well during Matthew and Irma**

Smart Grid / Technology

- **Automated Feeder Switches (AFS)**
  - Self-healing technology
  - Help avoid customer interruptions – day-to-day and storms
- **Drones**
  - Facilitate damage assessments
- **Mobile Command Centers/Community Response Vehicles/Mobile Office Containers**
  - Deployed to storm impacted areas
- **Smart Meters**
  - Help reduce restoration time – day-to-day / storms

Pole / Structure Inspections

- **FPL annually inspects / tests for strength and loading**
- **1.2 million distribution poles**
  - Annually inspect/test 1/8 of system (wood/concrete)
  - First 8-year cycle completed; 50% through second cycle
- **65,000 transmission structures**
  - Visually inspect 100% of structures annually
  - Strength/load test: Wood (6-year cycle); concrete (10-yr. cycle)

Tree Trimming / Vegetation Management

- **Distribution**
  - Trim 15,000 miles annually
  - Feeders: 3-yr. avg. cycle
  - Laterals: 6-yr. avg. cycle
  - Before peak of storm season – inspect/trim all CIF feeders

- **Transmission**
  - Meet mandatory NERC-established requirements
  - Inspect at least 2 times per year
  - Maintain clearances on all 6,900 miles annually

Storm Preparedness

- **Preparations**
  - Storm preparedness is a year-round focus
  - Train all storm functions for understanding / process efficiency
  - Conduct annual corporate-wide storm drill
  - Conduct annual staging site drill
  - Secure contractor/mutual aid agreements
  - Secure staging sites/logistics agreements
  - Increase material and supply inventories

Restoration

- **Hurricanes Matthew & Irma**
  - Most severe storms to impact FPL in recent history
  - Both impacted FPL's entire service territory
  - Irma, slow moving & much more damaging
  - Largest resource pre-staging events in FPL's history

	Wilma	Matthew	Irma
Customer outages	3.2M	1.2M	4.4M
Staging sites	20	22	29
% Restored / days	50% / 5	99% / 2	50% / 1
All restored (days)	18	4	10
Avg. days to restore	5.4	>1	2.1

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Infrastructure Performance – Hardened vs. Non-hardened / Other

Hurricane Irma hits Biscayne Bay in Miami on Sept. 10, 2017 Wilfredo Lee–AP

- Distribution Poles / Feeders
- Transmission Structures / Flood Mitigation
- Smart Grid / Technology

Infrastructure Performance – Distribution Poles / Feeders

Pole failures	Hardened	Non-hardened
Matthew	0	408
Irma	26	2,834

Feeders (outages) – Hardened vs. Non-hardened	
Matthew	Hardened - 32% better
Irma	Hardened – 16% better

Feeders (restoration) - Hardened vs. Non-hardened	
Irma	Hardened – 50% faster

Hardened facilities performed significantly better than non-hardened facilities

Infrastructure Performance – Transmission Structures & Flood Mitigation

Structure failures	Hardened	Non-hardened
Matthew	0	0
Irma	0	5

Substations pro-actively de-energized as a result of flood monitoring system notifications	
Matthew	1
Irma	2

Transmission system performed well overall, with hardened facilities performing better than non–hardened facilities

Infrastructure Performance – Smart Grid / Technology

- **Self-healing AFS avoided customer outages**
  - Matthew 118,000
  - Irma 546,000
- **Drones facilitated damage assessments, reducing restoration time**
- **Mobile Command Centers & Community Response Vehicles enabled situational awareness and improved customer interactions**
- **Smart meters reduced restoration times**

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Infrastructure Performance – Overhead vs. Underground Facilities

- Feeders
- Laterals
- Outage Causes

Infrastructure Performance – Overhead vs. Underground Facilities

Feeder Outages		
	Matthew	Irma
Hybrid vs. Underground	Underground 94% better	Underground 66% better
Overhead vs. Underground	Underground 96% better	Underground 78% better

Note – Hybrid feeders consist of both OH and UG facilities

Lateral outages		
	Matthew	Irma
Overhead vs. Underground	Underground 95% better	Underground 83% better

Underground facilities performed significantly better than overhead facilities

Infrastructure Performance – Primary Outage Causes






Infrastructure Performance – Primary Outage Causes






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- **Impediments to Restoration**
- Customer and Stakeholder Communication
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Impediments to Restoration

- **Uprooted / broken trees**
  - Wrong trees in the wrong place was the primary cause of outages
  - Downed trees also required clearing to gain access, extending restoration

- **Storm surge / flooding**
  - Delayed restoration access / repairs

- **Traffic congestion**
  - Extended crews travel time

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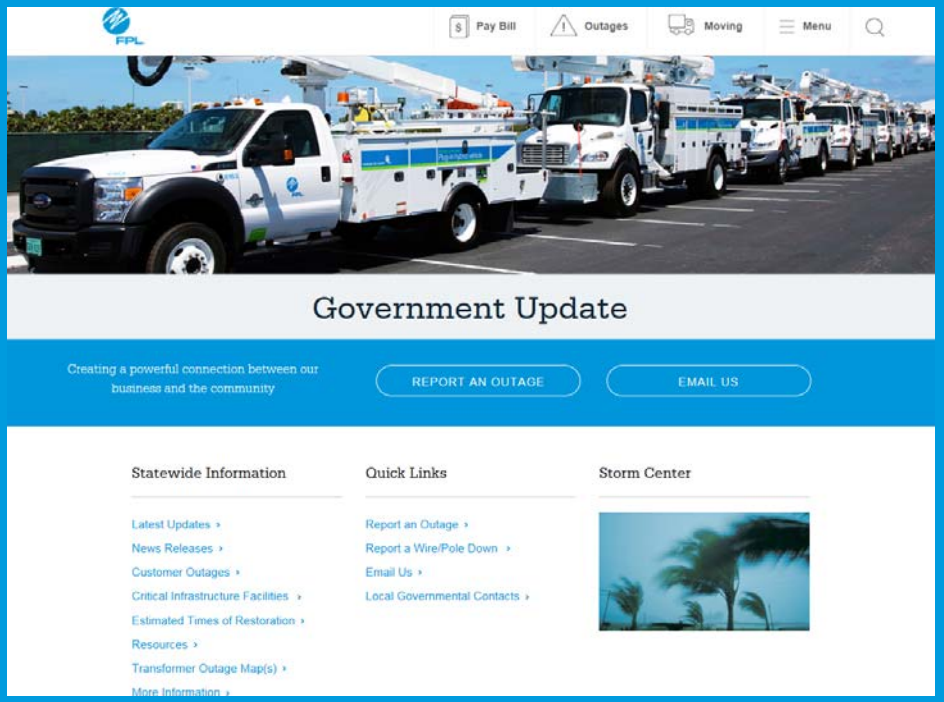
Customer and Stakeholder Communication

Expanded digital/face-to-face communications

- Frequently used Facebook Live broadcasts to provide broad restoration updates
- Targeted social posts with area-specific information
- Pushed texted communications to update customers
- Launched new FPL Mobile App for easy access to information
- Established community response kiosks in hardest hit areas

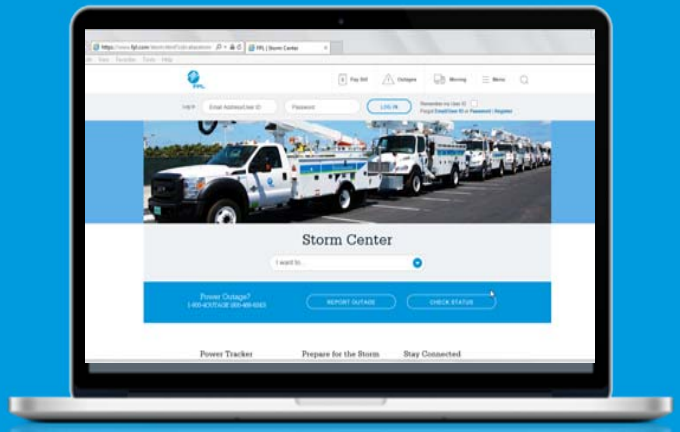
Proactive local stakeholder engagement



- FPL personnel, staffed at 32 EOCs, maintained steady contact with 100% of counties served
- FPL President/CEO hosted multiple conference calls with key local government leaders to provide updates/obtain input
- Company leaders (at times accompanied by local leaders) made daily in-person site visits to impacted areas
- Sent daily e-mail updates and provided hourly updates to Governmental Portal website with franchise-level information

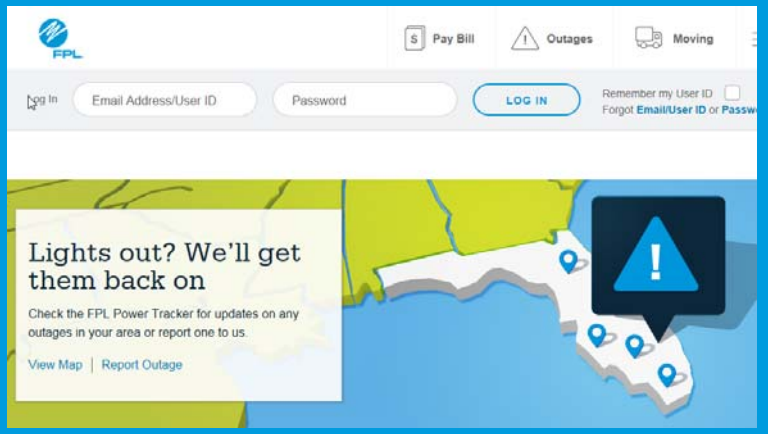
Key communication improvements

Digital Systems



- **Completed initial system improvements to ensure the capacity of our digital systems can now handle extreme volumes of customer traffic – even beyond the volume experienced during Hurricane Irma.**

Restoration Information



- **Working to provide more consistent, accurate and timely restoration information to our customers and stakeholders.**

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Suggested Improvements

- **2018-2020 Underground Lateral Pilot**
  - Initiated primarily as a result of Matthew/Irma learnings
  - Will provide valuable insight for future lateral overhead to underground conversions
    - Barriers
    - Experience with infrastructure design options
    - Customer acceptance/resistance/participation
    - Customer property repairs/meter can conversions
    - Easements/land rights
    - Permitting/municipal coordination
    - Project duration
    - Resource/cost impacts
    - Pole attachment considerations
  - Involves laterals spread throughout all 16 FPL management areas and 10 of the most populated counties in FPL's service territory
  - Estimating construction to begin July 2018

Suggested Improvements (continued)

- **Vegetation Management**
  - Change state laws/local ordinances to adopt/enforce “Right Tree, Right Place” philosophy and provide utilities’ rights to clear/remove vegetation near electric facilities – including outside of rights-of-way or easements

- **Pole Inspections**
  - Work with legislature to enact law requiring pole inspection program for non-electric utilities that own poles with electric facilities attached

Questions?