

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-7, SUB 1265

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)

DIRECT TESTIMONY OF
ROBERT P. EVANS
FOR
DUKE ENERGY CAROLINAS, LLC

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Mar 01 2022

I. INTRODUCTION AND PURPOSE

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**
2 **POSITION WITH DUKE ENERGY.**

3 A. My name is Robert P. Evans, and my business address is 410 S. Wilmington
4 Street, Raleigh, North Carolina 27601. I am employed by Duke Energy
5 Corporation ("Duke Energy") as Senior Manager-Strategy and Collaboration
6 for the Carolinas in the Integrated Grid Strategy and Solutions group.

7 **Q. PLEASE BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND**
8 **AND EXPERIENCE.**

9 A. I graduated from Iowa State University ("ISU") in 1978 with a Bachelor of
10 Science Degree in Industrial Administration and a minor in Industrial
11 Engineering. As a part of my undergraduate work, I participated in both the
12 graduate level Regulatory Studies Programs sponsored by American Telephone
13 and Telegraph Corporation, and graduate level study programs in Engineering
14 Economics. Subsequent to my graduation from ISU, I received additional
15 Engineering Economics training at the Colorado School of Mines, completed
16 the National Association of Regulatory Utility Commissioners Regulatory
17 Studies program at Michigan State, and completed the Advanced American Gas
18 Association Ratemaking program at the University of Maryland. Upon
19 graduation from ISU, I joined the Iowa State Commerce Commission (now
20 known as the Iowa Utility Board ("IUB") in the Rates and Tariffs Section of
21 the Utilities Division. During my tenure with the IUB, I held several positions,
22 including Senior Rate Analyst in charge of Utility Rates and Tariffs, and

1 Assistant Director of the Utility Division. In those positions, I provided
2 testimony in gas, electric, water, and telecommunications proceedings as an
3 expert witness in the areas of rate design, service rules, and tariff applications.
4 In 1982, I accepted employment with City Utilities of Springfield, Missouri, as
5 an Operations Analyst. In that capacity, I provided support for rate-related
6 matters associated with the municipal utility's gas, electric, water, and sewer
7 operations. In addition, I worked closely with its load management and energy
8 conservation programs. In 1983, I joined the Rate Services staff of the Iowa
9 Power and Light Company, now known as MidAmerican Energy, as a Rate
10 Engineer. In this position, I was responsible for the preparation of rate-related
11 filings and presented testimony on rate design, service rules, and accounting
12 issues before the IUB. In 1986, I accepted employment with Tennessee-
13 Virginia Energy Corporation (now known as the United Cities Division of
14 Atmos Energy) as Director of Rates and Regulatory Affairs. While in this
15 position, I was responsible for regulatory filings, regulatory relations, and
16 customer billing. In 1987, I went to work for the Virginia State Corporation
17 Commission in the Division of Energy Regulation as a Utilities Specialist. In
18 this capacity, I worked on electric and natural gas issues and provided testimony
19 on cost of service and rate design matters brought before that regulatory body.
20 In 1988, I joined North Carolina Natural Gas Corporation ("NCNG") as its
21 Manager of Rates and Budgets. Subsequently, I was promoted to Director-
22 Statistical Services in NCNG's Planning and Regulatory Compliance
23 Department. In that position, I performed a variety of work associated with

1 financial, regulatory, and statistical analysis and presented testimony on several
2 issues brought before the North Carolina Utilities Commission
3 (“Commission”). I held that position until the closing of NCNG’s merger with
4 Carolina Power and Light Company, the predecessor of Progress Energy, Inc.
5 (“Progress”), on July 15, 1999.

6 From July 1999 through January 2008, I was employed in Principal and
7 Senior Analyst roles by the Progress Energy Service Company, LLC. In these
8 roles, I provided NCNG, Progress Energy Carolinas, Inc. (now Duke Energy
9 Progress, LLC or “DEP”), and Progress Energy Florida, Inc. with rate and
10 regulatory support in their state and federal venues. From 2008 through the
11 merger of Duke Energy and Progress, I provided regulatory support for
12 demand-side management (“DSM”) and energy efficiency (“EE”) programs.
13 Subsequent to the Progress merger with Duke Energy, I obtained my current
14 position.

15 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN MATTERS**
16 **BROUGHT BEFORE THIS COMMISSION?**

17 A. Yes. I have provided testimony to this Commission in matters concerning
18 revenue requirements, avoided costs, cost of service, rate design, and the
19 recovery of costs associated with DSM/EE programs and related accounting
20 matters.

21 **Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?**

1 A. I am responsible for the regulatory support of DSM/EE programs in North
2 Carolina for both Duke Energy Carolinas, LLC (“DEC” or the “Company”) and
3 DEP.

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
5 **PROCEEDING?**

6 A. My testimony supports DEC’s Application for approval of its DSM/EE Cost
7 Recovery Rider, Rider EE, for 2023 (“Rider 14”), which encompasses the
8 Company’s currently effective cost recovery and incentive mechanism
9 (“Mechanism”) and portfolio of programs approved in the Commission’s *Order*
10 *Approving DSM/EE Programs and Stipulation of Settlement* issued October 29,
11 2013, in Docket No. E-7, Sub 1032 and the prospective Mechanism approved
12 in the Commission’s *Order Approving Revisions to Demand-Side Management*
13 *and Energy Efficiency Cost Recovery Mechanisms* issued on October 20, 2020,
14 in Docket Nos. E-2, Sub 931 and E-7, Sub 1032 (“2020 Sub 1032 Order”,
15 collectively, “Sub 1032 Orders”). My testimony provides (1) a discussion of
16 items the Commission specifically directed the Company to address in this
17 proceeding; (2) an overview of the Commission’s Rule R8-69 filing
18 requirements; (3) a synopsis of the DSM/EE programs included in this filing;
19 (4) a discussion of program results; (5) an explanation of how these results have
20 affected the Rider 14 calculations; (6) information on DEC’s Evaluation
21 Measurement & Verification (“EM&V”) activities; (7) an overview of the
22 calculation of the Portfolio Performance Incentive (“PPI”); (8) information
23 relating to the Collaborative; (9) information requested by the Commission

1 about the recruitment of and participation in the Find It Duke (“FID”) referral
2 program by historically disadvantaged businesses; and (10) a discussion
3 relating to the Company’s Reserve Margin Adjustment Factor (“RMAF”).

4 **Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR**
5 **TESTIMONY.**

6 A. Evans Exhibit 1 supplies, for each program, load impacts and avoided cost
7 revenue requirements by vintage. Evans Exhibit 2 contains a summary of net
8 lost revenues for the period January 1, 2019 through December 31, 2023. Evans
9 Exhibit 3 contains the actual program costs for North Carolina for the period
10 January 1, 2019 through December 31, 2021. Evans Exhibit 4 contains the
11 found revenues used in the net lost revenues calculations. Evans Exhibit 5
12 supplies evaluations of event-based programs. Evans Exhibit 6 contains
13 information about and the results of DEC’s programs and a comparison of
14 actual impacts to previous estimates. Evans Exhibit 7 contains the projected
15 program and portfolio cost-effectiveness results for the Company’s current
16 portfolio of programs. Evans Exhibit 8 contains a summary of 2021 program
17 performance and an explanation of the variances between the forecasted
18 program results and the actual results. Evans Exhibit 9 is a list of DEC’s
19 industrial and large commercial customers that have opted out of participation
20 in its DSM or EE programs and a listing of those customers that have elected
21 to opt in to DEC’s DSM or EE programs after having initially notified the
22 Company that they declined to participate, as required by Commission Rule
23 R8-69(d)(2). Evans Exhibit 10 contains the projected shared savings incentive

(PPI) associated with Vintage 2023. Evans Exhibit 11 provides a summary of the estimated activities and timeframe for completion of EM&V by program. Evans Exhibit 12 provides the actual and expected dates when the EM&V for each program or measure will become effective. Evans Exhibit 13 provides a table showing program cost and avoided costs savings for the test period ending December 31, 2021 and for the previous five test periods. Evans Exhibit 14 provides information showing the method used to exclude Find It Duke amounts from the energy efficiency portfolio. Evans Exhibits 15, 16 and 17 provide attachments to the Company's responses to the additional information requested by the Commission in its December 17, 2021 Order in Docket No. E-7, Sub 1265. Evans Exhibit 18 contains revisions, associated with the RMAF, to section 20 of the DEC Cost Recovery Mechanism for the Commission's consideration. Evans Exhibits A through F provide the detailed completed EM&V reports for the following: Low Income Weatherization Program 2016-2018 (Evans Exhibit A); Power Manager 2019 - 2020 (Evans Exhibit B); Online Savings Store Program 2019 (Evans Exhibit C); K12 Education Program 2019-2020 (Evans Exhibit D); Small Business Energy Saver 2019-2020 (Evans Exhibit E); and EnergyWise Business Interim Report 2020 (Evans Exhibit F).

Q. WERE EVANS EXHIBITS 1-18 PREPARED BY YOU OR AT YOUR DIRECTION AND SUPERVISION?

A. Yes, they were.

II. ACTIONS ORDERED BY THE COMMISSION

1 **Q. PLEASE DESCRIBE THE ACTIONS DEC HAS TAKEN IN RESPONSE**
2 **TO THE COMMISSION’S 2021 ORDER IN DEC’S PREVIOUS DSM/EE**
3 **RIDER PROCEEDING.**

4 A. My direct testimony addresses the Company’s responses to the Commission’s
5 directives in DEC’s previous DSM/EE Rider proceeding. In its September 10,
6 2021 *Order Approving DSM/EE Rider and Requiring Filing of Proposed*
7 *Customer Notice* in Docket No. E-7, Sub 1249 (“Sub 1249”), the Commission
8 ordered: (1) that DEC file the calculations and workpapers clearly showing the
9 Find It Duke (“FID”) referral channel costs and revenues excluded and
10 methods(s) used to exclude such amounts from the EE Rider (See Section XI);
11 (2) that DEC shall include the information requested by the Commission about
12 recruitment and participation in FID by historically disadvantaged businesses
13 (See Section XI); and (3) that DEC shall work with the Public Staff to codify the
14 RMAF methodology into the Cost Recovery Mechanism (“Mechanism”) (See
15 Section XII).

16 **III. RULE R8-69 FILING REQUIREMENTS**

17 **Q. WHAT INFORMATION DOES DEC PROVIDE IN RESPONSE TO**
18 **THE COMMISSION’S FILING REQUIREMENTS?**

19 A. The information for Rider 14 is provided in response to the Commission’s filing
20 requirements contained in R8-69(f)(1) and can be found in the testimony and
21 exhibits of Company witnesses Evans and Listebarger as follows:

R8-69(f)(1)		Items	Location in Testimony
(i)		Projected NC retail sales for the rate period	Listebarger Exhibit 6
(ii)		For each measure for which cost recovery is requested through Rider 13:	
(ii)	a.	Total expenses expected to be incurred during the rate period	Evans Exhibit 1
(ii)	b.	Total costs savings directly attributable to measures	Evans Exhibit 1
(ii)	c.	EM&V activities for the rate period	Evans Exhibit 11
(ii)	d.	Expected peak demand reductions	Evans Exhibit 1
(ii)	e.	Expected energy reductions	Evans Exhibit 1
(iii)		Filing requirements for DSM/EE EMF rider, including:	
(iii)	a.	Total expenses for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Evans Exhibit 3
(iii)	b.	Total avoided costs for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Evans Exhibit 1
(iii)	c.	Description of results from EM&V activities	Testimony of Robert Evans and Evans Exhibits A-C
(iii)	d.	Total peak demand reductions in the aggregate and broken down per program	Evans Exhibit 1
(iii)	e.	Total energy reduction in the aggregate and broken down per program	Evans Exhibit 1
(iii)	f.	Discussion of findings and results of programs	Testimony of Robert Evans and Evans Exhibit 6
(iii)	g.	Evaluations of event-based programs	Evans Exhibit 5
(iii)	h.	Comparison of impact estimates from previous year and explanation of significant differences	Testimony of Robert Evans and Evans Exhibits 6 and 8
(iv)		Determination of utility incentives	Testimony of Robert Evans and Evans Exhibit 10
(v)		Actual revenues from DSM/EE and DSM/EE EMF riders	Listebarger Exhibit 4
(vi)		Proposed Rider 14	Testimony of Shannon Listebarger Exhibit 1
(vii)		Projected NC sales for customers opting out of measures	Listebarger Exhibit 6
(viii)		Supporting work papers	Via Data Transfer

1 **IV. PORTFOLIO OVERVIEW**

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

3 A. The Company has two interruptible programs for nonresidential customers,

4 Interruptible Service ("IS") and Standby Generation ("SG"), which are

1 accounted for outside of the Mechanism approved by the Commission in the
2 *Sub 1032 Orders*. Aside from IS and SG, the following DSM/EE programs
3 have been implemented by DEC in its North Carolina service territory:

4 **RESIDENTIAL CUSTOMER PROGRAMS**

- 5 • Energy Assessment Program
- 6 • EE Education Program
- 7 • Energy Efficient Appliances and Devices Program
- 8 • Smart Saver EE Program
- 9 • Multifamily EE Program
- 10 • My Home Energy Report (“MyHER”) Program
- 11 • Income-Qualified EE and Weatherization Program for Individuals
- 12 • Neighborhood Energy Saver Program
- 13 • Power Manager Load Control Service Program

14 **NONRESIDENTIAL CUSTOMER PROGRAMS**

- 15 • Nonresidential Smart Saver Energy Efficient Products and
16 Assessment Program:
 - 17 ○ Energy Efficient Food Service Products
 - 18 ○ Energy Efficient HVAC Products
 - 19 ○ Energy Efficient IT Products
 - 20 ○ Energy Efficient Lighting Products
 - 21 ○ Energy Efficient Process Equipment Products
 - 22 ○ Energy Efficient Pumps and Drives Products
 - 23 ○ Custom Incentive and Energy Assessment

- 1 • PowerShare Nonresidential Load Curtailment Program
- 2 • Small Business Energy Saver Program
- 3 • EnergyWise for Business Program
- 4 • Nonresidential Smart \$aver Performance Incentive Program

5 **Q. ARE THESE SUBSTANTIVELY THE SAME PROGRAMS DEC**
6 **RECEIVED APPROVAL FOR IN DOCKET NO. E-7, SUB 1032?**

7 A. Yes. The programs contained in the current portfolio are the same as those
8 approved by the Commission in the initial *Sub 1032 Order*, with the exception
9 of the discontinuation of the PowerShare CallOption and the Smart Energy in
10 Offices Program and the addition of the Nonresidential Smart \$aver
11 Performance Incentive Program.

12 **Q. PLEASE DESCRIBE ANY UPDATES MADE TO THE UNDERLYING**
13 **ASSUMPTIONS FOR DEC'S PORTFOLIO OF PROGRAMS THAT**
14 **HAVE ALTERED PROJECTIONS FOR VINTAGE 2023.**

15 A. Updates to underlying assumptions that materially impact DEC's 2023
16 portfolio projection are due to EM&V-related impacts and changes in avoided
17 costs.

18 **Q. PLEASE DESCRIBE THE EM&V IMPACT TO DEC'S ESTIMATED**
19 **2023 PROGRAM PORTFOLIO.**

20 A. Changes in the EM&V results were updated to reflect the savings impacts for
21 those programs for which DEC received EM&V results after it prepared its
22 application in Sub 1265. Updating EM&V for its programs results in changes
23 to the projected avoided cost benefits associated with the projected

1 participation. Hence, these EM&V updates will impact the calculation of the
2 specific program and overall portfolio cost-effectiveness, as well as impact
3 the calculation of DEC's projected shared savings incentive.

4 **Q. AFTER FACTORING THESE UPDATES INTO THE VINTAGE 2023**
5 **PORTFOLIO, DO THE RESULTS OF DEC'S PROSPECTIVE**
6 **UTILITY COST-EFFECTIVENESS TESTS INDICATE THAT IT**
7 **SHOULD DISCONTINUE OR MODIFY ANY OF ITS PROGRAMS?**

8 A. DEC performed a prospective analysis of each of its programs and the
9 aggregate portfolio for the Vintage 2023 period. The cost-effectiveness
10 results for the entire portfolio for Vintage 2023 are contained in Evans Exhibit
11 7. The cost-effectiveness criteria has been modified for 2023. Previously the
12 Total Resource Cost ("TRC") test was the indicator of program viability.
13 Effective in 2022, the Utility Cost Test ("UCT") replaces the TRC for use in
14 screening DSM/EE programs. The aggregate portfolio continues to project
15 cost-effectiveness, with the exception of the Income-Qualified EE Products
16 and Services Program, which was not cost-effective at the time of
17 Commission approval and an element of the Nonresidential Smart \$aver
18 Program. Based on the results of these cost-effectiveness tests, there are no
19 reasons to discontinue any of DEC's programs. Notably, the Company
20 continues to examine its programs for potential modifications to increase their
21 effectiveness, regardless of the current cost-effectiveness results.

1 **Q. PLEASE IDENTIFY THE ELEMENT OF THE NONRESIDENTIAL**
2 **SMART \$AVER PROGRAM THAT WAS FORECASTED TO BE**
3 **LESS THAN COST EFFECTIVE.**

4 A. The Information Technology subcategory of the Nonresidential Smart \$aver
5 Program had a UCT score that was less than 1.0.

6 **Q. WOULD IT BE APPROPRIATE TO DISCONTINUE THIS**
7 **PROGRAM ELEMENT?**

8 A. No, it would not. This element is integral for ensuring that a robust portfolio
9 of prescriptive offerings is available for its nonresidential customers. In
10 addition, this element is only a measure category within a much larger
11 program. The UCT score for the prescriptive portion of the Nonresidential
12 Smart \$aver Program is 4.35, and the UCT score for the Nonresidential Smart
13 \$aver Program, as a whole, is 3.82.

14 **V. DSM/EE PROGRAM RESULTS TO DATE**

15 **Q. HOW MUCH ENERGY, CAPACITY AND AVOIDED COST**
16 **SAVINGS DID DEC DELIVER AS A RESULT OF ITS DSM/EE**
17 **PROGRAMS DURING VINTAGE 2021?**

18 A. During Vintage 2021, DEC's DSM/EE programs delivered nearly 637 million
19 kilowatt-hours ("kWh") of energy savings, over 947 megawatts ("MW") of
20 summer peak capacity savings and over 442 MW of winter peak capacity
21 savings, which produced net present value of avoided cost savings of over
22 \$292 million. The 2021 performance results for individual programs are
23 provided on page 4 of Evans Exhibit 1.

1 **Q. HOW DID THE COMPANY’S PROGRAMS PERFORM RELATIVE**
2 **TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2021?**

3 A. Referring to Evans Exhibit 8, overall performance during 2021 was less than
4 forecasted. This, of course, is primarily due to the ongoing effects of the
5 COVID pandemic. There were some highlights though. The energy savings
6 associated with the Residential Smart Saver program exceeded its forecast by
7 69 percent and the Nonresidential Smart Saver Energy Efficient HVAC
8 Products exceeded its forecast by 469 percent.

9 **VI. PROJECTED RESULTS**

10 **Q. PLEASE PROVIDE A PROJECTION OF THE RESULTS THAT DEC**
11 **EXPECTS TO SEE FROM IMPLEMENTATION OF ITS**
12 **PORTFOLIO OF PROGRAMS.**

13 A. Consistent with the terms of its Commission-approved cost recovery
14 mechanism Save-A-Watt, DEC will update the actual and projected EE
15 achievement levels in its annual Rider EE filing to account for any program
16 or measure additions based on the performance of programs, market
17 conditions, economics and consumer demand. The actual results for Vintage
18 2021 and projection of the results for Vintages 2022 and 2023, as well as the
19 associated projected program expense for DEC’s portfolio of programs, are
20 summarized in the following table:

21

1

DEC System (NC & SC) DSM/EE Portfolio 2021 Actual Results and 2022-2023 Projected Results			
	2021	2022	2023
Annual System Net MW	947	1,108	992
Annual System Net GWh	637	814	786
Annual Program Costs (Millions)	\$109.0	\$158.5	\$156.3

2

VII. EM&V ACTIVITIES

3 **Q. PLEASE DESCRIBE THE COMPANY'S EM&V ACTIVITIES**
 4 **RELEVANT TO THIS PROCEEDING.**

5 A. Evans Exhibit 11 summarizes the estimated activities and timeframe for
 6 completion of EM&V by program. Evans Exhibit 12 provides the actual and
 7 expected dates when the EM&V for each program or measure will become
 8 effective. Evans Exhibits A through F provide the detailed completed EM&V
 9 reports or updates for the following programs:

Evans Exhibit	EM&V Reports	Report Finalization Date	Evaluation Type
A	Low Income Weatherization Program 2016-2018	4/16/2021	Process and Impact
B	Power Manager 2019-2020	6/23/2021	Process and Impact
C	Online Savings Store Program 2021 Evaluation	11/30/2021	Process and Impact
D	K12 Education Program 2019-2020 Evaluation	12/2/2021	Process and Impact
E	Small Business Energy Saver Program 2019-2020	11/23/2021	Process and Impact
F	Interim Report for the EnergyWise Business Program 2020	2/5/2021	Impact

10 **Q. HOW WERE EM&V RESULTS UTILIZED IN DEVELOPING THE**
 11 **PROPOSED RIDER 14?**

1 A. The Company has applied EM&V consistently with the agreement among
2 DEC, the Southern Alliance for Clean Energy, and the Public Staff and
3 approved by the Commission in its *Order Approving DSM/EE Rider and*
4 *Requiring Filing of Proposed Customer Notice* issued on November 8, 2011,
5 in Docket No. E-7, Sub 979 (“EM&V Agreement”).

6 Actual participation and evaluated load impacts are used
7 prospectively to update net lost revenues estimates. In addition, the EM&V
8 Agreement provides that initial EM&V results shall be applied retrospectively
9 to program impacts that were based upon estimated impact assumptions
10 derived from industry standards (rather than EM&V results for the program
11 in the Carolinas), in particular the DSM/EE programs initially approved by
12 the Commission in Docket No. E-7, Sub 831 (“Sub 831”), with the exception
13 of the Nonresidential Smart Saver Custom Rebate Program and the Low-
14 Income EE and Weatherization Assistance Program.

15 For purposes of the vintage true-ups and forecast, initial EM&V
16 results are considered actual results for a program and continue to apply until
17 superseded by new EM&V results, if any. For all new programs and pilots
18 approved after the Sub 831 programs, DEC will use initial estimates of
19 impacts until it has EM&V results, which will then be applied retrospectively
20 to the beginning of the offering and will be considered actual results until a
21 second EM&V is performed.

22 All program impacts from EM&V apply only to the programs for
23 which the analysis was directly performed, though DEC’s new product

1 development may utilize actual impacts and research about EE and
2 conservation behavior directly attributed to existing DEC program offerings.

3 Because program impacts from EM&V in this Application apply only
4 to the programs for which the analysis was directly performed, there are no
5 costs associated with performing additional EM&V for other measures, other
6 than the original cost for EM&V for these programs. As indicated in previous
7 proceedings, DEC estimates that 5 percent of total portfolio program costs
8 will be required to adequately and efficiently perform EM&V on the portfolio.

9 The level of EM&V required varies by program and depends on that
10 program's contribution to total portfolio, the duration the program has been
11 in the portfolio without material change, and whether the program and
12 administration is new and different in the energy industry. DEC estimates,
13 however, that no additional costs above 5 percent of total program costs will
14 be associated with performing EM&V for all measures in the portfolio.

15 **Q. WHICH PROGRAMS CONTAIN IMPACT RESULTS BASED ON**
16 **CAROLINAS-BASED EM&V?**

17 A. All of the filed EM&V studies, provided as Evans Exhibits A through F, were
18 Carolinas-based.

19 **VIII. RIDER IMPACTS**

20 **Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE**
21 **VINTAGE 2021 EXPERIENCE MODIFICATION FACTOR?**

22 A. Yes. The EMF in Rider 14 accounts for changes to actual participation
23 relative to the forecasted participation levels utilized in DEC's Vintage 2018

1 Rider EE. As DEC receives actual participation information, it can then
2 update participation-driven actual avoided cost benefits from its DSM/EE
3 programs and the net lost revenues derived from its EE programs. For
4 example, as previously mentioned, the overall savings along with their related
5 expenditures were less than those that were forecasted. As a result, the EMF
6 will be reduced to reflect the lower costs, net lost revenues, and shared savings
7 incentive (PPI) associated with its programs.

8 **Q. HOW HAVE EM&V RESULTS BEEN INCORPORATED INTO THE**
9 **VINTAGE 2021 TRUE-UP COMPONENT OF RIDER 14?**

10 A. In accordance with the EM&V Agreement, all of the final EM&V results that
11 have been received by DEC by December 31, 2021 have been applied
12 prospectively from the first day of the month immediately following the
13 month in which the study participation sample for the EM&V was completed.
14 Accordingly, for any program for which DEC has received EM&V results,
15 the per participant impact applied to the projected program participation in
16 Vintage 2021 is based upon the actual EM&V results that have been received.

17 **Q. PLEASE DESCRIBE HOW DEC CALCULATED FOUND**
18 **REVENUES.**

19 A. Consistent with the *Sub 1032 Orders* and with the “Decision Tree” found in
20 Appendix A of the Commission’s February 8, 2011 order in Docket No. E-7,
21 Sub 831, and approved for the new portfolio in the *Sub 1032 Orders*, possible
22 found revenue activities were identified, categorized, and netted against the
23 net lost revenues created by DEC’s EE programs. Found revenues may result

1 from activities that directly or indirectly result in an increase in customer
2 demand or energy consumption within DEC's service territory. Load-
3 building activities such as these, however, would not be considered found
4 revenues if they (1) would have occurred regardless of DEC's activity, (2)
5 were a result of a Commission-approved economic development activity not
6 determined to produce found revenues, or (3) were part of an unsolicited
7 request for DEC to engage in an activity that supports efforts to grow the
8 economy. On the other hand, found revenues would occur for load growth
9 that did not fall into the previous categories but was directly or indirectly a
10 result of DEC's activities. Based on the results of this work, all potential
11 found revenue-related activities are identified and categorized in Evans
12 Exhibit 4. Additionally, consistent with the methodology employed and
13 approved in Docket No. E-7, Sub 1073, as discussed in detail in the testimony
14 of Company witness Timothy J. Duff in Docket No. E-7, Sub 1050, DEC also
15 proposes to adjust the calculation of found revenues to account for the impacts
16 of activities outside of EE programs that it undertakes that reduce customer
17 consumption – i.e., “negative found revenues.”

18 **Q. PLEASE DISCUSS THE ADJUSTMENT THAT DEC PROPOSES TO**
19 **MAKE TO ITS FOUND REVENUE CALCULATION TO ACCOUNT**
20 **FOR NEGATIVE FOUND REVENUES.**

21 A. DEC continues to aggressively pursue, with its outdoor lighting customers,
22 the replacement of aging Mercury Vapor lights with Light Emitting Diode
23 (“LED”) fixtures. Because one of the activities that DEC includes in the

1 calculation of found revenues is the increase in consumption from new
2 outdoor lighting fixtures it has added, it is logical and symmetrical to also
3 account for the reduced energy consumption resulting from the outdoor
4 lighting efficiency upgrades. By moving customers past the standard High
5 Pressure Sodium (“HPS”) fixture to an LED fixture in this replacement
6 process, DEC is generating significant energy savings. Because these energy
7 savings are outside of DEC’s approved EE programs, they are not captured in
8 DEC’s calculation of lost revenues. The Company does not take credit for
9 the entire efficiency gain from replacing Mercury Vapor lights, but rather only
10 the efficiency gain from replacing HPS with LED fixtures. In addition, DEC
11 has not recognized any negative found revenues in excess of the found
12 revenues calculated; in other words, the net found revenues number will never
13 be negative and have the effect of increasing net lost revenue calculations. In
14 Docket No. E-7, Sub 1073, the Commission found inclusion of negative
15 found revenues associated with the Company’s initiative to replace Mercury
16 Vapor lighting with LED fixtures in the calculation of net found revenues to
17 be reasonable, and the Company proposes to continue this practice in Rider
18 14.

19 **Q. HAS THE OPT-OUT OF NONRESIDENTIAL CUSTOMERS**
20 **AFFECTED THE RESULTS FROM THE PORTFOLIO OF**
21 **APPROVED PROGRAMS?**

22 **A.** Yes, the opt-out of qualifying nonresidential customers has had a negative
23 effect on DEC’s overall nonresidential impacts. For Vintage 2021, DEC had

1 4,461 eligible customer accounts opt out of participating in DEC's
2 nonresidential portfolio of EE programs. In addition, DEC had 4,777 eligible
3 customer accounts opt out of participating in DEC's nonresidential DSM
4 programs. Notably, during 2021, 627 opt-out eligible accounts opted-in to
5 the EE portion of the Rider, and 204 opt-out eligible accounts opted-in to the
6 DSM portion of the Rider.

7 **Q. PLEASE EXPLAIN THE DECREASE IN THE NUMBER OF OPT-**
8 **OUTS IN 2021 COMPARED TO 2020.**

9 A. The reduction in the number of customers having opted-out is largely due to
10 the ongoing impacts of the COVID pandemic. In particular, the number of
11 large commercial customers eligible to opt-out due to their annual
12 consumption exceeding the 1,000,000 kWh opt-out threshold, set forth in
13 Commission Rule R8-69(d), has lessened. The overall impact is a more than
14 ten percent decrease in customers opting-out.

15 **Q. ASIDE FROM THESE COVID-RELATED REDUCTIONS, IS THE**
16 **COMPANY CONTINUING ITS EFFORTS TO ATTRACT THE**
17 **PROGRAM PARTICIPATION OF OPT-OUT ELIGIBLE**
18 **CUSTOMERS?**

19 A. Yes. Increasing the participation of opt-out eligible customers in DSM and
20 EE programs is very important to the Company. As discussed earlier, DEC
21 continues to evaluate and revise its nonresidential portfolio of programs to
22 accommodate new technologies, eliminate product gaps, remove barriers to
23 participation, and make its programs more attractive. It also continues to

1 leverage its Large Account Management Team to make sure customers are
2 informed about product offerings and the March Opt-in Window.

3 **IX. PPI CALCULATION**

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

7 A. Pursuant to the related *Sub 1032 Orders*, the Mechanism allows DEC to (1)
8 recover the reasonable and prudent costs incurred for adopting and
9 implementing DSM and EE measures in accordance with N.C. Gen. Stat. §
10 62-133.9 and Commission Rules R8-68 and R8-69; (2) recover net lost
11 revenues incurred for up to 36 months of a measure's life for EE programs;
12 and (3) earn a PPI based upon the sharing of a percentage of the net savings
13 achieved through DEC's DSM/EE programs on an annual basis. Prior to 2022
14 the shared savings percentage is 11.5% and, starting in 2022, this percentage
15 was lowered to 10.6%. The PPI is also subject to certain limitations that are
16 set forth in the Cost Recovery and Incentive Mechanism.

17 **Q. PLEASE EXPLAIN HOW DEC DETERMINES THE PPI.**

18 A. First, DEC determines the net savings eligible for incentive by subtracting the
19 present value of the annual lifetime DSM/EE program costs (excluding
20 approved low-income programs as described below) from the net present
21 value of the annual lifetime avoided costs achieved through the Company's
22 programs (again, excluding approved low-income programs). The Company

1 then multiplies the net savings eligible for incentive by the applicable shared
2 savings percentage to determine its pretax incentive.

3 **Q. PLEASE EXPLAIN WHETHER DEC EXCLUDES ANY PROGRAMS**
4 **FROM THE DETERMINATION OF ITS PPI CALCULATION.**

5 A. Consistent with the *Sub 1032 Orders*, DEC has excluded the impacts and
6 costs associated with the Neighborhood Energy Saver Program and the
7 Income-Qualified EE and Weatherization Program for Individuals from its
8 calculation of the PPI. At the time the program was approved, it was not cost-
9 effective, but was approved based on its societal benefit. Beginning in 2022
10 the Income-Qualified EE and Weatherization programs are eligible to receive
11 a program return incentive (“PRI”). The PRI is determined by multiplying
12 the net present value of avoided cost by 10.6 percent. As with the PPI, the
13 PRI is also subject to certain limitations that are set forth in the Cost Recovery
14 and Incentive Mechanism approved by the Commission in Docket No. E-7,
15 Sub 1032 on October 20, 2020.

16 **X. COLLABORATIVE**

17 **Q. PLEASE SUMMARIZE THE COLLABORATIVE ACTIVITIES**
18 **OCCURRING IN 2021.**

19 A. The Collaborative met for formal meetings in January, March, May, July,
20 September and November. Between meetings, interested stakeholders joined
21 conference calls in February, April, May, August, October, and December to
22 zero in on certain agenda items or priorities which could not be fully explored
23 during the formal meetings, such as new program development ideas,

1 program modifications and pandemic-related issues. Collaborative members
2 gained a deeper understanding of the issues facing Duke's DSM/EE programs
3 and brought the Company valuable feedback and perspective. Meetings and
4 calls have begun and will continue in a similar fashion through 2022 as well.

5 **Q. HAS THE COLLABORATIVE EXAMINED THE REASONS FOR**
6 **THE FORECASTED DECLINE IN SAVINGS AND EXPLORED**
7 **OPTIONS FOR PREVENTING OR CORRECTING A DECLINE IN**
8 **FUTURE DSM/EE SAVINGS?**

9 A. Yes, the forecasted decline in savings underpinned all the Collaborative's
10 discussions in 2021. Since the decline is attributed primarily to the changing
11 lighting standards and widespread adoption of LEDs, the members made
12 following up on new program ideas a priority. The Company is investigating
13 several of those ideas, as well as other ideas resulting from the ongoing work
14 of a number of stakeholder groups, to determine if they can be developed into
15 cost-effective programs now or in the future.

16 **Q. HAS THE COLLABORATIVE LOOKED SPECIFICALLY AT EE**
17 **PROGRAMS TO ASSIST LOW-INCOME CUSTOMERS IN SAVING**
18 **ENERGY?**

19 A. Yes, the Collaborative has been focused on assisting low-income households.
20 The Company continues to explore the partnerships members have helped us
21 develop with organizations which provide weatherization assistance and
22 anticipates exploring more opportunities in the coming year. The
23 Collaborative members have been active in other working groups during 2021

and are bringing what they have learned there to the work they do for DSM/EE programs.

The group will continue to examine customer behaviors and potential adjustments to the program portfolio as market conditions change. Additionally, members will be key contributors as the Company seeks ways to help vulnerable customers with their energy insecurity.

XI. FIND IT DUKE

Q. WHAT EFFORTS DOES DEC MAKE TO IDENTIFY AND RECRUIT HISTORICALLY DISADVANTAGED BUSINESSES FOR PARTICIPATION IN FID?

A. The program has partnered with Duke Energy Supplier Diversity, an internal organization within Duke Energy, and the Company has established a cross jurisdictional team that is responsible for defining disadvantaged business terms, goals, and tactical plans for Trade Ally identification and recruitment. In 2021, the Company applied internal data sources and external surveys to the existing Trade Ally network for identification and classification. As a result of this research, Duke Energy identified the following:

Supplier Diversity Initial Email Responses										
total companies surveyed	# of companies	Responded Diverse	Responded not diverse	African Amer	Women Owned	Service Disabled	Native Amer	Veteren	Hispanic Amer	total responses
DEC	688	22	81	3	13	1	0	6	2	106

Based on this information, Duke Energy is developing plans to communicate with trade-related businesses and engage in recruitment opportunities during 2022. Additionally, with respect to these recruitment opportunities, Duke Energy has begun engagement with the following organizations:

- 1 • National Minority Supplier Development Council
- 2 • Woman's Business Enterprise National Council
- 3 • African American Chamber of Commerce
- 4 • National Veteran Business Development Council
- 5 • National LGBT Chamber of Commerce

6 Additionally, an LOE (level of effort) was signed on November 22, 2021 with
7 the FID program vendor to build an automated process that will capture
8 supplier diversity classification upon each new Trade Ally registration and
9 allow FID to track success. Work is targeted for completion by March 2022
10 with results from current research being incorporated into the database once
11 the vendor work is completed.

12 **Q. HOW MANY HISTORICALLY DISADVANTAGED BUSINESSES**
13 **ARE CURRENTLY PARTICIPATING IN FID?**

14 A. There are currently 22 registered Trade Allies in DEC classified as
15 Disadvantaged Businesses. Four of these Trade Allies are enrolled in the FID
16 channel.

17 **Q. PLEASE PROVIDE THE NUMBER OF HISTORICALLY**
18 **DISADVANTAGED BUSINESSES PARTICIPATING IN FID THAT**
19 **ARE FEMALE-OWNED BUSINESSES, MINORITY-OWNED**
20 **BUSINESSES, AND ALL OTHER SUBCATEGORIES DESCRIBING**
21 **THE NATURE AND OWNERSHIP OF SUCH BUSINESSES.**

22 A. There are currently two female and two minority-owned businesses
23 participating in FID.

1 **Q. WHAT IS THE TOTAL NUMBER OF BUSINESSES CURRENTLY**
2 **PARTICIPATING IN FID?**

3 A. At the end of 2021, there were 74 active Trade Allies in the FID channel.

4 **Q. IN 2021, WHAT WAS THE AVERAGE DOLLAR VALUE FOR**
5 **WORK PERFORMED BY HISTORICALLY DISADVANTAGED**
6 **BUSINESSES IN FID?**

7 A. The average reported dollar value for work performed by historically
8 disadvantaged businesses is approximately \$2,500. Three of the four
9 disadvantaged Trade Allies support insulation services which are lower in
10 project cost compared to other services such as HVAC installation. The fourth
11 disadvantaged Trade Ally enrolled in FID in late 2021 as a solar installer and
12 has sold one job as of the end of that year.

13 **Q. IN 2021, WHAT WAS THE AVERAGE DOLLAR VALUE OF WORK**
14 **PERFORMED BY CONTRACTORS THAT WERE NOT**
15 **HISTORICALLY DISADVANTAGED BUSINESSES?**

16 A. The average reported dollar value of work performed by contractors that were
17 not historically disadvantaged businesses is reported to be approximately
18 \$5,600. Notably, the non-disadvantaged Trade Allies mainly consist of
19 HVAC installation services, which carry higher project costs for equipment
20 replacements.

21 **Q. DID DEC FILE ITS CALCULATIONS AND WORKPAPERS**
22 **SHOWING THE FID REFERRAL CHANNEL COSTS AND**

1 **REVENUES EXCLUDED AND METHOD(S) USED TO EXCLUDE**
2 **THOSE AMOUNTS?**

3 A. Please refer to Evans Exhibit 14. Based on FID activity during calendar year
4 2021, 15.2 percent of revenue was classified as Non-DSM/EE. Using this
5 allocation, expenses totaling \$55,748 were removed from the DSM/EE
6 revenue requirement along with the \$70,853 in Non-DSM/EE revenue. In
7 addition to revenues and expenses, a change in the PPI totaling \$1,737 was
8 accounted for. As a result of these adjustments, the DSM/EE revenue
9 requirement was increased by \$13,368. The total net non-utility allocation
10 totaled \$15,105.

11 **XII. RESERVE MARGIN ADJUSTMENT FACTOR**

12 Q. **DID DEC WORK WITH THE PUBLIC STAFF TO CODIFY THE**
13 **RMAF METHODOLOGY INTO THE MECHANISM, AS REVISED**
14 **BY THE 2020 SUB 1032 ORDER?**

15 A. Yes. The Company and the Public Staff worked together to develop
16 mechanism language concerning the RMAF for the Commission's
17 consideration and approval. The redline contained on Evans Exhibit 18
18 illustrates the proposed RMAF related modifications to subsection 20 of the
19 Mechanism.

XIII. COMMISSION APPENDIX A QUESTIONS¹

Q. DESCRIBE ANY IMPACT THAT THE FULL DEPLOYMENT OF AMI AND CUSTOMER CONNECT HAS HAD OR IS EXPECTED TO HAVE ON THE IMPLEMENTATION OF EE AND DSM PROGRAMS AND RIDER CALCULATIONS.

A. At this time, the deployment of AMI and Customer Connect has not had any direct impact on the implementation of EE and DSM programs and rider calculations. Moreover, DEC does not expect the full deployment of AMI and Customer Connect to directly impact the implementation of EE or DSM programs. The Company will continue to review whether the deployment of AMI and Customer Connect can impact the implementation of EE and DSM programs and rider calculations to the benefit of customers.

Although the use of AMI does not impact implementation of DSM/EE programs, it has an indirect, positive impact on the EM&V of the EE and DSM programs that are used in the rider calculations. Through the use of AMI, EM&V-verified impacts used in the rider calculations may now be derived from analytical approaches that are better able to tease out household-level energy and demand savings.

Q. HAS DEC IDENTIFIED ANY WAYS TO LEVERAGE AMI AND CUSTOMER CONNECT TO INCREASE THE EFFECTIVENESS AND/OR REDUCE THE COST OF ITS EE AND DSM PROGRAMS?

¹ This section of testimony is in response to the *Order Requiring Filing of Additional Testimony*, issued in this docket on December. 17, 2021.

1 A. DEC is always interested in exploring ways to increase the effectiveness or
2 reduce the cost of its EE and DSM programs. At this time, however, DEC
3 has not identified any ways beyond that discussed above to leverage AMI and
4 Customer Connect to materially increase the effectiveness and/or materially
5 reduce the cost of its EE and DSM programs.

6 **Q. DESCRIBE IN DETAIL ANY COST SAVINGS OR INCREASED**
7 **COST EFFECTIVENESS THAT CAN BE ATTRIBUTED TO DEC'S**
8 **DEPLOYMENT OF AMI AND CUSTOMER CONNECT.**

9 A. Deployment of AMI and Customer Connect may produce cost savings
10 associated with EM&V activities in the future. Any such savings would
11 increase the cost effectiveness of impacted programs; however, DEC cannot
12 project the cost savings or increased cost effectiveness at this time that could
13 be attributed to DEC's deployment of AMI and Customer Connect.

14 **Q. PROVIDE AN UPDATE ON THE PROGRESS OF EXPANDING THE**
15 **USE OF CUSTOMER DATA IN DETERMINING EE AND**
16 **DSM SAVINGS IN PROGRAM EVALUATIONS AND COST**
17 **EFFECTIVENESS TESTS.**

18 A. As discussed earlier, DEC is making progress on expanding the use of AMI
19 in its program evaluations. For demand response evaluations, quarterly or
20 semi-hourly AMI data is the primary data utilized for analysis. For EE
21 savings, evaluators have begun to incorporate hourly and/or daily AMI
22 interval data into the analysis, which increases the analytical capabilities to
23 estimate household-level energy and demand savings.

1 **Q. PROVIDE A TABLE COMPARING THE PERFORMANCE OF**
2 **DEC'S DSM/EE PORTFOLIO'S COSTS AND SAVINGS DURING**
3 **THE 2020 DSM/EE RIDER TEST YEAR WITH THE**
4 **PERFORMANCE IN THE 2021 DSM/EE RIDER TEST YEAR.**

5 A. Please refer to Evans Exhibit 15.

6 **Q. INCLUDE IN THE SAME TABLE A COMPARISON OF DEC'S**
7 **FORECASTED DSM/EE KWH SAVINGS AND ACTUALLY**
8 **ACHIEVED KWH SAVINGS DURING THE SAME TEST YEAR**
9 **PERIODS STATED ABOVE.**

10 A. Please refer to Evans Exhibit 15.

11

12 **Q. PROVIDE A RESPONSE TO PUBLIC STAFF WITNESS**
13 **WILLIAMSON'S TESTIMONY IN DOCKET NO. E-7, SUB 1249**
14 **RELATED TO THE PROVISIONS OF COMMISSION RULE R8-**
15 **69(B)(5) AS APPLIED TO THE OVERLAP OF AMI INFORMED**
16 **SERVICES AND THE SPECIALIZED TIPS SUPPORTED BY THE**
17 **MYHER EE PROGRAM.**

1 A. As the Commission’s question reflects, most of the Company’s residential
2 customers may obtain data about their energy usage from two sources – AMI
3 informed services and the MyHER EE program. All Duke Energy customers,
4 at their option, may go online to see their hourly usage AMI data, regardless
5 of whether they receive a My Home Energy Report. In contrast, residential
6 customers that receive a My Home Energy report receive data about their
7 energy usage *combined* with specialized energy saving tips. To distinguish
8 the EE savings resulting from MyHER, as opposed to AMI information
9 services, the Company has developed the following evaluation method. First
10 it has “treatment group customers,” numbering approximately 1,740,000,
11 which are MyHER recipients. Next, the Company also has “a control group,”
12 set of residential customers, numbering approximately 133,000, that the
13 Company has determined do not and will not receive the MyHER report.
14 Under the MyHER evaluation methodology, the control group serves as the
15 baseline against which MyHER impacts are measured. Thus, any reduction
16 in energy consumption among MyHER recipients is directly attributed to the
17 tips and normative messaging available only through the MyHER program.

18 **Q. HOW DOES DEC DISTINGUISH BETWEEN THE ORGANIC**
19 **ENERGY SAVINGS IMPACT OF USING AMI VERSUS THE**
20 **ENERGY SAVINGS FROM THE MYHER PROGRAM?**

1 A. As indicated above, both MyHER treatment and control customers have
2 access to AMI informed services. Only MyHER treatment customers have
3 access to MyHER reports that not only engage and educate customers around
4 their energy usage, but also empower them to become more efficient through
5 the provision of actional energy efficiency tips; therefore, any changes in
6 consumption can be directly attributed to the MyHER program.

7 **Q. DOES DEC HAVE METRICS THAT SHOW THE NUMBER OF**
8 **MYHER PARTICIPANTS THAT HAVE UTILIZED NEW AMI OR**
9 **CUSTOMER CONNECT CAPABILITIES, SUCH AS THE**
10 **PERCENTAGE OF MYHER CUSTOMERS THAT HAVE VISITED**
11 **THE AMI USAGE WEB SITE? IF SO, PROVIDE THAT**
12 **INFORMATION?**

13 A. The following table provides monthly data for the period April 2021 through
14 December 2021:

- 15 - The number of customers in DEC who have accessed the MyAccount
- 16 AMI charts showing usage at a level less than standard one-month
- 17 billing;
- 18 - The number who are part of the MyHER Treatment Group; and
- 19 - The percentage of MyHER participants that this quantity of customers
- 20 represents.

21
22
23

1 EFFECTIVENESS CALCULATIONS AND EVALUATION. FOR
2 EXAMPLE, WILL THE SAVINGS ATTRIBUTED TO THE
3 IMPLEMENTATION OF AN EE MEASURE FOR A CUSTOMER
4 SUBSCRIBED TO A DYNAMIC PRICING TARIFF BE DIFFERENT
5 FROM THOSE OF A CUSTOMER ON A TRADITIONAL RATE
6 STRUCTURE?

7 A. At this time DEC has not identified how its new dynamic pricing tariffs may
8 impact existing EE and DSM program marketing, implementation, cost-
9 effectiveness calculations and evaluation. It is expected that those impacts
10 will be reflected in future evaluation, measurement and verification reports.

11 Q. **PROVIDE A SUMMARY OF KEY DSM AND/OR EE PROGRAM**
12 **MODIFICATIONS OR ADDITIONS INTRODUCED DURING AND**
13 **AS A PRODUCT OF THE DSM/EE COLLABORATIVE DURING 2020**
14 **AND 2021, AND ESTIMATE THE ENERGY SAVINGS AND**
15 **ECONOMIC IMPACTS ATTRIBUTED TO THOSE ACTIONS.**

16 A. Please refer to Evans Exhibit 17.

17 Q. **DESCRIBE ANY IMPLICATIONS THAT SL 2021-165 WILL HAVE**
18 **OR IS EXPECTED TO HAVE ON DEC'S EE AND/OR DSM**
19 **PROGRAMS AND THE RIDER APPLICATION. FOR EXAMPLE,**
20 **DESCRIBE WAYS IN WHICH DEC COULD OR WILL**
21 **INCORPORATE EE PROGRAM SAVINGS INTO ITS**
22 **CALCULATIONS RELATED TO CARBON PRODUCTION TO**

1 **MEET THE CARBON REDUCTION GOAL MANDATED IN SL 2021-**
2 **165.**

3 A. The Company continues to evaluate how the carbon reduction associated with
4 EE program kWh savings will be reported as part of future annual EE/DSM
5 Rider filings. The Company currently has value associated with the average
6 annual carbon intensity of generation; however, to accurately reflect the
7 impacts of EE/DSM programs in future annual EE/DSM Rider filings, the
8 Company is currently pursuing the development of reasonable estimates of
9 the carbon intensity of system generation on an hourly basis.

10 **XIV. CONCLUSION**

11 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT**
12 **TESTIMONY?**

13 A. Yes.

