



Hurricane Preparedness Workshop

To the Florida Public Service Commission

April 4, 2019

Vegetation Management

- Distribution
 - Four year cycle for feeders and laterals
 - 1,237 miles trimmed
 - 3,452 hotspots trimmed
- Transmission
 - Two year cycle on Bulk (230kV, 138kV)
 - Three year cycle on non-Bulk (69kV)
 - 509 miles trimmed
 - 2,369 acres of right-of-way mowed



Pole Inspections

- Distribution
 - Eight year cycle
 - 40,003 poles inspected
 - 2,673 poles failed
 - 2,536 poles replaced
 - 1,080 reinforced
- Transmission
 - Eight year cycle
 - 1,028 poles inspected
 - 169 poles failed
 - 149 poles replaced



Hardening Projects

- 164 transmission structures hardened.
- 26 distribution live-front critical switchgears replaced with dead-front, submersible gears.
- 34 downtown network protectors tested; 2 replaced.
- 16 overhead interstate crossings converted to underground through 2018.
- Dana Shores underground pilot project.
- No impacts to projects from last three hurricane seasons.



Storm Plan & Mock Drill

- Storm Plan changes:
 - Integrate Automated Roster Callout System (ARCOS) into more processes for greater tracking and visualization capabilities.
 - Clear transition from centralized to de-centralized control.
 - Response to and control of locked-out feeders.
 - Control of numbered switches on main feeders.
- Annual mock hurricane drill changes:
 - Scheduled for May 7, 2019.
 - Use ARCOS for tracking progress.
 - Transition control from centralized to dispersed.
 - Use of GIS for cut-and-clear process.



EOC Meetings

County	Critical Facilities	Community Outreach Workshop	Operations Group Meetings
Hillsborough	Jan 2019 Feb 2019 Mar 2019	May 2019	Mar 2019 Jun 2019 Sep 2019 Dec 2019
Pasco	Jan 2019 Feb 2019 Mar 2019	May 2019	N/A
Pinellas	Jan 2019 Feb 2019 Apr 2019	May 2019	N/A
Polk	Feb 2019 Mar 2019	May 2019	N/A



Mutual Aid & Readiness Outreach

- Mutual aid agreements:
 - One with Southeastern Electric Exchange (SEE)
 - One with Edison Electric Institute (EEI)
 - Seven with municipalities within Florida
 - SEE & EEI gives access to over 100 utilities
- Storm readiness outreach:
 - Covers storm readiness by Tampa Electric, customer preparations, response, restoration, generator compliance and what customers can do to help in restoration.
 - Meeting with community leaders, emergency management officials, assisted living facilities, media, commercial customers.
 - Hosted at Tampa Electric facilities and webinars in April, May and June.
 - Bill inserts, media release, print ads, online guides & social media messages.



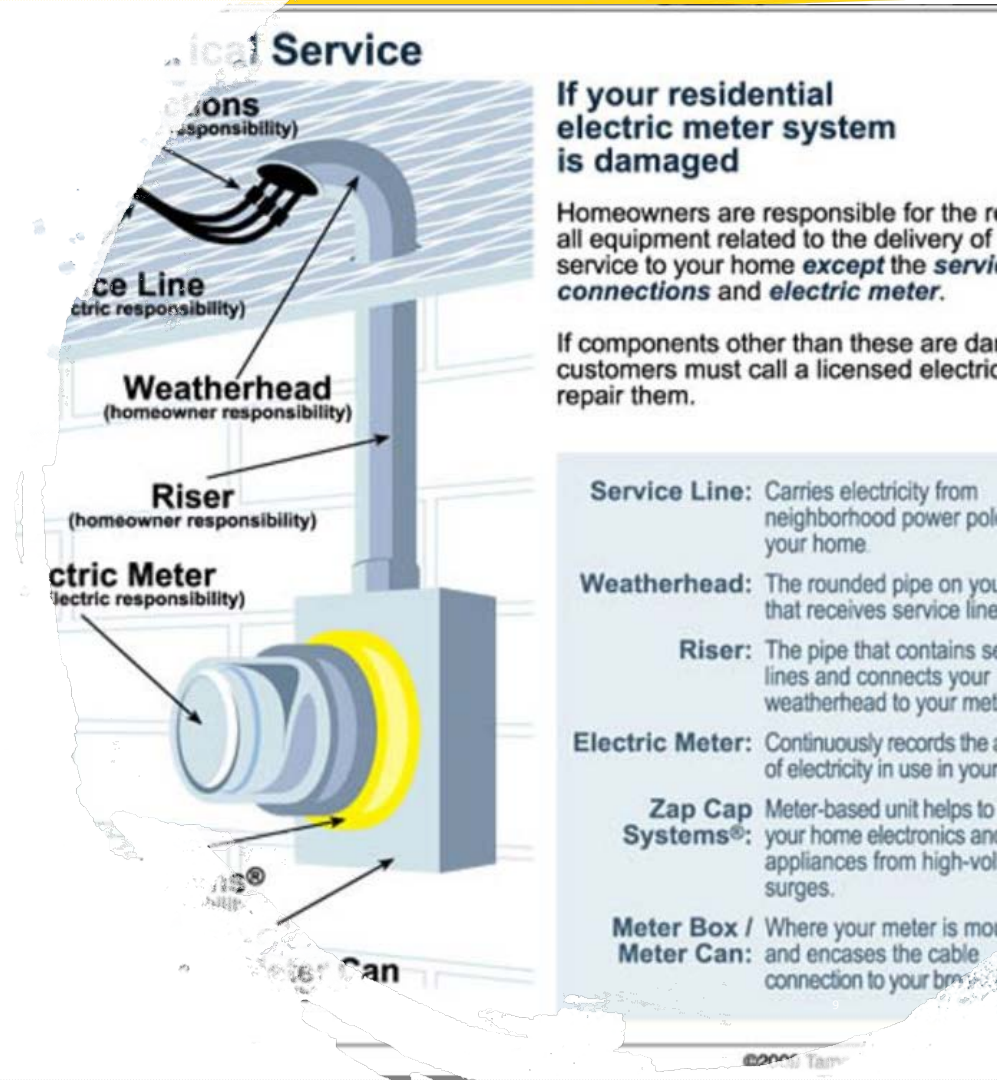
Customer Outreach

- Customer outreach during restoration:
 - Outage map continually updated throughout restoration about damage assessment, restoration progress percentage, Estimated Times of Restoration (ETRs), customer safety and outage reporting messages.
 - Twitter, Facebook, YouTube, Blog, email, media coverage with outage reporting solicitations, wire down & generator safety, restoration progress, restoration videos, and thank you messages.

The screenshot displays the Tampa Electric Emergency Broadcast System website. At the top, there is a navigation bar with the TECO logo (Tampa Electric, an ENERGA COMPANY), a search bar, and language options. Below the navigation bar is a banner with the text: "Tampa Electric Emergency Broadcast System. We are making significant strides to bring many customers back in service every day and expect almost all customers to be restored by the end of the weekend. Thank you for your patience." Below the banner is a navigation menu with options for Residential, Business, and Company, and a "Connect to Us" link. The main content area features a "HOME / RESIDENTIAL / POWER OUTAGES / OUTAGE MAP" breadcrumb trail and a large "Outage Map" section. The map is titled "Power outages within our service area*" and shows a map of the Tampa Bay area with numerous red and yellow markers indicating outage locations. A legend indicates the number of customers affected by outage: Large (100+), Medium (51-100), Small (1-100), and Very Small (1-100). Below the map, it states "Number of customers without power: 299,066". To the right of the map is a text box with the following content: "We are estimating that essentially all customers will be back in service by the end of this weekend. Due to the magnitude of this storm and the significant rebuilding of the system required, some customers may take longer to restore. To restore service safely, efficiently and as quickly as possible, restoration efforts must be completed in a systematic manner. We are committed to public safety, law enforcement and essential services, as well as working outages that impact the largest numbers of customers. If smaller outages can be completed quickly, these are worked first. Smaller and more complete outages will take longer to restore. We have over 200,000 man hours of work to repair the damage to get customers back in service. We understand customers are looking for specific restoration information to plan and we will work to provide that information as restoration progresses and further damage is restored. We Stand Ready." Below this text box is a "Power out?" section with the text: "Choose from any of these convenient options to let us know:" followed by a list of options: "Enroll in teccountant.com and report your outage with one click.", "Report your outage online.", "Sign up for Power Updates through teccountant.com. Once you're signed up, you can text OUTF to 35060 to report future outages or UPDATE for updates.", and "Call 1-877-588-7676 to report your outage at any time." At the bottom right, there is a green box with the text "Percentage of customers with power 59%".

Ownership & Inventory

- Delineating equipment responsibility:
 - Social media with link to illustration of delineation.
- Storm equipment inventory
 - “911” inventory stored separately and maintained by Stores.
 - Increase prior to storm season and decrease after.
 - Reviewed with operations for appropriateness.



Lessons Learned

- More resources for wires down & streamline process.
- Train internal and external management teams to operate additional incident bases.
- Develop enhanced granularity on ETRs to meet customer expectations.
- Vehicle fueling 3rd party agreement changes.
- Implement technology to gather more frequent damage assessment and restoration data from field and incorporate into Outage Management and Work/Resource Management Systems more efficiently.
- Use better technology to enhance tracking of crews and progress.
- Streamline outage communication technologies.
- Improve storm documentation and invoice review process.

