

**NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION**

May 9, 2023

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

Re: Docket No. E-7, Sub 1281 – Application of Duke Energy Carolinas, LLC, for Approval of CPRE Program Compliance Report and CPRE Cost Recovery Rider Pursuant to N.C.G.S § 62-110.8 and Commission Rule R8-71

Dear Ms. Dunston:

Attached for filing on behalf of the Public Staff in the above-referenced docket is the public version of the testimony of Jeff Thomas, Engineer with the Energy Division of the Public Staff – North Carolina Utilities Commission.

By copy of this letter, we are forwarding a copy of the redacted version to all parties of record by electronic delivery. Confidential information is located on pages 4-5, 10-13, and 14-15 of the testimony. Confidential Thomas Exhibit 1 is confidential in its entirety. The confidential version of the testimony and Confidential Thomas Exhibit 1 will be provided to those parties that have entered into a confidentiality agreement.

Sincerely,

Electronically submitted

/s/ Robert B. Josey

Staff Attorney

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/s/ Thomas J. Felling

Staff Attorney

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Attachments

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CERTIFICATE OF SERVICE

I certify that a copy of this Testimony has been served on all parties of record or their attorneys, or both, in accordance with Commission Rule R1-39, by United States Mail, first class or better; by hand delivery; or by means of facsimile or electronic delivery upon agreement of the receiving party.

This the 9th day May, 2023.

Electronically submitted
/s/ Robert B. Josey
Staff Attorney

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1281

In the Matter of
Application of Duke Energy Carolinas,) **TESTIMONY OF**
LLC, for Approval of CPRE Program) **JEFF THOMAS**
Compliance Report and CPRE Cost) **PUBLIC STAFF –**
Recovery Rider Pursuant to N.C.G.S §) **NORTH CAROLINA**
62-110.8 and Commission Rule R8-71) **UTILITIES COMMISSION**

MAY 9, 2023

1 **Q. Please state your name, business address, and present**
2 **position.**

3 A. My name is Jeff Thomas. My business address is 430 North
4 Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am an
5 engineer with the Energy Division of the Public Staff – North Carolina
6 Utilities Commission.

7 **Q. Briefly state your qualifications and duties.**

8 A. My qualifications and duties are included in Appendix A.

9 **Q. What is the purpose of your testimony?**

10 A. The purpose of my testimony is to make recommendations to the
11 Commission regarding the Public Staff's investigation of the application
12 for recovery of costs associated with the implementation of the
13 Competitive Procurement of Renewable Energy (CPRE) Program filed
14 by Duke Energy Carolinas, LLC (DEC or the Company) on February 28,
15 2023. My review also includes the supplemental testimony and exhibits
16 filed by DEC on May 3, 2023 (Supplemental Filing).

17 The Public Staff Energy Division's specific responsibilities in this
18 CPRE rider proceeding are to: (1) review the Company's application
19 and proposed rates for compliance with N.C. Gen. Stat. § 62-110.8
20 and Commission Rule R8-71; (2) review the CPRE Compliance
21 Report and address any deficiencies pursuant to Commission Rule
22 R8-71(h) and Commission Orders; and (3) make recommendations

1 regarding changes to the Company's calculations of the proposed
2 rates.

3 **Q. How is your testimony organized?**

4 A. My testimony summarizes the CPRE Program Rider request and the
5 CPRE Compliance Report and presents the results of the Public
6 Staff's investigation.

7 **Q. Are you recommending any adjustments in your testimony?**

8 A. Yes. I am recommending that a portion of liquidated damages
9 associated with a contested Power Purchase Agreement (PPA)
10 termination be credited to ratepayers in the Experience Modification
11 Factor Period (January 1, 2022, through December 31, 2022) (EMF
12 Period).

13 A. Overview of DEC's CPRE Rider Request

14 **Q. What costs does DEC seek to recover associated with the CPRE
15 program implementation?**

16 A. As described in the direct and supplemental testimony of DEC
17 witness Walker, DEC seeks to recover a net total of \$365,777 in
18 implementation costs (system) incurred during the EMF Period
19 These costs include internal company labor and associated costs,
20 outside consulting and legal services, and a \$75,767 credit reflecting
21 Independent Administrator (IA) fees associated with Tranche 3 that

1 were inadvertently included in DEC's 2022 CPRE Rider. DEC has
2 also included a \$5.4 million credit to ratepayers reflecting: (1)
3 liquidated damages associated with projects that had their PPAs
4 terminated; and (2) Change Of Control fees collected from market
5 participants (MPs) in the EMF Period.¹ DEC forecasts ongoing
6 system implementation costs of \$388,648 from September 1, 2023,
7 through August 31, 2024, (Billing Period) associated with internal
8 labor and external consulting.

9 **Q. Please explain the liquidated damages credit DEC proposes to**
10 **flow back to customers.**

11 A. During the EMF Period, one Tranche 2 facility terminated its PPA,
12 and pursuant to the terms of the PPA, provided liquidated damages
13 to DEC. **[BEGIN CONFIDENTIAL]** [REDACTED]

14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]

¹ Section 24.6 of the Power Purchase Agreement (PPA) states that "Without limiting Buyer's rights under this Section 24, to the extent Buyer agrees to a request from Seller for one or more consent(s) to Assignment or Change of Control under this Agreement, Seller shall pay Buyer ten thousand dollars (\$10,000) prior to Buyer processing Seller's request."

1 [REDACTED]
2 [REDACTED] [END CONFIDENTIAL]. DEC states that because
3 this one-time credit is not associated with ratepayer revenues, it is
4 not included in the EMF Period interest calculation, pursuant to
5 N.C.G.S. § 62-130(e).²

6 **Q. How does DEC allocate these implementation costs and one-**
7 **time credits?**

8 A. In its application, DEC allocates implementation costs to NC retail
9 customer classes using a weighted average of the energy and
10 capacity allocation factors (“Composite Factor”), calculated
11 separately for the EMF Period and the Billing Period, as described
12 by witness Walker on page 9 of her direct testimony.

13 **Q. What costs does DEC seek to recover that are associated with**
14 **purchases of energy and capacity from winning projects?**

15 A. Within the EMF Period, DEC seeks recovery of \$19.9 million in
16 system purchased power costs associated with operational Tranche
17 1 and 2 projects, which generated 525,629 MWh (an increase of
18 271% over DEC’s 2022 CPRE Rider), which equates to an average

² “In all cases where the Commission requires or orders a public utility to refund moneys to its customers which were advanced by or overcollected from its customers, the Commission shall require or order the utility to add to said refund an amount of interest at such rate as the Commission may determine to be just and reasonable; provided, however, that such rate of interest applicable to said refund shall not exceed ten percent (10%) per annum.”

1 cost of \$37.87 per MWh. The North Carolina retail portion of this total
2 revenue requirement is \$13.3 million.

3 DEC estimates that during the Billing Period it will incur a total of
4 approximately \$37.3 million (system) in purchased and generated
5 power costs, consisting of \$5.3 million in capacity and \$32 million in
6 energy costs associated with an estimated 962,960 MWh of
7 generation from Tranche 1 and Tranche 2 projects, which equates to
8 an average cost of \$38.69 per MWh. The North Carolina retail portion
9 of these total costs is approximately \$24.9 million. The Public Staff
10 has reviewed DEC's forecasts of Billing Period expenses and finds
11 them reasonable, while also noting that continued project delays
12 associated with Tranche 2 facilities may result in over-recovery in
13 DEC's 2024 CPRE rider EMF Period.

14 **Q. Please provide an overview of DEC's CPRE compliance report.**

15 A. DEC filed its 2022 CPRE Compliance Report pursuant to
16 Commission Rule R8-71(h) and included information required for
17 calendar year 2022. The Compliance Report provides an overview
18 of activity in Tranches 1, 2, and 3. The Compliance Report also
19 provides average pricing for each of the selected proposals, avoided
20 cost thresholds, costs and authorized revenue, network upgrade
21 costs on a per-project basis, and a certification from the IA stating
22 that its evaluation process for Tranche 3 treated all participants

1 equitably and was unaware of any bias towards or against any
2 participant.

3 **Q. Does the Compliance report provide any information on the**
4 **status of the 30% utility-owned limit in N.C.G.S. § 62-110.8(b)(4)?**

5 A. Yes, the Compliance Report designates each facility as either a PPA
6 or utility-owned; however, it does not identify Duke Energy affiliates,
7 which are to be included within the 30% limit.³ The Public Staff found
8 that in Tranches 1, 2, and 3, approximately 14% of capacity procured
9 is owned by DEC, Duke Energy Progress, LLC (DEP; collectively
10 with DEC, Duke), or Duke Energy affiliates. When considering the
11 facilities that have terminated their CPRE PPAs, that figure rises to
12 approximately 19%. The Public Staff finds that Duke has not
13 exceeded the 30% statutory limit, and further, that even if additional
14 projects withdraw that cause the 30% limit to be exceeded, the
15 statute would not be violated.

16 **Q. Does the Public Staff believe DEC's CPRE compliance report**
17 **satisfies the requirements of Commission Rule R8-71(h)?**

18 A. Yes. Based upon the Public Staff's review, DEC's CPRE Compliance
19 Report provides adequate information that satisfies both the
20 requirements of Commission Rule R8-71(h) and the Commission's

³ See the Commission's February 21, 2018 Order Modifying and Approving Joint CPRE Program in Dockets E-7 Sub 1156, and E-2 Sub 1159, at 3.

1 February 21, 2018 *Order Modifying and Approving Joint CPRE*
 2 *Program* in Docket Nos. E-7, Sub 1156, and E-2, Sub 1159 (CPRE
 3 Order).

4 B. CPRE Rider Investigation

5 **Q. Please summarize the overall status of CPRE projects.**

6 A. The CPRE Program has, unfortunately, experienced significant
 7 project delays, withdrawals, and terminations in recent years. Duke's
 8 PPA terminations are entirely in DEC, which procured the majority of
 9 CPRE capacity. As shown in Table 1 below, out of the 1,024 MW of
 10 projects that signed PPAs with DEC in Tranches 1 and 2, only 320
 11 MW (24%) have achieved commercial operation, and 350 MW (34%)
 12 have terminated their PPA. In addition, several other facilities have
 13 delayed their in-service dates.

14 *Table 1: Overview of DEC CPRE Project Status.*

DEC	Selected	Terminated	Active	Terminated %	In Service	In Service %
Tranche 1:	435	40	395	9%	270	62%
Tranche 2:	589	310	279	53%	50	8%
Tranche 3:	155	0	155	0%	0	0%
Total	1,179	350	829	30%	320	27%

1 **Q. How are DEC ratepayers affected by these terminations and**
2 **delays?**

3 A. The cost of each CPRE facility, inclusive of network upgrades, was
4 below the avoided cost as calculated at the time, pursuant to statute.
5 Therefore, a withdrawal or delay in the commercial operation of a
6 CPRE facility increases costs for ratepayers.⁴ In addition, CPRE
7 facilities are necessary to meet the carbon reduction targets from
8 N.C.G.S. § 62-110.9 (HB 951); any delay in interconnecting these
9 resources risks creating a cascading delay that may impact the
10 interconnection of other Carbon Plan resources procured in the
11 ongoing 2022 Solar Procurement, the 2023 Solar Procurement, and
12 beyond.

13 However, CPRE facilities that terminate their PPA must pay
14 liquidated damages, which flow back to DEC ratepayers in this
15 proceeding, reducing the revenue requirement of the CPRE Rider.

16 **Q. What liquidated damages has DEC included in this proceeding?**

17 A. In its initial filing, DEC included liquidated damages and change of
18 control fees in the EMF Period of approximately \$5.4 million.
19 However, during its investigation the Public Staff found that DEC had

⁴ For example, the CPRE Tranche 3 Final Report, filed by the IA on April 17, 2023 in Docket No. E-7, Sub 1156, estimates nominal savings of \$9.7 million over 20 years associated with the 155 MW procured at an average cost of \$38.71 per MWh in Tranche 3.

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]

10 **Q.** [REDACTED]
11 [REDACTED]

12 **A.** [REDACTED]
13 [REDACTED]
14 [REDACTED] [REDACTED]
15 [REDACTED]

16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
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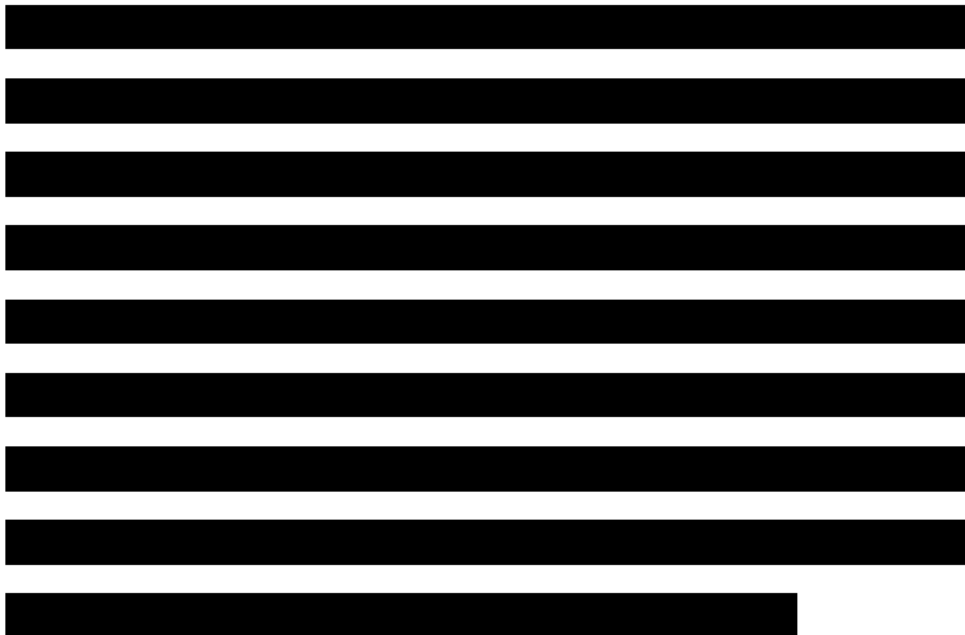


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Q.



A.



1 Q. [REDACTED]
2 [REDACTED]
3 A. [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 Q. [REDACTED]
9 A. [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED] [END]

20 CONFIDENTIAL]

1 Q. Does the total revenue requirement DEC seeks to recover in this
2 proceeding exceed the cost cap established by N.C.G.S. § 62-
3 110.8(g)?

4 A. No. The total revenue requirements sought for recovery in this
5 proceeding are less than 1% of DEC's total North Carolina retail
6 jurisdictional gross revenues for 2022.

7 Q. Does the Public Staff have any information regarding the
8 accuracy of network upgrade costs used in the CPRE evaluation
9 process?

10 A. Yes. While DEC is not seeking recovery of any network upgrade
11 costs in this proceeding, the Public Staff has monitored the latest
12 network upgrade costs for CPRE winning projects to determine if
13 they are reasonably accurate relative to the initial estimates used in
14 the evaluation process. Overall, the Public Staff found that the
15 difference between network upgrade estimates used in the
16 evaluation and the most recent network upgrade costs was
17 significant.

18 Across all Tranche 1 and 2 winning projects that have not withdrawn,
19 the total initial network upgrade cost estimates used in the evaluation
20 process was **[BEGIN CONFIDENTIAL]** [REDACTED] **[END**
21 **CONFIDENTIAL]**. The most recent estimate to interconnect these
22 same projects is **[BEGIN CONFIDENTIAL]** [REDACTED]

1 [REDACTED] [END CONFIDENTIAL]. Across all
2 Tranche 1 and 2 projects that have achieved commercial operation,
3 the initial network upgrade cost estimates used in the evaluation
4 process was [BEGIN CONFIDENTIAL] [REDACTED] [END
5 CONFIDENTIAL], and the in-service upgrade costs for these in-
6 service projects are [BEGIN CONFIDENTIAL] [REDACTED]
7 [REDACTED] [END CONFIDENTIAL].

8 The Public Staff is investigating the reasonableness and prudence
9 of these network upgrade costs associated with in-service projects
10 in DEC's current general rate case in Docket No. E-7, Sub 1276.
11 However, at this time it does not appear that any individual project's
12 upgrade cost has exceeded 125% of its initial estimate, which would
13 invoke the Commission's "limit in the nature of a presumption that
14 costs in excess of 25% of the estimated costs, are unreasonably
15 incurred and not recoverable."⁷

⁷ See the Commission's Order Modifying and Accepting CPRE Program Plan, filed in Docket Nos. E-2, Sub 1159 and E-7, Sub 1156, at 18, on July 2, 2019.

1 C. Public Staff Recommendations

2 **Q. What are your recommendations to the Commission regarding**
 3 **DEC's application?**

4 A. The Public Staff recommends that the Commission accept the rates
 5 as proposed in Table 3 below, which are the rates filed by DEC in its
 6 Supplemental Filing plus the addition of the aforementioned
 7 liquidated damages credit.

8 **Q. What rates has DEC requested for its EMF and CPRE rider?**

9 A. In its Supplemental Testimony, DEC requested the following charges
 10 (excluding regulatory fee). The EMF Rate includes an interest
 11 component.

12 *Table 2: DEC's CPRE Rider Request - May 3, 2023 Supplemental Filing (cents per kWh)*

Customer Class	EMF Rate	CPRE Rider Rate	Total CPRE Rate
Residential	(0.0128)	0.0271	0.0143
General Service	(0.0141)	0.0261	0.0120
Industrial	(0.0093)	0.0253	0.0160

1 **Q. What rates does the Public Staff propose for DEC's EMF and**
2 **CPRE rider?**

3 A. The Public Staff recommends the Commission adopt the following
4 CPRE rider rates, which reflect DEC's Supplemental Filing and the
5 Public Staff's recommended adjustment, as discussed herein.

6 *Table 3: Public Staff's Proposed Rates (cents per kWh)*

Customer Class	EMF Rate	CPRE Rider Rate	Total CPRE Rate
Residential	(0.0153)	0.0271	0.0118
General Service	(0.0165)	0.0261	0.0096
Industrial	(0.0113)	0.0253	0.0140

7 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

8 A. Yes, it does.

QUALIFICATIONS AND EXPERIENCE

JEFF T. THOMAS, P.E.

I graduated from the University of Illinois Champaign-Urbana in 2009, earning a Bachelor of Science in General Engineering. From 2009 to 2015, I worked in various operations management roles for General Electric, United Technologies Corporation, and Danaher Corporation. I left manufacturing in 2015 to attend North Carolina State University, earning a Master of Science degree in Environmental Engineering. At NC State, I performed cost-benefit analysis evaluating smart grid components, such as solid-state transformers and grid edge devices, at the Future Renewable Energy Electricity Delivery and Management Systems Engineering Research Center. My master's thesis focused on electric power system modeling, capacity expansion planning, linear programming optimization, and the effect of various state and national energy policies on North Carolina's generation portfolio and electricity costs. After obtaining my degree, I joined the Public Staff in November 2017. In my current role, I have investigated and filed testimony in avoided cost determinations, general rate cases and riders, interconnection queue reform, CPCN applications, and integrated resource planning proceedings. I have also worked on the implementation of HB 589 renewable energy programs and the development of competitive resource solicitations, as well as the initiation and implementation of HB 951's initial Carbon Plan and performance based ratemaking. I received my Professional Engineering license in North Carolina in April 2020.

Thomas Exhibit 1 is Confidential