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     DATE:
              Tuesday, May 30, 2023
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              2:05 p.m. - 2:13 p.m.
     TIME:
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    DOCKET NO:
                    E-7, Sub 1285
 4
    BEFORE: Commissioner ToNola D. Brown-Bland, Presiding
              Chair Charlotte A. Mitchell
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 6
              Commissioner Daniel G. Clodfelter
 7
              Commissioner Kimberly W. Duffley
 8
              Commissioner Jeffrey A. Hughes
 9
              Commissioner Floyd B. McKissick, Jr.
10
              Commissioner Karen M. Kemerait
11
12
13
                        IN THE MATTER OF:
14
          Application of Duke Energy Carolinas, LLC,
15
          for Approval of Demand-Side Management and
             Energy Efficiency Cost Recovery Rider
16
              Pursuant to N.C.G.S. § 62-133.9 and
17
                      Commission Rule R8-69
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PROCEEDINGS

2.1

commissioner Brown-Bland: Let's come to order and go on the record. I am Commissioner ToNola D. Brown-Bland of the North Carolina Utilities

Commission and the presiding Commissioner for this hearing. With me this afternoon are Chair Charlotte A. Mitchell, Commissioners Daniel G. Clodfelter,

Kimberly W. Duffley, Jeffrey A. Hughes, and Floyd B. McKissick, Jr., and Karen M. Kemerait.

I now call for hearing Docket No. E-7, Sub 1285, in the Matter of Application of Duke Energy Carolinas, LLC's Annual Review for Approval of Demand-side Management and Energy Efficiency Cost Recovery Rider. G.S. § 62-133.9 establishes the procedure for cost recovery of demand-side management, hereafter DSM, and energy efficiency, hereafter EE, expenditures. General Statute § 62-133.9(d) provides for an annual DSM/EE Rider for electricity public utilities to recover all reasonable and prudent costs incurred and appropriate incentives for adoption and implementation of new DSM/EE measures.

On February 28th, 2023 and corrected on March 7th, 2023, Duke Energy Carolinas filed its Application for Approval of its Annual DSM/EE Cost

NORTH CAROLINA UTILITIES COMMISSION

Recovery Rider along with the direct testimony and exhibits of Casey Q. Fields and Shannon R. Listebarger in support of the Application.

2.1

On March 16th, the Commission issued its
Order scheduling the hearing, requiring filing of
testimony, establishing discovery guidelines, and
requiring public notice. The Order scheduled the
hearing in this docket for today, Tuesday, May 30th,
2023 immediately following the hearings in DEC or Duke
Energy Carolinas' other annual cost recovery riders,
the first of which was scheduled to begin at 2:00 p.m.

Based on their timely petitions to intervene in this docket, the following parties were allowed to intervene by Order of the Commission: Carolina Utility Customers Association, Inc., Carolina Industrial Group for Fair Utility Rates II, and jointly North Carolina Justice Center, North Carolina Housing Coalition, and the Southern Alliance for Clean Energy. The intervention and participation of the Public Staff is recognized pursuant to Statute G.S. 62-15(d) and Commission Rule R1-19(e).

On April 28th, 2023, DEC filed the supplemental direct testimony and exhibits of Carolyn T. Miller which adopted the testimony and exhibits of

Witness Listebarger and Casey Q. Fields.

2.1

On May 9th, the Public Staff filed testimony and exhibits of David M. Williamson and Hemanth Meda.

On May 26th, 2023, DEC filed the proposed direct testimony of Carolyn T. Miller and a Motion for Leave requesting that Miller be allowed to adopt the previously filed direct testimony Witness Listebarger. On the same date, the Commission granted the Motion accepting the testimony and exhibits of Witness Miller.

In compliance with the requirement of Chapter 163A of the State Government Ethics Act, I remind the Members of the Commission of our responsibility to avoid conflicts of interest and inquire, at this time, as to whether any member has any known conflict of interest with respect to the matter before us this afternoon.

(No response)

COMMISSIONER BROWN-BLAND: The record will reflect no conflicts were identified. And now, I call for appearances beginning with the Applicant.

MS. FENTRESS: Good afternoon. My name is Kendrick Fentress. I'm appearing on behalf of Duke Energy Carolinas this afternoon.

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1
               COMMISSIONER BROWN-BLAND:
                                          Thank you,
 2
    Ms. Fentress.
 3
              MS. KEYWORTH: Good afternoon. My name is
    Anne Keyworth. I'm appearing with Nadia Luhr on
 4
    behalf of the Public Staff.
 5
 6
               COMMISSIONER BROWN-BLAND:
                                          Thank you.
 7
              MR. MAGARIRA: Good afternoon.
                                               Manashe
 8
    Magarira appearing on behalf of North Carolina Justice
 9
    Center, North Carolina Housing Coalition, and Southern
10
    Alliance for Clean Energy.
              MR. TRATHEN: Good afternoon. Marcus
11
12
    Trathen appearing on behalf of Carolina Utility
13
    Customers Association.
14
              MS. CRESS: Good afternoon. Christina Cress
15
    appearing on behalf of CIGFUR III. And just for
16
    clarity of the record, CIGFUR III was granted
17
    intervention in this docket. Thank you.
18
               COMMISSIONER BROWN-BLAND: All right.
19
    you for that correction. The record will so reflect.
20
    All right. So are there any preliminary matters
2.1
    before we begin?
22
               MS. FENTRESS: I do have one, Commissioner
23
    Brown-Bland. It is my understanding that the parties
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have no cross-examination for the Duke witnesses and

also for the Public Staff witnesses. With that being the case, the Company, jointly with the Public Staff, if they're agreeable, would move that those witness testimonies be entered into the record and the Application be entered in as well.

COMMISSIONER BROWN-BLAND: All right. There being no objection, the witness testimonies earlier mentioned by me, on behalf of the Company and on behalf of the Public Staff, will be received into evidence, at this time, as well as their exhibits.

They will be treated as if they were given orally from the witness stand and the exhibits will be identified as they were marked when prefiled.

MS. FENTRESS: Thank you.

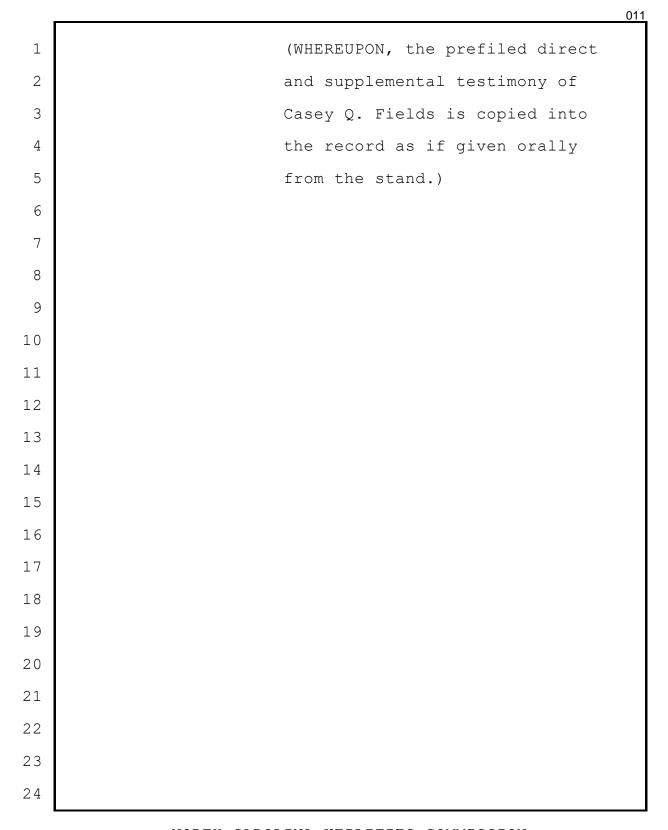
(WHEREUPON, The Application of Duke Energy Carolinas is received into evidence.)

(WHEREUPON, Fields Direct Exhibits 1-14 and A-J, and Fields

Revised Exhibits 1&3 are received

into evidence.)

2.1



STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. E-7, SUB 1285

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)	DIRECT TESTIMONY OF
Application of Duke Energy Carolinas, LLC)	CASEY Q. FIELDS
for Approval of Demand-Side Management)	FOR DUKE ENERGY
and Energy Efficiency Cost Recovery Rider)	CAROLINAS, LLC
Pursuant to N.C. Gen. Stat. § 62-133.9 and)	
Commission Rule R8-69)	

I. <u>INTRODUCTION AND PURPOSE</u>

- 1 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION
- 2 WITH DUKE ENERGY.
- 3 A. My name is Casey Q. Fields, and my business address is 411 Fayetteville Street,
- 4 Raleigh, North Carolina 27601. I am employed by Duke Energy Business Services,
- 5 LLC ("Duke Energy") as Strategy and Collaboration Manager for the Carolinas in
- 6 the Customer Solutions Regulatory Enablement group.
- 7 Q. PLEASE BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND AND
- 8 **EXPERIENCE.**
- 9 A. I graduated from North Carolina State University in 2008 with a Bachelor of
- Science Degree in Science, Technology and Society. While obtaining my degree, I
- interned for Progress Energy at the Harris Nuclear Plant in Corporate
- 12 Communications in 2006 and later served as a contractor until 2010. Upon
- 13 graduation I worked for Disability Determination Services for the North Carolina
- Department of Health and Human Services performing case work and interacting
- with applicants. In 2010, I joined Ecova where my primary focus was helping
- implement Progress Energy's Residential Lighting Program. I joined Duke Energy
- in 2013 and have held multiple roles, including Program Manager in income-
- qualified programs and a Senior Solutions Developer. I moved into my current role
- in March of 2022.
- 20 Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN MATTERS
- 21 BROUGHT BEFORE THIS COMMISSION?
- A. No. I have not.

1 Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

- 2 A. I am responsible for the regulatory support of demand-side management
- 3 ("DSM")/energy efficiency ("EE") programs in North Carolina for both Duke
- 4 Energy Carolinas, LLC ("DEC" or the "Company") and Duke Energy Progress,
- 5 LLC ("DEP").

6 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS

7 **PROCEEDING?**

- A. My testimony supports DEC's application for approval of its DSM/EE Cost

 Recovery Rider, Rider EE, for 2024 ("Rider 15"), which encompasses the

 Company's portfolio of programs and cost recovery and incentive mechanism

 approved in the Commission's *Order Approving DSM/EE Programs and*
- 12 Stipulation of Settlement issued October 29, 2013, in Docket No. E-7, Sub 1032
- and the Mechanism approved in the Commission's Order Approving Revisions to
- 14 Demand-Side Management and Energy Efficiency Cost Recovery Mechanisms
- 15 ("2020 Mechanism" and, collectively with 2013 cost recovery mechanism, the
- "Mechanisms") issued on October 20, 2020, in Docket Nos. E-2, Sub 931 and E-7,
- 17 Sub 1032 ("2020 Sub 1032 Order," collectively, "Sub 1032 Orders"). My
- 18 testimony provides in Section II a discussion of items the Commission specifically
- directed the Company to address in this proceeding; (III) an overview of the
- Commission's Rule R8-69 filing requirements; (IV) a synopsis of the DSM/EE
- 21 programs included in this filing; (V) a discussion of program results; (VI) a
- summary of projected results; (VII) information on DEC's Evaluation
- Measurement & Verification ("EM&V") activities, including an update on the

commencement of the persistence study of the energy savings related to the My Home Energy Report ("MyHER") program; (VIII) Impacts on the Rider; (IX) an overview of the calculation of the Portfolio Performance Incentive ("PPI") and Program Return Incentive ("PRI"); (X) information relating to the Collaborative; (XI) an update on how the Company is engaging with the Inflation Reduction Act; and (XII) a discussion of the agreement between the Public Staff – North Carolina Utilities Commission ("Public Staff") and Company related to the continued application of the updated Avoided Transmission and Distribution ("T&D") Rates that were applied beginning with Vintage 2022.

10 Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR 11 TESTIMONY.

Fields Exhibit 1 supplies, for each program, load impacts and avoided cost revenue requirements by vintage. Fields Exhibit 2 contains a summary of net lost revenues for the period January 1, 2016 through December 31, 2024. Fields Exhibit 3 contains the actual program costs for North Carolina for the period January 1, 2019 through December 31, 2022. Fields Exhibit 4 contains the found revenues used in the net lost revenue calculations. Fields Exhibit 5 supplies evaluations of event-based programs. Fields Exhibit 6 contains information about the results of DEC's programs and a comparison of actual impacts to previous estimates. Fields Exhibit 7 contains the projected program and portfolio cost-effectiveness results for the Company's current portfolio of programs. Fields Exhibit 8 contains a summary of 2022 program performance and an explanation of the variances between the forecasted program results and the actual results. Fields Exhibit 9 is a list of DEC's

Α.

industrial and large commercial customers that have opted out of participation in
its DSM or EE programs and a listing of those customers that have elected to opt
in to DEC's DSM or EE programs after having initially notified the Company that
they declined to participate, as required by Commission Rule R8-69(d)(2). Fields
Exhibit 10 contains the projected PPI and PRI associated with Vintage 2024. Fields
Exhibit 11 contains the six-year history of program and avoided costs. Fields
Exhibit 12 provides the actual and expected dates when the EM&V for each
program or measure will become effective. Fields Exhibit 13 provides a summary
of the estimated activities and timeframe for completion of EM&V by program.
Fields Exhibit 14 provides information showing the method used to exclude Find
It Duke amounts from the energy efficiency portfolio. Fields Exhibits A through I
provide the detailed completed EM&V reports for the following: MyHER Program
Evaluation (Fields Exhibit A); EM&V Report for the Duke Energy Multifamily
Energy Efficiency Program (Fields Exhibit B); Duke Energy Progress & Duke
Energy Carolinas Neighborhood Energy Saver Program - 2021 Evaluation Report
- FINAL (Fields Exhibit C); EM&V Report for the Duke Energy Small Business
Energy Saver Program 2019-2020 (Revised) (Fields Exhibit D); EM&V Report for
the Duke Energy 2020/2021 EnergyWise Business Program (Fields Exhibit E);
Smart \$aver Non-Residential Custom Program Years 2018-2019 Evaluation Report
(Fields Exhibit F); 2021 Power Manager Evaluation Report (Includes Bring Your
Own Thermostat) (Fields Exhibit G); Duke Energy Carolinas & Duke Energy
Progress Retail Lighting Program - 2022 Evaluation Report – Final (Fields Exhibit
H); and Duke Energy Carolinas Low Income Weatherization Program (2019-2020)

1	Evaluation	Report	(Fields	Exhibit	I).	Fields	Exhibit	J	is	Low-	and	Moderate-

- 2 Income Participation Study.
- 3 Q. WERE FIELDS EXHIBITS 1-14 PREPARED BY YOU OR AT YOUR
- 4 DIRECTION AND SUPERVISION?
- 5 A. Yes, they were.

6 II. <u>ACTIONS ORDERED BY THE COMMISSION</u>

- 7 Q. PLEASE DESCRIBE THE ACTIONS DEC HAS TAKEN IN RESPONSE TO
- 8 THE COMMISSION'S 2022 ORDER IN DEC'S PREVIOUS DSM/EE
- 9 **RIDER PROCEEDING.**
- 10 A. In its December 12, 2022 Order Approving DSM/EE Rider and Requiring Filing of
- 11 Proposed Customer Notice in Docket No. E-7, Sub 1265 ("Sub 1265 Order"), the
- 12 Commission ordered: (1) that DEC and the collaborative participants shall give
- particular attention to addressing declining energy savings forecasts and expanding
- DSM/EE programs to assist DEC's low-income customers; and (2) that DEC shall
- initiate a persistence study of the MyHER energy savings.¹

As part of the regular Collaborative meetings, DEC has facilitated and

participated in a number of discussions regarding developing new programs,

18 expanding the reach and increasing the impacts of existing programs, and

identifying and overcoming market barriers. In addition to the feedback from

20 members, the Company commissioned a study to evaluate the rate at which low-

and moderate-income households participate in market-rate programs. This study,

22 entitled the Low- and Moderate-Income Participation Study (LMI Study),

_

¹ Sub 1265 Order at Ordering ¶¶ 3 and 4.

identified a number of barriers to participation and recommended several ways to improve programs. The Collaborative has been reviewing the study since it was finalized last year and will continue to incorporate its finding in meetings this year. For the Commission's review, the LMI Study is attached to my testimony as Exhibit J.

Since the Commission's Sub 1265 Order was issued in December, the Company has also begun working with its third-party EM&V vendor to initiate in the first quarter of 2023 its study of the persistence of the MyHER program's energy savings. The Company anticipates the persistence study of the MyHER energy savings will be scheduled to be finalized by fourth quarter 2023, thereby making its findings potentially available for inclusion in the filing of the Company's next annual DSM/EE rider filing in 2024. Consistent with the Commission's Sub 1265 Order, the Company will continue to update the Commission on the progress of the persistence study until it is final.

III. RULE R8-69 FILING REQUIREMENTS

Q. WHAT INFORMATION DOES DEC PROVIDE IN RESPONSE TO THE

COMMISSION'S FILING REQUIREMENTS?

A. The information for Rider 15 is provided in response to the Commission's filing requirements contained in R8-69(f)(1) and can be found in the testimony and exhibits of Company witnesses Fields and Listebarger as follows:

2

R8-69	9(f)(1)	Items	Location in Testimony	
(i)	Forecasted NC retail sales for the rate period	Listebarger Exhibit 6	
(i	ii)	For each measure for which cost recovery is re-	equested through Rider 13:	
(ii)	a.	Total expenses expected to be incurred during the rate period	Fields Exhibit 1	
(ii)	b.	Total costs savings directly attributable to measures	Fields Exhibit 1	
(ii) c.		EM&V activities for the rate period	Fields Exhibit 12	
(ii)	d.	Expected peak demand reductions	Fields Exhibit 1	
(ii)	e.	Expected energy reductions	Fields Exhibit 1	
(i	ii)	Filing requirements for DSM/EE EMF rider, i	ncluding:	
(iii)	a.	Total expenses for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Fields Exhibit 3	
(iii)	b.	Total avoided costs for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Fields Exhibit 1	
(iii)	c.	Description of results from EM&V activities	Testimony of Casey Fields and Fields Exhibits A-I	
(iii)	d.	Total peak demand reductions in the aggregate and broken down per program	Fields Exhibit 1	
(iii)	e.	Total energy reduction in the aggregate and broken down per program	Fields Exhibit 1	
(iii)	f.	Discussion of findings and results of programs	Testimony of Casey Fields and Fields Exhibit 6	
(iii)	g.	Evaluations of event-based programs	Fields Exhibit 5	
(iii)	h.	Comparison of impact estimates from previous year and explanation of significant differences	Testimony of Casey Fields and Fields Exhibits 6 and 8	
(i	v)	Determination of utility incentives	Testimony of Casey Fields and Fields Exhibit 10	
(v)	Actual revenues from DSM/EE and DSM/EE EMF riders	Listebarger Exhibit 4	
(v	vi)	Proposed Rider 15	Testimony of Shannon Listebarger Exhibit 1	
(v	vii)	Projected NC sales for customers opting out of measures	Listebarger Exhibit 6	
(v	iii)	Supporting work papers	Via Data Transfer	

IV. <u>PORTFOLIO OVERVIEW</u>

3 Q. WHAT ARE DEC'S CURRENT DSM AND EE PROGRAMS?

1	A.	The Company has two interruptible programs for nonresidential customers,
2		Interruptible Service ("IS") and Standby Generation ("SG"), which are accounted
3		for outside of the Mechanisms approved by the Commission in the Sub 1032
4		Orders. Aside from IS and SG, the following DSM/EE programs have been
5		implemented by DEC in its North Carolina service territory:
6		RESIDENTIAL CUSTOMER PROGRAMS
7		Energy Assessment Program
8		EE Education Program
9		• Energy Efficient Appliances and Devices Program
0		Smart \$aver EE Program
1		Multifamily EE Program
2		MyHER Program
3		• Income-Qualified EE and Weatherization Program for Individuals
4		Neighborhood Energy Saver Program
5		New Construction
6		Power Manager Load Control Service Program
17		NONRESIDENTIAL CUSTOMER PROGRAMS
8		• Nonresidential Smart \$aver Energy Efficient Products and Assessment
9		Prescriptive Program includes the following subsets of measures:
20		o Energy Efficient Food Service Products
21		o Energy Efficient HVAC Products
22		o Energy Efficient IT Products
23		o Energy Efficient Lighting Products

1		 Energy Efficient Process Equipment Products
2		 Energy Efficient Pumps and Drives Products
3		Smart \$aver Custom Incentive and Energy Assessment
4		PowerShare Nonresidential Load Curtailment Program
5		Business Energy Saver Program
6		• EnergyWise for Business Program
7		Nonresidential Smart \$aver Performance Incentive Program
8	Q.	ARE THESE SUBSTANTIVELY THE SAME PROGRAMS DEC
9		RECEIVED APPROVAL FOR IN DOCKET NO. E-7, SUB 1032?
10	A.	Yes. The programs contained in the current portfolio are the same as those
11		approved by the Commission in the initial Sub 1032 Order, with the exception of
12		Business Energy Saver, Power Manager and EnergyWise for Business, which
13		have been modified with the Commission's approval.
14	Q.	PLEASE DESCRIBE ANY UPDATES MADE TO THE UNDERLYING
15		ASSUMPTIONS FOR DEC'S PORTFOLIO OF PROGRAMS THAT
16		HAVE REVISED PROJECTIONS FOR VINTAGE 2024.
17	A.	Updates to underlying assumptions that materially impact DEC's 2024 portfolio
18		projection are due to EM&V-related impacts. Additionally, the underlying
19		assumptions in Smart \$aver programs, which offer rebates and incentives to
20		install higher efficiency heating, air conditioning and ventilation measures, have
21		been updated to reflect the recent federal appliance standards advancements and
22		changes to the efficient lighting standards that will be effective mid-2023.

1	Q.	PLEASE DESCRIBE THE EM&V IMPACT TO DEC'S ESTIMATED
2		2024 PROCRAM PORTFOLIO

- 3 A. Changes in the EM&V results were updated to reflect the savings impacts for those programs for which DEC received EM&V results after it prepared its 4 5 application for approval of its DSM/EE Rider in its previous annual DSM/EE 6 Rider proceeding in Docket No. E-7, Sub 1265. These changes updated the EM&V results for changes to the projected avoided cost benefits associated with 7 8 the projected participation. Hence, these EM&V updates will impact the 9 calculation of the specific program and overall portfolio cost-effectiveness, as 10 well as impact the calculation of DEC's projected shared savings incentive.
- 11 Q. AFTER FACTORING THESE UPDATES INTO THE VINTAGE 2024
 12 PORTFOLIO, DO THE RESULTS OF DEC'S PROSPECTIVE UTILITY
 13 COST-EFFECTIVENESS TESTS INDICATE THAT IT SHOULD
 14 DISCONTINUE OR MODIFY ANY OF ITS PROGRAMS?
- 15 DEC performed a prospective analysis of each of its programs and the aggregate A. 16 portfolio for the Vintage 2024 period. The cost-effectiveness results for the entire 17 portfolio for Vintage 2024 are contained in Fields Exhibit 7. The aggregate 18 portfolio continues to project cost-effectiveness, with the exception of the 19 Income-Qualified EE Products and Services Program, which was not cost-20 effective at the time of Commission approval, and an element of the Nonresidential Smart \$aver Program. Based on the results of these cost-21 22 effectiveness tests, there are no reasons to discontinue any of DEC's programs. 23 Notably, the Company continues to examine its programs for potential

1		modifications to increase their effectiveness, regardless of the current cost-
2		effectiveness results.
3	Q.	PLEASE IDENTIFY THE ELEMENT OF THE NONRESIDENTIAL
4		SMART \$AVER PROGRAM THAT WAS FORECASTED TO BE LESS
5		THAN COST EFFECTIVE.
6	A.	The Information Technology subcategory of the Nonresidential Smart \$aver
7		Program had a UCT score that was less than 1.0.
8	Q.	WOULD IT BE APPROPRIATE TO DISCONTINUE THIS PROGRAM
9		ELEMENT?
10	A.	At this time, closing this subcategory to new participation until it can be proven
11		to be cost effective is appropriate. The Company will continue to look at creative
12		ways to make this subcategory cost-effective.
13		V. <u>DSM/EE PROGRAM RESULTS TO DATE</u>
14	Q.	HOW MUCH ENERGY, CAPACITY AND AVOIDED COST SAVINGS
15		DID DEC DELIVER AS A RESULT OF ITS DSM/EE PROGRAMS
16		DURING VINTAGE 2022?
17	A.	During Vintage 2022, DEC's DSM/EE programs delivered over 669 million
18		kilowatt-hours ("kWh") of energy savings, nearly 1,131 megawatts ("MW") of
19		summer peak capacity savings and nearly 518 MW of winter peak capacity
20		savings, which produced net present value of avoided cost savings of over \$337
21		million. The 2022 performance results for individual programs are provided on
22		page 7 of Fields Exhibit 1.

1 Q. HOW DID THE COMPANY'S PROGRAMS PERFORM RELATIVE TO

THEIR ORIGINAL ESTIMATES FOR VINTAGE 2022?

A. Referring to Fields Exhibit 8, overall performance during 2022 was less than forecasted. The ongoing effects of the COVID pandemic had on program workforces, supply chain, and customer willingness to have program administrators onsite continues to impact forecasted performance. Inflation and the increase of measure costs have impacted the adoption of energy efficiency measures. Small Business Energy Saver, non-residential Lighting and non-residential Custom had less than anticipated participation. Nevertheless, there were highlights in program performance. The energy savings associated with the Residential Smart Saver program exceeded its forecast by 32 percent and energy savings associated with the Nonresidential Smart Saver Energy Efficient HVAC Products exceeded its savings forecast by 23 percent.

VI. PROJECTED RESULTS

- 15 Q. PLEASE PROVIDE A PROJECTION OF THE RESULTS THAT DEC
 16 EXPECTS TO SEE FROM IMPLEMENTATION OF ITS PORTFOLIO
- 17 **OF PROGRAMS.**

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A. Consistent with the terms of its Commission-approved cost recovery

Mechanisms, DEC will update the actual and projected EE achievement levels in

its annual Rider EE filing to account for any program or measure additions based

on the performance of programs, market conditions, economics and consumer

demand. The actual results for Vintage 2022 and projection of the results for

- 1 Vintages 2023 and 2024, as well as the associated projected program expense for
- 2 DEC's portfolio of programs, are summarized in the following table:

DEC System (NC & SC) DSM/EE Portfolio 2022 Actual Results and 2023-2024 Projected Results						
2022 2023 2024						
Annual System Net MW - Summer	1,131	992	1,180			
Annual System Net MW - Winter	518	505	608			
Annual System Net GWh	669	786	808			
Annual Program Costs (Millions)	\$120.7	\$156.3	\$161.9			

4

- Q. PLEASE EXPLAIN IF THE COMPANY'S PROJECTIONS REFLECT
- 6 THE FUNDING MADE AVAILABLE BY THE INFLATION
- 7 **REDUCTION ACT (IRA).**
- 8 A. At this time, the Company's projections do not reflect any impacts of the IRA.
- 9 Although the IRA was signed into law in 2022, the availability and impact of the
- funds are still being determined. The Company itself is rarely, if ever, a direct
- recipient of such funding, but it believes it can help customers leverage their
- available funding to achieve greater savings, as I discuss later in my testimony.
- 13 VII. EM&V ACTIVITIES
- 14 Q. PLEASE DESCRIBE THE COMPANY'S EM&V ACTIVITIES
- 15 RELEVANT TO THIS PROCEEDING.
- 16 A. Fields Exhibit 12 summarizes the estimated activities and timeframe for
- 17 completion of EM&V by program. Fields Exhibit 13 provides the actual and

- 1 expected dates when the EM&V for each program or measure will become
- 2 effective. Fields Exhibits A through I provide the detailed completed EM&V
- 3 reports or updates for the following programs:

Fields Exhibit	EM&V Reports	Report Finalization Date	Effective Date	Evaluation Type
A	My Home Energy Report Program Evaluation	3/6/2022	2/1/2021 (MyHER, MyHER Online/Interactive); 11/1/16 (Multifamily, Multifamily Interactive)	Impact & Process
В	EM&V Report for the Duke Energy Multifamily Energy Efficiency Program	4/20/2022	7/1/2021	Impact & Process
С	Duke Energy Progress & Duke Energy Carolinas Neighborhood Energy Saver Program – 2021 Evaluation Report – FINAL	5/11/2022	7/1/2019	Impact & Process
D	EM&V Report for the Duke Energy Small Business Energy Saver Program 2019-2020 (Revised)	6/9/2022	7/1/2020	Impact & Process
Е	EM&V Report for the Duke Energy 2020/2021 EnergyWise Business Program	7/7/2022	10/1/2021	Impact
F	Smart \$aver Non-Residential Custom Program Years 2018-2019 Evaluation Report	7/14/2022	8/1/2022	Impact & Process
G	2021 Power Manager Evaluation Report (Includes Bring Your Own Thermostat)	11/22/2022	10/1/2021	Impact & Process
Н	Duke Energy Carolinas & Duke Energy Progress Retail Lighting Program – 2022 Evaluation Report – Final	12/5/2022	4/1/2022	Impact & Process
I	Duke Energy Carolinas Low Income Weatherization Program (2019-2020) Evaluation Report	12/13/2022	1/1/2021	Impact & Process

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Q. HOW WERE EM&V RESULTS UTILIZED IN DEVELOPING THE

6 **PROPOSED RIDER 15?**

- 7 A. The Company has applied EM&V consistently with the agreement among DEC,
- 8 the Southern Alliance for Clean Energy, and the Public Staff, approved by the
- 9 Commission in its Order Approving DSM/EE Rider and Requiring Filing of

Proposed Customer Notice issued on November 8, 2011, in Docket No. E-7, Sub 979 ("EM&V Agreement").

Actual participation and evaluated load impacts are used prospectively to update net lost revenues estimates. In addition, the EM&V Agreement provides that initial EM&V results shall be applied retrospectively to program impacts that were based upon estimated impact assumptions derived from industry standards (rather than EM&V results for the program in the Carolinas), in particular the DSM/EE programs initially approved by the Commission in Docket No. E-7, Sub 831 ("Sub 831"), with the exception of the Nonresidential Smart \$aver Custom Rebate Program. For purposes of the vintage true-ups and forecast, initial EM&V results are considered actual results for a program and continue to apply until superseded by new EM&V results, if any. For all new programs and pilots approved after the Sub 831 programs, DEC will use initial estimates of impacts until it has EM&V results, which will then be applied retrospectively to the beginning of the offering and will be considered actual results until a second EM&V is performed.

All program impacts from EM&V apply only to the programs for which the analysis was directly performed, though DEC's new product development may utilize actual impacts and research about EE and conservation behavior directly attributed to existing DEC program offerings.

The level of EM&V required varies by program and depends on that program's contribution to total portfolio, the duration the program has been in the portfolio without material change, and whether the program and administration

1	is new and different in the energy industry. DEC estimates, however, that no
2	additional costs above 5 percent of total program costs will be associated with

- 3 performing EM&V for all measures in the portfolio.
- 4 Q. WHICH PROGRAMS CONTAIN IMPACT RESULTS BASED ON
- 5 CAROLINAS-BASED EM&V?
- 6 A. All the filed EM&V studies, provided as Fields Exhibits A through I, were
- 7 Carolinas-based.
- 8 VIII. <u>IMPACTS ON RIDER</u>
- 9 Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE VINTAGE
- 10 **2022 EXPERIENCE MODIFICATION FACTOR?**
- 11 A. Yes. The EMF in Rider 15 accounts for changes to actual participation relative
- to the forecasted participation levels utilized in DEC's Vintage 2022 Rider EE.
- As DEC receives actual participation information, it can then update
- 14 participation-driven actual avoided cost benefits from its DSM/EE programs and
- the net lost revenues derived from its EE programs. For example, as previously
- mentioned, the overall savings along with their related expenditures were less
- than those that were forecasted. As a result, the EMF will be reduced to reflect
- the lower costs, net lost revenues, and shared savings incentive (PPI) associated
- with its programs.
- 20 O. HOW HAVE EM&V RESULTS BEEN INCORPORATED INTO THE
- 21 VINTAGE 2022 TRUE-UP COMPONENT OF RIDER 15?
- 22 A. In accordance with the EM&V Agreement, all of the final EM&V results that
- have been received by DEC by December 31, 2022 have been applied

prospectively from the first day of the month immediately following the month in which the study participation sample for the EM&V was completed. Accordingly, for any program for which DEC has received EM&V results, the per participant impact applied to the projected program participation in Vintage 2022 is based upon the actual EM&V results that have been received.

Q. PLEASE DESCRIBE HOW DEC CALCULATED FOUND REVENUES.

Consistent with the Sub 1032 Orders and with the "Decision Tree" found in Appendix A of the Commission's February 8, 2011 Order in Docket No. E-7, Sub 831, and approved for the new portfolio in the Sub 1032 Orders, possible found revenue activities were identified, categorized, and netted against the net lost revenues created by DEC's EE programs. Found revenues may result from activities that directly or indirectly result in an increase in customer demand or energy consumption within DEC's service territory. Load-building activities such as these, however, would not be considered found revenues if they (1) would have occurred regardless of DEC's activity, (2) were a result of a Commissionapproved economic development activity not determined to produce found revenues, or (3) were part of an unsolicited request for DEC to engage in an activity that supports efforts to grow the economy. On the other hand, found revenues would occur for load growth that did not fall into the previous categories but was directly or indirectly a result of DEC's activities. Based on the results of this work, all potential found revenue-related activities are identified and categorized in Fields Exhibit 4. Additionally, consistent with the methodology employed and approved in Docket No. E-7, Sub 1073, as discussed in detail in

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1		the testimony of Company witness Timothy J. Duff in Docket No. E-7, Sub 1050,
2		DEC also proposes to adjust the calculation of found revenues to account for the
3		impacts of activities outside of EE programs that it undertakes that reduce
4		customer consumption – i.e., "negative found revenues."
5	Q.	DOES THE COMPANY'S CALCULATION OF FOUND REVENUES
6		CONTINUE TO ACCOUNT FOR NEGATIVE FOUND REVENUE
7		ACTIVITIES?
8	A.	Yes, Consistent with the methodologies approved in the Company's
9		Mechanisms, the Company's calculation of Found Revenues appropriately
10		accounts for Negative Found Revenues.
11	Q.	HAS THE OPT-OUT OF NONRESIDENTIAL CUSTOMERS AFFECTED
12		THE RESULTS FROM THE PORTFOLIO OF APPROVED
13		PROGRAMS?
14	A.	Yes, the opt-out of qualifying nonresidential customers affects DEC's overall
15		nonresidential impacts. For Vintage 2022, DEC had 4,516 eligible customer
16		accounts opt out of participating in DEC's nonresidential portfolio of EE
17		programs. In addition, DEC had 4,787 eligible customer accounts opt out of
18		participating in DEC's nonresidential DSM programs. For 2022, ninety opt-out
19		eligible accounts opted-in to the EE portion of the Rider, and one opt-out eligible
20		accounts opted-in to the DSM portion of the Rider.
21	Q.	PLEASE EXPLAIN THE DECREASE IN THE NUMBER OF OPT-OUTS

IN 2021 COMPARED TO 2020.

6	Q.	ASIDE FROM THESE COVID-RELATED REDUCTIONS, IS THE				
5		lessened.				
4		1,000,000 kWh opt-out threshold, set forth in Commission Rule R8-69(d), has				
3		customers eligible to opt-out due to their annual consumption exceeding the				
2		impacts of the COVID pandemic. In particular, the number of large commercial				
1	A.	The reduction in the number of customers opted-out is largely due to the ongoing				

ASIDE FROM THESE COVID-RELATED REDUCTIONS, IS THE COMPANY CONTINUING ITS EFFORTS TO ATTRACT THE PROGRAM PARTICIPATION OF OPT-OUT ELIGIBLE CUSTOMERS?

Yes. Increasing the participation of opt-out eligible customers in DSM and EE programs is a priority to the Company. DEC continues to evaluate and revise its nonresidential portfolio of programs to accommodate new technologies, eliminate product gaps, remove barriers to participation, and make its programs more attractive. It also continues to leverage its Large Account Management Team to make sure customers are informed about product offerings and the March Opt-in Window.

The Company discussed an approach to a demand response offering with customers and interested parties to explore whether a larger incentive would encourage opted out customers with quicker response times to opt in. This potential approach was based on similar programs operating in California. The Company worked with interested parties to define the parameters that would work operationally and cost effectively in Duke Energy's Carolinas territories. Ultimately, that proposed concept was found to garner insufficient interest from potential participants, but the Company is continuing to review new

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1	opportunities with opted out customers and will continue to engage customers
2	that may benefit from those type programs.

IX. PPI & PRI CALCULATION

- 4 Q. PLEASE PROVIDE AN OVERVIEW OF THE COST RECOVERY AND
- 5 INCENTIVE MECHANISMS APPROVED IN DOCKET NO. E-7, SUB
- 6 **1032.**

- 7 A. Pursuant to the related Sub 1032 Orders, the Mechanisms allow DEC to (1)
- 8 recover the reasonable and prudent costs incurred for adopting and implementing
- 9 DSM and EE measures in accordance with N.C. Gen. Stat. § 62-133.9 and
- 10 Commission Rules R8-68 and R8-69; (2) recover net lost revenues incurred for
- up to 36 months of a measure's life for EE programs; and (3) earn a PPI based
- upon the sharing of a percentage of the net savings achieved through DEC's
- DSM/EE programs on an annual basis. Prior to 2022 the shared savings
- percentage is 11.5% and, starting in 2022, this percentage was lowered to 10.6%.
- The PPI is also subject to certain limitations that are set forth in the Mechanisms.
- 16 Q. PLEASE EXPLAIN HOW DEC DETERMINES THE PPI.
- 17 A. First, DEC determines the net savings eligible for incentive by subtracting the
- 18 present value of the annual lifetime DSM/EE program costs (excluding approved
- income-qualified programs as described below) from the net present value of the
- annual lifetime avoided costs achieved through the Company's programs (again,
- 21 excluding approved income-qualified programs). The Company then multiplies
- the net savings eligible for incentive by the applicable shared savings percentage
- 23 to determine its pretax incentive.

1	Q.	PLEASE	EXPLAIN	WHETHER	DEC	EXCLUDES	ANY	PROGRAMS

2 FROM THE DETERMINATION OF ITS PPI CALCULATION.

A. Consistent with the *Sub 1032 Orders*, DEC has excluded the impacts and costs associated with the Neighborhood Energy Saver Program and the Income-Qualified EE and Weatherization Program for Individuals from its calculation of the PPI. At the time the program was approved, it was not cost-effective, but was approved based on its societal benefit. Beginning in 2022, the Income-Qualified EE and Weatherization programs are eligible to receive a PRI,

Q. PLEASE EXPLAIN HOW DEC DETERMINES PRI.

A. The PRI is determined by multiplying the net present value of avoided cost by 10.6 percent. As with the PPI, the PRI is also subject to certain limitations that are set forth in the 2020 Mechanism. The percentage used to determine the final PRI for each Vintage Year will be based on the Company's ability to maintain or improve the cost effectiveness of the PRI-eligible programs.

The PRI percentage for each PRI-eligible Program will be determined by comparing (1) the projected UCT ratio for the portfolio of PRI-eligible Programs for the Vintage Year at the time of the Company's DSM Rider filing first estimating that projected Vintage Year UCT ratio to (2) the actual UCT ratio achieved for that portfolio of PRI-eligible Programs as that Vintage Year is trued up in future filings. The ratio (UCT actual/UCT estimate) will then be multiplied by 10.60% to determine the PRI percentage that will be applied to the actual avoided costs generated by each approved PRI eligible program.

X. COLLABORATIVE

1 Q. PLEASE SUMMARIZE THE COLLABORATIVE ACTIVIT

- 2 OCCURRING IN 2022.
- 3 A. The Collaborative met for formal meetings in January, March, May, July,
- 4 September, and November. Between meetings, interested stakeholders joined
- 5 conference calls as needed to zero in on certain agenda items or priorities which
- 6 could not be fully explored during the formal meetings, such as new program
- development, study results and federal funding opportunities. Collaborative
- 8 members gained a deeper understanding of the issues facing Duke's DSM/EE
- 9 programs and brought the Company valuable feedback and perspective.
- Meetings and calls have begun and will continue in a similar fashion through
- 11 2023 as well.
- 12 Q. HAS THE COLLABORATIVE EXAMINED THE REASONS FOR THE
- 13 FORECASTED DECLINE IN SAVINGS AND EXPLORED OPTIONS
- 14 FOR PREVENTING OR CORRECTING A DECLINE IN FUTURE
- 15 **DSM/EE SAVINGS?**
- 16 A. Yes, the forecasted decline in savings was a primary focus of the Collaborative
- in 2022. Declines attributed primarily to changing lighting standards and
- 18 widespread adoption of LEDs have continued to impact programs' savings.
- 19 However, the Company has discussed a number of new programs with the
- 20 Collaborative, including several which have been filed for Commission approval.
- Additionally, the Collaborative is involved in ongoing discussions about
- 22 expanding program footprints and leveraging state and federal legislation to
- 23 capture more opportunities.

1	Q.	HAS THE COLLABORATIVE LOOKED SPECIFICALLY AT EE
2		PROGRAMS TO ASSIST INCOME-QUALIFIED CUSTOMERS IN
3		SAVING ENERGY?
4	A.	Yes, the Collaborative has been focused on assisting income-qualified
5		households. Not only have Collaborative members been active in other working
6		groups during 2021 and 2022, but they have also brought findings from those
7		groups to the work they do for DSM/EE programs. For example, the High
8		Energy Use Pilot was filed on June 30, 2022, as result of the work done by a
9		group created in response to the Company's most recent rate case and comprised
10		of a number of Collaborative members. ² The Collaborative will continue to
11		monitor its progress and suggest improvements once the Commission decides
12		whether or not to approve it.
13		The Collaborative also reviewed findings of the LMI Participation Study,
14		discussed earlier in my testimony, and offered insights and comments on the
15		preliminary findings of that study.
16	Q.	WHAT IS THE STATUS OF PROGRAM SUGGESTIONS OFFERED BY
17		THE COLLABORATIVE IN PREVIOUS YEARS?
18	A.	The Company has reviewed all suggestions offered by Collaborative members.
19		Several of the suggestions did not meet the Company's requirements for a stand-
20		alone program but have been incorporated into existing programs. Other ideas the
21		Collaborative offered have been tabled until regulatory conditions evolve or

 $^{^2}$ At the time of the filing of this testimony, the Commission had approved the pilot at the February 27, 2023 Monday staff conference.

explore claiming savings from advancing building energy codes and appliance standards in the Carolinas similar to how they are claimed in other states. The Company has tabled this suggestion until such time as North Carolina adopts a framework that defines the actions a utility must take to claim attributed savings and determines the appropriate attribution methodology. Another example is the suggestion to advance the adoption of heat pump water heaters in low-income households by offering a rental program, an idea that many members expected to become more feasible once new heat pump water heater models requiring less ventilation space became available. The Company agrees, after discussing with its vendors, that new models of water heaters could make this program feasible and will revive the investigation once those technological advancements achieve widespread commercial availability.

XI. <u>INFLATION REDUCTION ACT – RESIDENTIAL REBATES</u>

- Q. HAS THE COMPANY PURSUED THE OPPORTUNITIES THAT MAY
- 16 ARISE THROUGH TAX INCENTIVES OR FEDERAL FUNDING TO
- 17 BENEFIT ITS CUSTOMERS?

18 A. Yes, the Company has internally reviewed the Home Energy Performance-Based,
19 Whole House Rebates and High-Efficiency Electric Home Rebate Program to
20 consider how our customers would uniquely benefit from coordinating the
21 Company's energy efficiency incentives and IRA rebates. As I previously
22 discussed, the Company itself does not directly receive IRA funds to apply to its
23 energy efficiency programs, but it nonetheless believes it can provide significant

value to its customers by acting as a "one-stop shop" for customers to help them to understand, qualify for, and receive IRA funds that, when possible, can be used to compliment the Company's energy efficiency programs. For example, in addition to its existing equipment incentive programs, the MyHER and Home Energy House Call programs will continue to provide opportunities to proactively educate and engage residential customers about the opportunities that IRA funds can provide. Use of the funds in this way can help to ensure that customer efficiency and energy savings are realized at the lowest possible cost to customers. Moreover, to best understand and maximize the opportunities that these funds provide to customers to become more energy efficient, the Company is actively working with the North Carolina State Energy Office, who will likely be dispersing the funds. The Company will be submitting a response on March 3rd to the United States Department of Energy's Office of State and Community Energy Programs' January 18, 2023, Request for Information on the Inflation Reduction Act Home Efficiency & Electrification Rebate Programs. The Company intends to provide on-going status updates on its efforts around the IRA funds to the Collaborative and will provide an update in next year's annual rider filing.

The Company also continues to engage with members of the Collaborative who have expressed interest in understanding how the Company will coordinate and optimize the deployment of those rebates.

XII. AVOIDED T&D STUDY

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1	Q.	DID THE COMPANY AND THE PUBLIC STAFF COMPLETE THEIR
2		REVIEW OF DUKE'S 2021 AVOIDED T&D STUDY?
3	A.	Yes. As discussed in the Public Staff's December 19, 2022, update letter to the
4		Commission referencing Dockets E-2, Sub 1294 and E-7, Sub 1265, after
5		numerous meetings and exchanges of information, the review of the 2021
6		Avoided T&D Study was completed.
7	Q.	PLEASE GENERALLY DESCRIBE THE REVIEW OF THE AVOIDED
8		T&D STUDY.
9	A.	Although the 2021 Avoided T&D Study was performed by Duke Energy
10		consistently with the approach utilized to conduct previous studies, in the process
11		of responding to the Public Staff's questions, the Company determined that a
12		more detailed screening of the underlying T&D capital investments was needed.
13		Rather than relying on general cost categorization, the additional screening
14		reviews the actual project description within each of the cost categories. The
15		additional screening is designed to ensure that capital investment associated with
16		the T&D system was appropriately limited to those specifically related to system
17		capacity expansion and excluded those related to reliability investments.
18	Q.	PLEASE DESCRIBE HOW THE RESULTS OF THE REVIEW OF THE
19		2021 AVOIDED T&D STUDY WILL BE APPLIED IN THE FUTURE.
20	A.	After developing the additional screening methodologies, the Company applied
21		them to the 2021 Avoided T &D study and found that the results validated the
22		agreed-upon avoided T&D rate applied to Vintage 2023. Following this

validation, the Company and the Public Staff agreed that it is appropriate that

1		avoided T&D rates agreed to in late 2021 should continue, using the associated
2		escalator rates, until the next Avoided T&D study is completed and incorporated.
3		Consistent with the schedule set out in the Company's approved EE/DSM
4		Mechanisms, the next Avoided T&D Study will be conducted in 2024 and utilize
5		the new agreed-upon methodology. The next Avoided T&D Study will then be
6		applied to the projection for Vintage Year 2026.
7		XIII. <u>CONCLUSION</u>
8	Q.	DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?
9	A.	Yes.
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STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. E-7, SUB 1285

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

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. Gen. Stat. § 62-133.9 and
Commission Rule R8-69

DUKE

SUPPLEMENTAL DIRECT TESTIMONY OF CASEY Q. FIELDS FOR DUKE ENERGY CAROLINAS, LLC

1 I.	INTRODUCTION AND PURPOSE
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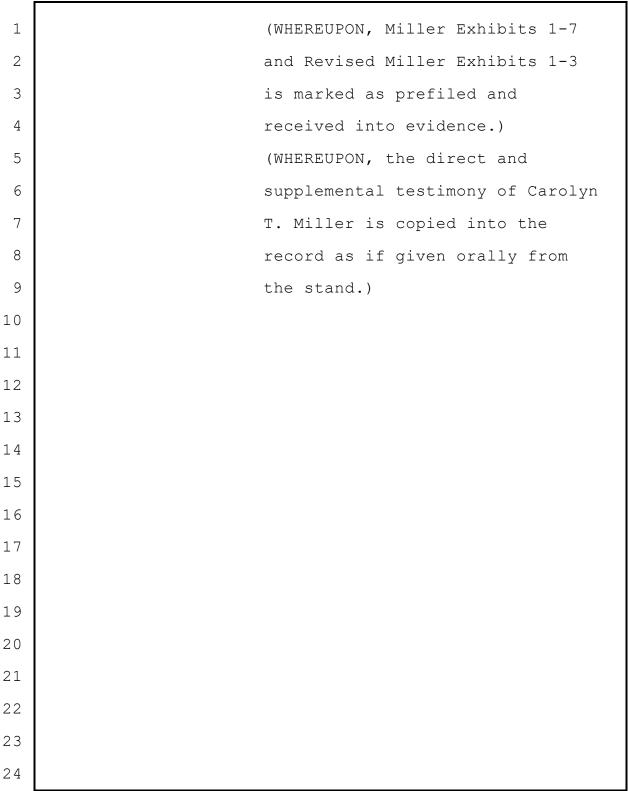
- 2 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION
- 3 WITH DUKE ENERGY.
- 4 A. My name is Casey Q. Fields, and my business address is 411 Fayetteville Street,
- 5 Raleigh, North Carolina 27601. I am employed by Duke Energy Business Services,
- 6 LLC ("Duke Energy") as Strategy and Collaboration Manager for the Carolinas in
- 7 the Customer Solutions Regulatory Enablement Group.
- 8 Q. ARE YOU THE SAME CASEY Q. FIELDS WHOSE DIRECT TESTIMONY
- 9 AND EXHIBITS WERE FILED IN THIS DOCKET ON FEBRUARY 28,
- 10 2023?
- 11 A. Yes.
- 12 Q. ARE YOU INCLUDING ANY EXHIBITS WITH YOUR SUPPLEMENTAL
- 13 **DIRECT TESTIMONY?**
- 14 A. Yes. I am including Revised Fields Exhibit 1 and Revised Fields Exhibit 3. These
- exhibits contain certain corrections to the Exhibit 1 and Exhibit 3 that were filed
- with my direct testimony.
- 17 Q. WERE THESE EXHIBITS PREPARED BY YOU OR AT YOUR
- 18 **DIRECTION?**
- 19 A. Yes.
- 20 Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT
- 21 TESTIMONY IN THIS PROCEEDING?
- 22 A. The purpose of my supplemental testimony is to provide a correction to the energy
- efficiency ("EE") or demand-side management ("DSM") costs that the Company

1	proposes to recover in this proceeding. The corrections (i) remove and lower the
2	total costs to be recovered in Fields Exhibit 1 that was filed with my direct
3	testimony and (ii) lower the programs costs in Fields Exhibit 3 that was filed with
4	my direct testimony.

II. CORRECTIONS TO DIRECT TESTIMONY

- 6 Q. PLEASE DESCRIBE THE CORRECTIONS TO YOUR DIRECT
- 7 TESTIMONY.

- 8 A. In the process of responding to the annual cost review performed by the Public
- 9 Staff, the Company reviewed several invoices related to research for future Grid
- Edge products and services. The Company determined that these invoices were
- inappropriately coded to the DSM/EE rider in this docket because this work was
- not specific to DSM/EE offerings. As a result, the associated costs included in the
- invoices should not be recovered through the DSM/EE Rider. Therefore, the
- 14 Company is no longer proposing that these costs be recovered through the DSM/EE
- 15 Rider.
- 16 Q. HAS DEC COMMUNICATED THESE CORRECTIONS TO PUBLIC
- 17 **STAFF?**
- 18 A. Yes, DEC communicated these to Public Staff prior to filing these corrections.
- 19 Q. DOES THIS CONCLUDE YOUR PRE-FILED SUPPLEMENTAL DIRECT
- 20 TESTIMONY?
- 21 A. Yes.



STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. E-7, SUB 1285

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

)	
)	
)	DIRECT TESTIMONY OF
)	CAROLYN T. MILLER
)	FOR DUKE ENERGY
)	CAROLINAS, LLC
))))

1 I. INTRODUCTION AND PURPOSE

- 2 PLEASE STATE YOUR NAME AND BUSINESS ADDRESS. Q.
- My name is Carolyn T. Miller, and my business address is 526 South Church 3 A.
- Street, Charlotte, North Carolina, 28202. 4
- 5 BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY? Q.
- 6 A. I am a Rates and Regulatory Strategy Manager for Duke Energy Carolinas, LLC
- ("DEC" or the "Company"). 7
- 8 PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL Q.
- 9 **QUALIFICATIONS.**
- 10 I graduated from the College of New Jersey in 1994 with a Bachelor of Science A.
- 11 degree in Accounting. I started my career in 1994 at Ernst & Young as a Senior
- 12 Auditor. Subsequently, from 1997-1999, I worked for Duke Energy Global
- Asset Development as a Business Analyst. From 1999-2001, I worked for Duke 13
- 14 Engineering & Services as a Senior Business Analyst. I then joined Duke
- 15 Energy in 2001 and served in various roles, including as Senior Business
- 16 Analyst, Manager of General Accounting, Manager of Emerging Issues, and
- 17 Manager of Tax Accounting. Since 2016, I have worked for DEC as Manager
- 18 of Rates and Regulatory Strategy. As part of my role, I am responsible for
- 19 providing regulatory support and guidance on DEC and Duke Energy Progress,
- 20 LLC's demand-side management ("DSM") and energy efficiency ("EE") cost
- 21 recovery process.
- 22 Q. WHAT ARE YOUR PRESENT RESPONSIBILITIES FOR DEC?

	1	A.	I am res	ponsible for	or providing	regulatory	support	and	guidance	on	DEC's
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- demand-side management ("DSM") and energy efficiency ("EE") cost recovery
- 3 process.
- 4 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS
- 5 **COMMISSION?**
- 6 A. Yes. I have provided testimony in support of the DEC NC DSM/EE Rider,
- 7 most recently in Docket No. E-7, Sub 1230.
- 8 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS
- 9 **PROCEEDING?**
- 10 A. The purpose of my testimony is to explain and support DEC's proposed
- DSM/EE cost recovery rider (Rider 15), including prospective and Experience
- Modification Factor ("EMF") components, and provide information required
- by Commission Rule R8-69.
- 14 Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR
- 15 TESTIMONY.
- 16 A. Miller Exhibit 1 summarizes the individual rider components for which DEC
- 17 requests approval in this filing. Miller Exhibit 2 shows the calculation of
- revenue requirements for each vintage, with separate calculations for non-
- residential DSM and EE programs within each vintage. Miller Exhibit 3
- presents the return calculations for Vintages 2016, 2017, 2018, 2019, 2020,
- 21 2021 and 2022. Miller Exhibit 4 shows the actual and estimated prospective
- amounts collected from customers via Riders 9-14 pertaining to Vintages 2018
- through 2023. Miller Exhibit 5 provides the calculation of the allocation factors

used to allocate system DSM and EE costs to DEC's North Carolina retail
jurisdiction. Miller Exhibit 6 presents the forecasted sales for the rate period
(2024) and the actual and estimated sales related to customers that have opted
out of various vintages. These amounts are used to determine the forecasted
sales to which the Rider 15 amounts will apply. Miller Exhibit 7 is the proposed
tariff sheet for Rider 15.

Q. WERE MILLER EXHIBITS 1-7 PREPARED BY YOU OR AT YOUR B DIRECTION AND SUPERVISION?

9 A. Yes.

A.

II. GENERAL STRUCTURE OF RIDERS

11 Q. PLEASE DESCRIBE THE STRUCTURE OF RIDER 15.

Rider 15 was calculated in accordance with the Company's portfolio of programs and cost recovery mechanism first approved in the Commission's *Order Approving DSM/EE Programs and Stipulation of Settlement*, issued on October 29, 2013 ("the Stipulation"), in Docket No. E-7, Sub 1032 and the cost recovery and incentive Mechanism ("2020 Mechanism" and collectively, the "Mechanisms") approved in the Commission's *Order Approving Revisions to Demand-Side Management and Energy Efficiency Cost Recovery Mechanisms*, issued on October 20, 2020, in Docket Nos. E-2, Sub 931 and E-7, Sub 1032 ("2020 Sub 1032 Order").

The approved cost recovery mechanism is designed to allow DEC to

Portfolio Performance Incentive ("PPI") based on shared savings achieved by DEC's DSM/EE programs and to recover net lost revenues for EE programs only. In addition, per the 2020 Mechanism, as of 2022, the Income-Qualified EE and Weatherization programs are eligible to receive a Program Return Incentive ("PRI") based on shared savings achieved by these programs.

The Company is allowed to recover net lost revenues associated with a particular vintage of an EE measure for the lesser of 36 months or the life of the measure, provided that the recovery of net lost revenues shall cease upon the implementation of new rates in a general rate case to the extent that the new rates are set to recover net lost revenues.

Witness Fields's testimony provides additional information on this matter.

collect revenue equal to its incurred program costs¹ for a rate period plus a

The Company's Mechanisms employ a vintage year concept based on the calendar year.² In each of its annual rider filings, DEC performs an annual true-up process for the prior calendar year vintages. The true-up will reflect actual participation and verified Evaluation, Measurement and Verification ("EM&V") results for completed vintages, applied in the same manner as agreed upon by DEC, the Southern Alliance for Clean Energy, and the Public Staff - North Carolina Utilities Commission, and approved by the Commission in its *Order Approving DSM/EE Rider and Requiring Filing of Proposed*

¹ Program costs are defined under Rule R8-68(b)(1) as all reasonable and prudent expenses expected to be incurred by the electric public utility, during a rate period, for the purpose of adopting and implementing new DSM and EE measures previously approved pursuant to Rule R8-68.

² Each vintage is referred to by the calendar year of its respective rate period (e.g., Vintage 2020).

Customer Notice issued on November 8, 2011, in Docket No. E-7, Sub 979 ("EM&V Agreement"). In accordance with the 2020 Sub 1032 Order, DEC continues to apply EM&V in accordance with the EM&V Agreement.

The Company has implemented deferral accounting for over- and under-recoveries of costs that are eligible for recovery through the annual DSM/EE rider. The balance in the deferral account(s), net of deferred income taxes, may accrue a return at the net-of-tax rate of return rate approved in DEC's most recent general rate case. The methodology used for the calculation of interest is required to be the same as that typically utilized for DEC's Existing DSM Program rider proceedings. Pursuant to Commission Rule R8-69(c)(3), DEC will not accrue a return on net lost revenues or the PPI. Miller Exhibit 3, pages 1 through 22, shows the calculation performed as part of the true-up of Vintage 2016, Vintage 2017, Vintage 2018, Vintage 2019, Vintage 2020, Vintage 2021 and Vintage 2022.

The Company expects that most EM&V will be available in the time frame needed to true-up each vintage in the following calendar year. If any EM&V results for a vintage are not available in time for inclusion in DEC's annual rider filing, however, then the Company will make an appropriate adjustment in the next annual filing.

DEC calculates one integrated (prospective) DSM/EE rider and one integrated DSM/EE EMF rider for the residential class, to be effective each rate period. The integrated residential DSM/EE EMF rider includes all true-ups for each applicable vintage year. Given that qualifying non-residential customers

can opt out of DSM and/or EE programs, DEC calculates separate DSM and EE billing factors for the non-residential class. Additionally, the non-residential DSM and EE EMF billing factors are determined separately for each applicable vintage year, so that the factors can be appropriately charged to non-residential customers based on their opt-in/out status and participation for each vintage year.

Q. WHAT ARE THE COMPONENTS OF RIDER 15?

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The prospective components of Rider 15 include: (1) a prospective Vintage 2024 component designed to collect program costs and the PPI for DEC's 2024 vintage of DSM programs; (2) a prospective Vintage 2024 component to collect program costs, PPI, PRI, and the first year of net lost revenues for DEC's 2024 vintage of EE programs; (3) a prospective Vintage 2023 component designed to collect the second year of estimated net lost revenues for DEC's 2023 vintage of EE programs; (4) a prospective Vintage 2022 component designed to collect the third year of estimated net lost revenues for DEC's 2022 vintage of EE programs; and (5) a prospective Vintage 2021 component designed to collect the fourth year of estimated lost revenues for DEC's 2021 vintage of EE programs. The EMF components of Rider 15 include: (1) a true-up of Vintages 2016 and 2017 PPI and participation for the MyHER program based on additional EM&V results received; (2) a true-up of Vintage 2018 lost revenues, PPI and participation for DSM/EE programs based on additional EM&V results received; (3) a true-up of Vintage 2019 lost revenues, PPI and participation for DSM/EE programs based on additional EM&V results received; (4) a true-up

1	of Vintage 2020 lost revenues, PPI and participation for DSM/EE programs
2	based on additional EM&V results received; (5) a true-up of Vintage 2021 lost
3	revenues, PPI and participation for DSM/EE programs based on additional
4	EM&V results received; and (6) a true-up of Vintage 2022 lost revenues,
5	program costs, PPI and PRI for DSM/EE programs.

6 Q. HOW DOES DEC CALCULATE THE PROPOSED BILLING

FACTORS?

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The billing factor for residential customers is computed by dividing the combined revenue requirements for DSM and EE programs by the forecasted sales for the rate period. For non-residential rates, the billing factors are computed by dividing the revenue requirements for DSM and EE programs separately by forecasted sales for the rate period. The forecasted sales exclude the estimated sales to customers who have elected to opt out of Rider EE. Because non-residential customers are allowed to opt out of DSM and/or EE programs separately in an annual election, non-residential billing factors are computed separately for each vintage.

III. COST ALLOCATION METHODOLOGY

- 18 Q. HOW DOES DEC ALLOCATE REVENUE REQUIREMENTS TO THE
 19 NORTH CAROLINA RETAIL JURISDICTION AND TO THE
 20 RESIDENTIAL AND NON-RESIDENTIAL RATE CLASSES?
- A. The Company allocates the revenue requirements related to program costs and incentives for EE programs targeted at retail residential customers across North Carolina and South Carolina to its North Carolina retail jurisdiction based on

the ratio of North Carolina retail kWh sales (grossed up for line losses) to total retail kWh sales (grossed up for line losses), and then recovers them only from North Carolina residential customers. The revenue requirements related to EE programs targeted at retail non-residential customers across North Carolina and South Carolina are allocated to the North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales (grossed up for line losses) to total retail kWh sales (grossed up for line losses), and then recovered from only North Carolina retail non-residential customers. The portion of revenue requirements related to net lost revenues for EE programs is not allocated to the North Carolina retail jurisdiction, but rather is specifically computed based on the kW and kWh savings of North Carolina retail customers.

Historically, the Company has calculated the NC Revenue Requirement for Demand Response programs using both the state allocation factor and a second Residential/Non-Residential allocation factor, based on the percent of peak demand of each customer class. However, beginning with vintage 2022, the Company is calculating the NC Revenue Requirement using only the state allocation and not the Residential/Non-Residential Peak Demand factor (as shown in Fields Exhibit 1, page 7, and reflected in Miller Exhibit 3, pages 20 and 22). This results in a more accurate representation of each customer class bearing the revenue requirement of the demand response programs offered to that class.

The allocation factors used in DSM/EE EMF true-up calculations for each vintage are based on DEC's most recently filed Cost of Service studies at

the time that the Rider EE filing incorporating the initial true-up for each vintage is made. If there are subsequent true-ups for a vintage, DEC will use the same allocation factors as those used in the original DSM/EE EMF true-up calculations.

IV. <u>UTILITY INCENTIVES AND NET LOST REVENUES</u>

6 Q. HOW DOES DEC CALCULATE THE PPI AND PRI?

A.

Pursuant to the Stipulation, DEC calculates the dollar amount of PPI by multiplying the shared savings achieved by the system portfolio of DSM/EE programs by 11.5% prior to 2022. Pursuant to the 2020 Mechanism and related Sub 1032 orders, starting in 2022, this percentage is lowered to 10.6%. In addition, as discussed above, Income-Qualified EE and Weatherization programs are eligible to receive a PRI.

Company witness Fields further describes the specifics of the PPI and PRI calculations in his testimony. In addition, Fields Exhibit 1, pages 1 through 7, shows the revised PPI for Vintage 2016, Vintage 2017, Vintage 2018, Vintage 2019, Vintage 2020, Vintage 2021, and Vintage 2022 respectively, based on updated EM&V results, and Fields Exhibit 1, page 8, shows the estimated PPI and PRI by program type and customer class for Vintage 2024. The system amount of PPI and PRI is then allocated to North Carolina retail customer classes to derive customer rates.

Q. HOW DOES DEC CALCULATE THE NET LOST REVENUES FOR THE PROSPECTIVE COMPONENTS OF RIDER EE?

A. For the prospective components of Rider EE, net lost revenues are estimated by multiplying the portion of DEC's tariff rates that represent the recovery of fixed costs by the estimated North Carolina retail kW and kWh reductions applicable to EE programs by rate schedule, and reducing this amount by estimated found revenues. The Company calculates the portion of North Carolina retail tariff rates (including certain riders) representing the recovery of fixed costs by deducting the recovery of fuel and variable operation and maintenance ("O&M") costs from its tariff rates. The lost revenues totals for residential and non-residential customers are then reduced by North Carolina retail found revenues computed using the weighted average lost revenue rates for each customer class. The testimony and exhibits of Company witness Fields provide information on the actual and estimated found revenues which offset lost revenues.

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- 14 Q. HOW DOES DEC CALCULATE THE NET LOST REVENUES FOR
 15 THE EMF COMPONENTS OF RIDER EE?
- A. For the EMF components of Rider EE, DEC calculates the net lost revenues by
 multiplying the portion of its tariff rates that represent the recovery of fixed
 costs by the actual and verified North Carolina retail kW and kWh reductions
 applicable to EE programs by rate schedule, then reducing this amount by actual
 found revenues.
- V. <u>OPT-OUT PROVISIONS</u>
- 22 Q. PLEASE EXPLAIN THE OPT-OUT PROCESS FOR NON-23 RESIDENTIAL CUSTOMERS.

Pursuant to the Commission's Order Granting Waiver, in Part, and Denving Waiver, in Part ("Waiver Order") issued April 6, 2010, in Docket No. E-7, Sub 938 and the Sub 1032 Orders, the Company is allowed to permit qualifying nonresidential customers³ to opt out of the DSM and/or EE portion of Rider EE during annual election periods. If a customer opts into a DSM program (or never opted out), the customer is required to participate for three years in the approved DSM programs and rider. If a customer chooses to participate in an EE program (or never opted out), that customer is required to pay the EE-related program costs, shared savings incentive and the net lost revenues for the corresponding vintage of the programs in which it participated. Customers that opt out of DEC's DSM and/or EE programs remain opted-out unless they choose to opt back in during any of the succeeding annual election periods, which occur from November 1 to December 31 each year, or any of the succeeding annual opt-in periods in March as described below. If a customer participates in any vintage of programs, the customer is subject to all true-up provisions of the approved Rider EE for any vintage in which the customer participates.

DEC provides an additional opportunity for qualifying customers to opt in to DEC's DSM and/or EE programs during the first five business days of March. Customers who choose to begin participating in DEC's EE and DSM programs during the special "opt-in period" during March of each year will be

and any industrial customer account.

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³ Individual commercial customer accounts with annual energy usage of not less than 1,000,000 kWh

1		retroactively billed the applicable Rider EE amounts back to January 1 of the			
2		vintage year, such that they will pay the appropriate Rider EE amounts for the			
3		full rate period.			
4	Q.	DOES DEC ADJUST THE RATE FOR NON-RESIDENTIAL			
5		CUSTOMERS TO ACCOUNT FOR THE IMPACT OF "OPT-OUT"			
6		CUSTOMERS?			
7	A.	Yes. The impact of opt-out results is considered in the development of the Rider			
8		EE billing rates for non-residential customers. Since the revenue requirements			
9		will not be recovered from non-residential customers that opt out of DEC's			
10		programs, the forecasted sales used to compute the rate per kWh for non-			
11		residential rates exclude sales to customers that have opted out of the vintage to			
12		which the rate applies. This adjustment is shown on Miller Exhibit 6.			
13		VI. PROSPECTIVE COMPONENTS			
14	Q.	WHAT IS THE RATE PERIOD FOR THE PROSPECTIVE			
15		COMPONENTS OF RIDER 15?			
16	A.	In accordance with the Commission's Order on Motions for Reconsideration			
17		issued on June 3, 2010, in Docket No. E-7, Sub 938 ("Second Waiver Order")			
18		and the 2020 Mechanism, DEC has calculated the prospective components of			
19		Rider 15 using the rate period January 1, 2024 through December 31, 2024.			
20	Q.	PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE			
21		REQUIREMENTS RELATING TO VINTAGE 2021.			
22	A.	The Company determines the estimated revenue requirements for Vintage 2021			

separately for residential and non-residential customer classes and bases them

1	on the fourth year of net lost revenues for its Vintage 2021 EE programs. The
2	amounts are based on estimated North Carolina retail kW and kWh reductions
3	and DEC's rates approved in its most recent general rate case, which became
4	effective June 1, 2021, adjusted as described above to recover only the fixed
5	cost component.

Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENTS RELATING TO VINTAGE 2022.

A. The Company determines the estimated revenue requirements for Vintage 2022 separately for residential and non-residential customer classes and bases them on the third year of net lost revenues for its Vintage 2022 EE programs. The amounts are based on estimated North Carolina retail kW and kWh reductions and DEC's rates approved in its most recent general rate case, which became effective June 1, 2021, adjusted as described above to recover only the fixed cost component.

15 Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE 16 REQUIREMENTS RELATING TO VINTAGE 2023.

A. The Company determines the estimated revenue requirements for Vintage 2023 separately for residential and non-residential customer classes and bases them on the second year of net lost revenues for its Vintage 2023 EE programs. The amounts are based on estimated North Carolina retail kW and kWh reductions and DEC's rates approved in its most recent general rate case, which became effective June 1, 2021, adjusted as described above to only recover the fixed cost component.

Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENTS RELATING TO VINTAGE 2024.

A. The estimated revenue requirements for Vintage 2024 EE programs include program costs, PPI, PRI and the first year of net lost revenues determined separately for residential and non-residential customer classes. The estimated revenue requirements for Vintage 2024 DSM programs include program costs and PPI. The program costs and shared savings incentive are computed at the system level and allocated to North Carolina based on the allocation methodologies discussed earlier in my testimony. The amounts are based on estimated North Carolina retail kW and kWh reductions and DEC's rates approved in its most recent general rate case, which became effective June 1, 2021, adjusted as described above to only recover the fixed cost component.

13 VII. <u>EMF</u>

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14 Q. WHAT IS THE TEST PERIOD FOR THE EMF COMPONENT?

Pursuant to the Second Waiver Order and the Stipulation, the test period for the EMF component is defined as the most recently completed vintage year at the time of DEC's Rider EE cost recovery application filing date, which in this case is Vintage 2022 (January 1, 2022 through December 31, 2022). In addition, the Second Waiver Order allows the EMF component to cover multiple test periods, so the EMF component for Rider 15 includes Vintage 2016 (January 2016 through December 2016), Vintage 2017 (January 2017 through December 2017), Vintage 2018 (January 2018 through December 2018), Vintage 2019 (January 2019 through December 2019), Vintage 2020 (January 2020 through

December 2020) and Vintage 2021 (January 2021 through December 2021) as well.

Q. WHAT IS BEING TRUED UP FOR VINTAGE 2022?

A. The chart below demonstrates which components of the Vintage 2022 estimate filed in 2021 are being trued up in the Vintage 2021 EMF component of Rider 15. Miller Exhibit 2, page 5 contains the calculation of the true-up for Vintage 2022. The second year of net lost revenues for Vintage 2022, which are a component of Rider 14 billings during 2023, will be trued up to actual amounts during the next rider filing.

	Vintage 2022 Estimate (2022) As Filed (Filed 2021)	Vintage 2022 True-Up (2022) (Filed February 2023)
	Rider 13	Rider 15 EMF
Participation	Estimated participation using	Update for actual participation for
_	half-year convention	January 2022 – December 2022
EM&V	Initial assumptions of load	Updated according to
	impacts	Commission-approved EM&V
		Agreement
Lost	Estimated 2022 participation	Update for actual participation for
Revenues	using half-year convention	January 2022 – December 2022
		and actual 2022 lost revenue rates
Found	Estimated according to	Update for actual according to
Revenues	Commission-approved	Commission-approved guidelines
	guidelines	
New	Only includes programs	Update for any new programs and
Programs	approved prior to estimated	pilots approved and implemented
	filing	since estimated filing

In addition, DEC has implemented deferral accounting for the under/over collection of program costs and calculated a return at the net-of-tax rate of return rate approved in DEC's most recent general rate case. The methodology used for the calculation of return is the same as that typically

- 1 utilized for DEC's Existing DSM Program rider proceedings. Pursuant to 2 Commission Rule R8-69(c)(3), DEC is not accruing a return on net lost 3 revenues or the PPI. Please see Miller Exhibit 3, pages 1 through 22 for the calculation performed as part of the true-up of Vintage 2016, Vintage 2017, 4 5 Vintage 2018, Vintage 2019, Vintage 2020, Vintage 2021 and Vintage 2022.
- 6 Q. HOW WERE THE LOAD IMPACTS UPDATED?
- 7 For DSM programs, the contracted amounts of kW reduction capability from A. 8 participants are considered to be components of actual participation. As a 9 result, the Vintage 2022 true-up reflects the actual quantity of demand reduction 10 capability for the Vintage 2022 period. The load impacts for EE programs were updated in accordance with the Commission-approved EM&V Agreement. 11
- 12 HOW WERE ACTUAL NET LOST REVENUES COMPUTED FOR Q. 13 THE VINTAGE 2022 TRUE-UP?
 - A. Net lost revenues for year one (2022) of Vintage 2022 were calculated using actual kW and kWh savings by North Carolina retail participants by customer class based on actual participation and load impacts reflecting EM&V results applied according to the EM&V Agreement. The actual kW and kWh savings were as experienced during the period January 1, 2022 through December 31, 2022. The rates applied to the kW and kWh savings are the retail rates that were in effect for the period January 1, 2022 through December 31, 2022, reduced by fuel and other variable costs. The lost revenues were then offset by actual found revenues for year one of Vintage 2022 as explained by Company

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- witness Fields. The calculation of net lost revenues was performed by rate
- 2 schedule within the residential and non-residential customer classes.

3 Q. WHAT IS BEING TRUED UP FOR VINTAGE 2021?

- 4 A. Avoided costs for Vintage 2021 DSM programs are being trued up to update
- 5 EM&V participation results. Avoided costs for Vintage 2021 EE programs are
- also being trued up based on updated EM&V results. The actual kW and kWh
- savings were as experienced during the period January 1, 2021 through
- 8 December 31, 2021. The rates applied to the kW and kWh savings are the retail
- 9 rates that were in effect during each period the lost revenues were earned,
- reduced by fuel and other variable costs.

11 Q. WHAT IS BEING TRUED UP FOR VINTAGE 2020?

- 12 A. Net lost revenues for all years were trued up for updated EM&V results. The
- actual kW and kWh savings were as experienced during the period January 1,
- 14 2020 through December 31, 2020. The rates applied to the kW and kWh
- savings are the retail rates that were in effect during each period the lost
- revenues were earned, reduced by fuel and other variable costs.

17 Q. WHAT IS BEING TRUED UP FOR VINTAGE 2019?

- 18 A. Net lost revenues for all years were trued up for updated EM&V results. The
- 19 actual kW and kWh savings were as experienced during the period January 1,
- 20 2019 through December 31, 2019. The rates applied to the kW and kWh
- 21 savings are the retail rates that were in effect during each period the lost
- revenues were earned, reduced by fuel and other variable costs.

23 Q. WHAT IS BEING TRUED UP FOR VINTAGE 2018?

- A. Net lost revenues for all years were trued up for updated EM&V results. The actual kW and kWh savings were as experienced during the period January 1, 2018 through December 31, 2018. The rates applied to the kW and kWh savings are the retail rates that were in effect during each period the lost revenues were earned, reduced by fuel and other variable costs.
- 6 Q. WHAT IS BEING TRUED UP FOR VINTAGE YEARS 2016 AND 2017?
- A. Avoided costs, specifically the incentive earned for Vintage 2016 and Vintage 2017 related to the MyHER program, were trued up for updated EM&V results.

9 VIII. <u>PROPOSED RATES</u>

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- 10 Q. WHAT ARE THE PROPOSED INITIAL BILLING FACTORS

 11 APPLICABLE TO NORTH CAROLINA ELECTRIC CUSTOMERS

 12 FOR THE PROSPECTIVE COMPONENTS OF RIDER 15?
 - A. The Company's proposed initial billing factor for the Rider 15 prospective components is 0.4320 cents per kWh for DEC's North Carolina retail residential customers. For non-residential customers, the amounts differ depending upon customer elections of participation. The following chart depicts the options and rider amounts:

Non-Residential Billing Factors for Rider 15 Prospective Components	¢/kWh
Vintage 2021 EE participant	0.0313
Vintage 2022 EE participant	0.0468
Vintage 2023 EE participant	0.0802
Vintage 2024 EE participant	0.3869
Vintage 2024 DSM participant	0.0897

1 Q. WHAT ARE DEC'S PROPOSED EMF BILLING FACTORS

2 APPLICABLE TO NORTH CAROLINA ELECTRIC CUSTOMERS

FOR THE TRUE-UP COMPONENTS OF RIDER 15?

A. The Company's proposed EMF billing factor for the true-up components of
Rider 15 is (0.0503) cents per kWh for DEC's North Carolina retail residential
customers. For non-residential customers, the amounts differ depending upon
customer elections of participation. The following chart depicts the options and
rider amounts:

Non-Residential Billing Factors for Rider 15 EMF Components	¢/kWh
Vintage 2018 EE participant	(0.0001)
Vintage 2018 DSM participant	0.0000
Vintage 2019 EE participant	(0.0014)
Vintage 2019 DSM participant	(0.0001)
Vintage 2020 EE Participant	(0.0068)
Vintage 2020 DSM Participant	0.0002
Vintage 2021 EE Participant	(0.0082)
Vintage 2021 DSM Participant	(0.0073)
Vintage 2022 EE Participant	(0.1732)
Vintage 2022 DSM Participant	(0.0017)

9 IX. <u>CONCLUSION</u>

10 Q. PLEASE SUMMARIZE THE SPECIFIC RATE MAKING APPROVAL 11 REQUESTED BY DEC.

- 1 A. DEC seeks approval of the Rider 15 billing factors to be effective throughout 2 2024. As discussed above, Rider 15 contains (1) a prospective component, 3 which includes the fourth year of net lost revenues for non-residential Vintage 4 2021, the third year of net lost revenues for Vintage 2022, the second year of 5 net lost revenues for Vintage 2023, and the revenue requirements for Vintage 6 2024; and (2) an EMF component which represents a true-up of Vintage 2016, 7 Vintage 2017, Vintage 2018, Vintage 2019, Vintage 2020, Vintage 2021 and 8 Vintage 2022. Consistent with the Stipulation, for DEC's North Carolina 9 residential customers, the Company calculated one integrated prospective 10 billing factor and one integrated EMF billing factor for Rider 15. Also in 11 accordance with the Stipulation, the non-residential DSM and EE billing factors 12 have been determined separately for each vintage year and will be charged to 13 non-residential customers based on their opt-in/out status and participation for 14 each vintage year.
- 15 DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY? 0.
- 16 A. Yes.

STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. E-7, SUB 1285

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

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. Gen. Stat. § 62-133.9 and Commission Rule R8-69

SUPPLEMENTAL DIRECT TESTIMONY OF CAROLYN T. MILLER FOR DUKE ENERGY CAROLINAS, LLC

1 I. INTRODUCTION AND PURPOSE

- 2 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.
- 3 A. My name is Carolyn T. Miller, and my business address is 526 South Church Street,
- 4 Charlotte, North Carolina 28202. I work for Duke Energy Carolinas, LLC ("DEC")
- 5 as the Manager of Rates and Regulatory Strategy.
- 6 Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND
- 7 PROFESSIONAL EXPERIENCE.
- 8 A. I graduated from The College of New Jersey in 1994 with a Bachelor of Science
- 9 degree in Accounting. I started my career in 1994 at Ernst & Young as a Senior
- Auditor. Subsequently, from 1997-1999, I worked for Duke Energy Global Asset
- Development as a Business Analyst. From 1999-2001, I worked for Duke
- Engineering & Services as a Senior Business Analyst. I then joined Duke Energy
- in 2001 and served in various roles, including as Senior Business Analyst, Manager
- of General Accounting, Manager of Emerging Issues, and Manager of Tax
- Accounting. Since 2016, I have worked for DEC as Manager of Rates and
- Regulatory Strategy. As part of my role, I am responsible for providing regulatory
- support and guidance on DEC and Duke Energy Progress, LLC's demand-side
- management ("DSM") and energy efficiency ("EE") cost recovery process.
- 19 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?
- 20 A. Yes. I have provided testimony in support of the DEC NC DSM/EE Rider, most
- 21 recently in Docket No. E-7 Sub 1230.
- 22 Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS
- 23 **PROCEEDING?**

1	A.	No, I did not. Shannon R. Listebarger is no longer with the Company; therefore, I
2		am adopting her direct testimony and exhibits.

- 3 Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT
- 4 TESTIMONY IN THIS PROCEEDING?
- 5 A. The purpose of my supplemental testimony is to adopt Witness Listebarger's direct
- 6 testimony and address three corrections to the same.
- 7 Q. ARE YOU INCLUDING ANY EXHIBITS WITH YOUR SUPPLEMENTAL
- 8 **DIRECT TESTIMONY?**
- 9 A. Yes. I am including Revised Miller Exhibits 1, 2, and 3 which, as described below,
- include certain corrections to Listebarger Exhibits 1, 2 and 3.
- 11 Q. WERE THESE EXHIBITS PREPARED BY YOU OR AT YOUR
- 12 **DIRECTION?**
- 13 A. Yes.
- 14 II. <u>CORRECTIONS TO DIRECT TESTIMONY</u>
- 15 Q. PLEASE DESCRIBE THE CORRECTIONS TO WITNESS
- 16 LISTEBARGER'S DIRECT TESTIMONY.
- 17 A. Following the submission of Witness Listebarger's pre-filed direct testimony and
- exhibits, in the course of our comprehensive review and audit of prior year vintages
- and during the discovery process, a few minor corrections were identified that
- would impact the proposed residential and non-residential revenue requirement and
- 21 billing factors.
- The first correction pertains to the Vintage Years 2016 and 2017 true-up, in
- which a true-up of lost revenues related to the My Home Energy Report Program

was inadvertently excluded from the true-up and estimated return calculation amounts reflected in Listebarger Exhibit 1 and Listebarger Exhibit 3, pages 1 and 2. Revised Miller Exhibits 2 2016, Revised Miller Exhibit 2 2017 and Revised Miller Exhibit 3, pages 1 and 2 reflect the correction made to include the appropriate lost revenue true-up and associated interest impacts.

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The second correction pertains to various components of the interest calculation for Vintages 2018, 2019, 2020 and 2021, which were reflected in Listebarger Exhibit 2 (pages 1 through 4) and Listebarger Exhibit 3 (pages 3 through 14 and 17 through 18).

The third correction relates to various program cost adjustments made in conjunction with the program cost audit. These adjustments are outlined in the Supplemental Direct Testimony of Company Witness Casey Q. Fields. The impact of these updates is reflected in Revised Miller Exhibit 2, page 5 and Revised Miller Exhibit 3, pages 19 through 22.

15 Q. HAS DEC COMMUNICATED THESE CORRECTIONS TO THE PUBLIC 16 STAFF?

- 17 A. Yes, DEC communicated these to the Public Staff prior to filing these corrections.
- 18 Q. HOW DOES THE COMPANY PROPOSE TO ADDRESS THE IMPACT OF
 19 THESE PROPOSED CHANGES TO CUSTOMER RATES?
- A. The Company proposes that the changes associated with Vintages Years 2016 and 2017, as well as the program cost adjustments associated with Vintage 2022 be reflected in rates effective January 1, 2024. The interest calculation corrections associated with Vintages 2018, 2019, 2020 and 2021 are varied in nature and result

- in both increases and decreases to rates. Given the relatively small magnitude of
 the necessary adjustments to the prior vintages, rather than incurring the cost and
 administrative inefficiencies associated with renotification, the Company will
 address the interest calculation corrections as part of the prior vintage reconciliation
 in next year's annual DSM/EE Rider filing.
- Q. WHAT IS THE IMPACT OF THESE UPDATES ON THE PROPOSED
 DSM/EE RESIDENTIAL REVENUE REQUIREMENT AND BILLING
 FACTORS?
- 9 A. The impact of the proposed updates is an overall reduction to the proposed residential revenue requirement of approximately \$975,718 with a corresponding decrease to the billing factor of (\$0.0042) cents per kWh as noted in the table below.

Residential Billing Factors	Supplemental ¢/kWh	Direct ¢/kWh	Variance ¢/kWh
Rider 15 Prospective Components	0.4320	0.4320	0.0000
Rider 15 EMF Components	(0.0545)	(0.0503)	(0.0042)

12 Q. WHAT IS THE IMPACT OF THESE UPDATES ON THE PROPOSED

13 DSM/EE NON-RESIDENTIAL REVENUE REQUIREMENT AND

14 BILLING FACTORS?

15 A. The impact of the updates to program costs for Vintage 2022 is a reduction to the
16 proposed non-residential revenue requirements of approximately \$327,533. The
17 table below shows the change in the proposed non-residential billing factor for
18 Rider 15 EMF components. The non-residential billing factors for Rider 15
19 prospective components were not impacted by the updates.

Non-Residential Billing Factors	Supplemental	Direct	Variance
for Rider 15 EMF Components	¢/kWh	¢/kWh	¢/kWh
Vintage 2018 EE Participant	(0.0001)	(0.0001)	0.0000

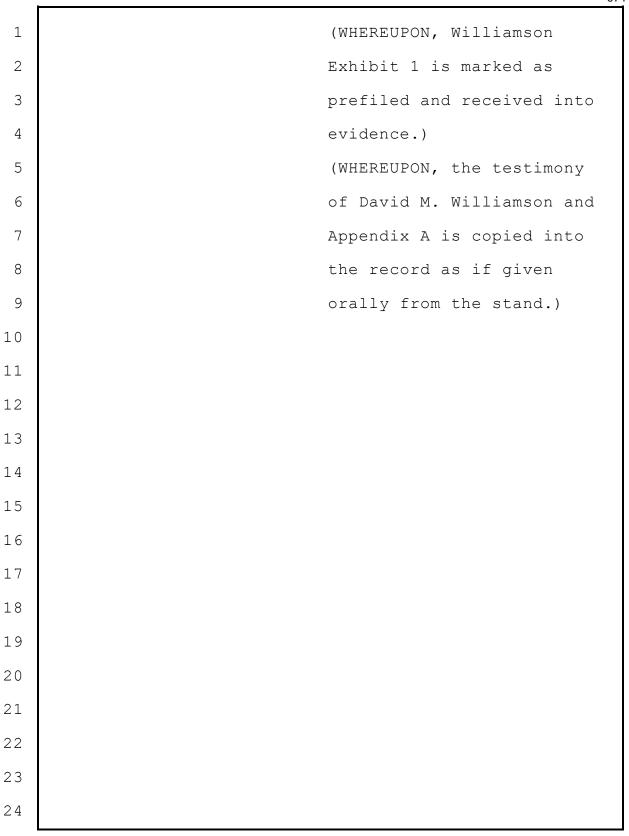
Vintage 2018 DSM Participant	0.0000	0.0000	0.0000
Vintage 2019 EE Participant	(0.0014)	(0.0014)	0.0000
Vintage 2019 DSM Participant	(0.0001)	(0.0001)	0.0000
Vintage 2020 EE Participant	(0.0068)	(0.0068)	0.0000
Vintage 2020 DSM Participant	0.0002	0.0002	0.0000
Vintage 2021 EE Participant	(0.0082)	(0.0082)	0.0000
Vintage 2021 DSM Participant	(0.0073)	(0.0073)	0.0000
Vintage 2022 EE Participant	(0.1746)	(0.1732)	(0.0014)
Vintage 2022 DSM Participant	(0.0023)	(0.0017)	(0.0006)

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2 DOES THIS CONCLUDE YOUR PRE-FILED SUPPLEMENTAL DIRECT Q.

3 **TESTIMONY?**

Yes. 4 A.



BEFORE THE NORTH CAROLINA UTILITIES COMMISSION DOCKET NO. E-7, SUB 1285

)	TESTIMONY OF
)	DAVID M. WILLIAMSON
)	PUBLIC STAFF -
)	NORTH CAROLINA
)	UTILITIES COMMISSION
)	
))))

1	Q.	Please	state	your	name,	business	address,	and	present
2		position	۱.						

- A. My name is David M. Williamson. My business address is 430 North
 Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am a
 Utilities Engineer with the Energy Division of the Public Staff North
 Carolina 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 Α. The purpose of my testimony is to present the Public Staff's analysis 11 and recommendations with respect to Duke Energy Carolinas, LLC's 12 (DEC or the Company) application for approval of its demand-side 13 management (DSM) and energy efficiency (EE) cost recovery rider 14 for Vintage Year 2024 (Rider 15), as well as the testimony and 15 exhibits of DEC witnesses Casey Q. Fields and Shannon R. 16 Listebarger filed on February 28, 2023; the corrected exhibits of 17 Casey Q. Fields filed on March 7, 2023; and the supplemental testimony and exhibits of Casey Q. Fields and Carolyn T. Miller filed 18 19 on April 28, 2023.
 - My testimony discusses: (1) the portfolio of DSM/EE programs included in the proposed Rider 15, including modifications to those programs; (2) the ongoing cost-effectiveness and performance of

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1		each DSM/EE program; and (3) the evaluation, measurement, and
2		verification (EM&V) studies filed as Exhibits A through I to the
3		testimony of Company witness Fields. ¹
4	Q.	What documents have you reviewed in your investigation of
5		DEC's proposed Rider 15?
6	A.	I reviewed the application, supporting testimony and exhibits, and
7		DEC's responses to Public Staff data requests. In addition,
8		reviewed the following documents, which are pertinent to Rider 15:
9		The Cost Recovery and Incentive Mechanism for Demand-Side
10		Management and Energy Efficiency Programs approved or
11		August 23, 2017, in the Commission's Order Approving DSM/EE
12		Rider, Revising DSM/EE Mechanism, and Requiring Filing o
13		Proposed Customer Notice, in Docket No. E-7, Sub 1032 (2017
14		Mechanism);
15		2. The Cost Recovery and Incentive Mechanism for Demand-Side
16		Management and Energy Efficiency Programs approved or
17		October 20, 2020, in the Commission's Order Approving
18		Revisions to Demand-Side Management and Energy Efficiency
19		Cost Recovery Mechanisms, in Docket Nos. E-2, Sub 931, and

E-7, Sub 1032 (2020 Mechanism); and

¹ The Company filed Fields Exhibit J as an EM&V report, but Fields Exhibit J is an informational report to study low- and moderate-income penetration within the Company's DSM/EE portfolio. Fields Exhibit J does not propose changes to the savings that will be incorporated in the Company's filing.

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1		3. The modification to subsection 20 of the 2020 Mechanism to
2		include language on the Reserve Margin Adjustment Factor,
3		approved by the Commission in Docket No. E-7, Sub 1265, on
4		December 12, 2022.
5	Q.	Please summarize your recommendations.
6	A.	The Public Staff makes the following recommendations:
7		1. That, with the exception of Fields Exhibit F, the EM&V reports
8		filed by DEC as Fields Exhibits A through I be accepted; and
9		2. That the EM&V report filed as Fields Exhibit F be held open
10		until the next rider proceeding.
11	Q.	Are you providing any exhibits with your testimony?
12	A.	Yes, I am. Williamson Exhibit 1 is an updated Fields Exhibit 7 to
13		reflect the corrected cost-effectiveness scores for each program
14		within the portfolio.
15	Q.	For which programs is DEC seeking cost recovery through the
16		DSM/EE rider in this proceeding?
17	A.	In its proposed Rider 15, DEC is seeking recovery of the costs and
18		incentives associated with the following programs:
19		Energy Assessment;
20		EE Education;

Devices;

1	•	Residential Smart \$aver® EE (formerly the HVAC EE
2		Program);
3	•	Multi-Family EE;
4	•	My Home Energy Report (MyHER);
5	•	Residential Neighborhood Energy Saver (formerly Income-
6		Qualified Energy Efficiency and Weatherization Assistance);
7	•	Residential New Construction;
8	•	Power Manager;
9	•	Nonresidential Smart \$aver® Energy Efficient Products and
10		Assessments Program:
11		 Energy Efficiency Food Service Products;
12		 Energy Efficiency HVAC Products;
13		o Energy Efficiency IT Products;
14		 Energy Efficiency Lighting Products;
15		o Energy Efficiency Process Equipment Products;
16		 Energy Efficiency Pumps and Drives;
17		 Custom Incentive and Energy Assessments;
18	•	PowerShare®;
19	•	Small Business Energy Saver;
20	•	EnergyWise for Business; and
21	•	Nonresidential Smart \$aver® Performance Incentive.

Cost Effectiveness

Q. How is the cost-effectiveness of DEC's DSM/EE programs
evaluated?

A. The cost-effectiveness of a program is determined by determining a ratio of the benefits versus the costs of the program. The cost-effectiveness of each DSM/EE program is reviewed when it is proposed for approval and then annually in the rider proceedings. Pursuant to the 2020 Mechanism, cost-effectiveness is evaluated at both the program and portfolio levels. Cost-effectiveness is reviewed using the Utility Cost (UC), Total Resource Cost (TRC), Participant, and Ratepayer Impact Measure (RIM) tests. Under each of these four tests, a result above 1.0 indicates that the benefits of the program outweigh the costs² so that the program is cost effective. It is possible for a program's score to exceed 1.0 on one or more tests, while still falling below 1.0 on other tests. While the 2017 Mechanism used the TRC and UC tests to evaluate initial and ongoing cost-effectiveness, the 2020 Mechanism uses the UC test only.

The TRC test represents the combined utility and participant benefits that will result from implementation of the program, with a result greater than 1.0 indicating that the benefits outweigh the costs of a

² Each test uses different costs and benefits in calculating the cost-effectiveness score.

program to both the utility and the program's participants. A UC test result greater than 1.0 means that the program is cost beneficial³ to the utility (the overall system benefits are greater than the utility's costs incurred to offer the program, including incentives paid to participants). The Participant test is used to evaluate the benefits against the costs specific to those ratepayers who participate in a program. The RIM test is used to understand how the rates of customers who do not participate in a program will be impacted by the program (but without consideration of what future rates would have been otherwise).

11 Q. How is cost-effectiveness evaluated in DSM/EE rider 12 proceedings?

A. In each DSM/EE rider proceeding, DEC files the projected costeffectiveness of each program and for the portfolio as a whole for the
upcoming rate period (Fields Exhibit 7). These projections are an
evaluation of the costs and benefits associated with each test. The
evaluations in DSM/EE rider proceedings look at the actual
performance of a typical measure, providing an indication of what to

³ "Cost beneficial" in this sense represents the net benefit achieved by avoiding the need to construct additional generation, transmission, and distribution facilities related to providing electric utility service, or avoiding energy generation from existing or new facilities or purchased power.

expect over the next year. Each year's rider filing is updated with the
most current EM&V data and other program performance data.

3 Q. How does the Public Staff review cost-effectiveness in each 4 rider?

Α.

The Public Staff compares the cost-effectiveness test projections from previous DSM/EE proceedings to the current filing and develops a trend of cost-effectiveness projections that serves as the basis for the Public Staff's recommendation on whether a program should: (1) continue as currently implemented; (2) be monitored for further decreases in cost-effectiveness along with any Company efforts to improve cost-effectiveness; or (3) be terminated. While each DSM/EE rider proceeding provides a snapshot of the cost-effectiveness and performance of the programs and portfolio, the Public Staff does not rely on one specific calculation to evaluate program performance. The trends provide a clearer understanding of how changes in participation, avoided cost inputs, marketing and education about DSM/EE matters, and customer behaviors and preferences impact overall program performance.

Program design and delivery may need to be modified to address changes in cost-effectiveness. For example, incentive levels may need to be increased or decreased to maintain overall cost-effectiveness. Changes in the avoided cost inputs may increase or

1	decrease cost-effectiveness because of the changes to the value of
2	energy savings benefits realized from the portfolio. In either case, the
3	trends in cost-effectiveness over time are more telling of overall
4	performance. As long as programs are reasonably forecasted to
5	produce cost-effective savings, the Public Staff generally supports
6	their approval and inclusion in the DSM/EE rider.

7 Q. How are the benefits determined in a cost-effectiveness 8 evaluation?

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- A. The benefits associated with a program's cost-effectiveness are generated by applying the applicable avoided cost rates to the savings generated by the program during a specified vintage year.

 Additionally, the avoided costs that are used in a proceeding for the upcoming rate period determine how the cost-effectiveness, Portfolio Performance Incentive (PPI), and Program Return Incentive (PRI) will be calculated.
- Q. What avoided costs should be used as the basis for determining
 cost-effectiveness for Vintage Year 2024?
- A. For purposes of determining cost-effectiveness in Vintage Year 2024,
 the applicable avoided cost sourcing that complies with paragraph
 77 of the 2020 Mechanism is the rates approved in the Biennial
 Determination of Avoided Cost Rates for Electric Utility Purchases

1		from Qualifying Facilities issued on November 22, 2022, in Docket
2		No. E-100, Sub 175 (Sub 175).
3	Q.	Did the Company apply the correct avoided cost determination
4		for Vintage Year 2024 in its initial filing in this proceeding?
5	A.	No. In response to discovery, the Company explained that it did not
6		apply the correct avoided cost methodology to the supporting files
7		that would determine projected cost-effectiveness and the
8		associated PPI and PRI.
9		However, the Company and Public Staff have worked together to
10		assess what the impacts would be if the correct avoided cost sources
11		were applied, and the results showed that the impacts were minimal
12		because of the nearly-offsetting effects of decreasing avoided
13		capacity rates and increasing avoided energy rates.
14	Q.	Has the Company provided an update to its cost-effectiveness
15		projections as a result of this error?
16	A.	Yes, it has. Williamson Exhibit 1 is an updated Fields Exhibit 7, which

illustrates what the cost-effectiveness projections are forecasted to

be under the Sub 175 avoided costs.

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1	Q.	Do you believe the Company's updated assessment of cost-
2		effectiveness for Vintage Year 2024 is reasonable?
3	A.	Yes, I do. I have reviewed its updated information and believe it to
4		be reasonable.
5		Program Performance
6	Q.	Please discuss the performance of DEC's DSM/EE portfolio.
7	A.	The Company's DSM/EE portfolio offers a wide variety of measures
8		to support the everyday activities of its customers in an energy-
9		efficient manner. The Public Staff's review of program performance
10		involved: (1) reviewing cost-effectiveness trends; (2) reviewing
11		Fields Exhibit 6, which provides specific information on each
12		program's marketing strategy and potential areas of concern; and (3)
13		performing an overall qualitative analysis.
14		The Public Staff also uses its involvement in the Company's bi-
15		monthly EE Collaborative meetings to keep abreast of how the

The Public Staff also uses its involvement in the Company's bimonthly EE Collaborative meetings to keep abreast of how the portfolio of programs is performing. During these meetings, the Collaborative discusses program performance (participation, customer engagement, and potential barriers to entry and continuation of the program), recently completed EM&V and market potential study activities, and potential new program offerings.

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	Bas	ed on the re	eview discusse	d ab	ove, t	he Public Sta	ff believes th	nat
2	the	historical	performance	of	the	Company's	programs	is
3	reas	sonable.						

4 EM&V

5 Q. Have you reviewed the EM&V reports filed by DEC? 6 Α. Yes. The Public Staff contracted the services of GDS Associates, 7 Inc. (GDS) to assist with review of EM&V. With GDS's assistance, I 8 have reviewed the EM&V reports filed in this proceeding as Fields 9 Exhibits A through J. 10 I also reviewed previous Commission orders to determine if DEC 11 complied with provisions regarding EM&V contained in those orders. 12 My review leads me to conclude that the Company is complying with 13 the various Commission orders regarding EM&V of its DSM/EE 14 portfolio. 15 Q. Please elaborate on how much time is required for a program 16 vintage year to have EM&V conducted and incorporated into the 17 DSM/EE rider proceeding.

Depending on where in the cycle of EM&V reports, a vintage year

will need to remain open for accounting adjustments for anywhere

between three to five years. This is to allow for the vintage year to be

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- trued-up to incorporate the updated energy and capacity savings that
 are determined in the various EM&V reports.
- Q. Are there any vintages in this proceeding that are being dealtwith that are in excess of five years?
- Yes, there are. For the residential class, there are true-up components in the EMF that date back to vintage years 2016 and 2017. For the non-residential class, there are true-ups being applied to vintage year 2018.
- Q. Are there any concerns regarding how long vintages are held
 open so that they may be trued up?

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While the Public Staff believes that all programs should have enough time to have EM&V performed, allowing vintages to remain open in excess of five years might make certain non-residential class customers, who have the potential to opt-out, less likely to opt-in if there is a potential for a rate to be charged to them for longer than five years. As part of the upcoming mechanism review that was initiated by the Company on April 27, 2023, in Docket No. E-7, Sub 1032, the Public Staff intends to discuss with interested parties the appropriate length of time for making corrections to previous vintage years, as well as how corrections for a given vintage year will be handled. The Public Staff does not propose any recommendations on these matters in this proceeding.

1 Q. With respect to the findings presented in the EM&V reports in 2 this proceeding, do you have any recommendations regarding the EM&V reports you reviewed? 3 4 Α. Yes, I do. Based on my review and discussions with the Company, 5 additional time is needed for the Public Staff to complete a review of 6 Fields Exhibit F, an EM&V report on the Non-Residential Smart 7 Saver Custom program. The Public Staff is still in the process of 8 reviewing the spillover percentage associated with the non-9 participants. The Company has informed the Public Staff that it does 10 not object to the Public Staff continuing its review and the 11 Commission holding this report open until the Company's next rider 12 proceeding. 13 With respect to Fields Exhibit J, this report was filed as an 14 assessment of the penetration levels of low- to moderate-income 15 customers in the Company's DSM/EE portfolio. This study does not 16 contain recommended changes in the savings of programs that are 17 being trued-up in this proceeding, as it was for informational

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purposes only.

- Q. Should the remaining EM&V reports filed in this proceeding be
 accepted as complete?
- 3 A. Yes, the remaining EM&V reports filed in this proceeding Fields
 4 Exhibits A through E, and G through I should be considered
 5 complete.
- 6 Q. Have you confirmed that the Company's calculations
 7 incorporate the verified savings of the various EM&V reports?

Α.

Yes. As in previous cost recovery proceedings, I was able, through sampling, to verify that the changes to program impacts and participation were appropriately incorporated into the rider calculations for each DSM/EE program, as well as the actual participation and impacts calculated with EM&V data. I reviewed: (1) workpapers provided in response to data requests; (2) a sampling of the EE programs; and (3) Fields Exhibit 1, which incorporates data from various EM&V studies. I also met with DEC personnel to review the calculations, EM&V, DSMore modeling inputs, and other data related to the program/measure participation and impacts. Based on my ongoing review of this data, I believe DEC has appropriately incorporated the findings from EM&V studies and annual participation into its rider calculations consistent with Commission orders and the Mechanisms.

- 1 Q. Does this conclude your testimony?
- 2 A. Yes.

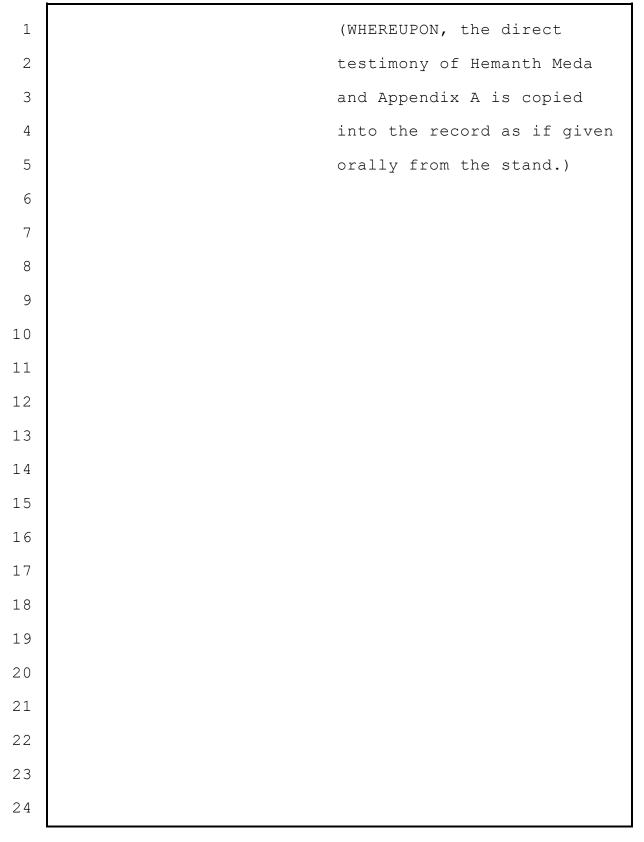
APPENDIX A

QUALIFICATIONS AND EXPERIENCE

DAVID M. WILLIAMSON

I am a 2014 graduate of North Carolina State University with a Bachelor of Science Degree in Electrical Engineering. I began my employment with the Public Staff's Electric Division in March of 2015. In August of 2020, the Electric Division merged with the Natural Gas Division to form the Energy Division, where I am a Utilities Engineer in the Electric Section – Rates and Energy Services. My current responsibilities include reviewing applications and making recommendations for certificates of public convenience and necessity of small power producers, master meters, and resale of electric service. Moreover, my responsibilities include interpreting and applying utility service rules and regulations.

My primary responsibility within the Public Staff is reviewing and making recommendations on DSM/EE filings for initial program approval, program modifications, EM&V evaluations, and on-going program performance related to Electric and Natural Gas Investor-Owned Utilities. I have filed testimony in various Duke Energy Carolinas, Duke Energy Progress, and Dominion Energy North Carolina DSM/EE rider proceedings. I have also filed testimony in recent general rate case proceedings for Piedmont and Public Service Natural Gas companies related to the approval and tracking of their portfolio of EE programs.



DOCKET NO. E-7, SUB 1285

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

TESTIMONY OF
HEMANTH MEDA
PUBLIC STAFF –
NORTH CAROLINA
UTILITIES COMMISSION

- Q. Please state your name, business address, and presentposition.
- A. My name is Hemanth Meda, and my business address is 430 North
 Salisbury Street, Raleigh, North Carolina. I am a Public Utility
 Regulatory Analyst with the Accounting Division of the Public Staff –
 North Carolina Utilities Commission. A summary of my education and
- 8 Q. Briefly state your qualifications and duties.

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

qualifications is attached as Appendix A.

10 Q. What is the purpose of your testimony?

11 Α. The purpose of my testimony is to present my review of the 12 application (Application) submitted by Duke Energy Carolinas, LLC 13 (DEC or the Company), regarding the Demand-Side Management 14 (DSM) and Energy Efficiency (EE) cost and incentive recovery rider 15 filed in this docket on February 28, 2023 (DSM/EE Rider), 1 as well 16 as the Company's Correction to Application filed on March 7, 2023, 17 and supplemental direct testimony and exhibits filed on April 28, 18 2023. The DSM/EE Rider is authorized by N.C. Gen. Stat. § 62-133.9 19 and is implemented pursuant to Commission Rule R8-69.

¹ The DSM/EE Rider is comprised of various class-based DSM, EE, DSM Experience Modification Factor (EMF), and EE EMF billing rates.

Q. Please describe the basis for the Company's filing.

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General Statute § 62-133.9(d) allows a utility to petition the Commission for approval of an annual rider to recover: (1) the reasonable and prudent costs of new DSM and EE measures; and (2) other incentives to the utility for adopting and implementing new DSM and EE measures. However, N.C.G.S. § 62-133.9(f) allows industrial and certain large commercial customers to opt out of participating in the power supplier's DSM/EE programs and paying the DSM/EE rider, if each such customer notifies its electric power supplier that it has implemented or will implement, at its own expense, alternative DSM and EE measures. Commission Rule R8-69, which was adopted by the Commission pursuant to N.C.G.S. § 62-133.9(h), sets forth the general parameters and procedures governing approval of the annual rider, including, but not limited to: (1) provisions for both a DSM/EE rider to recover the estimated costs and utility incentives applicable to the "rate period" in which that DSM/EE rider will be in effect and a DSM/EE EMF rider to recover the difference between the DSM/EE rider in effect for a given test period (plus a possible extension) and the actual recoverable amounts incurred during that test period; and (2) provisions for interest or a return on amounts deferred and on refunds to customers.

In this proceeding, DEC has calculated its proposed DSM/EE Rider (incorporating both prospective and EMF DSM and EE billing rates) using, for vintage years prior to 2022, the Cost Recovery and Incentive Mechanism for DSM/EE Programs approved by the Commission in Docket No. E-7, Sub 1032 (Sub 1032), on October 29, 2013, in its Order Approving Revised Cost Recovery and Incentive Mechanism and Granting Waivers, as subsequently revised by the Commission in its August 23, 2017 Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice, issued in the Company's 2017 DSM/EE rider proceeding in Docket No. E-7, Sub 1130 (2017 Mechanism).² For vintage years 2022 and after, the Company utilized a revised mechanism, which was also approved by the Commission on October 20, 2020, in Sub 1032, in its Order Approving Revisions to Demand-Side Management and Energy Efficiency Cost Recovery Mechanisms, and which took effect on January 1, 2022 (2020 Mechanism).

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² Certain billing factor components consisting of costs incurred or incentives earned prior to January 1, 2016, but being carried forward to or amortized as part of the billing factors proposed in this proceeding, were determined pursuant to the Cost Recovery and Incentive Mechanism for Demand-Side Management and Energy Efficiency Programs (Initial Mechanism) approved by the Commission on June 15, 2009, in its Order Approving Agreement and Stipulation of Partial Settlement, Subject to Certain Commission-Required Modifications, in Docket No. E-2, Sub 931, as modified by the Commission's November 25, 2009 Order Granting Motions for Reconsideration in Part, in the same docket.

- 1 The Public Staff detailed the development and major components of 2 the 2017 and 2020 Mechanisms in the testimony of Michael C. 3 Maness in Docket No. E-7, Sub 1249, filed on May 10, 2021. 4 Q. Please describe the billing factors, vintage years, rate period, 5 and test period being considered in this proceeding. 6 Α. In its Application in this proceeding, DEC requested approval of 7 prospective and EMF DSM and EE billing rates that would result in 8 annual North Carolina retail revenue of approximately \$169.5 million. 9 These proposed billing factors are set forth in DEC witness 10 Listebarger Exhibit 1. The factors (rates), as applicable to each class, 11 are proposed by the Company to be charged to all participating North 12 Carolina retail customers (i.e., those that have not opted out pursuant 13 to N.C.G.S. § 62-133.9(f)) served during the rate period. 14 The rate period for this proceeding is the 12-month period from 15
 - The rate period for this proceeding is the 12-month period from January 1, 2024, through December 31, 2024. This is the period over which the prospective DSM and EE billing rates and the DSM and EE EMF billing rates determined in this proceeding will be charged. It is also the period for which the estimated revenue requirements (program costs, net lost revenues (NLR), and Program Performance Incentive (PPI)) to be recovered through the prospective DSM/EE rates are determined.

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The test period applicable to this proceeding is the 12-month period ended December 31, 2022. This is the period for which the under- or over-recovery of DSM/EE revenue requirements, as compared to actual DSM/EE rider revenues, is measured for purposes of determining the DSM and EE EMF billing rates (although Commission Rule R8-69(b) allows the true-up to be extended to cover additional months, subject to review and adjustment in the following year's proceeding). Actual program costs considered for true-up in this proceeding are either costs actually incurred during the test period, or further true-ups or corrections related to previous test periods. For purposes of recovery, actual program costs may be amortized over periods ranging from one to ten years. A return is also calculated on program costs deferred during the test year and on over-recoveries of total revenue requirements after the date the rates change. NLR and PPI reflected in the EMF revenue requirements being set in this proceeding are associated with kilowatt-hours (kWh) and dollar savings achieved during Vintage Year 2022 (which is also the test year), as well as true-ups associated with prior vintage years. The PPI revenue requirement may also be amortized on a levelized basis over several years.

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1	Q.	Please explain the purpose of and corrections in the Company's
2		supplemental filing.

- A. The purpose of the Company's supplemental filing was to correct the

 DSM/EE costs that the Company proposes to recover in this

 proceeding. The corrections include the true-up of NLR, interest rate

 calculations, and removal of costs that were incorrectly coded to the

 DSM/EE program. The North Carolina retail revenue calculated in

 Revised Miller Exhibit 1 is \$168.2 million.
 - The increase in the monthly bill of a residential customer using 1,000 kWh of energy resulting from the revenue requirement increase included in the Company's supplemental filing would be \$0.39 from Rider 14. The change in a non-residential customer's bill would depend on the particular vintage years of DSM and/or EE rates for which the customer is opted out or opted in.

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Q. What are some of the characteristics of DEC's proposed DSM/EE billing factors in this specific proceeding?

The prospective DSM and EE billing rates incorporate several cost recovery elements as estimated for the rate period, including amortizations of operations and maintenance costs, administrative and general (A&G) costs, capital costs, carrying costs (return on deferred costs), NLR, and levelized PPI incentives. The test period true-up DSM and EE EMF billing rates contain test period actual

amounts of the same types of costs and incentives as the prospective rates. The DSM and EE EMF billing rates may also include adjustments to any required return on over- or under-collections of DSM/EE revenues.

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Q. Will there be future true-ups of the DSM/EE revenue requirements?

The finalization of the true-ups of NLR and PPI sometimes lags behind the true-ups of program costs and A&G expenses subject to amortization. This feature of the true-up process is due to the fact that, while cost amounts are typically known and determinable very soon after they are incurred, it can take several months or years to complete the applicable EM&V process and to refine and adjust the cost savings results for a given vintage year so that the final actual incentives payable to the utility can be determined. Therefore, while the cost amounts to be trued up as part of the test period DSM/EE EMF revenue requirement typically correspond very closely to the actual costs incurred during the test period, the test period revenue requirement often contains incentives related to more than one vintage year. Additionally, certain components of the revenue requirements related to prior years will remain subject to prospective update adjustments and retrospective true-ups in the future, as participation and EM&V analyses are finalized, reviewed, and perhaps refined.

Q. Please describe your investigation of DEC's filing.

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The Public Staff's investigation of DEC's filing in this proceeding focused on determining whether the proposed DSM/EE Rider: (1) was calculated in accordance with the 2017 or 2020 Mechanism, as applicable; and (2) otherwise adhered to sound ratemaking concepts and principles. The procedures I, and other members of the Public Staff's Accounting Division acting under my supervision, utilized included a review of the Company's filing, relevant prior Commission proceedings and orders, and workpapers and source documentation used by the Company to develop the proposed billing rates. Performing the investigation required the review of responses to written data requests, as well as discussions with Company personnel. As part of its investigation, the Accounting Division performed a review of the actual DSM/EE program costs incurred by DEC during the 12-month period ended December 31, 2022. To accomplish this, the Accounting Division selected and reviewed samples of source documentation for test year costs included by the Company for recovery through the DSM/EE Rider. Review of this sample is intended to test whether the actual costs included by the Company in the DSM and EE billing rates are either valid costs of approved DSM and EE programs or administrative costs supporting those programs.

The investigation, including the sampling of source documentation, concentrated primarily on costs and incentives related to the January through December 2022 test period, which will begin to be trued up through the DSM and EE EMF billing rates approved in this proceeding. The Public Staff also performed a more general review of the prospective billing rates proposed to be charged for Vintage Year 2024, which are subject to true-up in future proceedings.

8 Q. What is your recommendation in this proceeding?

Α.

Based on the results of the Public Staff's investigation, I recommend that the billing factors proposed by the Company, as set forth in Revised Miller Exhibit 1, be approved by the Commission. These factors should be approved subject to any true-ups in future cost recovery proceedings consistent with the 2017 and 2020 Mechanisms and the Commission orders with which they are associated, as well as other relevant orders of the Commission, including the Commission's final order in this proceeding.

17 Q. Does the Public Staff have any additional comments?

18 A. In accordance with Public Staff witness Shawn L. Dorgan's testimony
19 in DEC's 2022 DSM/EE rider proceeding in Docket No. E-7, Sub
20 1265, the Public Staff undertook a review of DSM/EE advertising and
21 promotion costs, including their relationship to incentives directly or

- indirectly provided to DSM/EE program participants, and believes them to be reasonable in the current proceeding.
- Additionally, while the Public Staff does not take issue with the
 Company's inclusion of a portion of the 2018 corrections in this
 proceeding, the Public Staff has concerns about splitting corrections
 over multiple years and exceeding the EM&V review period in
 correcting previous vintage years. The Public Staff will raise this
 issue with parties during the upcoming mechanism review in Docket
 No. E-7, Sub 1032.
- 10 Q. Does this conclude your testimony?
- 11 A. Yes, it does.

APPENDIX A

QUALIFICATIONS AND EXPERIENCE

HEMANTH MEDA

I graduated from University of Wollongong, Australia with a Master of Professional Accounting degree. I also received Master of Commerce and Bachelor of Commerce degrees from Osmania University, Hyderabad, India.

I am a licensed Certified Public Accountant in the State of North Carolina.

I joined the Public Staff Accounting Division as a Financial Analyst in May 2022. Prior to joining the Public Staff, I was employed as Senior Financial Analyst with Swissport USA. I have over twenty years of progressive experience in accounting and finance across various industries.

Since joining the Public Staff, I have been responsible for: (1) the examination and analysis of testimony, exhibits, books and records, and other data presented by utilities and other parties involved in Commission proceedings; and (2) the preparation and presentation to the Commission of testimony, exhibits, and other documents in those proceedings.

1	COMMISSIONER BROWN-BLAND: All right. So at
2	this time, I'll ask if there are any public witnesses.
3	Have the Public Staff identified any public witnesses?
4	MS. KEYWORTH: No, there are no public
5	witnesses.
6	COMMISSIONER BROWN-BLAND: And just to be
7	clear, In the Matter of the DSM/EE Rider, are there
8	any witnesses in the audience who wish to be heard as
9	a public witness?
10	(No response)
11	COMMISSIONER BROWN-BLAND: Seeing none
12	coming forth, the record will reflect that no public
13	witnesses came forth. All right. And before I go any
14	further, the evidence has already been received.
15	Let's, just for the record, ask if any Commissioners
16	have any questions of anyone?
17	(No response)
18	COMMISSIONER BROWN-BLAND: All right. That
19	being taken cared of, that brings us down to Proposed
20	Orders. Is 30 days from the date of the availability
21	of this transcript sufficient?
22	MS. LUHR: That'll be sufficient for us.
23	Thank you.
24	COMMISSIONER BROWN-BLAND: All right. It'll

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be so ordered. There being nothing else in this case,
 1
     this matter will be adjourned. Thank you.
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                (WHEREUPON, this hearing is adjourned.)
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CERTIFICATE

I, TONJA VINES, DO HEREBY CERTIFY that the proceedings in the above-captioned matter were taken before me, that I did report in stenographic shorthand the Proceedings set forth herein, and the foregoing pages are a true and correct transcription to the best of my ability.

Tonja Vines

Tonja Vines

NORTH CAROLINA UTILITIES COMMISSION