BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1230

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

I. INTRODUCTION AND PURPOSE

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

A. My name is Robert P. Evans, and my business address is 150 Fayetteville Street, Raleigh, North Carolina 27602. I am employed by Duke Energy Corporation ("Duke Energy") as Senior Manager-Strategy and Collaboration for the Carolinas in the Market Solutions Regulatory Strategy and Evaluation group.

Q. PLEASE BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

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

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

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

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

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

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

Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

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

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

A. My testimony supports DEC's Application for approval of its DSM/EE Cost Recovery Rider, Rider EE, for 2021 ("Rider 12"), which encompasses the Company's currently effective cost recovery and incentive mechanism ("Mechanism") and portfolio of programs approved in the Commission's *Order Approving DSM/EE Programs and Stipulation of Settlement* issued October 29, 2013, in Docket No. E-7, Sub 1032 ("Sub 1032 Order"). My testimony provides (1) a discussion of items the Commission specifically directed the Company to address in this proceeding; (2) an overview of the Commission's Rule R8-69 filing requirements; (3) a synopsis of the DSM/EE programs included in this filing; (4) a discussion of program results; (5) an explanation of how these results have affected the Rider 12 calculations; (6) information on DEC's Evaluation Measurement & Verification ("EM&V") activities; (7) an overview of the calculation of the Portfolio Performance Incentive ("PPI"); and (8) information relating to the Collaborative.

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. Evans Exhibit 1 supplies, for each program, load impacts and avoided cost revenue requirements by vintage. Evans Exhibit 2 contains a summary of net

lost revenues for the period January 1, 2017 through December 31, 2021. Evans Exhibit 3 contains the actual program costs for North Carolina for the period January 1, 2017 through December 31, 2019. Evans Exhibit 4 contains the found revenues used in the net lost revenues calculations. Evans Exhibit 5 supplies evaluations of event-based programs. Evans Exhibit 6 contains information about and the results of DEC's programs and a comparison of actual impacts to previous estimates. Evans Exhibit 7 contains the projected program and portfolio cost-effectiveness results for the Company's current portfolio of programs. Evans Exhibit 8 contains a summary of 2019 program performance and an explanation of the variances between the forecasted program results and the actual results. Evans Exhibit 9 is a list of DEC's 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). Evans Exhibit 10 contains the projected shared savings incentive (PPI) associated with Vintage 2021. 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, 2019 and for the previous five test periods. Evans Exhibits A through E provide the detailed completed EM&V reports or updates for the

following: Income-Qualified EE and Weatherization Program (Neighborhood Energy Saver) - 2017 (Evans Exhibit A); My Home Energy Report Program Evaluation 2017-2018 (Evans Exhibit B); PowerShare Program - 2018 (Evans Exhibit C); Energy Efficiency Education in Schools 2017-2018 (Evans Exhibit D); and Residential Smart $aver EE 2016-2017 (Revised) (Evans Exhibit E).

Q. WERE EVANS EXHIBITS 1-13 PREPARED BY YOU OR AT YOUR DIRECTION AND SUPERVISION?

A. Yes, they were.

II. ACTIONS ORDERED BY THE COMMISSION

Q. PLEASE DESCRIBE THE ACTIONS THE COMMISSION DIRECTED DEC TO TAKE IN THE COMMISSION'S ORDER IN DOCKET NO. E-7, SUB 1192.

A. In its October 18, 2019 *Order Approving DSM/EE Rider and Requiring Filing of Customer Notice* in Docket No. E-7, Sub 1192 ("Sub 1192"), the Commission ordered: (1) that the combined DEC/DEP Collaborative should continue to meet every other month; and (2) that DEC shall include in its future DSM/EE applications a table that shows DEC's test period DSM/EE costs and savings, and that same information for the previous five years.

Q. HAS THE COMBINED DEC/DEP COLLABORATIVE CONTINUED MEETING EVERY OTHER MONTH?

A. Yes, the combined DEC/DEP collaborative has continued to meet every other month. Further information associated with the DEC/DEP Collaborative is been provided in Section X of my testimony.

Q. HAS THE COMPANY INCLUDED A TABLE IN ITS FILING THAT SHOWS DEC'S TEST PERIOD DSM/EE COSTS AND SAVINGS, AND THAT SAME INFORMATION FOR THE PREVIOUS FIVE YEARS?

A. Yes. The requested table is identified as Evans Exhibit 13.

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 12 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 Evans and Miller as follows:

R8-69(f)(1)		Items	Location in Testimony
(i)		Projected NC retail sales for the rate period	Miller Exhibit 6
(ii)		For each measure for which cost recovery is requested through Rider 12:	
(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-E
(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	Miller Exhibit 4
(vi)		Proposed Rider 12	Testimony of Carolyn Miller and Miller Exhibit 1
(vii)		Projected NC sales for customers opting out of measures	Miller Exhibit 6
(viii)		Supporting work papers	CD accompanying filing

IV. PORTFOLIO OVERVIEW

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

A. The Company has two interruptible programs for nonresidential customers, Interruptible Service ("IS") and Standby Generation ("SG"), which are

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

RESIDENTIAL CUSTOMER PROGRAMS

- Energy Assessment Program
- EE Education Program
- Energy Efficient Appliances and Devices Program
- Smart $aver EE Program
- Multi-Family EE Program
- My Home Energy Report (MyHER) Program
- Income-Qualified EE and Weatherization Program
- Power Manager Load Control Service Program

NONRESIDENTIAL CUSTOMER PROGRAMS

- Nonresidential Smart $aver Energy Efficient Products and Assessment Program:
  - Energy Efficient Food Service Products
  - Energy Efficient HVAC Products
  - Energy Efficient IT Products
  - Energy Efficient Lighting Products
  - Energy Efficient Process Equipment Products
  - Energy Efficient Pumps and Drives Products
  - Custom Incentive and Energy Assessment
- PowerShare Nonresidential Load Curtailment Program

- Small Business Energy Saver Program
- EnergyWise for Business Program
- Nonresidential Smart $aver Performance Incentive Program

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

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

Q. PLEASE DESCRIBE ANY UPDATES MADE TO THE UNDERLYING ASSUMPTIONS FOR DEC'S PORTFOLIO OF PROGRAMS THAT HAVE ALTERED PROJECTIONS FOR VINTAGE 2021.

A. Updates to underlying assumptions that materially impact DEC's 2021 portfolio projection are related to EM&V-related impacts and changes in avoided costs.

Q. PLEASE DESCRIBE THE EM&V IMPACT TO DEC'S ESTIMATED 2021 PROGRAM PORTFOLIO.

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 application in Sub 1192. Updating EM&V for its programs results in changes to the projected avoided cost benefits associated with the projected participation. Hence, these EM&V updates will impact the calculation of the

specific program and overall portfolio cost-effectiveness, as well as impact the calculation of DEC's projected shared savings incentive.

Q. PLEASE DESCRIBE THE AVOIDED COST IMPACT TO DEC'S ESTIMATED 2021 PROGRAM PORTFOLIO.

A. Changes in the avoided cost rates directly impact the cost effectiveness of the Company's programs. Because the avoided cost rates have declined, the cost effectiveness of the Company's programs have tended to decline as well.

Q. AFTER FACTORING THESE UPDATES INTO THE VINTAGE 2021 PORTFOLIO, DO THE RESULTS OF DEC'S PROSPECTIVE TOTAL RESOURCE COST-EFFECTIVENESS TESTS INDICATE THAT IT SHOULD DISCONTINUE OR MODIFY ANY OF ITS PROGRAMS?

A. DEC performed a prospective analysis of each of its programs and the aggregate portfolio for the Vintage 2021 period. The cost-effectiveness results for the entire portfolio for Vintage 2021 are contained in Evans Exhibit 7. The aggregate portfolio continues to project cost-effectiveness, with the exception of the Income-Qualified EE Products and Services Program, which was not cost-effective at the time of Commission approval, the Residential Smart $aver EE Program, which is continuing its transformation to an all referral channel, and elements of the Nonresidential Smart $aver Program. Based on the results of these cost-effectiveness tests, there are no reasons to discontinue any of DEC's programs. Notably, the Company continues to examine its programs for potential modifications to increase their effectiveness, regardless of the current cost-effectiveness results.

Q. PLEASE IDENTIFY THE ELEMENTS OF THE NONRESIDENTIAL SMART $AVER PROGRAM THAT WERE FORECASTED TO BE LESS THAN COST EFFECTIVE?

A. The Food Service and Information Technology subcategories of the Nonresidential Smart $aver Program had TRC scores that were less than 1.0.

Q. WOULD IT BE APPROPRIATE TO DISCONTINUE THESE ELEMENTS?

A. No, it would not. These elements are integral for insuring that a robust portfolio of prescriptive offerings is available for its nonresidential customers. In addition, these elements are merely measure categories within a much larger program. The TRC score for the prescriptive portion of the Nonresidential Smart $aver Program is 2.05, and the TRC score for the Nonresidential Smart $aver Program, as a whole, is 1.71.

Q. DID DEC MODIFY ITS PORTFOLIO OF PROGRAMS DURING VINTAGE 2019?

A. Yes. The Company has made several modifications to its portfolio of programs during Vintage 2019 that were intended to increase its cost effectiveness. During 2019, the Company implemented several changes to its Residential Smart $aver Energy Efficiency Program. The most important of these is the continued transformation to an all referral channel. Additional modifications were made in compliance with the Flexibility Guidelines approved by the Commission in its Sub 1032 Order. The impacted programs and summaries of their modifications are provided below:

Nonresidential Smart $aver Energy Efficient Products and Assessment Program – Prescriptive Measures

New measures were added to the program. These new measures included pipe insulation, LED lamps, LED signs, vending controls, refrigeration timers and controls.

Residential Appliances and Devices Program

Additional water measures were added to the program.

V. DSM/EE PROGRAM RESULTS TO DATE

Q. HOW MUCH ENERGY, CAPACITY AND AVOIDED COST SAVINGS DID DEC DELIVER AS A RESULT OF ITS DSM/EE PROGRAMS DURING VINTAGE 2019?

A. During Vintage 2019, DEC's DSM/EE programs delivered over 844 million kilowatt-hours ("kWh") of energy savings and slightly over 1,103 megawatts ("MW") of capacity savings, which produced net present value of avoided cost savings of close to $438 million. The 2019 performance results for individual programs are provided on page 3 of Evans Exhibit 1.

Q. DID ANY PROGRAMS SIGNIFICANTLY OUT-PERFORM RELATIVE TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2019?

A. Yes. During Vintage 2019, DEC's portfolio of programs was able to deliver energy and capacity savings that yielded avoided costs that were 123 percent of the target, and it did so while expending 104 percent of targeted program costs. Although the Company's entire portfolio of programs performed well,

programs in the portfolio that feature lighting measures continued to contribute the largest portion of the avoided cost impacts. In the residential market, the three highest ranked programs in terms of percentage increases in avoided costs from those forecasted for 2019 were the Income-Qualified Energy Efficiency and Weatherization Assistance, Energy Efficient Appliances and Devices Program, and the Smart $aver EE Program. These impacts were achieved largely due to elevated participation of customers adopting measures at a higher rate than originally forecasted. The avoided cost savings impacts for these three programs, compared to those originally filed for Vintage 2019, exceeded the projections by 239 percent, 196 percent, and 157 percent, respectively. The energy savings impacts for these programs, compared to those originally filed for Vintage 2019, exceeded the projections by 223 percent, 193 percent and 143 percent, respectively.

The nonresidential offering with the largest percentage increase in avoided cost savings impacts from those forecasted for 2019 was the Energy Efficient Lighting portion of the Nonresidential Smart $aver Energy Efficient Products and Assessments Program. This produced 158 percent of expected avoided costs and 173 percent of expected energy savings.

Q. HAVE ANY PROGRAMS SIGNIFICANTLY UNDERPERFORMED RELATIVE TO THEIR ORIGINAL ESTIMATES IN VINTAGE 2019?

A. In the high performing residential portfolio, none of the Company's residential programs can be considered as significantly underperforming.

In the nonresidential market, elements of the Nonresidential Smart $aver Energy Efficient Products and Assessments Program, the Nonresidential Smart Saver Performance Incentive Program, and the Small Business Energy Saver did not deliver the impacts expected relative to their forecast.

Several of the prescriptive product lines contained in the Nonresidential Smart $aver Energy Efficient Products and Assessments Program, such as those applicable to information technology and food services delivered less than optimal results when viewed in isolation. The prescriptive measures contained in the Nonresidential Smart $aver Energy Efficient Products and Assessments Program collectively produced 123 percent of forecasted avoided costs, 127 percent of forecasted capacity savings, and 98 percent of forecasted energy savings. These results are optimal when considering that program costs were 85 percent of those that were forecasted for the period.

The Custom Technical Assessments portion of the Nonresidential Smart $aver Energy Efficient Products and Assessments Program, as a standalone, did not meet forecasted expectations; however, the aggregated Custom portion of the Program produced close to 133 percent of forecasted avoided costs, 129 percent of forecasted capacity savings, and 78 percent of forecasted energy savings, while expending only 78 percent of forecasted costs.

The Nonresidential Smart Saver Performance Incentive Program did not meet forecasted expectations. The Nonresidential Smart Saver Performance Incentive Program is an adjunct to the Nonresidential Smart $aver Energy Efficient Products and Assessments Program, which was specifically designed for use with non-standard measures or in situations where anticipated savings are difficult to measure. The Nonresidential Smart $aver Energy Efficient Products and Assessments family of programs produced close to 120 percent of forecasted avoided costs, 122 percent of forecasted capacity savings, and 91 percent of forecasted energy savings, while expending only 82 percent of forecasted costs.

The Small Business Energy Saver program, due to lower than expected participation, only produced approximately 68 percent of forecasted avoided costs, 63 percent of forecasted capacity savings, and 71 percent of forecasted energy savings. Program costs during 2019 were 78 percent of the forecasted amount.

VI. PROJECTED RESULTS

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

A. Consistent with its practices during the save-a-watt pilot, 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 2019 and projection of the results for Vintages 2020 and 2021, as well as the associated projected program expense for DEC's portfolio of programs, are summarized in the following table:

DEC System (NC & SC) DSM/EE Portfolio 2019 Actual Results and 2020-2021 Projected Results			
	2019	2020	2021
Annual System Net MW	1,103	1,119	1,187
Annual System Net GWh	844	695	760
Annual Program Costs (Millions)	$150	$136	$143

The Vintage 2020 projections are similar to those provided by DEC and reported to the Commission in Sub 1192. The projected impacts and cost for Vintage 2021 are different due to updated participation estimates and the EM&V results that have been applied to the following programs: Income-Qualified EE and Weatherization Program (Neighborhood Energy Saver) Program; My Home Energy Report Program (MyHER); PowerShare Program; Energy Efficiency Education in Schools; and Residential Smart $aver EE Program.

VII. EM&V ACTIVITIES

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

A. Evans Exhibit 11 summarizes 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 Exhibits A through E provide the detailed completed EM&V reports or updates for the following programs:

Evans Exhibit	EM&V Reports	Report Finalization Date	Evaluation Type
A	Income-Qualified EE and Weatherization Program (Neighborhood Energy Saver) Program Evaluation Report: 2017	11/30/2019	Process and Impact
B	My Home Energy Report Program Evaluation: 2017-2018	7/10/2019	Process and Impact
C	PowerShare Program Evaluation: 2018	5/2/2019	Process and Impact
D	Energy Efficiency Education in Schools Evaluation Report: 2017-2018	2/1/2019	Process and Impact
E	Smart $aver Evaluation Report: 2016–2017 (Revised)	3/15/19	Process and Impact

Q. HOW WERE EM&V RESULTS UTILIZED IN DEVELOPING THE PROPOSED RIDER 12?

A. The Company has applied EM&V consistently with the agreement among DEC, SACE, and the Public Staff and approved by the 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"). In accordance with the Sub 1032 Order, DEC continues to apply EM&V in accordance with the 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 and the Low-Income EE and Weatherization Assistance 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 the initial estimates of impacts until it has EM&V results, which will then be applied retrospectively back 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.

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

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 is new and different in the energy industry. DEC estimates,

however, that no additional costs above 5 percent of total program costs will be associated with performing EM&V for all measures in the portfolio.

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

A. The following programs have Carolinas-based EM&V applied and have been provided as Evans Exhibits A through E:

Income-Qualified EE and Weatherization Program (Neighborhood Energy Saver) Program - 2017 (Evans Exhibit A); My Home Energy Report Program Evaluation 2017-2018 (Evans Exhibit B); PowerShare Program - 2018 (Evans Exhibit C); Energy Efficiency Education in Schools 2017-2018 (Evans Exhibit D); and Residential Smart $aver EE 2016-2017 (Revised) (Evans Exhibit E).

VIII. RIDER IMPACTS

Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE VINTAGE 2019 EXPERIENCE MODIFICATION FACTOR?

A. Yes. The EMF in Rider 12 accounts for changes to actual participation relative to the forecasted participation levels utilized in DEC's Vintage 2016 Rider EE. As DEC receives actual participation information, it is then able to update 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 information technology and food service related prescriptive measures offered as a part of the Nonresidential Smart $aver Energy Efficient Products and Assessment Program

underperformed relative to their original participation targets. As a result, the EMF will be reduced to reflect the lower costs, net lost revenues, and shared savings incentive (PPI) associated with these programs. On the other hand, higher-than-expected participation in programs, such as the Residential Energy Efficient Appliances and Devices Program, causes the EMF to reflect higher program costs, net lost revenues, and PPI. In addition to the above, the EMF is impacted by the application of EM&V results.

Q. HOW WILL EM&V BE INCORPORATED INTO THE VINTAGE 2019 TRUE-UP COMPONENT OF RIDER 12?

A. All of the final EM&V results that have been received by DEC as of December 31, 2019 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 in accordance with the EM&V Agreement. Accordingly, for any program for which DEC has received EM&V results, the per participant impact applied to the projected program participation in Vintage 2019 is based upon the actual EM&V results that have been received.

Q. PLEASE DESCRIBE HOW DEC CALCULATED FOUND REVENUES.

A. Consistent with the Sub 1032 Order 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 Order, 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 Commission-approved 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 Evans Exhibit 4. Additionally, consistent with the methodology employed and approved in Docket No. E-7, Sub 1073, as discussed in detail in the testimony of Company witness Timothy J. Duff in Docket No. E-7, Sub 1050, DEC also proposes to adjust calculation of found revenues to account for the impacts of activities outside of its EE programs that it undertakes that reduce customer consumption – i.e., "negative found revenues."

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

A. DEC continues to aggressively pursue, with its outdoor lighting customers, the replacement of aging Mercury Vapor lights with Light Emitting Diode

("LED") fixtures. By moving customers past the standard High Pressure Sodium ("HPS") fixture to an LED fixture in this replacement process, DEC is generating significant energy savings. These energy savings, since they come outside of DEC's EE programs, are not captured in DEC's calculation of lost revenues. Since one of the activities that DEC includes in the calculation of found revenues is the increase in consumption from new outdoor lighting fixtures added by DEC, it is logical and symmetrical to count the energy consumption reduction realized in outdoor lighting efficiency upgrades. The Company does not take credit for the entire efficiency gain from replacing Mercury Vapor lights, but rather only the efficiency gain from replacing HPS with LED fixtures. In addition, DEC has not recognized any negative found revenues in excess of the found revenues calculated; in other words, the net found revenues number will never be negative and have the effect of increasing net lost revenue calculations. In Docket No. E-7, Sub 1073, the Commission found inclusion of negative found revenues associated with the Company's initiative to replace Mercury Vapor lighting with LED fixtures in the calculation of net found revenues to be reasonable, and the Company proposes to continue this practice in Rider 12.

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

A. Yes, the opt-out of qualifying nonresidential customers has had a negative effect on DEC's overall nonresidential impacts. For Vintage 2019, DEC had

4,962 eligible customer accounts opt out of participating in DEC's nonresidential portfolio of EE programs. In addition, DEC had 5,537 eligible customer accounts opt out of participating in DEC's nonresidential DSM programs. It is important to note that during 2019, 11 opt-out eligible customers opted-in to the EE portion of the Rider, and 28 opt-out eligible customers opted-in to the DSM portion of the Rider.

Q. PLEASE EXPLAIN THE INCREASE IN THE NUMBER OF OPT-OUTS IN 2019 COMPARED TO 2018.

A. Because the Company does not take part in the customers' economic benefit analysis or the customers' decision-making process, providing a concrete explanation why opt-outs increased is difficult. As nonresidential customers become better equipped at determining the economic benefit of participating in the Company's DSM/EE programs versus the costs associated with opting into the DSM/EE rider, they are more knowledgeable on the best allocation of their resources. Thus, the Company believes this knowledge, coupled with increases to the Rider EE rates, is leading to the increase in eligible customer opt-outs.

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

A. Yes. Increasing the participation of opt-out eligible customers in DSM and EE programs is very important to the Company. As discussed earlier, 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.

IX. PPI CALCULATION

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

A. Pursuant to the Sub 1032 Order, the Mechanism allows DEC to (1) recover the reasonable and prudent costs incurred for adopting and implementing DSM and EE measures in accordance with N.C. Gen. Stat. § 62-133.9 and 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 11.5% of the net savings achieved through DEC's DSM/EE programs on an annual basis.

Q. PLEASE EXPLAIN HOW DEC DETERMINES THE PPI.

A. First, DEC determines the net savings eligible for incentive by subtracting the present value of the annual lifetime DSM/EE program costs (excluding approved low-income programs as described below) from the net present value of the annual lifetime avoided costs achieved through the Company's programs (again, excluding approved low-income programs). The Company then multiplies the net savings eligible for incentive by the 11.5% shared savings percentage to determine its pretax incentive.

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

A. Consistent with the Sub 1032 Order, DEC has excluded the impacts and costs associated with the Income-Qualified EE and Weatherization Program 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. As such, although DEC is eligible to recover the program costs and 36 months of the net lost revenues associated with the impacts of the program, it does not earn an incentive, and the negative net savings associated with these types of programs is not factored into the calculation of the annual shared savings PPI.

X. COLLABORATIVE

Q. PLEASE SUMMARIZE THE COLLABORATIVE ACTIVITIES OCCURRING AFTER THE JUNE 11, 2019 HEARING IN DOCKET NO. E-7, SUB 1192.

A. The Collaborative continued to meet bimonthly for formal meetings in July, September and November of last year and in January of this one. Between meetings, interested stakeholders joined conference calls (in June, September, October and February) and informal meetings (in July and November) to zero in on certain agenda items or priorities that could not be fully explored during the formal meetings. The Company believes that Collaborative members gained a deeper understanding of the issues facing the Company's DSM/EE programs and, as a result, brought the Company valuable feedback and

perspective. Meetings and calls will continue in a similar fashion through 2020 as well.

Q. HAS THE COMPANY UTILIZED INPUT FROM THE COLLABORATIVE IN A TANGIBLE WAY?

A. The Company has improved the flow of information and refined its methods of engagement in response to feedback from the membership. Company staff works with Collaborative members to set meeting dates and locations approximately six weeks in advance. Additionally, each formal meeting ends with an opportunity for members to suggest topics for future meetings. Three weeks before a meeting, Company staff sends a draft agenda to the members to ensure that all their requested items have been included and are allotted adequate time. One week prior to its Collaborative meetings, Company staff emails every Collaborative member a final agenda and a draft of the materials that will be presented. Because keeping programs fresh and responsive to the market is a high priority for program management staff, the Company has asked the Collaborative on occasion to review program modifications on a compressed timeline. To ensure that members can contribute meaningfully to proposals for new programs or modifications to existing ones in the future, the Company has begun to bring program ideas during the research phase before all assumptions or program details have been decided. While that approach may result in some of the group's time being used to explore ideas that ultimately do not pan out, it may also lead to discovering ideas that would not have been discovered without the lively and diverse discussion. The

Company has used input from the Collaborative to expand the reach of our programs as well. For example, the Collaborative drew program management staff's attention to a tax credit that is available to low-income multifamily housing developments. Although some participants in the Company's Smart $aver Custom Design Assistance program could have qualified for the tax credit, the program was not targeting that population specifically and was missing the chance to leverage program dollars with federal money. Members of the Collaborative spotted the opportunity and introduced the Company's program team to developers who needed help incorporating energy efficiency upgrades into their low-income tax credit applications. Since this opportunity was flagged last year, thirty-one multifamily housing projects have enrolled in the Custom Design Assistance program, and seven of those have been low-income housing properties that have used the program to provide more affordable energy efficient housing for low-income families in the Carolinas.

Q. IS THE COLLABORATIVE EVALUATING ANY OTHER PROGRAM OPPORTUNITIES?

A. Yes, the Collaborative has identified several programs for low- and middle-income families, manufactured homes, renters, and small and medium commercial and industrial customers in which they have insight or experience that they can share with the Company. The Company looks forward to working with members on each of these opportunities.

Q. HAS THE COMPANY CONSIDERED THE DEVELOPMENT OF A STANDARD REPORTING PROTOCOL?

A. The format of DEC's regulatory filing is designed to present information relevant to cost recovery. The Company does not wish to alter the format of its rider filings unless the Commission or Public Staff directs it to do so. However, in response to the desire some have expressed to have a standard reporting protocol that is convenient for review and analysis and that allows for topline trends and takeaways to be easily identified, the Company is developing a new structure for reporting both DEC's and DEP's program performance metrics to the Collaborative. The new structure will show historical participation, impacts, and costs by program. It will also compare actual results to plans, break down budgets by category, identify cost/benefit test results, and situate the savings in the context of the broader utility. Company staff will present the analysis in the formal March Collaborative meeting and make ongoing improvements based on member feedback.

XI. CONCLUSION

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

A. Yes.