

Powering Through the Holidays: Navigating Load Shed with Effective Communication

Best Practices and lessons learned from recent load shedding events



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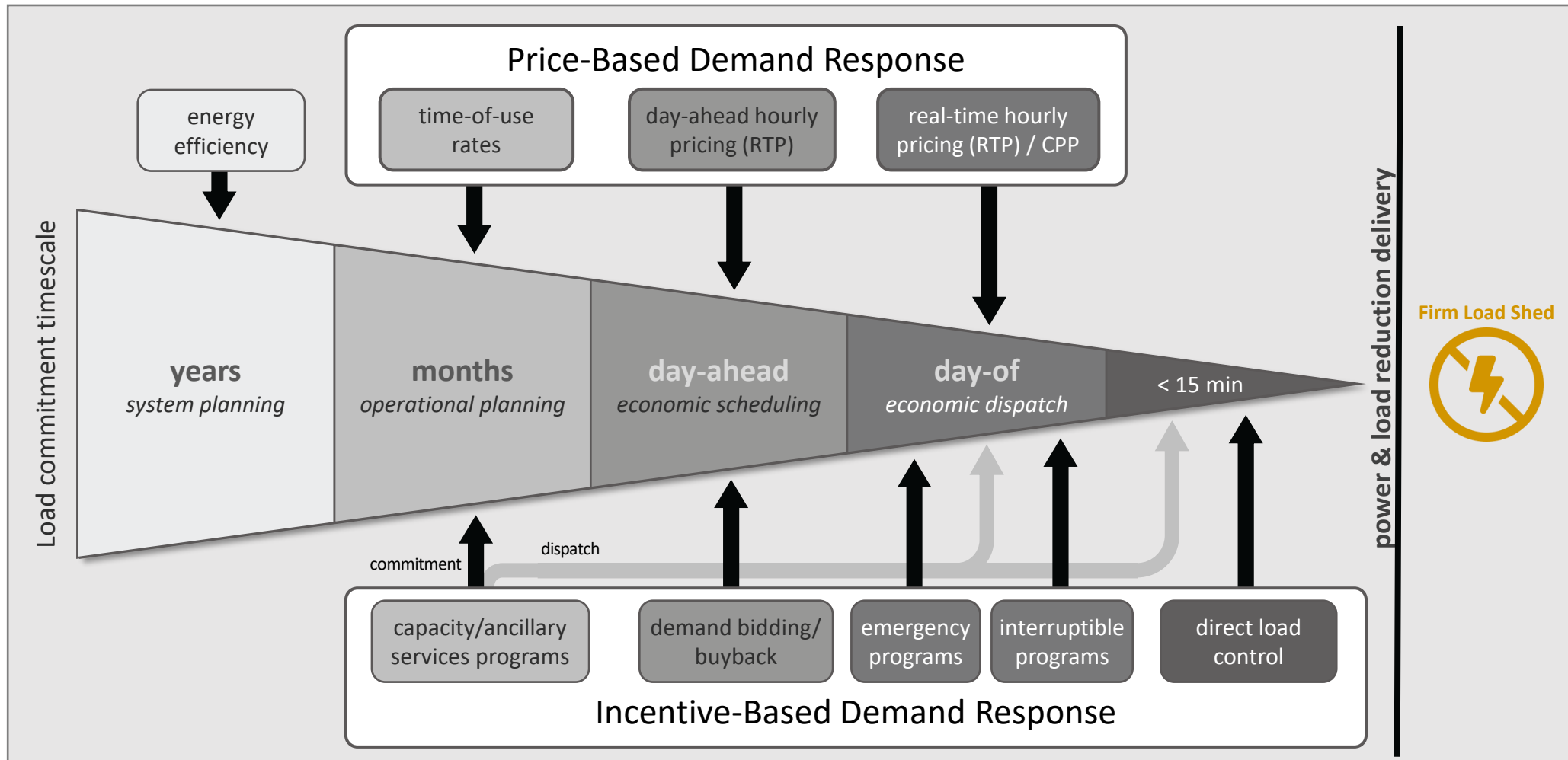


Paul C. Watkins

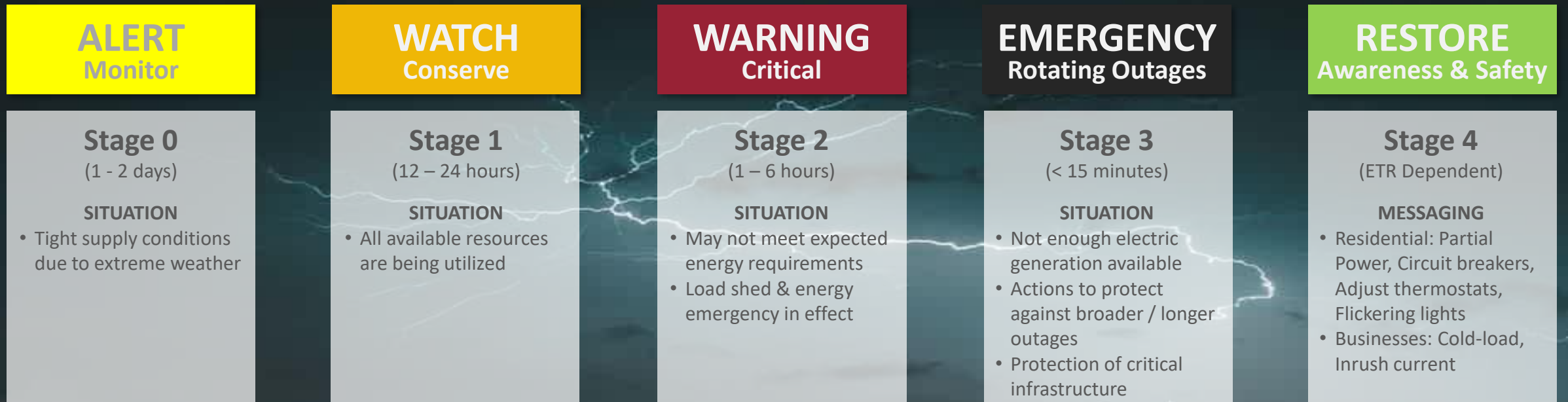
CX Strategy
Message Broadcast



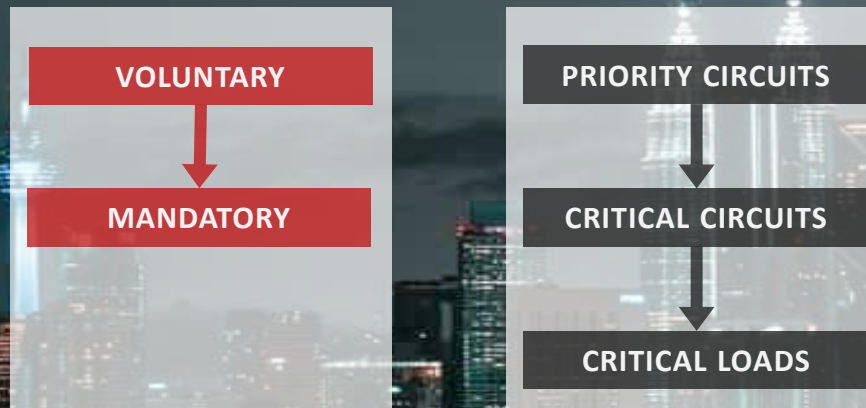
ENERGY CONSERVATION PLANNING



ENERGY EMERGENCY AWARENESS MODEL



OPERATIONS



CAPACITY FOR LARGE EVENTS

1 million messages = 16,667/hr or 278/min or 4.6/sec or 66,667 in 15 min

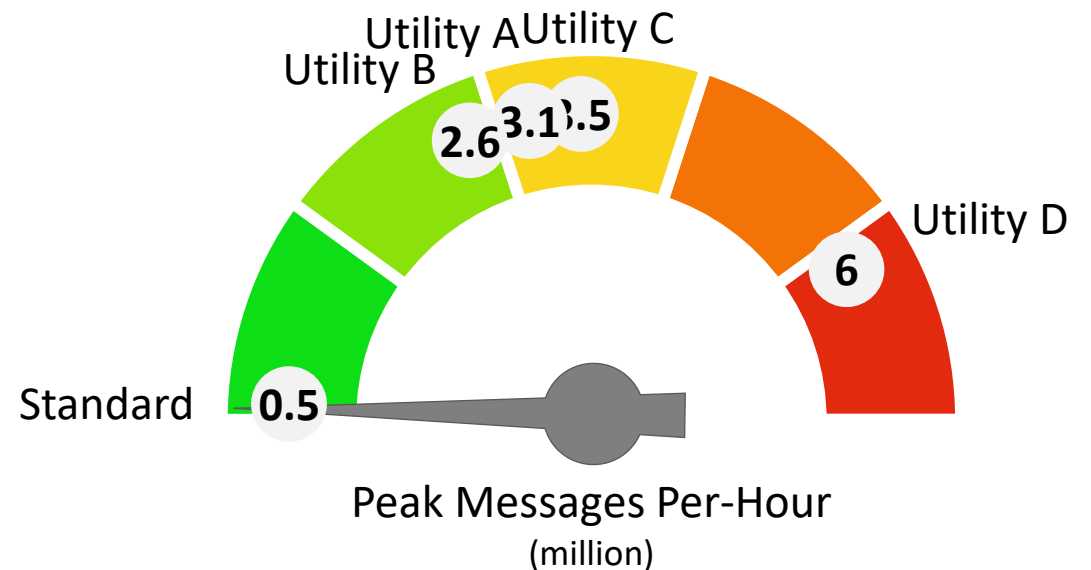
Questions to ask about Capacity Planning:

How many customers?

- All customers
- Largest OC or regional
- Maximum Customers by Circuits

How much advanced notice can you give your customers?

How frequently and for how long would you shed load during an event?





CUSTOMER OUTAGE JOURNEY

Upfront Duke Energy has several internal tools and methods for determining outages in each jurisdiction. Each customer has the following option to let us know about an outage:



Call in and use the IVR to report the outage via 800.POWERON



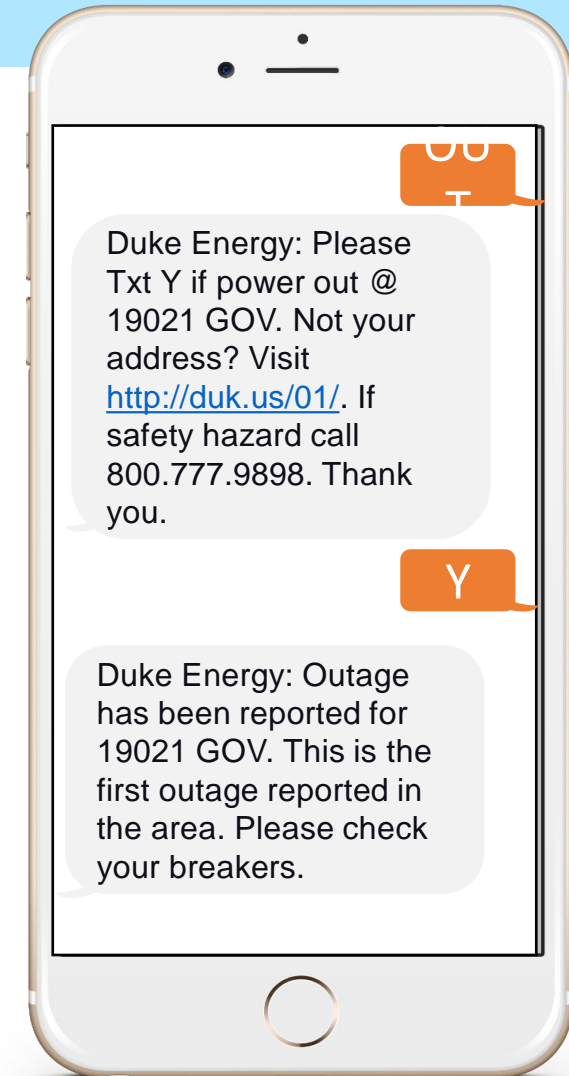
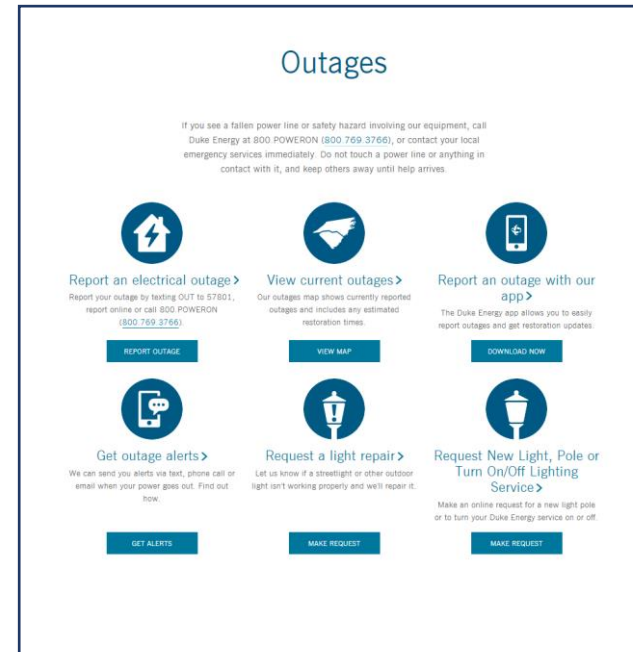
Report on duke-energy.com/outages or via the Duke Energy mobile app



By accessing the outage map and reporting on our website

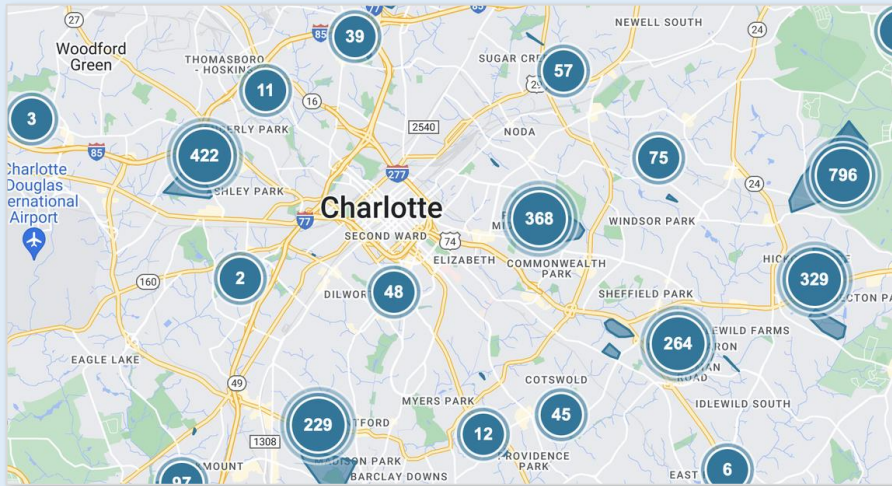


Text 'OUT' to short code 57801 on your mobile device



OUTBOUND OUTAGE ALERTS

During normal operations, customers who are enrolled in the outage alerts program are notified via text, e-mail or phone of outages impacting them. Duke Energy keeps customers up to date on the cause, status and estimated restoration times throughout the duration of the outage. Customers can also access this information via the Outage Maps, IVR, Customer Mobile App, or Duke-Energy.com



Duke Energy outage maps display real-time updated information during an outage.

In this scenario, an outage is reported that could affect our customer at 123 Main**. As our customer's outage is restored, they will receive the following messages from Duke Energy.

Initial Out (9:30 AM)

Duke Energy: There is a power outage in your area that may impact 123 MAIN **. The current estimated time for restoration is 4:00 PM on Oct 03. If your service is on, Text 1. If you are without power, there is no need to report it at this time. Visit <http://duk.us/05> for updates.

ETR Updated (1:15 PM)

Duke Energy: The estimated time for power to be on is currently 8:00 PM on Oct 03 for 123 MAIN**; crew working. Outage caused by vehicle damaging pole. Approx 45 customers impacted. Text STOP to cancel.

Cause / Crew Status Updated (11:30 AM)

Duke Energy: Outage caused by vehicle damaging pole. Crew onsite, working to restore. Approx. 45 customers affected. Text STOP to cancel.

Restoration (7:20 PM)

Duke Energy: Repairs are complete in the area of 123 MAIN** as of 7:18 PM on Oct 03; Outage caused by vehicle damaging pole. Approx 45 customers impacted. If your power is still out, reply OFF. Text STOP to cancel.



STORM MODE

HURRICANE IAN (NC & SC)

During normal operations, our outage system typically generates initial times of restoration based on outage history and volume.



However, since large storms can generate many outage events, these system generated initial estimates can become inaccurate.



System generated estimates are turned off by Op Center, based on expected storm impact to avoid setting false expectation for customers.

Initial Out
10/1 @ 7:30 AM

Damage Assessment Underway
10/1 @ 1:30 PM

ETA for ETR
10/1 @ 5:30 PM

Global ETR
10/1 @ 8:50 PM

Restoration Process
10/2 @ 9:30 AM

ETR at Device
10/2 @ 12:40 PM

Restoration
10/2 @ 5:41 PM

Duke Energy: There is a power outage in your area that may impact 1204 HIL**. Estimated Restoration times are temporarily unavailable while we make repairs & assess damage. If your service is on, Text 1. If you are without power, there is no need to report it at this time. Visit <http://duk.us/05> for updates.

Duke Energy: Our crews are assessing and making repairs from the storm. The severity of damage may delay restoration in some areas. An updated restoration time will be shared later today. Visit duk.us/32 for the most up to date info. Thank you for your patience. Text STOP to cancel.

Duke Energy: Hurricane Ian brought down trees, lines & poles across the state. Now that conditions have improved in your area, we have begun making repairs & completing our full assessment of damage. Later this evening, we expect to have an estimate for when the majority of outages will be restored in your community. Visit duk.us/32 for the latest updates. Text STOP to cancel.

Duke Energy: The initial estimated time for power to be on is currently 8:00 PM on Oct 03 for 1204 HIL**. This is the latest time & date we expect to have nearly all service restored in your area, though many will be back on before then. More specific updates will be provided for your outage as restoration progresses. We apologize. Additional Outage Alerts may be delayed while repairs & damage assessment are underway. For updates visit duk.us/05.

Duke Energy: With repairs from Hurricane Ian underway, our first focus is to restore power to critical services. Work in individual neighborhoods will begin after the larger infrastructure is restored or rebuilt. Learn more about our restoration process at duk.us/100. Text STOP to cancel.

Duke Energy: The estimated time for power to be on is currently 6:00 PM on Oct 02 for 1204 HIL**, crew working. Approx 41 customers impacted. Text STOP to cancel.

Duke Energy: Repairs are complete in the area of 1204 HIL** as of 5:46 PM on Oct 02; Caused by fallen trees. Approx 41 customers impacted. If your power is still out, reply OFF. Text STOP to cancel.



Throughout the storm, customers stay informed and aware of restoration progress through ad-hoc campaigns and standard outage alerts.

Note: <http://duk.us/05> is the Outage Map short URL

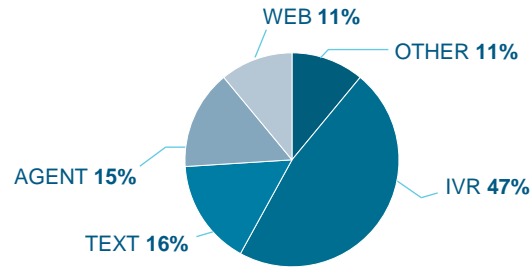
Standard Outage Alerts

Ad-hoc message campaigns sent via Text & Voice

STORM IN ACTION - HURRICANE IAN 2022

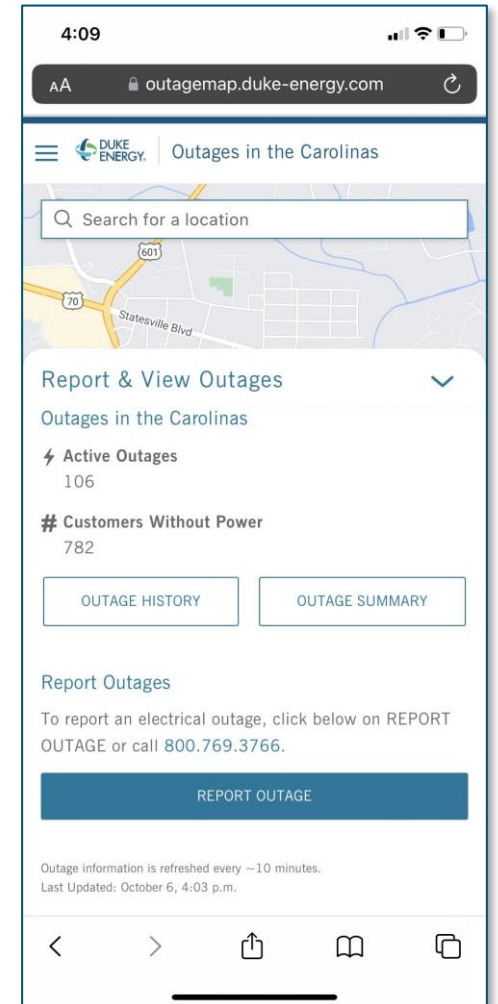
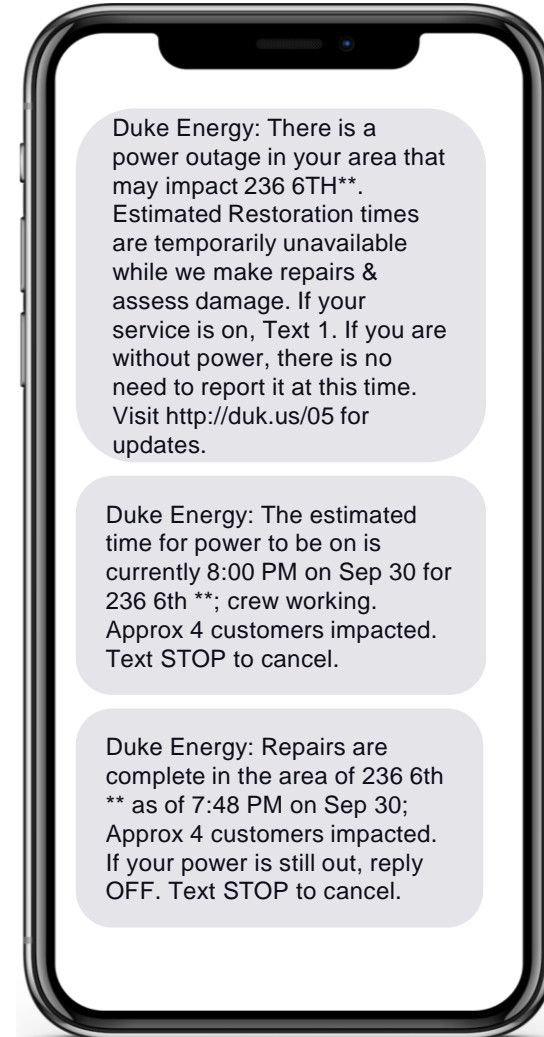
During the hurricane, over 85%* of customers who reported an outage in the Carolinas did so through a digital channel.

OUTAGE SELF SERVICE BREAKDOWN



77%* of customers impacted did not report an outage during Hurricane Ian

While >800k customers were out across the Carolinas, we only received a total of 181k outage reports largely due to the Proactive Outage Alerts and Communications.



* Data as of Monday October 3rd, 2022



EVENT RECAP & CONSERVATION

During Duke Energy's recent winter event, the Company leveraged direct to customer conservation messaging as detailed below.

Conservation and Thank You messaging on 12/24 and 12/25, respectively, was sent across multiple batches to over 3 million customers.

Duke Energy: Alert! The extremely low temperatures & high energy demand continue to place an unusual strain on the energy grid. Please consider powering down all nonessential electric devices and delaying unnecessary energy use until 10:00 AM Monday to help avoid rotating outages in the early morning hours. We understand this is a difficult ask given both the holidays and the cold temps and we are grateful for your efforts. Learn more about how we respond to these grid emergencies and how you can help at duk.us/32. Thank you for your cooperation. Text stop to cancel.

Conservation SMS

Duke Energy: Your assistance kept the lights on for everyone! While we continue to see high demand due to extreme temperatures, your energy conservation helped lessen the strain on the grid. With another day of exceptionally low temps in the forecast, we ask you to continue keeping nonessential electric devices powered down & minimize unnecessary energy use until 10AM Monday to help avoid rotating outages in the early morning hours. Learn more about how we respond to these grid emergencies and how you can help at duk.us/32. We are grateful for your efforts. Text stop to cancel.

Thank You SMS

EVENT IMPACTS

Proactive Conservation Messages helped avoid activating Rolling Blackouts on Christmas day

Inform

Proactive messages were used to inform and prepare customers a day-ahead of possible outage issues. This lowered the impacts to CSAT and call center volume.



Implement

Responding to proactive conservation messages, customers provided 75% more load shed than the DR program.



Increase

The proactive messages untapped new load shed. Customers helped lower the peak and provide additional relief to the generation team.



CONTINUED CUSTOMIZING

To ensure consistent messaging, the Outage experience was recently customized to better support a rotating load type event

Outage Alerts

ALL
DEC
DEP
FL
IN
OH/KY

Status
Campaigns

Global Campaign

Proactive ITR ETR Restored

Cause Codes

Crew Triggers

Operation Center	Proactive ITR	ETR	Restored	Load Shed
Asheboro	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Asheville	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bishopville	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Black-Mountain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Canton	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Duke Energy: Systemwide energy needs in our region are currently exceeding available resources. As a result, a temporary power outage has been implemented in the area of [13117 BO**]. This brief interruption is necessary to help stabilize the energy grid during a period of high demand. There is no need to report your outage. The estimated time of restoration is [01:15PM] on [Apr 05]. Visit duk.us/105 for additional detail or duk.us/05 for updates. Text STOP to prevent all future outage notifications.

Customers in impacted areas who are enrolled in outage alerts will receive customized messaging.

DUK.US/05 LEADS CUSTOMER TO OUTAGE MAP.

Outage Details

Estimated Time of Restoration
Temporary, rotating outages in progress

Status
Managed remotely at regional Control Center

Cause
Grid stabilization

Customers Without Power
1

First Reported
February 20, 10:36 a.m.

GET OUTAGE ALERTS
REPORT OUTAGE

Outage information is refreshed every ~15 minutes.
Last Updated: April 19, 7:15 a.m.

QUESTIONS?