

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-2, SUB 1273

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)
Application of Duke Energy Progress, 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 PROGRESS, LLC

OFFICIAL COPY

JUN 15 2021

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 & 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 graduate
12 level regulatory studies programs sponsored by American Telephone and
13 Telegraph Corporation, as well as 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 (“DEP” or the “Company”)), and Progress Energy Florida, Inc.
10 with rate and regulatory support in their state and federal venues. From 2008
11 through the merger of Duke Energy and Progress, I provided regulatory support
12 for demand-side management (“DSM”) and energy efficiency (“EE”)
13 programs. Subsequent to the Progress merger with Duke Energy, I obtained
14 my current 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?**

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

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
2 **PROCEEDING?**

3 A. The purpose of my testimony is to explain and support DEP's proposed
4 DSM/EE Cost Recovery Rider and Experience Modification Factor ("EMF").
5 My testimony provides: (1) a discussion of items the Commission specifically
6 directed the Company to address in this proceeding; (2) an overview of the
7 Commission's Rule R8-69 filing requirements; (3) a synopsis of the DSM/EE
8 programs included in this filing; (4) a discussion of program results; (5) an
9 explanation of how these results have affected DSM/EE rate calculations; (6)
10 information on DEP's Evaluation Measurement & Verification ("EM&V")
11 activities; and (7) an overview of the calculation of the Portfolio Performance
12 Incentive ("PPI").

13 **Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR**
14 **TESTIMONY.**

15 A. Evans Exhibit 1 supplies load impacts, program costs, and avoided costs for
16 each program, which are used in the calculation of the PPI and revenue
17 requirements by vintage. Evans Exhibit 2 contains a summary of net lost
18 revenues for the period January 1, 2017 through December 31, 2022. Evans
19 Exhibit 3 contains the actual program costs for North Carolina for the period
20 January 1, 2016 through December 31, 2020. Evans Exhibit 4 contains the
21 found revenues used in the net lost revenues calculations. Evans Exhibit 5
22 supplies evaluations of event-based programs. Evans Exhibit 6 contains
23 information about the results of DEP's programs and a comparison of actual

1 impacts to previous estimates. Evans Exhibit 7 contains the projected program
2 and portfolio cost-effectiveness results for DEP's approved programs. Evans
3 Exhibit 8 contains a summary of 2020 program performance and an explanation
4 of the variances between the expected program results and the actual results.
5 Evans Exhibit 8 is designed to create more transparency regarding the factors
6 that have driven these variances. Evans Exhibit 9 lists DEP's industrial and
7 large commercial customers that have opted out of participation in the
8 Company's DSM and/or EE programs and also lists those customers that have
9 elected to participate in new measures after having initially notified the
10 Company that they declined to participate, as required by Commission Rule R8-
11 69(d)(2). Evans Exhibit 10 provides a summary of the estimated activities and
12 timeframe for completion of EM&V by program. Evans Exhibit 11 provides
13 the actual and expected dates when the EM&V for each program or measure
14 will become effective. Evans Exhibit 12 provides a table showing program cost
15 and avoided costs savings for the test period ending December 31, 2020 and for
16 the previous five test periods.

17 Evans Exhibits A through D provide detailed EM&V reports, completed
18 or updated since DEP's DSM/EE Cost Recovery Rider Filing in Docket No. E-
19 2, Sub 1252, for the following programs: Revised Save Energy and Water Kits
20 2018–2019 (Evans Exhibit A); Multi-Family Energy Efficiency Program 2017
21 – 2018/19 (Evans Exhibit B); Non-Residential Smart Saver Prescriptive
22 Program Evaluation Report 2017 - 2018 (Evans Exhibit C); and 2020 EM&V
23 Interim Report for the EnergyWise Business Program (Evans Exhibit D).

1 **Q. WERE EVANS EXHIBITS 1-12 PREPARED BY YOU OR AT YOUR**
2 **DIRECTION AND SUPERVISION?**

3 A. Yes, they were.

4 **II. ACTIONS ORDERED BY THE COMMISSION**

5 **Q. PLEASE DESCRIBE THE ACTIONS THE COMMISSION DIRECTED**
6 **DEP TO TAKE IN THE COMMISSION’S ORDER IN DOCKET NO. E-**
7 **2, SUB 1252.**

8 A. In its December 17, 2020 *Order Approving DSM/EE Rider and Requiring*
9 *Filing of Proposed Customer Notice* in Docket No. E-2, Sub 1252 (“Sub 1252
10 Order”), the Commission ordered that: (1) DEP shall continue to leverage its
11 Collaborative to discuss the EM&V issues and program design issues raised in
12 the testimony of North Carolina Justice Center, et al. witness Bradley-Wright
13 and those discussions shall be reported; (2) That DEP and the Collaborative
14 shall discuss the issue of an appropriate way to reflect the full avoided capacity
15 of its EE programs including avoided reserve capacity and present those
16 findings to the Commission; and (3) That continuing in 2021, the combined
17 DEC/DEP Collaborative shall meet every other month. In addition, the
18 Commission directed DEP to provide it with other information that will be
19 covered later in my testimony.

20 **Q. DID DEP CONTINUE TO LEVERAGE THE COLLABORATIVE TO**
21 **DISCUSS ISSUES RAISED BY WITNESS BRADLEY-WRIGHT?**

22 A. Yes. The Collaborative met for formal meetings in January, March, May, July,
23 September and November. Between meetings, interested stakeholders joined

1 conference calls in February, April, May, August, October, and December to
2 zero in on certain agenda items or priorities that could not be fully explored
3 during the regular meetings.

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

8 A. The forecasted decline in savings underpinned all the Collaborative's
9 discussions in 2020. Since the decline is attributed primarily to the changing
10 lighting standards and widespread adoption of LEDs, the members made
11 bringing the Company new program ideas a priority. The Company is actively
12 investigating several of those ideas to determine if they can be developed into
13 cost-effective programs now or in the future.

14 **Q. HAS THE COLLABORATIVE LOOKED SPECIFICALLY AT EE**
15 **PROGRAMS TO ASSIST LOW-INCOME CUSTOMERS IN SAVING**
16 **ENERGY, PARTICULARLY IN LIGHT OF THE FINANCIAL**
17 **HARDSHIPS CREATED BY THE ONGOING PANDEMIC?**

18 A. Yes, the Collaborative has suggested several ideas for expanding or modifying
19 our current programs to assist low-income households. Members have helped
20 to develop partnerships with organizations that provide weatherization
21 assistance and have expressed interest in exploring more opportunities in the
22 coming year. Several of the program ideas they submitted have aspects that can
23 target low-income customers as well.

1 The Collaborative spent time last year looking specifically at each program and
2 how it could adapt to the challenges presented by the pandemic. The group will
3 continue to examine customer behaviors and potential adjustments to the
4 program portfolio as conditions change.

5 **Q. DID DEP AND THE COLLABORATIVE DISCUSS THE ISSUE OF AN**
6 **APPROPRIATE WAY TO REFLECT THE FULL AVOIDED**
7 **CAPACITY INCLUDING AVOIDED RESERVE CAPACITY?**

8 A. Yes. At its January 29th Collaborative Meeting, the Company shared its
9 proposed methodology to calculate the Reserve Margin Adjustment Factor
10 ("RMAF") to be applied to Vintage 2022, as well as the underlying facts
11 substantiating the amount. No parties voiced disagreement with the proposed
12 RMAF or the factual substantiation for the RMAF.

13 **Q. IS THE COMPANY PROPOSING TO APPLY A RESERVE MARGIN**
14 **ADJUSTMENT FACTOR TO THE AVOIDED CAPACITY VALUES**
15 **ASSOCIATED WITH ENERGY EFFICIENCY SAVINGS IN ITS**
16 **APPLICATION?**

17 A. Yes.

18 **Q. WHAT INFORMATION DOES THE COMPANY BELIEVE**
19 **SUBSTANTIATES THE RMAF THAT IT IS PROPOSING TO APPLY**
20 **TO THE 2022 AVOIDED CAPACITY ASSOCIATED WITH ENERGY**
21 **EFFICIENCY SAVINGS?**

1 A. The Company believes that the following four facts substantiate and support the
2 RMAF that it is proposing be applied to the capacity savings associated with
3 energy efficiency savings in the projection of Vintage 2022.

4 1. The Company's Integrated Resource Plan included a 17% reserve margin
5 to be applied to supply-side resources.

6 2. EE measures included in the Company's DSM portfolio are assigned Peak
7 kilowatt ("KW") reductions, subject to validation through routine EM&V.

8 3. The Avoided Capacity Rate to be applied in the valuation of these Peak
9 KW reductions complies with the methodology approved in the 2020 Sub
10 1032 Order, issued on October 20, 2020.

11 4. The approved Avoided Capacity Rate as described above includes a
12 Performance Adjustment Factor ("PAF") of 1.05, and the PAF is intended
13 to represent an estimated Equivalent Forced Outage Rate ("EFOR").

14 **Q. GIVEN THESE FACTS, WHAT IS THE MAGNITUDE OF THE RMAF**
15 **THAT THE COMPANY IS PROPOSING BE APPLIED TO ITS**
16 **PROJECTION OF VINTAGE 2022?**

17 A. The Company is proposing to apply an 11.429% RMAF to the capacity savings
18 associated with energy efficiency programs.

19 **Q. CONTINUING IN 2021, WILL THE DEC/DEP COLLABORATIVE**
20 **MEET EVERY OTHER MONTH?**

21 A. Yes.

22 **Q. DID THE COMMISSION DIRECT THE COMPANY TO PROVIDE**
23 **INFORMATION ON ANY OTHER ITEMS?**

1 A. In addition to the ordered items, the Commission requested additional
2 information on a variety of topics.

3 **Q. HAS THE COMPANY ANALYZED THE COST-EFFECTIVENESS**
4 **SCORES FOR ITS DISTRIBUTION SYSTEM DEMAND RESPONSE**
5 **(“DSDR”) PROGRAM?**

6 A. Yes. The Company has determined that the TRC and UCT cost-effectiveness
7 scores are both 1.121. In addition, the present value of DSDR Program net
8 benefits is approximately \$36,626,000.

9 **Q. HAS THE COMPANY MADE ANY CHANGES TO ITS ANNUAL**
10 **RATIOS OF ALLOCATIONS BETWEEN DSDR AND NON-DSDR**
11 **EQUIPMENT?**

12 A. Yes. The Company reviews the allocation ratios annually each summer and
13 implements any necessary updates the following year. The Company reviewed
14 2019 units during the summer of 2020 and determined that the capacitor
15 allocation ratio should be reduced from 20.48 to 20.35 percent, and the
16 allocation ratio applied to regulators was reduced from 78.56 to 77.64 percent.
17 The 2020 units will be reviewed this summer, and any further changes will be
18 communicated to the Public Staff and implemented on January 1, 2022.

19 **Q. PLEASE EXPLAIN HOW THE COMPANY WILL DISTINGUISH PEAK**
20 **DEMAND AND ENERGY SAVINGS BETWEEN THE GRID**
21 **IMPROVEMENT PROGRAM (“GIP”) AND DSM/EE PROGRAMS.**

22 A. As GIP is implemented, any impacts on DSM/EE programs will show up in the
23 individual DSM and EE program EM&V results. The EM&V process is

1 important as the GIP's impacts could vary by type of measure and, as such,
2 from program to program. Only the DEP DSDR to Conservation Voltage
3 Reduction ("CVR") Conversion program within the GIP is anticipated to result
4 in demand and energy savings impacts.

5 In response to the Commission's April 16, 2021 *Order Accepting Stipulations*,
6 *Granting Partial Increase and Requiring Customer Notice* in Docket No. E-2,
7 Sub 1219, the Company is working to (1) determine the amount of peak
8 reduction capacity that will be lost due to the conversion and propose a method
9 of replacing that lost capacity in Docket No. E-100, Sub 165 (the Integrated
10 Resource Plan or "IRP" docket); (2) file in the IRP docket and Docket No. E-
11 2, Sub 926 (Sub 926) a revised DSDR-to-CVR conversion cost-benefit analysis
12 that incorporates the cost of replacing any lost peak reduction capacity; and (3)
13 file an updated report in the IRP docket and Sub 926 that estimates CVR's
14 anticipated capital and O&M costs, peak reduction, and energy savings for the
15 next 10 years. DEP plans to file this information by August 1, 2021.

16 **Q. PLEASE PROVIDE A LIST OF GIP PROJECTS THAT HAVE BEEN**
17 **IMPLEMENTED AND EXPLAIN HOW THOSE PROJECTS HAVE**
18 **AFFECTED THE PERFORMANCE OF THE COMPANY'S DSM/EE**
19 **PORTFOLIO.**

20 A. In 2020, the Company began a programmatic approach to implementing the
21 GIP projects. Of the various components associated with the GIP, only the
22 DSDR to CVR Conversion program is anticipated to impact the performance
23 of the Company's DSM/EE portfolio. Since the DSDR to CVR Conversion

1 program has not yet occurred, there is no effect on the performance of the
2 Company's DSM/EE portfolio at this time.

3 The Capacity component of the Self Optimized Grid ("SOG") program
4 includes reconductoring power lines to larger size wires to accommodate two-
5 way power flow. An additional benefit of this upgrade includes reduced line
6 losses on the distribution circuitry. Those efficiencies from SOG along with
7 efficiencies gained from other maintenance activities on the distribution system
8 are captured in periodic line loss studies. DSM/EE uses the line loss in its
9 analysis; therefore, SOG creates no additional impact.

10 **Q. DID THE COMPANY FILE A CORRECTED EM&V ANALYSIS OF**
11 **ITS SAVE ENERGY AND WATER KIT MEASURES?**

12 A. Yes. A revised Save Energy and Water Kit evaluation report was submitted
13 with this filing as Evans Exhibit A.

14 **Q. WHAT ACTIONS ARE BEING TAKEN TO MAINTAIN OR IMPROVE**
15 **THE COST EFFECTIVENESS OF THE COMPANY'S RESIDENTIAL**
16 **SMART SAVER PROGRAM?**

17 A. In its efforts to maintain the cost effectiveness of this program, the Company
18 will further differentiate between referred and non-referred measures. This
19 differentiation will impact incentives and will be implemented with input from
20 the Collaborative using existing flexibility guidelines.

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

2 **Q. PLEASE PROVIDE AN OVERVIEW OF THE INFORMATION DEP IS**
3 **PROVIDING IN RESPONSE TO THE COMMISSION'S FILING**
4 **REQUIREMENTS.**

5 A. The information for this filing is provided pursuant to the Commission's filing
6 requirements contained in R8-69(f)(1) and can be found in my testimony and
7 exhibits, as well as the testimony and exhibits of Company witness Shannon R.
8 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 DSM/EE rider:	
(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 10 and 11
(ii)	d.	Expected summer and winter 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-D
(iii)	d.	Total summer and winter 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 1

(v)	Actual revenues from DSM/EE and DSM/EE EMF riders	Listebarger Exhibit 3
(vi)	Proposed DSM/EE rider	Testimony of Shannon Listebarger and Listebarger Exhibit 1
(vii)	Projected NC sales for customers opting out of measures	Listebarger Exhibit 6
(viii)	Supporting work papers	Digital medium accompanying filing

1

IV. PROGRAM OVERVIEW

2

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

3

A. The Company's current DSM and EE programs are as follows:

4

RESIDENTIAL CUSTOMER PROGRAMS

5

- EE Education Program

6

- Multi-Family EE Program

7

- My Home Energy Report Program

8

- Neighborhood Energy Saver Program

9

- Residential Smart \$aver EE Program

10

- New Construction Program

11

- Load Control Program (EnergyWise)

12

- Save Energy and Water Kit Program (*now part of the EE Appliances and Devices Program*)

13

14

- Energy Assessment Program

15

- Low-Income Weatherization Pay for Performance Pilot Program

16

- Energy Efficient Appliances and Devices Program

1 **NON-RESIDENTIAL CUSTOMER PROGRAMS**

- 2 • Non-Residential Smart \$aver Energy Efficient Products and
- 3 Assessment Program
- 4 • Non-Residential Smart \$aver Performance Incentive Program
- 5 • Small Business Energy Saver Program
- 6 • CIG Demand Response Automation Program
- 7 • EnergyWise for Business

8 **COMBINED RESIDENTIAL/NON-RESIDENTIAL PROGRAMS**

- 9 • Energy Efficient Lighting Program
- 10 • DSDR

11 **Q. PLEASE DESCRIBE ANY UPDATES MADE TO THE UNDERLYING**

12 **ASSUMPTIONS FOR DEP'S PROGRAMS THAT HAVE ALTERED**

13 **PROJECTIONS FOR VINTAGE 2022.**

14 A. EM&V results were used to update the savings impacts for those programs for

15 which DEP received EM&V results after it prepared its application in Sub 1206.

16 Updating programs for EM&V results changes the projected avoided cost

17 benefits associated with the projected participation and, hence, impacts the

18 calculation of the specific program and overall portfolio cost-effectiveness, as

19 well as the calculation of DEP's projected shared savings incentive.

20 **Q. AFTER FACTORING THESE UPDATES INTO DEP'S PROGRAMS**

21 **FOR VINTAGE 2022, DO THE RESULTS OF DEP'S PROSPECTIVE**

22 **COST-EFFECTIVENESS TESTS INDICATE THAT IT SHOULD**

23 **DISCONTINUE OR MODIFY ANY OF ITS PROGRAMS?**

1 A. DEP performed a prospective analysis of each of its programs and the aggregate
2 portfolio for the Vintage 2022 period. The results of this prospective analysis
3 are contained in Evans Exhibit 7. This exhibit shows that three programs do
4 not pass the TRC threshold of 1.0. These programs are: (1) the Neighborhood
5 Energy Saver Program, which was not cost-effective at the time of Commission
6 approval (but was approved based on its societal benefits); (2) the Low-Income
7 Weatherization Pay for Performance Pilot Program; and (3) the EnergyWise for
8 Business Program. In the aggregate, DEP's portfolio of programs continues to
9 project cost-effectiveness.

10 The cost-effectiveness of the EnergyWise for Business Program is
11 obviously a concern for the Company with its 0.28 UCT score. Due to its
12 performance, the EnergyWise for Business program is being placed in a
13 maintenance mode where the Company will maintain the current level of
14 capacity only by replacing lost customers.

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

16 **Q. HOW MUCH ENERGY, CAPACITY AND AVOIDED COST SAVINGS**
17 **DID DEP DELIVER AS A RESULT OF ITS DSM/EE PROGRAMS**
18 **DURING VINTAGE 2020?**

19 A. During Vintage 2020, DEP's DSM/EE programs delivered almost 355 million
20 kilowatt hours ("kWh") of energy savings and over to 314 megawatts ("MW")
21 of capacity savings, which produced a net present value of avoided cost savings
22 of over to \$136 million. The 2020 performance results for individual programs
23 are provided in Evans Exhibits 6 and 8.

1 **Q. DID ANY PROGRAMS SIGNIFICANTLY OUT-PERFORM**
2 **RELATIVE TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2020?**

3 A. Yes. In the residential market, two programs did significantly out-perform
4 compared to their original energy savings estimates: the Energy Efficient
5 Lighting Program and the Residential My Home Energy Report Program.
6 When compared to estimates originally filed for Vintage 2020, the programs
7 exceeded projections by 111 percent and 34 percent, respectively. The Energy
8 Efficient Lighting Program achieved increases primarily through changes in
9 participation. The increase in the My Home Energy Report Program resulted
10 from changes in EM&V related increased savings.

11 The non-residential program with the largest percentage increase in
12 expected energy savings from those forecasted for 2020 is the EnergyWise for
13 Business Program. This program produced energy savings that exceeded
14 DEP's projections by 904 percent. The difference is primarily associated with
15 EM&V results.

16 **Q. HAVE ANY PROGRAMS SIGNIFICANTLY UNDERPERFORMED**
17 **RELATIVE TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2020?**

18 A. Yes. During 2020, most programs underperformed due to the COVID
19 pandemic.

20 **VI. PROJECTED RESULTS**

21 **Q. PLEASE PROVIDE A PROJECTION OF THE RESULTS THAT DEP**
22 **EXPECTS TO SEE FROM IMPLEMENTATION OF ITS PORTFOLIO**
23 **OF PROGRAMS.**

- 1 A. DEP will update the actual and projected DSM/EE achievement levels in its
 2 annual DSM/EE cost recovery filing to account for any program or measure
 3 additions based on the performance of programs, market conditions, economics,
 4 and consumer demand. The actual results for Vintage 2020 and projection of
 5 the results for the next two years, as well as the associated actual and projected
 6 program expenses, are summarized in the table below:

DEP System (NC & SC) DSM/EE Portfolio 2020 Actual Results and 2021- 2022 Projected Results			
	2020	2021	2022
Annual System MW	314	473	415
Annual System Net Gigawatt-Hours	355	446	462
Annual Program Costs (Millions)	\$84	\$98	\$105

7 **VII. EM&V ACTIVITIES**

8 **Q. CAN YOU PROVIDE INFORMATION ON THE COMPANY'S EM&V**
 9 **ACTIVITIES?**

- 10 A. Yes. Evans Exhibit 10 provides a summary of the estimated activities and
 11 timeframe for completion of EM&V by program. Evans Exhibit 11 provides
 12 the actual and expected dates of when the EM&V for each program or measure
 13 will become effective. Evans Exhibits A through D provide the completed
 14 EM&V reports or updates for the following programs:

Evans Exhibit	EM&V Reports	Report Finalization Date
A	Save Energy and Water Kits 2018 – 2019 (Revised)	04/23/2020
B	Multi-Family Energy Efficiency Program 2017 – 2018/19	4/16/2020

Evans Exhibit	EM&V Reports	Report Finalization Date
C	Non-Residential Smart Saver Prescriptive Program Evaluation Report 2017 - 2018	07/16/2020
D	2020 EM&V Interim Report for the EnergyWise Business Program	02/05/2021

1 **Q. HOW WERE EM&V RESULTS UTILIZED IN DEVELOPING THE**
2 **PROPOSED RATES?**

3 A. The Company has applied EM&V in accordance with the process approved by
4 the Commission in its *Order Approving Revised Cost Recovery Mechanism and*
5 *Granting Waivers*, issued January 20, 2015 in Docket No. E-2, Sub 931 (“Order
6 Approving Revised Mechanism”).

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

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

15 A. All of the impact results included in the Company’s filing (Evans Exhibits A
16 through D) are based on Carolinas-based EM&V.

17 **VIII. RATE IMPACTS**

18 **Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE VINTAGE**
19 **2020 EMF?**

1 A. Yes. The EMF accounts for changes to actual participation relative to the
2 forecasted participation levels utilized in DEP's 2020 DSM/EE rider. As DEP
3 receives actual participation information, it is then able to update participation-
4 driven actual avoided cost benefits and the net lost revenues derived from its
5 DSM and EE programs. For example, with all other things being equal, for
6 programs that underperform relative to their original participation targets, the
7 EMF will be reduced to reflect lower costs, net lost revenues, and shared
8 savings incentives. On the other hand, higher-than-expected participation in
9 programs causes the EMF to reflect higher program costs, net lost revenues,
10 and shared savings incentives. In addition, the EMF is impacted by the
11 application of EM&V results.

12 **Q. HOW WILL EM&V BE INCORPORATED INTO THE VINTAGE 2020**
13 **EMF COMPONENT OF ITS RATES?**

14 A. All of the final EM&V results that were received by DEP as of December 31,
15 2020 have been applied prospectively from the first day of the month
16 immediately following the month in which the study participation sample for
17 the EM&V was completed. Accordingly, for any program for which DEP has
18 received EM&V results, the per participant impact applied to the projected
19 program participation in Vintage 2022 is based upon the actual EM&V results
20 that have been received.

21 **Q. HAS THE OPT-OUT OF NON-RESIDENTIAL CUSTOMERS**
22 **AFFECTED THE RESULTS OF APPROVED PROGRAMS?**

1 A. Yes, the opt-out of qualifying non-residential customers has significantly
2 impacted DEP's overall non-residential participation and the associated
3 impacts. For Vintage 2020, DEP had 5,233 eligible customer accounts opt out
4 of participating in DEP's non-residential portfolio of EE programs and had
5 5,441 eligible customer accounts opt out of participating in DEP's non-
6 residential portfolio of DSM programs. This is a decrease from the 5,868 EE
7 accounts and 5,759 DSM opt-outs reported for 2019. Also during 2020, 23 opt-
8 out eligible accounts opted-in to the EE portion of the Rider, and 6 opt-out
9 eligible accounts opted-in to the DSM portion of the Rider.

10 **Q. IS THE COMPANY CONTINUING ITS EFFORTS TO ATTRACT THE**
11 **PROGRAM PARTICIPATION OF OPT-OUT ELIGIBLE**
12 **CUSTOMERS?**

13 A. Yes. Increasing the participation of opt-out eligible customers in DSM and EE
14 programs is very important to the Company. DEP continues to evaluate and
15 revise its non-residential programs to accommodate new technologies,
16 eliminate product gaps, remove barriers to participation, and make its programs
17 more attractive. The Company also continues to leverage its Large Account
18 Management Team to make sure customers are informed about product
19 offerings.

20 **IX. NET LOST REVENUES**

21 **Q. IS DEP REQUESTING RECOVERY OF NET LOST REVENUES FOR**
22 **ALL OF ITS PROGRAMS?**

1 A. No. At this time, DEP is not requesting recovery of net lost revenues for its
2 DSDR, EnergyWise, or CIG Demand Response Automation programs.

3 **Q. HAS THE COMPANY RECOGNIZED FOUND REVENUES IN ITS**
4 **CALCULATION OF NET LOST REVENUES?**

5 A. Yes. The recognized found revenues are provided in Evans Exhibit 4.

6 **Q. PLEASE DESCRIBE HOW DEP DETERMINES ITS FOUND**
7 **REVENUES.**

8 A. Consistent with the Commission's Order Approving Revised Mechanism, DEP
9 has adopted the "Decision Tree" located in Attachment C of the approved
10 revised cost recovery mechanism. Consistent with the methodology employed
11 by DEP, found revenue activities are identified, categorized, and netted against
12 the net lost revenues created by DEP's EE programs. Found revenues, as
13 calculated, result from DEP's activities that are perceived to directly or
14 indirectly result in an increase in customer demand or energy consumption
15 within DEP's service territory. However, revenues resulting from load-
16 building activities would not be considered found revenues if they (1) would
17 have occurred regardless of DEP's activity, (2) were a result of a Commission-
18 approved economic development activity not determined to produce found
19 revenues, or (3) were part of an unsolicited request for DEP to engage in an
20 activity that supports efforts to grow the economy. Additionally, under N.C.
21 Gen. Stat. § 62-3(23)(n) any increases from customer demand or energy
22 consumption associated with transportation electrification shall not constitute
23 found revenues for an electric public utility. DEP also adjusts the calculation

1 of found revenues to account for the impacts of activities outside of DSM/EE
2 programs that it undertakes that reduce customer consumption – i.e., “negative
3 found revenues.” Based on the results of this work, all potential found revenue-
4 related activities are identified and categorized in Evans Exhibit 4.

5 **Q. PLEASE DISCUSS THE ADJUSTMENT THAT DEP MAKES TO ITS**
6 **FOUND REVENUE CALCULATION TO ACCOUNT FOR NEGATIVE**
7 **FOUND REVENUES.**

8 A. DEP continues to aggressively pursue, with its outdoor lighting customers, the
9 replacement of aging Mercury Vapor lights with Light Emitting Diode (“LED”)
10 fixtures. By moving customers past the standard High-Pressure Sodium
11 (“HPS”) fixture to an LED fixture in this replacement process, DEP is
12 generating significant energy savings. Because they come outside of DEP’s EE
13 programs, these energy savings are not captured in DEP’s calculation of lost
14 revenues. One of the activities that DEP includes in the calculation of found
15 revenues is the increase in consumption from new outdoor lighting fixtures
16 added by DEP; accordingly, it is logical and symmetrical to count the energy
17 consumption reduction realized in outdoor lighting efficiency upgrades. The
18 Company does not take credit for the entire efficiency gain from replacing
19 Mercury Vapor lights, but rather takes credit only from the efficiency gain from
20 replacing HPS with LED fixtures. Also, DEP has not recognized any negative
21 found revenues in excess of the found revenues calculated; in other words, the
22 net found revenues number will never be negative and have the effect of
23 increasing net lost revenue calculations.

1 **X. PPI AND PRI CALCULATIONS**

2 **Q. PLEASE PROVIDE AN OVERVIEW OF THE SHARED SAVINGS**
3 **RECOVERY MECHANISM APPROVED IN THE ORDER**
4 **APPROVING REVISED MECHANISM.**

5 A. Pursuant to the Commission's Order Approving Revised Mechanism, for
6 Vintage Year 2017 and subsequent vintage years, DEP's revised cost recovery
7 mechanism allows it to (1) recover the reasonable and prudent costs incurred
8 for adopting and implementing DSM and EE measures in accordance with N.C.
9 Gen. Stat. § 62-133.9 and Commission Rules R8-68 and R8-69; (2) recover net
10 lost revenues incurred for up to 36 months of a measure's life for DSM and EE
11 programs; and (3) earn a PPI based upon the sharing of a percentage of the net
12 savings achieved through DEP's DSM/EE programs on an annual basis. Prior
13 to 2022, the shared savings percentage is 11.5% and starting in 2022, this
14 percentage is lowered to 10.6%. The PPI is also subject to certain limitations
15 that are set forth in the Cost Recovery and Incentive Mechanism.

16 **Q. PLEASE EXPLAIN HOW DEP DETERMINES THE PPI.**

17 A. First, DEP determines the net savings eligible for incentive by subtracting the
18 present value of the annual lifetime DSM/EE program costs (excluding
19 approved low-income programs as described below) from the net present value
20 of the annual lifetime avoided costs achieved through the Company's programs
21 (again, excluding approved low-income programs). The Company then
22 multiplies the net savings eligible for incentive by the applicable shared savings
23 percentage to determine its pre-tax incentive.

1 **Q. PLEASE EXPLAIN WHETHER DEP EXCLUDES ANY PROGRAMS**
2 **FROM THE DETERMINATION OF ITS PPI CALCULATION.**

3 A. Consistent with the Commission’s Orders in Docket No. E-2 Sub 931, DEP has
4 excluded the impacts and costs associated with the Neighborhood Energy Saver
5 Program and the EE Education Program from its calculation of the PPI. At the
6 time these programs were approved, they were not cost-effective, but were
7 approved based on their societal benefit. Beginning in 2022, the Income-
8 Qualified EE and EE Education programs are eligible to receive a program
9 return incentive (“PRI”). The PRI is determined by multiplying the net present
10 value of avoided cost by 10.6 percent. As with the PPI, the PRI is also subject
11 to certain limitations that are set forth in the Cost Recovery and Incentive
12 Mechanism approved by the Commission in Docket No. E-2, Sub 931 on
13 October 20, 2020.

14 **XI. CONCLUSION**

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

16 A. Yes.