

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-7, SUB 1304**

In the Matter of  
Application of Duke Energy Carolinas, LLC, )  
Pursuant to N.C.G.S. § 62-133.2 and )  
Commission Rule R8-55 Relating )  
to Fuel and Fuel-Related Charge )  
Adjustments for Electric Utilities )

**TESTIMONY OF  
EVAN D. LAWRENCE  
PUBLIC STAFF –  
NORTH CAROLINA  
UTILITIES COMMISSION**

**May 23, 2024**

1 **Q. Mr. Lawrence, please state your name, business address, and**  
2 **current position.**

3 A. My name is Evan D. Lawrence. My business address is 430 North  
4 Salisbury Street, Dobbs Building, Raleigh, North Carolina, where I  
5 work for the Public Staff - North Carolina Utilities Commission (Public  
6 Staff). Within the Public Staff, I am an engineer in the Energy  
7 Division, specifically the Electric Section – Operations and Planning.

8 **Q. Briefly state your qualifications and experience.**

9 A. My qualifications and experience are attached as Appendix A.

10 **Q. What is the mission of the Public Staff?**

11 A. The Public Staff represents the concerns of the using and consuming  
12 public in all public utility matters that come before the North Carolina  
13 Utilities Commission (Commission). Pursuant to N.C. Gen. Stat. §  
14 62-15(d), it is the Public Staff's duty and responsibility to review,  
15 investigate, and make appropriate recommendations to the  
16 Commission with respect to the following utility matters: (1) retail  
17 rates charged, service furnished, and complaints filed, regardless of  
18 retail customer class; (2) applications for certificates of public  
19 convenience and necessity; (3) transfers of franchises, mergers,  
20 consolidations, and combinations of public utilities; and (4) contracts  
21 of public utilities with affiliates or subsidiaries. The Public Staff is also

1 responsible for appearing before State and federal courts and  
2 agencies in matters affecting public utility service.

3 **Q. What is the purpose of your testimony in this proceeding?**

4 A. The purpose of my testimony is to present the results of my  
5 investigation and recommendations regarding the proposed fuel and  
6 fuel-related cost factors for the residential, general service/lighting,  
7 and industrial customers of Duke Energy Carolinas, LLC (DEC or the  
8 Company), as set forth in the Company's February 27, 2024  
9 application and testimony, and updated in the supplemental  
10 testimony of DEC witness Sigourney Clark filed on May 8, 2023.

11 **Q. Please describe the scope of your investigation.**

12 A. My investigation included a review of the Company's test period and  
13 projected fuel and fuel-related costs, and the factors that determine  
14 these costs. I reviewed the following: (1) the Company's application,  
15 testimony, and responses to Public Staff data requests; (2)  
16 documents related to the operation and performance of the  
17 Company's power plants, including the performance of the  
18 Company's nuclear facilities; (3) the cost of renewable energy and  
19 associated fuel prices; and (4) the Company's coal, natural gas,  
20 nuclear, and reagent procurement practices and contracts. I also  
21 participated in meetings with the Company.

1 In the 2023 fuel rider proceeding, the Commission ordered that  
2 “because the W.S. Lee December 2022 Outage spans both the 2022  
3 and 2023 test year, the Commission finds good cause to conclude  
4 that replacement fuel costs attributable to the W.S. Lee December  
5 2022 Outage are appropriate for consideration in the 2024 annual  
6 fuel adjustment proceeding.”<sup>1</sup> As part of my review, I investigated this  
7 outage and the replacement fuel costs attributable to the outage and  
8 found that no adjustment is necessary.

9 **Q. What are the dates of the test period and billing period for this**  
10 **proceeding?**

11 A. For this proceeding, the test period is January 1, 2023, through  
12 December 31, 2023. The billing period is September 1, 2024, through  
13 August 31, 2025.

14 **Q. Please summarize the results of your investigation and your**  
15 **recommendations.**

16 A. For the test year, the Company achieved the nuclear capacity factor  
17 standard in Commission Rule R8-55(k) and appropriately calculated  
18 the proposed base system average fuel factor for the billing period.  
19 The Company’s estimated proposed fuel and fuel-related cost  
20 factors in this proceeding are reasonable.

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<sup>1</sup> Docket No. E-7, Sub 1282, Order Approving Fuel Charge Adjustment, at 25-26 (Aug. 23, 2023).

1 **Q. Did the Company achieve the standards of Commission Rule**  
2 **R8-55(k) for the test year?**

3 A. Yes. For the test year, the Company achieved the standards of  
4 Commission Rule R8-55(k) by achieving an actual system-wide  
5 nuclear capacity factor that exceeded the NERC (North American  
6 Electric Reliability Corporation) weighted average nuclear capacity  
7 factor. Additionally, the Company's two-year simple average of its  
8 system-wide nuclear capacity factor exceeded the NERC weighted  
9 average nuclear capacity factor.<sup>2</sup>

10 **Q. Did the Public Staff review the billing period or projected fuel**  
11 **and fuel-related costs as set forth by the Company in this filing?**

12 A. Yes. The projected fuel and reagent costs for the billing period are  
13 reasonable. The projected fuel and fuel-related costs are impacted  
14 by fluctuations in the costs of nuclear fuel, coal, and natural gas. DEC  
15 based its proposed fuel and fuel-related costs on a projected 95.73%  
16 system nuclear capacity factor, which the Company anticipates for  
17 the billing period.

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<sup>2</sup> The Company calculated a system nuclear capacity factor for the test period of 94.57%. For comparison, the most recent NERC five-year average weighted for the size and type of reactors in DEC's nuclear fleet is 91.9%.

1 **Q. Please explain further why you consider the prospective costs**  
2 **to be reasonable.**

3 A. As part of my investigation, I reviewed the Company's projected fuel  
4 consumption for the billing period. I reviewed the methodology the  
5 Company used to determine its projected fuel costs and  
6 consumption, along with the supporting information, and I take no  
7 issue with it.

8 **Q. Please describe the natural gas prices the Company used in its**  
9 **filing.**

10 A. DEC witness John Swez indicates that the Henry Hub<sup>3</sup> natural gas  
11 forward price at the time of writing his testimony (February 2024) was  
12 \$3.10 per MMBtu.<sup>4,5</sup> This price is in line with the results of my  
13 investigation, in which I calculated the natural gas forward price to  
14 be \$3.19 per MMBtu as of the close of business on May 14, 2024,  
15 using a simple average of the natural gas forward prices.<sup>6</sup>

16 The Company incurred an average cost in the current test period of  
17 \$4.94 per MMBtu. The difference in DEC's average cost and the  
18 Henry Hub price stems from DEC's hedging practices, projected

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<sup>3</sup> The Henry Hub pricing shown is meant to be a general representation of natural gas pricing and is not inclusive of a number of other potential costs.

<sup>4</sup> Swez direct testimony, page 10, line 4.

<sup>5</sup> Million British Thermal Units.

<sup>6</sup> <https://www.cmegroup.com/markets/energy/natural-gas/natural-gas.quotes.html>

1 delivered cost of natural gas, and projected burn volumes in the  
2 billing period.

3 The Company's projected total cost for the billing period for natural  
4 gas is \$863,780,065,<sup>7</sup> and the expected burn is 205.2 MMBTU,  
5 resulting in an approximate cost of \$4.21 per MMBTU for the billing  
6 period. I do not consider the change in the Henry Hub forwards from  
7 the time of the Company's initial filing to my calculations completed  
8 on May 14, 2024, to be substantial enough to warrant a recalculation  
9 of the projected fuel factor.

10 **Q. What are DEC's total requested rate changes in this fuel**  
11 **proceeding?**

12 A. DEC witness Clark's supplemental filing, specifically Clark Exhibit 1,  
13 presents the Company's requested rates. The proposed rate  
14 changes are shown in Figure 1 below for ease of reference.

15 Figure 1: Fuel rates as proposed in Clark Exhibit 1

Description	Residential cents/kWh	General cents/kWh	Industrial cents/kWh
Total Adjusted Fuel and Fuel Related Costs	2.3061	2.3045	2.2951
EMF Increment (Decrement)	0.4751	0.3221	0.6519
EMF Interest (Decrement)	-	-	0.0060
EMF Increment (Decrement) Docket E-7, Sub 1282	0.0285	(0.0003)	0.0205
Net Fuel and Fuel Related Costs Factors	2.8097	2.6263	2.9735
Net Fuel and Fuel Related Costs Factors cents/kWh (9/1/2024 - 12/31/2024)	4.0760	3.8687	3.6045
Net Fuel and Fuel Related Costs Factors cents/kWh (01/01/2025 - 8/31/2025)	2.8097	2.6263	2.9735

<sup>7</sup> Clark Exhibit 2, page 1, line 3.

1 In the tables below, I present a comparison of the changes between  
 2 current fuel rates and the as-proposed rates over the different rate  
 3 periods within the upcoming billing period. Typically, there would not  
 4 be differing rates within a single billing period as the prior fuel rider  
 5 billing period would end on August 31, and the new billing period  
 6 would begin on September 1. However, the prior year's fuel rider<sup>8</sup>  
 7 recovery period was extended by four months (through December  
 8 31) as part of a mitigation plan. Therefore, I have identified rates from  
 9 September 1 through December 31, 2024, in one row and from  
 10 January 1 through August 31, 2025, in a second row. Table 1 below  
 11 shows residential rates, Table 2 shows commercial rates, and Table  
 12 3 shows industrial rates.

Table 1: Comparison of Residential Fuel Rates and Changes

		Fuel Rates (cents per kWh)			Fuel Cost per 1,000 kWh		
		Fuel Rate	Change from Current	Change from 9/1	Fuel portion of monthly bill	Change from current	Change from 9/1
Current rates		3.8950	N/A	N/A	\$38.95	N/A	N/A
Proposed rates	Beginning 9/1/2024	4.0760	0.181	N/A	\$40.76	\$1.81	N/A
	Beginning 1/1/2025	2.8097	-1.0853	-1.2663	\$28.10	-\$10.85	-\$12.66

<sup>8</sup> Docket No. E-7, Sub 1282.



Table 2: Comparison of Commercial Fuel Rates and Changes

		Fuel Rates (cents per kWh)			Fuel Cost per 1,000 kWh		
		Fuel Rate	Change from Current	Change from 9/1	Fuel portion of monthly bill	Change from current	Change from 9/1
Current rates		3.5020	N/A	N/A	\$35.02	N/A	N/A
Proposed rates	Beginning 9/1/2024	3.8687	0.3667	N/A	\$38.69	\$3.67	N/A
	Beginning 1/1/2025	2.6263	-0.8757	-1.2424	\$26.26	-\$8.76	-\$12.42

Table 3: Comparison of Industrial Fuel Rates and Changes

		Fuel Rates (cents per kWh)			Fuel Cost per 1,000 kWh		
		Fuel Rate	Change from Current	Change from 9/1	Fuel portion of monthly bill	Change from current	Change from 9/1
Current rates		3.2422	N/A	N/A	\$32.42	N/A	N/A
Proposed rates	Beginning 9/1/2024	3.6045	0.3623	N/A	\$36.05	\$3.62	N/A
	Beginning 1/1/2025	2.9735	-0.2687	-0.6310	\$29.74	-\$2.69	-\$6.31

1            If the Commission were to approve the proposed rates, the total fuel  
2            rate for the residential class would increase on September 1, 2024,  
3            by 0.181 cents per kWh, resulting in a bill increase of \$1.81 for a  
4            residential customer using 1,000 kWh, compared to rates currently  
5            in effect. Then, for energy consumed beginning January 1, 2025, the  
6            rate would decrease by 1.2663 cents per kWh (compared to rates  
7            beginning September 1, 2024), resulting in a decrease of \$12.66

1 (which would be a decrease of \$10.85 compared to the rates  
2 currently in effect). Note that the tables do not represent the total  
3 customer bill, but rather only the fuel portion of the bill. Importantly,  
4 while the changes presented in Table 1 may closely reflect the  
5 changes that residential customers would see in their total bills,  
6 Table 2 and Table 3 are less reflective of a total bill because most  
7 commercial and industrial customers have monthly usage  
8 significantly greater than 1,000 kWh.

9 **Q. Will the proposed fuel rate increases, with no mitigation,**  
10 **constitute rate shock?**

11 A. In the 2023 DEC fuel cost recovery proceeding,<sup>9</sup> I briefly discussed  
12 this topic, and I will reiterate my comments in my present testimony.  
13 While the Public Staff does not have specific "bright line" thresholds  
14 to determine what constitutes rate shock, in my opinion, with no  
15 mitigation of the as-filed September 1, 2024 rate change, industrial  
16 customers are likely to experience significant volatility and potentially  
17 rate shock, which could adversely impact their daily operations.

18 DEC ratepayers have experienced significant rate increases over the  
19 past several years. As described above, the initial four-month  
20 proposed increase in this case is being driven in large part by the  
21 extension of the EMF component from last year's fuel proceeding

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<sup>9</sup> Docket No. E-7, Sub 1282.

1 (from 12 months to 16 months) to help alleviate a substantial  
2 increase in fuel rates in that case together with both an  
3 undercollection from the current test period and an increase in the  
4 prospective portion of the rate during the billing period. After  
5 December 31, 2024, the EMF component remaining from the Sub  
6 1282 case in current rates ends, resulting in a large decrease from  
7 current fuel rates.

8 **Q. Does the Public Staff oppose, or otherwise find it unreasonable,**  
9 **for Duke to propose mitigation only for industrial customers in**  
10 **this case?**

11 A. No. Prior to the Company's proposed mitigation as filed in witness  
12 Clark's May 8, 2024, supplemental filing, the September 1, 2024, rate  
13 increases for the residential and commercial classes were much  
14 smaller than for the industrial class, both on a percentage increase  
15 and total dollar basis. In addition to the industrial class experiencing  
16 the largest increase, the industrial class's contemplated January 1,  
17 2025 rate change would have been a decrease of almost equal  
18 magnitude. The Public Staff understands that large swings in rates  
19 make it difficult for business planning and budgeting purposes,  
20 particularly for customers who use substantial amounts of electricity  
21 and for whom the annual fuel rate comprises a significant portion of  
22 their total electricity bill.

1 **Q. Please expand upon the Company's proposed mitigation**  
2 **option.**

3 A. DEC witness Clark outlined a proposed mitigation option for  
4 industrial customers in her supplemental filing. This mitigation option  
5 decreases proposed rates from the initial filing for the first four  
6 months of the billing period but increases rates over the last 8  
7 months. It also includes an interest component. The proposed  
8 mitigation results in less volatile rate impacts for the industrial class  
9 as compared to the original filing.

10 **Q. What is your position regarding witness Clark's proposed**  
11 **mitigation option, including whether residential and commercial**  
12 **customers would benefit from a similar arrangement?**

13 A. Given the circumstances, I appreciate the Company's willingness to  
14 provide the proposed mitigation option for customers who would  
15 otherwise experience the greatest impacts.

16 The Company's proposed mitigation option avoids two substantial  
17 rate swings within a four-month period. Despite the fact that the  
18 industrial customer class would pay interest on DEC's delayed  
19 collection of the fuel under-recovery, from my perspective and based  
20 on conversations with representatives of industrial customers, I  
21 believe this mitigation strategy, or one similar to it, is not only  
22 reasonable, but beneficial to these customers in this proceeding. I do

1 not believe that a similar arrangement is necessary for residential  
2 and commercial customers in this case given the much smaller  
3 magnitude of the overall increase on September 1, 2024, followed by  
4 a significant decrease on January 1, 2024, because the interest  
5 these customers would pay would quickly dwarf any benefit from  
6 smoothing the rate changes.

7 **Q. Are there any other additional findings from your investigation?**

8 A. Yes. Based on my investigation, I found that the Company did not  
9 include in its filings the energy required to serve a newly added  
10 wholesale customer, the City of Orangeburg, South Carolina); DEC's  
11 contract with Orangeburg became effective on or about January 1,  
12 2024.

13 Based upon my review, the addition of this customer would cause a  
14 change in the allocation of costs between DEC's three customer  
15 jurisdictions: NC Retail, SC Retail, and Wholesale. In this  
16 circumstance, the addition of this wholesale customer increases  
17 sales to the wholesale jurisdiction, and in turn increases total system  
18 sales, while also increasing system costs to serve this load. Based  
19 upon my review, the increase in total system costs results in an  
20 overall change to NC Retail that would likely have little impact on  
21 rates. As this change would impact only the fuel and fuel-related cost  
22 components that make up the prospective rate, the Company will

1 reflect the actual costs incurred, and subsequent allocations of  
2 energy between jurisdictions, in the EMF calculations in its 2025 fuel  
3 case.

4 **Q. Are you concerned that this wholesale customer was not**  
5 **included in DEC's calculations in this proceeding?**

6 A. Yes. While the exclusion of Orangeburg from DEC's calculations is  
7 likely to have little impact on DEC's nearly \$2 billion in annual fuel  
8 costs, my primary concern is whether proper internal controls are in  
9 place to account for changes of this type. It is troubling that the  
10 Company would exclude a new, large load wholesale customer from  
11 its production cost modeling, particularly one it has been actively  
12 seeking to add to its wholesale portfolio for many years. When  
13 factoring in the continuing underrecoveries that DEC expects captive  
14 customers to pay, it is essential that the Company's internal  
15 processes for estimating and tracking future fuel costs be accurate.

16 **Q. What are the fuel and fuel-related cost factors that you are**  
17 **recommending?**

18 A. In Lawrence Exhibit 1, I present the Public Staff's recommended fuel  
19 and fuel-related cost factors. I have shared my recommendation for  
20 the prospective fuel rate with Public Staff witness Brown and have  
21 taken witness Brown's recommended EMF rates and incorporated  
22 them into these tables. I would like to draw attention to Table 6 and

1           Table 7, which together show how the individual components of the  
2           rate will change during the billing period. It also should be noted that  
3           Lawrence Exhibit 1 excludes from fuel recovery DEC’s proposed  
4           “new EMF” recovery factor.

5   **Q.    Does this conclude your testimony?**

6   **A.    Yes.**





**QUALIFICATIONS AND EXPERIENCE**

**EVAN D. LAWRENCE**

I graduated from East Carolina University in Greenville, North Carolina in May 2016, earning a Bachelor of Science degree in Engineering with a concentration in Electrical Engineering. I started my current position with the Public Staff in September 2016. Since that time, my duties and responsibilities have focused on reviewing renewable energy projects, rate design, and renewable energy portfolio standards (REPS) compliance, and review of other capital project additions. I have filed both affidavits and testimony in numerous annual rider proceedings for DENC, DEP, and DEC, testimony in New River Light and Power's 2017 rate case proceeding, testimony in Western Carolina University's 2020 rate case proceeding, and testimony in multiple dockets for requests for CPCNs. Additionally, I previously served as a co-chair of the National Association of State Utility and Consumer Advocates' Distributed Energy Resources and Energy Efficiency Committee from 2019 to 2021.



**Lawrence Exhibit 1: Proposed Fuel and Fuel-Related Cost Factors  
 (cents per kWh)  
 effective September 1, 2024  
 (excludes regulatory fee)**

Table 4: Public Staff PROPOSED Fuel and Fuel-Related Cost Factors (¢ per kWh)

<b>Rate Class</b>	<b>Base &amp; Prospective</b>	<b>EMF</b>	<b>EMF Interest</b>	<b>Total Fuel Factor</b>
Residential	2.3061	0.4751	0.0000	2.7812
General Service/Lighting	2.3045	0.3221	0.0000	2.6266
Industrial	2.2951	0.6899	0.0060	2.9910

These rates are set to take effect on September 1, 2024, with the exception of the Industrial Class EMF rate and EMF interest, which would not take effect until January 1, 2025. Additionally, the EMF component and EMF interest component in current rates will remain in effect through December 31, 2024.

For comparison, Table 5, below provides the existing fuel and fuel-related cost factors (excluding the regulatory fee) approved in Docket No. E-7, Sub 1282:

Table 5: Existing Fuel and Fuel-Related Cost Factors (¢ per kWh)

<b>Rate Class</b>	<b>Base &amp; Prospective</b>	<b>EMF</b>	<b>EMF Interest</b>	<b>Total Fuel Factor</b>
Residential	2.6287	1.2579	0.0084	3.8950
General Service/Lighting	2.2596	1.2342	0.0082	3.5020
Industrial	1.9328	1.3007	0.0087	3.2422

In my Table 6, I present the fuel and fuel related cost factors for each customer class effective September 1, 2024, through December 31, 2024. Table 7 presents these same

fuel and fuel related cost factors which will be effective January 1, 2024 and ending August 30, 2025.

Table 6: Fuel and Fuel-Related Cost Factors effective September 1, 2024, to December 31, 2024 (¢ per kWh)

Rate Class	Base & Prospective	(Approved in Docket No. E-7, Sub 1282)		Public Staff's Recommended rates in this case		Total Fuel Factor
		EMF	EMF Interest	EMF	EMF Interest	
Residential	2.3061	1.2579	0.0084	0.4751	0.0000	4.0475
General Service/Lighting	2.3045	1.2342	0.0082	0.3221	0.0000	3.8690
Industrial	2.2951	1.3007	0.0087	0.0000	0.0000	4.3004

Table 7: Fuel and Fuel-Related Cost Factors effective January 1, 2025, to August 31, 2025 (¢ per kWh)

Rate Class	Base & Prospective	(Approved in Docket No. E-7, Sub 1282)		Public Staff's Recommended rates in this proceeding		Total Fuel Factor
		EMF	EMF Interest	EMF	EMF Interest	
Residential	2.3061	0.0000	0.0000	0.4751	0.0000	2.7812
General Service/Lighting	2.3045	0.0000	0.0000	0.3221	0.0000	2.6266
Industrial	2.2951	0.0000	0.0000	0.6899	0.0060	2.9910



**CERTIFICATE OF SERVICE**

I certify that I have served a copy of the foregoing on all parties of record or to the attorney of record of such party in accordance with Commission Rule R1-39, by United States mail, postage prepaid, first class; by hand delivery; or by means of facsimile or electronic delivery upon agreement of the receiving party.

This the 23<sup>rd</sup> day of May, 2024.

Electronically submitted  
/s/William S. F. Freeman