FPSC Hurricane Preparedness Workshop for 2019
April 4, 2019

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FPL Power Delivery (Transmission and Distribution)

3,000 employees
75,000 miles of power lines
1.3 million poles and structures
600+ substations

serving more than half of Florida
vast majority of customers live within 20 miles of coast

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CHANGING THE CURRENT FPL
Requested Workshop Presentation Topics

► Vegetation Management
► Pole Inspections
► Storm Hardening
► Storm Preparedness
► Lessons Learned
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Vegetation Management

► **Distribution**
  ► Feeders: 3-year avg. cycle (+ mid-cycle trimming)
  ► Laterals: 6-year avg. cycle
  ► Miles trimmed (2018)
    ► Feeders: 11,344 (4,251 cycle; 7,093 mid-cycle)
    ► Laterals: 3,926 miles
  ► Before peak of storm season – inspect/trim CIFs

► **Transmission**
  ► Inspect and Protect Program
    ► Inspect right-of-way at least 2 times per year
    ► Maintain clearances annually - 7,100 miles
    ► Meet mandatory NERC-established requirements
  ► Before peak of storm season – perform aerial patrols
Requested Workshop Presentation Topics

► Vegetation Management
► Pole Inspections
► Storm Hardening
► Storm Preparedness
► Lessons Learned
Pole / Structure Inspections

► Annually inspect / test for strength and loading

► 1.2 million distribution poles
  ► 8-year cycle (wood & concrete)
  ► In 2018 - 156,010 inspected / 135,559(W) / 20,451(C)
  ► 4.2% overall failure rate – 4.8%(W) / 0.3%(C)

► 67,000 transmission poles/structures
  ► Visually inspect 100% annually
  ► Strength/load test cycles: wood: 6-year / concrete: 10-year
    ► In 2018 - 2,103 (W) / 7,542 (C/S)
    ► 0.6% overall failure rate – 16.4%(W); 0.04%(C/S)
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► Lessons Learned
Storm Hardening

► **Distribution**
  - 2018 – Continuing with EWL strategy - hardened 200 feeders;
  - 2019 – 230 feeders planned
  - 2018 – UG lateral pilot – To date, 5 laterals / 3 miles converted;
  - 2019 - 152 laterals planned (60 miles, throughout service territory)

► **Transmission**
  - 2018 – Continue to replace wood structures – 1,117 replaced - system now 93% steel / concrete
  - 2019 – 1,974 replacements planned

► **Impacts of 2016-2018 storms on hardening efforts**
  - Experienced some delays - still expect to replace all wood transmission structures by 2022 / all feeders hardened/underground by 2024
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Storm Preparedness

► Implementing technology improvements to enhance storm damage forecasting / restoration processes

► Logistics
  ► Increase fuel & materials inventories / pre-stage materials prior to storm season

► Annual Drills
  ► Corporate-wide dry-run - May 2 & 3
  ► Full-scale staging site exercise - May 13 – 16

► Mutual Aid Organizations/ Agreements
  ► Southeast Electric Exchange (SEE)
  ► Edison Electrical Institute (EEI)
  ► Florida Electric Power Coordinating Group, Inc. (FCG)
  ► Pre-negotiate contracts with restoration vendors
Storm Preparedness - continued

► Have conducted annual storm preparedness meetings with all EOCs

► Continuing customer outreach meetings/presentations
  ► 900-1000 presentations annually
  ► Presentations cover various topics (e.g., storm readiness, reliability, RTRP)

► FPL provides info to customers re: how to operate solar equipment during outage (if customer has specialized inverter/battery system)
Storm Preparedness – continued

- Use multiple channels / methods for customer communications – before, during and after storm
  - News releases and daily press conferences
  - Targeted ads and customer emails
  - Media interviews and opportunities in hard hit areas

- Use digital / face-to-face communications
  - Social media for prep and safety messages, as well as restoration updates
  - Community response kiosks in hardest hit areas

- Provide daily e-mails/hourly updates to Gov’t. Portal Website – includes localized outage/restoration info

- Made improvements to address customer communication issues experienced during Hurricane Irma
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- Storm Preparedness
- Lessons Learned
Lessons Learned – 2018 Storm Season

► For FPL - No direct landfall / major storm impacts
  ► No changes to third party agreements

► Mutual assistance provided in 2018:
  ► Hurricane Florence (North Carolina)
  ► Hurricane Maria (Puerto Rico)
  ► Hurricane Michael (Florida Panhandle)
  ► Camp Fire (California)
  ► Experiences reinforce FPL’s processes/initiatives
    ► Need well developed plan
    ► Pre-staging resources / materials
    ► Hardening beneficial
    ► Non-traditional mutual assistance
Questions?