



**NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION**

October 13, 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 1276 – Application of Duke Energy Carolinas, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina and Performance Based Regulation

Dear Ms. Dunston:

Attached for filing on behalf of the Public Staff in the above-referenced docket is the supplemental testimony and exhibits of David M. Williamson, Engineer with the Energy Division of the Public Staff – North Carolina Utilities Commission.

By copy of this letter, I am forwarding a copy to all parties of record by electronic delivery.

Sincerely,

Electronically submitted
/s/ Lucy E. Edmondson
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/s/ Robert B. Josey
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Attachments

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CERTIFICATE OF SERVICE

I certify that a copy of this Supplemental Testimony with exhibits 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 13th day of October, 2023.

Electronically submitted
/s/Nadia Luhr
Staff Attorney

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1276

In the Matter of)	SUPPLEMENTAL
Application of Duke Energy Carolinas,)	TESTIMONY OF
LLC for Adjustment of Rates and)	DAVID M. WILLIAMSON
Charges Applicable to Electric Service in)	PUBLIC STAFF –
North Carolina and Performance Based)	NORTH CAROLINA
Regulation)	UTILITIES COMMISSION

October 13, 2023

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

3 A. My name is David M. Williamson. 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. Are you the same David M. Williamson who previously filed**
8 **direct testimony in this proceeding on July 19, 2023?**

9 A. Yes.

10 **Q. What is the purpose of your supplemental testimony?**

11 A. The purpose of my supplemental testimony is to present the Public
12 Staff's recommended distribution of revenues to retail customer
13 classes based on the results of the Modified Average and Excess
14 (MAE) cost-of-service methodology.¹ My calculations are based on
15 the request of Duke Energy Carolinas, LLC (DEC or the Company)
16 for a base revenue increase, which includes an update to the
17 Company's current Excess Deferred Income Tax rider (EDIT-4) and
18 the Public Staff's adjustments to that request.

19 The Company's request covers a historical base period (Base Case)

¹ The application of this cost-of-service study (COSS) methodology was determined as part of an "Agreement and Stipulation of Partial Settlement" between Carolina Industrial Group for Fair Utility Rates II and III, DEC, and the Public Staff, and filed on September 12, 2022, in this proceeding and in DEP's general rate case, Docket No. E-2, Sub 1300 (Sub 1300) (COS Agreement).

1 and three forecasted periods (Rate Years), with each Rate Year
2 spanning 12 months beginning January 1, 2024, and continuing
3 through December 31, 2026. Additionally, each Rate Year builds on
4 the previous Rate Year to determine the new incremental revenue
5 requirement to be used in determining customer rates that will
6 change on January 1 of each Rate Year. The update to EDIT-4 is
7 applied to the Base Case revenue requirement as a \$10.394 million
8 dollar credit.

9 The Public Staff's recommended total revenue change (in 000s) by
10 Rate Year is as follows:

	Public Staff Recommended Revenue Requirement under Present Rates (Base)	Public Staff Recommended Change in Revenue Requirement (Incremental)	Public Staff Recommended Change in Revenue Requirement (Cumulative)
Base Case	\$5,427,913	\$146,502	\$5,574,415
Rate Year 1		\$117,126	\$5,691,541
Rate Year 2		\$164,650	\$5,856,191
Rate Year 3		\$151,235	\$6,007,425

11 The dollar amounts in the table above are taken from the joint
12 supplemental and settlement testimony and exhibit of Public Staff
13 witnesses Zhang, Boswell, and Metz filed in this same docket on this
14 same date. I have used this information to assign the revenues and
15 credits to the individual customer classes.

1 **Q. Do you have any exhibits to your testimony?**

2 A. Yes. My testimony includes two exhibits. D. Williamson
3 Supplemental Exhibit 1 provides the rates of return (ROR) on rate
4 base, the percentage change in base revenues, and the impact of
5 the additional EDIT-4 credits for the MAE cost-of-service
6 methodology. D. Williamson Supplemental Exhibit 2 provides the
7 Public Staff's recommended revenue distribution for this case and
8 several other scenarios that illustrate how the base revenue and
9 updated EDIT-4 credit assignments could be assigned for each Rate
10 Year. The other scenarios include revenue assignments under a "no
11 change in revenue" scenario, an "equal rate of return" scenario, and
12 an "equal percentage increase" scenario for the MAE cost-of-service
13 methodology.

14 **Q. Briefly explain how you distributed the base revenue change.**

15 A. I utilized the Company's E-1, Item 45A, which is the per books MAE
16 COSS, to develop a distribution framework that incorporates the
17 overall base revenues, expenses, net income, and rate base for the
18 test year. I applied this framework to the adjusted present and
19 proposed revenues, expenses, and rate base provided by Public
20 Staff witnesses Zhang, Boswell, and Metz, to develop the Public
21 Staff's recommended revenue changes by retail rate class for each
22 Rate Year of the multi-year rate plan (MYRP). Additionally, while this
23 framework is used as a guide to understand how costs were incurred

1 during the test year, I did not rely exclusively on the MAE COSS. I
2 also applied and balanced the Public Staff's four basic revenue
3 assignment principles, which I outlined in my direct testimony, to
4 influence the way revenue apportionment is applied to each retail
5 rate class. Those principles are:

- 6 1. Any revenue increase assigned to any customer
7 class is limited to no more than two percentage points
8 greater than the overall jurisdictional revenue
9 percentage increase, thus avoiding undue rate
10 shock;
- 11 2. Class RORs are maintained within a +/- 10% band of
12 reasonableness relative to the overall NC retail ROR;
- 13 3. All class RORs move closer to parity with the overall
14 NC retail ROR; and
- 15 4. Subsidization among the customer classes is
16 minimized.

17 The supplemental exhibits filed herewith present my results and are
18 based on the application of these four principles. To the greatest
19 extent practicable, the Public Staff's assignment of the base revenue
20 increase and Rate Years 1, 2, and 3 adheres to each of these
21 principles.

1 **Q. Did you encounter any challenges when apportioning revenues**
2 **based on these guiding principles?**

3 A. Yes, I did. As I discussed in my direct testimony, the COS Agreement
4 requires utilization of the MAE COSS methodology for class rate
5 design in this case. However, DEC's last general rate case allocated
6 costs utilizing the Summer Coincident Peak (SCP) COSS
7 methodology. While this shift in COSS methodologies is appropriate,
8 as it results in a better alignment in the way that the electric utilities
9 are planning, building, and operating their systems, it does present
10 certain challenges with respect to adhering to the Public Staff's
11 apportionment principles. I discuss those considerations in more
12 detail below.

13 When developing a COSS, the first step is to determine the
14 methodology that will be used to conduct the study. The methodology
15 takes each input (e.g., demand, energy, number of customers,
16 revenues), and determines how those inputs will inform the
17 functionalization and classification of costs to identify cost causation
18 for each customer class through the development of specific
19 allocation factors. A change in methodology may change the
20 allocation of certain costs from how they have been historically
21 allocated. Second, the change in methodology may require
22 adjustments to resolve the resulting differences in the rate design.

23 As an example, the lighting class was previously allocated limited

1 production-related costs under the SCP methodology. Under the
2 proposed MAE methodology, the lighting class is allocated a larger
3 portion of production-related costs that is more reflective of the
4 class's cost to serve, resulting in the class producing less revenue
5 compared to its allocated plant and costs from an ROR perspective.
6 To realign the revenues to plant and costs going forward, a larger
7 rate increase over time would be required for the lighting class to
8 move back into alignment.

9 While the shift in COS methodology has created a challenge in
10 assigning class revenue responsibility that aligns with the Public
11 Staff's guiding rate principles, it is important to remember that rates
12 and rate design should be based on the overall design, operation,
13 and use of the utility's system such that all customer classes pay for
14 the utility's plant and other costs according to each class's use of the
15 plant and causation of costs. The revenue apportionment illustrated
16 in my exhibits shows a reasonable level of progress toward achieving
17 all the guiding principles, without introducing the risk of rate shock.
18 Additionally, the fact that the Company will likely file rate cases in a
19 more cyclical manner moving forward fosters a higher level of
20 confidence that the customer classes will make positive strides going
21 forward to address their revenue responsibility. This was not the
22 case prior to the establishment of Session Law 2021-165 (HB 951),
23 when it was unknown how long a utility would wait before it filed a

1 new general rate case, delaying the ability to adjust revenue
2 responsibility.

3 Another consideration relates to the impact that an MYRP and
4 resulting changes in revenue requirements over the term of the
5 MYRP will have on class RORs and the apportionment of revenue
6 requirement in each year of the MYRP. Decoupling only the
7 residential class revenue requirement from energy sales but not
8 doing the same for non-residential class revenue requirements
9 makes application of the revenue assignment principles even more
10 difficult, particularly for the MYRP annual changes. This change
11 could lead to a dichotomy between class RORs and the percentage
12 changes in revenues that would be assigned to all customer classes
13 in the next rate case. In future rate case proceedings, if residential
14 RORs remain consistent with the targeted class ROR in the base
15 case of an MYRP and the non-residential RORs diverge over the 36
16 months of the MYRP, resolving those differences and adhering to the
17 Public Staff's revenue assignment principles will be a challenge
18 when assigning future revenue changes, as larger increases may
19 need to be issued to the non-residential classes in the effort to move
20 them closer to the band.

1 **Q. Given these challenges, how did you assign revenues in this**
2 **case?**

3 A. Noting the considerations above, I was able to apply the Public
4 Staff's revenue assignment principles as practicably as possible.
5 Moreover, given the shift in COSS methodology, customer classes
6 that were far outside of the band of reasonableness made substantial
7 movement toward the band, without creating issues with rate shock.

8 **Q. How did you assign the Public Staff's recommended EDIT-4**
9 **credit?**

10 A. The Company, in this case, has assigned the EDIT-4 credit across
11 four customer classes. Similar to the approach taken in the last DEC
12 general rate case, I have reassigned the EDIT-4 credit revenues to
13 reflect five customer classes to include the OPT class, instead of the
14 four broad customer classes presented in witness Beveridge's
15 Exhibit 7.² My recommended spread of revenues and energy sales
16 is consistent with the method recommended by the Public Staff in the
17 Company's previous general rate case proceeding.

² Witness Beveridge merges the impacts of the OPT class with the General Service and Industrial classes.

1 **Q. Is the Public Staff's method for apportioning revenues the same**
2 **approach that DEC has supported in its proposed rate design?**

3 A. No, it is not. The Company in its proposal has applied a fixed 10%
4 cross subsidy adjustment as part of the class rate design process.
5 While the Public Staff acknowledges that the Company's method is
6 an approach to dealing with class cross-subsidization, I focused
7 primarily on the Public Staff's four rate design principles as
8 articulated in my July 19, 2023, direct testimony in this proceeding.
9 My approach to apportioning revenues independently moves each
10 rate class closer to ROR parity (the band of reasonableness index
11 between 0.9 and 1.1). Because some classes are already within the
12 band, there is no need for additional movement toward the band,
13 while other classes may need more movement toward the band.

14 **Q. What is your recommendation regarding the assignment of**
15 **base revenues and the updated EDIT-4 credit?**

16 A. I recommend that the Commission approve the Public Staff's
17 assignment of revenues contained within my attached exhibits as the
18 appropriate level of revenue apportionment for each class.

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

20 A. Yes.

Duke Energy Carolinas, LLC

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Comparison of Rates of Return, Indices, and % Base Revenue				
Based on MAE Cost-of Service Methodology				
With Public Staff Adjustments				
Rate Year 0				
	Rate of Return *	Rate of Return Index	% Base Revenue Change	% Revenue Change with EDIT-4 Credit
NC Retail	7.10%	1.00	2.70%	2.51%
Residential	7.31%	1.03	2.71%	2.51%
General Service	9.52%	1.34	-0.98%	-1.12%
Lighting	2.32%	0.33	21.56%	21.16%
Industrial	6.38%	0.90	2.62%	2.48%
OPT	6.11%	0.86	3.24%	3.04%

Duke Energy Carolinas, LLC

Docket No. E-7, Sub 1276

Comparison of Rates of Return, Indices, and % Base Revenue			
Based on MAE Cost-of Service Methodology			
With Public Staff Adjustments			
Rate Year 1			
	Rate of Return *	Rate of Return Index	% Base Revenue Change
NC Retail	7.10%	1.00	4.28%
Residential	7.29%	1.03	4.31%
General Service	9.41%	1.32	0.44%
Lighting	2.69%	0.38	25.80%
Industrial	6.41%	0.90	4.20%
OPT	6.15%	0.87	4.60%

Duke Energy Carolinas, LLC

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Comparison of Rates of Return, Indices, and % Base Revenue			
Based on MAE Cost-of Service Methodology			
With Public Staff Adjustments			
Rate Year 2			
	Rate of Return *	Rate of Return Index	% Base Revenue Change
NC Retail	7.10%	1.00	6.70%
Residential	7.27%	1.02	6.88%
General Service	9.21%	1.30	2.43%
Lighting	2.91%	0.41	29.60%
Industrial	6.45%	0.91	6.62%
OPT	6.25%	0.88	6.90%

Duke Energy Carolinas, LLC

Docket No. E-7, Sub 1276

Comparison of Rates of Return, Indices, and % Base Revenue			
Based on MAE Cost-of Service Methodology			
With Public Staff Adjustments			
Rate Year 3			
	Rate of Return *	Rate of Return Index	% Base Revenue Change
NC Retail	7.10%	1.00	8.80%
Residential	7.25%	1.02	9.04%
General Service	9.09%	1.28	4.34%
Lighting	3.00%	0.42	32.16%
Industrial	6.48%	0.91	8.72%
OPT	6.35%	0.90	8.99%

Duke Energy Carolinas, LLC
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		Base Case - No Revenue Change - MAE					
		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Total Net Income	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 19,251,683	\$ 9,868,943	\$ 3,182,634	\$ 986,878	\$ 629,346	\$ 4,583,881
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	6.52%	6.77%	9.75%	-0.18%	5.82%	5.31%
11	Rate of Return Index (after change)	1.00	1.04	1.49	(0.03)	0.89	0.81
12	Percent Change in Base Revenue	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Duke Energy Carolinas, LLC
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Equal Rates of Return for all Classes - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 146,630	\$ 43,957	\$ (110,744)	\$ 94,466	\$ 10,648	\$ 108,304
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 111,569	\$ 33,446	\$ (84,264)	\$ 71,878	\$ 8,102	\$ 82,407
5	Total Net Income	\$ 1,367,702	\$ 701,122	\$ 226,105	\$ 70,111	\$ 44,711	\$ 325,654
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 19,251,683	\$ 9,868,943	\$ 3,182,634	\$ 986,878	\$ 629,346	\$ 4,583,881
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%
11	Rate of Return Index (after change)	1.00	1.00	1.00	1.00	1.00	1.00
12	Percent Change in Base Revenue	2.70%	1.68%	-11.18%	62.73%	6.01%	7.26%

Duke Energy Carolinas, LLC
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Class Revenue Changes Equal to NC Retail Change - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 146,630	\$ 70,726	\$ 26,751	\$ 4,068	\$ 4,789	\$ 40,295
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 111,569	\$ 53,814	\$ 20,355	\$ 3,096	\$ 3,644	\$ 30,660
5	Total Net Income	\$ 1,367,702	\$ 721,490	\$ 330,723	\$ 1,329	\$ 40,253	\$ 273,907
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 19,251,683	\$ 9,868,943	\$ 3,182,634	\$ 986,878	\$ 629,346	\$ 4,583,881
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.31%	10.39%	0.13%	6.40%	5.98%
11	Rate of Return Index (after change)	1.00	1.03	1.46	0.02	0.90	0.84
12	Percent Change in Base Revenue	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

Duke Energy Carolinas, LLC
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Public Staff **Recommended** Revenue Distribution - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 146,630	\$ 70,957	\$ (9,744)	\$ 32,466	\$ 4,648	\$ 48,304
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 111,569	\$ 53,990	\$ (7,414)	\$ 24,703	\$ 3,537	\$ 36,754
5	Total Net Income	\$ 1,367,702	\$ 721,666	\$ 302,954	\$ 22,936	\$ 40,145	\$ 280,001
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 19,251,683	\$ 9,868,943	\$ 3,182,634	\$ 986,878	\$ 629,346	\$ 4,583,881
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.31%	9.52%	2.32%	6.38%	6.11%
11	Rate of Return Index (after change)	1.00	1.03	1.34	0.33	0.90	0.86
12	Percent Change in Base Revenue	2.70%	2.71%	-0.98%	21.56%	2.62%	3.24%
13	Additional EDIT-4 Credit	\$ (10,394)	\$ (5,267)	\$ (1,304)	\$ (601)	\$ (259)	\$ (2,963)
14	Percent Change in Revenue with EDIT-4 Credit	2.51%	2.51%	-1.12%	21.16%	2.48%	3.04%

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		Base Case - No Revenue Change - MAE					
		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Total Net Income	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 20,174,549	\$ 10,342,030	\$ 3,335,200	\$ 1,034,186	\$ 659,515	\$ 4,803,618
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	6.23%	6.46%	9.31%	-0.17%	5.55%	5.06%
11	Rate of Return Index (after change)	1.00	1.04	1.49	(0.03)	0.89	0.81
12	Percent Change in Base Revenue	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Duke Energy Carolinas, LLC
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Equal Rates of Return for all Classes - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 232,147	\$ 87,795	\$ (96,606)	\$ 98,849	\$ 13,443	\$ 128,665
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 176,638	\$ 66,803	\$ (73,507)	\$ 75,213	\$ 10,229	\$ 97,900
5	Total Net Income	\$ 1,432,771	\$ 734,478	\$ 236,862	\$ 73,447	\$ 46,838	\$ 341,147
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 20,174,549	\$ 10,342,030	\$ 3,335,200	\$ 1,034,186	\$ 659,515	\$ 4,803,618
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%
11	Rate of Return Index (after change)	1.00	1.00	1.00	1.00	1.00	1.00
12	Percent Change in Base Revenue	4.28%	3.35%	-9.76%	65.64%	7.58%	8.63%

Duke Energy Carolinas, LLC
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Class Revenue Changes Equal to NC Retail Change - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 232,147	\$ 111,974	\$ 42,353	\$ 6,441	\$ 7,582	\$ 63,796
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 176,638	\$ 85,200	\$ 32,226	\$ 4,901	\$ 5,769	\$ 48,542
5	Total Net Income	\$ 1,432,771	\$ 752,876	\$ 342,595	\$ 3,134	\$ 42,378	\$ 291,789
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 20,174,549	\$ 10,342,030	\$ 3,335,200	\$ 1,034,186	\$ 659,515	\$ 4,803,618
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.28%	10.27%	0.30%	6.43%	6.07%
11	Rate of Return Index (after change)	1.00	1.03	1.45	0.04	0.90	0.86
12	Percent Change in Base Revenue	4.28%	4.28%	4.28%	4.28%	4.28%	4.28%

Duke Energy Carolinas, LLC
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Public Staff **Recommended** Revenue Distribution - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 232,147	\$ 112,795	\$ 4,394	\$ 38,849	\$ 7,443	\$ 68,665
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 176,638	\$ 85,825	\$ 3,343	\$ 29,560	\$ 5,664	\$ 52,247
5	Total Net Income	\$ 1,432,771	\$ 753,500	\$ 313,712	\$ 27,793	\$ 42,273	\$ 295,493
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 20,174,549	\$ 10,342,030	\$ 3,335,200	\$ 1,034,186	\$ 659,515	\$ 4,803,618
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.29%	9.41%	2.69%	6.41%	6.15%
11	Rate of Return Index (after change)	1.00	1.03	1.32	0.38	0.90	0.87
12	Percent Change in Base Revenue	4.28%	4.31%	0.44%	25.80%	4.20%	4.60%

Duke Energy Carolinas, LLC
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Base Case - No Revenue Change - MAE							
		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Total Net Income	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 21,591,639	\$ 11,068,469	\$ 3,569,469	\$ 1,106,828	\$ 705,840	\$ 5,141,032
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	5.82%	6.03%	8.70%	-0.16%	5.19%	4.73%
11	Rate of Return Index (after change)	1.00	1.04	1.49	(0.03)	0.89	0.81
12	Percent Change in Base Revenue	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Duke Energy Carolinas, LLC
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Equal Rates of Return for all Classes - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 363,461	\$ 155,111	\$ (74,898)	\$ 105,581	\$ 17,736	\$ 159,932
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 276,555	\$ 118,022	\$ (56,989)	\$ 80,335	\$ 13,495	\$ 121,691
5	Total Net Income	\$ 1,532,688	\$ 785,698	\$ 253,380	\$ 78,568	\$ 50,104	\$ 364,937
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 21,591,639	\$ 11,068,469	\$ 3,569,469	\$ 1,106,828	\$ 705,840	\$ 5,141,032
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%
11	Rate of Return Index (after change)	1.00	1.00	1.00	1.00	1.00	1.00
12	Percent Change in Base Revenue	6.70%	5.92%	-7.56%	70.11%	10.00%	10.72%

Duke Energy Carolinas, LLC
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Class Revenue Changes Equal to NC Retail Change - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 363,461	\$ 175,313	\$ 66,310	\$ 10,084	\$ 11,871	\$ 99,883
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 276,555	\$ 133,394	\$ 50,455	\$ 7,673	\$ 9,033	\$ 76,000
5	Total Net Income	\$ 1,532,688	\$ 801,070	\$ 360,823	\$ 5,906	\$ 45,642	\$ 319,247
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 21,591,639	\$ 11,068,469	\$ 3,569,469	\$ 1,106,828	\$ 705,840	\$ 5,141,032
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.24%	10.11%	0.53%	6.47%	6.21%
11	Rate of Return Index (after change)	1.00	1.02	1.42	0.08	0.91	0.87
12	Percent Change in Base Revenue	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%

Duke Energy Carolinas, LLC
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Public Staff **Recommended** Revenue Distribution - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 363,461	\$ 180,111	\$ 24,102	\$ 44,581	\$ 11,736	\$ 102,932
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 276,555	\$ 137,045	\$ 18,339	\$ 33,921	\$ 8,930	\$ 78,320
5	Total Net Income	\$ 1,532,688	\$ 804,720	\$ 328,708	\$ 32,154	\$ 45,539	\$ 321,567
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 21,591,639	\$ 11,068,469	\$ 3,569,469	\$ 1,106,828	\$ 705,840	\$ 5,141,032
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.27%	9.21%	2.91%	6.45%	6.25%
11	Rate of Return Index (after change)	1.00	1.02	1.30	0.41	0.91	0.88
12	Percent Change in Base Revenue	6.70%	6.88%	2.43%	29.60%	6.62%	6.90%

Duke Energy Carolinas, LLC
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		Base Case - No Revenue Change - MAE					
		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Total Net Income	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 22,822,630	\$ 11,699,509	\$ 3,772,973	\$ 1,169,931	\$ 746,082	\$ 5,434,134
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	5.50%	5.71%	8.23%	-0.15%	4.91%	4.48%
11	Rate of Return Index (after change)	1.00	1.04	1.49	(0.03)	0.89	0.81
12	Percent Change in Base Revenue	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Equal Rates of Return for all Classes - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 477,530	\$ 213,586	\$ (56,040)	\$ 111,428	\$ 21,465	\$ 187,092
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 363,349	\$ 162,516	\$ (42,640)	\$ 84,785	\$ 16,333	\$ 142,356
5	Total Net Income	\$ 1,619,482	\$ 830,191	\$ 267,728	\$ 83,018	\$ 52,942	\$ 385,603
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 22,822,630	\$ 11,699,509	\$ 3,772,973	\$ 1,169,931	\$ 746,082	\$ 5,434,134
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%
11	Rate of Return Index (after change)	1.00	1.00	1.00	1.00	1.00	1.00
12	Percent Change in Base Revenue	8.80%	8.16%	-5.66%	73.99%	12.11%	12.54%

Duke Energy Carolinas, LLC
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Class Revenue Changes Equal to NC Retail Change - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 477,530	\$ 230,333	\$ 87,121	\$ 13,249	\$ 15,597	\$ 131,230
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 363,349	\$ 175,259	\$ 66,289	\$ 10,081	\$ 11,867	\$ 99,852
5	Total Net Income	\$ 1,619,482	\$ 842,934	\$ 376,658	\$ 8,314	\$ 48,476	\$ 343,099
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 22,822,630	\$ 11,699,509	\$ 3,772,973	\$ 1,169,931	\$ 746,082	\$ 5,434,134
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.20%	9.98%	0.71%	6.50%	6.31%
11	Rate of Return Index (after change)	1.00	1.02	1.41	0.10	0.92	0.89
12	Percent Change in Base Revenue	8.80%	8.80%	8.80%	8.80%	8.80%	8.80%

Duke Energy Carolinas, LLC
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Public Staff **Recommended** Revenue Distribution - MAE

		NC Retail	RES	GS	Lighting	IND	OPT
1	Total Revenues W/ Staff Adj. @ Pres. Rates	\$ 5,427,913	\$ 2,618,114	\$ 990,270	\$ 150,601	\$ 177,282	\$ 1,491,647
2	Proposed Revenue Change	\$ 477,530	\$ 236,586	\$ 42,960	\$ 48,428	\$ 15,465	\$ 134,092
3	Net Income Before Increase	\$ 1,256,133	\$ 667,675	\$ 310,369	\$ (1,767)	\$ 36,609	\$ 243,247
4	Change in Net Income	\$ 363,349	\$ 180,016	\$ 32,688	\$ 36,848	\$ 11,767	\$ 102,029
5	Total Net Income	\$ 1,619,482	\$ 847,692	\$ 343,056	\$ 35,082	\$ 48,376	\$ 345,276
6	Rate Base W/ Staff Adj. @ Pres. Rates	\$ 19,232,800	\$ 9,859,263	\$ 3,179,513	\$ 985,910	\$ 628,729	\$ 4,579,385
7	Staff's Proposed Rate Base	\$ 22,822,630	\$ 11,699,509	\$ 3,772,973	\$ 1,169,931	\$ 746,082	\$ 5,434,134
8	Rate of Return (before change)	6.53%	6.77%	9.76%	-0.18%	5.82%	5.31%
9	Rate of Return Index (before change)	1.00	1.04	1.49	(0.03)	0.89	0.81
10	Rate of Return (after change)	7.10%	7.25%	9.09%	3.00%	6.48%	6.35%
11	Rate of Return Index (after change)	1.00	1.02	1.28	0.42	0.91	0.90
12	Percent Change in Base Revenue	8.80%	9.04%	4.34%	32.16%	8.72%	8.99%