PLACE: Dobbs Building, Raleigh, North Carolina
DATE: Monday, September 9, 2019
TIME: 2:11 p.m. - 3:56 p.m.
DOCKET NO.: E-2, Sub 1206
BEFORE: Commissioner ToNola D. Brown-Bland, Presiding
Chair Charlotte A. Mitchell
Commissioner Lyons Gray
Commissioner Daniel G. Clodfelter

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.G.S. § 62-133.9 and NCUC Rule R8-69

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T A B L E   O F   C O N T E N T S

E X A M I N A T I O N S

E X H I B I T S

P R O C E E D I N G S

COMMISSIONER BROWN-BLAND: Good afternoon. Let's come back to order. I'm Commissioner ToNola D. Brown-Bland with the North Carolina Utilities Commission, Presiding Commissioner for this hearing. With me today are Chair Charlotte A. Mitchell, Commissioners Lyons Gray and Daniel G. Clodfelter.

I now call for hearing Docket Number E-2, Sub 1206 in the Matter of Application of Duke Energy Progress, LLC for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to G.S. 62-133.9 and Commission Rule R8-69.

G.S. 62-133.9 establishes the procedure for cost recovery of Demand-Side Management, DSM, and Energy Efficiency, EE, expenditures and provides for an annual DSM/EE Rider for electric public utilities to recover all reasonable and prudent costs incurred as well as appropriate incentives for adoption and implementation of new DMS and EE measures.

On June 11th, 2019 Duke Energy Progress, LLC, DEP or Applicant, filed its Application for approval of DSM and EE Cost Recovery Rider pursuant to General Statute 62-133.9 and Commission Rule R8-69 supported by the direct testimony and exhibits of

Carolyn T. Miller and Robert P. Evans filed with the Application.

On June 24th, 2019, the Commission issued an Order Scheduling Hearing, Requiring Filing of Testimony, Establishing Discovery Guidelines, and Requiring Public Notice, which Order scheduled the hearing in this docket for today, Monday, September 9th, 2019, at two o'clock p.m.

The following parties filed petitions to intervene, which were allowed by Order of the Commission; North Carolina Sustainable Energy Association, Carolina Utility Customers Association, Inc., Carolina Industrial Group for Fair Utility Rates, II, and the Southern Alliance for Clean Energy, North Carolina Justice Center, and North Carolina Housing Coalition hereafter SACE or S-a-c-e, Justice and Housing.

The intervention and participation of the Public Staff is recognized pursuant to G.S. 62-15(d) and Commission Rule R1-19(e).

On August 19, 2019, the Public Staff filed the testimony and exhibits of David M. Williamson and Michael C. Maness. Also on August 19, SACE, Justice and Housing filed the testimony and exhibits of Forest

Bradley-Wright.

On August 28th, 2019, DEP filed the rebuttal testimony of Robert P. Evans.

And on September 4th, 2019 DEP filed the supplemental testimony of Carolyn T. Miller and the supplemental exhibits of witnesses Miller and Evans.

On September 5th, 2019, DEP, SACE, Justice and Housing, and the Public Staff filed a Joint Motion to Excuse DEP Witness Miller and Public Staff Witnesses Williamson and Maness.

On September 6, 2019, the Commission issued an Order Granting the Motion In Part by excusing Witnesses Miller and Maness from attending today's hearing, but declining to excuse Witness Williamson.

Also on September 6, 2019, DEP filed Affidavits of Publication of the required public notice of this hearing.

On September 9th, 2019, the Public Staff filed a letter stating that the supplemental testimony filed by DEP on September the 5th, 2019 adequately addressed the DSM/EE rate adjustments previously recommended by the Public Staff.

In compliance with the requirement of Chapter 163(a) of the State Government Ethics Act, I remind the members of the Commission of our duties to avoid any know conflicts of interest and I inquire at this time whether any member has any known conflict of interest with respect to the matter before us this morning -- or this afternoon?

(No response)

Let the record reflect no conflicts were identified. And I'll now call for appearances of counsel.

MS. FENTRESS: Good afternoon. I am Kendrick Fentress appearing on behalf of Duke Energy Progress.

COMMISSIONER BROWN-BLAND: Thank you, Ms. Fentress.

MR. SMITH: Ben Smith appearing on of the North Carolina Sustainable Energy Association.

MR. NEAL: Good afternoon, Commissioner Brown-Bland. David Neal with the Southern Environmental Law Center appearing on behalf of the North Carolina Justice Center, North Carolina Housing Coalition, and Southern Alliance for Clean Energy, with me is Gudrun Thompson also with SELC.

COMMISSIONER BROWN-BLAND: All right. You've got a mouthful there, Mr. Neal.

MR. NEAL: Yes.

MR. PAGE: Robert Page, Carolina Utility Customers Association.

COMMISSIONER BROWN-BLAND: All right. Thank you.

MR. McDONALD: Ralph McDonald for the Carolina Industrial Group for Fair Utility Rates, II.

COMMISSIONER BROWN-BLAND: Thank you.

MS. EDMONDSON: Lucy Edmondson with the Public Staff on behalf of the Using and Consuming Public.

COMMISSIONER BROWN-BLAND: All right. Ms. Edmondson, are there -- have you identified any public witnesses who wish to be heard regarding this matter today?

MS. EDMONDSON: I have not.

COMMISSIONER BROWN-BLAND: All right. Out of abundance of caution, is there anyone in the audience who wishes to provide public witness testimony in this proceeding? The record will reflect no one is coming forward.

All right. Any other preliminary matters before we begin this hearing? All right. Then the case is with the Applicant.

MS. FENTRESS: Thank you. Madam Chair, if it is all right with the Commission, I can move Ms. Miller's testimony into the record, and then call Mr. Evans to testify. Is that okay for me to proceed? With that, I will enter the Application and Ms. Miller's direct and supplemental testimony into the record and ask that it be admitted as evidence. And then I will pass out the summaries of Mr. Evans' testimony while he approaches to testify, if that's all right.

COMMISSIONER BROWN-BLAND: All right. If there's no objection to the receipt in evidence of the testimony of Witness Miller, that motion is allowed and her -- the supplemental -- the exhibits that she filed with her prefiled testimony are all received into the record as evidence.

MS. FENTRESS: Thank you.

(WHEREUPON, Application by Duke Energy Progress, LLC, Miller Exhibits 1 - 6 and Supplemental Miller Exhibits 1 - 3 are marked for identification as prefiled and received into evidence.)

(WHEREUPON, the prefiled direct

and supplemental testimony of
CAROLYN T. MILLER is copied into
the record as if given orally from
the stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1206

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

I. INTRODUCTION AND PURPOSE

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

A. My name is Carolyn T. Miller, and my business address is 550 South Tryon Street, Charlotte, North Carolina. I am a Manager, Rates & Regulatory Strategy for Duke Energy Carolinas, LLC ("DEC"), supporting both Duke Energy Progress, LLC ("DEP" or the "Company") and DEC.

Q. PLEASE BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I graduated from the College of New Jersey in Trenton, New Jersey with a Bachelor of Science in Accountancy. I am a certified public accountant licensed in the State of North Carolina. I began my career in 1994 with Ernst & Young as a staff auditor. In 1997, I began working with Duke Energy as a senior business analyst and have held a variety of positions in the Finance organization. I joined the Rates Department in 2014 as Manager, Rates and Regulatory Strategy.

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

A. Yes. I provided testimony in support of DEC's applications for approval of its demand-side management ("DSM") and energy efficiency ("EE") cost recovery rider in Docket No. E-7, Subs 1073, 1105, 1130, 1164, and 1192 as well as DEP's application for approval of its DSM/EE cost recovery rider in Docket No. E-2, Subs 1070, 1108, 1145, and 1174.

Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

A. I am responsible for providing regulatory support for retail rates and providing guidance on DEC's and DEP's DSM/EE cost recovery process.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to explain and support DEP's proposed DSM/EE cost recovery rider and Experience Modification Factor ("EMF") and provide information required by Commission Rule R8-69.

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. Miller Exhibit 1 provides a summary of the proposed annual rates by customer class. Miller Exhibit 2, pages 1 through 3, shows the calculation of the DSM and EE rates for the rate period, as well as the breakdown by program of the various components of the estimated revenue requirement. Miller Exhibit 2, pages 4 through 6, presents the calculation of the DSM EMF and EE EMF rates for the test period, as well as the breakdown by program of the various components of the final revenue requirement. Adjustments resulting from Evaluation, Measurement and Verification ("EM&V") of the Company's DSM/EE programs are also presented in Miller Exhibit 2, page 7. Miller Exhibit 3, pages 1 through 4, calculates the amount of interest or return due on over- and under-collections for Vintage 2018. Miller Exhibit 4 shows a summary of revenue collected during calendar year 2018 by program type and customer class. Miller Exhibit 5, pages 1 through 7, presents the allocation factors used in the development of the rider, including the energy allocation factors applicable to DSM and EE program costs, the North Carolina and South Carolina retail allocation factors, and the lighting allocation factors. Miller Exhibit 6 includes both forecasted 2020 sales from the Spring 2019forecast and the impact of opt-outs.

Q. WERE MILLER EXHIBITS 1-6 PREPARED BY YOU OR AT YOUR DIRECTION AND SUPERVISION?

A. Yes.

II. SUMMARY OF DSM/EE COSTS

Q. CAN YOU PROVIDE A SUMMARY OF THE COSTS FOR WHICH DEP IS REQUESTING RECOVERY IN THIS PROCEEDING?

A. Yes. The DSM/EE costs DEP is requesting to recover through the rates proposed in this proceeding are associated with the costs incurred during the test period, as well as the costs forecasted to be incurred during the rate period. The test period utilized in the development of the DSM/EE EMF is January 1, 2018 through December 31, 2018. The North Carolina allocated share of recoverable DSM/EE costs for the test period is $167,740,012. For the rate period of January 1, 2020 through December 31, 2020, the North Carolina allocated share of forecasted DSM/EE costs is $163,323,186. The total North Carolina allocated share of DSM/EE costs for the test period plus the rate period is $331,063,198.

A summary of the costs associated with DEP's recovery request by period and by DSM/EE program/measure is provided in the following table:

Program/Measure	Test Period **1/1/18 through 12/31/18**	Rate Period **1/1/20 through 12/31/20**
CIG DR	$1,691,101	$3,068,574
EnergyWise	$17,700,771	$20,018,110
EnergyWise for Business	$1,666,383	$2,384,804
DSDR Implementation	$23,242,626	$22,542,717
Residential Home Advantage	$176,476	$140,907
Residential Smart $aver/Home Energy Improvement	$6,874,771	$3,851,610
Residential Low Income – NES	$1,634,768	$1,824,212
CIG EE/EE For Business	$8,638,552	$6,343,437
Energy Efficient Lighting	$17,685,537	$13,312,359
Appliance Recycling	$171,919	$91,207
My Home Energy Report	$12,620,393	$13,807,504
Small Business Energy Saver	$14,088,318	$12,503,856
Residential New Construction	$12,476,136	$13,405,275
Multi-Family EE	$4,016,501	$5,202,480
Energy Education Program for Schools	$769,164	$1,103,873
Save Energy & Water Kit	$3,243,453	$5,408,415
Residential Energy Assessments	$2,363,723	$2.669.692
Smart $aver Prescriptive	$18,403,196	$15,992,469
Smart $aver Custom	$2,018,232	$4,406,197
Smart $aver Performance Incentive	$75,938	$635,617
Administrative & General Costs	$3,626,595	$5,528,049
Carrying Cost on Balances	$14,767,187	$14,145,611
Found Revenue (total)	$(211,727)	$(63,791)
Lost Revenue Decrement		$(5,000,000)
Total Cost	$167,740,012	$163,323,186

In addition to the summary table above, Miller Exhibit 2, page 3, and Miller Exhibit 2, page 6, provide additional categorizations by cost element.

Q. ARE DEP'S PROPOSED RATES DESIGNED TO RECOVER THE TOTAL NORTH CAROLINA ALLOCATED SHARE OF $331,063,198?

A. No. Because many of the expenses incurred during the current test period to develop and implement DEP's DSM/EE programs produce benefits covering several years, a significant portion of those expenses will be deferred and recovered over varying amortization periods. A summary of the amortization periods for program expenses and Program/Portfolio Performance Incentive ("PPI")[1] is shown below:

Length of Amortization Period				
Program Name	Program Cost – batches prior to 2016	Program Cost – 2016 – present	PPI – vintages prior to 2016	PPI – 2016 – present
CIG DR	10	3	10	3
EnergyWise	10	10	10	10
EnergyWise for Business	N/A	3	N/A	1
DSDR Implementation	10	10	N/A	N/A
Residential Home Advantage	10	N/A	10	N/A
Residential Smart $aver/Home Energy Improvement	10	10	10	10
Residential Low Income – NES	10	10	10	10
Energy Efficient Lighting	5	5	10	5
Appliance Recycling	10	10	10	10
My Home Energy Report	1	1	1	1
Residential New Construction	10	10	10	10
CFL Pilot	10	N/A	10	N/A
Solar Hot Water Pilot	10	N/A	10	N/A
Multi-Family EE	5	5	5	5
Energy Education	5	5	5	5
CIG EE	10	3	10	3
Save Water & Energy Kit	N/A	5	N/A	5
Residential Energy Assessments	N/A	5	N/A	5
Small Business Energy $aver	10	3	10	3
Smart $aver Prescriptive	3	3	3	3
Smart $aver Performance	3	3	3	3

[1] As explained further below, for vintages prior to 2016, incentives are calculated on a program basis. Pursuant to the Commission's *Order Approving Revised Cost Recovery Mechanism and Granting Waivers* issued January 20, 2015 in Docket No. E-2, Sub 931 ("Order Approving Revised Mechanism"), which applies to Vintages 2016 and forward, incentives under the Company's revised cost recovery mechanism are calculated on a portfolio basis. For ease of reference, I will refer to both incentives as "PPI."

Length of Amortization Period				
Program Name	Program Cost – batches prior to 2016	Program Cost – 2016 – present	PPI – vintages prior to 2016	PPI – 2016 – present
Smart $aver Custom	3	3	3	3
Admin. & General	3	3	3	N/A

In addition to the aforementioned deferrals, DEP's proposed rates include the recognition and amortization of prior period deferrals. In total, the EMF-related calculations based on test period costs reflect an estimated under-recovery of $8,787,707. The DSM/EE rate calculations associated with rate period estimates are based on a revenue requirement of $168,018,977. The rate period and EMF revenue requirements produce a combined revenue requirement of $176,806,683. Miller Exhibit 2, pages 1 and 2, and Miller Exhibit 2, pages 4 and 5, detail the calculation of these amounts.

III. <u>EMF REVENUE REQUIREMENT</u>

Q. HOW WAS THE DSM/EE EMF UNDER-RECOVERY OF $8,787,707DETERMINED?

A. The EMF under-recovery is a function of the sum of test period costs, including amounts relating to the amortization of deferred costs from prior periods, and credits for actual DSM/EE rider revenues for the period January 1, 2018 through December 31, 2018. The following table illustrates the relationship of these elements with respect to the determination of the DSM/EE EMF:

Rate Element	Amounts
Test Period Revenue Requirement	$171,490,556
Net DSM/EE Rate Revenue	$162,055,933
Add: Other Adjustments	$646,916
Total EMF Adjustments	$162,702,849
Adjusted DSM/EE EMF Revenue Requirement	$8,787,707

Miller Exhibit 2, pages 4 through 7, provides additional details associated with the development of these amounts.

Q. PLEASE DESCRIBE THE $646,916 THAT HAS BEEN CATEGORIZED AS "OTHER ADJUSTMENTS."

A. The $646,916 in "Other Adjustments" is the sum of lines 2 through 8 on page 7 of Miller Exhibit 2. Lines 2 and 3 are reserved for prospective uncollectible allowances in DEP's DSM/EE rates. DEP is not requesting an uncollectible adjustment as a part of its cost recovery request in this proceeding. In addition, the adjustments found on lines 4 through 7 reflect the true-up of PPI and net lost revenues for the 2016 and 2017 vintages. The last of these adjustments, found on line 8, recognizes estimated interest owed and return earned for revenue over- and under-collections during the period extending from January 1, 2018 through December 31, 2018. The Direct Testimony of Company witness Robert P. Evans provides further detail on program-specific impacts to PPI and net lost revenues.

IV. RATE PERIOD REVENUE REQUIREMENT

Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENT.

A. As indicated previously, the estimated revenue requirement for the rate period is $168,018,977. This amount reflects the anticipated costs and necessary recoveries for the rate period, which extends from January 1, 2020 through December 31, 2020. The $168,018,977 revenue requirement includes: (1) $21,335,721 for anticipated rate period program expenses; (2) amortizations and carrying costs associated with deferred prior period costs totaling $76,663,150; (3) recovery of Distribution System Demand Response ("DSDR") depreciation and capital costs totaling $17,666,196; (4) net lost revenues for the rate period totaling $27,919,544 for vintage years 2018 through 2020; and (5) PPI totaling $24,434,366 associated with vintage years 2011 through 2020.

V. JURISDICTIONAL COST ALLOCATION

Q. HOW ARE DSM AND EE PROGRAM COSTS ALLOCATED TO THE NORTH CAROLINA RETAIL JURISDICTION?

A. DEP determines the total amount of recoverable costs and separates these costs into three categories: (1) DSM-related costs, (2) EE-related costs, and (3) costs that provide a system benefit in support of both DSM and EE programs. For each of these categories, different allocation methods are employed to assign those costs to the appropriate jurisdiction.

Q. HOW ARE COSTS IDENTIFIED AS EE-RELATED ALLOCATED TO NORTH CAROLINA?

A. Any program costs that are identified as being EE-related, including administrative and general ("A&G") costs, are allocated to the North Carolina retail jurisdiction based upon the ratio of North Carolina retail sales to DEP system retail sales at the point of generation. For calendar year test periods beginning in year 2016, the allocation percentage for the entire calendar year test period is based on the latest cost of service study available at the time of filing. Please note that the 2019 cost of service study has not yet been filed;

therefore, the Company is continuing to use rates set in the 2018 cost of service study.

Q. HOW ARE DSM-RELATED COSTS ALLOCATED TO NORTH CAROLINA?

A. Any program costs that are identified as being DSM-related, including A&G costs, are allocated to the North Carolina retail jurisdiction based upon the ratio of the North Carolina retail demand to the DEP system retail demand at the hour of the annual summer system peak. For calendar year test periods beginning in year 2016, the allocation percentage for the entire calendar year test period is based on the latest cost of service study available at the time of filing. Again, please note that the 2019 cost of service study has not yet been filed; therefore, the Company is continuing to use rates set in the 2018 cost of service study.

Q. PLEASE ELABORATE ON THE METHODOLOGY USED TO ALLOCATE DSM/EE COSTS THAT OFFER A SYSTEM BENEFIT.

A. Certain A&G costs provide a system benefit in support of both DSM and EE programs and, therefore, are allocated in both categories. The allocation of these costs into either the DSM or EE category is based upon the percentage of program costs for each type of expenditure anticipated during the next forecast calendar year. For example, if 30% of direct program costs in the forecast period are EE-related, then 30% of these A&G costs will be considered EE-related costs for allocation purposes. The use of a forecast period recognizes the types of new programs DEP will offer in the immediate future that will be supported by these administrative costs. The assignment of A&G costs as either DSM- or EE-related is reviewed annually based upon forecasted program costs for the next calendar year. The A&G costs in this proceeding have been assigned to these categories based upon forecasted DSM and EE costs for 2020.

Q. IN MILLER EXHIBIT 2, PAGE 3, AND MILLER EXHIBIT 2, PAGE 6, THE DSDR PROGRAM IS SEPARATED FROM THE OTHER DSM/EE PROGRAMS. HOW IS THE DSDR PROGRAM CLASSIFIED?

A. The DSDR program has been classified by the Commission, for purposes of ratemaking, as an EE program. Due to the scope and nature of DSDR, its costs are being tracked separately. This separate tracking includes both direct costs and A&G costs associated with the program.

VI. PORTFOLIO PERFORMANCE INCENTIVE AND NET LOST REVENUES

Q. HOW IS THE PPI CALCULATED?

A. The PPI is calculated pursuant to the Order Approving Revised Mechanism and is based on the savings achieved by the portfolio of PPI-eligible DSM/EE programs. Under the terms of the Order Approving Revised Mechanism, the amount of PPI to be recovered during the rate period is 11.75 percent of the net benefits produced by the portfolio of PPI-eligible programs. Estimated net savings for all periods are determined by multiplying the number of measurement units projected to be installed for a specific program or measure in a vintage year by the most current estimate of the annual per installation kilowatt ("kW") and kilowatt-hour ("kWh") savings over the measurement unit's life and by the annual kW and kWh avoided costs. DEP then subtracts the estimated utility costs over the measurement unit's life related to the projected installations in that vintage year and discounts the result to determine a net present value.

The PPI for each program vintage is converted into a stream of up to ten levelized annual payments. DEP's overall weighted average net-of-tax rate of return approved in DEP's most recent general rate case is used as the appropriate discount rate. Pursuant to the Order Approving Revised Mechanism, PPI recoveries are subject to true-up on the basis of future EM&V results. PPI calculations are based on calendar year vintages. The PPI vintage assigned to the test period in this filing encompasses calendar year 2018. These values will be trued-up on the basis of future EM&V results. The estimated PPI for the rate period used in this filing is based on calendar year 2020 and will be trued-up as a part of DEP's 2021 DSM/EE cost recovery proceeding. Please see Evans Exhibit 1 for additional detail by program.

Q. HOW WERE NET LOST REVENUES DETERMINED?

A. The Company determines net lost revenues, which are applicable to both DSM and EE programs, by multiplying the estimated reduction in kWh sales associated with a program or measure by a margin-based net lost revenue rate. The following formula illustrates the basic components of the net lost revenue calculations: Net Lost Revenues ($) = Lost Sales (kWh) x Net Lost Revenue Rate ($/kWh).

Lost Sales are those sales that do not occur as a result of implementation of DEP DSM/EE measures. These values are initially based on engineering estimates and/or past impact evaluations. Future periods are based on updated impact evaluations resulting from EM&V activities and are applied prospectively and in conjunction with applicable net lost revenue true-ups. The Net Lost Revenue rate represents the difference between the average retail rate applicable to the customer class impacted by the measure and the sum of (1) the embedded regulatory fees, (2) the related average customer charge component of that rate, (3) the average fuel component of the rate, and (4) the incremental variable operations and maintenance (O&M) rate as filed in DEP's last Cogeneration and Small Power Producer tariff. When multiple customer classes are impacted by a DSM/EE measure, as with the DSDR program, a weighted or system-wide net lost revenue rate is employed.

Pursuant to the Order Approving Revised Mechanism, DEP may only recover net lost revenues for up to 36 months of an installed measure's life, and as with the PPI, recoveries are subject to true-up on the basis of future EM&V results.

In addition, in the Commission's *Order Addressing the Impacts of the Federal Tax Cuts and Jobs Act on Public Utilities* (Docket M-100 Sub 148) issued on October 5, 2018, the Commission directed the Company to maintain all of its federal excess deferred income taxes resulting from the passage of the federal Tax Cuts and Jobs Act in a regulatory liability account pending flow back of that liability to DEP's ratepayers with interest. The Company is to file its proposal to flow back the excess deferred taxes by October 5, 2021 or in DEP's next general rate case proceeding, whichever is sooner. In DEP's *Petition for an Accounting Order to Defer Incremental Hurricanes Florence and Michael and Winter Storm Diego Storm Damage Expenses*, filed on December 21, 2018 in Docket No. E-2, Sub 1193, the Company indicated that it plans to file a general rate case in 2019. In accordance with the Commission's Docket M-100 Sub 148 Order, it is expected that the Commission will resolve the appropriate method to flow back excess deferred taxes in the next general rate case. New rates from the Company's 2019 rate case would likely be implemented in 2020 and would likely reflect a resolution of the flow back of excess deferred taxes. For purposes of this DSM/EE proceeding only, the Company has included a reduction of $5 million to Year 2020 lost revenues collected from Vintage 2017, Vintage 2018, Vintage 2019, and Vintage 2020. This will be trued up to the actual impact on the lost revenue rate in the next DSM/EE rider filing after an order is issued in DEP's upcoming base rate case. This $5 million reduction is meant to serve as a placeholder to mitigate potential overcollection with respect to the Company's DSM/EE rider and does not reflect any particular position by DEP on the appropriate methodology or timeframe for the flow back of excess deferred taxes or any other tax issues or proposals that may be raised in the Company's next general rate case.

VII. COST ALLOCATION METHODOLOGY

Q. HOW ARE DSM- AND EE-RELATED COSTS ALLOCATED TO EACH RATE CLASS?

A. Costs are assigned to customer classes based on program design and participation. In other words, residential program costs are allocated solely to residential customers, general service program costs are allocated solely to general service customers, and lighting program costs are allocated solely to lighting customers. Where programs benefit multiple customer groups, the costs are allocated directly to groups receiving benefits or by employing annual energy- and/or coincident peak demand-based allocation factors.

Miller Exhibit 2, pages 1 and 2, and Miller Exhibit 2, pages 4 and 5, demonstrate how the costs associated with a specific program have been assigned to customer groups.

Q. HOW ARE SALES AND DEMAND ADJUSTED FOR THE IMPACT OF OPT-OUT CUSTOMERS?

A. Commercial customers with annual consumption of 1,000,000 kWh or greater in the billing months of the prior calendar year and all industrial customers who implement or will implement alternative DSM/EE measures may elect not to participate in DEP's DSM and/or EE programs. DEP reviewed its customer records and identified that commercial and industrial customers choosing to opt out of EE programs consumed 11,748,716,255 kWh during the year ended December 31, 2018. In addition, DEP identified that commercial and industrial customers choosing to opt out of DSM programs consumed 11,850,797,144 kWh during the year ended December 31, 2018.

DEP developed rate class allocation factors based on the assumption that customers that have elected to opt out of the Company's DSM/EE rider will remain opted out. If customers decide to change their opt-out status, revenue gains or losses will be recognized in subsequent DSM/EE EMF calculations.

Sales for the year ended December 31, 2018 for all customers electing to opt out of the DSM/EE rate are provided in Miller Exhibit 6.

Q. THE SALES FOR OPT-OUT CUSTOMERS ARE EASILY IDENTIFIED, BUT HOW IS THE COINCIDENT PEAK OF THESE CUSTOMERS ESTIMATED?

A. Currently installed metering for a great number of opt-out customers does not provide sufficient detail to determine their contribution to the system coincident peak hour load. Instead, the impact is estimated based upon the ratio of opt-out sales to total sales for the rate class multiplied by the rate class peak demand. This approach should accurately approximate the demand of opt-out accounts. This calculation can be seen at Miller Exhibit 5, page 6.

Q. AFTER ADJUSTING ENERGY AND DEMAND FOR OPT-OUT CUSTOMERS, HOW ARE THE RESULTING ALLOCATION FACTORS THEN USED TO DETERMINE THE REVENUE REQUIREMENT FOR EACH RATE CLASS?

A. Energy- and demand-based allocators are used in cases where programs or measures directly benefit multiple rate groups. When a DSM or EE program benefits multiple rate groups, DEP multiplies EE costs by rate class energy allocation factors and multiplies any associated DSM costs by rate class demand allocation factors for purposes of cost assignment.

Since usage for opt-out customers is not forecasted, the rate class energy allocation factors were developed from the forecasted rate class usage after subtracting actual sales for opt-out customers for the year ended December 31, 2018. Miller Exhibit 5, page 5, provides the energy allocation factors applicable to each rate class based upon the forecast of rate class sales for the rate period of January 1, 2020 through December 31, 2020.

The allocation rate class demand allocation factors are based on the summer coincident peak demand for 2017 after subtracting the estimated demand for opt-out customers as discussed above. The forecast does not provide rate class coincident peak demands; therefore, the most recent historic data was deemed to be representative of future demand impacts. Miller Exhibit 5, page 6, shows the demand allocation factors applicable to each rate class for the rate period.

Q. WHICH OF DEP'S PROGRAMS OR MEASURES BENEFIT MULTIPLE CUSTOMER CLASSES?

A. The Company's DSDR program benefits all customer classes. To allocate DSDR costs, DEP employs rate class energy allocation factors. These allocation procedures are elements of Miller Exhibit 2, pages 1 and 4. In addition, DEP's Energy Efficient Lighting Program provides benefits to both the residential and general service customer classes. These costs were allocated based on the bulbs provided to those classes using EM&V results as shown in Miller Exhibit 5, page 7.

Q. HOW DOES DEP DETERMINE RATE CLASS DSM/EE RATES?

A. The calculated rate class DSM and EE revenue requirements are divided by forecasted rate class sales, after adjustment for opt-out customers, to establish the rate class DSM/EE rate. Miller Exhibit 2, page 1, provides the derivation of the EE rate. Miller Exhibit 2, page 2, provides the derivation of the DSM rate.

Q. HOW DOES DEP DETERMINE RATES FOR THE DSM/EE EMF?

A. As with DSM/EE rate determination, the calculated rate class DSM and EE EMF revenue requirements, adjusted for cost recoveries, are divided by forecasted rate class sales, after adjustment for opt-out customers, to establish the rate class DSM/EE EMF rate. Miller Exhibit 2, page 4, provides the derivation of the EE EMF rate. Miller Exhibit 2, page 5, provides the derivation of the DSM EMF rate.

VIII. PROPOSED RATES

Q. WHAT RATES ARE PROPOSED FOR EACH RATE CLASS?

A. Miller Exhibit 1 is populated with the DSM/EE rates and EMF rates proposed in this proceeding. The DSM/EE rates recover costs forecasted to be incurred from January 1, 2020 through December 31, 2020. The DSM/EE EMF is a true-up mechanism recognizing costs and recoveries for the test period of

January 1, 2018 through December 31, 2018. DEP proposes the following rates, exclusive of North Carolina regulatory fees, for each rate class:

Rate Class	DSM Rate (¢/kWh)	EE Rate (¢/kWh)	DSM EMF (¢/kWh)	EE EMF Rate (¢/kWh)	DSM/EE Annual Rider (¢/kWh)
Residential	0.120	0.503	0.000	(0.029)	0.594
General Service EE		0.634		0.150	0.784
General Service DSM	0.070		(0.011)		0.059
Lighting		0.096		(0.002)	0.094

Q. WHAT ARE THE RATES INCLUDING NORTH CAROLINA REGULATORY FEES?

A. The following table reflects the proposed billing rates, including North Carolina regulatory fees, for each rate class:

Rate Class	DSM Rate (¢/kWh)	EE Rate (¢/kWh)	DSM EMF (¢/kWh)	EE EMF (¢/kWh)	Annual DSM/EE Rider (¢/kWh)
Residential	0.120	0.504	0.000	(0.029)	0.595
General Service EE		0.635		0.150	0.785
General Service DSM	0.070		(0.011)		0.059
Lighting		0.096		(0.002)	0.094

Q. HOW WILL DEP REVISE ITS TARIFFS TO RECOVER THESE RATES?

A. The Company will update its Annual Billing Adjustment, Rider BA, to recognize these rates, adjusted for the North Carolina regulatory fees.

IX. CONCLUSION

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

A. Yes.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1206

In the Matter of	)	
Application of Duke Energy Progress, LLC	)	**SUPPLEMENTAL TESTIMONY**
for Approval of Demand-Side Management	)	**OF**
and Energy Efficiency Cost Recovery Rider	)	**CAROLYN T. MILLER FOR**
Pursuant to N.C. Gen. Stat. § 62-133.9 and	)	**DUKE ENERGY PROGRESS,**
Commission Rule R8-69	)	**LLC**

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Carolyn T. Miller. My business address is 550 South Tryon Street, Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Rates & Regulatory Strategy Manager for Duke Energy Carolinas, LLC ("DEC"), supporting both DEC and Duke Energy Progress, LLC ("DEP" or the "Company").

Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN SUPPORT OF DEP'S APPLICATION IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY?

A. The purpose of my Supplemental Testimony is to support the filing of Supplemental Exhibits which reflect revisions to Miller Exhibits 1, 2 and 3 and Evans Exhibit 1 filed June 11, 2019 in this proceeding. These revisions are due to the following:

1. Adjustments to the Portfolio Performance Incentive ("PPI") generated by the EnergyWise and EnergyWise for Business programs for Vintage 2017, Vintage 2018 and Vintage 2020, and the resulting reallocation of the Vintage 2018 avoided cost settlement;

2. Adjustments to DSDR program costs due to intangible depreciation expense recorded in excess of the useful life of the related assets.

Q. WHY IS THE COMPANY REVISING THE PPI GENERATED BY THE ENERGYWISE AND ENERGYWISE FOR BUSINESS PROGRAMS

FOR VINTAGE 2017, VINTAGE 2018 AND VINTAGE 2020?

A. As mentioned in the Testimony of Public Staff Witness Michael C. Maness (*see* p. 12), the Company is recommending an adjustment related to Evaluation, Measurement, & Verification ("EM&V") results. During the course of the Company's review of its DSM/EE filing in this docket, DEP discovered that, although the EM&V results received in 2018 for the EnergyWise program had been appropriately applied prospectively, beginning balance participation levels were not correct, thereby misstating all participation levels. In addition, the Company also discovered that the EnergyWise for Business program included an error in the avoided cost calculation. As a result of these two errors, the Company is updating Vintages 2017 and Vintage 2018 to reflect the revised kilowatt ("kW") savings included in both the EnergyWise and EnergyWise for Business EM&V reports.

In Docket No. E-2, Sub 1145, filed in 2017, the Public Staff and DEC agreed to reduce the avoided cost savings included in rates by $2,100,000 and both parties settled on a methodology to allocate that reduction among customer classes for Vintage 2018. The $2.1 million was allocated based on a weighted-average PPI basis, so the adjustment to kW savings attributed to the EnergyWise and EnergyWise for Business programs, discussed above, impacted the allocation of that $2.1 million among customers classes. In this supplemental filing the Company has re-allocated the $2.1 million reduction in Vintage 2018 avoided costs to reflect the updated kW savings attributed to the EnergyWise and EnergyWise for Business programs. The change in PPI for these vintages also impacted the future amortization of PPI; therefore, Vintage 2020 was also updated to reflect the revised amortization amounts. The total of these adjustments results in:

- a reduction in PPI for residential customers in the amount of ($84,065) for Vintage Year 2017
- a reduction in PPI for non-residential DSM customers in the amount of ($177,930) for Vintage 2018
- an increase in PPI for non-residential EE customers in the amount of $62,331 for Vintage 2018
- an increase in PPI for residential customers in the amount of $95,482 for Vintage 2018
- a reduction in PPI for non-residential DSM customers in the amount of ($31,049) for Vintage 2020
- an increase in PPI for non-residential EE customers in the amount of $62,331 for Vintage 2020
- and an increase in PPI for residential customers in the amount of $6,450 for Vintage 2020.

The Company is submitting Supplemental Evans Exhibit 1, pages 3 through 8 and the corresponding interest calculation on Supplemental Miller Exhibit 3, pages 1 through 3 to reflect this adjustment.

Q. PLEASE DESCRIBE THE ADJUSTMENT TO DSDR DEPRECIATION EXPENSE.

A. As mentioned in Witness Maness' testimony (*see* p. 12), the Company is recommending an adjustment to the intangible depreciation expense recognized as part of DSDR program costs. The Company discovered that the calculation of depreciation expense for DSDR intangible assets utilized formulas that multiply gross plant balances times the most recently approved depreciation rates. However, these DSDR intangible assets have a useful life of only 5 years and the calculation continued to include gross plant that had been fully depreciated into the calculation of DSDR depreciation expense. The first DSDR intangible plant assets were placed in service in 2010; therefore, DSDR depreciation expense was overstated beginning with test period 2015. The Company has recalculated the appropriate depreciation expense for Vintage Years 2015, 2016, 2017, 2018 and 2020[1]. DEP has also recalculated all other impacted expense items, including insurance expense, return on capital and carrying costs. The revised expense amounts for Vintage 2018 are reflected on Supplemental Miller Exhibit 2, page 6. The revised expense amounts for Vintage 2020 are reflected on Supplemental Miller Exhibit 2, page 3. The adjustments for all prior periods are reflected on Supplemental Miller Exhibit 2, page 7.

Partially offsetting this adjustment is the amount of EE Rider revenue that was removed from the 2017 test period of the most recent rate case. The Company has recalculated the EE-related proforma adjustment included with that rate case filing to revise DSDR-related collections to reflect the adjusted

[1] Vintage 2019 will be trued up as part of the 2019 test period filed in 2020 using the same methodology as used to calculate the impact on Vintage 2015, 2016, 2017, 2018 and 2020.

depreciation expense as well as the offsetting change in rate base. The adjustment impacts rates in effect from March 18, 2018 forward. This adjustment is reflected for Vintage 2018 on Supplemental Miller Exhibit 2, page 6 Line 35 in the amount of $432,382 and for Vintage 2020 on Supplemental Miller Exhibit 2, page 3 Line 37 in the amount of $494,150.

The final adjustment the Company made as a result of the revisions to DSDR depreciation expense was to recalculate the interest due to customers. All interest related to prior period adjustments flows through the current vintage; therefore, this adjustment is shown for Vintage 2018 on Supplemental Miller Exhibit 3, pages 1, 2 and 4.

The following table summarizes the dollar impact of the DSDR program updates for each vintage for each class of customer.

	Residential	Non-Residential	Lighting
2015 DSDR	$(541,569)	$(361,733)	$(13,423)
2016 DSDR	(508,073)	(328,056)	(12,002)
2017 DSDR	(980,245)	(613,595)	(22,498)
2018			
DSDR	(2,512,501)	(1,515,367)	(56,504)
Proforma Adj	265,979	160,420	5,982
Interest	(640,964.)	(275,063.)	(14,725.)
2020			
DSDR	(2,310,065)	(1,393,272)	(51,952)

Proforma Adj	303,976	183,338	6,836

Q. HOW DO THESE CHANGES IMPACT DEP'S REQUESTED RATES?

A. The changes outlined above result in revisions to the following rates included in the initial DSM/EE filing (all shown on a cents per kWh basis, including regulatory fee):

Description	Filed Rate	Revised Rate
Residential Prospective Rate	0.624	0.612
Residential EMF Rate	(0.029)	(0.058)
Non-Residential EE Prospective Rate	0.635	0.623
Non-Residential EE EMF Rate	0.150	0.120
Non-Residential DSM Prospective Rate	0.070	0.070
Non-Residential DSM EMF Rate	(0.011)	(0.013)
Lighting EE Prospective Rate	0.096	0.084
Lighting EE EMF rate	(0.002)	(0.033)

Q. WHAT SUPPLEMENTAL EXHIBITS WILL BE FILED IN CONJUNCTION WITH YOUR SUPPLEMENTAL TESTIMONY?

A. Only the exhibits impacted as a result of the changes outlined above will be filed as Supplemental Exhibits. A description of the specific pages and contents that have been revised is provided below:

- Supplemental Miller Exhibit 1: Summary of Rider EE Exhibits and Factors

- Supplemental Miller Exhibit 2, page 1: Energy Efficiency Rate Derivation
- Supplemental Miller Exhibit 2, page 2: Demand-Side Management Rate Derivation
- Supplemental Miller Exhibit 2, page 3: Rate Period Revenue Requirement Summary
- Supplemental Miller Exhibit 2, page 4: Energy Efficiency Experience Modification Factor Rate Derivation
- Supplemental Miller Exhibit 2, page 5: Demand-Side Management Experience Modification Factor Rate Derivation
- Supplemental Miller Exhibit 2, page 6: EMF Period Revenue Requirement Summary
- Supplemental Miller Exhibit 2, page 7: EMF Adjustment Summary
- Supplemental Miller Exhibit 3, page 1: Vintage 2018 Interest Calculations for Residential
- Supplemental Miller Exhibit 3, page 2: Vintage 2018 Interest Calculations for Non-Residential DSM
- Supplemental Miller Exhibit 3, page 3: Vintage 2018 Interest Calculations for Lighting
- Supplemental Miller Exhibit 3, page 4: Vintage 2018 Interest Calculation
- Supplemental Evans Exhibit 1, pages 3 through 8: Vintage

2017, Vintage 2018 and Vintage 2020 Load Impacts and Estimated Revenue Requirements

Q. WHAT ARE THE FINAL RATES REQUESTED IN THE APPLICATION OF DEP FOR APPROVAL OF ITS DSM/EE RIDER FOR 2020 AS A RESULT OF THESE REVISIONS?

A. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69, the Company requests Commission approval of the following annual billing adjustments (all shown on a cents per kWh basis, including regulatory fee):

Residential Billing Factors	**¢/kWh**
Residential Billing Factor for Prospective Components	0.612
Residential Billing Factor for EMF Components	(0.058)

Non-Residential Billing Factors	**¢/kWh**
EE EMF Rate	0.120
EE Prospective Rate	0.623
DSM EMF Rate	(0.013)
DSM Prospective Rate	0.070
Lighting EE EMF Rate	(0.033)
Lighting EE Prospective Rate	0.084

Q.

ARE THERE ANY OTHER ADJUSTMENTS MADE IN YOUR SUPPLEMENTAL EXHIBITS?

A. No.

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

A. Yes.

MS. FENTRESS: And we would call Mr. Evans to the stand.

ROBERT P. EVANS;

having been duly sworn,

testified as follows:

DIRECT EXAMINATION BY MS. FENTRESS:

Q Mr. Evans, would you please state your full name and business address for the record?

A My name is Robert P. Evans. My business address is 410 South --

COMMISSIONER BROWN-BLAND: Mr. Evans, please pull the mic close.

THE WITNESS: I always seem to have that problem, Commissioner. I apologize.

COMMISSIONER BROWN-BLAND: All right.

A My name is Robert P. Evans. My business address is 410 South Wilmington Street in Raleigh, North Carolina.

Q Mr. Evans, what is your position with Duke Energy?

A I'm Senior Manager of Collaboration and Strategy for the Carolinas in our Market Solutions Group.

Q And in that position what is your responsibility -- what are your responsibilities? Sorry.

A My responsibilities are to provide regulatory assistance for our Demand-Side Management and Energy Efficiency activities in the State of North Carolina.

Q Thank you, Mr. Evans. And did you cause to be prefiled in this case on June 11th, 2019, direct testimony of approximately 34 pages and Exhibits 1 through 11 and Exhibits A through I?

A Yes, I did.

Q And did you supplemental -- did you also cause to be prefiled in this case Supplemental Evans Exhibit 1 on September 4th, 2019?

A Yes, I did.

Q And did you also to be prefiled in this case rebuttal testimony on August 28th, 2019 of approximately nine pages?

A Yes, I did.

Q Do you have any changes or corrections to your prefiled direct testimony?

A Yes, I do. On page 25, the first answering paragraph, line 5, the value 414 million it says over 414 million should be replaced by almost 376 million. On the next line, line 6, we have a number there 404 MW. Instead of over 404 MW, it

should read almost 402 MW. And the last correction would be on line 8 and that is close to $252 million -- excuse me -- $249 million that should be replaced by $252 million.
Q Thank you. Do you have any changes or corrections to your prefiled rebuttal testimony?
A No, I do not.
Q And with those changes to your direct -- prefiled direct testimony, if I were to ask you the same questions as written in your prefiled direct testimony today from the stand, would your answers be the same?
A Yes, they would be.
Q And if I were to ask you the same questions as written in your prefiled rebuttal testimony today from the stand, would your answers be the same?
A Yes, they would be.

MS. FENTRESS: Madam Chair, at this time I would ask that Mr. Evans' prefiled direct testimony and exhibits, rebuttal testimony, and Supplemental Exhibit 1 be entered into the record as if given orally from the stand.

COMMISSIONER BROWN-BLAND: Without objection, that motion will be allowed and the -- the exhibits that were prefiled with his testimony will be marked as they were identified -- or identified as they were marked when prefiled.

MS. FENTRESS: Thank you.

(WHEREUPON, Evans Exhibits 1 - 9A, 9B, 9C, 10 and 11, Evans Exhibits A - I, and Supplemental Evans Exhibit 1 are marked for identification as prefiled and received into evidence.)

(WHEREUPON, the prefiled direct and rebuttal testimony of ROBERT P. EVANS is copied into the record as if given orally from the stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1206

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

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 410 S. Wilmington Street, Raleigh, North Carolina. 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 graduate level regulatory studies programs sponsored by American Telephone and Telegraph Corporation, as well as 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 ("DEP" or the "Company")), 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 DEP and Duke Energy Carolinas, LLC ("DEC").

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

A. The purpose of my testimony is to explain and support DEP's proposed DSM/EE Cost Recovery Rider and Experience Modification Factor ("EMF"). 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 DSM/EE rate calculations; (6) information on DEP's Evaluation Measurement & Verification ("EM&V") activities; and (7) an overview of the calculation of the Portfolio Performance Incentive ("PPI").

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. Evans Exhibit 1 supplies load impacts, program costs, and avoided costs for each program, which are used in the calculation of the PPI and revenue requirements by vintage. Evans Exhibit 2 contains a summary of net lost revenues for the period January 1, 2015 through December 31, 2018. Evans Exhibit 3 contains the actual program costs for North Carolina for the period January 1, 2015 through December 31, 2018. 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 the results of DEP's programs and a comparison of actual impacts to previous estimates. Evans Exhibit 7 contains the projected program and portfolio cost-effectiveness results for DEP's approved programs. Evans Exhibit 8 contains a summary of 2018 program performance and an explanation of the variances between the expected program results and the actual results. Evans Exhibit 8 is designed to create more transparency regarding the factors that have driven these variances. Evans Exhibit 9 lists DEP's industrial and large commercial customers that have opted out of participation in the Company's DSM and/or EE programs and also lists those customers that have elected to participate in new measures after having initially notified the Company that they declined to participate, as required by Commission Rule R8-69(d)(2). Evans Exhibit 10 provides a summary of the estimated activities and timeframe for completion of EM&V by program. Evans Exhibit 11 provides the actual and expected dates when the EM&V for each program or measure will become effective.

Evans Exhibits A through I provide detailed EM&V reports, completed or updated since DEP's DSM/EE Cost Recovery Rider Filing in Docket No. E-2, Sub 1174, for the following programs: Demand Response Automation – 2017 (Evans Exhibit A); Residential New Construction – 2015 & 2016 (Evans Exhibit B); EnergyWise Home Demand Response Program – Winter - 2017 & 2018 (Evans Exhibit C); Small Business Energy Saver Program – 2016 (Evans Exhibit D); Residential Energy Assessment Program – 2016 & 2017 (Evans Exhibit E); EnergyWise for Business Program – 2017 (Evans Exhibit F); Nonresidential Smart $aver EE Products & Assessment (Custom) – 2016 &

2017 (Evans Exhibit G); EnergyWise Home Demand Response Program – Summer 2018 (Evans Exhibit H); and Energy Efficiency in Education – 2017 & 2018 (Evans Exhibit I).

Q. WERE EVANS EXHIBITS 1-11 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 DEP TO TAKE IN THE COMMISSION'S ORDER IN DOCKET NO. E-2, SUB 1174.

A. In its November 29, 2018 *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* in Docket No. E-2, Sub 1174 ("Sub 1174 Order"), the Commission ordered that: (1) the Company shall propose modifications to the Residential Smart $aver EE Program no later than December 31, 2018, with the goal of restoring the Total Resource Cost ("TRC") effectiveness test score to 1.00 or greater, and the Company shall discuss the impact of these modifications and any other actions it has taken to improve cost-effectiveness in next year's DSM/EE rider proceeding; (2) in its next DSM/EE rider filing, DEP should address the continuing cost-effectiveness of the Non-Residential Smart $aver Performance Incentive Program and, if it is not cost-effective, provide details of plans to modify or close the program; (3) DEP shall address the continuing cost-effectiveness of the Residential MyHER Program and, if it is not cost-effective, provide details of plans to modify or close the program; (4) that the Company should incorporate the recommendation made by Public Staff witness Williamson that the program evaluator for the Company's EE Lighting Program should (a) include the basis for the selected weighting methodology (weightings based on bulb sales, measure savings, or other metric) when assessing program savings, and (b) indicate what other weighting methodologies were considered and why they were rejected, and why the selected methodology is preferable, in future EM&V reports for the EE Lighting Program; (5) that DEP shall leverage the DEP Collaborative to discuss the EM&V issues and program design issues raised in the testimony of NC Justice Center witness Neme, as well as the issues raised by Public Staff witness Williamson regarding the MyHER program and the impact of upcoming lighting standards. The results of these discussions, specifically including the salient points arising from the discussion of the issues raised in the testimonies of witnesses Neme and Williamson, shall be reported to the Commission in the Company's 2019 DSM/EE rider filing. In addition, the report should identify all participants in the Collaborative discussions; identify any new ideas, proposals, programs and/or program adjustments presented or arising out of the discussions; summarize the Company's analysis or evaluation of such ideas, proposals, programs or program adjustments; and provide a status update with respect to unfinished or future discussions of the Collaborative; and (6) beginning in 2019, the combined DEC/DEP Collaborative shall meet every other month.

Q. PLEASE ADDRESS THE CONTINUING COST-EFFECTIVENESS OF THE RESIDENTIAL SMART $AVER PROGRAM, THE NON-RESIDENTIAL SMART $AVER PERFORMANCE PROGRAM, AND THE RESIDENTIAL MYHER PROGRAM.

A. <u>Residential Smart $aver EE Program</u>:

On December 18, 2018, the Company filed proposed modifications to its Residential Smart $aver EE Program. As filed, the projected TRC score equaled 1.35. Due to concerns expressed by the Public Staff, non-HVAC related measures were removed and incorporated into a new program, Residential Energy Efficient Appliances and Devices. The remaining HVAC related measures yielded an anticipated TRC score of 1.03, which represents the present value for the period extending from 2019 through 2023. The 0.97 TRC score for 2020 represents a significant increase from last year's 2019 estimate of 0.57. This has been accomplished through: (1) the recognition of lower incremental customer costs; (2) making trade ally participation more streamlined and less costly; (3) reducing the Company's Program administrative costs; (4) recognizing a three-year transition to referral-only channels; and (5) introducing an online channel, similar to that provided through DEC's Residential Smart $aver EE Program.

While the Residential Smart $aver EE Program is not assumed to be cost-effective at this time, the Company believes that the 1.03 TRC referenced above is obtainable and reiterates that suspending or terminating the only program that assists customers in making the largest single energy user in their homes, the HVAC system, more energy efficient is not justified, especially when the customers' decision to make said investment only comes around approximately once every fifteen years. Given the significant increase in the projected TRC results from 2019 to 2020 (0.57 to 0.97), and that 2020 is only the second of the five years used in the Company's forecast, the forecasted 1.03 TRC may have been understated. A suspension of this program would also impact the Company's relationships with HVAC contractors by eroding trust and engagement, which would make it difficult to offer programs that would require trade ally support in the future.

Non-Residential Smart $aver Performance Incentive Program:

DEP's Non-Residential Smart $aver Performance Incentive Program ("Performance Incentive Program") is not expected to have a TRC score exceeding 1.0 in 2020. The forecasted 2020 TRC score is 0.99, and the UCT score is 4.05. Although the 0.99 TRC score may be viewed as slightly less than optimal in isolation, it is important to note that this program is an extension of the Non-Residential Smart $aver Program. In particular, the Performance Incentive Program encompasses energy saving measures related to new technologies, unknown building conditions, and system constraints, as well as uncertain operating circumstances, occupancy, or production schedules. In these cases, energy savings are difficult to project accurately. Due to the scope of projects envisioned, the Company also believes that the program could impact a customer's decision to opt into the EE portion of the rider; in other words, if this program were no longer offered as part of the Company's EE portfolio, additional eligible customers may elect to opt out as a result. This program also limits the prospects of overcompensating participants, at the expense of other customers, or undercompensating participants for their EE improvements. Thus, this program is an important component of the Company's non-residential portfolio of programs, and the Company believes that its cost-effectiveness results will continue to improve as more customers become familiar with it and participation increases. To ensure the program supports cost-effective projects, the Company is estimating TRC scores in advance to determine whether or not a project is appropriate for program participation. This screening of individual projects will increase the overall program's TRC score.

Residential MyHER Program:

The Company's residential MyHER program's TRC score is estimated to be 1.01 during the rate period. Given this TRC score, the program is cost effective.

Q. HAS THE COMPANY INCORPORATED THE RECOMMENDATIONS MADE BY PUBLIC STAFF WITNESS WILLIAMSON IN THE COMPANY'S PREVIOUS DSM/EE RIDER PROCEEDING FOR THE EVALUATION OF ITS EE LIGHTING PROGRAM?

A. The Company's third-party evaluator has been notified of Public Staff witness Williamson's recommendations and will incorporate them in its planning of future evaluations for the Company's EE Lighting Program. At present, no further evaluations for the Program are planned due to EISA standards which are due to take effect in 2020.

Q. PLEASE DESCRIBE THE DISCUSSIONS THE COLLABORATIVE HAD REGARDING THE ISSUES RAISED IN LAST YEAR'S DSM/EE RIDER PROCEEDING.

A. Since September 2018, the Collaborative has discussed the following issues raised in last year's proceeding: the recruitment and retention of opt-out eligible customers, the development of a technical resource manual ("TRM"), appropriate accounting for MyHER savings, strategies for boosting participation in programs that promote retrofits or require higher upfront capital investments from customers, and the effectiveness of the Collaborative itself. Below is a brief summary of each of these topics and of the Collaborative's decisions regarding them.

<u>Opt-Outs</u>

All members of the Collaborative, including the Company and DEC, recognize that commercial and industrial customers represent an enormous energy efficiency potential. The Company's program managers explained to the Collaborative its comprehensive approach to customer education and engagement in detail. This approach includes the services of large account managers, energy efficiency engineers, the utilization of customer analytics, and innovative programs that include project design assistance, and performance incentives. Given current opt-out guidelines, the Collaborative agreed that the Company's strategies are in line with what members would recommend. Further discussion of opt-out policy is postponed until the opt-out guidelines are modified, but the performance of programs aimed to attract commercial and industrial programs will remain part of the Collaborative's semi-annual program and EM&V reviews.

TRM

The Collaborative noted that the use of a TRM increases the likelihood that EM&V is transparent, reliable, consistent across utilities, and updated as technology changes. However, the creation and adoption of a TRM is an undertaking that must include all utilities, cooperatives and municipalities in North Carolina (and South Carolina for utilities that operate in both states) to be of greatest value. Given that the Collaborative's influence is inherently limited to DEP and DEC, the group decided it is not the appropriate venue to pursue questions related to a state-wide or multi-state TRM at this time. It should, however, ensure that the Company's EM&V is transparent, reliable, consistent with industry standards, and updated as needed.

MyHER Persistence and Savings

The MyHER program and its EM&V are designed to account for customers' automatic enrollment in MyHER, which lasts until they opt out of the program. Issues of persistence are consequently not part of EM&V testing. Additional concerns about whether savings from MyHER are being attributed to the years in which the EE treatment occurred are not immediately relevant given the absence of regulatory requirements to achieve savings targets in specific years. Rather, the focus of EM&V has been on accurately capturing savings within the continuous treatment model.

The Company acknowledges that alternative program designs may shed light on potential cost savings or energy saving projections in future filings. Accordingly, the Company agrees to investigate the feasibility of incorporating persistence testing in upcoming EM&V studies. Because any testing will require several years to complete, the Collaborative decided not to pursue this issue any further until more information is available. Additionally, new data made available through the deployment of AMI meters may represent an opportunity for enhanced personal messaging. The Collaborative will be active in contributing to all program design updates to ensure that customers receive the greatest benefit from this opportunity.

Increasing Participation in Programs Promoting Long-Term Savings

The high incremental costs of equipment, the purchasing habits of customers, the market realities facing trade allies, and the economic vulnerability of regulated programs present numerous obstacles to increasing participation in programs that promote deeper changes to a structure's energy consumption—an issue of importance to many members of the Collaborative and to the Company. Although the membership is committed to developing strategies for overcoming these obstacles, it agreed that the conversation is complex and, therefore, best located within the Collaborative's larger discussion of obstacles and opportunities that face energy efficiency investments at the portfolio level. Nevertheless, the Collaborative will continue to monitor the Company's Smart $aver programs, midstream successes, and retrofit opportunities through the semi-annual program reports and EM&V reviews.

Collaborative Effectiveness

In response to intervenor comments in DEP's and DEC's previous DSM/EE cost recovery rider filings in 2018, DEC and DEP have modified the Collaborative meetings. DEC and DEP meetings are now combined and held bi-monthly, pursuant to the Commission's *Order Approving DSM/EE Rider and Requiring Filing of Customer Notice*, issued in Docket No. E-2, Sub 1174 on November 29, 2018. Members of the Collaborative now help to develop the agenda, lead portions of the discussions, and set the group's priorities. Additionally, the Company is committed to allowing ample time to review information prior to meetings and to following up periodically to ensure that members' concerns and recommendations are thoroughly understood and appropriately addressed. The Collaborative members have indicated in meetings held since the modifications were implemented that they have improved the group's effectiveness.

Q. WHAT NEW IDEAS, PROPOSALS, PROGRAMS AND/OR PROGRAM ADJUSTMENTS HAVE BEEN PRESENTED OR HAVE ARISEN FROM THE COLLABORATIVE'S DISCUSSIONS?

A. The Collaborative decided at the first meeting in January 2019 to focus its attention on two areas in which it could make the greatest impact: (1) low-income program improvement and expansion and (2) a comprehensive analysis of challenges and opportunities facing DSM/EE programs at the portfolio level. Each of these priorities is ambitious and will require adequate time to reach conclusions and/or recommendations.

The Collaborative's breadth of experience in low-income programs across the Southeast provides an important reference for the Company. Last fall, the Collaborative was introduced to the Pay for Performance Pilot program in Buncombe County, and it made several suggestions related to it. One suggestion regarding the use of funds was immediately incorporated into the contractual language with the vendor. Other suggestions will be incorporated when the vendor(s) are able to include additional measures for direct install or when additional vendors are added to the list of partners. Earlier this year, program management asked members to provide suggestions for additional measures for the Neighborhood Energy Savers program. Program staff will present the results of requests for proposals to the members once they are available. Finally, Collaborative members will have a chance to weigh in on ideas the Company has to overhaul its weatherization program to ensure that funds are being utilized optimally.

To ensure that the discussion of challenges and opportunities at the portfolio level produces a tangible deliverable that all members can refer to in future deliberations within the Collaborative, members will discuss topics during the bimonthly meetings as they arise and then circulate notes for ongoing conversation between meetings. Ultimately the goal is to develop a document that accurately represents both the consensus and divergent opinions of the membership, thereby capturing the breadth of the Collaborative's expertise across the spectrum of DSM/EE issues. This document will be included as an addendum to the Collaborative's meeting minutes. The initial discussions have focused on cost-effectiveness testing, but the conversations are ongoing and far from complete.

Recently, the Company's program staff presented the Collaborative with the early stages of a program potentially building on the success of the retail lighting program by expanding midstream offerings to include larger appliances. The Collaborative encouraged the work the Company has done so far, offered an online tool currently being used in another jurisdiction as a comparison, and pledged to revisit the program once more details were hammered out.

Q. WHAT ORGANIZATIONS ARE REPRESENTED IN THE COLLABORATIVE?

A. The Collaborative is fortunate to have attracted and to continue to attract leaders in EE and DSM efforts from across the Southeast. Besides participants from Company's program management, regulatory and retail strategy, program performance and analytics, and environmental affairs teams, the Collaborative has enjoyed the participation of representatives from the following external organizations:

Advanced Energy

American Council for an Energy-Efficient Economy

Carolina Utility Customers Association

Clean Energy Technology Center at North Carolina State University
Energy Futures Group
Environmental Defense Fund
Green Built Alliance
National Housing Trust
Nicholas Institute at Duke University
North Carolina Building Performance Association
North Carolina Department of Natural Resources
North Carolina Justice Center
North Carolina Public Staff
North Carolina Sustainable Energy Association
South Carolina Coastal Conservation League
South Carolina Energy Office
South Carolina Office of Regulatory Staff
Southern Alliance for Clean Energy

Q. WHAT IS THE STATUS OF UNFINISHED OR FUTURE DISCUSSIONS OF THE COLLABORATIVE?

A. As mentioned earlier, the Collaborative will continue to support the Company's efforts to improve and expand its low-income programs and to analyze the obstacles and opportunities for the Company's future DSM/EE portfolio. The group currently plans to meet in person in July, September, and November and to hold task-specific conference calls between meetings as needed. The

Company will present the salient points of those discussions to the Commission in the future.

Q. HAS THE COMPANY ANALYZED THE COST-EFFECTIVENESS SCORES FOR ITS DSDR PROGRAM?

A. Yes. The Company has determined that the TRC and UCT cost-effectiveness scores are both 1.244. In addition, the present value of DSDR Program net benefits is approximately $70,726,000.

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

A. The Company reviews the allocation ratios annually each summer and implements any necessary updates the following year. The Company reviewed 2017 units during the summer of 2018 and determined that the capacitor allocation ratio should be increased from 20.36 to 21.08, and the allocation ratio applied to regulators was elevated from 77.60 to 78.50 percent. The 2018 units will be reviewed this summer, and any further changes will be communicated to the Public Staff and implemented on January 1, 2020.

III. RULE R8-69 FILING REQUIREMENTS

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

A. The information for this filing is provided pursuant to the Commission's filing requirements contained in R8-69(f)(1) and can be found in my testimony and exhibits, as well as the testimony and exhibits of Company witness Carolyn T. 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 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-I
(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	Miller Exhibit 3
(vi)	Proposed DSM/EE rider	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	Digital recording medium accompanying filing

IV. PROGRAM OVERVIEW

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

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

RESIDENTIAL CUSTOMER PROGRAMS

- Appliance Recycling Program
- EE Education Program
- Multi-Family EE Program
- My Home Energy Report Program
- Neighborhood Energy Saver Program
- Residential Smart $aver EE Program
- New Construction Program
- Load Control Program (EnergyWise)
- Save Energy and Water Kit Program
- Energy Assessment Program
- Low-Income Weatherization Pay for Performance Program (Pilot implemented in January 2019)

NON-RESIDENTIAL CUSTOMER PROGRAMS

- Non-Residential Smart $aver Energy Efficient Products and

Assessment Program (formerly known as the EE for Business Program)

- Non-Residential Smart $aver Performance Incentive Program
- Small Business Energy Saver Program
- CIG Demand Response Automation Program
- EnergyWise for Business

COMBINED RESIDENTIAL/NON-RESIDENTIAL PROGRAMS

- Energy Efficient Lighting Program
- DSDR

Q. PLEASE DESCRIBE ANY UPDATES MADE TO THE UNDERLYING ASSUMPTIONS FOR DEP'S PROGRAMS THAT HAVE ALTERED PROJECTIONS FOR VINTAGE 2020.

A. EM&V results were used to update the savings impacts for those programs for which DEP received EM&V results after it prepared its application in Sub 1174. Updating programs for EM&V results changes the projected avoided cost benefits associated with the projected participation and, hence, impacts the calculation of the specific program and overall portfolio cost-effectiveness, as well as the calculation of DEP's projected shared savings incentive.

Q. AFTER FACTORING THESE UPDATES INTO DEP'S PROGRAMS FOR VINTAGE 2020, DO THE RESULTS OF DEP'S PROSPECTIVE COST-EFFECTIVENESS TESTS INDICATE THAT IT SHOULD DISCONTINUE OR MODIFY ANY OF ITS PROGRAMS?

A. DEP performed a prospective analysis of each of its programs and the aggregate portfolio for the Vintage 2020 period. The results of this prospective analysis are contained in Evans Exhibit 7. This exhibit shows that four programs do not pass the TRC and/or UCT thresholds of 1.0. These programs are: (1) the Neighborhood Energy Saver Program, which was not cost-effective at the time of Commission approval (but was approved based on its societal benefits); (2) the Residential Smart $aver EE Program, formerly known as the Home Energy Improvement Program; (3) the Non-Residential Smart $aver Performance Incentive Program; and (4) the EnergyWise for Business Program. In the aggregate, DEP's portfolio of programs continues to project cost-effectiveness.

As discussed earlier in my testimony, DEP continues its efforts to make the Residential Smart $aver EE Program cost-effective and believes it should continue to be included in the Company's portfolio.

The Non-Residential Smart $aver Performance Incentive Program was also discussed earlier in my testimony, and the Company believes that its TRC value will increase in the future, in part due to increased scrutiny in the project selection process.

The cost-effectiveness of the EnergyWise for Business Program is obviously a concern for the Company with its 0.46 TRC score. The Company is examining this program and intends to determine if program modifications can increase its cost effectiveness or if discontinuation is appropriate. The Company will provide the Commission with further information regarding the program's continuation on or before the filing of its 2020 cost recovery request.

V. DSM/EE PROGRAM RESULTS TO DATE

Q. HOW MUCH ENERGY, CAPACITY AND AVOIDED COST SAVINGS DID DEP DELIVER AS A RESULT OF ITS DSM/EE PROGRAMS DURING VINTAGE 2018?

A. During Vintage 2018, DEP's DSM/EE programs delivered over 414 million kilowatt hours ("kWh") of energy savings and over 404 megawatts ("MW") of capacity savings, which produced a net present value of avoided cost savings of close to $249 million. The 2018 performance results for individual programs are provided in Evans Exhibits 6 and 8.

Q. DID ANY PROGRAMS SIGNIFICANTLY OUT-PERFORM RELATIVE TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2018?

A. Yes. In the residential market, two programs did significantly out-perform compared to their original energy savings estimates: The Residential Energy Assessment Program and the Residential Smart $aver EE Program. When compared to estimates originally filed for Vintage 2018, the programs exceeded projections by 185.0 percent and 130.7 percent, respectively. The Residential Energy Assessment Program achieved increases through changes in participation, changes in impacts, and mix of measures. The increase in the Residential Smart $aver EE Program resulted from an increase in participation.

The non-residential program with the largest percentage increase in expected energy savings from those forecasted for 2018 is the Non-Residential Smart $aver Program. This program produced energy savings that exceeded DEP's projections by 134.3 percent and capacity savings of 274.0 percent.

Q. HAVE ANY PROGRAMS SIGNIFICANTLY UNDERPERFORMED RELATIVE TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2018?

A. Yes. In the residential market, in addition to the discontinued Residential Appliance and Recycling Program, three programs did not achieve energy savings in excess of those forecasted for 2018. These were: (1) the Residential Save Energy and Water Kit Program (these measures are now included in the Residential Energy Efficient Appliances and Devices Program); (2) the Residential New Construction Program; and (3) the Residential Multi-Family Energy Efficiency Program. These programs achieved 71 percent, 89 percent, and 98 percent of projected energy savings, respectively. The primary drivers for the underperformance of these programs are changes in estimated impacts and in the mix of program measures.

In the non-residential market, the EnergyWise for Business Program failed to meet energy savings expectations. Notably, this is both an EE and Demand Response program. The primary drivers for the underperformance of the EnergyWise for Business Program were changes to the estimated impacts.

VI. PROJECTED RESULTS

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

A. DEP will update the actual and projected DSM/EE achievement levels in its annual DSM/EE cost recovery 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 2018 and projection of the results for the next two years, as well as the associated actual and projected program expenses, are summarized in the table below:

DEP System (NC & SC) DSM/EE Portfolio 2018 Actual Results and 2019-2020 Projected Results			
	2018	2019	2020
Annual System MW	404	376	397
Annual System Net Gigawatt-Hours	414	402	378
Annual Program Costs (Millions)	$97	$90	$99

VII. EM&V ACTIVITIES

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

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

Evans Exhibit	EM&V Reports	Report Finalization Date
A	Demand Response Automation – 2017	5/1/2018
B	Residential New Construction – 2015 & 2016	5/25/2018
C	EnergyWise Home Demand Response Program – Winter 2017-2018	8/6/2018
D	Small Business Energy Saver Program – 2016	9/10/2018
E	Residential Energy Assessment – 2016 & 2017	10/12/2018
F	EnergyWise for Business Program – 2017	11/9/2018

Evans Exhibit	EM&V Reports	Report Finalization Date
G	Nonresidential Smart $aver EE Products & Assessment (Custom) – 2016 & 2017	11/29/2018
H	EnergyWise Home Demand Response Program – Summer 2018	11/30/2018
I	Energy Efficiency in Education – 2017 & 2018	3/20/2019

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

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

The level of EM&V required varies by program and depends upon that program's contribution to the 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. DEP estimates, however, that no additional costs above five 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. All of the impact results included in the Company's filing (Evans Exhibits A through I) are based on Carolinas-based EM&V.

VIII. <u>RATE IMPACTS</u>

Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE VINTAGE 2018 EMF?

A. Yes. The EMF accounts for changes to actual participation relative to the forecasted participation levels utilized in DEP's 2018 DSM/EE rider. As DEP receives actual participation information, it is then able to update participation-driven actual avoided cost benefits and the net lost revenues derived from its DSM and EE programs. For example, with all other things being equal, for programs that underperform relative to their original participation targets, the EMF will be reduced to reflect lower costs, net lost revenues, and shared savings incentives. On the other hand, higher-than-expected participation in programs causes the EMF to reflect higher program costs, net lost revenues, and shared savings incentives. In addition, the EMF is impacted by the application of EM&V results.

Q. HOW WILL EM&V BE INCORPORATED INTO THE VINTAGE 2018 EMF COMPONENT OF ITS RATES?

A. All of the final EM&V results that were received by DEP as of December 31, 2018 have been applied prospectively from the first day of the month immediately following the month in which the study participation sample for the EM&V was completed. Accordingly, for any program for which DEP has received EM&V results, the per participant impact applied to the projected program participation in Vintage 2018 is based upon the actual EM&V results that have been received. In addition, an adjustment has been made to correct a prior misalignment between a unit of measure and a prior EM&V report for the measure in the Multi-Family Program.

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

A. Yes, the opt-out of qualifying non-residential customers has significantly impacted DEP's overall non-residential participation and the associated impacts. For Vintage 2018, DEP had 4,277 eligible customer accounts opt out of participating in DEP's non-residential portfolio of EE programs and had 4,354 eligible customer accounts opt out of participating in DEP's non-residential portfolio of DSM programs. This is an increase from the 4,165 EE accounts and 4,099 DSM opt-outs reported for 2017.

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. DEP continues to evaluate and revise its non-residential programs to accommodate new technologies, eliminate product gaps, remove barriers to participation, and make its programs more attractive. The Company also continues to leverage its Large Account Management Team to make sure customers are informed about product offerings. Twenty-four customers did opt to participate in programs during 2018.

IX. NET LOST REVENUES

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

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

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

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

Q. PLEASE DESCRIBE HOW DEP DETERMINES ITS FOUND REVENUES.

A. Consistent with the Commission's Order Approving Revised Mechanism, DEP has adopted the "Decision Tree" located in Attachment C of the approved revised cost recovery mechanism. Consistent with the methodology employed by DEP, found revenue activities are identified, categorized, and netted against the net lost revenues created by DEP's EE programs. Found revenues, as calculated, result from DEP's activities that are perceived to directly or indirectly result in an increase in customer demand or energy consumption within DEP's service territory. However, revenues resulting from load-building activities would not be considered found revenues if they (1) would have occurred regardless of DEP'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 DEP to engage in an activity that supports efforts to grow the economy. DEP also adjusts the calculation of found revenues to account for the impacts of activities outside of its DSM/EE programs that it undertakes that reduce customer consumption – i.e., "negative found revenues." Based on the results of this work, all potential found revenue-related activities are identified and categorized in Evans Exhibit 4.

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

A. DEP 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, DEP is generating significant energy savings. Because they come outside of DEP's EE programs, these energy savings are not captured in DEP's calculation of lost revenues. One of the activities that DEP includes in the calculation of found revenues is the increase in consumption from new outdoor lighting fixtures added by DEP; accordingly, 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 takes credit only from the efficiency gain from replacing HPS with LED fixtures. Also, DEP 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.

X. PPI CALCULATION

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

A. Pursuant to the Commission's Order Approving Revised Mechanism, for Vintage Year 2017 and subsequent vintage years, DEP's revised cost recovery mechanism allows it 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 DSM and EE programs; and (3) earn a PPI based upon the sharing of 11.75% of the net savings achieved through DEP's DSM/EE programs on an annual basis.

Q. IS DEP REQUESTING PPI FOR ALL OF ITS PROGRAMS?

A. No. The Company is not requesting PPI recovery for its Residential Low-Income Program or its EE Education Program. In addition, under the terms of the revised cost recovery mechanism, DEP is not eligible for a PPI for its DSDR Program.

Q. PLEASE EXPLAIN HOW DEP DETERMINES THE PPI.

A. First, DEP determines the net savings eligible for incentive by subtracting the present value of the annual lifetime DSM/EE program costs (excluding low-income programs or other programs with societal benefits which are explicitly approved with expected UCT results less than 1.0) from the net present value of the annual lifetime avoided costs achieved through the Company's programs (again, excluding approved low-income and societal programs). The Company then multiplies the net savings eligible for incentive by the 11.75% shared savings percentage to determine its pretax incentive.

XI. CONCLUSION

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

A. Yes.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1206

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

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

A. My name is Robert P. Evans, and my business address is 410 S. Wilmington Street, Raleigh, North Carolina. I am employed by Duke Energy Corporation as Senior Manager-Strategy and Collaboration for the Carolinas in the market solutions regulatory strategy and evaluation group. I am responsible for the regulatory support of DSM/EE programs in North Carolina for Duke Energy Progress, LLC ("DEP" or the "Company").

Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN SUPPORT OF DEC'S APPLICATION IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to portions of the testimony of Forest Bradley-Wright filed on behalf of the North Carolina Justice Center ("NCJC") and the Southern Alliance for Clean Energy ("SACE"). These are:

- The prioritization of reaching 1% of annual savings;
- The deployment of an Income Qualified Weatherization program comparable to the current DEC program;
- Information provided in the Company's annual rider filing; and
- Clarification of some interactions between the Company and the Collaborative described by witness Bradley-Wright.

Q. IS THE ONE PERCENT SAVINGS GOAL IMPORTANT TO THE COMPANY?

A. Yes. As a part of the Progress Energy, Inc. merger with Duke Energy Corporation, various agreements were made with intervening parties. As a part of its South Carolina merger agreement with a group referred to collectively as Environmental Intervenors, the Company agreed to establish a one percent annual Energy Efficiency ("EE") savings target and also a related seven percent cumulative savings target for the five-year period extending from 2014 through 2018.

Q. HAS THE COMPANY MET OR EXCEEDED THESE SAVINGS TARGETS?

A. No, however, the Company has made significant efforts. Circumstances, largely outside the Company's ability to control, have challenged these efforts.

Q. ARE THERE PENALTIES IN PLACE FOR FAILURE TO ACHIEVE THE EE SAVINGS GOALS?

A. No. The South Carolina agreement provides that *"There will be no penalties for failure to achieve the annual or cumulative targets."*[1] These energy savings goals were intended to be aspirational and hence were factored into the establishment of bonus incentive goals included in the Company's North Carolina approved cost recovery mechanism; however, in no way were they ever intended to be a measure of the overall success of the Company's portfolio.

[1] The Merger Settlement with SACE, South Carolina Coastal Conservation League, and Environmental Defense Fund filed with the South Carolina Public Service Commission on December 13, 2011 in Docket Nos. 2011-68-E and 2011-158-E.

Q. HAS THE COMPANY MADE EFFORTS TO ACHIEVE THE AFOREMENTIONED GOALS?

A. Yes, it has made significant efforts to achieve these goals. Given the various impediments to reaching those aspirational goals, the Company has and continues to make significant strides toward their obtainment. Witness Bradley-Wright noted that the Company's savings among customers that are not opted out of the DSM/EE rider exceed 1%.

Q. WHAT TYPE OF IMPEDIMENTS HAS THE COMPANY EXPERIENCED WITH RESPECT TO OBTAINING THE ASPIRATIONAL GOALS?

A. There are several factors involved including the following:

- Opted-Out Customers – almost 54 percent of General Service sales, which is over 31 percent of total retail sales, have opted out of the rider;
- Low Avoided Costs – declining avoided costs have made it more difficult to incentivize measures cost effectively. It is important to note that, with the exception low-income and societal programs, a program's benefits must exceed its costs. As avoided costs drop, incentive amounts that can be offered cost effectively drop as well making some programs less attractive or no longer viable; and
- Increasing Building Codes and Efficiency Standards – as building codes and efficiency standards increase, the opportunity for energy savings that exceed the standard diminish, further eroding opportunities for cost

effective incentives to be offered to customers and the amount of energy savings that can be achieved through programs.

Q. WITNESS BRADLEY-WRIGHT ENCOURAGED THE DEPLOYMENT OF AN INCOME QUALIFIED WEATHERIZATION PROGRAM COMPARABLE TO THE CURRENT DEC PROGRAM. DO YOU AGREE WITH WITNESS BRADLEY-WRIGHT?

A. Yes, I do, however, with reservation. The Company is already moving toward the development of weatherization programs in DEP territory. As indicated by witness Bradley-Wright, the Company filed a Weatherization Pay for Performance program that will operate for 3 years in Buncombe County. That program launched in January of 2019 and has two more years before M&V will occur to determine next steps.

While the Pay for Performance program is being tested, the Company is pursuing and has discussed with the Collaborative an expansion of the Neighborhood Energy Saver program to include additional weatherization measures such as attic insulation, air sealing, duct sealing and smart thermostats. The Company intends to file these proposed modifications with the Commission to be effective in early 2020.

Q. ARE YOU TESTIFYING ON BEHALF OF THE COLLABORATIVE?

A. No. While a longtime member and former Collaborative facilitator, I cannot speak or testify on behalf of the Collaborative.

Q. IS WITNESS BRADLEY-WRIGHT TESTIFYING ON BEHALF OF THE COLLABORATIVE?

A. No. Because the Collaborative was created as an advisory forum, participants may neither testify nor speak on behalf of the Collaborative. Members of the Collaborative may submit comments to this Commission representing the positions of their respective organizations on matters related to the Collaborative and the Company's programs in general.

Q. **DO YOU AGREE WITH WITNESS BRADLEY-WRIGHT REGARDING THE NEED TO REVISE THE COMPANY'S ANNUAL RIDER FILING TO REFLECT A FORMAT AKIN TO THAT USED IN ARKANSAS?**

A. No. The Company believes that its already voluminous annual filing (over 850 pages) complies with the Commission's well-considered Rule R8-68 and contains all the pertinent information associated with the Company's program performance and necessary for requesting cost recovery. Additionally, an interested party to the proceeding may submit data requests to ascertain relevant information not included in the filing, to make that information part of the record if necessary. Stakeholders in both North and South Carolina are familiar with the format employed today, and making a change would likely only lead to stakeholder confusion and unnecessary time to adopt a format that differs from the Commission's already comprehensive procedures set out in its Rule.

The Company is not insensitive to witness Bradley-Wright's request. While the Company feels that the materials requested are not necessary for inclusion in the accepted annual rider filing, the Company is in the process of preparing materials for the Collaborative, in a format consistent with the one recommended by witness Bradley-Wright.

Q. DO YOU AGREE THAT THE COLLABORATIVE'S CONTRIBUTIONS, POINTED OUT ON PAGES 17 AND 18 OF WITNESS BRADLEY-WRIGHT'S TESTIMONY, HAVE NOT BEEN IMPLEMENTED OR HAVE RESULTED IN INCREASED PROGRAM IMPACTS?

A. No. Witness Bradley-Wright provided examples of topics the Collaborative has discussed over the past several years, including On-Bill Financing, Combined Heat and Power, the development of a Technical Resource Manual, strategies for addressing commercial and industrial opt-outs, the inclusion of non-energy benefits and recommendations for modifying the Pay for Performance Pilot Program. While these topics have not all been fully implemented, the contributions of the Collaborative members have driven the Company's exploration and examination of each one.

For example, the On-Bill Financing ("OBF") working group determined that it was not cost effective to modify the Company's existing Customer Information / Billing System ("CIBS") to accommodate OBF at this time; however, it was agreed that, after the new CIBS is in place in 2022, it would make sense to revisit the potential for OBF.

As to Combined Heat and Power ("CHP"), consistent with the outcome of the Collaborative's discussions on potential changes to enhance the Company programs' ability to incentivize CHP and upon clarification of the definition of eligible CHP systems, the Company modified its program tariffs to incentivize both Top and Bottom Cycling CHP.

The Technical Resource Manual ("TRM") issue has been discussed by the Collaborative several times, but it reached no consensus with respect to benefits. A taskforce was put together to evaluate the implementation of a TRM, but due to the varied interests and perceived lack of benefits associated with its use, this taskforce was disbanded.

The topic of Non-Energy Benefits ("NEBs") has been brought up several times by Collaborative members for use in program cost-effectiveness studies. The Collaborative members seemed to agree that NEBs do exist; however, there was no definitive source for an appropriate quantification of NEBs when determining program cost effectiveness. With that being said, the Company, as a part of its Cost Recovery Mechanism review, is investigating the potential for NEBs which have been vetted through the Collaborative to be considered in the determination of Total Resource Cost ("TRC") test results.

Opt-outs present a substantial barrier to achieving energy savings through Company programs and meeting the aspirational savings targets mentioned earlier in my testimony. The Collaborative continues to ponder how to succeed in providing programs, given the customers' statutory right to opt out; however, to date, it has been unable to suggest a solution that can reverse the historical trend. The increasing number of customers opting out will continue to be a concern and topic of discussion for both the Collaborative and the Company's program staff.

Contrary to witness Bradley-Wright's assertion otherwise, the Company took all of the Collaborative's recommendations regarding the Pay for Performance Pilot Program into consideration and has begun implementing them as the program matures and is capable of incorporating them. For instance, Collaborative members asked for more non-profit organizations and measures to be included in the pilot. Earlier this year, a second organization was added, and the program continues to look for ways to expand measures as well. These examples illustrate that the Collaborative has examined the topics and proposals referenced by witness Bradley-Wright because the Collaborative's input and vigorous discussion are important to the Company. Even proposals that appear to be only partly incorporated spur debate and deepen the Company's understanding of its customers' interests.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

MS. FENTRESS: We have asked if Mr. Evans could present his direct and rebuttal testimony at the same time reserving the right to recall him for rebuttal if there is need to after the hearing of evidence today.

COMMISSIONER BROWN-BLAND: All right. That -- that is fine with the Commission.

MS. FENTRESS: Thank you.

BY MS. FENTRESS:

Q Mr. Evans, do you have a summary of your direct and rebuttal testimony?

A Yes, I do.

Q Please give your summary.

(WHEREUPON, the summary of ROBERT P. EVANS is copied into the record as read from the witness stand.)

SUMMARY OF DIRECT AND REBUTTAL TESTIMONY

OF ROBERT P. EVANS

My direct testimony supports DEP's Application for approval of its DSM/EE cost recovery rider for 2020, which encompasses the Company's currently effective cost recovery and incentive mechanism and portfolio of programs approved by the Commission. In particular, my testimony includes a discussion of items the Commission specifically directed the Company to address in this proceeding, an overview of the Commission's Rule R8-69 filing requirements, a synopsis of the DSM/EE programs included in this filing, a discussion of program results and an explanation of how these results have affected DSM/EE rate calculations, information on DEP's Evaluation Measurement & Verification, or "EM&V" activities, and an overview of the calculation of the Company's Portfolio Performance Incentive, or "PPI."

First I discuss actions that the Commission directed the Company to take in the last cost recovery proceeding, which includes the cost effectiveness of the Residential Smart $aver EE program, the Non-Residential Smart $aver Performance program and the Residential MyHER program. Further, with respect to Public Staff witness Williamson's recommendations for evaluation of the EE Lighting program, the Company has notified its third-party evaluator, who plans to incorporate the recommendations in evaluations which occur after the EISA standards take effect in 2020. With respect to the Collaborative's recommendations regarding issues in the last rider proceeding, I summarize the Collaborative's decisions on opt-outs, TRM, MyHER persistence and savings, increasing participation to promote long-term savings, and Collaborative effectiveness. In 2019 the Collaborative decided to focus on 2 ambitious priorities: (1) low-income program improvement and expansion, and (2) a comprehensive analysis of challenges and opportunities facing DSM/EE programs at the portfolio level.

DEP's cost recovery mechanism allows it to (1) recover the reasonable and prudent costs incurred for adopting and implementing DSM and EE measures; (2) recover net lost revenues incurred for up to 36 months of a measure's life for DSM and EE programs; and (3) earn a PPI based upon the sharing of 11.75% of the net savings achieved through DEP's DSM/EE programs on an annual basis. The Experience Modification Factor, or "EMF," in the rider accounts for changes to actual participation relative to the forecasted participation levels utilized in prior DSM/EE riders and also reflects the application of EM&V results.

EM&V results were updated to reflect the savings impacts for those programs for which DEP received EM&V reports after it prepared its application in last year's DSM/EE proceeding. These reports are included as Exhibits A through I to my direct testimony. After factoring in these EM&V updates, DEP performed a prospective analysis of each of its programs and the aggregate portfolio for the Vintage 2020 period. In the aggregate, DEP's portfolio of programs continues to project cost-effectiveness.

In my testimony, I include a comprehensive list of all of the DSM and EE programs included in the Company's current portfolio. During Vintage 2018, DEP's DSM/EE programs delivered almost 376 million kilowatt hours of energy savings and almost 402 megawatts of capacity savings, which produced net present value of avoided cost savings of close to $252 million.

The purpose of my rebuttal testimony is to respond to the testimony of Forest Bradley-Wright, filed on behalf of the North Carolina Justice Center and the Southern Alliance for Clean Energy.

First, I explain why the Company has prioritized reaching the goal of one percent annual Energy Efficiency savings: as a part of the Progress Energy, Inc. merger with Duke Energy Corporation, the Company agreed to establish a one percent annual Energy Efficiency savings target and also a related seven percent cumulative savings target for the five-year period extending from 2014 through 2018. While the Company has not met these savings targets, due to circumstances largely outside its control, it has made significant efforts to achieve them. As witness Bradley-Wright noted, the Company's savings among customers that have not opted out of the DSM/EE rider exceed one percent.

Second, I agree with witness Bradley-Wright that the Company should develop income-qualified weatherization programs. The Company filed a Weatherization Pay for Performance pilot program that will operate for 3 years in Buncome County, and the Company intends to file an expansion of the Neighborhood Energy Saver program to include additional weatherization measures, to be effective in early 2020.

Third, I disagree with witness Bradley-Wright that the Company needs to revise its annual rider filing to reflect the format used in Arkansas. The Company believes that its voluminous filing complies with Commission Rule R8-68 and contains the pertinent information necessary for the Commission to evaluate the cost recovery request.

Fourth, I disagree with witness Bradley-Wright's statement that the Collaborative's contributions have not been implemented or have resulted in increased impacts. While topics such as On-Bill Financing, Combined Heat and Power, and the development of a Technical Resources Manual have not been fully implemented, the Collaborative members have driven the Company's exploration of each issue. The Company took the Collaborative's recommendation regarding the Pay for Performance Pilot into consideration and has begun implementing them as that program matures, e.g., adding a second nonprofit organization earlier this year. The Collaborative's input spurs debate and deepens the Company's understanding of its customers' interests.

This concludes my summary.

BY MS. FENTRESS:
Q Thank you.
MS. FENTRESS: The witness is available for cross examination.
COMMISSIONER BROWN-BLAND: Thank you. Is there cross examination for this witness? Mr. Neal is headed to the mic.
MR. NEAL: Yes. Thank you, Commissioner Brown-Bland.
CROSS EXAMINATION BY MR. NEAL:
Q Good afternoon, Mr. Evans. How are you doing today?
A Good afternoon.
Q It's good to see you. So from -- from your summary and your rebuttal testimony, it's fair to say that you are familiar with the Progress/Duke Merger Agreement in which it agreed to that 1 percent target of prior year retail sales.
A I wasn't a party to that Agreement, but I am aware of it.
Q And you would agree that in its initial Application to the Commission and in your initial testimony you -- DEP did not provide the Commission with an update on the annual 1 percent

savings target.
A Not in this filing, no.
Q And likewise you would agree that in that initial Application or in your testimony that DEP didn't provide the Commission with an update on the cumulative five-year savings target that was to conclude in 2018.
A That's correct, it did not.
Q And DEP has access to that information, correct?
A That is correct.
Q And -- and if I could have an exhibit handed up.

COMMISSIONER BROWN-BLAND: Yes.

MR. NEAL: And if I could, Commissioner Brown-Bland, have this marked as -- thank you. If I could have this marked as NCJC et al Evans Cross Exhibit 1.

COMMISSIONER BROWN-BLAND: It'll be so identified NCJC --

MR. NEAL: Et al.

COMMISSIONER BROWN-BLAND: -- et al Cross --

MR. NEAL: Evans Cross Exhibit 1.

COMMISSIONER BROWN-BLAND: -- Evans Cross Examination Exhibit 1.

(WHEREUPON, NCJC et al Evans Cross

Exhibit 1 is marked for
identification.)

BY MR. NEAL:

Q So Mr. Evans, are you -- have you seen this before in preparation for this hearing or in --

A I was aware of the data request response from which is the source.

Q Uh-huh. And so you would agree this is a -- DEP's response to a data request from SACE and my other clients related to the percentage of the -- the savings target that we just discussed?

A That is correct.

Q Okay. And turning your attention to the second page of -- of the -- of the document, looking down towards I guess number 3B in the middle, you had agreed that it shows that DEP achieved .79 percent savings as a percentage of 2017 retail sales in 2018?

A Yes. Including opt-out sales volumes, it is correct.

Q Okay. And you would agree --

COMMISSIONER BROWN-BLAND: Mr. -- Mr. Evans, always stay in that mic and keep your voice up.

THE WITNESS: I'm sorry. The chair is --

COMMISSIONER BROWN-BLAND: Thank you.
THE WITNESS: I wish it was like my car.
COMMISSIONER BROWN-BLAND: Thank you.
THE WITNESS: Yes, Commissioner.
BY MR. NEAL:
Q And you would agree that in the -- in the Merger Agreement there was no exemption for opt-outs for that target?
A Not that I read in the document; no, sir.
Q And turning your attention to the issue of data reporting that you addressed in your rebuttal, did -- you would agree that in DEP's filings, the Commission that the -- or if the Commission or members of the public wanted to compare let's say anticipated savings with actual savings achieved by DEP, they would need to the compare exhibits from a prior year's application to a current year's; isn't that right?
A Yes. Well, actually there are information on forecast versus actual, but it would be a means to compare the two years, yes.
Q And by the same token if -- DEP doesn't provide year over year comparison of cost effectiveness scores for its portfolio programs in its

Application; isn't that right?
A No, it does not.
Q All right. And you would agree that that kind of information might help show trends within DEP's portfolio programs?
A It certainly would.
Q Turning your attention to the Collaborative, you described some changes made to the Collaborative in your testimony and you would agree that those changes are consistent with the purpose of the Collaborative?
A I would. Consistent with the desire of parties within the Collaborative, I would agree with that; yes, sir.
Q Okay. And is it your understanding that the Collaborative was initially established following a settlement in the Save-A-Watt docket in 2009?
A The DEC Collaborative was settled as a result of the Save-A-Watt agreements; however, the DEP Collaborative did not exist at that point in time and had not existed for several years. You're looking at 2014, September was the first meeting of the DEP Collaborative.
Q But they are a combined Collaborative at this

point; isn't that right?
A Yes, they are combined at this time.
Q And in that initial stakeholder group that was established in the DEC Save-A-Watt docket was called the Regional Efficiency Advisory Group; is that right?
A I'm not aware of that, sir.
Q It's before your time?
A I was not involved, no.

MR. NEAL: If there's not an objection Commissioner Brown-Bland, I would ask that the Commission take judicial notice of the Agreement and Joint Stipulation of Settlement in Docket E-7, Sub 831 filed on June 12th, 2009.

COMMISSIONER BROWN-BLAND: There being no objection, that is allowed.

MR. NEAL: Thank you.

BY MR. NEAL:
Q Mr. Evans, I have a quick question about the correction you made to your testimony earlier on page 25. I assume then that that would carry over to page -- the chart on the -- after line 3 on page 27 where you also summarized DEP system annual savings in terms of MW, GW hours, and

program costs?

A No, it would not. It was a error in isolation.

Q Well, just -- I just want to make sure I've got this right. Your correction to the testimony on page 25 changed 2018 kW-hour savings of 414 to 376. As I read the chart on page 27 that 414 number is there as well. Would that not be 376 GW hours?

A You are correct.

Q Okay. And likewise the -- the number above that would also be no longer 404 MW but 402?

A That's right.

Q Okay.

A They are off one by -- they appear to be off by one year.

Q Okay. Oh, so then -- and that helps. Is there -- would there also need to be a correction for the 2019 figures in that chart? Are those --

A They would have to be moved out one year. As you can see 2019 is where the 2018 are used -- is using 2018 values. However, that would have to be replaced as this is an estimate. Although, certain estimates are not changed year over year, so I would have to verify that that would need to

be changed, Mr. Neal.
Q Okay.
MR. NEAL: I have no further questions. Thank you.
COMMISSIONER BROWN-BLAND: Ms. Edmondson?
MS. EDMONDSON: Yes.

CROSS EXAMINATION BY MS. EDMONDSON:

Q Good afternoon, Mr. Evans.
A Good afternoon.
Q I just wanted to ask you one quick question or series of questions to clarify the Merger Settlement. That Merger Settlement that Mr. Neal referred to, that was approved by the South Carolina Public Service Commission; is that correct?
A As I understand it, that is correct.
Q And to your knowledge has that Merger Settlement ever been presented for approval to or approved by this Commission?
A Not that I'm aware of, no.
Q But isn't it correct that the current DSM/EE mechanisms for Duke Energy Progress and Duke Energy Carolinas do include an additional incentive if DEC or DEP achieve the 1 percent

level of savings?
A Yes, there are.
Q All right. Thank you.
MS. EDMONDSON: That's all I have.
COMMISSIONER BROWN-BLAND: Is there redirect?
MS. FENTRESS: Thank you.
REDIRECT EXAMINATION BY MS. FENTRESS:
Q Mr. Evans, Ms. Edmondson asked you about the Settlement Agreement that was filed as part of the South Carolina Commission's approval of the Duke Progress merger in South Carolina. I believe Mr. Neal also asked you about opt-outs not being mentioned in this Settlement Agreement. Is it the case that the opt-outs you refer to in your testimony here refer to North Carolina opt-outs?
A When we are looking -- for opt-outs, for purposes of rate calculation, we are only looking at North Carolina. However, when we look at statistics of this type, we are looking on a system basis.
Q But just to clarify, the opt-outs you refer to are the ones that are established by General Statute 62-133.9 in your testimony?

A That's correct.
Q And another -- I had a couple of other questions as well. You had discussed the Collaborative and the workings of the Collaborative. Has -- how long has Mr. Bradley-Wright the witness for SACE participated in the Collaborative?
A To my knowledge it'll be a year this month.
Q All right. And how do members of the Collaborative present programs or measures to the Collaborative for consideration?
A We have a procedure that has been long in effect. We call it a Program Modification Template where we ask certain questions about new programs or changes to existing programs. For example, where have they been used before? What kind of results have they had and so forth? And that is a -- basically a formal document within -- for use within the Collaborative itself.
Q And Mr. Evans, I believe Mr. Bradley-Wright has filed testimony in this proceeding. Do you recall whether he filed testimony in the DEC DSM/EE proceeding?
A He did file testimony in the DEC DSM/EE proceeding.

Q Has he ever presented one of these program or program proposal or modification forms to the Collaborative in this time?
A No.
Q Thank you.
MS. FENTRESS: That's all I have.
COMMISSIONER BROWN-BLAND: Questions by the Commissioners? Commissioner Clodfelter?
COMMISSIONER CLODFELTER: Thank you.
EXAMINATION BY COMMISSIONER CLODFELTER:
Q Mr. Evans, I'm going to ask you about something that I couldn't find in your testimony and you haven't been asked about today.
A Yes, Commissioner.
Q But your my DMS/EE witness, so I'm going to ask it anyway. Does the Company have the ability to map the load impacts of its DSM and EE programs by substation or by individual distribution circuit? Can you map the load impacts of those programs?
A I am not aware of the capabilities involved, Commissioner. I really can't answer your question. I'm sorry.
Q That would -- that would need to be somebody else

in the Company?

A I'm afraid so. You're talking about a collection, I think, of people with a grid organization as well as --

Q That's right.

A -- DSM/EE --

Q Right.

A -- and I'm sure somebody in our computers department as well.

Q All right. I'll leave you alone then for the rest of the day.

A Thank you, Commissioner.

EXAMINATION BY COMMISSIONER BROWN-BLAND:

Q Mr. Evans, your counsel asked you about how matters get presented to the Collaborative and you referred to a Program Modification Template, correct?

A Yes, ma'am.

Q Now, so when I hear about a program being modified, I'm assuming that applies to an existing program, but you also mentioned new programs and counsel mentioned the word proposal. Is it a different form? Same form? Does it involve new programs?

A It is the same form, Commissioner.
Q So participants in the Collaborative use the same form to make a new proposal of a new program?
A That's correct.
Q All right. Now, with regard to -- well, actually the introduction of a new program or the modification of an existing program, it's a opportunity for the participants in the Collaborative. Is there opportunity for them to have input before a program is implemented or before when a program is modified?
A Yes, ma'am.
Q Okay.
A Commissioner, we tried to provide the Collaborative membership information about our intentions to make changes so they're not taken by surprise. And as far as those changes, we also ask for input. That is when we have DEC or DEP initiated changes. When we have Collaborative requested changes, that is a somewhat different situation.
Q So I believe in Witness Bradley-Wright's testimony he gave a couple of examples, one having to do with Pay for Performance. Could you

talk about that a little bit? You took issue with that. Tell us --

A It was --

Q -- where it is that you took issue with what he had to say.

A Certain organizations within the Collaborative I believe representing Southern Alliance for Clean Energy at the time I don't want to say felt, but wanted the Collaborative and Duke to examine having an additional implementer for the programs. We had one picked out initially. We're -- see, we're looking at a period of 150 homes, so in -- and this is a pilot program, we had looked at one. However, now we -- based on the input from the Collaborative, we are adding a second vendor or an implementer.

Q All right. And so your testimony is that you -- you disagree that the Collaborative's recommendations are not taken into account and that you have begun to implement them. Is that the gist of where you take issue?

A That's correct, Commissioner.

Q And I may be wrong, and he may clear this up when it's his turn on the stand, or you may know now but one of the things that I thought he was raising as an issue was the ability of the Collaborative to have some input prior -- prior to the implementation of a change in the sense that that may add to more efficiencies or better effectiveness. In other words, the program can go out the door or the change can go out the door with everyone in the Collaborative having had input or it can go out of the door, operate for a while, and then come back around and -- in other words, sort of save time and cut out that step by -- by already having everyone's input before it goes out. Did I misread that? And if I did not, what do you have to say about -- about that?

A I can't speak obviously to his testimony; however, we even, for example, changing marketing programs or the marketing approach to a program, we have solicited out Collaborative membership even for that type of a change. Often times they cannot be done within the timing of the Collaborative, because the Collaborative now meets six times a year, but sometimes things have to be done quickly, and so they are notified outside or in between those meetings and we -- we ask for input.

However, for example, the Neighborhood Energy Saver modifications we have brought that before the Collaborative twice already and we will be probably filing that let's say in October, next month, or November for that matter trying to get it into effect in 2020. We want to have as much -- and the reason we brought this out early is to have as much input as we possibly could from the Collaborative. It's much easier for us to have agreement on the front end than to have disagreements once a program has gone into place.

Q So I'm looking at page 23 of Witness Bradley-Wright's testimony and he's saying here as I paraphrase that while the Company is interested in engaging the Collaborative, it's not provided information in a way that allows for the most meaningful stakeholder engagement, but that the matters come to the Collaborative after the Company's ideas have been formed and at -- at -- and after the point when the stakeholder input would be most valuable. And then he gave as an example the Pay for Performance program where the

program was approved or the Company sought to get the Commission's approval before the Collaborative was engaged. And if I understood what you just said, the Company would think that it was better to have the input up front. Is this an example --
A Better --
Q Is this an example of where the timing just didn't work out or --
A No, ma'am. In that case we had the Collaborative meeting -- this was an after-the-fact suggestion during this developmental stage. So that was something based on feedback from Collaborative membership that we went ahead and made that change. We felt that it was appropriate. The Collaborative felt that it was appropriate to do so.
Q So the change itself came from the Collaborative; is that what you're saying in the first instance?
A Yes, Commissioner.
Q All right. Another question that -- another question I had was in regard to the idea also coming from Mr. Bradley-Wright's testimony regarding having certain information provided,

whether there needed to be an amendment or have certain information provided in the Company's Application versus going through the data request process, and as I understand your testimony, you -- you believe it's sufficient to be in the data request process. As I read -- or as I would sort of paraphrase the testimony from Mr. Bradley-Wright, there was some issue about the timeliness of the provision of that information through a data request. Not -- not that the Company was late necessarily in responding to the data request, but just having to go through that process to get the information. Is there any -- aside from having to amend the rule or change the application process or what's contained in the -- in the application, is there any thought being given to certain of these data requests, or such that there could just be a standing data request and the Company could provide that sooner than later?

A If the Commission would deem it appropriate, the Company would have no problem doing such. That information can be determined, but it takes a little bit of work. You're pulling here and you're pulling information there, which might be a problem. Of course, any type of -- that you can't really pick up all possible requests upfront have in testimony or in exhibits.

Q So I'm --

A So I -- I guess you -- you know, how do you forecast the future in terms of what is being -- what is going to be asked for? However, again, if the Commission deemed it appropriate, the Company would have no difficulty whatsoever putting that information in my or some successor's testimony or as a part of filing.

Q Well, let's talk about the timing of the availability if that's an issue for the Company. So on page 6 of your rebuttal down around lines 22, 23, 24, there you -- you indicated at the time of filing of the rebuttal you were in the process of preparing the materials for the Collaborative. So just in terms of a timing issue, is it -- was it available sooner and could've been made available sooner? Or is it the fact that you need this kind of time to be able to provide that?

A In this case we could be done -- it could've been provided to the Collaborative upon request. Obviously, if we're looking for 2018 data, we can't have it January 1, 2019, so there's a little bit of a lag. But if it were requested with the Collaborative, there would be no good reason for us to say no or do it yourself. We would certainly come out with and be able to determine that and make that available.

Q All right. Thank you.

COMMISSIONER BROWN-BLAND: Further questions from the Commission? Chair Mitchell?

EXAMINATION BY CHAIR MITCHELL:

Q Just one question for you. I read Mr. Bradley-Wright's testimony to call for an expansion of DEC's or a replication of DEC's Income Qualified Weatherization program in DEP service territory. Can you -- can you provide the Company's response to that request? And I'll stop there and ask follow-up if necessary.

A Yes, Chairman. We -- the Company has taken that into account. We have what we call a Neighborhood Energy Saver, which has limited measures right now helping those folks in low -- in designated low-income neighborhoods. However, we are looking at expanding that program in 2020 to accommodate and take and provide weatherization measures much like the DEC Weatherization program. So, in other words, expand the available measures including weatherization related items; insulation, et cetera.

Q Do I understand Mr. Bradley-Wright's point to be though that the DEC program reaches more income qualified participants than the Net -- what is it -- Neighborhood Energy Savers program and that's really his -- his main issue is that DEC is reaching more low-income customers than the -- even the expanded DEP program would?

A I don't really understand the -- the NES touches -- the program touches many more customers than the DEC Weatherization program. We could almost say multi- -- use a multiplier there. Was that question, what --

Q No. I guess my -- my question is does the DEC program touch or is it available to more income-qualified customers than the DEP, even the expanded DEP program would be?

A No, that would not be the case.

Q So the -- an expanded DEP program would reach more income-qualified customers than the DEC program would?

A That's correct, considerably more.

Q Okay. Thank you.

COMMISSIONER BROWN-BLAND: Commissioner Clodfelter?

FURTHER EXAMINATION BY COMMISSIONER CLODFELTER:

Q I lied to you earlier. I am going to ask you another question. If you give me enough time to sit here, I'll -- I'll think of another one too. Let me come at it -- related to the first question I asked you, but let me come at it from a different direction.

A Yes, sir.

Q When you're designing the marketing of your DSM and EE programs, do you ever get input, receive it from your distribution planners or your transmission planners? Do they ever come to you and say could you target or focus the marketing in certain geographic locations? Do you have a dialogue like that?

A Yes, we have, and this goes back quite a ways. We have -- in Buncombe County we had a winter peaking situation at the time where we had summer peaking elsewhere. We provided winter measures in that area, nowhere else in the system, because we needed to take into account the winter peaking needs for the location. That's the only exception that I'm aware of, sir, that there had to be some interaction between the parties. Of course, we all knew that that particular part of the state was winter peaking.

Q Right.

A But again, that's the extent of my knowledge of that kind of collaboration.

Q Do you know who initiated that? Was that -- was that coming from your system planners? Was the initiative for that focus coming from your system planners or was it coming from the DSM/EE program side?

A That came from the DSM/EE program side, but that's not to say that there was some collaboration between the system planners and the DSM/EE group and I'm unaware of any collaboration of such.

Q Obviously though you had to have been aware of the situation of --

A Yes, sir. That's why we initiated --
Q -- of the -- of the load management situation in that -- in that area.
A Yes, sir.
Q Okay.
A It was fairly common knowledge to the Company.
Q Yeah. But you're not aware of any other -- other similar instances to that?
A Not that I'm aware of, Commissioner.
Q Okay. Thank you.

COMMISSIONER BROWN-BLAND: All right. Questions on Commission's questions? All right.

I'll hear from you. You had an exhibit?

MR. NEAL: Oh, yes. Thank you. Thank you, Commissioner. We would at this time move in NCJC et al Evans Cross Exhibit 1.

COMMISSIONER BROWN-BLAND: Is there any objection?

MS. FENTRESS: No objection.

COMMISSIONER BROWN-BLAND: Then that will be received into evidence.

(WHEREUPON, NCJC et al Evans Cross Exhibit 1 is received into evidence.)

COMMISSIONER BROWN-BLAND: I think we got all of Mr. Evans' testimony. So, Mr. Evans, thank you. And you may be excused.

THE WITNESS: Thank you, Commissioner.

(The witness is excused)

MR. NEAL: Commissioner Brown-Bland, I think at this time it would be appropriate to call Mr. Bradley-Wright to the stand. Or have you --

MS. FENTRESS: Yes, that is -- that is all for Mr. Evans and we move his testimony and exhibits into the record --

COMMISSIONER BROWN-BLAND: All right.

MS. FENTRESS: -- subject to the ability to recall him if necessary.

COMMISSIONER BROWN-BLAND: All right. They have all been received. All right.

FOREST BRADLEY-WRIGHT;
having been duly sworn,
testified as follows:

DIRECT EXAMINATION BY MR. NEAL:

Q Good afternoon. Could you please give your full name and business address?

A Forest Bradley-Wright. 3804 Middlebrook Pike, Knoxville, 37921.

Q On -- Mr. Bradley-Wright, on August 19th did you submit for prefiling in this docket direct testimony consisting of 37 pages along with two exhibits?
A Yes, I did.
Q And do you have any changes or corrections to your prefiled testimony?
A I do. I have two.
Q And could you please explain those changes now?
A On page 24 line 17 related to the section on Pay for Performance, the sentence "DEP did not accept or incorporate of those recommendations" should be added to include "in their application to the Commission." On page 37 line 12 and 13 there is a hyperlink indicated that appears no longer to be operational as it was previously. Rather than read the whole hyperlink, I will just note that it is the same all the way up until the portion after the last forward slash, which currently reads "energy-efficiency-reporting-tool," dashes between the words. The replacement language should read "flexible-and-consistent-reporting." Those are my two changes.

MR. NEAL: And Commissioner Brown-Bland,

because that is a hyperlink, if it would be easier, I could pass out copies of that or send a corrected hyperlink, whichever would be easiest.

COMMISSIONER BROWN-BLAND: I think you should send a corrected hyperlink to be in the record to be in the -- in the Commission's docket system.

MR. NEAL: And maybe I'll just give it to the court reporter now, too. Thank you.

BY MR. NEAL:

Q Mr. Bradley-Wright, other than those corrections that you just gave -- well, I'm sorry. I forgot to ask about one other thing. Other than the corrections that you just gave, if the questions put to you in your testimony were asked at this hearing today, would your answers be the same?

A They would.

Q And were the exhibits to your testimony prepared by you or under your direction?

A Yes.

MR. NEAL: Commissioner Brown-Bland, at this time I would move to have Mr. Bradley-Wright's prefiled direct testimony, as corrected, entered into the record as though given orally from the stand and to have the exhibits attached to his prefiled direct identified as premarked.

COMMISSIONER BROWN-BLAND: That motion will be allowed and the exhibits will be identified as they were when prefiled as they were marked.

MR. NEAL: Thank you.

(WHEREUPON, FBW-1 and FBW-2 Exhibits are marked for identification as prefiled.)

(WHEREUPON, the prefiled direct testimony of FOREST BRADLEY-WRIGHT, as corrected, is copied into the record as if given orally from the stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-2, SUB 1206

In the Matter of:	)	**TESTIMONY OF FOREST**
Application of Duke Energy Progress,	)	**BRADLEY-WRIGHT**
LLC pursuant to G.S. 62-133.9 and	)	**ON BEHALF OF NORTH**
Commission Rule R8-69 for Approval	)	**CAROLINA JUSTICE CENTER,**
of Demand-Side Management and	)	**NORTH CAROLINA HOUSING**
Energy Efficiency Cost Recovery	)	**COALITION, AND SOUTHERN**
Rider	)	**ALLIANCE FOR CLEAN ENERGY**

Table of Contents

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Forest Bradley-Wright. I am the Energy Efficiency Director for Southern Alliance for Clean Energy ("SACE"), and my business address is 3804 Middlebrook Pike, Knoxville, Tennessee.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the North Carolina Justice Center ("Justice Center"), North Carolina Housing Coalition ("Housing Coalition"), and SACE.

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND WORK EXPERIENCE.

A. I graduated from Tulane University in 2001 and in 2013 received my Master of Arts degree from Tulane in Latin America Studies with an emphasis on international development, sustainability, and natural resource planning.

My work experience in the energy sector began in 2001 at Shell International Exploration and Production Co., where I served as the Sustainable Development Team Facilitator.

From 2005 to 2018, I worked for the Alliance for Affordable Energy. As the Senior Policy Director, I represented the organization through formal intervenor filings and before regulators at both the Louisiana Public Service Commission and the New Orleans City Council on issues such as integrated resource planning, energy-efficiency rulemaking and program design, rate cases, utility acquisition, power plant certifications, net metering, and utility scale renewables. As a consultant, I also prepared and filed intervenor comments on renewable energy dockets before the Mississippi and Alabama Public Service Commissions. In 2014, I was a runoff candidate for the Louisiana Public Service Commission First District seat.

Since 2018, I have been the Energy Efficiency Director for SACE. In this role, I am responsible for leading dialogue with utilities and regulatory officials on issues related to energy efficiency in resource planning, program design, budgets, and cost recovery. This takes the form of formal testimony, comments, presentations, and/or informal meetings in the states of Georgia, Florida, North Carolina, South Carolina, Mississippi and in jurisdictions under the Tennessee Valley Authority.

A copy of my resume is included as Exhibit SACE-FBW-1.

Q: HAVE YOU BEEN AN EXPERT WITNESS ON ENERGY-EFFICIENCY MATTERS BEFORE THE NORTH CAROLINA UTILITIES COMMISSION?

A: Yes, I filed expert witness testimony in 2019 with regard to the Application of Duke Energy Carolinas, LLC ("DEC") for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider in Docket No. E-7, Sub 1192.

Q: HAVE YOU BEEN AN EXPERT WITNESS ON ENERGY-EFFICIENCY MATTERS BEFORE OTHER REGULATORY COMMISSIONS?

A: Yes, I have filed expert witness testimony in Georgia related to Georgia Power Company's 2019 Demand Side Management application and in Florida related to the Florida Energy Efficiency Conservation Act target setting proceeding.

II. TESTIMONY OVERVIEW

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide a high-level review of the performance of Duke Energy Progress' ("DEP" or "the Company") Demand-Side Management and Energy Efficiency ("DSM/EE") portfolio and to comment on ongoing work with the Duke Collaborative. I will discuss the following topics:

- DEP's performance in delivering energy-efficiency savings to its customers over the past year;
- the Company's energy-savings projections;
- activity at the Duke Collaborative and its role in supporting continued success of DEP's DSM/EE efforts;
- recommendations for specific program areas requiring Commission attention
- the benefits of adopting a standardized annual reporting template.

Q. PLEASE SUMMARIZE YOUR OVERALL IMPRESSION OF DEP'S DSM/EE PERFORMANCE.

A. DEP has again fallen well short of the one percent annual savings target agreed to in a settlement with SACE and other parties in the Duke-Progress merger, and continues to lag substantially behind the savings achieved by its sister company, DEC. Nevertheless, DEP still delivers significant energy and cost savings to its customers and is the only other major utility in the Southeast to achieve savings above the national average. However, there remains significant room for improvement. DEP continues to rely too heavily on short-term, behavioral programs, particularly My Home Energy Report, which accounted for 58% of all energy savings achieved from residential energy-efficiency programs in 2018 (an increase from 53% in 2017). An enhanced focus on delivering longer-lived savings would better help customers manage their energy bills. DEP appears to recognize the importance of these issues and has been constructively engaged in addressing portfolio-level opportunities and challenges with stakeholders through ongoing work at the Collaborative.

Q. ARE THERE SPECIFIC PROGRAM AREAS THAT MERIT ADDITIONAL ATTENTION FROM DEP?

A. Yes. The Justice Center, Housing Coalition, and SACE continue to stress the importance of providing energy and bill savings for DEP's low-income customers. More efforts should be targeted at these customers, who have the highest energy burdens (the highest percentage of income spent on residential energy bills), and consequently, the most need for cost-saving energy-efficiency programs.

Q. WHAT ACTIONS DO YOU RECOMMEND DEP AND THE COMMISSION TAKE BASED ON YOUR OBSERVATIONS?

A. I offer the following recommendations:

- DEP and the Commission should continue to prioritize reaching the 1% annual savings target through a variety of strategies, including refinement of its portfolio of programs with the goal of pursuing higher-level, longer-lived savings and increased overall cost effectiveness. Discussion on possible future targets is ongoing in Commission's Dockets E-2, SUB 931 and E-7, SUB 1032 and should be additionally informed by filings in this and previous DEP DSM/EE Recovery Rider dockets.

- The Company should continue its efforts to increase participation in and effectiveness of programs that benefit its low-income customers. Specifically, I encourage consideration of deploying an Income Qualified Weatherization program in DEP that is comparable to the one currently available to customers in DEC's service territory.

- I encourage DEP and the Commission to consider specifically including annual and cumulative savings achievements as a leading component of the Company's rider filing going forward, rather than requiring intervenor data requests to obtain this information.

The Justice Center, Housing Coalition, and SACE appreciate the increased strides made over the last year related to these matters and look forward to continued engagement on these questions at the Collaborative.

III. DEP'S ENERGY SAVINGS ACHIEVEMENTS AND PROJECTIONS

Q. DID DEP MEET THE ENERGY SAVINGS TARGETS ESTABLISHED DURING THE DUKE ENERGY AND PROGRESS MERGER?

A. No. DEP did not meet the one-percent annual savings target in the most recent or in any previous year, nor did it meet the seven-percent cumulative target by 2018 that the Company committed to in settlement during the Progress Merger ("Merger Settlement").[1]

In 2018, DEP delivered 339 gigawatt-hours ("GWh) of efficiency savings at the meter, equal to 0.79% of the previous year's retail sales.[2] [3] This reflects a 5.7% decline in incremental savings from the previous year, for which DEP reported annual savings of 0.83% of prior-year retail sales. At the time of this filing, the Company had not yet responded to a follow-up data request to provide its calculation of cumulative portfolio savings. But considering that DEP did not reach its 1% annual savings target in any year since the Merger Settlement, it is safe to conclude that the Company likewise did not reach its cumulative savings target. Reaching both the annual savings and cumulative savings targets should

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[1] The Merger Settlement with SACE, South Carolina Coastal Conservation League, and Environmental Defense Fund calls for annual energy savings of at least 1% of prior-year retail sales beginning in 2015 and cumulative savings of at least 7% over the period from 2014 through 2018. The Merger Settlement was approved by the Public Service Commission of South Carolina ("PSCSC") in Docket No.
2011-158-E.

[2] DEP Response to SACE *et al* Data Request 1-3.

[3] DEP reports energy savings as "Net at Plant" or at the generator level, which is an important data point for comparison with supply resources in integrated resource planning. However, for purposes of evaluating customer benefits, at the meter figures are useful.

still be a priority for DEP going forward. I encourage the Commission to hold the Company accountable for doing so.

Q. DID DEP MEET ITS OWN ENERGY-SAVINGS PROJECTIONS IN 2018?

A. DEP exceeded projected energy savings of 325 GWh for 2018[4] by approximately 10%. However, DEP failed to set their projections at a high enough level for reaching the 1% of prior-year retail sales agreed to in the Merger Settlement. Even though actual savings came in above projections, the Company still fell far short of achieving its target.

Q. DOES DEP PROJECT THAT IT WILL SUSTAIN THESE SAVINGS LEVELS IN THE FUTURE?

A. No. DEP projects a decline in efficiency saving of more than 25.4 GWh in 2020, with a corresponding drop in the percent of annual sales down to 0.72%.[5] If these projections are realized, the corresponding 7.1% drop in GWh savings would indicate the need for increased attention by DEP and the Collaborative on ramping up efforts to achieve savings from the Company's program offerings, particularly from programs that provide deeper, longer-lasting savings.

Q. WAS THE COMPANY'S EE PORTFOLIO COST-EFFECTIVE IN 2018?

A. Yes. DEP's DSM/EE portfolio continues to be very cost-effective with benefits of the programs significantly exceeding costs, thereby demonstrating that DEP's customers are realizing real value from the Company's programs. As

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[4] DEP Application for Approval of DSM and EE Cost Recovery Rider, NCUC Docket E-2, Sub 1145 (June 2017), Evans Ex. 1, p. 7.
[5] DEP response to SACE *et al* Data Request 1-3.

indicated by the Utility Cost Test ("UCT") score, the net benefits ratio grew considerably, going to 3.43 the previous year to 3.69 in 2018. However, as a matter of overall financial impact, this improvement in UCT was not enough to overcome the loss of kWh, and total net present value (NPV) of avoided cost declined by $35,473,204 over the same period.[6] [7] While UCT scores have been on an inclining trend for the past three years, TRC scores had been declining in each of the past two years, before rebounding to 2.86 in 2018.[8] The TRC for all residential programs of 3.46 exceeded the Company's average.

One exception was the Home Energy Improvement program, which had a TRC of only 0.6, but a UCT score of 1.0. For several reasons, the cost-effectiveness of this program has been an important subject of discussion both at the Collaborative and in previous DSM/EE recovery rider testimony. First and foremost, it is one of the most important programs for achieving deeper and longer lasting energy savings. Second, the methodology for calculating TRC currently used in North Carolina counts all costs, but is incomplete in accounting for benefits – an analytic asymmetry that warrants additional attention at the Collaborative. In light of these considerations, Duke, the Justice Center, SACE, and a number of stakeholders at the Collaborative have discussed the possibility of shifting towards use of the UCT for determining program cost effectiveness. This recommendation was included in recently filed comments by SACE, Sierra Club,

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[6] DEP Evans Exhibit 1, page 5
[7] DEP response to SACE *et al* Data Request 1-2
[8] *Id.*

and Natural Resources Defense Council in the ongoing DSM/EE rider mechanism review for DEC and DEP (in NCUC dockets E-2, Sub 931 and E-7, Sub 1032).

Q. HOW DID RESIDENTIAL AND NON-RESIDENTIAL SAVINGS RELATE TO TOTAL SAVINGS IN 2018?

A. Having again fallen short of the 1% savings target, the declines in both residential and non-residential savings from 2017 to 2018 is disappointing.

The 8% decline in non-residential savings from 2017 to 2018 was far less dramatic than the 30% experienced by DEC over the same period. But unlike its sister company, DEP did not make up any ground with additional residential savings, which instead also declined by 4%. Ongoing declines in non-residential savings, largely as a result of non-residential opt outs, have been a consistent issue raised by SACE and the NC Justice Center in previous filings.

The drop in residential savings was driven by declines in the Energy Efficient Lighting and Save Energy and Water Kit programs. These reductions were partially offset by increases in savings from My Home Energy Report. For non-residential programs, the overall decline is hard to interpret due to large variations in savings observed across essentially all non-residential programs from 2017 to 2018.[9]

The potential impact of impending changes in federal residential lighting standards on DEP's savings is cause for future concern. I recommend a focus on increasing deeper and longer lived measures to achieve a more balanced and

[9] DEP response to SACE *et al* Data Request 1-6

robust portfolio of programs going forward, which has been a focus of concern for the Justice Center and SACE in recent years.

Q. WHAT EFFECT DO NON-RESIDENTIAL OPT OUTS HAVE ON PERCENTAGE OF ENERGY SAVINGS?

A. In 2018, 55% of the non-residential load opted out of DEP's energy efficiency rider.[10]

Because commercial and industrial efficiency savings can be among the most economic, greater savings among these customers would likely translate into even higher utility system cost reductions, benefitting all of the Company's ratepayers.

Adjusted to exclude non-residential opt outs, DEP's savings as a percentage of sales in 2018 was 1.19%, compared to 0.79% overall, suggesting that were it not for the large number of opt outs, Duke could reach and exceed the 1% savings target.[11] Though DEP has not yet provided specific analysis for comparison, it is at least possible that they could have reached the cumulative target were it not for the large number of non-residential opt outs.

Q. HOW DID DEP'S LOW INCOME EFFICIENCY SAVINGS COMPARE TO PREVIOUS YEARS?

A. Savings from the DEP Neighborhood Energy Saver program increased slightly in 2018 from the previous year. The Company also requested Commission approval for a low income Pay-for-Performance pilot program, but it

[10] Miller Exhibit 6, line 5

[11] Again, it is notable that DEP has the second highest savings as a percentage of sales in the Southeast, but the region as a whole lags far behind the national average and most other regions.

did not start until 2019 and the scale is currently very small. Unlike DEC, DEP does not offer an Income Qualified Weatherization program. I believe this represents a significant missed opportunity to deliver both additional total residential savings and higher savings per customer than result from participation in the NES program. The subject is discussed later in this testimony, along with a recommendation to deploy an Income-Qualified Weatherization program for DEP customers.

DEP has indicated that increasing savings for low-income customers is a priority and I strongly encourage them to continue pursuing this objective. I am currently supporting this effort alongside a robust group of interested advocates through our work at the Collaborative, and offer a variety of suggestions below. Important progress has already been made over the past several months and I look forward to building on this crucial work in the Collaborative.

Q. WHAT ARE SOME OF THE ISSUES ASSOCIATED WITH DELIVERING EFFICIENCY PROGRAMS TO LOW INCOME CUSTOMERS?

A. In DEP's 2018 DSM/EE Rider Docket (Docket E-2, Sub 1174), Chris Neme of the Energy Futures Group provided testimony that identified several important issues related to serving low-income customers, including equity concerns and the need for program designs that match their particular financial and housing circumstances (for example, programs for renters, multifamily and manufactured homes). His testimony noted that the Company's investment in low-income programs as a percentage of total efficiency budgets lagged behind peer utilities and was insufficient to meet the needs of low-income customers, who also contribute to the DSM/EE Rider. He also noted that improving low-income customers' ability to pay provides utility system benefits to all customers. His recommendation was for Duke to engage the Collaborative in working to expand and enhance the deployment of low income efficiency programs. While such discussion has begun in earnest at the Collaborative, the issues identified in Mr. Neme's testimony persist. To achieve better results for low-income ratepayers, there is considerable work ahead.

Q. WHAT IS THE RELATIONSHIP BETWEEN THE DEP DSM/EE RECOVERY RIDER PROCEEDING AND THE COLLABORATIVE WORKING GROUP?

A. Stakeholder engagement with Duke on energy efficiency-related matters in North Carolina predates the merger with Progress Energy, going back more than a decade when it helped shape the 2007 Duke Energy Carolinas Energy Efficiency Plan and the original Save-a-Watt efficiency programs. In a settlement agreement concluding the 2009 proceeding for Duke Energy Carolinas' Save-a-Watt Approach, the Commission-approved settlement established a regional stakeholder advisory group that has since been formalized as the Collaborative. Key components of the agreed upon guidance for the Collaborative include:

- Collaborating on new program ideas, reviewing modifications to existing programs, and ensuring an accurate public understanding of the programs and funding

- Reviewing the EM&V process, giving periodic status reports on program progress, helping to set EM&V priorities
- Providing recommendations for the submission of applications to revise or extend programs and rate structures
- Guiding efforts to expand cost-effective programs for low-income customers[12]

The Commission-approved settlement called for regular meetings involving a broad spectrum of regional stakeholders representing balanced interests, as well as national energy efficiency advocates and experts. The settlement included the following:

"*The advisory group will determine its own rules of operation, including the process for setting the agendas and activities of the group, consistent with these terms. Members agree to participate in the advisory group in good faith consistent with mutually-agreed upon rules of participation.*"[13]

Over the years, the Commission has routinely referred work to the Collaborative on a range of matters arising in recovery rider dockets, and required Duke to report back to the Commission on progress made on these issues.

Q. WHAT ARE SOME OF THE HISTORIC STRENGTHS OF THE COLLABARATIVE?

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[12] DOCKET NO. E-7, Sub 831 - Application of Duke Energy Carolinas, LLC For Approval of Save-a-Watt Approach, Energy Efficiency Rider and Portfolio of Energy Efficiency Programs, Agreement and Joint Stipulation of Settlement, p. 26.
[13] *Id.*

A. Program progress and evaluation, measurement, and verification reporting have been strengths of the Collaborative experience in recent years, with Duke providing substantial documentation and involving a wide range of relevant efficiency program staff in the Collaborative meetings. Furthermore, the Collaborative has provided a valuable context for establishing productive working relationships between relevant Duke employees and participating stakeholders, while increasing communication and the regular flow of information. Complex energy-efficiency issues—particularly at the programmatic or measure level—are difficult to effectively address in formal dockets before the Commission. The Collaborative provides an important alternative venue to problem solve issues on an ongoing basis.

Q. PLEASE IDENTIFY SOME OF THE HISTORIC CHALLENGES OR DEFICIENCIES OF THE COLLABORATIVE PRIOR TO SEPTEMBER 2018?

A. In the past, the Collaborative's efforts to develop new program ideas, modify existing programs, or otherwise impact the overall efficiency savings of Duke's portfolio of programs were not as robust as envisioned in the Commission-approved settlement that launched the stakeholder group. However, as I discuss below, there are some encouraging signs that the Collaborative is improving.

Specifically, in recent years the Collaborative has explored opportunities to increase portfolio benefits through:

- On-Bill Financing

- Combined Heat and Power
- Development of a Technical Resource Manual
- Strategies for addressing Commercial and Industrial Opt-outs[14]
- Multi-family efficiency programs
- Maximization of cross-program marketing
- Non-energy benefits
- Manufactured housing

Despite the dedication of extensive time, energy, and resources by Duke and participating stakeholders, the above-listed efforts have yet to be implemented by Duke Energy and thus, have not resulted in any increased savings. While no single factor likely explains this failure to achieve more substantive accomplishments, it is important to consider the various factors that could lead to greater success in the future, which are discussed in further detail below.

Fortunately, over the past year, DEP and Collaborative stakeholders have given renewed attention to fulfilling the Commission-approved guidance on how meetings should be run, as well as continued investment in building relationships between participants and embracing the “good faith” responsibility originally envisioned a decade ago.

[14] Including through strategic energy management

Q. WOULD ADDRESSING THESE ISSUES ENHANCE THE VALUE OF THE COLLABORATIVE AND THE OVERALL SUCCESS OF DEP EFFICIENCY EFFORTS?

A. The Collaborative is useful because detailed efficiency program implementation issues are best addressed through joint problem solving and collaboration. Moreover, many efficiency issues do not fit effectively into formal docketed proceedings, where procedural constraints may limit opportunities for sufficiently detailed and open discussion. My recommendation to continue using the Collaborative for these types of issues is consistent with Mr. Neme's testimony on the subject from last year, recommendations that I adopt.[15]

Therefore, despite disappointment with the low level of impact resulting from the Collaborative' s work in recent years, many stakeholders remain committed to its original purpose and strive to understand and overcome past limitations. As noted below, I see encouraging signs that Duke also recognizes the importance of these issues and is willing to try new approaches going forward.

At the end of the year, it would be appropriate to evaluate whether better results have been achieved, or whether additional operational changes or Commission direction is warranted.

Q. WHAT STEPS HAVE BEEN TAKEN TOWARD COLLABORATIVE IMPROVEMENT IN THE PAST YEAR?

[15] Testimony of Chris Neme on behalf of Justice Center, Housing Coalition, Natural Resources Defense Council, and SACE, NCUC Docket E-2, Sub 1174 (2018 Application of DEP for Approval of DSM/EE Rider).

A. Beginning in September 2018, I have worked closely with Duke to implement a number of positive changes that improve the likelihood of current and future work at the Collaborative showing concrete results than in the past. These include:

- More frequent in-person meetings to achieve greater momentum on Collaborative priorities
- Shared agenda-setting to identify pertinent topics, achieve greater stakeholder buy-in, and increase discussion among participants
- Higher levels of stakeholder involvement
- Shifting focus away from formulaic reporting by the Company towards a greater emphasis on problem-solving opportunities and the development of program enhancement recommendations
- Group decision-making on setting the Collaborative's annual work priorities
- More communication between DEP and collaborative parties between regular Collaborative meetings
- More research and project work conducted by DEP and Collaborative parties between collaborative meetings
- New expectations around tangible project deliverables

- Active focus by all parties on two specific priorities selected by the group: addressing portfolio-level opportunities and challenges to reach and exceed the 1% annual savings target and increasing energy- and bill-savings for low income customers

It is encouraging that even with more frequently scheduled meetings, Stakeholder participation in the Collaborative has been robust, and Duke has enlisted participation by a large number of their program management staff. In addition to SACE and NC Justice Center, active participants in the Collaborative currently include[16]:

- Advanced Energy
- American Council for an Energy-Efficient Economy
- Carolina Utility Customers Association
- Clean Energy Technology Center at North Carolina State University
- Energy Futures Group
- Environmental Defense Fund
- Green Built Alliance
- National Housing Trust
- Nicholas Institute at Duke University
- North Carolina Building Performance Association

[16] DEP Application, Testimony of Evans, pp. 17-18.

- North Carolina Department of Natural Resources
- North Carolina Justice Center
- North Carolina Public Staff
- North Carolina Sustainable Energy Association
- South Carolina Coastal Conservation League
- South Carolina Energy Office
- South Carolina Office of Regulatory Staff
- Southern Alliance for Clean Energy

To expand our own capacity, SACE enlisted the support of Jim Grevatt, of Energy Futures Group, to aid the work of the efficiency advocates at the Collaborative. He brings valuable additional technical expertise and personal perspective from efficiency working groups in other jurisdictions. Duke's willingness to accommodate the changes above, and stakeholders' commitment of greater time and resources to the Collaborative, are encouraging. If it were not for this renewed investment in the work of the Collaborative from DEP and other stakeholders, I would have little reason to anticipate better outcomes.

Q. ARE THERE STILL CHALLENGES TO ACHIEVING HIGHER LEVELS OF EFFECTIVENESS AT THE COLLABORATIVE?

A. Yes. While numerous process steps have already been taken to improve the Collaborative, there are still challenges that warrant attention.

As noted in the 2009 settlement agreement, making recommendations on potential modifications to existing programs and making suggestions concerning the addition of new programs are among the main purposes of the Collaborative. In order to do so, the Collaborative needs to receive pertinent information on a timely basis. Otherwise, stakeholders in the Collaborative do not have the ability to review DEP's plans, engage in fruitful discussions, work through potential issues, and develop practical recommendations.

We continue to experience problems receiving timely information from the Company. Since last September, the Company has proposed modifications to several existing programs and proposed one new program. While the Company appears to be genuinely interested in engaging the Collaborative on these program modifications and new program proposals, it has not provided information in a way that allows for the most meaningful stakeholder engagement. Duke has typically provided its plans for program modifications or new programs after the Company's ideas are all but fully formed, after the point when stakeholder input would be of most value.

This timing contributes to a diminished role for the Collaborative when it comes to program modification and development. Ultimately, this approach represents a significant lost opportunity and one of the principal challenges to effectiveness at the Collaborative. Nevertheless, I believe that the Company is engaging in good faith to move the Collaborative in the right direction and receive substantive contributions from stakeholders.

DEP has been making meaningful strides in improving the flow of information refining their methods of engagement. Most recently, the Company signaled a desire to discuss the topic of expanding the midstream channel for delivery of efficiency measures, work that has only just begun.

A summary of recent experience with program changes is illustrative:

- **Pay for Performance –** This new program concept was also introduced at the September 2018 Collaborative meeting, but Duke opted to seek approval from the Commission prior to engaging Collaborative participants in its development. Expanding efficiency program offerings for low-income customers is one of the highest priorities among stakeholders, making this a natural topic for work at the Collaborative. Instead, the only available opportunity for input was via filing a letter with the Commission. SACE joined North Carolina Sustainable Energy Association in doing so, and provided a number of recommendations that I believe could improve the impact and likelihood of success for the program in its pilot phase and beyond. DEP did not accept or incorporate any of those recommendations.
- **Neighborhood Energy Saver** – At the November 2018 Collaborative meeting, Duke announced its intention to modify the Neighborhood Energy Saver program and provided background information the following month. When the subject was discussed as an agenda item at the January 2019 Collaborative meeting, DEP indicated that there would be an opportunity for input from interested stakeholders and offered to

> host a call for more in-depth discussion. That call was the first time Duke described details of its proposed modifications and, when asked, indicated that the deadline for any feedback was the following day. Unfortunately, this was both impractical from a timing perspective and lacked the kind of structure needed for deliberative review, problem solving, and development and recommendations that is needed for meaningful collaboration to occur. In this case, it should be noted that SACE supported the specific changes Duke proposed. However, lack of participation in the process represented a significant missed opportunity for further programmatic improvements.

These examples are meant to illustrate opportunities for more improvement at the Collaborative, not to contest specific changes made to these programs. However, I believe that improvements in how Duke engages the Collaborative during the development of new programs and modification of existing programs is extremely important for fulfillment of the intended purpose of stakeholder engagement.

There currently is no common understanding, protocol, or timeline for Collaborative review and development of recommendations for new programs or modifications to existing programs. Uncertainty around specific deliverables, timelines, and pathways for implementation at the Collaborative contributes to a lack of clarity on what it will take for the work of the Collaborative to have an effect on Duke's decisionmaking. Without this kind of clarity, it will be difficult for the Collaborative to see its work translate into substantive outcomes.

IV. DEP'S COMPLIANCE WITH THE COMMISSION'S ORDER IN DOCKET E-2, SUB 1174

Q. PLEASE DESCRIBE THE COMMISSION'S DIRECTIVE WITH REGARD TO SACE'S RECOMMENDATIONS IN DOCKET E-2, SUB 1174.

A. The Order approving Rider 10 included a directive that DEP address the following issues raised in Mr. Neme's testimony [17] and report back to the Commission as part of the Company's 2019 Rider filing:

- Improving participation in Residential Smart $aver
- Promoting whole house retrofits
- Building on recent success of the midstream channel in the non-residential Smart $aver prescriptive rebate program
- Assessing potential to reduce opt-outs
- Considering implementation of a Technical Resource Manual
- Improving effectiveness of the Collaborative
- Addressing Persistence and savings from MyHER
- The impact of upcoming changes in lighting standards
- DEC/DEP collaborative combination and more frequent meetings

Q. WHAT IS THE STATUS OF COLLABORATIVE RELATED ISSUES INCLUDED IN THE COMMISSION'S 2018 ORDER IN THIS DOCKET?

[17] Testimony of Chris Neme, *supra* note 15.

A. In general, I agree with DEP's characterization of discussion at the Collaborative on these topics. However, I feel it important to note that attention and discussion on many of these topics were of a very limited nature.

One reason is that the time between the Commission's order on November 29, 2018 and DEP's filing in this docket is short, only about six months. Even with more frequent meetings, this was not enough time to take an in-depth look at most of these issues.

Another reason many issues were not addressed at much depth was that the group decided to first dedicate time toward improving the way the Collaborative operates, rather than repeat the experience of past efforts, which yielded little substantive results.

Finally, the group decided to focus the majority of its efforts on two overarching priorities for 2019, described further below, rather than attempt to tackle a much longer list of topics that would have exceeded our time or bandwidth.

Nevertheless, I would note that many of the issues that were identified in the Commission's Rider 10 Order, even those that did not receive detailed attention, remain topics of interest that will likely warrant work at the Collaborative in the future.

One of the important lessons drawn from previous experience with the Collaborative is that some important issues cannot be resolved in one year or less. Therefore, decisions to prioritize certain issues in the short term will result in other issues being deferred until a later date.

Q. WHAT ARE THE 2019 PRIORITIES OF THE COLLABORATIVE?

A. This January, the Collaborative selected two key work priorities for 2019:

- Evaluation of portfolio level opportunities and challenges
- Expansion of energy-efficiency savings for low-income customers

Additionally, the group will continue to participate in reviews of existing program progress and discuss opportunities for program modifications and additions.

Q. WHAT APPROACHES TO EVALUATING THE PORTFOLIO LEVEL OPPORTUNITIES AND CHALLENGES IS THE COLLABORATIVE CONSIDERING?

A. This topic has generated considerable interest among participants and the focus of work is still largely under development. There is, however, a recognition that the topic overlaps with the Commission's request for comment on the current incentive mechanism, rate impact, and program performance targets, as well as issues related to cost-effectiveness.

Q. WHAT APPROACHES TO EXPANDING LOW INCOME EFFICIENCY IS THE COLLABORATIVE CONSIDERING?

A. As reported in previous testimony and filings from the Justice Center and SACE, both North and South Carolina have high levels of poverty and correspondingly high customer energy burdens. Energy-efficiency programs for low-income households are one critical tool for addressing this problem. While Duke is to be commended for its low-income energy efficiency achievements to date, more is needed going forward.

The Collaborative has identified low-income energy efficiency as one of its top priorities for 2019. Discussion has centered on increasing total budgets and savings impact for low-income customers and refining approaches for designing and implementing programs to do so.

Several broad strategies have been discussed that would increase the impact of efficiency programs for the benefit of low income customers:

Expand budget allocations for programs targeted to low-income customers - To be effective, increased investments must be matched with well-designed programs, effective delivery channels, and evaluation approaches that properly inform and support periodic refinements to overcome challenges to serving this segment of customers. Without higher levels of investment, however, there is little hope of achieving substantially more than has been accomplished in the past.

Refine and expand existing program offerings - Over the past year, Duke has shown a willingness to modify current program offerings to deliver more impact to low income customers, such as proposing additional measures in the Neighborhood Energy Saver (NES) program.[18] Duke has initiated some discussions with the Collaborative on possible modifications to its programs, and there are considerable additional opportunities to build on such dialogue going forward.

[18] While this program does not have income qualification eligibility requirements, the neighborhood selection process involves evaluation of United States Census data to target communities with high levels of poverty.

Deploy new programs - Delivering effective low-income efficiency programs is a priority for utilities, Commissions, and stakeholders across the country. There are numerous examples of programs aimed at meeting the unique needs of low-income customers that could be adapted and implemented by DEP, such as programs for manufactured homes, multifamily housing, tariffed on-bill financing, and adding measure that achieve deeper levels of savings per household, all of which have been the subject of previous testimony and filings submitted by the Justice Center, Housing Coalition, and SACE.

One such opportunity is to build on the success of DEC's Income-Qualified Weatherization program in North Carolina by offering the program to DEP's low-income customers as well.

Additionally, in 2019, the Collaborative explored opportunities to align the financing timeline for both new construction and existing multifamily properties seeking an allocation of Low Income Housing Tax Credits from the North Carolina Housing Finance Agency with utility program offerings. Incorporating utility incentives at the time of financing is an opportunity to secure deeper whole-building energy savings. Properties going through a financing event have access to private and/or public capital that utility programs can leverage to cover the cost of energy-efficiency upgrades that may otherwise be out of reach for owners and/or too costly for utility programs to incentivize. Utilities across the country have partnered with housing finance agencies to develop and implement energy-efficiency programs that meet the unique needs of the affordable housing sector and deliver energy savings. Stakeholders at the Collaborative are committed to supporting Duke in developing an approach tailored to North Carolina and South Carolina.

Prioritize increasing low income customer impact through non-income qualified programs - While the NES program does not require income qualification for participation, the program is designed to reach low-income customers, which is part of how program performance is tracked. At the January Collaborative meeting, Duke presented a chart showing low-income impact tracking across its portfolio of residential programs. I strongly support this attention and look forward to working with Duke to use data such as this to inform strategies for capturing more impact for low-income customers in all residential programs going forward. That said, standard efficiency programs are not a replacement for dedicated low-income programs that are tailored to meet the specific needs of low-income households and aim to achieve targeted participation levels specifically for these customers.

Stakeholders at the Collaborative remain committed to supporting DEP in each of the above areas, while giving attention to achieving levels of cost effectiveness that are appropriate for serving low income customers.

Q. WHAT ARE YOUR EXPECTATIONS REGARDING THE COLLABORATIVE IN 2019?

I believe there is an opportunity to strengthen and expand programs, increase portfolio savings, and enhance the value of program and portfolio performance reporting. This in turn could also narrow the range of issues handled through contested dockets before the Commission. The lack of tangible results from the work of the Collaborative in past years has been frustrating. Despite this, the NC Justice Center, the Housing Coalition, SACE, and many others have increased the commitment of our time and resources in the hopes of achieving more tangible results going forward. If successful, I believe more energy and capacity savings will result.

If, despite this additional effort, more substantive and tangible outcomes are not achieved, there may be a need for deeper structural changes to the Collaborative that would involve more direction and oversight by the Commission.

Q. WHAT LESSONS CAN BE LEARNED FROM STAKEHOLDER GROUPSIN OTHER JURISDICTIONS?

A. Some of the different structural approaches used by energy efficiency stakeholder working groups in other jurisdictions are instructive, a theme that Mr. Neme explored in testimony last year. For additional context, I add the following example from Arkansas.

The Arkansas Public Service Commission has a significant role in setting the agenda for its stakeholder group, known as Parties Working Collaboratively ("PWC") and sets specific deliverables and deadlines that the group is required to meet. In recent years, the Arkansas Commission has referred numerous important issues to the group with expectations that they will work together to jointly develop recommendations for consideration and final decision making by the Commission. In recent years, these have included:

- Setting 3-year utility energy savings targets

- Coordination of gas and electric efficiency programs
- Development of low income programs
- Standard annual reporting protocols, among others.

The work is supported by an independent facilitator selected through a Commission administered RFP. Recommendations are submitted jointly by the PWC following a Commission prescribed deadline. The approach is aimed at building consensus between parties.

By comparison, the North Carolina Utilities Commission has historically referred issues raised in testimony to the Collaborative, but except for DEP submitting testimony indicating that the topics have been discussed, there is no defined mechanism for this information to be reported back to the Commission.

Q. WHAT SPECIFIC REQUESTS DO YOU HAVE OF THE COMMISSION REGARDING THE COLLABORATIVE?

A. Our primary ask is that the Commission observe the work of the Collaborative to determine whether significant additional progress has been made, focusing on tangible impacts resulting from the Collaborative's work. Specifically, the current work tasks of the Collaborative involve:

- Portfolio-level assessment of opportunities and challenges
- Expansion of energy-efficiency and bill savings for low-income customers
- Modification and additions to DEP efficiency programs reflecting direct input from the work of the Collaborative

In 2020, I recommend that the Commission seek direct comment from Collaborative participants on whether the Collaborative has sufficiently corrected its course or whether additional changes are needed that would warrant Commission action.

As part of the portfolio-level assessment of opportunities and challenges, I suggest the Collaborative address the projected decline of annual savings down to 0.72% in annual savings DEP forecasts for 2020, strive to finally reach the 1% energy savings target, then maintain and grow those savings going forward.

I recommend that Duke and the Collaborative begin regularly tracking the impact of all efficiency programs on low income customers, including both those that involve income qualifying criteria as well as standard efficiency programs that are available to all customers. By doing so, we may better understand the relationship between these programs and incorporate useful insights into future strategies for increasing savings for the customers most in need of assistance lowering their electric bills.

Q. ARE THERE ANY OTHER ACTIONS THAT YOU RECOMMEND WITH REGARD TO THIS DOCKET?

A. There is an important and timely opportunity to replicate the success of DEC's Income-Qualified Weatherization program in North Carolina by expanding its deployment to low income customers in DEP's North Carolina territory. Unlike Neighborhood Energy Savers, this program exclusively serves low-income households and includes larger energy saving measures capable of delivering deeper levels of savings – enough to materially impact energy affordability and overall financial wellbeing for participating families. Moreover, recent innovations in delivery of the DEC Income-Qualified Weatherization program could result in even greater impact for DEP. Specifically, the ability to leverage Helping Home Funds has enabled DEC to serve many more homes per year than were being reached previously when the program was matched only with federal funds for low-income efficiency. Moreover, by correlating low-income and high-energy intensity data, customers who were slipping through the cracks of the federal programs are now being served. And funding availability has been expanded for customers in need of both weatherization and HVAC replacement. All of these program features would provide value for low-income customers in DEP territory, with this big advantage: While DEC has been leveraging the Helping Home Fund to fill the financial gap for health, safety, and incidental improvements, those funds are almost entirely depleted. By contrast, DEP has recently increased their Helping Home Funds with $2.5 million dollars, which would enable the Company to reach large numbers of households with the Income-Qualified Weatherization program for many years. I suggest that the Commission, Duke, and stakeholders explore this opportunity through both the Collaborative and by initiating a formal Commission proceeding.

Finally, I suggest initiating a standard annual reporting protocol akin to the one used in Arkansas and incorporating the tools developed by the Lawrence Berkeley National Laboratory.

Q. WHAT ARE THE BENEFITS OF IMPLEMENTING A STANDARD ANNUAL REPORTING PROTOCOL?

A. Establishing standard annual reporting protocols for Duke's DSM/EE Recovery Rider filings would provide numerous benefits for intervenors, Staff, the Commission, and the public. While the majority of information needed for such reporting is already prepared by Duke to support its annual filings, much of it can only be acquired through data requests, which means only parties to the proceeding have access to them.

Moreover, the information provided by Duke is not organized in a way that is convenient for review and analysis, nor presented in a way that would allow the Commission or the public to efficiently identify topline trends and takeaways. For instance, the Merger Settlement set annual and cumulative savings targets, but DEP does not report on progress towards meeting the target in its Application filings.

In short, the current filings and discovery responses are highly voluminous[19] and, while the information is important, it is unnecessarily difficult to access. As a result, the annual information reported by Duke is difficult to use for oversight and regulatory decision-making. It is also of very limited value for public understanding on the economic value of Duke's efficiency investments. Exhibit FBW-2 is the Excel workbook filed by Entergy Arkansas. This document is provided alongside the narrative of its annual efficiency performance filing. Key features of the reports are:

[19] SACE / NCJC recognize the substantial effort committed by DEP staff in production of this information and appreciate the Company's willingness to provide genuinely substantive answers in response to discovery requests.

- Planned Versus Actuals - Side-by-side comparisons of projected and actual program budgets, demand saving, and energy savings
- Budget breakdowns - indicating expenditures on incentives / direct install costs compared to marketing, administration, and EM&V costs
- Cost / Benefit - TRC and Program Administrator Cost test results (also known as the Utility Cost Test), TRC Net Present Value
- Levelized cost of energy saved
- Annual % of savings compared to baseline year
- Historic comparisons on budgets and energy savings.

The Lawrence Berkeley National Laboratory has also developed a set of standard annual reporting tools that can be used by adopted by individual jurisdictions, which can be accessed here: https://emp.lbl.gov/publications/flexible-and-consistent-reporting

V. CONCLUSION

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes.

BY MR. NEAL:

Q Mr. Bradley-Wright, did you prepare a summary of your testimony for the Commission?

A Yes, I did.

Q Could you give that now?

A Be happy to.

(WHEREUPON, the summary of FOREST BRADLEY-WRIGHT is copied into the record as read from the witness stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-2, SUB 1206

SUMMARY OF TESTIMONY OF FOREST BRADLEY-WRIGHT

ON BEHALF OF

NORTH CAROLINA JUSTICE CENTER,
NORTH CAROLINA HOUSING COALITION, AND
SOUTHERN ALLIANCE FOR CLEAN ENERGY

Thank you for the opportunity to testify before the Commission today regarding DEP's DSM/EE Recovery Rider. My name is Forest Bradley-Wright, I am the Energy Efficiency Director for the Southern Alliance for Clean Energy. In my testimony, I raise four key matters for your attention: portfolio level savings, efficiency for low-income customers, Collaborative enhancements, and standardized annual reporting.

There is, in fact, much to celebrate for both DEP and the Commission with regard to the Company's energy-efficiency performance. However, there is room for continued improvement. Unlike its sister company, DEP again fell short in 2018 of the 1% annual energy-savings target established during the Duke-Progress merger, and neither company ultimately met the merger's 7% five-year cumulative target. Despite surpassing their underachieving regional peers, both companies trail national utility leaders by a substantial margin.

First, I request that the Company reaffirm its commitment to energy efficiency by working to achieve the 1% annual savings target in 2020 and beyond. I recommend that the Company pursue a strategy to expand long-term savings, thereby diversifying a portfolio that currently relies too heavily on short-term behavioral programs and lighting measures. And I address the continued decline in non-residential savings, noting how commercial and industrial opt outs undercut some of the most inexpensive efficiency opportunities and create a major drag on DEP's overall performance.

Second, I recommend that the Company continue to find more ways for its programs to benefit low-income customers and identify several strategies that have been discussed at the Collaborative, including: expanding budget allocations for programs targeting low income customers, refining and expanding Duke's current program offerings, deploying new programs, and prioritizing low-income customer impact through the Company's non-income qualified program offerings. I am encouraged that over the past year, the Company has consistently engaged with the Collaborative on these subjects and is taking steps to improve program offerings. My testimony specifically recommends DEP deploy a program to emulate the success of DEC's Income Qualified Weatherization program.

Third, I discuss the work of the Collaborative over the past year, highlighting the critical value it provides in bringing stakeholders together to address a wide range of issues through joint problem solving, though I note that historically there have been few tangible results in the way of program improvements and additional savings achieved that can be attributed to efforts by the Collaborative. I list a variety of recent process changes, which represent significant steps forward and should ultimately lead to more tangible results from the Collaborative in the future. I also identify a number of potential additional improvements, such as DEP engaging stakeholders earlier in the process of making program changes and potentially incorporating independent facilitation. In particular, I believe a higher level engagement, oversight, and direction from this Commission to the Collaborative would yield positive results. One model to consider is from Arkansas, where the Commission sets specific deliverables and timelines for their Collaborative as part of the Commission's formal decision-making process.

Finally, my testimony advocates that the Commission establish standard annual reporting protocols for the DSM/EE Recovery Rider. Key performance metrics like percentage annual savings, average measure lifespan, opt-out trends, cost-effectiveness scores, and net customer benefits should all be clearly tracked and reported in this docket for the benefit of both the Commission and the public. Currently, such information is buried in the overall utility filings or requires formal legal intervention and data requests to obtain. Both Entergy Arkansas and the Lawrence Berkeley National Laboratory serve as valuable examples and are included in my testimony.

Overall, the Company's portfolio of programs provides significant value for customers. I thank the Commission for its continued support for efficiency and look forward to continuing to work with you, the Company, and the Collaborative as we build on considerable success to date and strive to achieve even more savings in future years.

This concludes my summary.

MR. NEAL: Mr. Bradley-Wright is available for cross examination.

COMMISSIONER BROWN-BLAND: All right. Mr. Page?

CROSS EXAMINATION BY MR. PAGE:

Q Mr. Bradley-Wright, my name is Robert Page. I represent the Carolina Utility Customers Association, a group of large industrial customers, and I wanted to talk to you briefly about your testimony concerning the commercial and industrial opt-outs. Are you aware of where the opt-out rights in the State of North Carolina come from?

A It is by Statute.

Q It's by Statute, so I take it then your testimony is not encouraging the Commission to require some form of DSM or EE programs which the industrial customers could not opt-out, because that would violate the Statute.

A I don't think that's the intent of my testimony.

Q All right. So is the answer to my question yes, you're not advocating that?

A Let me attempt to restate or perhaps I could have you restate the specifics of -- of your question.

But I believe you were saying --

Q All right. All I'm asking is are you asking the Commission to go against the opt-out rights that are provided to industrial customers in the Statute?

A I'm not.

Q All right. Now, have you done any study of your own to determine whether or not customers who have opted out have, in fact, provided their own DSM/EE programs?

A I have not conducted independent research on that, no.

MR. PAGE: That's all I have.

COMMISSIONER BROWN-BLAND: Ms. Fentress?

MS. FENTRESS: No questions.

COMMISSIONER BROWN-BLAND: All right. Mr. Neal, any redirect?

MR. NEAL: Yes, Commissioner Brown-Bland.

REDIRECT EXAMINATION BY MR. NEAL:

Q Mr. Bradley-Wright, are you aware of whether or not there are any requirements for opt-out customers to report on the savings that they have achieved from their own efficiency measures?

A I do believe that there is an expectation that customers who choose to opt-out are doing so based on energy savings that they have achieved.

Q But are you aware of whether or not those are reported to the Company or the Commission?

A My understanding is that they are not reported, that's correct.

COMMISSIONER BROWN-BLAND: Questions from the Commission? Chair Mitchell?

EXAMINATION BY CHAIR MITCHELL:

Q Mr. Bradley-Wright, can you help me understand your recommendation regarding the replication or emulation of the Income-Qualified Weatherization program and -- and in that explanation be specific about what you're recommending to this Commission?

A I'm happy to. So the recommendation is that Duke Energy Progress deploy a program comparable to the one offered by Duke Energy Carolinas to all of their customers. That is called the Income-Qualified Weatherization program. And this program is designed to capture deeper levels of savings in the households of participating customers than the Neighborhood Energy Saver program is designed to capture.

And the opportunity, as I see it, is to deploy a program that would in effect compliment the Neighborhood Energy Saver program that Duke Energy Progress currently offers, which to draw a contrast between the two, you know, one is a mile wide and an inch deep, the Neighborhood Energy Saver program, and the -- the Income-Qualified Weatherization program is a smaller number of customers, but intending to capture much deeper savings. It is a larger investment. It is targeting some of the largest sources of energy use in the house.

So my specific recommendation to the Company and to the Commission is to formally consider the creation of a program for Duke Energy Progress customers, so that it would be available across the service territory that is designed to capture these deeper savings.

And I make another observation that the success of the program DEC offers has taken a significant step forward over the past year, year and a half. As the deploying mechanism for that has been expanded to target customers in Duke Energy Carolina's territory directly without exclusively going through the local community action agencies, there is an important partnership that exists between the Income-Qualified Weatherization program and the community action network. But in its original design, that basically constrained the number of households that could be served to those that already were being served by the DOE funds and Leahy (spelled phonetically) funds.

So there is now an approach that DEC has been successfully implementing wherein customers can be individually identified, particularly those that have a high likelihood of being low income can be marketed to directly, and that can be cross referenced with information related to energy intensity, those customers whose bills are particularly high. They can receive marketing materials about participating.

And the one remaining feature that is extremely important and I think exciting as it relates to DEP is that the -- the Duke Energy Carolinas Income-Qualified Weatherization program is only able to spend money on direct efficiency improvement measures. That's the program's design and the constraint that involves has to do with when households have either health and safety or incidental repair needs. So, for instance, if there is a lack of venting, there is limitations on what can be done around air sealing in a home. Or if there is a hole in a roof or, you know, that otherwise would undermine the efficiency performance of the improvement measure, you know, those improvements are needed in order for the project to be successful and there's a cost, but the Income-Qualified Weatherization program cannot directly invest in that. But the Helping Homes Fund, which was created out of a settlement had funded expenses that could include those health and safety and incidental repair projects.

And so DEC has been able to directly target customers that are low income and high energy intensity to offer a deeper array of efficiency improvements and to provide the incidental repair and the health and safety improvements that combined make it possible to help those who are in the greatest need and help them to a degree that has a measurable, a significant impact on their utility bill and their household finances. So that's the advantage.

The great opportunity is that while DEC has expended their Helping Homes Funds down to as I understand it in the range of maybe a couple of hundred thousand dollars remaining, Duke Energy Progress had $2.5 million added to their Helping Homes Fund much more recently and most of those funds as I understand it are available. So either those funds are going to be expended away doing similar work, but it's going to be lumping together the health and safety and those efficiency improvements or they will be leveraged where you can use the Income-Qualified program directly for the energy efficiency savings investments and you can in a much more targeted way use the Helping Homes Funds to provide supplemental support on health and safety and incidental repairs, which could make that program operate in this I think very compelling way of being able to target customers and reach all customers, not just those who are served by the federal dollars already and make that program last for a very, very long time and really achieve deep savings.

So I -- I would say it -- it is compelling. I think it's timely, because those Helping Home Funds ultimately will be expended and you will lose some opportunity around this leveraging. And I think frankly that it would be too long to wait for the Pay for Performance program which is only in Buncombe County. I think it would be too long to wait for that to run a three-year cycle before considering this, so I'm encouraging the Commission and the Company to consider deploying an income-qualified program for DEP's customers across their entire service territory as a near-term action.

Q Thank you for that explanation. That's very helpful. Just one follow-up. Can you tell me what you know about DEC targeted customers that were eligible to participate?

A I can speak only at a high level, but from conversations with Duke Energy Carolina's manager in charge of low income programs and conversations with the North Carolina Community Action Association, which has the contract for deploying those programs. The important -- the first distinction is that they do not need to be limited to those households that are already being served with federal funds. So they are able to directly market to customers regardless of whether they've initially come through the Community Action intake process.

And again, I can speak only at a very high level, but my understanding is that the Company has data sufficient to be able to identify portions of its population that are likely to qualify for the program and they can certainly identify specific information about high energy intensity. So they are able to look at those two pieces of information together and from that do targeted marketing, as I understand that's mailers. There may be other marketing that goes as well. But they're able to literally communicate directly to the households of customers who would be in the -- the position to be both most likely to qualify. They still would have to apply and qualify. They would be most likely to qualify and they would be most likely to benefit at a very high level, because of their energy intensity.

So again, I can speak to it only at a high level, because its capacity and capabilities within the Company. But, again, that's been relayed to me by both the Company and by their contracting organization.

Q Thank you very much.

A Thank you.

COMMISSIONER BROWN-BLAND: Commissioner Clodfelter?

EXAMINATION BY COMMISSIONER CLODFELTER:

Q Does the -- or do you know, does the Arkansas model include any consideration of grid locational values in designing or marketing DSM and EE programs?

A I guess I would just say I do not know. I'm interested in that following your line of question earlier and I'd be happy to explore that. If I find information that is useful, I'd be happy to pass it along.

Q Thanks.

A Oh actually, I'm sorry. I would just say this. There is a very extensive, it's called the DER Docket. It's Distributed Energy Resources docket that is open in Arkansas that is looking in a highly comprehensive way at the relationship between customer side investments and the implications that it has for grid planning. So you've reminded me that that is a very rich subject that -- that I -- I know is in very active discussion. I believe even just this last week or the week before through recent conversations I've had with staff at Arkansas they've had an extensive meeting with its facilitation and -- and a lot of stakeholders as they sort of map out how they're going to do a series of rule-making related to the subject of distributed energy resources and it definitely does cross over to this.

COMMISSIONER CLODFELTER: Would counsel have any objection if the witness through counsel were allowed to provide the docket citation to that open docket in Arkansas?

MS. FENTRESS: In Arkansas? No. No, I would not have any objection.

COMMISSIONER CLODFELTER: That's all I'm interested in just getting a citation to the docket so I can study it myself.

MR. NEAL: Yes. We can provide that --

COMMISSIONER CLODFELTER: Thank you.

MR. NEAL: -- after the hearing.

COMMISSIONER CLODFELTER: Thank you. That's all I have.

EXAMINATION BY COMMISSIONER BROWN-BLAND:

Q All right. Mr. Bradley-Wright, you indicated in your testimony and in your summary that you were advocating for engaging stakeholders earlier in the process as regards the Collaborative and you heard -- I'm assuming you've read Mr. Evans' rebuttal testimony. You heard what he had to say with the few questions that I asked him on the stand. And we particularly tried to talk around your example with the Pay -- Pay for Performance. Do you have anything to add having heard that or having had a chance to absorb his rebuttal testimony?

A I first want to say I think we are generally speaking polling in the same direction here. I think that the Company does look to the Collaborative as a resource for insight and -- and in contributions. I think there has been a very concerted effort this year to both recognize some of the limitations of the past, some of the -- the, you know, a considerable amount of work, but little to show for it in terms of specific program changes or additional savings. And a lot of effort has gone in this year to better understand the -- the kind of information that the Company is contemplating when they develop program changes, the processes that they're using, and figuring out when and how that information can begin flowing to the Collaborative at the earliest possible stage.

I stand by the -- the critique that I laid out as it relates to that and other programs. I think there have been some significant opportunities missed this past year that would benefit all of us. You know, I -- I don't think they were, as I said, in -- in conflict with the overall approach here. But in that particular instance of the Pay for Performance the concept was surfaced at the September 2018 Collaborative meeting and prior to any real discussion on it, the application was filed to the Commission. By the time the November Collaborative meeting was held, I believe it might even had already gone all the way through and gotten final decision.

So that would clearly be an instance where the array of recommendations that were made by Southern Alliance for Clean Energy and the North Carolina Sustainable Energy Association in filing, because there was not a channel created through the Collaborative just were not considered in the development process of that program. And -- and I guess what I think is important to note is that the inclusion of another organization or as the recommendation initially was multiple organizations to assist in delivering that program was not the only recommendation. I just want to make sure that it is understood. We had recommended an expanded geography. We had recommended additional measures. We had recommended that the three-year time frame, while might be appropriate for a rollout and implementation program, to give it the time to be able to -- to achieve success was too long to wait and that there would be reason to be revisiting and -- and bringing in some of these operational changes sooner, and that the

150 houses over three years in just one county was simply too limited in scope. So I think that will be an example.

The Neighborhood Energy Savers program, Duke came forward with a number of addition -- additional measures that they're contemplating adding in and they did raise the topic at two preceding Collaborative meetings, but without an actual indication of what measures were being considered. By the time that meeting happened between Collaborative meetings, we scheduled a call just to discuss the potential changes. We were, you know, given the list of measures and when we asked when do we need to provide feedback on this, the answer was the next day. That was not practical from any meaningful standpoint for us to -- to be responsive much less to actually be involved in the thoughtful Collaborative discussion process related to it.

Now, I want to make very clear this is not intended as, in any way, a rebuke on the measures that are being offered. We think that is indeed a very constructive step that, you know, reflects their own internal thinking and the priority they put on this. That is not what is -- is the concern that I raised.

It is that in order for the -- the impact of the Collaborative, the contribution of the Collaborative to be most constructive it needs to happen much earlier in the process. And I think that, again, I don't think we're at odds here, but I think we're still learning how to work together constructively in this context. And, you know, and we are suffering somewhat from a vagueness of protocol, if you will, but there's, you know, there -- there was a template that was mentioned before that Collaborative members would be asked to fill out. It's not like the template is coming to the Collaborative on internally contemplated changes to programs from Duke before it's going to applications.

So there -- there's a bit of a -- of a double standard there. But ultimately I think that we're at a place where that can now become the kind of tool that -- that we've designed. I think it's just it should not be resting on one party to fill out the template, which includes some things that are fairly basic, but it includes some data analysis that is not possible for Collaborative members to generate like cost benefit scores on specific programs. The analysis needed behind that is, you know, is possible for the Company.

So anyway, I think the long and short of it is that we were making steps in the right direction. I think these are examples that are learning examples and, you know, that there is still some way for us to go before and we're taking the common goal that we have and in a functional way truly polling in the same direction and achieving results that we can point to and say that's the contribution of the Collaborative, that was the benefit that came from working together.

Q In your year and some months participating in the Collaborative and working with the Company, have you found that the Company is receptive to changes about or changes that relate to Collaborative process? Are they -- do you have someone to engage with and are they open to -- have they exhibited openness to hearing from you on these kinds of matters that you've raised in your testimony?

A I would say yes and more, which is that I believe that not only has Duke been willing to entertain the suggestions and requests that we've made, they've come with some of their own. That doesn't mean that all of the suggestions have been implemented, but there have been a number of important changes. Some of the most important are actually described as -- as features of the Collaborative in that settlement -- Merger Settlement or maybe it was the Save-a-Watt Settlement, that -- that described the -- the creation of the Collaborative and it talked about the Collaborative developing its own rules. It talked about shared agenda development. And we have been doing that much more this year where we are much more actively engaged in creation of the full agenda for these meetings, and this year at the beginning of the year set priorities what we would work on together as a group. I think that those are critical steps forward.

I do continue to note the potential benefit of independent facilitation. That is not something that has been implemented to this point. And, you know, it's not in itself a panacea. It's just a possible tool.

So again, broadly speaking, I would say that the -- that the Company has very definitely met us halfway. It has been I think a reason that not only our organization, but quite a number of other stakeholder organizations have seen it worth the investment of time, which is considerable and, you know, that we have optimism. But it's also cautious optimism. We are watching, you know, and working to see the kind of tangible results I referenced earlier.

Now, if there are program changes that can be directly attributed to the efforts and the ideas brought forward in the Collaborative, that would be a step forward. If there are additional efficiency savings that are captured directly as a result of the work of the Collaborative, that would be an enormous accomplishment and I think that it right now is probably most important on two subjects. Achieving the 1 percent savings. For Duke Energy Progress, not only did they come up short in each of the past years, they're forecasting a rather substantial decline for 2020, and we think that before those declines become accepted as the norm that considerable effort should go into reaching and attaining those higher levels of savings.

And so I see that as one of the most important things that we should be gauging the effectiveness of the Collaborative against and the other would be an expansion of impact for low-income customers. I think there is, again, a strong common understanding that that goal is worthwhile, but there is work to be done and we're -- we're very much there to help.

COMMISSIONER BROWN-BLAND: All right. Thank you.

Are there questions on the Commission's questions?

MS. FENTRESS: I have some.

COMMISSIONER BROWN-BLAND: Ms. Fentress?

MR. NEAL: Thank you.

EXAMINATION BY MS. FENTRESS:

Q First of all, thank you so much for discussing Duke Energy's Helping Home Fund. It's a tremendous program and I think we've had some great success with it. But I remember you were discussing it in response to a question from Commissioner Mitchell, and so I've turned to your testimony on page 35, which -- which includes some of that discussion as well.

A I'm there.

Q Thanks. And just to clarify for the record, the Helping Home Fund that DEC and DEP have, those were not energy efficiency programs that were put to the Commission for approval under R8-68; is that correct?

A It is. It's actually what makes them most remarkable. Those are shareholder funded resources that do not have the same limitations, and in that way accordingly can fill in the gaps and really can leverage the impact of the kind of programs that are able to be passed through the -- the Commission.

Q And so -- and just to follow up, so the cost of those programs are not paid by ratepayers --

A That's correct.

Q -- Helping Home Funds?

A Yes.

Q Thank you.

A That's correct.

Q You had also mentioned an independent facilitator as one of your recommendations for the Collaborative. Just to -- to be clear, the cost of an independent facilitator such as they were would then be run through the DSM or EE Rider and charged to ratepayers; is that correct?
A That would be my expectation and my understanding is, you know, in jurisdictions such as Arkansas that those costs are indeed recovered.
Q Thank you. And then you had also indicated that a focus of the Collaborative could be the fact that DEP was coming up short with respect to a savings target that is subject to the jurisdiction of the South Carolina Commission?
A I think that it has become identified as a mark both that has a history from the -- the South Carolina Commission, but also is truly a mark of achievement especially for the southeast region, which trails nationally on energy efficiency by quite a lot. And Duke has been the first utility in -- in this, you know, portion, this region, the southeast to reach that 1 percent threshold. And so yes, it's -- it's become somewhat of the -- the benchmark against which, you know, we have

gauged.

Q But you -- I think you would agree with me that the North Carolina Commission has not imposed that savings target?

A My understanding is that the -- the relationship in North Carolina is one that connects to a performance incentive opportunity.

Q But not the 1 percent that you've mentioned in your testimony?

A Not as a requirement. Not -- again, that came out of the merger settlement in South Carolina.

Q Merger -- yes. Thank you.

MS. FENTRESS: I have nothing further.

COMMISSIONER BROWN-BLAND: Is there anything else on Commission's questions?

MR. NEAL: No. No, thank you.

COMMISSIONER BROWN-BLAND: All right.

MR. NEAL: At this time we would move Mr. Bradley-Wright's exhibits into the record.

COMMISSIONER BROWN-BLAND: All right. Without objection, they will be received at this time.

(WHEREUPON, FBW-1 and FBW-2 Exhibits are received into evidence.)

COMMISSIONER BROWN-BLAND: There's no further questions for you, Mr. Bradley-Wright, so you may be excused.

THE WITNESS: Thank you.

COMMISSIONER BROWN-BLAND: Thank you.

(The witness is excused)

MS. EDMONDSON: Commissioner Brown-Bland, on August 19th, the Public Staff filed the testimony of Michael C. Maness, 14 pages as well as an Appendix A, two pages, and an Appendix B of three. All parties have agreed to waive cross examination of him and the Commission has excused him. I would move his testimony with the appendices be entered into the record as if given orally from the stand.

COMMISSIONER BROWN-BLAND: Without objection, that motion will be allowed.

MS. EDMONDSON: Thank you.

(WHEREUPON, the prefiled direct testimony and Appendices A and B of MICHAEL C. MANESS is copied into the record as if given orally from the stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1206

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.G.S. § 62-133.9 and Commission Rule R8-69	))))))	TESTIMONY OF MICHAEL C. MANESS Public Staff – North Carolina Utilities Commission

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is Michael C. Maness. My business address is 430 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am the Director of the Accounting Division of the Public Staff – North Carolina Utilities Commission (Public Staff).

Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.

A. A summary of my qualifications and duties is set forth in Appendix B of this testimony.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present my recommendations regarding the Demand-Side Management (DSM) and Energy Efficiency (EE) cost and incentive recovery rider (DSM/EE Rider),[1] proposed by Duke Energy Progress, LLC (DEP or the Company), in its Application filed in this docket on June 11, 2019 (Application). The DSM/EE Rider is authorized by N.C. Gen. Stat. § 62-133.9 and implemented pursuant to Commission Rule R8-69.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

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

A. My testimony begins with a review of the regulatory framework for DSM/EE cost recovery by electric utilities and the historical background of DEP's Application in this docket. I then discuss the Company's proposed billing rates and other aspects of its filing. Following a summary of my investigation, I present my conclusions and recommendations regarding the proposed billing rates and the overall DSM/EE Rider.

THE PROCESS FOR SETTING DEP'S DSM/EE REVENUE REQUIREMENTS

Q. PLEASE DESCRIBE THE BASIS FOR THE COMPANY'S FILING.

A. N.C. Gen. Stat. § 62-133.9(d) allows a utility to petition the Commission for approval of an annual rider to recover (1) the reasonable and prudent costs of new DSM and EE measures and (2) other incentives to the utility for adopting and implementing new DSM and EE measures. However, N.C. Gen. Stat. § 62-133.9(f) allows industrial and certain large commercial customers to opt out of participating in the power supplier's DSM/EE programs or paying the DSM/EE rider, if an eligible customer notifies its electric power supplier that it has implemented or will implement, at its own expense, alternative DSM and EE measures. Commission Rule R8-69 sets forth the general parameters and procedures governing approval of the annual rider.

In this proceeding, DEP has, for the most part, calculated its proposed DSM/EE Rider (incorporating both prospective and Experience Modification Factor (EMF) DSM and EE billing rates) using the Cost Recovery and Incentive Mechanism for Demand-Side Management and Energy Efficiency Programs (Revised Mechanism) approved by the Commission on January 20, 2015, in its *Order Approving Revised Cost Recovery and Incentive Mechanism and Granting Waivers*, in Docket No. E-2, Sub 931 (2015 Sub 931 Order), as subsequently amended by the Commission in the Company's 2017 DSM/EE rider proceeding, Docket No. E-2, Sub 1145 (Sub 1145).[2] The 2017 amendments consisted of certain changes to Paragraphs 18, 22, and 70 of the Revised Mechanism, and the addition of new Paragraphs 22A through 22D and 70A. A copy of the entire Revised Mechanism, as amended, was attached to my testimony in Docket No. E-2, Sub 1174, as Maness Exhibit I.

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

Q. PLEASE DESCRIBE THE REVISED MECHANISM (INCLUDING THE 2017 CHANGES) AND ITS MAJOR COMPONENTS.

A. The overall purpose of the Revised Mechanism, as amended, is to (1) allow DEP to recover all reasonable and prudent costs incurred for adopting and implementing new DSM and new EE measures; (2) establish the terms, conditions, and methodology for the recovery of certain utility incentives – Net Lost Revenues (NLR) and a Portfolio Performance Incentive (PPI) - to reward DEP for adopting and implementing DSM and EE measures and programs; (3) provide for an additional incentive to further encourage kilowatt-hour (kWh) savings achievements; and (4) establish certain requirements and guidelines to guide requests by DEP for approval, monitoring, and management of DSM and EE programs. The Revised Mechanism includes many provisions that indirectly influence the ratemaking process for DSM and EE costs and incentives, including provisions that address program approval, management, and modification; evaluation, measurement, and verification (EM&V) of program results; operation of a Stakeholder Collaborative; procedural matters and the general structure of the DSM/EE billing rates; allocation methodologies; reporting requirements; and provisions for the term and future review of the Revised Mechanism itself, as well as provisions directly affecting the calculation of the DSM/EE and DSM/EE EMF riders. A summary of these provisions is set forth in Appendix A of this testimony.

THE COMPANY'S PROPOSED BILLING RATES

Q. PLEASE DESCRIBE THE BILLING FACTORS, VINTAGE YEARS, RATE PERIOD, AND TEST PERIOD BEING CONSIDERED IN THIS PROCEEDING.

A. In its Application in this proceeding, DEP requested approval of prospective and EMF DSM and EE billing rates that would result in annual North Carolina retail revenue of approximately $177.1 million [including a revenue adder for the North Carolina Regulatory Fee (regulatory fee)]. DEP's request would be a decrease of approximately $9.9 million from the annual revenues that would be produced by the rates currently in effect. These proposed billing factors are set forth on DEP witness Miller's Exhibit 1. The factors (rates), as applicable to each class, are proposed by the Company to be charged to all participating North Carolina retail customers [i.e., those who have not opted out pursuant to N.C. Gen. Stat. § 62-133.9(f)] served during the rate period.

The rate period for this proceeding is the twelve-month period from January 1, 2020, through December 31, 2020. This is the period over which the prospective DSM and EE billing rates and the DSM and EE EMF billing rates determined in this proceeding will be charged. It is also the period for which the estimated revenue requirements to be recovered through the prospective DSM/EE rates are determined.

The test period applicable to this proceeding is the twelve-month period ended December 31, 2018. This is the presumptive period for which the under- or overrecovery of DSM/EE revenue requirements is measured for purposes of determining the DSM and EE EMF billing rates. Actual program costs considered for true-up in this proceeding are either costs actually incurred during the test period, or amortizations, depreciation, and/or return associated with costs incurred in prior test periods.

NLR and PPI reflected in the EMF revenue requirements being set in this proceeding are associated with Vintage Years 2016, 2017, and 2018, as well as amortizations of amounts related to prior years and set in prior proceedings.

Q. WHAT ARE SOME OF THE GENERAL CHARACTERISTICS OF DEP'S PROPOSED DSM/EE BILLING FACTORS?

A. The prospective DSM and EE billing rates incorporate several cost recovery elements as estimated for the rate period, including amortizations of operations and maintenance and administrative and general (A&G) costs, capital costs of the Demand Side

Distribution Response program (DSDR), carrying costs (return on deferred costs), NLR, and levelized PPI incentives. The test period true-up DSM and EE EMF billing rates contain test period actual amounts of the same types of costs and incentives as do the prospective rates. The DSM and EE EMF billing rates also include adjustments to the 2016 and 2017 NLR and PPI, a reduction for the DSM/EE billing rate amounts billed during the test period, and interest on overcollections and undercollections.

NLR amounts included in the DSM and EE billing rates have also been affected by the Company's recently concluded general rate case (Docket No. E-2, Sub 1142). The revenue requirement filed by the Company in that case took into account DEP's total net revenue losses through December 31, 2016, and further residential losses through October 31, 2017. The effective date of the rates set in the case was March 16, 2018. Therefore, NLR being requested in this proceeding exclude, effective March 16, 2018, any net revenue losses due to DSM/EE measures installed or implemented on or prior to December 31, 2016, for all customers, and on or prior to October 31, 2017, for residential customers.

Q. WILL THERE BE FUTURE TRUE-UPS OF THE DSM/EE REVENUE REQUIREMENTS?

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

INVESTIGATION AND CONCLUSIONS

Q. PLEASE DESCRIBE YOUR INVESTIGATION OF DEP'S FILING.

A. My investigation of DEP's filing in this proceeding focused on determining whether the proposed DSM/EE Rider (a) was calculated in accordance with the Initial or Revised Mechanisms, as applicable, and (b) otherwise adhered to sound ratemaking concepts and principles. The procedures I and other members of the Public Staff's Accounting Division acting under my supervision utilized included a review of the Company's filing, relevant prior Commission proceedings and orders, and workpapers and source documentation used by the Company to develop the proposed billing rates. Performing the investigation required the review of responses to written and verbal data requests, as well as discussions with Company personnel. As part of its investigation, the Accounting Division performed a review of the actual DSM/EE program costs incurred by DEP during the 12-month period ended December 31, 2018. To accomplish this, the Accounting Division selected and reviewed samples of source documentation for test year costs included by the Company for recovery through the DSM/EE Rider. Review of this sample, which is still underway as of the date of pre-filing of this testimony, is intended to test whether the actual costs included by the Company in the DSM and EE billing rates are either valid costs of approved DSM and EE programs or administrative costs supporting those programs.

My investigation, including the sampling of source documentation, concentrated primarily on costs and incentives related to the

January through December 2018 test period, which will begin to be trued up through the DSM and EE EMF billing rates approved in this proceeding. The Public Staff also performed a more general review of the prospective billing rates proposed to be charged for Vintage Year 2020, which are subject to true-up in future proceedings.

Q. WHAT ARE YOUR FINDINGS AND CONCLUSIONS?

A. Based on my review, with the exception of an item specifically described later in this testimony, I am of the opinion that the Company has calculated its proposed DSM, EE, DSM EMF, and EE EMF billing rates in a manner consistent with N.C. Gen. Stat. § 62-133.9, Commission Rule R8-69, the Initial Mechanism, and the Revised Mechanism, as amended. However, this conclusion is subject to the caveat that the Public Staff is still in the process of reviewing certain data responses received from the Company in the last few days, including documentation of costs selected for review in the Public Staff's sample; should this review result in any further issues, the Public Staff will file additional information with the Commission.

I would like to note the following regarding the Public Staff's investigation:

(1) Depreciation of Assets Associated with the DSDR Program – The Company has informed the Public Staff that in the course of responding to one of the Public Staff's data requests, it discovered that the depreciation expense amounts included in its DSM/EE rate calculations for certain DSDR capitalized assets have been overstated, due to the assets being depreciated beyond the end of their estimated useful lives. However, as of the date of my testimony, the Company has not been able to finish its quantification of this miscalculation and revise its rate calculations accordingly. The Public Staff and the Company have discussed this matter, and it is the Public Staff's understanding that the Company plans to file revisions to its DSM/EE billing factor calculations on or before the date of the hearing scheduled in this proceeding.

(2) EM&V Adjustment – During the course of the Public Staff's investigation, the Company notified the Public Staff that it had found an EM&V-related change that needed to be made to its billing factor calculations. Again, based on discussions with the Company, it is the Public Staff's understanding that the Company plans to file revisions to its DSM/EE billing factor calculations on or before the date of the hearing scheduled in this proceeding.

Q. DO YOU PLAN TO PRESENT TO THE COMMISSION THE OVERALL EFFECT OF THE COMPANY'S REVISIONS?

A. Yes. Once the Company has filed its revised calculations and billing factors, the Public Staff will review them, and file with the Commission its conclusions and recommendations regarding both the revisions and the revised billing factors.

Q. WHAT IS THE IMPACT OF RECOMMENDATIONS MADE BY PUBLIC STAFF WITNESS WILLIAMSON IN HIS TESTIMONY ON YOUR CONCLUSIONS REGARDING THE DSM/EE REVENUE REQUIREMENTS IN THIS PROCEEDING?

A. Public Staff witness Williamson has filed testimony in this proceeding discussing several topics and issues related to the Company's filing. None of these topics and issues necessitates an adjustment in this particular proceeding to the Company's billing factor calculations.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING DEP'S BILLING RATES.

A. In summary, other than the issues identified above, the Public Staff has found no errors or other issues necessitating an adjustment to DEP's proposed billing rates.

Q. DO YOU HAVE ANY OTHER COMMENTS?

A. Yes. I note that in the calculation of the DSM and EE billing factors including the regulatory fee, the Company utilized a regulatory fee rate of 0.14%, which was revised by the North Carolina General Assembly, effective July 1, 2019, to 0.13%. However, replacing the old rate with the revised rate in the calculation does not change the with-fee billing factors from those that the Company filed.

RECOMMENDATION

Q. WHAT IS YOUR RECOMMENDATION IN THIS PROCEEDING?

A. Based on the results of the Public Staff's investigation (subject to completion of its review of 2018 program costs and further review of Company-provided information), I recommend that the Company file supplemental testimony and revised exhibits explaining and setting forth both the adjustments to the DSM/EE revenue requirement identified earlier in my testimony and the calculation of the revised proposed billing factors. As noted previously, the Public Staff will then make a supplemental filing addressing the Company's adjustments and revised rates.

The billing rates ultimately found reasonable and appropriate by the Commission should be approved subject to any true-ups in future cost recovery proceedings consistent with the Initial Mechanism and the Revised Mechanism, as amended, as well as other relevant orders of the Commission.

In making its recommendation, the Public Staff notes that reviewing the calculation of the DSM/EE rider is a process that involves reviewing numerous assumptions, inputs, and calculations, and its recommendation with regard to this proposed rider is not intended to indicate that the Public Staff will not raise questions in future proceedings regarding the same or similar assumptions, inputs, and calculations.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

APPENDIX A
PAGE 1 OF 2

SUMMARY OF CERTAIN PORTIONS OF DEP'S DSM/EE MECHANISM

1. Eligible non-residential customers may opt out of either or both of the DSM and EE categories of programs, as well as opt back into either or both. Beginning on January 1, 2016, separate DSM and EE billing rates became available to Non-Residential opt-out-eligible customers. A customer receiving program incentives from either a DSM or an EE program will be required to pay the respective portion(s) of the DSM/EE and DSM/EE EMF billing rates for a period of not less than 36 months.

2. In general, DEP shall be allowed to recover, through the DSM/EE and DSM/EE EMF rates, all reasonable and prudent costs of Commission-approved DSM/EE programs. However, any of the Stipulating Parties may propose a procedure for the deferral and amortization over a maximum of ten years of all or a portion of DEP's non-capital program costs to the extent those costs are intended to produce future benefits, and may propose to defer and amortize related non-incremental administrative and general (A&G) costs over a maximum of three years. Deferred program and A&G costs shall be allowed to accrue a return at the overall weighted average net-of-tax rate of return approved in DEP's most recent general rate case (net of income taxes). For program costs not deferred for amortization in future DSM/EE riders, the accrual of a return on any under-recoveries or over-recoveries of cost will follow the requirements of Commission Rule R8-69(b), subparagraphs (3) and (6), unless the Commission determines otherwise.

3. DEP shall be allowed to recover NLR as an incentive (with the exception of those amounts related to research and development or the promotion of general awareness and education of EE and DSM activities), but shall be limited for each measurement unit installed in a given vintage year to those dollar amounts resulting from kWh sales reductions experienced during the first 36 months after the installation of the measurement unit. NLR related to pilot programs are subject to additional qualifying criteria.

4. The eligibility of kWh sales reductions to generate recoverable NLR during the applicable 36-month period will cease upon the implementation of a Commission-approved alternative recovery mechanism that accounts for NLR, or new rates approved by the Commission in a general rate case or comparable proceeding that account for NLR.

5. NLR will be reduced by net found revenues, as defined in the Revised Mechanism, occurring in the same 36-month period. Net found revenues will be determined according to the "Decision Tree" process included in the Revised Mechanism.

APPENDIX A
PAGE 2 OF 2

6. DEP shall be allowed to recover a PPI per vintage year for its DSM and EE portfolio based on a sharing of actually achieved and verified energy and peak demand savings (excluding those related to general programs and measures and research and development activities). The inclusion of pilot programs in any PPI calculation is subject to additional qualifying criteria. Unless the Commission determines otherwise in an annual DSM/EE rider proceeding, the amount of the pre-income-tax PPI to be recovered for the entire allowable DSM/EE portfolio for a vintage year shall be equal to 11.75% multiplied by the present value of the estimated net dollar savings associated with the DSM/EE portfolio installed in that vintage year (as determined by the UCT). Low-income programs or other programs approved with expected UCT results less than 1.00 shall not be included in the portfolio for purposes of the PPI calculation; nor shall the Demand Side Distribution Response (DSDR) program. The PPI for each vintage year shall ultimately be trued up based on net dollar savings as verified by the EM&V process and approved by the Commission. Unless the Commission determines otherwise, the PPI shall be converted into a stream of no more than ten levelized annual payments, incorporating the overall weighted average net-of-tax rate of return approved in DEP's most recent general rate case as the appropriate discount rate.

7. For Vintage Years 2019 and afterwards, the program-specific per kilowatt (kW) avoided capacity benefits and per kWh avoided energy benefits used for the initial estimate of the PPI and any PPI true-up will be derived from the underlying resource plan, production cost model, and cost inputs that generated the avoided capacity and avoided energy credits reflected in the most recent Commission-approved Biennial Determination of Avoided Cost Rates as of December 31 of the year immediately preceding the date of the annual DSM/EE rider filing, but using, for program-specific avoided energy benefits, the projected EE portfolio hourly shape rather than an assumed 24x7 100 megawatt (MW) reduction.

8. If the Company achieves incremental energy savings of 1% of its prior year's system retail electricity sales in any year during the five-year 2015-2019 period, the Company will receive a bonus incentive of $400,000 for that year.

QUALIFICATIONS AND EXPERIENCE

MICHAEL C. MANESS

I am a graduate of the University of North Carolina at Chapel Hill with a Bachelor of Science degree in Business Administration with Accounting. I am a Certified Public Accountant and a member of both the North Carolina Association of Certified Public Accountants and the American Institute of Certified Public Accountants.

As Director of the Accounting Division of the Public Staff, I am responsible for the performance, supervision, and management of the following activities: (1) the examination and analysis of testimony, exhibits, books and records, and other data presented by utilities and other parties under the jurisdiction of the Commission or involved in Commission proceedings; and (2) the preparation and presentation to the Commission of testimony, exhibits, and other documents in those proceedings. I have been employed by the Public Staff since July 12, 1982.

Since joining the Public Staff, I have filed testimony or affidavits in a number of general, fuel, and demand-side management/energy efficiency rate cases of the utilities currently organized as Duke Energy Carolinas, LLC, Duke Energy Progress, LLC., and Virginia Electric and Power Company (Dominion Energy North Carolina) as well as in several water and sewer general rate cases.

APPENDIX B
PAGE 2 OF 3

I have also filed testimony or affidavits in other proceedings, including applications for certificates of public convenience and necessity for the construction of generating facilities, applications for approval of self-generation deferral rates, applications for approval of cost and incentive recovery mechanisms for electric utility demand-side management and energy efficiency (DSM/EE) efforts, and applications for approval of cost and incentive recovery pursuant to those mechanisms.

I have also been involved in several other matters that have come before this Commission, including the investigation undertaken by the Public Staff into the operations of the Brunswick Nuclear Plant as part of the 1993 Carolina Power & Light Company fuel rate case (Docket No. E-2, Sub 644), the Public Staff's investigation of Duke Power's relationship with its affiliates (Docket No. E-7, Sub 557), and several applications for business combinations involving electric utilities regulated by this Commission. Additionally, I was responsible for performing an examination of Carolina Power & Light Company's accounting for the cost of Harris Unit 1 in conjunction with the prudence audit performed by the Public Staff and its consultants in 1986 and 1987.

I have had supervisory or management responsibility over the Electric Section of the Accounting Division since 1986, and also was assigned management duties over the Water Section of the Accounting Division during the 2009-2012 time frame. I was promoted to Director of the Accounting Division in late December 2016.

(19 pages)

MS. EDMONDSON: And the Public Staff now calls David Williamson to the stand.

DAVID WILLIAMSON;

having been duly sworn,

testified as follows:

DIRECT EXAMINATION BY MS. EDMONDSON:

Q Good afternoon, Mr. Williamson. Would you please state your name and business position for the record?

A My name is David Williamson and I'm an Engineer with the Public Staff's Electric Division.

Q Mr. Williamson, on August 19th did you prepare and cause to be filed testimony consisting of 22 pages, an appendix, and two exhibits?

A I did.

Q Do you have any changes or corrections to your testimony, appendix, or exhibits?

A I do not.

Q If you were asked the same questions today would your answers be the same?

A They would be.

MS. EDMONDSON: Chair Brown-Bland, we request that Mr. Williamson's testimony be admitted into evidence as if given orally from the witness stand and his exhibits be marked.

COMMISSIONER BROWN-BLAND: Without objection, that motion will be allowed and the exhibits that were prefiled with his direct testimony will be identified as they were filed when -- or as they were marked when filed.

(WHEREUPON, Williamson Exhibits 1 and 2 are marked for identification as prefiled.)

(WHEREUPON, the prefiled direct testimony and Appendix A of DAVID M. WILLIAMSON is copied into the record as if given orally from the stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1206

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.G.S. § 62-133.9 and Commission Rule R8-69	))))))	TESTIMONY OF DAVID M. WILLIAMSON PUBLIC STAFF – NORTH CAROLINA UTILITIES COMMISSION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is David M. Williamson. My business address is 430 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am a Utilities Engineer with the Electric Division of the Public Staff, North Carolina Utilities Commission.

Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.

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

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present the Public Staff's analysis and recommendations with respect to the following aspects of the February 26, 2019, application of Duke Energy Progress, LLC (DEP or the Company), for approval of its demand-side management (DSM) and energy efficiency (EE) cost recovery rider for 2020 (2020 Rider). This testimony discusses: (1) the portfolio of DSM and EE programs included in the proposed 2020 Rider; (2) the ongoing cost-effectiveness of each DSM and EE program; and (3) the evaluation, measurement, and verification (EM&V) studies filed as Exhibits A through I to the testimony of Company witness Robert P. Evans.

Q. WHAT DOCUMENTS HAVE YOU REVIEWED IN YOUR INVESTIGATION OF DEP'S PROPOSED 2020 RIDER?

A. I reviewed the application and supporting testimony and exhibits, as well as DEP's responses to Public Staff data requests. In addition, I reviewed previous Commission orders related to DEP's DSM and EE programs and cost recovery rider proceedings, including the Commission's *Order Approving DSM/EE Rider, Revising DSM/EE Mechanism, and Requiring Filing of Proposed Customer Notice* issued November 27, 2017, in Docket No. E-2, Sub 1145 (Sub 1145 Order), that approved revisions to the Mechanism approved in Docket No. E-2, Sub 931 (Revised Mechanism).

Q. DO YOU HAVE ANY EXHIBITS?

A. Yes. I have two exhibits to my testimony. Williamson Exhibit No. 1 shows the changes in the year ahead projected cost-effectiveness of the Company's portfolio of programs as calculated by the Company in its 2017, 2018, and current DSM/EE rider proceedings. Williamson Exhibit No. 2 shows the actual Total Resource Cost (TRC) test scores for the programs across Vintage Years 2016, 2017, and 2018.

DSM and EE Programs in DEP's 2020 Rider Rates

Q. PLEASE IDENTIFY THE DSM AND EE PROGRAMS FOR WHICH DEP IS SEEKING COST RECOVERY THROUGH THE 2020 RIDER.

A. In its proposed 2020 Rider, DEP included the costs and incentives associated with the following programs:

- Residential
  - Appliance Recycling Program (Sub 970)
  - EE Education Program (Sub 1060)
  - Multi-Family EE Program (Sub 1059)
  - My Home Energy Report (MyHER) Program (formerly the EE Benchmarking Program) (Sub 989)
  - Neighborhood Energy Saver (Low Income) Program (Sub 952)
  - Residential Smart $aver EE Program (formerly HEIP) (Sub 936)
  - New Construction Program (Sub 1021)
  - Load Control Program (EnergyWise Home) (Sub 927)
  - Save Energy and Water Kit Program (Sub 1085)
  - Energy Assessment Program (Sub 1094)
  - Low-Income Weatherization Pay for Performance Program (Pilot implemented in January of 2019)
- Non-Residential
  - Non-Residential Smart $aver Energy Efficient Products and Assessment Program (formerly Energy Efficiency for Business Program) (Sub 938)

- Non-Residential Smart $aver Performance Incentive Program (Sub 1126)
- Small Business Energy Saver Program (Sub 1022)
- CIG Demand Response Automation (CIG DRA) Program (Sub 953)
- EnergyWise for Business (Sub 1086)

- Combined Residential and Non-Residential
  - Energy Efficient Lighting Program (EE Lighting) (Sub 970)
  - Distribution System Demand Response (DSDR) Program (Sub 926)

Each of these programs has previously received Commission approval as a new DSM or EE program and is eligible for cost recovery under N.C. Gen. Stat. § 62-133.9, subject to certain program-specific conditions imposed by the Commission regarding the recovery of net lost revenues (NLR) and portfolio performance incentives (PPI).

Program Performance

Q. PLEASE DISCUSS THE PERFORMANCE OF THE PORTFOLIO.

A. While the testimony and exhibits of DEP witness Evans provide information regarding the performance of each program in DEP's portfolio, I want to bring certain information to the Commission's attention regarding the performance of particular programs, as well as the performance of DEP's overall portfolio. The portfolio of programs seems generally to be performing satisfactorily. However, the impact of the federal rules imposing minimum requirements on the production of lighting-related measures, and the North Carolina market in which these measures are being offered, merit further discussion. I also discuss the performance of certain programs that are struggling to remain cost-effective, as well as comment on the Company's DSDR program.

Q. PLEASE DISCUSS YOUR OBSERVATIONS CONCERNING LIGHTING-RELATED MEASURES.

A. Over the years and in various dockets before the Commission, the Public Staff has highlighted several trends surrounding the adoption of EE lighting measures, i.e., that the EE lighting market for North Carolina is being transformed so that non-specialty light emitting diode (LED) lighting will likely become the baseline standard for general service bulb technologies by January 2020, thereby decreasing the overall amount of savings from any EE program that continues to include general service bulb technologies.

On January 19, 2017, the U.S. Department of Energy (DOE) published final rules adopting a revised definition for the general service lamp (GSL) and general service incandescent lamp (GSIL), among other modifications to other definitions, which are to become effective January 1, 2020.[1] These updates are from a DOE rulemaking to implement the second phase of the 2007 Energy Independence and Security Act (EISA) currently scheduled to go into effect on January 1, 2020, otherwise known as EISA 2020.

However, on February 11, 2019, DOE issued a notice of proposed rulemaking and request for comment that could result in withdrawal of the current definitions of GSL and GSIL.[2] As a result of this filing, further rulemaking may occur, but until such time, the current rules guide the path going forward.

The extent to which market transformation has occurred is difficult to determine because the metrics associated with market transformation are subjective. However, one of the goals of utility-sponsored EE programs is to build customer awareness of, and confidence in, EE technologies, and, as a result, encourage consumers to adopt EE even without incentives. As technologies become even more energy efficient, costs decrease, and consumer

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[1] Energy Conservation Program: Conservation Standards for General Service Lamps, 82 Fed. Reg. 7276-7322 (January 19, 2017).

[2] Energy Conservation Program: Conservation Standards for General Service Lamps, 84 Fed. Reg. 3120-3131 (February 2, 2019), https://www.federalregister.gov/documents/2019/02/11/2019-01853/energy-conservation-program-energy-conservation-standards-for-general-service-lamps

acceptance improves, adoption of EE should become more routine, at which point there is “market transformation.”

Q. DO YOU BELIEVE THAT NORTH CAROLINA’S LIGHTING MARKET HAS TRANSFORMED OR IS ON THE VERGE OF TRANSFORMING?

A. Yes. I have reviewed the Company’s EE Lighting EM&V report on its lighting program, which was (1) accepted in the 2018 DEP Rider Proceeding[3] and (2) reviewed in combination with Duke Energy Carolinas, LLC’s Retail LED Lighting Program. Since the Company began distributing lighting measures to its customers through DSM/EE programs, the acceptance of more efficient lighting measures has been increasing. When the Company began issuing lighting measures, the compact fluorescent lamp (CFL) bulb was the primary offering. As LEDs became more affordable to both the utilities and the customers who received them via discount or free incentives, the market slowly began migrating even further toward adopting the LED as the “go to” bulb.

Q. WITH THE NEW EISA 2020 STANDARD ESSENTIALLY MAKING NON-SPECIALTY LED BULBS THE STANDARD, DOES THE COMPANY STILL OFFER NON-SPECIALTY LED BULBS IN ITS PORTFOLIO?

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[3] Docket No. E-2, Sub 1174

A. Yes, however, the Company has been working to minimize the impacts of EISA 2020, and as such, has been updating its lighting measure offerings to those focused on specialty LED bulbs. The number of non-specialty LED bulbs as a percentage of measure offerings for each program has been greatly reduced since the last rider proceeding.

Q. HOW MUCH LONGER SHOULD NON-SPECIALTY LED BULBS BE IN THE COMPANY'S RESIDENTIAL PORTFOLIO?

A. Regardless of whether the EISA 2020 standard takes effect as scheduled or is rolled back, and taking into consideration the Company's efforts to migrate primarily to specialty LED bulbs, it appears that the North Carolina lighting market is adopting EE lighting technologies as the baseline. Therefore, an incentive for non-specialty LED bulbs should no longer be needed <u>after</u> Vintage 2020.

Allowing the incentives to be offered for at least one year beyond the January 2020 date should allow the Company time to evaluate any changes in the federal standards, as well as to determine how to handle its current stock of non-specialty LED bulbs.

Q. ARE THERE PROGRAMS THAT ARE STRUGGLING TO BE OR REMAIN COST-EFFECTIVE?

A. Yes. As seen in Williamson Exhibit 1, the Residential Smart Saver EE, Neighborhood Energy Saver, Non-Residential Smart Saver

Performance Incentive, and EnergyWise for Business programs are not projected to be cost-effective under the TRC test.

The Residential Smart Saver EE program was recently granted approval to make modifications to increase its cost-effectiveness. This program's projected cost-effectiveness has greatly increased, but it remains not cost-effective, as it has been since 2013, when the Company was projecting the programs cost effectiveness for Vintage Year 2014. Notwithstanding the Company's efforts to attain cost-effectiveness for this program, the Public Staff continues to be skeptical that it can be cost-effective.

Q. PLEASE DISCUSS THE COMPANY'S DSDR PROGRAM.

A. While I do not have any concerns with the performance of the program, I would like to bring to the Commission's attention certain aspects of the program.

The DSDR program was approved as an EE program by this Commission on June 15, 2009, in Docket No. E-2, Sub 926. Since the approval of this program, the Company has spent millions of dollars to implement this program to its full scale, installing upgraded capacitor banks and regulators, as well as the necessary communication equipment to ensure that this technology operates when called. In this proceeding, the DSDR program costs constitute approximately 19% of the projected 2020 program costs of DEP's entire DSM/EE portfolio.

Since the implementation of DSDR, the Company has begun an initiative that it calls the Grid Improvement Plan (GIP). The GIP is a plan created in response to the Company's perceived customer expectations and grid needs. This plan has been discussed by the Company in many forums including the Company's 2018 Smart Grid Technology Plan, filed on October 1, 2018, in Docket No. E-100, Sub 157.

In response to a Public Staff Data Request, the Company acknowledged that, while being handled separately on an accounting level, there are two activities that overlap between the Company's DSDR program and the GIP. The first is the replacement of the end-of-life Capacitor Bank Controls and associated replacement of the 2G/3G modems on DSDR line and substation devices with 4G modems and 5G modems. The second is the replacement of end-of-life Core WAN and Edge communication equipment. These efforts are more fully described in the 2018 Smart Grid Technology Plan and are also included as enterprise wide programs in the GIP.

The Company also acknowledged that these two overlapping activities are important components of grid improvement, but are not included in the cost of the GIP given that they are being reviewed and evaluated in separate forums (i.e., the DSM/EE proceeding).

While implementation of the GIP has just begun, there is the potential that DSDR work and GIP efforts as discussed in the Company's Smart Grid Plan will overlap more and more. As the Company moves forward with its new operational standards of the GIP, the Public Staff will continue to observe and report on the degree of confluence of the GIP and DSDR.

Cost Effectiveness

Q. HOW IS THE COST EFFECTIVENESS OF DEP'S DSM AND EE PROGRAMS EVALUATED?

A. The Public Staff reviews the cost-effectiveness of the individual DSM/EE programs when they are proposed for approval and then annually in the rider proceedings. Pursuant to the Revised Mechanism, cost-effectiveness is evaluated at both the program and portfolio levels. The Public Staff reviews cost-effectiveness using the Utility Cost (UC), TRC, Participant, and Ratepayer Impact Measure (RIM) tests. Under each of these four tests, a result above 1.0 indicates that a program is cost-effective.

A program may be above 1.0 on one or more tests, and at the same time below 1.0 on other tests. As called for in the Revised

Mechanism, the Public Staff places greater weight on the UC and TRC tests.

The TRC test represents the combined utility and participant benefits that will result from implementation of the program; a result greater than 1.0 indicates that the benefits outweigh the costs of a program to both the utility and the program's participants. A UC test result greater than 1.0 means that the program is cost beneficial[4] to the utility (the overall system benefits are greater than the utility's costs, including incentives paid to participants). The Participant test is used to evaluate the benefits specific to those ratepayers who participate in a program against the costs specific to those ratepayers. The RIM test shows how ratepayers who <u>do not</u> participate in a program will be impacted by the program.

Q. HOW IS COST-EFFECTIVENESS EVALUATED IN DSM/EE RIDER PROCEEDINGS?

A. In each DSM/EE rider proceeding, DEP files the expected cost-effectiveness of each program and the portfolio as a whole for the upcoming rate period (Evans Exhibit 7). New DSM/EE programs are approved under Commission Rule R8-68, which evaluates

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

cost-effectiveness over a three to five year period using estimates of participation and measure attributes that can be reasonably expected over that period. The evaluations in DSM/EE rider proceedings look more specifically at the actual performance of a typical measure, providing an indication of what to expect in the next year. Each year's rider filing is updated with the most current EM&V data and other program performance data.

Q. HOW DOES THE PUBLIC STAFF USE COST-EFFECTIVENESS IN MAKING RECOMMENDATIONS REGARDING PROGRAMS IN EACH RIDER?

A. The Public Staff compares the cost-effectiveness test results in previous DSM/EE proceedings to the current filing, and reviews any trends of cost-effectiveness. The Public Staff applies Sections 23B-D of the Revised Mechanism to develop its recommendation on whether a program that is not cost effective or appears to be struggling to maintain cost effectiveness should (1) continue as currently implemented, (2) be monitored for signs of decreasing cost-effectiveness combined with modifications to attempt to sustain cost-effectiveness, or (3) be terminated.

Q. HOW HAVE THE COST-EFFECTIVENESS TEST SCORES OF THE PORTFOLIO CHANGED OVER THE YEARS?

A. Many programs continue to be cost effective. However, over the years, cost-effectiveness has been affected by changes in (1) the valuing of savings (avoided costs benefits), (2) participation due to measure cost and availability, and (3) technology that alter the measure itself or its delivery. These factors continue to influence the natural ebb and flow of cost effectiveness year-to-year illustrated in each DSM/EE rider proceeding. These trends are shown in Williamson Exhibit No. 1.

Q. ARE THERE OTHER REASONS FOR THESE DIFFERENCES?

A. In addition to the reasons listed above, as programs mature, baseline standards change, or as avoided cost rates change, it becomes more difficult for a program to produce cost-effective savings.

Q. IN ADDITION TO THE TREND OF PROJECTED COST EFFECTIVENESS, DOES THE PUBLIC STAFF LOOK AT HOW THE PROGRAMS HAVE ACTUALLY PERFORMED?

A. Yes. Recently, the Public Staff began reviewing how the portfolio of programs have actually performed. Obtaining the data to perform this review takes a number of years because of the time it takes to get true actual and finalized results from a vintage year. Only after actual participation numbers are obtained and EM&V is completed can the Public Staff fully evaluate how a program has performed over a given year. Williamson Exhibit 2 provides a table of the actual, year-end TRC results for each program for 2016, 2017, and 2018[5].

EM&V

Q. HAVE YOU REVIEWED THE EM&V REPORTS FILED BY DEP?

A. Yes. The Public Staff contracted the services of GDS Associates, Inc. (GDS), to assist with review of EM&V. With GDS's assistance, I have reviewed the EM&V reports filed in this proceeding as Evans Exhibits A through I.

I also reviewed previous Commission orders to determine if DEP complied with provisions regarding EM&V contained in those orders. In the Sub 1174 DSM/EE rider proceeding for DEP, the Commission approved the following Public Staff recommendations:

1. The program evaluator should include the basis for the selected weighting methodology (weightings based on bulb sales, measure savings, or other metric) when assessing program savings. The program evaluator should also indicate what other weighting methodologies were considered and

[5] These values for the more recent years are still subject to being updated with the completion of new EM&V reports; however, for the purposes of this exhibit they provide a close approximation to the actual values. Blanks in the table indicate that a program is not being offered during that year.

why they were rejected, and why the selected methodology is preferable;

2. The program evaluator should provide further clarity into the sales of incentivized bulbs at dollar/discount stores to determine the income levels of customers purchasing these bulbs. This information would be useful in determining the appropriate NTGR applicable to this category of sales. The program evaluation in Evans Exhibit H asserts a NTGR of 1.00 for these sales, assuming that many of the sales are made by low income customers, who typically would not participate in the program without the incentive. Higher income customers who also shop at dollar/discount stores usually show NTGRs of less than 1.00. The volume of sales from the dollar/discount stores and the potential impacts that result justify my recommendation for further study; and,

3. The program evaluator should update its study on the percentage of bulb sales to residential and non-residential customers.

DEP has indicated that it will incorporate these recommendations into future EM&Vs of the programs.

Q. DO YOU HAVE ANY RECOMMENDATIONS BASED ON THE EM&V REPORTS YOU REVIEWED?

A. I have reviewed the testimony and exhibits of DEP witness Evans concerning the EM&V of DEP's DSM and EE programs. Based upon my review and upon the analysis performed by GDS, I do not have any recommendations regarding the EM&V in this proceeding.

Q. SHOULD THE EM&V REPORTS FILED IN THIS PROCEEDING BE CONSIDERED COMPLETE?

A. Yes. The reports filed in this proceeding, labeled as Evans Exhibits A through I, should be considered complete.[6]

Q. HAVE YOU CONFIRMED THAT THE COMPANY'S CALCULATIONS INCORPORATE THE VERIFIED SAVINGS OF THE VARIOUS EM&V REPORTS?

A. Yes. As in previous cost recovery proceedings, I was able, through sampling, to verify that the changes to program impacts and participation were appropriately incorporated into the rider calculations for each DSM and EE program, as well as the actual participation and impacts calculated with EM&V data. I reviewed: (1) workpapers provided in response to data requests; (2) a sampling of the EE programs; and (3) Evans Exhibit 1, which incorporates data from various EM&V studies. I also met with DEP personnel to review the calculations, EM&V, DSMore, and other data related to the

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[6] While the EM&V reports should be considered complete, the Public Staff reserves the right to revisit them should it become aware of issues or mistakes in the reports.

program/measure participation and impacts. Based on my review of this data, I believe DEP has appropriately incorporated the findings from EM&V studies and annual participation into its rider calculations consistent with Commission orders and the Revised Mechanism.

Q. WERE THERE ANY EM&V REPORTS THAT WERE CARRIED OVER FROM LAST YEAR'S RIDER PROCEEDING AND LEFT OPEN FOR REVISION?

A. Yes. In the Sub 1174 proceeding in 2018, the Public Staff recommended that the EM&V report for the My Home Energy Report program (Evans Exhibit I in Sub 1174) be conditionally accepted until the Public Staff completed its review.

The review of the My Home Energy Report has been completed and the Public Staff, based on discussions with the Company, GDS Associates and the EM&V report's evaluator Nexant, concludes that this report should be considered complete. The Public Staff was able to resolve the inconsistencies that delayed the review. In light of the significant contribution of the MyHER program to the Company's portfolio, the Public Staff reviewed whether the appropriate level of rigor was applied to the MyHER EM&V and whether the EM&V provided a thorough analysis of the savings; the Public Staff, with the assistance of its consultant determined that the EM&V in question satisfied these standards. The Public Staff will continue to work with the Company and the EM&V consultants to ensure that the necessary rigor is maintained for future EM&V efforts of the MyHER program.

Q. ARE THERE ANY OTHER ITEMS RELATED TO ANY OF THE COMPANY'S EM&V REPORT ACTIVITIES THAT NEED DISCUSSION?

A. Yes. The Company's third party evaluator Navigant is currently preparing an EM&V report for the Multi-Family EE program. During its initial review for this new report, Navigant discovered an error in the assumptions applied to the pipe wrap measure that were made in the previous report, filed as Exhibit B in Docket No. E-2, Sub 1130.

This error was identified as an inconsistency with the measure units being applied. Normally, a measure is defined as one unit (i.e. one HVAC unit or one faucet aerator). However, for the pipe wrap measure, the measure unit was erroneously calculated on a "per foot" basis, rather than a "per measure" basis.[7] This overstated the savings by a factor of four.

One of the Public Staff's recommendations for this program in Sub 1130, while not specifically tied to the length of pipe wrap used,

[7] Four feet is the standard unit of measurement for this EE measure.

compounded the error described above by incorporating the erroneous assumption of pipe wrap length in its impacts equation.

The original error as compounded by the incorporation of the Public Staff's recommendation resulted in savings that were approximately four times the actual savings impacts.

Navigant and the Company have stated that the next EM&V report for this program, which will apply to both DEC and DEP, will incorporate this updated impact assumption.

Q. WHAT WAS DONE IN THIS PROCEEEDING TO CORRECT THIS EM&V ERROR?

A. Following discussions, the Company and the Public Staff determined that it would be appropriate to apply these updated savings impacts through the end of the previous EM&V report. As such, the Company has applied a decrement of $300,153 to the EMF, which is the cumulative dollar impact for this program measure stretching back to June 28, 2017,[8] which is consistent with the terms of the Mechanism regarding the application of subsequent EM&V efforts.

Q. DO YOU BELIEVE A SIMILAR ISSUE INVOLVING MEASUREMENT UNITS IS LIKELY TO REOCCUR?

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[8] The EM&V report was revised on June 27, 2017, to incorporate the changes originally proposed by the Public Staff.

A. I believe that this issue is a onetime and unique situation. The vast majority of the measures used by the Company in their programs are measured in units of one. This measure appears to be the only measure that is measured differently.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

APPENDIX A

QUALIFICATIONS AND EXPERIENCE

DAVID M. WILLIAMSON

I am a 2014 graduate of North Carolina State University with a Bachelor of Science Degree in Electrical Engineering. I began my employment with the Public Staff's Electric Division in March of 2015. My current responsibilities within the Electric Division include reviewing applications and making recommendations for certificates of public convenience and necessity of small power producers, master meters, and resale of electric service; reviewing applications and making recommendations on transmission proposals for certificates of environmental compatibility and public convenience and necessity; and also interpreting and applying utility service rules and regulations.

My primary responsibility within the Public Staff is reviewing and making recommendations on DSM/EE filings for initial program approval, program modifications, EM&V evaluations, and on-going program performance of the portfolio of programs of Duke Energy Carolinas, LLC (DEC), Duke Energy Progress, LLC (DEP), and Dominion Energy North Carolina (DENC). I filed an affidavit in DEP's 2016 and 2017 DSM/EE rider proceedings in Docket No. E-2, Subs 1108 and 1174, respectively, and I have also filed testimony in various DEC, DEP, and DENC's DSM/EE rider proceedings.

BY MS. EDMONDSON:

Q   Mr. Williamson, would you please give your summary?

(WHEREUPON, the summary of DAVID M. WILLIAMSON is copied into the record as read from the witness stand.)

Summary of Testimony
David M. Williamson
Docket No. E-2, Sub 1206

My testimony will address several topics, which includes a review of the performance and cost-effectiveness of Duke Energy Progress' portfolio of DSM and EE programs, EE lighting trends and their impact on the Company's lighting programs, and a review of the Company's EM&V reports filed in this proceeding.

I reviewed Duke Energy Progress' portfolio of 19 approved DSM and EE programs. Each of these approved programs is eligible for cost recovery according to the Commission's rules and the cost recovery mechanism approved in Docket No. E-2, Sub 931, and as revised in Sub 1145. My testimony highlights the perspectives used to evaluate cost-effectiveness in the annual rider proceedings. I review trends of cost-effectiveness to develop an expectation of the program's performance, costs and measure life benefits in the upcoming rate period, as well as its ongoing cost-effectiveness. I rely on this trend, as illustrated in my exhibit, to develop my recommendations concerning whether a program should be continued, modified, or terminated. Several factors such as changes in participation, standards, or avoided costs also impact cost-effectiveness.

General Service Lighting technology continues to be leaning toward the standards of EISA 2020 that should make LED the standard lighting technology and baseline for the residential market. However, on February 11, 2019, the Department of Energy (DOE) issued a notice of proposed rulemaking and request for comment that potentially could withdraw the currently approved language for the GSL and GSIL bulb types. After the filing of my testimony, the DOE issued a final rule on September 5, 2019, to be effective October 7, 2019, withdrawing these definitions of GSL and GSIL bulbs that were to become effective in 2020.[1]

Market transformation is difficult to determine because the metrics associated with market transformation are subjective, but as technologies become even more energy-efficient - costs decrease, and consumer acceptance improves - adoption of EE should become more routine, at which point there is "market transformation". The Company has acknowledged this trend and has been working to minimize the impacts of EISA 2020. When looking at the list of measure offerings for each program, the number of non-specialty LED bulbs has been greatly reduced since the last rider proceeding.

Regardless of whether the currently scheduled EISA 2020 standard goes into effect, taking into consideration the Company's efforts on migrating to primarily specialty LED bulbs, and barring any updates, withdrawals, or new technologies for lighting, it appears that the North Carolina lighting market is adopting EE lighting technologies as a baseline. Therefore, an incentive for non-specialty LED bulbs will no longer be needed after Vintage 2020.

While I did not have any concerns with the performance of the DSDR program, I do note the potential for overlap of DSDR and the Company's Grid

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[1] https://www.federalregister.gov/documents/2019/09/05/2019-18940/energy-conservation-program-definition-for-general-service-lamps

Improvement Plan. The Public Staff will continue to monitor the performance of the DSDR program.

Regarding the EM&V reports filed by DEP in previous DSM/EE rider proceedings, I believe the Company has complied with the Public Staff's earlier recommendations concerning EM&V, as ordered by the Commission. The Public Staff generally agrees with the findings of the EM&V reports filed in this proceeding. With respect to this proceeding, the EM&V reports filed as Evans Exhibits A through I should be considered to be complete for purposes of this proceeding.

In the Sub 1174 proceeding, the report for the My Home Energy Report (MyHER) program was conditionally accepted until the Public Staff completed its review. Due to the significant contribution of the MyHER program to the Company's portfolio, the Public Staff believes that the level of rigor associated with the EM&V review warrants a thorough analysis of the savings. The evaluation of the MyHER report has been completed, and the Public Staff concludes that this report should be considered complete.

In preparation for an upcoming EM&V report for the Multi-Family EE program, the Company acknowledged an error in the assumptions applied to the pipe wrap measure. The Public Staff and the Company determined that it would be appropriate to apply these updated savings impacts through the end of the previous report.

This concludes my summary.

MS. EDMONDSON: The witness is available for cross examination.

COMMISSIONER BROWN-BLAND: Any cross for this witness?

MS. FENTRESS: No cross.

COMMISSIONER BROWN-BLAND: All right. Questions from the Commission?

EXAMINATION BY COMMISSIONER BROWN-BLAND:

Q Mr. Williamson, I have just a few. From the Public Staff's perspective as participants in the DSM/EE Collaborative, are there changes to the Collaborative's structure or in the process or procedure that the Public Staff has thought about might be an improvement to the process?

A I've been participating in the Collaborative since I joined the Staff in 2015, so my first one was the summer of 2015 and back then the Collaborative meeting, it was relatively small. But what I'm getting at is since then there have been a lot more participants coming to the Collaborative meeting, and when I first started going to the meetings, they were very informational. That was the design and intent of the Collaborative meeting was to be an informational type forum where the intervenors can get a better understanding of how the programs are performing in between rider proceedings. So back then we were meeting four times a year and now we're meeting every other month.

But over the years of participating there have been a couple of different shifts in how the Collaborative has operated. Like I said, there's been a lot more parties that have joined the Collaborative and like we've heard today from Witness Evans and Witness Forest Bradley-Wright it -- there has been some evolution that has occurred. There has been a lot more involvement on behalf of the parties. Before where it would just be, like I said, informational, an update of how the -- the quarterly updates of how the programs are performing, now we're getting updates on current issues that are going on, roadblocks, milestones. The Company is getting input from the intervenors that do participate on potential -- potential avenues that they could take advantage of that they may or may not have thought of from the Duke

representative side.
Q And would you -- would you say -- you used the word evolution. Would you say the evolution has been an improvement?
A It has. Like I said, it was more informational-based, PowerPoint-type presentation and now we get into the discussions of where improvement in programs can happen, the types of outreach that can be performed. There's a lot more data that has been over the past year, year and a half that has been provided early on. They've -- the Company has even started -- this is in conjunction to what we've heard previous, but the -- Mr. Evans and his associates have been setting up phone calls in between Collaborative meetings to get a better understanding of where -- where the intervenors stand on what they're wanting to see.
Q With regard to some of the recommendations from Witness Bradley-Wright, does the Public Staff see any of them as being beneficial or -- or have a view that some are unnecessary or any views? What view does the Public Staff have about that testimony?

A Generally, in the Collaborative Jack Floyd and I are the usual Public Staff representatives and we -- we're generally there to offer guidance to the intervenors that are proposing. The Utilities will offer a basis, which is what we've heard Witness Evans talk about how they're proposing a new program and they get -- they essentially do all the legwork to perform -- to get a basis of what needs to happen, and then it will come to the Collaborative and the Collaborative will talk about enhancements that could go on, but there are certain things that -- they operate on a time, like a timeline. I believe Bradley-Wright talked about getting a day notice on something, but unfortunately I think that's just how business works. It's -- it's a situation where they -- time is against them and if you miss your -- your window, you have to wait even longer. But I'm not sure if I answered your question.

Q Did -- yes, you did. Did you find -- with regard to Witness Bradley-Wright's testimony and Witness Evans' rebuttal testimony, did you find anything in there that -- that you took issue with?

A No, ma'am.

Q All right. In your testimony you discuss the changes -- let me see -- in the regulation of the lighting. And are there particular indicators or factors that the Company and the Commission should look for to determine whether or how long the incentive should continue? I realize that you recommend that we probably wouldn't need them beyond Vintage 2020.

A So, in my summary I acknowledge that there was a rollback of this rule and, however, there was potential anticipation for that. But my testimony I -- the past couple of years we've been talking about lighting in numerous dockets and we -- the Public Staff believes that North Carolina has been moving at its own pace regardless of what the federal government has established.

I, in my recommendations, use the Company's 20 -- it was an EM&V report for their lighting programs that happened. One was handled -- the Duke Progress one was handled in last year's Duke Progress rider and the Duke Carolina's one was handled this previous rider proceeding. It was a joint report. And in that report it covered the time span of all of 2016 and the first quarter of 2017. And one of the things that I honed in on was the sales data, because the way that they handled their net-to-gross-type analysis it kind of takes in a bunch of different pieces, but I honed in specifically on the sales data, which is essentially the customers themselves that are buying these bulbs and the LED category basically said that 90 percent of the people that were going into buy these bulbs would have bought it without an incentive.

Q So that's the kind of -- that the kind of indicator that you've used to make your recommendation --

A Yes, ma'am.

Q -- and that's what you'd recommend we look at as well?

A Yes, ma'am.

Q All right. And you provided some testimony about the DSDR program and the Grid Improvement Plan stating to overlap. And it's my recollection that the accounting for DSDR that replaced the Legacy distribution equipment has -- is complex, has been complex. And I'm wondering having read your testimony if the Public Staff has any insights about how the Commission can best address a transition from the DSDR cost to the Grid Improvement cost if that becomes the appropriate solution?

A Could you --

Q I realize that you recommend or you indicated to us that the Public Staff would be observing and -- and just watching going forward, but I'm wondering if you have recommendations or insights about how the Commission could address this transition and -- and deal with this overlap.

A At this time I don't have any. Like I said in my testimony, it's -- it's merely an observation in the works. Like I said, the Grid Improvement Plan is still early on in its stages.

Q And do -- do you foresee -- where -- I guess a better question is where do you foresee the overlap between the two in terms of the equipment that's involved?

A Currently in -- through a data request from the Company -- data response from the Company right now it's the communication equipment that's being installed for the DSDR program to operate whenever it's called on. Essentially there's a big change going on that requires a lot of equipment to be upgraded from 2 and 3G to 4 and 5G. Essentially they're shutting down 2 and 3G is my understanding.

Q So does the Public Staff know at this point in time how we will separate out, whether we're dealing with -- whether it's -- it's a part or continuing to be a part of the DSDR or if it's part of the standard system or just the appropriateness of it still being part of the rider?

A As far as the dollars, it would be better question for an accounting witness, but my understanding is that there's separate accounting being set up to handle the distinction between the two.

Q So the equipment is still being separated in -- and it's something that the Public Staff is able to -- to review?

A We're going to try to look into the distinctions between the two. Like I said, it was -- it was a -- this is still a very early stage type observation. We're just trying to get an understanding of where and when they may or may not overlap.

Q Because it's my recollection from some time ago that all kinds of recommendations had come and we ultimately decided on a proportionality, but it was even at one point thought we might go forward and mark different pieces of equipment, this is DSDR, this is not, and we decided against that, but -- so your testimony just raised a concern of how do we continue to handle that appropriately going -- going forward.

A Yeah.

Q So it's good to know the Public Staff is continuing to be observant on that. And then lastly, based on the letter that was filed by the Public Staff today, it's our understanding that the Company's supplemental testimony adequately addressed the DSM/EE rate adjustments previously recommended by the Public Staff; is that right?

A Yes, ma'am.

Q All right.

COMMISSIONER BROWN-BLAND: Commissioner Clodfelter?

EXAMINATION BY COMMISSIONER CLODFELTER:

Q Commissioner Brown-Bland touched on the topic of principal interest to me, but I want to put a sharper point on it a little bit. So by the time we get to the next consideration of the Grid Improvement program, whether that shows up in a general rate case or whether it shows up as part of the IRP proceedings and in our continuing exploration of the Integrated Systems Operating Planning effort, I will be asking at those points what is the Public Staff's position on whether or not we ought to pull the DSDR component out of this rider and move it into another docket. So just to give you a fair -- a fair warning so all of y'all can talk about it. I will be asking that question the next time we talk about the Grid Improvement Plan or the --

A Understood.

Q -- or the ISOP effort.

A Understood.

Q Okay.

COMMISSIONER BROWN-BLAND: All right. Are there questions on the Commission's questions?

MS. FENTRESS: None from Duke.

MR. NEAL: No questions, Commissioner Brown-Bland.

MR. PAGE: No questions.

MS. EDMONDSON: I don't have any questions.

COMMISSIONER BROWN-BLAND: All right. Thank you, Mr. Williamson. Did we admit?

MS. EDMONDSON: Yes. I would ask that his two exhibits be admitted.

COMMISSIONER BROWN-BLAND: All right. Without objection, that motion will be allowed.

(WHEREUPON, WILLIAMSON Exhibits 1 and 2 are received into evidence.)

COMMISSIONER BROWN-BLAND: Mr. Williamson, you'll be excused. Thank you.

(The witness is excused)

MS. EDMONDSON: I think, Commissioner Brown-Bland, I had the -- the audit of the program cost. We are down to a few data responses that we are waiting for from the Company and we expect it to be completed in the -- I hope in the next two weeks. So if we could hold the record open and we will file a letter when we are --

COMMISSIONER BROWN-BLAND: Do you anticipate you will file the letter in the next two weeks maybe?

MS. EDMONDSON: I need to confirm. I don't see Mr. Maness in here.

COMMISSIONER BROWN-BLAND: Maybe a little longer?

MS. EDMONDSON: I don't want to over commit, but I -- we will work as quickly as possible. I know we're going to get the responses in a week, and then I don't know how fast the accountants will be able to review them.

COMMISSIONER BROWN-BLAND: So the Commission will hold the record open until we receive that letter. But having said that, are we able still to -- do you need -- well, do we need to wait and say 30 days from having received your letter?

MS. EDMONDSON: No. I think it can be 30 days from the transcript.

COMMISSIONER BROWN-BLAND: From the receipt of the transcript?

MS. EDMONDSON: Yes.

COMMISSIONER BROWN-BLAND: All right. So ordered. Is there any other matter that needs to come before the Commission in this docket?

(No response)

There being none, this matter will be

adjourned.

(The hearing was adjourned)

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CERTIFICATE

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

Kim T. Mitchell

Kim T. Mitchell
Court Reporter II