

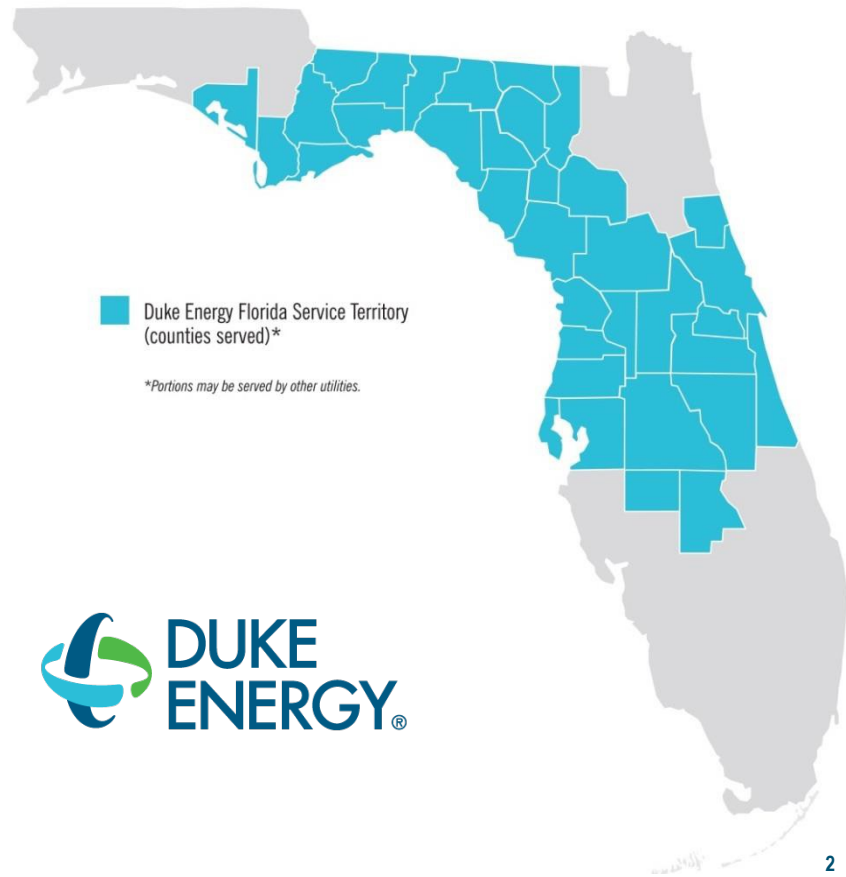
Duke Energy Florida, LLC 2021 Florida Public Service Commission Hurricane Season Workshop



BUILDING A SMARTER ENERGY FUTURESM

At Duke Energy Florida, we power more than 4 million lives

- Service territory includes:
- Service to 1.9 million retail customers in 35 counties
- 13,000 square miles
- More than 5,200 miles of transmission lines and 32,000 miles of distribution lines
- Owns and operates nearly 11,000 MWs of generating capacity
 - Gas – 81%
 - Purchased Power – 10%
 - Coal – 7%
 - Solar – 2%



Duke Energy Florida is prepared for the 2021 hurricane season

Operational preparation is a year-round activity

- Transmission & Distribution Systems Inspected and Maintained
- Storm Organizations Drilled & Prepared*
- Internal and External Resource Needs Secured*
- Response Plan Continuously Improved



Coordination with County and State EOC Leaders

- Structured Engagement and Information Sharing Before, During and After Hurricane
- Coordination with county EOC priorities*
- Public Communications and Outreach



*Continue to implement COVID-19 safety protocols



RESTORATION

1.
Transmission Lines

2.
Substations

3.
Critical Infrastructure

4.
High-density neighborhoods

5.
Individual homes



Storm Plan Improvements and COVID-19 Requirements

- Staging Sites:
 - Training at mock staging site in July 2021
 - Staging Site Health Lead focused on COVID-19
 - Crews organized into small teams for working, eating, sleeping, showering, etc. to minimize interactions
 - Medical isolation area to assess individuals with high temperature or COVID-19 symptoms.
 - Recruited additional employees and retirees to fill new COVID-19 staging site support roles.
- Operations:
 - DEF completed a multiyear effort to upgrade nearly 2 million customer meters to smart meters. Ping-it technology enables remote confirmation of outage status in seconds.
 - Increased daylight productivity through daily timesheet review and Meal/Fuel exception process. In 2021, DEF will implement a smart phone app and web portal to streamline the process.
 - Ongoing collaboration with Regional Mutual Assistance Groups and contractors regarding COVID-19 protocols.



Continuous Improvements to Customer Communications

Proactive Outage Alerts Campaigns

There are three main 'campaigns' within Outage Alerts that are used to keep customers informed. Each can be turned on or off independently of one another.

1. Initial Out Campaign – This is the campaign that notifies customers the we are aware of their outage. If available, the system generated ITR can also be included here. Except for technical issues, this campaign will typically stay on.

2. ETR Campaigns – This campaign is what provides customers the majority of updates including ETR or updates to ETR, crew status, and cause. During large storm events, this campaign can be disabled – see slide 7 for details.

3. Restoration Campaigns – This campaign notifies the customer that we have restored power to their area. This can also be disabled during large storms.

Note: *Only the first 8 characters of the address are sent for legal protection.*

Duke Energy: There is a power outage in your area that may impact 123 Main. Estimated Restoration times are temporarily unavailable while we make repairs and assess damage. If your service is on Text 1. If you are without power, there is no need to report at this time. Visit <http://duk.us/05> for updates.

*Initial Out Campaign
(OMS ITRs Off)*

Duke Energy: Estimated time for power to be on is currently 02:30PM on Jan 22 for 123 Main; crew working; We apologize. Additional Outage Alerts may be delayed while repairs & damage assessment are underway. For updates visit <http://duk.us/05>

*ETR Campaign
(OMS ITRs Off)*

Duke Energy: Repairs are complete in the area of 123 MAIN as of 2:20 PM, Jan 22. Caused by public vandalism. Approx 16 customers impacted. If your power is still out, reply OFF.

*Restoration
Campaign*

Continuous Improvements to Customer Communications

Storm Mode “Ad Hoc” Campaigns

While portions of Outage Alerts may be turned off, ad hoc customer communications are used to keep customers informed.

Ad Hoc Messaging – We create custom messages to customers to share important information such as:

- Repairs to begin when conditions allow
- Damage Assessment underway
- Restoration progress updates
- How we restore power
- When to expect an update (i.e., ETA for ETR)
- Instructions for Reporting Outages, etc.

We send communications via the channel customers have selected as their preference (text, email and outbound calls). During major outage events, we also send communications to customers that are not actively enrolled if we have contact information.

Duke Energy Storm: Crews are actively restoring power & continue to assess damage caused by ice in your area. The next update will be available no later than 9:30PM on Feb 13. Please visit duk.us/05 after that time for the latest information. Text STOP to cancel updates.

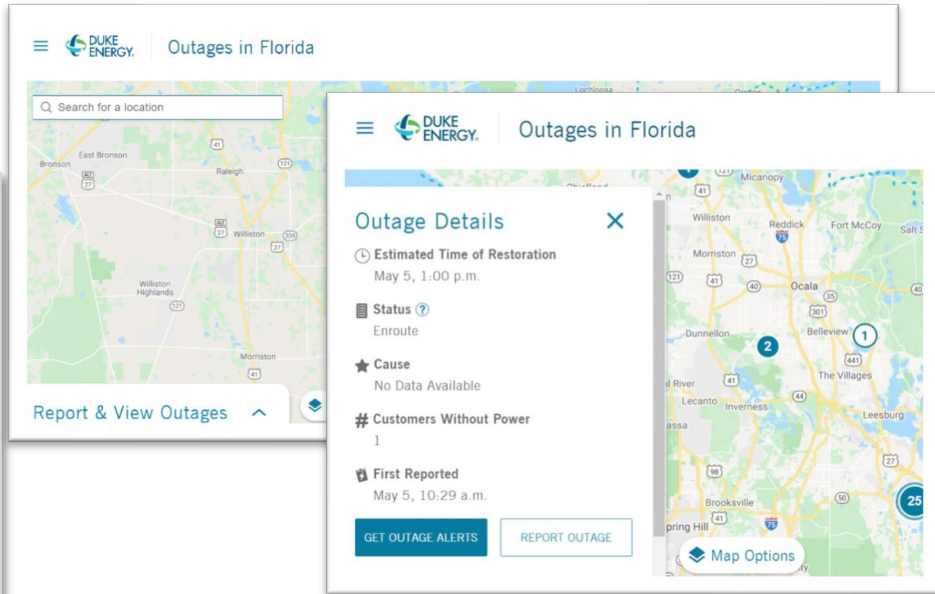
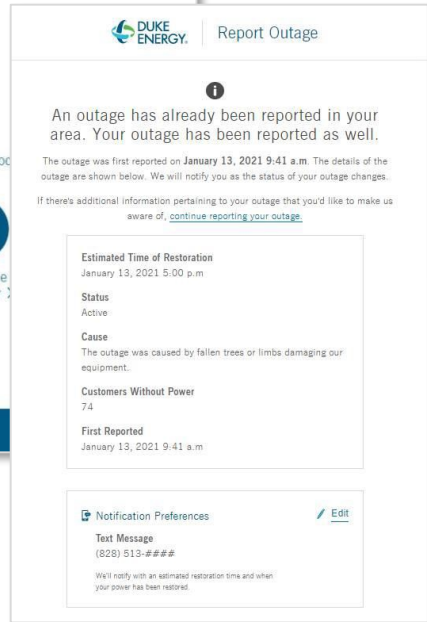
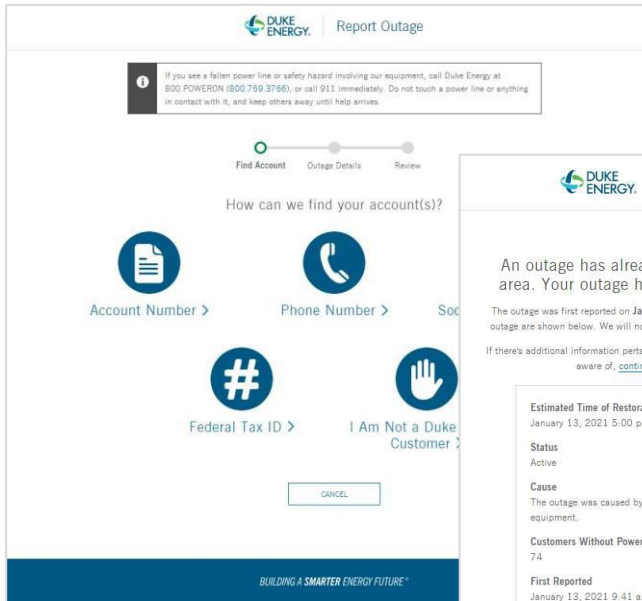
*Sample Ad Hoc:
ETA for ETR*

Duke Energy Storm: The high winds & heavy rains from tropical storm Isaias significantly impacted your area. Crews have already begun assessing the damage & making repairs. For what to expect as this work begins visit duk.us/19. We will continue to provide updates on power restoration as we progress. Text STOP to cancel updates.

*Sample Ad Hoc:
Damage Assessment*

Customer Options – Outage Details Still Available

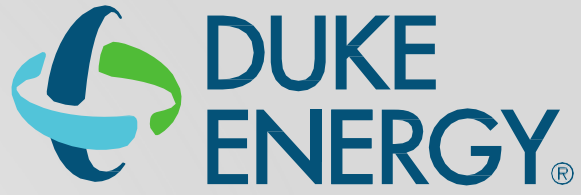
While portions of the outbound messaging may be turned off, customers can still access information entered about their outage.



- ✓ Customers can access details about their outage via the Map, the Duke Energy app, Duke-Energy.com, or the IVR.
- ✓ Ad hoc messaging frequently drives customers to the Outage Map
- ✓ No update to an outage event is ever wasted

Communications Capabilities (As of May 4)

	Email	Phone Numbers/Hurricane Events Message Broadcast Service (text/outbound calls)
Residential	927,000	1.27 Million
Business	24,000	150,000
App Users	371,000	
Outage Alert Enrollment	1.14 million locations receive outage information (combination of email, text and voice)	



TOPICS FOR DISCUSSION

Storm Preparation and Restoration Processes

Utility hurricane drills scheduled for 2021 - Hurricane drills were held on April 20 and 21 modeling the impacts of Hurricane King in 1950. Refresher training continues into hurricane season and will be repeated in Q3 as needed.

Mutual aid agreements for restoration

Duke Energy Florida, LLC (“DEF”) remains active in the Southeastern Electric Exchange Mutual Assistance Group, EEI and the Florida Coordinating Group. In addition, annual contracts with more than 100 line, vegetation management, logistics and damage assessment vendors will be renewed by June 1, 2021.

Actions taken to address COVID-19 requirements

Operating and maintaining the power grid is a 24/7 responsibility that requires proactive and consistent attention. Here are some of the ways DEF is working to meet that responsibility while incorporating the safety precautions necessary during this uniquely challenging time.

Daily Operations:

- DEF is performing work remotely whenever possible.
- When employees must be on-site, they will refrain from shaking hands, maintain at least 6 feet of distance when possible and reduce the use of paper forms.
- DEF's repair crews will wear face coverings when social distancing cannot be maintained.
- DEF has new signage that directs the public to remain safely outside of marked work zones and refrain from approaching repair crews.
- DEF has staggered start times for employees and has also started dispatching employees from home to avoid gathering large groups in operations centers.

Actions taken to address COVID-19 requirements

At Staging Sites:

- Training at mock staging site near the Villages in July 2021.
- Daily, no-touch temperature checks at site entrance.
- Established role of Staging Site Health Lead focused on COVID-19.
- Crews organized into small teams for working, eating, sleeping, showering, etc. to minimize interactions.
- Sleeper trailers occupied at 50% capacity.
- Medical isolation area to assess individuals with high temperature or COVID-19 symptoms.
- Recruited additional employees and retirees to fill new COVID-19 staging site support roles.

DEF will continue to adapt its work processes as necessary throughout this pandemic and following all local, state and federal guidelines.

Availability and inventory of equipment needed for restoration

As part of DEF's storm process, we keep Storm Material Boxes on hand, stocked and ready to deploy if needed to staging sites upon activation. For larger material needs, prior to a major storm, Supply Chain will assess inventory and provide a pre-storm delivery to strategic locations based on DEF's weather models.

Brief description of targeted undergrounding projects (DEF and FPL only)

- The Targeted Underground (TUG) program was developed to address difficult to access overhead lines with a history of vegetation-related outages. The locations were selected based on a 10-year outage history of both the fuse and downstream transformers, secondary and services.
- The primary purpose of this program is to eliminate tree and debris-related outages in the area of exposure by converting heavily vegetated neighborhoods that are prone to power outages from overhead to underground construction. This will decrease outages, reduce momentary interruptions, improve major storm restoration time, improve customer satisfaction and reduce costs.

Customer/Stakeholder Outreach and Communication

Status of meetings between the utility and city/county/state EOCs concerning storm preparedness and priority lists

DEF performs annual reviews both internally and with its county EOCs to review storm preparedness and the critical priority lists. These visits typically begin in March and continue through the end of storm season. Due to the continued COVID-19 response, many of the scheduled visits have been delayed further into the season as DEF continues taking precautions to protect the health and safety of our employees and community partners.

DEF plans to perform visits with the county EOCs either in person or remotely to discuss general storm preparedness and critical priority lists. DEF's EOC representatives, Government and Community Relations managers, are in continued contact with the EOCs in DEF's service territory in response to continued COVID-19 and storm season support.

Utility staffing assignments at local EOCs

DEF has forty-seven staff members providing support directly to the county and state EOCs in the role of EOC representative. DEF also had an additional forty-five staff members providing support, including Liaison Incident Command Staff, government and community relations and operations support dedicated to EOC priority requests.

Customer communication messaging on storm preparation and on restoration efforts

Prior to hurricane season, DEF distributes a comprehensive, multi-channel campaign for late May that features emails, newsletters, social media posts, news releases, advertising in hurricane guides, articles on our Illumination website and content for local media outlets that educates customers on a host of topics including:

- Safety and preparedness;
- Outage Alerts enrollment;
- Restoration processes;
- Storm Center on Duke-Energy.com;
- The Outage Map and ways to report outages; and
- Storm-related videos.

DEF uses numerous communications and multi-media channels to communicate to customers and other external audiences via mass media and direct-to-customer channels. Communications are developed and distributed during each phase of a hurricane event: Preparedness, assessment phase, restoration phase and “Thank You” after restoration is complete

During restoration, DEF’s proactive communications are often supplemented with additional messaging, delivered through the same channels to ensure customers are receiving frequent updates when outage duration is significant. DEF’s Customer Experience Team works closely with operations to ensure customers are kept informed during extended outage events. These periodic updates have become a standard part of our processes during major storm events.

Status of meetings/coordination with third-party attachers regarding restoration efforts

When activated for a hurricane, DEF staffs the ESF 12 Energy desk in State and County Emergency Operations Centers, where logistics and restoration priority coordination with third-party attachers occurs through the ESF 2 Communications function. Outside of hurricane activation, DEF informs communication carriers approximately 3-4 months in advance of Storm Protection Plan projects that may impact joint-use poles. At that time, communication carriers have the option to purchase the poles DEF intends to abandon. If the carrier opts to purchase, DEF will manage the purchase and invoice process, remove its electric facilities from the pole, and attach a placard identifying carrier-specific pole ownership.

Vegetation Management

Current trimming cycles for the distribution and transmission system

Distribution: DEF performs pruning on Distribution Feeder backbones on a three-year weighted average cycle and Distribution Laterals on a five-year weighted average cycle. DEF balances this goal against overall system reliability, customer impact and cost effectiveness. DEF's 2021 Vegetation Management program is on schedule to meet feeder and lateral maintenance cycle commitments.

In addition to regular trim cycles, DEF performs additional trimming on each system before hurricane season. Between February 1 and April 15, storm-hardening patrols were completed on all Distribution Feeders. While DEF does not typically prune contiguous additional miles associated with these patrols, all 3-phase circuitry is patrolled, and immediate threats are addressed. All identified pruning, overhang and tree removal locations will be completed by June 1, 2021. In addition to these programs, DEF has completed reactive mid-cycle pruning thus far in 2021 on over 9,168 trim locations and over 3,017 removals as of April 17.

Vegetation Management

Current trimming cycles for the distribution and transmission system

Transmission: DEF's Transmission Integrated Vegetation Management (IVM) Program includes the following:

- Planned threat and condition-based maintenance;
- Reactive work including hazard tree mitigation;
- Brush management (herbicide, mowing and hand cutting operation); and
- Focusing on ensuring the safe and reliable operation of the Transmission system.

The goal is to minimize vegetation-related interruptions and ensure adequate conductor-to-vegetation clearances while maintaining compliance with regulatory, environmental and safety requirements/standards.

Vegetation Management

Current trimming cycles for the distribution and transmission system

Transmission Continued:

Set trigger distances identify incompatible vegetation within and outside the Transmission Right of Way that does not allow for safe operation of the transmission facilities under all operating conditions (designed blowout and designed maximum operating sag). These distances provide for approximately 6 years of typical vegetation re-growth and support minimum safe worker distances. Once vegetation has been identified as a threat, the vegetation will be evaluated to determine a mitigation strategy through the work planning process. There is no set cycle for planned maintenance.

Results of utility trimming in 2020

- **Distribution:** In 2020, DEF pruned 5,321.57 miles on the Distribution system.
- **Transmission:** In 2020, DEF performed planned maintenance work on 254.85 miles.

Pole Inspections -- Current pole inspection cycles for the distribution and transmission system

Distribution: 8-year inspection cycle

Transmission:

- Wood Poles – visual inspection completed every 4 years, sound and bore inspections completed every 8 years
- Non-Wood – visual inspection completed every 6 years

Results of transmission and distribution pole inspections in 2020

Distribution:

- 86,357 poles were inspected, and 2,696 poles were replaced in the 2020 annual inspection.

Transmission:

- 3,531 poles were inspected, and 1,111 poles were replaced in the 2020 annual inspection.

Lessons Learned

Discuss improvements in preparation and restoration based upon lessons learned from previous hurricane seasons

- DEF is improving the grid to avoid outages and restore power faster. In 2020, smart, self-healing technology helped to avoid nearly 290,000 extended customer outages in Florida, saving 18,900,000 CMI (approximately double the hours saved in 2019).
- DEF completed a multiyear effort to upgrade nearly 2 million customer meters to smart meters – digital meters that offer customers more options and improved service. Ping-it is a smart meter technology that enables remote confirmation of outage status in seconds. Ping-it allows DEF to ensure all customers in an area, including those not home due to evacuation, have been restored before crews relocate complete restoration elsewhere.
- Increased access to alternative housing options (sleeper trailers) and vendors so that restoration crews can be located closer to areas of damage.
- Increased daylight productivity through daily timesheet review and Meal/Fuel exception process. In 2021, DEF will implement a smart phone app and web portal to streamline the process.
- Ongoing collaboration with Regional Mutual Assistance Groups and contractors regarding COVID-19 protocols.

Discuss improvements in customer communications

DEF is constantly seeking ways to improve its storm communications and improve its response times and communications frequency. Improved coordination with operations allows DEF to leverage the knowledge harvested from field to incorporate back into its communications. Some examples include:

- More granular control of storm messaging to customers helping ensure updates to customers are provided as they become available;
- A metering “pinging” feature that allows us to test multiple smart meters for voltage at once;
- An upcoming feature that will enable customer accounts to receive outage updates via multiple channels and via multiple phones or email addresses (to be deployed in November);
- A new, online, outage-reporting tool, that also provides up-to-date outage information to customers during an active outage;
- Additional enhancements to our Outage Map for greater customer clarity; and
- A damage assessment tool that allows assessors to capture photos in addition to descriptions of the issue at the outage source.