Hurricane Preparedness Workshop

To the Florida Public Service Commission

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Presented by
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Vegetation Management

Distribution 2024

- Four-year cycle for feeders and laterals
  - 1,372 miles trimmed
- Reactive VM
  - 1,739 Work Requests completed
- Storm Protection Plan (SPP)
  - 461 Supplemental miles trimmed
  - 1,008 Mid-cycle miles inspected
  - 1,333 hazard trees removed

Transmission 2024

- Two-year cycle on Bulk (230kV, 138kV)
- Three-year cycle on non-Bulk (69kV, 34kV)
- 525 miles trimmed
- 10,034 acres of right-of-way mowed

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Pole Inspections

Distribution

Eight-year cycle

- 2024 3rd year of 3rd cycle
- 36,789 wood poles inspected
  - 1,600 poles failed
  - 346 poles replaced

Transmission

Eight-year cycle

- 125 Wood poles inspected
  - 26 poles failed
  - 462 poles replaced
    - 34 Non-SPP
    - 428 SPP TAU
- Other pole/circuit inspection methods: aerial infrared and ground patrols.

SPP, Hardening & Reliability Projects

Lateral Undergrounding

- 66 miles of distribution laterals undergrounded.

Transmission Access Upgrades

- 428 transmission structures hardened.
- More than 90% of the Transmission System is non-wood.

Feeder Hardening

- 723 distribution feeder poles hardened on 23 circuits.

Substation Extreme Weather Hardening

- Raised two transformers and critical equipment at the MacDill Substation

SPP Performance Hurricane Milton

- **Laterals converted under SPP experienced 75% reduction** in outage rate vs overhead laterals.
- Overhead laterals within 500 ft of a SPP converted lateral were 4 times more likely to experience an outage.
- 26 of 28 Transmission poles damaged in Milton were wood. **No SPP installed Transmission poles were damaged during Milton.**

Metric	Milton	Ian	Irma
Date & Time Start	10/9/24 09:53	9/28/2022 7:30	9/10/2017 10:00
Date & Time End	10/18/24 23:59	10/4/2022 23:59	9/17/2017 23:59
Unique Customers Impacted	741,660	256,001	220,663
Customer Interruptions	1,542,581	678,078	331,748
Customer Minutes of Interruption	3,039,455,126	668,618,036	599,083,229
Number of Outages	15,353	2,997	1,488
Customers Served	869,995	835,835	756,227
% of Unique Customers Impacted	85%	31%	29%
SAIDI	3,493.65	799.94	792.20
SAIFI	1.77	0.81	0.44
CAIDI	1,970.37	986.05	1,805.84
Days to Restore	10	7	8

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Always On Vision – Customer Experience

Create an "Always On" customer experience

Leverage asset management to eliminate outages and improve efficiencies

Build additional grid and telecommunications capacity

Fully automate the grid

- Tampa Electric aspires to build and operate a safe, clean, modern grid that is always on.
- Our system storm hardening and grid modernization programs are designed to minimize outages, outage durations and affected customer counts.
- Developing a private Long-Term Evolution (LTE) communication network designed to enable our Fault Location Isolation Service Restoration (FLISR) control and distribution automation system.

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Bearss Operations Center

- Tampa Electric's new Energy Control Center. Completion projected for Q4 2025.
- Location moved from Zone "B" evacuation area to 12 miles inland.
- Designed for enhanced restoration capabilities to decrease the number of outages and to improve storm control resiliency.
- Modern facility with enhanced capabilities to maximize visibility, control and performance of the grid.
- Enhance our ability to operate a more adaptive and resilient grid that is "Always On".

Storm Planning & Resiliency

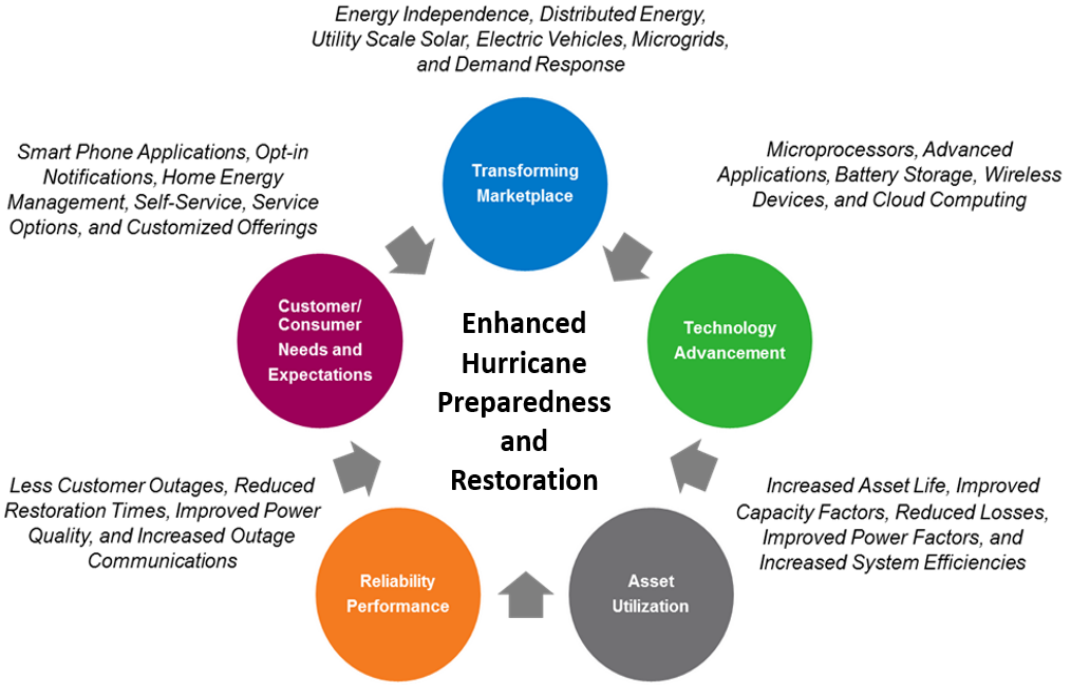
- **Conducted Annual Storm Plan Review,** including incident base and base camp providers.
- **Continued Evaluation of** additional foreign crew staging sites.
- **Continued enhancement efforts of the new Advanced Distribution Management System (ADMS**) including Storm Assist ADMS Module for more safe and efficient coordination between line workers and control center.
- **Completed MacDill Power Station resiliency project.**
- **Restoration Process changes:**
  - Leveraging technology-based resources to streamline communication and coordination among various groups involved in storm recovery efforts.
    - Eliminates the need for manual or verbal handoffs of circuits between groups, reducing the risk of errors.
    - Provides enhanced visibility into the location of employees and their assigned tasks during the storm recovery process improving safety of field personnel.
  - Expansion of Distribution Control Center leadership
    - This expansion entails providing additional resources to each restoration group, reducing communication bottlenecking. This initiative aims to improve efficiency and responsiveness within the organization during storm recovery operations.

Mock Storm Exercises

- **Annual exercises**
  conducted in April and May 2025.
- **Emphasis on lessons learned from Hurricanes Debby, Helene, and Milton.**
  - Understand roles/responsibilities.
  - Test incident base logistics support functions.
  - Test alternate communication strategies (e.g., satellite, GETS & Wireless Priority Service, amateur radios).
  - Practice using tools and new dashboards for situational awareness.
- **Conduct Safety Expo**
  for all Electric Delivery team members.

ADMS Provides Improved Storm Capabilities

- **2023 Upgrade**
- **Upgrade effectively provides improved**:
  - Switching Orders
  - Archive performance
  - Ability to move forward with Distributed Energy Resource Management
  - Ability to move forward with decentralized dispatching
- **Links in power on/power off notifications-** saving our customer the need to call in an outage.
- **Improves our reporting capabilities** for Emergency Operations Centers (EOC) and FPSC purposes.



Mutual Aid & Readiness Outreach

Mutual aid agreements:

- External coOne with Southeastern Electric Exchange (SEE)
- One with Edison Electric Institute (EEI)
- SEE & EEI give access to over 100 utilities
- Agreements with municipalities within Florida
- Robust, storm-tested mutual assistance group
- Contact center representatives to assist in processing outage calls during restoration efforts.

Storm readiness outreach:

- Promote Storm Ready designation by the National Weather Service (NWS).
- Discuss preparedness and review of critical facilities with County Emergency Management agencies. List of critical facilities updated for 2025.
- Participate in community outreach events promoting hurricane preparedness.
- Review County and Municipality EOC staffing plans and ready personnel to report as requested.
- Internal/External communication plans for varying levels of severe weather; focus on pre-storm, post-storm, and generator safety.

Customer Communication Campaigns

Communications are available across multiple channels including phone calls, emails, and text messages, and languages (English or Spanish) per customer preference. This is also available through social media, our online customer portal, and public websites.

Outage Reporting

- Automated IVR, 2-way text messaging, online customer portal/outage map, and live customer service agent.

Proactive Outage Communications

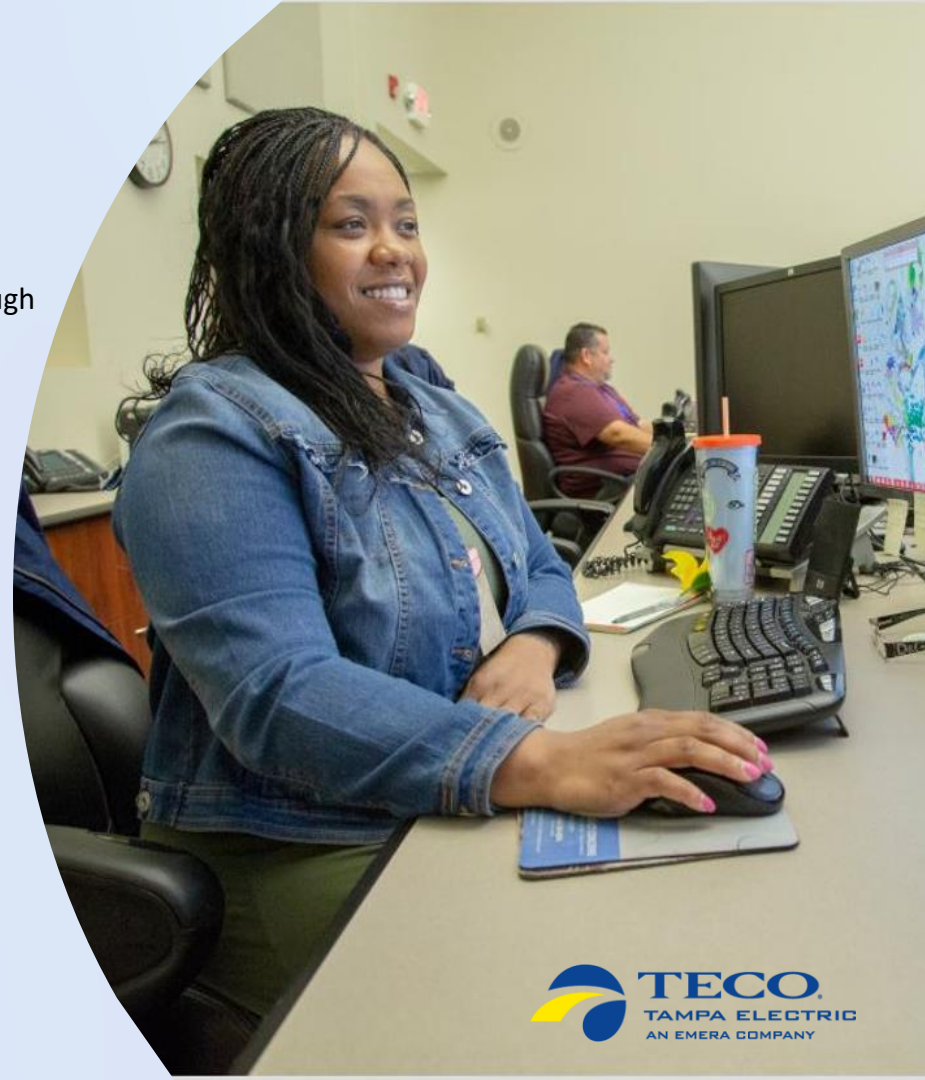
- Acknowledgement that we are aware of a new outage.
- Provide known information including initial time of restoration, # of customers impacted, cause, and status.

Restoration Notifications

- When ETR changes by more than 2+ hours.
- Updated cause or status (if known).
- When an outage has been restored.
- Ability to re-report outages, if necessary.

General Communications During Hurricanes

- Pre-Hurricane prep messaging reminding customers to be ready and what our process is leading up to restoration.
- Post-hurricane messaging advising we are assessing damage.



Continued Customer Outreach & System Hardening

Real-time Updates to Outage Map Alert Messages

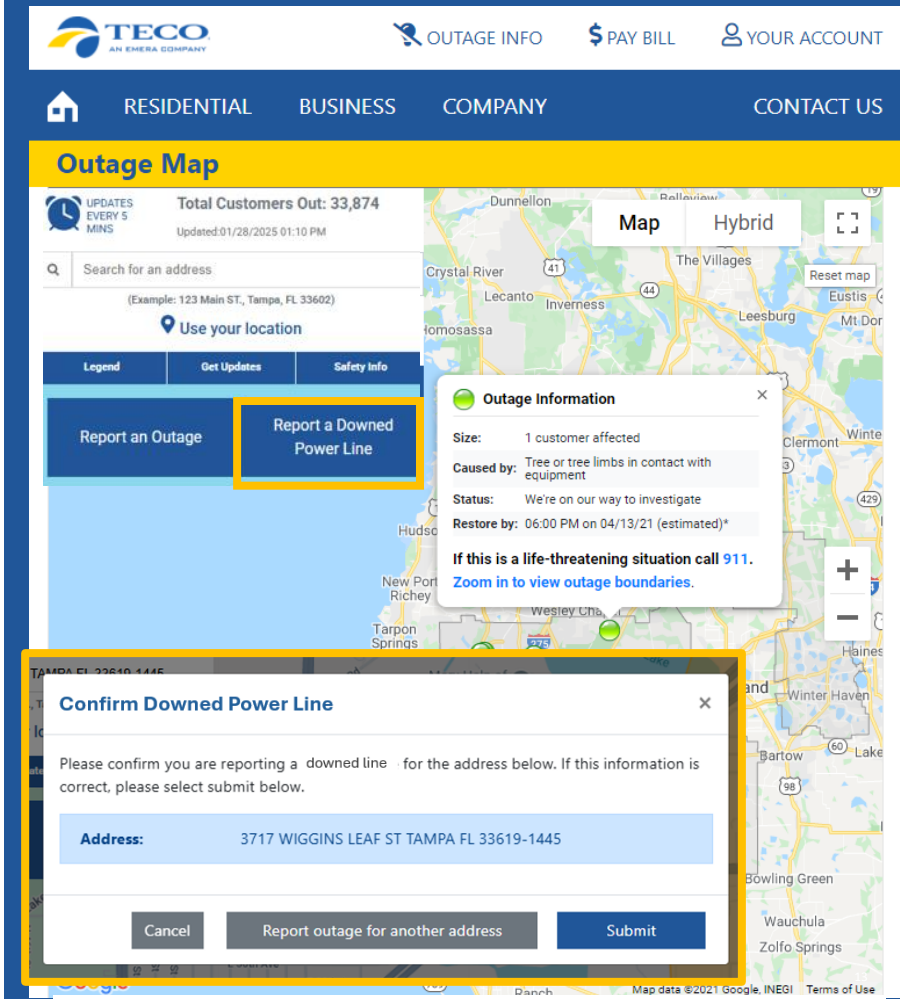
- Status of damage assessments, % restoration progress, updated ETRs.
- Customer safety tips and outage reporting reminders.

Multichannel Communication

- Social media (X, Facebook, NextDoor), website banners/blogs, e-newsletters.
- Media coverage with restoration visuals (photos/videos), generator safety, and thank-you messages.

Ongoing System Hardening and Outage Map Enhancements

- Investments to improve outage map reliability and implementation of new features like customer-reported downed wires directly through the map.



Note: This screenshot is a mock-up of functionality currently in development.

Lessons Learned

- Develop better tools to improve information sharing across critical business units and key functions.
- Assess technology options for management of mutual aid crews.
- Continue training of internal teams to operate and support incident bases and base camps.
- Continue to identify and cross-train back-up personnel at all levels.

Implemented Lessons Learned

- Technology enhancements for improved outage map availability and response.
- Use of Florida-based meteorologist to enhance territory specific forecasting and improve decision-making.
- Integrated mobile safety orientation for mutual aid crews.
- New logistics contracts with third party base camp providers and hotel disaster booking service; serves as one-stop shop for lodging accommodations.

Questions?

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