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January 27, 2023

VIA ELECTRONIC FILING

Ms. Shonta A. Dunston
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

**RE: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's
Second Submission of Responses to the Public Staff's Data Request No.
2 re: Winter Storm Elliott
Docket No. M-100, Sub 163**

Dear Ms. Dunston:

Please find enclosed for filing Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC's ("DEP", and together with DEC, "Duke Energy") Second Submission of Responses to the Public Staff's Data Request ("PSDR") No. 2 re: Winter Storm Elliott in the above-referenced docket. Included with this submission are responses to PSDR Item Nos. 2, 3, 6, 8, 11, 12, and 16 (Corrected).

If you have any questions, please let me know.

Sincerely,

A handwritten signature in black ink that reads "Jason Higginbotham". The signature is written in a cursive, flowing style.

Jason A. Higginbotham

Enclosure

cc: Parties of Record

OFFICIAL COPY

Jan 27 2023

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Winter Storm Elliott Second Submission of Responses to the Public Staff's Data Request No. 2 re Winter Storm Elliott, in Docket No. M-100, Sub 163, has been served by electronic mail, hand delivery, or by depositing a copy in the United States Mail, 1st Class Postage Prepaid, properly addressed to parties of record.

This the 27th day of January, 2023.



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DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC

Request:

2. Identify and describe the Company division, department, staff, etc. responsible for completing the winter preparedness checklists.

- a. Please describe how the Company performs quality control and verifies through secondary or independent means that all steps are completed/reviewed and accurate.
- b. Provide each of the completed checklists (or equivalent) for each generation plant and associated infrastructure for each year from 2020 winter preparedness to present, as well as:
 - i. the date the checklist was completed;
 - ii. the party/entity who signed off on the completed checklist;
 - iii. the parties/entities who reviewed the checklist; and
 - iv. a list and description of any open or outstanding checklist items that were not completed and how the open item could impact the reliability of the equipment/component/plant.

Confidential Response:

[Unless otherwise noted, the response below pertains to both Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (together with DEC, “Duke Energy” or the “Company”).]

Formal winter preparedness checklists are completed by Duke Energy’s Regulate & Renewable Energy (“RRE”), Transmission/Energy Control Center (“ECC”), and nuclear organizations.

RRE

- a. Duke Energy’s Regulated & Renewable Energy (“RRE”) organization is responsible for the Company’s non-Nuclear generating facilities. As discussed in the Company’s response to PSDR No. 2-1, under NERC standard EOP-011-02, Duke Energy’s generation facilities are required to perform employee training on cold weather preparedness and to execute a cold weather preparedness plan for each generating station. As a result of EOP-011-2, Duke Energy has developed more than 100 preventative maintenance (“PM”) programs for its generating stations, which are performed as part of the Company’s winter preparedness procedures. The PM programs were completed by the Company’s craft workers and resulted

in more than 350 work order tasks that were performed prior to the 2022 winter season as summarized in the attachment provided in response to subpart b, below.

In general, the maintenance and PM items are completed through the Company's work management procedure. These are guidelines that the generating stations use to control the quality, scheduling, and execution of the work required by the PM. The Maintenance Superintendent is the primary contact for the Work Management Procedure that drives the PM program. The Station Manager has overall responsibility for the program at each generation station. In 2022, Duke Energy completed the actions required by EOP-011-2 for each station by Dec 16, as summarized in the attachment provided in response to subpart b, below.

b. Please refer to the attached confidential file, "Cold Weather PM and WO History " for completed checklist for the Company's non-nuclear generation units

Transmission/ECC

a. The Company's Transmission organization performs monthly documented inspections on Duke Energy's substations. The specifications and procedure for the inspections are owned by the Asset Management function, scheduled by the Work Management function, and executed by the Construction & Maintenance function.

b. Please refer to the attached files:

- "INSPECTIONS NOV AND DEC 2020.xlsx"
- "INSPECTIONS NOV AND DEC 2021.xlsx"
- "INSPECTIONS NOV AND DEC 2022.xlsx"

Nuclear

a. Each nuclear site performs initial cold weather readiness actions by November of each year using the policies and procedures listed and provided in Duke Energy's response to PSDR2-1. Operations and maintenance personnel are responsible for completing the procedures and work instructions. Oversight is provided by station and fleet leadership. Completed initial winter readiness procedures and work packages for each nuclear generation site are included in the attachments. The performance dates and individuals associated with completing, reviewing, and approving the procedures are documented within each file. There are no open or outstanding items from the winter readiness procedures.

b. Please see the attached PDF files identified below for completed checklists the Company's nuclear generation fleet:

- BNP WR 2020
- BNP WR 2021

- BNP WR 2022
- CNS WR Oct 2020
- CNS WR Oct 2021
- CNS WR Oct 2022
- HNP WR Aug 2020
- HNP WR Oct 2020
- HNP WR Sep 2021
- HNP WR Sep 2021a
- HNP WR Sep 2022
- MNS 2020 Winter Readiness
- MNS 2021 Winter Readiness
- MNS 2022 Winter Readiness
- ONS WR Oct 2020
- ONS WR Oct 2021
- ONS WR Oct 2021a
- ONS WR Oct 2021b
- ONS WR Oct 2021c
- ONS WR Oct 2022
- RNP 2020 WR Site Certification
- RNP 2021 WR Site Certification
- RNP 2022 Winter Readiness-Site Certification

Responder: Mitchel Beason, COSO General Manager

Responder: Tom Pruitt, Principal Engineer

Responder: Mandi Brigman, Director Plant Reliability

DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC

Request:

3. Is the Board of Directors of the Company or Duke Energy Corporation (Board), any committee of the Board, or the Senior Management Committee briefed on: (1) winter preparedness; and (2) whether any open our outstanding items may impose a risk to system reliability. If so, when did the last briefing occur?

- a. Does the Company consider or classify December 2022 as part of its 2022 winter preparedness or 2023 winter preparedness? Please explain how the Company makes this determination.
- b. If the Board, any committee of the Board, or the Senior Management Committee was briefed in 2020 regarding its 2021 winter preparedness, in 2021 regarding its 2022 winter preparedness, and/or in 2022 regarding its 2023 winter preparedness, please provide any associated Board/committee materials (e.g., Power Point, memo, email, document, etc.) and workpapers and supplemental information used in the creation of the Board/committee materials.

Response:

[Unless otherwise noted, the response below pertains to both Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (together with DEC, “Duke Energy” or the “Company”).]

Duke Energy’s Board of Directors receive as-needed updates on winter preparedness in the normal course of operations. In mid-2021, the entire Board was briefed on lessons learned from Winter Storm Uri and the events that impacted the Electric Reliability Council of Texas (“ERCOT”). A copy of that presentation is attached.

In addition, the Board’s Operation and Nuclear Oversight Committee (“ONOC”), receives annual updates on winter and summer preparedness. As set forth in its Charter, which is available on Duke Energy’s website,¹ the ONOC is responsible for providing assistance to the Board of Directors in fulfilling its responsibilities with respect to the oversight of environmental, health and safety matters, non-nuclear regulated operations, nuclear safety, operational and financial performance as well as operational risks, long-term plans and strategies of the Corporation’s nuclear power program and non-nuclear regulated operations.

¹ <https://www.duke-energy.com/our-company/corporate-governance/board-committee-charters/operations-nuclear-oversight>

Additionally, the Duke Energy Operations Council (“Ops Council”) provides the management review and oversight for Duke Energy to drive operations event-free performance and transformation. The Ops Council is comprised of the chief operations officers of the Company, top executives, including members of the Senior Management Committee (“SMC”), and representatives from the operations management functions of the Company. SMC members of the Ops Council work with all the organizations responsible for winter planning to assess readiness and identify potential vulnerabilities. Through monthly meetings, the Ops Council obtains feedback on strengthening the Company’s overall winter and summer preparedness.

Duke Energy also holds a Winter Preparedness Webinar at which various business units present information detailing the preparations the Company has taken to prepare for the winter season and to address any that have been identified as potential challenges to the completion of winter season preparations. For the last three seasons, the Webinars have been held on the following dates: 12/15/20, 10/25/21, and 11/2/22. The webinars are attached and marked as “2020 Winter Preparedness Webinar”, “2021 Winter Preparedness Meeting”, and “2022 Winter Prep Meeting_nonFERC”.

A. December is considered to be part of the next year winter prep and not the year in which it is in. The Company made this determination to reflect the end of the fall outage season and to ensure that the Company is properly prepared for the upcoming winter season. As noted above, Duke Energy’s most recent webinar occurred on November 2, 2022, which included December 2022, January 2023, and February 2023...

B. See the attached file, “2021 05.06 Board - Lessons learned from ERCOT”.

Responder: David McRee, Dir. Trans. Emergency Preparedness

DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC

Request:

6. Provide a timeline, from December 19, 2022, through December 25, 2022, of the Company's actions related to the pending winter weather event. The timeline should include, at a minimum, sufficient detail of the Company's internal processes and actions taken in advance of the pending weather event.

- a. Provide the daily weather forecasts that were produced internally by the Company and/or by vendors/contractors, including system average temperature, wind speeds, wind chills, dew points, and supporting documentation.
- b. Include key communications with fuel suppliers and fuel availability.
- c. If not already provided in response to prior questions, identify pertinent information related to the Company's decision making based on information it received from or provided to operations/planners/management/specific generation units (e.g., changes in weather, wind speed, timing of the storm, locational impacts, load/demand impacts, etc.).

Response:

[Unless otherwise noted, the response below pertains to both Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (together with DEC, "Duke Energy" or the "Company").]

Responses to this data request item include perspectives and documents from multiple organizations within the Company. The Company's decision making incorporates numerous inputs from organizations. Examples are information regarding generating unit status, fuel availability, weather and load forecasts and other planning information such as resource requirements at the operations center. Please see below.

Customer Delivery – Timeline of Actions/Events

Please see the attached document, "WSE PSDR2-6 Winter Weather Event Timeline.doc" for the timeline of actions from the Customer Delivery Organization

Transmission/ECC – Timeline of Actions/Events

Duke Energy Carolinas

For the duration of the event, the wind was not anticipated to be a significant transmission concern. Given the holiday, no significant transmission work was taking place and ECC staffing was

adequate to handle any outages. ECC management did monitor and was ready to provide assistance as needed with outage coordination and procedure writers for outages.

- 12/19 – DEC System Operations was aware of a cold front coming through over the holiday weekend and notified stakeholders to be aware of the potential need for internal communication if conditions were to worsen (see tailgate email provided in Duke Energy’s response to PSDR Item No. 7). Loads for the weekend were ~17,500MW with reserves of 3,000MW plus with no concerns.
- 12/20 – Load forecasts for the weekend reflected lower temperatures and thus increased projected loads. The projected loads were ~18,500MW with reserves of 2,400MW plus. With forecasted highs near the freezing mark there were some concerns of Monday’s load forecast continuing to rise. Conversations occurred about bringing on additional generation for Monday. Reserves reflected sufficient margin without additional generation for Monday.
- 12/21 – Forecasted temperatures lowered for the weekend, and the peak load increased to ~18,900MW with reserves lowering to 2100MW plus. Saturday was the forecasted peak; however, there were concerns of the forecast for Monday possibly increasing based on models and potential heat loss across the weekend. Adequate reserves were forecasted for the weekend.
- 12/22 – Loads again increased for the weekend with a Saturday peak anticipated of ~19,400MW. Marshall #2’s return (380MW) from forced outage was delayed through Sunday. This lowered Saturday’s reserve to ~1500MW. There were still concerns of Monday’s forecast potentially increasing based on the potential heat loss, some business openings the day after a holiday, and concerns for a further delay for Marshall #2. Power Trading was requested to secure capacity purchases for Saturday. Adequate reserves were forecasted for the weekend and Monday. System Operations entered a conservative mode going to Grid Status Yellow for the 24th -26th based on increasing forecasts.
- Evening of 12/23 @ ~19:00, Company personnel were engaged in discussions of load exceeding predicted demand. A decision was made to implement Powershare on 12/24 and enter Energy Emergency Alert level 1.
- 12/23 – Load forecasts remained consistent with a slight increase from those on 12/22. Power Trading secured 400MW of capacity purchases for Saturday 12/24. DEC increased conservative measures by entering a Grid Status Yellow “hands-off” for the 24th-26th. Adequate reserves were forecasted through the weekend (1600MW+).

The evening of December 23rd, DEC experienced wind related outages on the distribution system but there were no significant impacts to its transmission equipment. Actual load increased above forecast and DEC was able to serve the demand while providing external emergency assistance. Forecasted loads for the 24th did not exceed what was served the evening of the 23rd. DEC proactively scheduled PowerShare DSM and entered an EEA 1. While margins were tighter than

forecasted, DEC anticipated being able to meet customer demand and carry reserves through the morning peak. In addition to the increase in load above forecast, unit derates late on 12/23 and in the early morning continued to reduce reserve margin.

In addition to the increased load above forecast and the unit reductions, firm schedules into DEC were curtailed beginning at 5:45. Below is a list of the hourly integrated amounts originally scheduled and that which actually flowed.

400 MW firm purchase was curtailed to the following flow values:

- HE 6 = 378
- HE 7 = 120
- HE 8 = 22
- HE 9 = 86
- HE 10 = 235
- HE 11 = 242

In addition, a replacement 250 MW non-firm purchase HE 5:30 to 10:00 was curtailed to zero prior to schedule start.

On the morning of 12/24 @ ~06:05, a discussion occurred between ECC Manager and BA Operator on resource deficiency. Energy Emergency Alert level 3 initiated. The BA Operator initiated 400 MW rotating load shed at 06:14. An additional 600 MW rotating load shed was initiated at ~07:00.

Duke Energy Progress

Prior to the week of the event, the Roxboro Operations Manager had informed the ECC Senior Manager of an ID fan problem that derated the unit to approx. 450MW and repair was not likely until after 1/1/2023. The derate was entered in the Constrained Outage Application (COA). Additionally, Robinson Unit 2 – 797 MW, was unavailable for the duration of the event due to an outage extension.

On 12/23, additional unit issues arose that reduced the reserve margin overnight.

- 12/23 – 10:45-12:00 – Roxboro 4 4A1 Booster Fan trip and the unit derated to 246MW
- 12/23 17:00 – 20:00 – RCOP IC01 was unavailable due to switch failure.
- 12/23 19:26-21:45 – Broad River Unit #5 came offline due to a frozen bleed valve.
- 12/24 02:27 – Broad River Unit #4 came offline due to shared equipment with Unit #5, still available.

- 12/24 03:00 – 12/25 19:00 – Roxboro 3 3B Boiler Feed Pump issue and the unit derated to 300MW.
- 12/24 06:11 – 12/25 19:00 – Mayo B boiler tripped and the unit ran back from 600 to 225 and eventually derated to 250.
- 12/24 07:45 – Roxboro 2 lost throttle pressure and dropped 100MW from 07:45 to 07:51. Returned to full load by 09:00 (640MW).

In addition to the unit reductions, DEP began to see the load exceed the forecast around 05:00 on 12/24. Also, like DEC, firm schedules into DEP were curtailed beginning at 5:45. Below is a list of the hourly integrated amounts originally scheduled and that which actually flowed.

500 MW firm purchase was curtailed to the following flow values:

- HE 6 = 473
- HE 7 = 150
- HE 8 = 29
- HE 9 = 109
- HE 10 = 237
- HE 11 = 303

An additional 305 MW of firm schedules were cut to one of DEP's wholesale customers.

On the morning of 12/24 @ 0614, the ECC Shift Manager informed the Senior Manager of EEA 2 and loss of the Boiler @ Mayo, implementation of 5% Voltage Reduction, DSM programs that were called, and that DEP had ~900MW Area Control Error.

Given the system conditions, the following load shed actions were taken.

- 06:25: ECC requests 600MW of Rotating Load Shed (RLS) from DCC
- 07:10: ECC requests additional 200MW of RLS from DCC
- 07:43: ECC requests an additional 50MW of RLS
- 07:52: ECC recognizes BAAL approaching 30-minute threshold and begins manual action at the Transmission level on Priority 1 circuits
- 0843: ECC notifies DCC that they can energize all remaining load that was shed

Following the peak, further unit issues impacted reserve margins for 12/25-26. Below is an addition last of unit reductions.

- 12/24 08:12 – 12/26 18:00 - NCHP 1 1B (1/2 of unit) came offline, unit derated to 26 MW. Available again after fuel line maintenance.

- 12/24 08:42 – 12/24 19:00 – RCOP IC08 came offline bringing CC04 from 555 to 305 MW. (250MW derate)
- 12/24 10:20 – Roxboro 2 dropped to 250MW for conveyor belt issues.
- 12/24 14:00 – 20:00 – Roxboro 1 derated to 195, then taken to minimum for conveyor belt issues. Coordinated with ECC to manage this.
- 12/24 15:00 – 23:00 – Roxboro 2 derated to minimum to fill silos for conveyor belt issue. Worked with ECC to manage this. Still available for full load for short spurts.
- 12/24 17:06-17:35 – Broad River Unit #1 unit came offline at full load.

- a. Please refer to the following attached documents for daily weather forecasts:

WSE PS DR 2-6a Weather 12-20-2022 0838 am - Copy.docx

WSE PS DR 2-6a Weather 12-20-2022 1612 pm.docx

WSE PS DR 2-6a Weather 12-20-2022.docx

WSE PS DR 2-6a Weather 12-21-2022 0713 am.docx

WSE PS DR 2-6a Weather 12-22-2022 0713 am.docx

WSE PS DR 2-6a Weather 12-22-2022 0830 am.docx

WSE PS DR 2-6a Weather 12-23-2022 0626 am.docx

WSE PS DR 2-6a Weather 12-23-2022 0838 am.docx

WSE PS DR 2-6a Weather 12-23-2022 1058 am.docx

Nuclear – Timeline of Actions/Events

Initial winter readiness actions are completed annually for the nuclear fleet by November. Site specific procedures for severe weather preparation were referenced beginning December 19, 2022 based on forecasted weather. The plant manager of each nuclear site reported out their cold weather readiness status to senior leaders on the daily fleet call beginning December 19, 2022 to ensure sites were prepared prior to the arrival of Winter Storm Elliot.

Communications to nuclear sites of potential challenges to the grid began on December 23, 2022 and continued through December 25, 2022 as status changed. The document "Unit Logs 121922 through 122522 redacted.pdf" provides a detailed timeline of operational log entries for each nuclear site for weather or grid events between the dates of December 19, 2022 and December 25,

2022. Each log entry documents an event/notification, response/action taken, and a timestamp that shows the timeline and decision-making information for nuclear generation.

TFSP/FSO – Timeline of Actions/Events

a. See the following attached files:

- Carolinas_outlook-2022-12-19-0701
- Carolinas_outlook-2022-12-19-0701-update1
- Carolinas_outlook-2022-12-20-0726
- Carolinas_outlook-2022-12-21-0711
- Carolinas_outlook-2022-12-22-0705
- Carolinas_outlook-2022-12-23-0616
- Carolinas_outlook-2022-12-24-0528
- Carolinas_outlook-email-2022-12-20-0726
- Carolinas_outlook-email-2022-12-23-0616
- Carolinas_outlook-email-2022-12-23-0616-update1
- Carolinas_outlook-email-2022-12-23-0616-update2
- Carolinas_outlook-email-2022-12-23-0616-update3
- Weather-Discussion-12192022
- Weather-Discussion-12202022
- Weather-Discussion-12212022
- Weather-Discussion-12222022
- Weather-Discussion-12232022
- Weather-Discussion-12232022-update1
- Weather-Discussion-12242022

b. See attached files "Company Actions Pending Winter Weather Coal Supply & Transportation" and "Company Actions Pending Winter Weather NG, Fuel Oil and Power Trading" for timeline of Company actions over the period of 12/19/22 through 12/25/22 that includes key communications with fuel suppliers and fuel availability, as requested by subpart b.

Responder: Tiffany Weir, Dir. Rates & Regulatory Filings

Responder: Barbara Coppola, Dir. Planning & Reg. Support

Responder: Tom Pruitt, Principal Engineer

Responder: Mitchel Beason, COSO General Manager

Responder: Mandi Brigman, Director Plant Reliability

DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC

Request:

8. Provide a timeline beginning when the system started to experience storm related outages and general restoration through midnight December 26, 2022, in 15-minute increments, including but not limited to:

- a. number of customers without service;
- b. number of customers restored;
- c. estimated system load/demand that was lost due to customers being without service; and
- d. general map or other locational guidance showing how the storm was impacting the overall system by circuit or by number of customers per county and state.

Response:

[Unless otherwise noted, the response below pertains to both Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (together with DEC, “Duke Energy” or the “Company”).]

See attached files "WSE PS DR 2-8a&8d DEC Customers Out 15 Min Increments with State&County", WSE PS DR 2-8a&8d DEP Customers Out 15 Min Increments with State&County", "WSE PS DR 2-8b DEC Customers Restored 15 Min Increments", and "WSE PS DR 2-8b DEP Customers Restored 15 Min Increments"

- a. See attached files "WSE PS DR 2-8a&8d DEC Customers Out 15 Min Increments with State&County", WSE PS DR 2-8a&8d DEP Customers Out 15 Min Increments with State&County". These files provide information that is responsive to both subparts a. and d.
- b. See attached files "WSE PS DR 2-8b DEC Customers Restored 15 Min Increments", and "WSE PS DR 2-8b DEP Customers Restored 15 Min Increments".
- c. *[Duke Energy is in the process of preparing this information and will supplement its response to this request when the information becomes available]*
- d. See response to subpart a.

Responder: Barbara Coppola, Dir. Planning & Reg. Support

DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC

Request:

11. Please describe how the Company's internal transmission and distribution craft employees are deployed when a storm or winter weather event occurs, including any impacts to the total number of deployable work crews.

Response:

[Unless otherwise noted, the response below pertains to both Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (together with DEC, "Duke Energy" or the "Company").]

Please see below for perspectives from the Company's Customer Delivery and Transmission/ECC organizations.

Customer Delivery

Duke Energy's Customer Delivery organization utilizes an Incident Command Structure ("ICS") for event management. The ICS includes section Chiefs from the Operations, Planning, Logistics and Finance/Administration Sections within the Customer Delivery organization. The Planning Section is responsible for the collection, evaluation, and dissemination of information related to the incident and for the preparation and documentation of Incident Action Plans. The Section also maintains information on the forecasted situation and status of assigned resources. The Planning Section comprises the following:

- Meteorology
- Weather forecasts
- Predictive Damage Modeling
- Damage Assessment
- Initial/Statistical - ETR and damage modeling
- Tactical - support Operations
- Initiate Self-Healing Teams discussion
- Forensics - document failure modes
- Final Sweeps
- Incident Action Plan Development/Goal Setting
- Resource/ETR Planning & Daily Event Goals
- StormCaster ETR modeling
- Situational Awareness
- Environmental
- GIS

- Flooding
- Regulatory reporting
- IMT Daily Status Report
- Incident Action Plan (IAP)
- PIO Daily Report
- IMT Daily Situation Report
- Document Management

The Customer Delivery Logistics Section's mission is to provide logistic support requirements needed to facilitate safe, effective, and efficient restoration efforts, including the acquisition of resources (personnel, materials, and assets). Guiding principles for the Logistics Section are:

- Safety and Environmental Compliance Focus for all Logistics activities
- Customer Delivery Logistics and Transmission Logistics will collaborate to ensure process and cost efficiency during annual readiness and restoration efforts
- All event resources requiring Transmission and/or Customer Delivery Logistics support must be entered into approved resource management tool/database.
- Resource movement will follow an established timeline to provide next day resource information by site/work location.

During an event, Duke Energy's Planning Section will use the predictive modeling discussed in the Company's response to PSDR No. 2-4 to determine whether sufficient employees are being deployed or if a resource gap exists. If a gap does exist, the Planning Section will determine the appropriate number of additional resources needed to restore power to our customers. Once this number is determined, it will be sent to the Logistics Section and they will work to fill the resource request. Once the resource request is filled to the extent possible, the teams will determine how to best deploy all available resources. In an event with expected widespread outages over the entire operational area, teams may stay at their home location until the event has impacted the system and the initial number of events are known. At this time, a decision will be made as to which areas can support their demand with internal resources, and those that require additional assistance. If damage is expected to occur in only part of the system, leadership may choose to utilize a pre-deployment strategy. This strategy will have resources moved from areas expecting low impacts and staged in advance of the event in the areas of expected high impact.

The decision on what type of deployment to utilize is different for every event and influenced by factors including disparity of expected damage between zones, how road conditions may be affected by snow, ice, or flooding, and staging site/lodging availability. Other considerations are the location of damage, the extent of damage, and priority needed or repair due to ensure Bulk Electric System stability.

Transmission/ECC

For transmission employees, Duke Energy's Energy Control Center ("ECC") determines the priority of circuits and provides that to the Transmission Incident Management Team ("IMT") who

then instructs the areas on repairs. Transmission IMT will also reposition crews as necessary to areas that need assistance from those areas that are not impacted by the storm.

Responder: Barbara Coppola, Dir. Planning & Reg. Support)

Responder: Tom Pruitt, Principal Engineer

DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC

Request:

12. Please provide the work hour limits and fatigue rules in place for Duke internal and external line crews, as well as the hours that may be worked consecutively, including rolling daily averages.

- a. Describe how the Company enforces the fatigue rules.

Response:

[Unless otherwise noted, the response below pertains to both Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (together with DEC, “Duke Energy” or the “Company”).]

The response below is provided by Duke Energy’s Customer Delivery organization.

Customer Delivery

Duke Energy complies with all applicable work hour limit and fatigue requirements. The Company’s Customer Delivery organization recognizes the need for employees to rest after working extended hours for safety and health reasons and provides a 16-hour provision, which is designed to allow employees to have a rest period without losing straight time pay if the rest period coincides with regularly scheduled work hours. Under the 16-Hour Provision, an employee who works 16 or more consecutive or non-consecutive hours in a 24-hour period is eligible for a rest period of 8 or 10 consecutive hours immediately following the work hours. Where regulatory requirements or business processes dictate, a 10-hour rest period may be required before the employee returns to work. Employees are encouraged but not required to take an earned rest period after working 16 hours. If an employee’s skills are required to meet a business need, such as during an emergency, the supervisor may ask the employee to continue working. The supervisor and the employee must agree that the employee can safely work the extended hours. Employees who are concerned that they are not fit for duty to work extended hours are expected to communicate directly with their management about their concerns.

- a. The eight- or ten-hour rest period is not a requirement, so there is no enforcement mechanism. Supervision is directed to ensure employees are fit for duty before returning to work.

Responder: Barbara Coppola, Dir. Planning & Reg. Support)

DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC

Request:

16. Please discuss how the Company was coordinating or prioritizing storm (wind) restoration efforts versus cold weather restoration efforts.

[Unless otherwise noted, the response below pertains to both Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (together with DEC, “Duke Energy” or the “Company”).]

Corrected Response (January 27, 2023)

As noted in response to Public Staff Data Request Item No. 2-15, impacts of the combined wind event and the cold weather event differed from prior cold weather events as prior cold weather events did not result in a load reduction and were not preceded by a significant meteorological event that resulted in system damage. Once the load reduction occurred, it became the priority for all DEC and DEP Distribution Control Center (“DCC”) resources. This added a layer of complexity to the wind event restoration because in order to maintain system stability the Companies were required to manage that restoration in a manner that isolated it from the system so that the Companies did not bring on unexpected load while addressing the cold weather event. To meet this requirement, field restoration was only performed on devices under field control that had a visual open point and grounds on the tap.

Original Response (January 25, 2023):

As noted in response to Public Staff Data Request Item No. 2-15, impacts of the combined wind event and the cold weather event differed from prior cold weather events and because the Company was required to balance restoration of customer impacted by the wind event with the need to address the generation/load imbalance caused by the cold weather event. At the time the wind event impacted the DEC and DEP service territories, all DEC and DEP Distribution Control Center (“DCC”) resources were engaged with recovery from the cold weather event. This added a layer of complexity to the wind event restoration because the Companies were required to manage that restoration in a manner that isolated it from the system so that the Companies did not bring on unexpected load while addressing the cold weather event. To meet this requirement, field restoration was only performed on devices under field control that had a visual open point and grounds on the tap.

Responder: Barbara Coppola, Dir. Planning & Reg. Support