



**NORTH CAROLINA  
PUBLIC STAFF  
UTILITIES COMMISSION**

June 8, 2020

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

Re: Docket No. E-7, Sub 1230 – Application Pursuant to N.C.G.S. 62-133.9 and Commission Rule R8-69 for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider

Dear Ms. Campbell:

In connection with the above-referenced docket, I transmit herewith for filing on behalf of the Public Staff the following:

1. Supplemental testimony and exhibit of David M. Williamson, Utilities Engineer, Electric Division; and
2. Supplemental testimony and exhibit of Michael C. Maness, Director, Accounting Division.

By copy of this letter, we are forwarding copies to all parties of record.

Sincerely,

/s Lucy E. Edmondson  
Staff Attorney  
[lucy.edmondson@psncuc.nc.gov](mailto:lucy.edmondson@psncuc.nc.gov)

Attachments

<b>Executive Director</b> (919) 733-2435	<b>Communications</b> (919) 733-5610	<b>Economic Research</b> (919) 733-2267	<b>Legal</b> (919) 733-6110	<b>Transportation</b> (919) 733-7766
<b>Accounting</b> (919) 733-4279	<b>Consumer Services</b> (919) 733-9277	<b>Electric</b> (919) 733-2267	<b>Natural Gas</b> (919) 733-4326	<b>Water</b> (919) 733-5610

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1230

In the Matter of  
Application of Duke Energy Carolinas, )  
LLC, for Approval of Demand-Side )  
Management and Energy Efficiency )  
Cost Recovery Rider Pursuant to )  
N.C.G.S. 62-133.9 and Commission )  
Rule R8-69 )

SUPPLEMENTAL  
TESTIMONY OF  
DAVID M. WILLIAMSON  
PUBLIC STAFF – NORTH  
CAROLINA UTILITIES  
COMMISSION

**June 8, 2020**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**  
2 **PRESENT 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 a  
5 Utilities Engineer with the Electric Division of the Public Staff, North  
6 Carolina Utilities Commission.

7 **Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS**  
8 **MATTER BEFORE THE NORTH CAROLINA UTILITIES**  
9 **COMMISSION?**

10 A. Yes. I filed direct testimony on behalf of the Public Staff in this matter  
11 on May 22, 2020.

12 **Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.**

13 A. My qualifications and duties are included in Appendix A to my direct  
14 testimony.

15 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL**  
16 **TESTIMONY?**

17 A. The purpose of my supplemental testimony is to correct two numbers  
18 in my direct testimony and Exhibit 3.

19 **Q. WHAT CORRECTIONS NEED TO BE MADE TO YOUR DIRECT**  
20 **TESTIMONY AND EXHIBIT 3?**

21 A. On May 11, 2020, the Company filed supplemental testimony  
22 addressing impacts to net lost revenues from the Income-Qualified

1 Energy Efficiency program. The Company's supplemental filing  
2 updated the avoided capacity, energy, and T&D costs for this  
3 program. My direct testimony did not incorporate these updates.

4 Additionally, the rebuttal testimony of Duke Energy Carolinas, LLC  
5 (DEC or the Company) witness Timothy J. Duff, brought to my  
6 attention that I had inadvertently used erroneous data from a  
7 discovery response that was provided to the Public Staff. On May 18,  
8 2020, the Company provided a supplemental data response  
9 updating its response associated with the impacts of applying a  
10 seasonal allocation of 90% winter and 10% summer to all demand  
11 (kW) reductions associated with the PowerShare program.

12 The net effect of these errors impacted values presented in both my  
13 testimony and Exhibit 3.

14 **Q. WHAT INFORMATION IN YOUR TESTIMONY WOULD YOU LIKE**  
15 **TO CORRECT?**

16 A. On page 28, line 16 of my direct testimony, the value of  
17 "approximately \$59.7 million" should be replaced with "approximately  
18 \$42.4 million." Also, on page 29, line 18 of my direct testimony, the  
19 value of "approximately \$67.2 million" should be replaced with  
20 "approximately \$49.9 million."

21 **Q. PLEASE DISCUSS THE UPDATE TO YOUR EXHIBIT 3.**

1 A. The two corrections in my direct testimony are a result of the  
2 Company's Supplemental testimony filed on May 11, 2020 and  
3 supplemental data provided by the Company for the PowerShare  
4 program. This updated information is reflected in my Supplemental  
5 Williamson Exhibit 3.

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

7 A. Yes.



## Program/Portfolio Cost Effectiveness - Program Year 2021

Program	ORIGINAL				Removing 17% Reserve Margin Adder				Applying 90%W/10%S Seasonal Allocation				Total Net Impacts				Percent Change of "Total Net Impacts" from "Original"	
	UCT	TRC	RIM	PCT	UCT	TRC	RIM	PCT	UCT	TRC	RIM	PCT	UCT	TRC	RIM	PCT	UCT	TRC
<b>Residential Programs</b>																		
• Energy Education Program for Schools	1.40	1.41	0.53	8.97	1.35	1.37	0.51	8.97	1.40	1.41	0.53	8.97	1.35	1.37	0.51	8.97	-3%	-3%
• Energy Efficient Appliances & Devices	2.64	2.20	0.60	4.96	2.58	2.15	0.59	4.96	2.64	2.20	0.60	4.96	2.58	2.15	0.59	4.96	-2%	-2%
• HVAC EE Products & Services	0.81	0.67	0.49	1.68	0.78	0.65	0.47	1.68	0.81	0.67	0.49	1.68	0.78	0.65	0.47	1.68	-4%	-4%
• Income-Qualified EE Products & Services	0.70	0.72	0.43	2.09	0.67	0.69	0.42	2.09	0.70	0.72	0.43	2.09	0.67	0.69	0.42	2.09	-4%	-4%
• Multi-Family EE Products & Services	3.14	3.16	0.66	20.52	3.04	3.06	0.64	20.52	3.14	3.16	0.66	20.52	3.04	3.06	0.64	20.52	-3%	-3%
• My Home Energy Report	1.89	1.89	0.66		1.81	1.81	0.63		1.89	1.89	0.66		1.81	1.81	0.63		-4%	-4%
• Power Manager	4.33	9.80	4.33		4.33	9.80	4.33		2.25	5.10	2.25		2.25	5.10	2.25		-48%	-48%
• Residential Energy Assessments	1.33	1.28	0.48	19.95	1.30	1.26	0.47	19.95	1.33	1.28	0.48	19.95	1.30	1.26	0.47	19.95	-2%	-2%
<b>Residential Total</b>	<b>2.50</b>	<b>2.82</b>	<b>1.03</b>	<b>6.18</b>	<b>2.46</b>	<b>2.78</b>	<b>1.02</b>	<b>6.18</b>	<b>1.90</b>	<b>2.15</b>	<b>0.79</b>	<b>6.18</b>	<b>1.86</b>	<b>2.10</b>	<b>0.77</b>	<b>6.18</b>	<b>-25%</b>	<b>-25%</b>
<b>Non-Residential Programs</b>																		
• Custom Assessment	2.70	0.80	0.84	1.38	2.63	0.78	0.82	1.38	2.70	0.80	0.84	1.38	2.63	0.78	0.82	1.38	-3%	-3%
• Custom Incentive	3.07	1.18	0.87	1.97	2.98	1.14	0.84	1.97	3.07	1.18	0.87	1.97	2.98	1.14	0.84	1.97	-3%	-3%
• EnergyWise for Business	0.63	1.26	0.55		0.63	1.26	0.55		0.41	0.83	0.36		0.41	0.83	0.36		-34%	-34%
• Food Service Products	1.45	0.79	0.45	2.38	1.43	0.78	0.44	2.38	1.45	0.79	0.45	2.38	1.43	0.78	0.44	2.38	-1%	-1%
• HVAC	1.47	1.12	0.64	2.05	1.44	1.09	0.63	2.05	1.47	1.12	0.64	2.05	1.44	1.09	0.63	2.05	-2%	-2%
• Lighting	4.19	2.14	0.78	4.08	4.05	2.07	0.76	4.08	4.19	2.14	0.78	4.08	4.05	2.07	0.76	4.08	-3%	-3%
• Motors, Pumps & VFDs	3.11	2.41	0.82	4.99	3.01	2.33	0.79	4.99	3.11	2.41	0.82	4.99	3.01	2.33	0.79	4.99	-3%	-3%
• Non Res Information Technology	0.65	0.47	0.31	2.26	0.65	0.47	0.31	2.26	0.65	0.47	0.31	2.26	0.65	0.47	0.31	2.26	0%	0%
• Process Equipment	3.50	2.26	0.97	3.66	3.36	2.18	0.93	3.66	3.50	2.26	0.97	3.66	3.36	2.18	0.93	3.66	-4%	-4%
• Performance Incentive	3.22	1.06	0.86	1.79	3.13	1.03	0.83	1.79	3.22	1.06	0.86	1.79	3.13	1.03	0.83	1.79	-3%	-3%
• Small Business Energy Saver	2.32	1.43	0.76	2.60	2.26	1.40	0.74	2.60	2.32	1.43	0.76	2.60	2.26	1.40	0.74	2.60	-3%	-3%
• PowerShare	3.37	136.89	3.37		3.37	136.89	3.37		3.26	132.30	3.26		3.26	132.30	3.26		-3%	-3%
<b>Non-Residential Total</b>	<b>3.12</b>	<b>2.03</b>	<b>0.93</b>	<b>3.16</b>	<b>3.05</b>	<b>1.98</b>	<b>0.91</b>	<b>3.16</b>	<b>3.08</b>	<b>2.00</b>	<b>0.92</b>	<b>3.16</b>	<b>3.01</b>	<b>1.95</b>	<b>0.90</b>	<b>3.16</b>	<b>-4%</b>	<b>-4%</b>
<b>Overall Portfolio Total</b>	<b>2.81</b>	<b>2.32</b>	<b>0.97</b>	<b>3.83</b>	<b>2.76</b>	<b>2.27</b>	<b>0.96</b>	<b>3.83</b>	<b>2.50</b>	<b>2.05</b>	<b>0.86</b>	<b>3.83</b>	<b>2.44</b>	<b>2.01</b>	<b>0.84</b>	<b>3.83</b>	<b>-13%</b>	<b>-13%</b>



BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1230

In the Matter of	)	
Application of Duke Energy Carolinas,	)	SUPPLEMENTAL
LLC, for Approval of Demand-Side	)	TESTIMONY OF
Management and Energy Efficiency	)	MICHAEL C. MANESS
Cost Recovery Rider Pursuant to N.C.	)	PUBLIC STAFF – NORTH
Gen. Stat. § 62-133.9 and Commission	)	CAROLINA UTILITIES
Rule R8-69	)	COMMISSION

June 8, 2020

1 **Q. MR. MANESS, WHAT IS THE PURPOSE OF YOUR**  
2 **SUPPLEMENTAL TESTIMONY?**

3 A. The purpose of my supplemental testimony is (a) to present  
4 corrected calculations of certain billing factors included in the  
5 Demand-Side Management/Energy Efficiency (DSM/EE) rider (Rider  
6 12) to be approved in this proceeding, and (b) to present the final  
7 results of the Public Staff's review of Vintage Year 2019 DSM/EE  
8 program costs.

9 **Q. PLEASE EXPLAIN YOUR CORRECTED CALCULATIONS.**

10 A. As noted in my initial Direct Testimony filed in this proceeding on May  
11 22, 2020, Public Staff witnesses Williamson and Hinton each filed  
12 testimony and exhibits in this proceeding that recommended certain  
13 changes to the calculations of avoided cost savings for estimated  
14 Vintage 2021 DSM/EE participation. One of their recommendations  
15 involved the allocation of avoided capacity benefits between summer  
16 and winter for the Company's Vintage 2021 DSM measures. I used  
17 Mr. Williamson's calculations of system avoided capacity benefits  
18 reflecting these recommendations to calculate the Portfolio  
19 Performance Incentive (PPI) and the DSM/EE billing factors initially  
20 recommended by the Public Staff in this proceeding.

21 In his Rebuttal Testimony filed in this proceeding on June 1, 2020,  
22 Company witness Timothy J. Duff stated that the reduction in the PPI  
23 of \$5,093,947 recommended in my testimony and exhibits failed to

1 take into account the Company's correction of a "scrivener error" in  
2 a formula related to the Power Share Program, a correction that the  
3 Company had provided in a data response on May 18, 2020. A  
4 reexamination of this response and further discussion with the  
5 Company persuaded the Public Staff that the Company's assertion  
6 was correct. Mr. Williamson has provided me with revised  
7 calculations of system avoided capacity benefits reflecting this  
8 correction, which I have now incorporated into my recommended  
9 billing factors.

10 Additionally, Mr. Williamson has provided me with a revised  
11 calculation of avoided capacity, energy, and transmission and  
12 distribution benefits associated with the Income-Qualified Energy  
13 Efficiency Program. I have incorporated these revisions into my  
14 calculations, even though the Income-Qualified Energy Efficiency  
15 Program does not receive a PPI.

16 **Q. HOW ARE YOU PRESENTING THE CORRECTIONS?**

17 A. The revised and corrected amounts and billing factors are set forth  
18 in Maness Revised Exhibit I, which is attached to this Supplemental  
19 Testimony. The inputs to each schedule in the Revised Exhibit that  
20 have changed from those in witness Miller's and Evans's  
21 Supplemental Exhibits have been noted by the initials "rv."

1 Q. WHAT ARE THE IMPACTS OF THE PUBLIC STAFF'S  
2 RECOMMENDATIONS ON THE COMPANY'S PROPOSED  
3 VINTAGE 2021 DSM AND EE RIDERS?

4 A. The table below sets forth the Public Staff's corrected and revised  
5 recommended Vintage 2021 prospective factors, as calculated in  
6 Maness Revised Exhibit I, and the Company's proposed factors, as  
7 set forth in Company witness Miller's Supplemental Exhibit 1:

		<u>(In cents per kWh)</u>	
	<u>Billing</u>	<u>Proposed by</u>	<u>Recommended by</u>
	<u>Factor</u>	<u>Company</u>	<u>Public Staff</u>
8			
9			
10			
11			
12	Res. DSM/EE factor	0.4184	0.4099
13	Non-Res. EE factor	0.3522	0.3495
14	Non-Res. DSM factor	0.1200	0.1084

15 Q. WHAT IS THE CORRECTED AND REVISED IMPACT ON THE PPI  
16 OF THE PUBLIC STAFF'S RECOMMENDATIONS?

17 A. The corrected and revised impact on the PPI of the Public Staff's  
18 recommendation to adjust seasonal weightings of avoided capacity  
19 benefits associated with DSM programs is \$(3,624,753), as  
20 compared to the amount of \$(5,093,947) initially set forth in Mr.  
21 Hinton's direct testimony. However, the PPI impact of the Public  
22 Staff's recommendation to remove inappropriately added reserve  
23 margins to the avoided cost savings of EE programs remains at  
24 \$(618,791).

1 **Q. HAS THE PUBLIC STAFF COMPLETED ITS REVIEW OF**  
2 **VINTAGE 2019 DSM/EE PROGRAM COSTS?**

3 A. Yes. As noted in my initial Direct Testimony, the Public Staff's review  
4 of samples of Vintage Year 2019 program costs was not yet  
5 completed at the time of filing. However, the Public Staff has now  
6 completed its detailed review of test year program costs and, other  
7 than the item already described in my initial Direct Testimony and  
8 adjusted by the Company in its supplemental testimony, has found  
9 no material differences between the program costs as filed by the  
10 Company and the costs as reflected in the supporting documentation  
11 examined.

12 **Q. WHAT IS YOUR REVISED RECOMMENDATION IN THIS**  
13 **PROCEEDING?**

14 A. Based on the results of the Public Staff's investigation,  
15 I recommend that the Public Staff's recommended adjustments,  
16 which have been incorporated into the DSM/EE billing factors set  
17 forth in Maness Revised Exhibit I, be approved by the Commission.  
18 These factors should be approved subject to any true-ups in future  
19 cost recovery proceedings consistent with the Sub 1032 Settlement,  
20 the Sub 1130 Order, and the Revised Mechanism, as well as other  
21 relevant orders of the Commission, including the Commission's final  
22 order in this proceeding. In making this recommendation, the Public  
23 Staff notes that reviewing the calculation of the DSM/EE rider is a

1 process that involves reviewing numerous assumptions, inputs, and  
2 calculations, and its recommendation with regard to this proposed  
3 rider is not intended to indicate that the Public Staff will not raise  
4 questions in future proceedings regarding the same or similar  
5 assumptions, inputs, and calculations.

6 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?**

7 A. Yes, it does.



**Residential Billing Factor for Rider 12 True-up (EMF) Components**

Line			
1	Year 2016 EE/DSM True-up (EMF) Revenue Requirement	Miller Exhibit 2, pg 1a, Line 15	\$ (57,239)
2	Year 2017 EE/DSM True-Up (EMF) Revenue Requirement	Miller Exhibit 2 pg.1 Line 15	(4,091,589)
3	Year 2018 EE/DSM True-Up (EMF) Revenue Requirement	Miller Exhibit 2 pg 2 Line 15	2,645,710
4	Year 2019 EE/DSM True-Up (EMF) Revenue Requirement	Miller Exhibit 2 pg 3 Line 15	<u>23,835,420</u>
5	Total True-up (EMF) Revenue Requirement	Sum Lines 1-3	\$ 22,332,301
6	Projected NC Residential Sales (kWh) for rate period	Miller Exhibit 6 pg. 1, Line 1	22,092,324,452
7	EE/DSM Revenue Requirement EMF Residential Rider EE (cents per kWh)	Line 4 / Line 5 * 100	<b>0.1011</b>

**Residential Billing Factor for Rider 12 Prospective Components**

8	Vintage 2018 Total EE/DSM Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 2, Line 15	-
9	Vintage 2019 Total EE/DSM Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 3, Line 15	5,292,331
10	Vintage 2020 Total EE/DSM Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 4, Line 1	4,495,479
11	Vintage 2021 Total EE/DSM Prospective Amounts Revenue Requirement	<b>Maness Exhibit I, Schedule 2</b>	<u>80,763,354</u> <b>rv</b>
12	Total Prospective Revenue Requirement	Sum Lines 7-10	\$ 90,551,164
13	Projected NC Residential Sales (kWh) for rate period	Miller Exhibit 6 pg. 1, Line 1	22,092,324,452
14	EE/DSM Revenue Requirement Prospective Residential Rider EE (cents per kWh)	Line 11 / Line 12 * 100	<b>0.4099</b>

Total Revenue Requirements in Rider 12 from Residential Customers

15	Total True-up (EMF) Revenue Requirement	Line 4	\$ 22,332,301
16	Total Prospective Revenue Requirement	Line 11	<u>90,551,164</u>
17	<b>Total EE/DSM Revenue Requirement for Residential Rider EE</b>	Line 14 + Line 15	<b>\$ 112,883,465</b>
18	<b>Total EE/DSM Revenue Requirement for Residential Rider EE (cents per kWh)</b>	Line 6 + Line 13	<b>0.5110</b>

**Non-Residential Billing Factors for Rider 12 True-up (EMF) Components**

19	Vintage Year 2016 EE True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 1a, Line 25	\$ 3,217,376
20	Projected Year 2016 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 4	16,670,610,353
21	EE Revenue Requirement Year 2016 EMF Non-Residential Rider EE (cents per kWh)	Line 18/Line 19 * 100	<b>0.0193</b>
22	Vintage Year 2016 DSM True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 1a, Line 35	\$ (18,608)
23	Projected Year 2016 DSM Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 5	16,964,126,808
24	DSM Revenue Requirement Year 2016 EMF Non-Residential Rider EE (cents per kWh)	Line 21/Line 22 * 100	<b>(0.0001)</b>
25	Vintage Year 2017 EE True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 1, Line 295	\$ 5,650,795
26	Projected Year 2017 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 4	16,498,870,944
27	EE Revenue Requirement Year 2017 EMF Non-Residential Rider EE (cents per kWh)	Line 18/Line 19 * 100	<b>0.0342</b>
28	Vintage Year 2017 DSM True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 1, Line 35	\$ 6,539
29	Projected Year 2017 DSM Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 5	16,933,914,400
30	DSM Revenue Requirement Year 2017 EMF Non-Residential Rider EE (cents per kWh)	Line 21/Line 22 * 100	-

Supplemental Miller Exhibit 1, page 2

31	Vintage Year 2018 EE True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 2, Line 25	\$	(784,173)
32	Projected Year 2018 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 6		15,929,504,199
33	EE Revenue Requirement Year 2018 EMF Non-Residential Rider EE (cents per kWh)	Line 24/Line 25 * 100		<b>(0.0049)</b>
34	Vintage Year 2018 DSM True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 2, Line 35	\$	(243,015)
35	Projected Year 2018 DSM Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 7		16,832,538,740
36	DSM Revenue Requirement Year 2018 EMF Non-Residential Rider EE (cents per kWh)	Line 27/Line 28 * 100		<b>(0.0014)</b>
37	Vintage Year 2019 EE True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 3, Line 25	\$	(3,527,723)
38	Projected Year 2019 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 8		15,707,415,542
39	EE Revenue Requirement Year 2019 EMF Non-Residential Rider EE (cents per kWh)	Line 30/Line 31 * 100		<b>(0.0225)</b>
40	Vintage Year 2019 DSM True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 3, Line 35	\$	312,940
41	Projected Year 2019 DSM Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 9		16,897,018,794
42	DSM Revenue Requirement Year 2019 EMF Non-Residential Rider EE (cents per kWh)	Line 33/Line 34 * 100		<b>0.0019</b>

**Non-Residential Billing Factors for Rider 12 Prospective Components**

43	Vintage Year 2018 EE Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 2, Line 25	\$	2,182,027
44	Projected Program Year 2018 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 6		15,929,504,199
45	EE Revenue Requirement Vintage 2018 Prospective Component for Non-Residential Rider EE (cents per kWh)	Line 36/Line 37 * 100		<b>0.0137</b>
46	Vintage Year 2019 EE Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 3, Line 25	\$	10,794,655
47	Projected Vintage 2019 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 8		15,707,415,542
48	EE Revenue Requirement Vintage 2019 Prospective Component for Non-Residential Rider EE (cents per kWh)	Line 39/Line 40 * 100		<b>0.0687</b>
49	Vintage Year 2020 EE Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 4, Line 4	\$	9,376,721
50	Projected Vintage 2020 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 10		15,330,345,599
51	EE Revenue Requirement Vintage 2020 Prospective Component for Non-Residential Rider EE (cents per kWh)	Line 42/Line 43 * 100		<b>0.0612</b>
52	Vintage Year 2021 EE Prospective Amounts Revenue Requirement	<b>Maness Exhibit I, Schedule 2</b>	\$	53,575,595 <b>rv</b>
53	Projected Vintage 2021 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 12		15,330,345,599
54	EE Revenue Requirement Vintage 2021 Prospective Component for Non-Residential Rider EE (cents per kWh)	Line 45/Line 46 * 100		<b>0.3495</b>
55	Vintage Year 2021 DSM Prospective Amounts Revenue Requirement	<b>Maness Exhibit I, Schedule 2</b>	\$	18,317,103 <b>rv</b>
56	Projected Vintage 2021 DSM Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 13		16,898,362,794
57	DSM Revenue Requirement Vintage 2021 Prospective Component for Non-Residential Rider EE (cents per kWh)	Line 48/Line 49 * 100		<b>0.1084</b>
	<b>Total EMF Rate</b>			<b>0.0265</b>
	<b>Total Prospective Rate</b>			<b>0.6015</b>

**Total Revenue Requirements in Rider 12 from Non-Residential Customers**

58	Vintage Year 2016 EE True-up (EMF) Revenue Requirement	Line 19		3,217,376
59	Vintage Year 2016 DSM True-up (EMF) Revenue Requirement	Line 22		(18,608)
60	Vintage Year 2017 EE True-up (EMF) Revenue Requirement	Line 25		5,650,795
61	Vintage Year 2017 DSM True-up (EMF) Revenue Requirement	Line 28		6,539
62	Vintage Year 2018 EE True-up (EMF) Revenue Requirement	Line 31		(784,173)
63	Vintage Year 2018 DSM True-up (EMF) Revenue Requirement	Line 34		(243,015)
64	Vintage Year 2019 EE True-up (EMF) Revenue Requirement	Line 37		(3,527,723)
65	Vintage Year 2019 DSM True-up (EMF) Revenue Requirement	Line 40		312,940
66	Vintage Year 2018 EE Prospective Amounts Revenue Requirement	Line 43		2,182,027
67	Vintage Year 2019 EE Prospective Amounts Revenue Requirement	Line 46		10,794,655
68	Vintage Year 2020 EE Prospective Amounts Revenue Requirement	Line 49		9,376,721
69	Vintage Year 2021 EE Prospective Amounts Revenue Requirement	Line 52		53,575,595
70	Vintage Year 2021 DSM Prospective Amounts Revenue Requirement	Line 55		18,317,103
	<b>Total Non-Residential Revenue Requirement in Rider 12</b>	Sum (Lines 58-70)		<b>98,860,231</b>

Total DSM Rates	0.1088
Total EE Rates	0.5192
	0.6280

**Public Staff  
Maness Revised Exhibit I  
Schedule 2**

Supplemental Miller Exhibit 2, page 5 (unless otherwise noted)

Duke Energy Carolinas, LLC  
Docket No. E-7, Sub 1230  
Estimated Program Costs, Earned Incentive and Lost Revenues for Vintage Year 2021

**RESIDENTIAL**

Line	Reference	2021
1 Residential EE Program Cost	Evans Exhibit 1, pg. 4 * NC Alloc. Factor	\$ 37,155,471
2 Residential EE Earned Utility Incentive	<b>Maness Exhibit I, Schedule 3 * NC Alloc. Factor</b>	2,774,995 <b>rv</b>
3 Total EE Program Cost and Incentive Components	Line 1 + Line 2, Evans Exhibit 1, Line 10	39,930,466
4 Residential DSM Program Cost	Evans Exhibit 1, pg. 4 * NC Alloc. Factor	13,699,485
5 Residential DSM Earned Utility Incentive	<b>Maness Exhibit I, Schedule 3 * NC Alloc. Factor</b>	1,855,862 <b>rv</b>
6 Total DSM Program Cost and Incentive Components	Line 4 + Line 5, Evans Exhibit 1, Line 12	15,555,347
7 Total EE/DSM Program Cost and Incentive Components	Line 3 + Line 6	55,485,813
8 Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 6	1,001,302
9 Total EE/DSM Program Cost and Incentive Revenue Requirement	Line 7 * Line 8	55,558,055
10 Residential Net Lost Revenues	Evans Exhibit 2 pg. 3	25,205,298
11 <b>Total Residential EE Revenue Requirement</b>	<b>Line 9 + Line 10</b>	<b>\$ 80,763,354</b>

See Miller Exhibit 1  
for rate

**NON-RESIDENTIAL  
Energy Efficiency Programs**

Line	Reference	2021
12 Non-Residential EE Program Cost	Evans Exhibit 1, pg. 4 * NC Alloc. Factor	\$ 38,264,959
13 Non-Residential EE Earned Utility Incentive	<b>Maness Exhibit I, Schedule 3 * NC Alloc. Factor</b>	8,888,527 <b>rv</b>
14 Total EE Program Cost and Incentive Components	Line 12 + Line 13, Evans Exhibit 1, Line 27	47,153,486
15 Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 6	1,001,302
16 Total Non-Residential EE Program Cost and Incentive Revenue Requirements	Line 14 * Line 15	47,214,880
17 Non-Residential Net Lost Revenues	Evans Exhibit 2 pg. 3	6,360,715
18 Total Non-Residential EE Revenue Requirement	Line 16 + Line 17	\$ 53,575,595
19 Projected NC Residential Sales (kWh)	Miller Exhibit 6, pg. 1, Line 12	15,330,345,599
20 <b>NC Non-Residential EE billing factor (Cents/kWh)</b>	<b>Line 18/Line 19*100</b>	<b>0.3495</b>

**DSM Programs**

Line	Reference	2021
21 Non-Residential DSM Program Cost	Evans Exhibit 1, pg. 4 * NC Alloc. Factor	\$ 16,110,767
22 Non-Residential DSM Earned Utility Incentive	<b>Maness Exhibit I, Schedule 3 * NC Alloc. Factor</b>	2,182,517 <b>rv</b>
23 Total Non-Residential DSM Program Cost and Incentive Components	Line 21 + Line 22, Evans Exhibit 1, Line 29	18,293,285
24 Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 6	1,001,302
25 Total Non-Residential DSM Revenue Requirement	Line 23 * Line 24	18,317,103
26 Projected NC Non-Residential Sales (kWh)	Miller Exhibit 6, pg. 1, Line 13	16,898,362,794
27 <b>NC Non-Residential DSM billing factor</b>	<b>Line 25/Line 26*100</b>	<b>0.1084</b>

Duke Energy Carolinas  
Evans Exhibit 1  
Vintage 2020 Estimate - January 1, 2021 to December 31, 2021  
Docket Number E-7, Sub 1230  
Load Impacts and Estimated Revenue Requirements by Program

	A	B	C	D =(A-B)*C	E =(B+D)	F	G	H			
	System kW Reduction - Summer Peak	System kW Reduction - Winter Peak	System Energy Reduction (kWh)	System NPV of Avoided Costs (PER PUBLIC STAFF WITNESS WILLIAMSON, AS REVISED)	Total Cost	Shared Savings %	Incentive	System Revenue Requirement	NC Retail kWh Sales Allocation Factor	NC Allocation Factor (2)	NC Residential Revenue Requirement
<b>Residential Programs</b>											
<b>EE Programs</b>											
1 Energy Efficiency Education Program for Schools	997	1,407	7,951,567	\$ 2,918,117 <b>rw</b>	\$ 2,315,055	11.5%	\$ 69,352	\$ 2,384,407	73.0903918%		E1 * F1 \$ 1,742,772
2 Energy Efficient Appliances and Devices	9,790	5,988	56,621,851	\$ 25,500,983 <b>rw</b>	\$ 10,615,734	11.5%	\$ 1,711,804	\$ 12,327,538	73.0903918%		E2 * F2 \$ 9,010,246
3 HVAC Energy Efficiency	1,347	1,284	5,570,374	\$ 4,340,717 <b>rw</b>	\$ 5,936,054	11.5%	\$ (183,464)	\$ 5,752,590	73.0903918%		E3 * F3 \$ 4,204,951
4 Income Qualified Energy Efficiency and Weatherization Assistance	1,635	1,798	8,977,504	\$ 5,051,905 <b>rw</b>	\$ 8,077,022	0.0%	\$ -	\$ 8,077,022	73.0903918%		E4 * F4 \$ 5,903,527
5 Multi-Family Energy Efficiency	2,983	4,947	28,364,645	\$ 13,755,026 <b>rw</b>	\$ 4,853,158	11.5%	\$ 1,023,715	\$ 5,876,873	73.0903918%		E5 * F5 \$ 4,295,324
6 Energy Assessments	1,778	1,264	14,921,390	\$ 7,393,282 <b>rw</b>	\$ 6,105,383	11.5%	\$ 148,108	\$ 6,253,491	73.0903918%		E6 * F6 \$ 4,570,701
7 Total for Residential Conservation Programs	18,528	16,688	122,307,332	\$ 58,960,030	\$ 37,902,406		\$ 2,769,515	\$ 40,671,921			\$ 29,727,266
8 My Home Energy Report (1)	84,985	39,714	342,160,803	\$ 21,864,262 <b>rw</b>	\$ 12,932,554	11.5%	\$ 1,027,146	\$ 13,959,700	73.0903918%		E8 * F8 \$ 10,203,200
9 Total Residential Conservation and Behavioral Programs	113,514	56,402	464,468,135	\$ 80,824,292	\$ 50,834,960		\$ 3,796,662	\$ 54,631,621			\$ 39,930,466
<b>NC Residential Peak Demand Allocation Factor</b>											
10 PowerManager	658,987	-	-	\$ 43,182,806 <b>rw</b>	\$ 20,427,903	11.5%	\$ 2,616,814	\$ 23,044,717	74.2414264%	45.9556149%	(E10+E25) *F10 *G10 \$ 15,555,347
11 Total Residential	772,501	56,402	464,468,135	\$ 124,007,097	\$ 71,262,862		\$ 6,413,475	\$ 77,676,338			\$ 65,485,813
<b>Non-Residential Programs</b>											
<b>EE Programs</b>											
12 Non Residential Smart Saver Custom Technical Assessments	626	626	5,482,371	\$ 2,707,586 <b>rw</b>	\$ 1,106,646	11.5%	\$ 184,108	\$ 1,290,754	73.0903918%		E12 * F12 \$ 943,417
13 Non Residential Smart Saver Custom	7,579	7,579	53,115,768	\$ 28,307,620 <b>rw</b>	\$ 10,192,972	11.5%	\$ 2,083,185	\$ 12,276,156	73.0903918%		E13 * F13 \$ 8,972,691
14 Non Residential Smart Saver Energy Efficient Food Service Products	212	196	4,280,461	\$ 1,411,005 <b>rw</b>	\$ 1,057,658	11.5%	\$ 40,635	\$ 1,098,293	73.0903918%		E14 * F14 \$ 802,747
15 Non Residential Smart Saver Energy Efficient HVAC Products	1,118	439	3,698,306	\$ 2,321,340 <b>rw</b>	\$ 1,732,792	11.5%	\$ 67,683	\$ 1,800,475	73.0903918%		E16 * F16 \$ 1,315,975
16 Non Residential Smart Saver Energy Efficient Lighting Products	27,805	26,034	156,866,525	\$ 91,636,893 <b>rw</b>	\$ 24,280,837	11.5%	\$ 7,745,946	\$ 30,026,783	73.0903918%		E17 * F17 \$ 23,498,501
17 Non Residential Smart Saver Energy Efficient Pumps and Drives Products	429	424	2,717,418	\$ 1,198,746 <b>rw</b>	\$ 424,983	11.5%	\$ 88,523	\$ 513,506	73.0903918%		E18 * F18 \$ 375,324
18 Non Residential Energy Efficient IT/EE	-	-	272,355	\$ 28,640	\$ 47,381	11.5%	\$ (2,155)	\$ 45,226	73.0903918%		E19 * F19 \$ 33,056
19 Non Residential Energy Efficient Process Equipment Products	186	206	877,998	\$ 368,355 <b>rw</b>	\$ 117,383	11.5%	\$ 28,862	\$ 146,245	73.0903918%		E20 * F20 \$ 106,891
20 Non Residential Smart Saver Performance Incentive	1,701	1,701	14,901,572	\$ 6,902,827 <b>rw</b>	\$ 2,365,586	11.5%	\$ 521,783	\$ 2,887,368	73.0903918%		E21 * F21 \$ 2,110,389
21 Small Business Energy Saver	9,404	5,944	50,790,447	\$ 23,221,797 <b>rw</b>	\$ 11,026,688	11.5%	\$ 1,402,438	\$ 12,429,125	73.0903918%		E22 * F22 \$ 9,084,496
22 Total for Non-Residential Conservation Programs	49,060	43,150	293,903,221	\$ 158,100,806	\$ 52,352,927		\$ 12,161,006	\$ 64,513,933			\$ 47,153,486
<b>NC Non-Residential Peak Demand Allocation Factor</b>											
23 EnergyWise for Business	20,801	-	2,557,568	\$ 2,295,637 <b>rw</b>	\$ 5,981,812	11.5%	\$ (423,910)	\$ 5,557,902			
24 PowerShare	344,454	664	-	\$ 41,974,882 <b>rw</b>	\$ 13,743,409	11.5%	\$ 3,246,619	\$ 16,990,029			
25 Total for Non-Residential DSM Programs	365,255	664	2,557,568	\$ 44,270,519	\$ 19,725,221		\$ 2,822,709	\$ 22,547,930	74.2414264%	54.0443851%	(E10+E25) *F25 *G25 \$ 18,293,285
26 Total Non Residential	414,316	43,814	295,560,789	\$ 202,371,328	\$ 72,078,147		\$ 14,983,716	\$ 87,061,863			\$ 65,446,771
27 Total All Programs	1,186,817	100,217	760,028,924	\$ 326,378,425	\$ 143,341,010		\$ 21,397,191	\$ 164,738,201			\$ 120,932,584

(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintages  
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak