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February 26, 2019

VIA ELECTRONIC FILING AND HAND DELIVERY

M. Lynn Jarvis, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

RE: Duke Energy Carolinas, LLC's Application for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Docket No. E-7, Sub 1192

Dear Ms. Jarvis:

I enclose Duke Energy Carolinas, LLC's Application for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider, together with Direct Testimonies and Exhibits of Robert P. Evans and Carolyn T. Miller, for filing in connection with the referenced matter.

Fifteen (15) paper copies of the Application, Direct Testimonies and Exhibits, as well as four (4) CDs containing the accompanying work papers, will be delivered to the Clerk's Office by close of business on February 27, 2019.

Thank you for your attention to this matter. If you have any questions, please let me know.

Respectfully submitted,

Electronically submitted
s/ Molly McIntosh Jagannathan
molly.jagannathan@troutmansanders.com

Enclosure

Copy: Parties of Record

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1192

In the Matter of Application of Duke Energy Carolinas, LLC for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69	))))))	**APPLICATION OF DUKE ENERGY CAROLINAS, LLC FOR APPROVAL OF RIDER 11**

Duke Energy Carolinas, LLC ("DEC," "Company," or "Applicant"), pursuant to North Carolina General Statutes ("N.C. Gen. Stat.") § 62-133.9 and North Carolina Utilities Commission (the "Commission") Rule R8-69, hereby applies to the Commission for approval of its demand-side management ("DSM") and energy efficiency ("EE") cost recovery rider, Rider EE, for 2020 ("Rider 11"). Rider 11 has been calculated in accordance with the Company's DSM/EE cost recovery mechanism approved by the Commission in Docket No. E-7, Sub 1032, as revised in Docket No. E-7, Sub 1130. The prospective components of Rider 11 include estimates of the revenue requirements for Vintage 2020[1] DSM and EE programs, as well as an estimate of the second year of net lost revenues for Vintage 2019 EE programs, the third year of net lost revenues for Vintage 2018 EE programs, and the fourth year of net lost revenues for Vintage 2017 EE programs. The Rider 11 Experience Modification Factor ("EMF") includes the following true-ups: a true-up of Vintage 2015 DSM/EE programs, a true-up of Vintage 2016 DSM/EE programs, a

[1] A vintage year is the twelve-month period in which a specific DSM or EE measure is installed for an individual participant or a group of participants. Each vintage is referred to by the calendar year of its respective rate period (*e.g.*, Vintage 2020).

true-up of Vintage 2017 DSM/EE programs, and a true-up of Vintage 2018 DSM/EE programs.

In support of this Application, DEC respectfully shows the Commission the following:

1. The Applicant's general offices are located at 550 South Tryon Street, Charlotte, North Carolina, and its mailing address is:

Duke Energy Carolinas, LLC
P. O. Box 1006
Charlotte, North Carolina 28201-1006

2. The names and addresses of Applicant's attorneys are:

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3. N.C. Gen. Stat. § 62-133.9(d) authorizes the Commission to approve an annual rider to the rates of electric public utilities to recover all reasonable and prudent costs incurred for the adoption and implementation of new DSM/EE programs. Recoverable costs include, but are not limited to, all capital costs, including cost of capital and depreciation expense, administrative costs, implementation costs, incentive payments to program participants, and operating costs. Such rider shall consist of the utility's forecasted cost during the rate period

and an EMF rider to collect the difference between the utility's actual reasonable and prudent costs incurred during the test period and actual revenues realized during the test period. The Commission is also authorized to approve incentives for adopting and implementing new DSM/EE programs, including appropriate rewards based on a percentage of avoided costs achieved by DSM/EE measures.

4. The Company's cost recovery mechanism is described in the Agreement and Stipulation of Settlement DEC reached with the Public Staff, the North Carolina Sustainable Energy Association, Environmental Defense Fund, Southern Alliance for Clean Energy, the South Carolina Coastal Conservation League, Natural Resources Defense Council, and the Sierra Club filed with the Commission on August 19, 2013 (the "Stipulation"). The Commission approved the cost recovery mechanism as described in the Stipulation, as well as DEC's portfolio of DSM/EE programs, in its *Order Approving DSM/EE Programs and Stipulation of Settlement* issued October 29, 2013 ("Sub 1032 Order"). In addition, the Commission approved certain revisions to the cost recovery mechanism in its *Order Approving DSM/EE Rider, Revising DSM/EE Mechanism, and Requiring Filing of Proposed Customer Notice* issued August 23, 2017 in Docket No. E-7, Sub 1130. The approved cost recovery mechanism is designed to allow DEC to collect revenue equal to its incurred program costs for a rate period plus a Portfolio Performance Incentive based on shared savings achieved by DEC's DSM/EE programs, and to recover net lost revenues for EE programs only.

5. Rule R8-69(b) provides that the Commission will each year conduct a proceeding for each electric public utility to establish an annual DSM/EE rider to

recover DSM/EE related costs.

6. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Rule R8-69, DEC requests the establishment of Rider 11 to recover: (1) a prospective component consisting of the estimated revenue requirements associated with Vintage 2020 of DEC's current portfolio of DSM/EE programs, the second year of net lost revenues for Vintage 2019 of DEC's EE programs, the third year of net lost revenues for Vintage 2018 of DEC's EE programs, and the fourth year of net lost revenues for Vintage 2017 of DEC's EE programs; and (2) an EMF component truing up Vintage 2015, Vintage 2016, Vintage 2017 and Vintage 2018 of DEC's DSM/EE programs.

7. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Rule R8-69, the Company requests Commission approval of the following annual billing factors (all shown on a cents per kilowatt hour ("¢/kWh") basis, including gross receipts tax and regulatory fee):

Residential Billing Factors	**¢/kWh**
Residential Billing Factor for Rider 11 Prospective Components	0.3892
Residential Billing Factor for Rider 11 EMF Components	0.0956

Non-Residential Billing Factors for Rider 11 Prospective Components	**¢/kWh**
Vintage 2017 EE participant	0.0312
Vintage 2018 EE participant	0.0549
Vintage 2019 EE participant	0.0509
Vintage 2020 EE participant	0.3082
Vintage 2020 DSM participant	0.1101

Non-Residential Billing Factors for Rider 11 EMF Components	¢/kWh
Vintage 2015 EE participant	0.0064
Vintage 2015 DSM participant	0.0001
Vintage 2016 EE participant	0.0512
Vintage 2016 DSM participant	0.0001
Vintage 2017 EE participant	0.0645
Vintage 2017 DSM participant	0.0000
Vintage 2018 EE participant	0.0278
Vintage 2018 DSM participant	0.0077

Consistent with the Commission's *Order on Motions for Reconsideration* issued on June 3, 2010 in Docket No. E-7, Sub 938 and the Sub 1032 Order, Rider 11will be in effect for the twelve-month period January 1, 2020 through December 31, 2020. Also in accordance with these Orders, the test period for the Vintage 2018 EMF Component is the period January 1, 2018 through December 31, 2018; the test period for the Vintage 2017 EMF component is the period January 1, 2017 through December 31, 2017; the test period for the Vintage 2016 EMF component is the period January 1, 2016 through December 31, 2016; and the test period for the Vintage 2015 EMF component is the period January 1, 2015 through December 31, 2015.

8. The Company has attached hereto, as required by Rule R8-69, the direct testimony and exhibits of witnesses Carolyn T. Miller and Robert P. Evans in support of the requested change in rates.

WHEREFORE, the Company respectfully prays:

That consistent with this Application, the Commission approve the rates as set forth in paragraph 7 above.

Respectfully submitted, this the 26th day of February 2019.

By: Molly McIntosh Jagannathan

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ATTORNEYS FOR DUKE ENERGY CAROLINAS, LLC

VERIFICATION

STATE OF NORTH CAROLINA)
) DOCKET NO. E-7, SUB 1192
COUNTY OF MECKLENBURG)

Carolyn T. Miller, being first duly sworn, deposes and says:

That she is MANAGER, RATES AND REGULATORY STRATEGY for Duke Energy Carolinas, LLC, applicant in the above-titled action; that she has read the foregoing Application and knows the contents thereof; that the same is true except as to those matters stated on information and belief; and as to those matters, she believes them to be true.

Carolyn T. Miller
Carolyn T. Miller

Sworn to and subscribed before me
this the 22nd day of February, 2019.

Aloma M. Felder
Notary Public Aloma M. Felder

My Commission Expires: July 21, 2021

ALOMA M. FELDER NOTARY PUBLIC CABARRUS COUNTY, N. C.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1192

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

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Carolyn T. Miller, and my business address is 550 South Tryon Street, Charlotte, North Carolina, 28202.

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

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

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.

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. WHAT ARE YOUR PRESENT RESPONSIBILITIES FOR DEC?

A. I am responsible for providing regulatory support and guidance on DEC's demand-side management ("DSM") and energy efficiency ("EE") cost recovery process.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes. I have provided testimony in support of DEC's previous applications for approval of its DSM/EE cost recovery riders as well as DEP's applications for approval of its DSM/EE cost recovery riders.

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

A. The purpose of my testimony is to explain and support DEC's proposed DSM/EE cost recovery rider (Rider 11), including prospective and Experience Modification Factor ("EMF") components, and provide information required by Commission Rule R8-69.

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. Miller Exhibit 1 summarizes the individual rider components for which DEC requests approval in this filing. Miller Exhibit 2 shows the calculation of revenue requirements for each vintage, with separate calculations for non-residential DSM and EE programs within each vintage. Miller Exhibit 3 presents the return calculations for Vintages 2015, 2016, 2017, and 2018. Miller Exhibit 4 shows the actual and estimated prospective amounts collected from customers via Riders 6-10 pertaining to Vintages 2015 through 2019. Miller Exhibit 5 provides the calculation of the allocation factors used to allocate system DSM and EE costs to DEC's North Carolina retail jurisdiction. Miller Exhibit 6 presents the forecasted sales for the rate period (2020) and the estimated sales related to customers that have opted out of various vintages. These amounts are used to determine the forecasted sales to

which the Rider 11 amounts will apply. Miller Exhibit 7 is the proposed tariff sheet for Rider 11.

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

A. Yes.

II. GENERAL STRUCTURE OF RIDERS

Q. PLEASE DESCRIBE THE STRUCTURE OF RIDER 11.

A. Rider 11 was calculated in accordance with the Company's cost recovery mechanism described in the Agreement and Stipulation of Settlement DEC reached with the Public Staff, the North Carolina Sustainable Energy Association, Environmental Defense Fund, Southern Alliance for Clean Energy ("SACE"), the South Carolina Coastal Conservation League, Natural Resources Defense Council, and the Sierra Club, which was filed with the Commission on August 19, 2013 (the "Stipulation"), and approved in the Commission's *Order Approving DSM/EE Programs and Stipulation of Settlement* issued on October 29, 2013 ("Sub 1032 Order").

The approved cost recovery mechanism is designed to allow DEC to collect revenue equal to its incurred program costs[1] for a rate period plus a Portfolio Performance Incentive ("PPI") based on shared savings achieved by DEC's DSM/EE programs, and to recover net lost revenues for EE programs only.

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

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

The Company's cost recovery mechanism employs a vintage year concept based on the calendar year.[2] In each of its annual rider filings, DEC performs an annual true-up process for the prior calendar year vintages. The true-up will reflect actual participation and verified Evaluation, Measurement and Verification ("EM&V") results for completed vintages, applied in the same manner as agreed upon by DEC, SACE, and the Public Staff, and approved by the Commission in its *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* issued on November 8, 2011, in Docket No. E-7, Sub 979 ("EM&V Agreement").

The Company has implemented deferral accounting for over- and under-recoveries of costs that are eligible for recovery through the annual DSM/EE rider. Under the Stipulation, the balance in the deferral account(s), net of deferred income taxes, may accrue a return at the net-of-tax rate of return rate approved in DEC's then most recent general rate case. The methodology used for the calculation of interest shall be the same as that typically utilized for DEC's Existing DSM Program rider proceedings. Pursuant to Commission Rule R8-69(c)(3), DEC will not accrue a return on

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

net lost revenues or the PPI. Miller Exhibit 3, pages 1 through 16, shows the calculation performed as part of the true-up of Vintage 2015, Vintage 2016, Vintage 2017, and Vintage 2018.

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

DEC calculates one integrated (prospective) DSM/EE rider and one integrated DSM/EE EMF rider for the residential class, to be effective each rate period. The integrated residential DSM/EE EMF rider includes all true-ups for each applicable vintage year. Given that qualifying non-residential customers can opt out of DSM and/or EE programs, DEC calculates separate DSM and EE billing factors for the non-residential class. Additionally, the non-residential DSM and EE EMF billing factors are determined separately for each applicable vintage year, so that the factors can be appropriately charged to non-residential customers based on their opt-in/out status and participation for each vintage year.

Finally, in its *Order Approving DSM/EE Rider, Revising DSM/EE Mechanism, and Requiring Filing of Proposed Customer Notice* issued on August 23, 2017 in Docket No. E-7, Sub 1130, the Commission approved certain revisions to the Company's cost recovery mechanism relating to the methodology for determining avoided costs for purposes of the PPI

calculation and determination of program cost-effectiveness.

Q. WHAT ARE THE COMPONENTS OF RIDER 11?

A. The prospective components of Rider 11 include: (1) a prospective Vintage 2020 component designed to collect program costs and the PPI for DEC's 2020 vintage of DSM programs; (2) a prospective Vintage 2020 component to collect program costs, PPI, and the first year of net lost revenues for DEC's 2020 vintage of EE programs; (3) a prospective Vintage 2019 component designed to collect the second year of estimated net lost revenues for DEC's 2019 vintage of EE programs; (4) a prospective Vintage 2018 component designed to collect the third year of estimated net lost revenues for DEC's 2018 vintage of EE programs; and (5) a prospective Vintage 2017 component designed to collect the fourth year of estimated lost revenues for DEC's 2017 vintage of EE programs. The EMF components of Rider 11 include: (1) a true-up of Vintage 2015 participation for DSM/EE programs based on additional EM&V results received; (2) a true-up of Vintage 2016 participation for DSM/EE programs based on additional EM&V results received; (3) a true-up of Vintage 2017 PPI and participation for DSM/EE programs based on additional EM&V results received; (4) a true-up of Vintage 2018 program costs, PPI, and participation for DSM/EE programs.

Q. HOW DOES DEC CALCULATE THE PROPOSED BILLING FACTORS?

A. The billing factor for residential customers is computed by dividing the combined revenue requirements for DSM and EE programs by the forecasted

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

III. COST ALLOCATION METHODOLOGY

Q. HOW DOES DEC ALLOCATE REVENUE REQUIREMENTS TO THE NORTH CAROLINA RETAIL JURISDICTION AND TO THE RESIDENTIAL AND NON-RESIDENTIAL RATE CLASSES?

A. The Company allocates the revenue requirements related to program costs and incentives for EE programs targeted at retail residential customers across North Carolina and South Carolina to its North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales (grossed up for line losses) to total retail kWh sales (grossed up for line losses), and then recovers them only from North Carolina residential customers. The revenue requirements related to EE programs targeted at retail non-residential customers across North Carolina and South Carolina are allocated to the North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales (grossed up for line losses) to total retail kWh sales (grossed up for line losses), and then recovered from only North Carolina retail non-residential customers. The portion of revenue requirements related to net lost revenues

for EE programs is not allocated to the North Carolina retail jurisdiction, but rather is specifically computed based on the kW and kWh savings of North Carolina retail customers.

For DSM programs, because residential and non-residential programs are similar in nature, the aggregated revenue requirement for all retail DSM programs targeted at both residential and non-residential customers across North Carolina and South Carolina are allocated to the North Carolina retail jurisdiction based on North Carolina's contribution to total retail peak demand. Both residential and non-residential customer classes are allocated a share of total system DSM revenue requirements based on each group's contribution to total retail peak demand.

The allocation factors used in DSM/EE EMF true-up calculations for each vintage are based on DEC's most recently filed Cost of Service studies at the time that the Rider EE filing incorporating the initial true-up for each vintage is made. If there are subsequent true-ups for a vintage, DEC will use the same allocation factors as those used in the original DSM/EE EMF true-up calculations.

IV. UTILITY INCENTIVES AND NET LOST REVENUES

Q. HOW DOES DEC CALCULATE THE PPI?

A. Pursuant to the Stipulation, DEC calculates the dollar amount of PPI by multiplying the shared savings achieved by the system portfolio of DSM/EE programs by 11.5%. Company witness Evans further describes the specifics of the PPI calculation in his testimony. In addition, Evans Exhibit 1, pages 1

through 4, show the revised PPI for Vintage 2015, Vintage 2016, Vintage 2017, and Vintage 2018, respectively, based on updated EM&V results, and Evans Exhibit 1, page 5, shows the estimated PPI by program type and customer class for Vintage 2020. The system amount of PPI is then allocated to North Carolina retail customer classes in order to derive customer rates.

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

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

Residential lost revenues associated with participants enrolled during the test period (extended to December 31, 2017, as discussed further below) of the base rate case proceeding in Docket No. E-7, Sub 1146 have been

adjusted based on specific enrollment dates, and a portion of these lost revenues have been removed from the prospective period as of August 1, 2018 and included in base rates. Non-residential lost revenues associated with the test period (twelve months ending December 31, 2016) of the Company's general rate case proceeding in Docket No. E-7, Sub 1146, have been adjusted based on specific enrollment dates, and a portion of these lost revenues have been removed from the prospective period as of August 1, 2018 and included in base rates.

In addition, in the Commission's *Order Accepting Stipulation, Deciding Contested Issues, and Requiring Revenue Reduction* issued on June 22, 2018 in the Company's last base rate case (E-7, Sub 1146), 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 DEC's ratepayers with interest. The Company is to file its proposal to flow back the excess deferred taxes by June 22, 2021 or in DEC's next general rate case proceeding, whichever is sooner. In DEC'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-7, Sub 1187, the Company indicated that it plans to file a general rate case in 2019. In accordance with the Commission's Sub 1146 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 $10 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 DEC's upcoming base rate case. This $10 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 DEC 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.

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

A. For the EMF components of Rider EE, DEC calculates the net lost revenues by multiplying the portion of its tariff rates that represent the recovery of fixed costs by the actual and verified North Carolina retail kW and kWh reductions applicable to EE programs by rate schedule, then reducing this amount by actual found revenues.

V. OPT-OUT PROVISIONS

Q. PLEASE EXPLAIN THE OPT-OUT PROCESS FOR NON-RESIDENTIAL CUSTOMERS.

A. Pursuant to the Commission's *Order Granting Waiver, in Part, and Denying Waiver, in Part* ("Waiver Order") issued April 6, 2010, in Docket No. E-7, Sub 938 and the Sub 1032 Order, the Company is allowed to permit qualifying non-residential customers[3] to opt out of the DSM and/or EE portion of Rider EE during annual election periods. If a customer opts into a DSM program (or never opted out), the customer is required to participate for three years in the approved DSM programs and rider. If a customer chooses to participate in an EE program (or never opted out), that customer is required to pay the EE-related program costs, shared savings incentive and the net lost revenues for the corresponding vintage of the programs in which it participated. Customers that opt out of DEC's DSM and/or EE programs remain opted-out unless they choose to opt back in during any of the succeeding annual election periods, which occur from November 1 to December 31 each year, or any of the succeeding annual opt-in periods in March as described below. If a customer participates in any vintage of programs, the customer is subject to all true-up provisions of the approved Rider EE for any vintage in which the customer participates.

DEC provides an additional opportunity for qualifying customers to opt in to DEC's DSM and/or EE programs during the first five business days of March. Customers who choose to begin participating in DEC's EE and DSM programs during the special "opt-in period" during March of each year will be retroactively billed the applicable Rider EE amounts back to January 1

[3] Individual commercial customer accounts with annual energy usage of not less than 1,000,000 kWh and any industrial customer account.

of the vintage year, such that they will pay the appropriate Rider EE amounts for the full rate period.

Q. DOES DEC ADJUST THE RATE FOR NON-RESIDENTIAL CUSTOMERS TO ACCOUNT FOR THE IMPACT OF "OPT-OUT" CUSTOMERS?

A. Yes. The impact of opt-out results is considered in the development of the Rider EE billing rates for non-residential customers. Since the revenue requirements will not be recovered from non-residential customers that opt out of DEC's programs, the forecasted sales used to compute the rate per kWh for non-residential rates exclude sales to customers that have opted out of the vintage to which the rate applies. This adjustment is shown on Miller Exhibit 6.

VI. PROSPECTIVE COMPONENTS

Q. WHAT IS THE RATE PERIOD FOR THE PROSPECTIVE COMPONENTS OF RIDER 11?

A. In accordance with the Commission's *Order on Motions for Reconsideration* issued on June 3, 2010, in Docket No. E-7, Sub 938 ("Second Waiver Order") and the Sub 1032 Order, DEC has calculated the prospective components of Rider 11 using the rate period January 1, 2020 through December 31, 2020.

Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENTS RELATING TO VINTAGE 2017.

A. The Company determines the estimated revenue requirements for Vintage 2017 separately for residential and non-residential customer classes and bases

them on the fourth year of net lost revenues for its Vintage 2017 EE programs. The amount of lost revenue earned is based on estimated North Carolina retail kW and kWh reductions and DEC's rates approved in its most recent general rate case, which became effective August 1, 2018, adjusted as described above to recover only the fixed cost component.

Q. WHY IS DEC INCLUDING A FOURTH YEAR OF NET LOST REVENUES RELATING TO VINTAGE 2017 IN THE PROSPECTIVE COMPONENT OF RIDER 11?

A. Although the test period in the Company's most recent general rate case in Docket No. E-7, Sub 1146 was January 1, 2016 through December 31, 2016, the rates approved in that proceeding included updated revenues that reflected changes in the number of customers and, for the residential class, changes in weather-normalized usage per customer through December 31, 2017. Accordingly, in order to incorporate these revenue adjustments from the Sub 1146 rate case, for residential customers, the Company has extended the rate case test period to December 31, 2017 as the customer growth adjustment used in the rate case also included updated actual kWh sales through that time period. For non-residential customers, the Company will continue to utilize the rate case test period January 1, 2016 through December 31, 2016, as no adjustments were made to incorporate actual kWh sales past that date. In addition, the following modifications have been made to calculate how much lost revenue is included in kWh sales for the test period. Since the twelve-month rate case test period uses actual kWh sales, and participation in EE

measures occurs throughout the year, in any given twelve-month period, a full year of lost revenues are not captured in test period kWh sales as all measures were not in place at the beginning of the test period. The Company believes it is appropriate to quantify the actual incremental savings by month during that twelve-month rate case test period to calculate the amount of lost revenues that is truly being reflected in the new base rates that will be recovered from customers. The difference between the annualized amount of energy savings and the actual amount of energy savings should be recovered through the Company's DSM/EE rider. This same methodology was used to calculate how much lost revenue should be included in kWh sales for the test period in DEP's most recent DSM/EE rider approved in the Commission's *Order Approving DSM/EE Rider and Requiring Customer Notice* issued on November 29, 2018 in Docket No. E-2, Sub 1174.

Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENTS RELATING TO VINTAGE 2018.

A. The Company determines the estimated revenue requirements for Vintage 2018 separately for residential and non-residential customer classes and bases them on the third year of net lost revenues for its Vintage 2018 EE programs. The amounts are based on estimated North Carolina retail kW and kWh reductions and DEC's rates approved in its most recent general rate case, which became effective August 1, 2018, adjusted as described above to only recover the fixed cost component.

Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENTS RELATING TO VINTAGE 2019.

A. The Company determines the estimated revenue requirements for Vintage 2019 separately for residential and non-residential customer classes and bases them on the second year of net lost revenues for its Vintage 2019 EE programs. The amounts are based on estimated North Carolina retail kW and kWh reductions and DEC's rates approved in its most recent general rate case, which became effective August 1, 2018, adjusted as described above to only recover the fixed cost component.

Q. PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENTS RELATING TO VINTAGE 2020.

A. The estimated revenue requirements for Vintage 2020 EE programs include program costs, PPI, and the first year of net lost revenues determined separately for residential and non-residential customer classes. The estimated revenue requirements for Vintage 2020 DSM programs include program costs and PPI. The program costs and shared savings incentive are computed at the system level and allocated to North Carolina based on the allocation methodologies discussed earlier in my testimony. The net lost revenues for EE programs are based on estimated North Carolina retail kW and kWh reductions and the rates approved in DEC's most recent general rate case, which became effective August 1, 2018.

VII. EMF

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

A. Pursuant to the Second Waiver Order and Sub 1032 Order, the test period for the EMF component is defined as the most recently completed vintage year at the time of DEC's Rider EE cost recovery application filing date, which in this case is Vintage 2018 (January 1, 2018 through December 31, 2018). In addition, the Second Waiver Order allows the EMF component to cover multiple test periods, so the EMF component for Rider 11 includes Vintage 2015 (January 2015 through December 2015), Vintage 2016 (January 2016 through December 2016), and Vintage 2017 (January 2017 through December 2017) as well.

Q. WHAT IS BEING TRUED UP FOR VINTAGE 2018?

A. The chart below demonstrates which components of the Vintage 2018 estimate filed in 2017 are being trued up in the Vintage 2018 EMF component of Rider 11. Miller Exhibit 2, page 4 contains the calculation of the true-up for Vintage 2018. The second year of net lost revenues for Vintage 2018, which are a component of Rider 10 billings during 2019, will be trued-up to actual amounts during the next rider filing.

	Vintage 2018 Estimate (2018) As Filed (Filed 2017)	**Vintage 2018 True-Up (2018) (Filed March 2019)**
	Rider 9	**Rider 11 EMF**
Participation	Estimated participation using half-year convention	Update for actual participation for January – December 2018
EM&V	Initial assumptions of load impacts	Updated according to Commission-approved EM&V Agreement
Lost Revenues	Estimated 2018 participation using half-year convention	Update for actual participation for January – December 2018 and actual 2018 lost revenue rates

	Vintage 2018 Estimate (2018) As Filed (Filed 2017)	Vintage 2018 True-Up (2018) (Filed March 2019)
	Rider 9	**Rider 11 EMF**
Found Revenues	Estimated according to Commission-approved guidelines	Update for actual according to Commission-approved guidelines
New Programs	Only includes programs approved prior to estimated filing	Update for any new programs and pilots approved and implemented since estimated filing

In addition, DEC has implemented deferral accounting for the under/over collection of program costs and calculated a return at the net-of-tax rate of return rate approved in DEC's most recent general rate case. The methodology used for the calculation of return is the same as that typically utilized for DEC's Existing DSM Program rider proceedings. Pursuant to Commission Rule R8-69(c)(3), DEC is not accruing a return on net lost revenues or the PPI. Please see Miller Exhibit 3, pages 1 through 16 for the calculation performed as part of the true-up of Vintage 2015, Vintage 2016 Vintage 2017, and Vintage 2018.

Q. HOW WERE THE LOAD IMPACTS UPDATED?

A. For DSM programs, the contracted amounts of kW reduction capability from participants are considered to be components of actual participation. As a result, the Vintage 2018 true-up reflects the actual quantity of demand reduction capability for the Vintage 2018 period. The load impacts for EE programs were updated in accordance with the Commission-approved EM&V Agreement.

Q. HOW WERE ACTUAL NET LOST REVENUES COMPUTED FOR THE VINTAGE 2018 TRUE-UP?

A. Net lost revenues for year one (2018) of Vintage 2018 were calculated using actual kW and kWh savings by North Carolina retail participants by customer class based on actual participation and load impacts reflecting EM&V results applied according to the EM&V Agreement. The actual kW and kWh savings were as experienced during the period January 1, 2018 through December 31, 2018. The rates applied to the kW and kWh savings are the retail rates that were in effect for the period January 1, 2018 through December 31, 2018 (updated August 1, 2018 to include new rates approved in Docket No. E-7, Sub 1146), reduced by fuel and other variable costs. The lost revenues were then offset by actual found revenues for year one of Vintage 2018 as explained by Company witness Evans. The calculation of net lost revenues was performed by rate schedule within the residential and non-residential customer classes.

Q. WHAT IS BEING TRUED UP FOR VINTAGE 2017?

A. Avoided costs for Vintage 2017 DSM programs are being trued up to update EM&V participation results. Avoided costs for Vintage 2017 EE programs are also being trued up based on updated EM&V results. Net lost revenues for all years were trued up for updated EM&V participation results and impacts of Docket No. E-7, Sub 1146. The actual kW and kWh savings were as experienced during the period January 1, 2017 through December 31, 2017. The rates applied to the kW and kWh savings are the retail rates that were in effect during each period the lost revenues were earned, reduced by fuel and other variable costs.

Q. WHAT IS BEING TRUED UP FOR VINTAGE 2016?

A. Net lost revenues for all years were trued up for updated EM&V results. The actual kW and kWh savings were as experienced during the period January 1, 2016 through December 31, 2016. The rates applied to the kW and kWh savings are the retail rates that were in effect during each period the lost revenues were earned, reduced by fuel and other variable costs.

Q. WHAT IS BEING TRUED UP FOR VINTAGE 2015?

A. Net lost revenues for all years were trued up for updated EM&V results. The actual kW and kWh savings were as experienced during the period January 1, 2015 through December 31, 2015. The rates applied to the kW and kWh savings are the retail rates that were in effect during each period the lost revenues were earned, reduced by fuel and other variable costs.

VIII. PROPOSED RATES

Q. WHAT ARE DEC'S PROPOSED INITIAL BILLING FACTORS APPLICABLE TO NORTH CAROLINA ELECTRIC CUSTOMERS FOR THE PROSPECTIVE COMPONENTS OF RIDER 11?

A. The Company's proposed initial billing factor for the Rider 11 prospective components is 0.3892 cents per kWh for DEC's North Carolina retail residential customers. For non-residential customers, the amounts differ depending upon customer elections of participation. The following chart depicts the options and rider amounts:

Non-Residential Billing Factors for Rider 11 Prospective Components	**¢/kWh**
Vintage 2017 EE participant	0.0312

Non-Residential Billing Factors for Rider 11 Prospective Components	¢/kWh
Vintage 2018 EE participant	0.0549
Vintage 2019 EE participant	0.0509
Vintage 2020 EE participant	0.3082
Vintage 2020 DSM participant	0.1101

Q. WHAT ARE DEC'S PROPOSED EMF BILLING FACTORS APPLICABLE TO NORTH CAROLINA ELECTRIC CUSTOMERS FOR THE TRUE-UP COMPONENTS OF RIDER 11?

A. The Company's proposed EMF billing factor for the true-up components of Rider 11 is 0.0956 cents per kWh for DEC's North Carolina retail residential customers. For non-residential customers, the amounts differ depending upon customer elections of participation. The following chart depicts the options and rider amounts:

Non-Residential Billing Factors for Rider 11 EMF Components	¢/kWh
Vintage 2018 EE Participant	0.0278
Vintage 2018 DSM Participant	0.0077
Vintage 2017 EE participant	0.0645
Vintage 2017 DSM participant	0.0000
Vintage 2016 EE participant	0.0512
Vintage 2016 DSM participant	0.0001
Vintage 2015 EE participant	0.0064
Vintage 2015 DSM participant	0.0001

IX. CONCLUSION

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

A. DEC seeks approval of the Rider 11 billing factors to be effective throughout 2020. As discussed above, Rider 11 contains (1) a prospective component, which includes the fourth year of net lost revenues for Vintage 2017, the third year of net lost revenues for Vintage 2018, the second year of net lost revenues for Vintage 2019, and the revenue requirements for Vintage 2020; and (2) an EMF component which represents a true-up of Vintage 2015, Vintage 2016, Vintage 2017, and Vintage 2018. Consistent with the Stipulation, for DEC's North Carolina residential customers, the Company calculated one integrated prospective billing factor and one integrated EMF billing factor for Rider 11. Also in accordance with the Stipulation, the non-residential DSM and EE billing factors have been determined separately for each vintage year and will be charged to non-residential customers based on their opt-in/out status and participation for each vintage year.

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

A. Yes.

Duke Energy Carolinas, LLC
DSM/EE Cost Recovery Rider 11
Docket Number E-7, Sub 1192
Exhibit Summary for Rider EE Exhibits and Factors

Residential Billing Factors

Residential Billing Factor for Rider 11 True-up (EMF) Components

Line			Adjusted
1	Year 2015 EE/DSM True-Up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 1 Line 15	524,656
2	Year 2016 EE/DSM True-Up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 2 Line 15	967,614
3	Year 2017 EE/DSM True-Up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 43Line 15	3,318,165
4	Year 2018 EE/DSM True-Up (EMF) Revenue Requirement	Miller Exhibit 2 pg 4 Line 15	15,734,405
5	Total True-up (EMF) Revenue Requirement	Sum Lines 1-4	$ 20,544,840
6	Projected NC Residential Sales (kWh) for rate period	Miller Exhibit 6 pg. 1, Line 1	21,487,301,475
7	*EE/DSM Revenue Requirement EMF Residential Rider EE (cents per kWh)*	Line 5 / Line 6 * 100	**0.0956**

Residential Billing Factor for Rider 11 Prospective Components

8	Vintage 2017 Total EE/DSM Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 4, Line 1	1,755,253
9	Vintage 2018 Total EE/DSM Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 5, Line 1	9,737,443
10	Vintage 2019 Total EE/DSM Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 6, Line 11	5,236,156
11	Vintage 2020 Total EE/DSM Prospective Amounts Revenue Requirement		66,895,887
12	Total Prospective Revenue Requirement	Sum Lines 8-11	$ 83,624,738
13	Projected NC Residential Sales (kWh) for rate period	Miller Exhibit 6 pg. 1, Line 1	21,487,301,475
14	*EE/DSM Revenue Requirement Prospective Residential Rider EE (cents per kWh)*	Line 12 / Line 13 * 100	**0.3892**

Total Revenue Requirements in Rider 11 from Residential Customers

15	Total True-up (EMF) Revenue Requirement	Line 5	$ 20,544,840
16	Total Prospective Revenue Requirement	Line 12	83,624,738
17	***Total EE/DSM Revenue Requirement for Residential Rider EE***	Line 15 + Line 16	**$ 104,169,578**
18	***Total EE/DSM Revenue Requirement for Residential Rider EE (cents per kWh)***	Line 7 + Line 14	**0.4848**

Non-Residential Billing Factors for Rider 11 True-up (EMF) Components

19	Vintage Year 2015 EE True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 1, Line 25	$ 1,171,685
20	Projected Year 2015 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 4	18,371,972,219
21	*EE Revenue Requirement Year 2015 EMF Non-Residential Rider EE (cents per kWh)*	Line 25/Line 26 * 100	**0.0064**
22	Vintage Year 2015 DSM True-up (EMF) Revenue Requirement	Miller Exhibit 2 pg. 1, Line 35	$ 19,262
23	Projected Year 2015 DSM Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 5	18,413,235,012
24	*DSM Revenue Requirement Year 2015 EMF Non-Residential Rider EE (cents per kWh)*	Line 28/Line 29 * 100	**0.0001**
25	*Vintage Year 2016 EE True-up (EMF) Revenue Requirement*	Miller Exhibit 2 pg. 2, Line 25	$ 9,273,079
26	*Projected Year 2016 EE Participants NC Non-Residential Sales (kwh) for rate period*	Miller Exhibit 6 Line 6	18,126,497,772
27	*EE Revenue Requirement Year 2016 EMF Non-Residential Rider EE (cents per kWh)*	Line 31/Line 32 * 100	**0.0512**
28	*Vintage Year 2016 DSM True-up (EMF) Revenue Requirement*	Miller Exhibit 2 pg. 2, Line 35	$ 14,674
29	*Projected Year 2016 DSM Participants NC Non-Residential Sales (kwh) for rate period*	Miller Exhibit 6 Line 7	18,166,831,506
30	*DSM Revenue Requirement Year 2016 EMF Non-Residential Rider EE (cents per kWh)*	Line 34/Line 35 * 100	**0.0001**
31	*Vintage Year 2017 EE True-up (EMF) Revenue Requirement*	Miller Exhibit 2 pg. 3, Line 25	$ 11,550,961
32	*Projected Year 2017 EE Participants NC Non-Residential Sales (kwh) for rate period*	Miller Exhibit 6 Line 8	17,918,240,840
33	*EE Revenue Requirement Year 2017 EMF Non-Residential Rider EE (cents per kWh)*	Line 37/Line 38 * 100	**0.0645**
34	*Vintage Year 2017 DSM True-up (EMF) Revenue Requirement*	Miller Exhibit 2 pg. 3, Line 35	$ 1,084
35	*Projected Year 2017 DSM Participants NC Non-Residential Sales (kwh) for rate period*	Miller Exhibit 6 Line 9	18,135,782,680
36	*DSM Revenue Requirement Year 2017 EMF Non-Residential Rider EE (cents per kWh)*	Line 40/Line 41 * 100	-

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Exhibit Summary for Rider EE Exhibits and Factors

37	*Vintage Year 2018 EE True-up (EMF) Revenue Requirement*	Miller Exhibit 2 pg. 4, Line 25	$	4,807,118
38	*Projected Year 2018 EE Participants NC Non-Residential Sales (kwh) for rate period*	Miller Exhibit 6 Line 10		17,320,957,422
39	*EE Revenue Requirement Year 2018 EMF Non-Residential Rider EE (cents per kWh)*	Line 37/Line 38 * 100		**0.0278**
40	*Vintage Year 2018 DSM True-up (EMF) Revenue Requirement*	Miller Exhibit 2 pg. 4, Line 35	$	1,396,399
41	*Projected Year 2018 DSM Participants NC Non-Residential Sales (kwh) for rate period*	Miller Exhibit 6 Line 11		18,056,545,344
42	*DSM Revenue Requirement Year 2018 EMF Non-Residential Rider EE (cents per kWh)*	Line 40/Line 41 * 100		**0.0077**

Non-Residential Billing Factors for Rider 11 Prospective Components

43	Vintage Year 2017 EE Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 3, Line 25	$	5,594,352
44	Projected Program Year 2017 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 8		17,918,240,840
45	*EE Revenue Requirement Vintage 2017 Prospective Component for Non-Residential Rider EE (cents per kWh)*	Line 43/Line 44 * 100		**0.0312**
46	Vintage Year 2018 EE Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 4, Line 25	$	9,508,142
47	Projected Vintage 2018 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 10		17,320,957,422
48	*EE Revenue Requirement Vintage 2018 Prospective Component for Non-Residential Rider EE (cents per kWh)*	Line 46/Line 47 * 100		**0.0549**
49	Vintage Year 2019 EE Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 5, Line 4	$	8,746,880
50	Projected Vintage 2019 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 12		17,184,515,812
51	*EE Revenue Requirement Vintage 2019 Prospective Component for Non-Residential Rider EE (cents per kWh)*	Line 49/Line 50 * 100		**0.0509**
52	Vintage Year 2020 EE Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 6, Line 18	$	52,968,887
53	Projected Vintage 2020 EE Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 14		17,184,515,812
54	*EE Revenue Requirement Vintage 2020 Prospective Component for Non-Residential Rider EE (cents per kWh)*	Line 52/Line 53 * 100		**0.3082**
55	Vintage Year 2020 DSM Prospective Amounts Revenue Requirement	Miller Exhibit 2 pg. 6, Line 25	$	19,931,130
56	Projected Vintage 2020 DSM Participants NC Non-Residential Sales (kwh) for rate period	Miller Exhibit 6 Line 15		18,099,339,344
57	*DSM Revenue Requirement Vintage 2020 Prospective Component for Non-Residential Rider EE (cents per kWh)*	Line 55/Line 56 * 100		**0.1101**
	Total EMF Rate			**0.1578**
	Total Prospective Rate			**0.5553**

Total Revenue Requirements in Rider 11 from Non-Residential Customers

58	Vintage Year 2015 EE True-up (EMF) Revenue Requirement	Line 19		1,171,685
59	Vintage Year 2015 DSM True-up (EMF) Revenue Requirement	Line 22		19,262
60	Vintage Year 2016 EE True-up (EMF) Revenue Requirement	Line 25		9,273,079
61	Vintage Year 2016 DSM True-up (EMF) Revenue Requirement	Line 28		14,674
62	Vintage Year 2017 EE True-up (EMF) Revenue Requirement	Line 31		11,550,961
63	Vintage Year 2017 DSM True-up (EMF) Revenue Requirement	Line 34		1,084
64	Vintage Year 2018 EE True-up (EMF) Revenue Requirement	Line 37		4,807,118
65	Vintage Year 2018 DSM True-up (EMF) Revenue Requirement	Line 40		1,396,399
64	Vintage Year 2017 EE Prospective Amounts Revenue Requirement	Line 43		5,594,352
65	Vintage Year 2018 EE Prospective Amounts Revenue Requirement	Line 46		9,508,142
66	Vintage Year 2019 EE Prospective Amounts Revenue Requirement	Line 49		8,746,880
67	Vintage Year 2020 EE Prospective Amounts Revenue Requirement	Line 52		52,968,887
68	Vintage Year 2020 DSM Prospective Amounts Revenue Requirement	Line 55		19,931,130
	Total Non-Residential Revenue Requirement in Rider 11	Sum (Lines 58-68)	**$**	**124,983,652**

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
True Up of Year 1, 2, 3 and 4 of Vintage Year 2015

RESIDENTIAL
Energy Efficiency Programs

Line		Reference	E-7 Sub 1050 Rider 6 Original Estimate	E-7 Sub 1073 Rider 7 Year 2 Lost Revenues	E-7 Sub 1105 Rider 8 True up of Year 1	E-7 Sub 1105 Rider 8 Year 3 Lost Revenues	E-7 Sub 1130 Rider 9 True up of Lost Revenues & EM&V	E-7 Sub 1130 Rider 9 Year 4 LR Estimate	E-7 Sub 1164 Rider 10 True up	E-7 Sub 1192 Rider 11 True up	Year 2015
1	Residential EE Program Cost	Evans Exhibit 1 pg. 1, Line 10 * NC Alloc. Factor	$ 30,685,449		$ (2,726,335)		$ -		$ -		$ 27,959,114
2	Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 1, Line 10 * NC Alloc. Factor	2,374,641		2,431,922		125,671		-		4,932,234
3	Return on undercollection of Residential EE Program Costs	Miller Exhibit 3 pg 1			49,064		77,792		35,939	(5,811)	156,984
4	Total EE Program Cost and Incentive Components	Line 1 + Line 2 + line 3	33,060,090		(245,348)		203,463		35,939	(5,811)	33,048,332
5	Residential DSM Program Cost	Evans Exhibit 1 pg. 1, Line 11 * NC Alloc. Factor	12,532,432		(2,137,589)		(1,252)		(0)		10,393,591
6	Residential DSM Earned Utility Incentive	Evans Exhibit 1 pg. 1, Line 11 * NC Alloc. Factor	3,275,217		(676,007)		(12,280)		(532)		2,586,398
7	Return on undercollection of Residential DSM Program Costs	Miller Exhibit 3 pg 2			(10,786)		23,451		11,838	304	24,807
8	Total DSM Program Cost and Incentive Components	Line 5 + Line 6 + Line 7	15,807,649		(2,824,381)		9,919		11,306	304	13,004,796
9	Total EE/DSM Program Cost and Incentive Components	Line 4 + Line 8	48,867,739		(3,069,730)		213,382		47,245	(5,507)	46,053,129
10	Revenue-related taxes and regulatory fees factor **	Miller Exhibit 2, pg. 7	1.001417		1.001402		1.001402		1.001402	1.001402	
11	Total EE/DSM Program Cost and Incentive Revenue Requirement	Line 9 * Line 10	48,936,985		(3,074,034)		213,681		47,310	(5,515)	46,118,427
12	Residential Net Lost Revenues	Evans Exhibit 2 pg. 1	9,169,840	4,071,955	5,563,184	8,090,365	4,191,232	3,431,636	(1,336,510)	959,114	34,140,816
13	Total Residential EE/DSM Revenue Requirement	Line 11 + Line 12	58,106,825	4,071,955	2,489,151	8,090,365	4,404,913	3,431,636	(1,289,200)	953,599	80,259,243
14	Total Collected for Vintage Year 2015 (through estimated Rider 10)	Miller Exhibit 4 Line 2									79,734,588
15	**Total Residential EE/DSM Revenue Requirement**	Line 13 - Line 14									$ 524,656

See Miller Exhibit A for rate

NON-RESIDENTIAL
Energy Efficiency Programs

		Reference	E-7 Sub 1050 Rider 6 Original Estimate	E-7 Sub 1073 Rider 7 Year 2 Lost Revenues	E-7 Sub 1105 Rider 8 True up of Year 1	E-7 Sub 1105 Rider 8 Year 3 Lost Revenues	E-7 Sub 1130 Rider 9 True up of Lost Revenues & EM&V	E-7 Sub 1130 Year 2015 Year 4 LR Estimate	E-7 Sub 1164 Rider 10 True Up	E-7 Sub 1192 Rider 11 True up	Year 2015
16	Non- Residential EE Program Cost	Evans Exhibit 1 pg. 1, Line 24 * NC Alloc. Factor	17,348,807		11,904,051		0		-		29,252,858
17	Non-Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 1, Line 24 * NC Alloc. Factor	6,214,226		3,351,028		846,899		(594,998)		9,817,155
18	Return on undercollection of Non-residential EE Program Costs	Miller Exhibit 3 page 3			457,891		838,299		448,315	67,376	1,811,881
19	Total EE Program Cost and Incentive Components	Line 16 + Line 17 + Line 18	23,563,033		15,712,970		1,685,198		(146,683)	67,376	40,881,894
20	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001417		1.001402		1.001402		1.001402	1.001402	
21	Total Non-Residential EE Program Cost and Incentive Revenue Requirements	Line 19 * Line 20	23,596,422		15,735,000		1,687,561		(146,889)	67,470	40,939,564
22	Non-Residential Net Lost Revenues	Evans Exhibit 2 pg. 1	2,523,480	8,194,003	2,547,914	9,483,428	2,426,543	4,183,188	(3,671,147)	1,078,554	26,765,963
23	Total Non-Residential EE Revenue Requirement	Line 21 + Line 22	26,119,902	8,194,003	18,282,914	9,483,428	4,114,104	4,183,188	(3,818,036)	1,146,025	67,705,528
24	Total Collected for Year 2015 (through estimated Rider 10)	Miller Exhibit 4 Line 7									66,533,843
25	Non-Residential EE Revenue Requirement	Line 23 - Line 24									1,171,685
26	Projected NC Residential Sales (kWh)	Miller Exhibit 6, Line 4									18,371,972,219
27	**NC Non-Residential EE billing factor (Cents/kWh)**	Line 25/Line 26*100									**0.0064**

DSM Programs

		Reference	E-7 Sub 1050 Rider 6 Original Estimate	E-7 Sub 1005 Rider 8 Original True Up	E-7 Sub 1130 Rider 9 True Up	E-7 Sub 1164 Rider 10 True Up	E-7 Sub 1192 Rider 11 True up	Year 2015
28	Non-Residential DSM Program Cost	Evans Exhibit 1, pg. 1 Line 25 * NC Alloc. Factor	16,493,488	(2,925,873)	(1,635)			13,565,981
29	Non-Residential DSM Earned Utility Incentive	Evans Exhibit 1, pg. 1 Line 25 * NC Alloc. Factor	4,310,397	(917,841)	(16,029)	(693)		3,375,833
30	Return on overcollection of Non-residential DSM Program Costs	Miller Exhibit 3 page 4		(107,297)	(203,069)	(128,531)	(12,427)	(451,324)
31	Total Non-Residential DSM Program Cost and Incentive Components	Line 28 + Line 29 + Line 30	20,803,885	(3,951,011)	(220,733)	(129,224)	(12,427)	16,490,490
32	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001417	1.001402	1.001402	1.001402	1.001402	
33	Total Non-Residential DSM Revenue Requirement	Line 31 * Line 32	20,833,364	(3,956,550)	(221,042)	(129,405)	(12,445)	16,513,922
34	Total Revenue Collected for Year 2015 (through estimated Rider 10)	Miller Exhibit 4 Line 12						16,494,660
35	Non-Residential DSM Revenue Requirement True-up Amount	Line 33- Line 34						19,262
36	Projected NC Non-Residential Sales (kWh)	Miller Exhibit 6 Line 5						18,413,235,012
37	**NC Non-Residential DSM billing factor**	Line 35/Line 36*100						**0.0001**

** Actual regulatory fee rate in effect in year of collection. May differ from original filed estimates.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
True Up of Year 1, 2 and 3 for Vintage Year 2016

RESIDENTIAL
Energy Efficiency Programs

Line		Reference	E-7 Sub 1073 Rider 7 Original Estimate	E-7 Sub 1105 Rider 8 Year 2 Lost Revenues	E-7 Sub 1130 Rider 9 True up (Year 1)	E-7 Sub 1130 Year 2016 Yr 3 LR Estimate	E-7 Sub 1164 Rider 10 True up (Year 2)	E-7 Sub 1192 Rider 11 True Up (Year 3)	Year 2016
1	Residential EE Program Cost	Evans Exhibit 1 pg. 2, Line 10 * NC Alloc. Factor	$ 31,056,079		$ 8,965,024		$ (2)		$ 40,021,101
2	Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 2, Line 10 * NC Alloc. Factor	2,392,652		4,361,799		(52,098)		6,702,353
3	Return on undercollection of Residential EE Program Costs	Miller Exhibit 3 pg 5			272,476		710,786	430,926	1,414,188
4	Total EE Program Cost and Incentive Components	Line 1 + Line 2 + line 3	33,448,731		13,599,299		658,686	430,926	48,137,642
5	Residential DSM Program Cost	Evans Exhibit 1 pg. 2, Line 11 * NC Alloc. Factor	10,613,016		(1,012,441)		0		9,600,575
6	Residential DSM Earned Utility Incentive	Evans Exhibit 1 pg. 2, Line 11 * NC Alloc. Factor	2,887,418		(129,612)		(27,890)		2,729,916
7	Return on overcollection of Residential DSM Program Costs	Miller Exhibit 3 pg 6			(26,322)		(46,199)	(39,872)	(112,393)
8	Total DSM Program Cost and Incentive Components	Line 5 + Line 6 + Line 7	13,500,434		(1,168,375)		(74,089)	(39,872)	12,218,099
9	Total EE/DSM Program Cost and Incentive Components	Line 4 + Line 8	46,949,165		12,430,924		584,597	391,055	60,355,741
10	Revenue-related taxes and regulatory fees factor **	Miller Exhibit 2, pg. 7	1.001442		1.001402		1.001402	1.001402	
11	Total EE/DSM Program Cost and Incentive Revenue Requirement	Line 9 * Line 10	47,016,866		12,448,352		585,417	391,603	60,442,238
12	Residential Net Lost Revenues	Evans Exhibit 2 pg. 2	11,873,767	5,723,916	4,795,359	7,765,323	(3,299,616)	1,969,313	28,828,063
13	Total Residential EE/DSM Revenue Requirement	Line 11 + Line 12	58,890,633	5,723,916	17,243,711	7,765,323	(2,714,199)	2,360,916	89,270,300
14	Total Collected for Vintage Year 2016 (through estimated Rider 10)	Miller Exhibit 4 Line 2							88,302,686
15	**Total Residential EE/DSM Revenue Requirement**	Line 11 + Line 12							$ 967,614

See Miller Exhibit A for rate

NON-RESIDENTIAL
Energy Efficiency Programs

		Reference	E-7 Sub 1073 Rider 7 Original Estimate	E-7 Sub 1105 Rider 8 Year 2 Lost Revenues	E-7 Sub 1130 Year 1 True up	E-7 Sub 1130 Year 2016 Yr 3 LR Estimate	E-7 Sub 1164 Rider 10 True up (Year 2)	E-7 Sub 1192 Rider 11 True Up (Year 3)	Year 2016
16	Non- Residential EE Program Cost	Evans Exhibit 1 pg. 2, Line 25 * NC Alloc. Factor	36,494,611		13,515,376		1		50,009,988
17	Non-Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 2, Line 25 * NC Alloc. Factor	10,105,721		4,261,607		(353,368)		14,013,960
18	Return on undercollection of Non-residential EE Program Costs	Miller Exhibit 3 page 7			378,293		1,051,375	731,576	2,161,244
19	Total EE Program Cost and Incentive Components	Line 16 + Line 17 + Line 18	46,600,332		18,155,276		698,008	731,576	66,185,192
20	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001442		1.001402		1.001402	1.001402	
21	Total Non-Residential EE Program Cost and Incentive Revenue Requirements	Line 19 * Line 20	46,667,530		18,180,730		698,987	732,602	66,279,848
22	Non-Residential Net Lost Revenues	Evans Exhibit 2 pg. 2	4,745,315	8,309,444	2,524,047	13,375,187	(4,085,026)	6,383,046	31,252,013
23	Total Non-Residential EE Revenue Requirement	Line 21 + Line 22	51,412,845	8,309,444	20,704,776	13,375,187	(3,386,039)	7,115,648	97,531,860
24	Total Collected for Vintage Year 2016 (through estimated Rider 10)	Miller Exhibit 4 Line 8							88,258,782
25	Non-Residential EE Revenue Requirement	Line 23 - Line 24							9,273,079
26	Projected NC Residential Sales (kWh)	Miller Exhibit 6, Line 6							18,126,497,772
27	**NC Non-Residential EE billing factor (Cents/kWh)**	Line 25/Line 26*100							**0.0512**

DSM Programs

		Reference	E-7 Sub 1073 Rider 7 Original Estimate	E-7 Sub 1130 Rider 9 True up	E-7 Sub 1164 Rider 10 True Up	E-7 Sub 1192 Rider 11 True Up (Year 3)	Year 2016
28	Non-Residential DSM Program Cost	Evans Exhibit 1, pg. 2 Line 26 * NC Alloc. Factor	12,855,910	(1,261,413)	0		11,594,497
29	Non-Residential DSM Earned Utility Incentive	Evans Exhibit 1, pg. 2 Line 26 * NC Alloc. Factor	3,497,628	(167,059)	(33,683)		3,296,886
30	Return on undercollection of Non-residential DSM Program Costs	Miller Exhibit 3 page 8		1,759	3,420	(6,087)	(908)
31	Total Non-Residential DSM Program Cost and Incentive Components	Line 28 + Line 29 + Line 30	16,353,538	(1,426,713)	(30,262)	(6,087)	14,890,476
32	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001442	1.001402	1.001402	1.001402	
33	Total Non-Residential DSM Revenue Requirement	Line 31 * Line 32	16,377,120	(1,428,713)	(30,305)	(6,095)	14,912,007
34	Total Collected for Vintage Year 2016 (through estimated Rider 10)	Miller Exhibit 4 Line 13					14,897,332
35	Non-Residential EE Revenue Requirement True-up Amount	Line 33- Line 34					14,674
36	Projected NC Non-Residential Sales (kWh)	Miller Exhibit 6, Line 7					18,166,831,506
37	**NC Non-Residential DSM billing factor**	Line 35/Line 36*100					**0.0001**

* Year 4 Projected Lost Revenue is not being requested in this filing because lost revenue through the test period of Docket E7 Sub XXXX was requested as part of base rates.

** Actual regulatory fee rate in effect in year of collection. May differ from original filed estimates.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Year 4 Lost Revenue and True Up of Year 1 and 2 for Vintage Year 2017

RESIDENTIAL
Energy Efficiency Programs

Line		Reference	Year 2017 Yr 4 LR Estimate	E-7 Sub 1105 Rider 8 Year 1 Estimate	E-7 Sub 1130 Year 2017 Yr 2 LR Estimate	E-7 Sub 1164 Rider 10 True up	E-7 Sub 1164 Year 2017 Year 3 Estimate	E-7 Sub 1192 Rider 11 True Up	Year 2017
1	Residential EE Program Cost	Evans Exhibit 1 pg. 3, Line 10 * NC Alloc. Factor		$ 33,488,974		$ 13,998,885		$ -	$ 47,487,859
2	Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 3, Line 10 * NC Alloc. Factor		4,149,244		4,340,033		(279,399)	8,209,878
3	Return on undercollection of Residential EE Program Costs	Miller Exhibit 3 pg 9				522,611		1,226,138	1,748,749
4	Total EE Program Cost and Incentive Components	Line 1 + Line 2 + line 3		37,638,218		18,861,529		946,739	57,446,486
5	Residential DSM Program Cost	Evans Exhibit 1 pg. 3, Line 11 * NC Alloc. Factor		10,258,751		(176,455)		-	10,082,296
6	Residential DSM Earned Utility Incentive	Evans Exhibit 1 pg. 3, Line 11 * NC Alloc. Factor		2,837,134		89,061		-	2,926,195
7	Return on undercollection of Residential DSM Program Costs	Miller Exhibit 3 pg 10				15,015		12,882	27,897
8	Total DSM Program Cost and Incentive Components	Line 5 + Line 6 + Line 7		13,095,885		(72,379)		12,882	13,036,388
9	Total EE/DSM Program Cost and Incentive Components	Line 4 + Line 8		50,734,103		18,789,150		959,621	70,482,874
10	Revenue-related taxes and regulatory fees factor **	Miller Exhibit 2, pg. 7		1.001482		1.001402		1.001402	
11	Total EE/DSM Program Cost and Incentive Revenue Requirement	Line 9 * Line 10		50,809,291		18,815,493		960,966	70,585,750
12	Residential Net Lost Revenues	Evans Exhibit 2 pg. 2	$ 1,755,253	12,699,119	4,202,002	6,456,129	8,904,587	2,591,067	34,852,904
13	Total Residential EE/DSM Revenue Requirement	Line 11 + Line 12	1,755,253	63,508,411	4,202,002	25,271,622	8,904,587	3,552,033	105,438,654
14	Total Collected for Vintage Year 2017 (through estimated Rider 10)	Miller Exhibit 4 Line 3							102,120,490
15	**Total Residential EE/DSM Revenue Requirement**	Line 11 + Line 12	$ 1,755,253						$ 3,318,165

See Miller Exhibit A for rate

NON-RESIDENTIAL
Energy Efficiency Programs

		Reference	Year 2017 Yr 3 LR Estimate	E-7 Sub 1105 Rider 8 Year 1 Estimate	E-7 Sub 1130 Year 2017 Yr 2 LR Estimate	E-7 Sub 1164 Rider 10 True up	E-7 Sub 1164 Year 2017 Year 3 Estimate	E-7 Sub 1192 Rider 11 True Up	Year 2017
16	Non- Residential EE Program Cost	Evans Exhibit 1 pg. 3, Line 25 * NC Alloc. Factor		38,791,601		32,155,814		-	70,947,415
17	Non-Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 3, Line 25 * NC Alloc. Factor		9,347,504		9,073,243		3,304,511	21,725,258
18	Return on undercollection of Non-residential EE Program Costs	Miller Exhibit 3 page 7				1,588,185		2,709,383	4,297,568
19	Total EE Program Cost and Incentive Components	Line 16 + Line 17 + Line 18		48,139,105		42,817,242		6,013,893	96,970,240
20	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7		1.001482		1.001402		1.001402	
21	Total Non-Residential EE Program Cost and Incentive Revenue Requirements	Line 19 * Line 20		48,210,447		42,877,271		6,022,325	97,110,043
22	Non-Residential Net Lost Revenues	Evans Exhibit 2 pg. 2	5,594,352	6,039,892	9,466,867	2,627,210	14,570,381	7,280,971	39,985,321
23	Total Non-Residential EE Revenue Requirement	Line 21 + Line 22	5,594,352	54,250,339	9,466,867	45,504,481	14,570,381	13,303,295	137,095,364
24	Total Collected for Vintage Year 2017 (through estimated Rider 10)	Miller Exhibit 4 Line 9							125,544,403
25	Non-Residential EE Revenue Requirement	Line 23 - Line 24	5,594,352						11,550,961
26	Projected NC Residential Sales (kWh)	Miller Exhibit 6, pg. 1, Line 8	17,918,240,840						17,918,240,840
27	**NC Non-Residential EE billing factor (Cents/kWh)**	Line 25/Line 26*100	**0.0312**						**0.0645**

DSM Programs

		Reference	E-7 Sub 1105 Rider 8 Year 1 Estimate		E-7 Sub 1164 Rider 10 True Up		E-7 Sub 1192 Rider 11 True Up	Year 2017
28	Non-Residential DSM Program Cost	Evans Exhibit 1, pg. 3 Line 26 * NC Alloc. Factor	13,389,985		(1,438,646)			11,951,339
29	Non-Residential DSM Earned Utility Incentive	Evans Exhibit 1, pg. 3 Line 26 * NC Alloc. Factor	3,703,101		(234,452)			3,468,649
30	Return on undercollection of Non-residential DSM Program Costs	Miller Exhibit 3 page 12	-		4,761		4,266	9,027
31	Total Non-Residential DSM Program Cost and Incentive Components	Line 28 + Line 29 + Line 30	17,093,086		(1,668,337)		4,266	15,429,016
32	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001482		1.001402		1.001402	
33	Total Non-Residential DSM Revenue Requirement	Line 31 * Line 32	17,118,418		(1,670,676)		4,272	15,447,742
34	Total Collected for Vintage Year 2017 (through estimated Rider 10)	Miller Exhibit 4 Line 14						15,446,658
35	Non-Residential EE Revenue Requirement True-up Amount	Line 33- Line 34						1,084
36	Projected NC Non-Residential Sales (kWh)	Miller Exhibit 6 pg. 1, Line 9						18,135,782,680
37	**NC Non-Residential DSM billing factor**	Line 35/Line 36*100						-

** Actual regulatory fee rate in effect in year of collection. May differ from original filed estimates.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Year 3 Lost Revenue and True Up of Year 1 for Vintage Year 2018

RESIDENTIAL
Energy Efficiency Programs

Line		Reference	Year 2018 Yr 3 LR Estimate	E-7 Sub 1130 Rider 9 Year 1 Estimate	E-7 Sub 1164 Year 2018 Yr 2 LR Estimate	E-7 Sub 1192 Rider 11 True up	Year 2018
1	Residential EE Program Cost	Evans Exhibit 1 pg. 3, Line 10 * NC Alloc. Factor		$ 41,623,609		$ 14,953,392	$ 56,577,001
2	Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 3, Line 10 * NC Alloc. Factor		5,511,264		4,066,359	9,577,623
3	Return on undercollection of Residential EE Program Costs	Miller Exhibit 3 pg 13				245,029	245,029
4	Total EE Program Cost and Incentive Components	Line 1 + Line 2 + line 3		47,134,873		19,264,781	66,399,654
5	Residential DSM Program Cost	Evans Exhibit 1 pg. 3, Line 11 * NC Alloc. Factor		9,903,130		(125,160)	9,777,970
6	Residential DSM Earned Utility Incentive	Evans Exhibit 1 pg. 3, Line 11 * NC Alloc. Factor		2,569,925		16,833	2,586,758
7	Return on undercollection of Residential DSM Program Costs	Miller Exhibit 3 pg 14				(28,632)	(28,632)
8	Total DSM Program Cost and Incentive Components	Line 5 + Line 6 + Line 7		12,473,055		(136,958)	12,336,097
9	Total EE/DSM Program Cost and Incentive Components	Line 4 + Line 8		59,607,928		19,127,823	78,735,751
10	Revenue-related taxes and regulatory fees factor **	Miller Exhibit 2, pg. 7		1.001402		1.001402	
11	Total EE/DSM Program Cost and Incentive Revenue Requirement	Line 9 * Line 10		59,691,498		19,154,640	78,846,138
12	Residential Net Lost Revenues	Evans Exhibit 2 pg. 3	$ 9,737,443	19,612,717	6,294,025	907,401	26,814,143
13	Total Residential EE/DSM Revenue Requirement	Line 11 + Line 12	9,737,443	79,304,216	6,294,025	20,062,041	105,660,281
14	Total Collected for Vintage Year 2018 (through estimated Rider 10)	Miller Exhibit 4 Line 4					89,925,876
15	**Total Residential EE/DSM Revenue Requirement**	Line 11 + Line 12	$ 9,737,443				$ 15,734,405

See Miller Exhibit A for rate

NON-RESIDENTIAL
Energy Efficiency Programs

		Reference	Year 2018 Yr 3 LR Estimate	E-7 Sub 1105 Rider 9 Year 1 Estimate	E-7 Sub 1130 Year 2018 Yr 2 LR Estimate	E-7 Sub 1192 Rider 11 True up	Year 2018
16	Non- Residential EE Program Cost	Evans Exhibit 1 pg. 3, Line 25 * NC Alloc. Factor		40,592,949		(3,320,980)	37,271,969
17	Non-Residential EE Earned Utility Incentive	Evans Exhibit 1 pg. 3, Line 25 * NC Alloc. Factor		11,623,199		2,814,501	14,437,700
18	Return on undercollection of Non-residential EE Program Costs	Miller Exhibit 3 page 15				461,035	461,035
19	Total EE Program Cost and Incentive Components	Line 16 + Line 17 + Line 18		52,216,148		(45,445)	52,170,703
20	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7		1.001402		1.001402	
21	Total Non-Residential EE Program Cost and Incentive Revenue Requirements	Line 19 * Line 20		52,289,355		(45,509)	52,243,847
22	Non-Residential Net Lost Revenues	Evans Exhibit 2 pg. 3	9,508,142	5,167,253	8,746,880	2,932,983	16,847,117
23	Total Non-Residential EE Revenue Requirement	Line 21 + Line 22	9,508,142	57,456,608	8,746,880	2,887,475	69,090,963
24	Total Collected for Vintage Year 2018 (through estimated Rider 10)	Miller Exhibit 4 Line 10					64,283,845
25	Non-Residential EE Revenue Requirement	Line 23 - Line 24	9,508,142				4,807,118
26	Projected NC Residential Sales (kWh)	Miller Exhibit 6, Line 10	17,320,957,422				17,320,957,422
27	**NC Non-Residential EE billing factor (Cents/kWh)**	Line 25/Line 26*100	**0.0549**				**0.0278**

DSM Programs

		Reference	E-7 Sub 1105 Rider 9 Year 1 Estimate		E-7 Sub 1192 Rider 11 True Up	Year 2018
28	Non-Residential DSM Program Cost	Evans Exhibit 1, pg. 3 Line 26 * NC Alloc. Factor	11,959,889		650,088	12,609,977
29	Non-Residential DSM Earned Utility Incentive	Evans Exhibit 1, pg. 3 Line 26 * NC Alloc. Factor	3,103,667		232,297	3,335,964
30	Return on undercollection of Non-residential DSM Program Costs	Miller Exhibit 3 page 16	-		37,735	37,735
31	Total Non-Residential DSM Program Cost and Incentive Components	Line 28 + Line 29 + Line 30	15,063,556		920,120	15,983,676
32	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001402		1.001402	
33	Total Non-Residential DSM Revenue Requirement	Line 31 * Line 32	15,084,675		921,410	16,006,085
34	Total Collected for Vintage Year 2018 (through estimated Rider 10)	Miller Exhibit 4 Line 15				14,609,687
35	Non-Residential EE Revenue Requirement True-up Amount	Line 33- Line 34				1,396,399
36	Projected NC Non-Residential Sales (kWh)	Miller Exhibit 6 Line 11				18,056,545,344
37	**NC Non-Residential DSM billing factor**	Line 35/Line 36*100				**0.0077**

** Actual regulatory fee rate in effect in year of collection. May differ from original filed estimates.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Year 2 Lost Revenues for Vintage Year 2019

RESIDENTIAL

Line		Reference	2019
1	Residential Net Lost Revenues	Evans Exhibit 2 pg. 3 Line 148	5,236,156
2	Projected NC Residential Sales (kWh)	Miller Exhibit 6	$ 21,487,301,475
3	**NC Residential EE Billing Factor (Cents/kWh)**	Line 1/Line 2*100	**0.0244**

NON-RESIDENTIAL
Energy Efficiency Programs

		Reference	2019
4	Non-Residential Net Lost Revenues	Evans Exhibit 2 pg. 3 Line 165	8,746,880
5	Projected NC Non-Residential Sales (kWh)	Miller Exhibit 6	17,184,515,812
6	**NC Non-Residential EE billing factor (Cents/kWh)**	Line 4/Line 5*100	**0.0509**

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Program Costs, Earned Incentive and Lost Revenues for Vintage Year 2020

RESIDENTIAL

Line		Reference	2020
1	Residential EE Program Cost	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	$ 33,551,578
2	Residential EE Earned Utility Incentive	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	3,161,072
3	Total EE Program Cost and Incentive Components	Line 1 + Line 2, Evans Exhibit 1, Line 10	36,712,651
4	Residential DSM Program Cost	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	12,243,392
5	Residential DSM Earned Utility Incentive	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	3,189,876
6	Total DSM Program Cost and Incentive Components	Line 4 + Line 5, Evans Exhibit 1, Line 12	15,433,268
7	Total EE/DSM Program Cost and Incentive Components	Line 3 + Line 6	52,145,919
8	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001402
9	Total EE/DSM Program Cost and Incentive Revenue Requirement	Line 7 * Line 8	52,219,027
10	Residential Net Lost Revenues	Evans Exhibit 2 pg. 3 Line 177	14,676,859
11	**Total Residential EE Revenue Requirement**	**Line 9 + Line 10**	**$ 66,895,887**

See Miller Exhibit 1 for rate

NON-RESIDENTIAL

Energy Efficiency Programs

		Reference	2020
12	Non- Residential EE Program Cost	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	$ 37,708,077
13	Non-Residential EE Earned Utility Incentive	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	10,010,194
14	Total EE Program Cost and Incentive Components	Line 12 + Line 13, Evans Exhibit 1, Line 27	47,718,271
15	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001402
16	Total Non-Residential EE Program Cost and Incentive Revenue Requirements	Line 14 * Line 15	47,785,172
17	Non-Residential Net Lost Revenues	Evans Exhibit 2 pg. 3 Line 194	5,183,714
18	Total Non-Residential EE Revenue Requirement	Line 16 + Line 17	$ 52,968,887
19	Projected NC Residential Sales (kWh)	Miller Exhibit 6, pg. 1, Line 14	17,184,515,812
20	**NC Non-Residential EE billing factor (Cents/kWh)**	Line 18/Line 19*100	**0.3082**

DSM Programs

			2020
21	Non-Residential DSM Program Cost	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	$ 15,789,462
22	Non-Residential DSM Earned Utility Incentive	Evans Exhibit 1, pg. 5 * NC Alloc. Factor	4,113,764
23	Total Non-Residential DSM Program Cost and Incentive Components	Line 21 + Line 22, Evans Exhibit 1, Line 29	19,903,226
24	Revenue-related taxes and regulatory fees factor	Miller Exhibit 2, pg. 7	1.001402
25	Total Non-Residential DSM Revenue Requirement	Line 23 * Line 24	19,931,130
26	Projected NC Non-Residential Sales (kWh)	Miller Exhibit 6, pg. 1, Line 15	18,099,339,344
27	**NC Non-Residential DSM billing factor**	Line 25/Line 26*100	**0.1101**

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Gross Receipts Tax Years 2015 through estimated 2020

	Year		Actual GRT Rate In Effect
	2015	Jan - June	1.001352
		July - Dec	1.001482
Rider 6	2015	Weighted Average	1.001417
Rider 7	2016	Jan - June	1.001482
		July - Dec	1.001402
		Weighted Average	1.001442
Rider 8	2017		1.001402
Rider 9	2018		1.001402
Rider 10	2019		1.001402
Rider 11	2020		1.001402

Note: the current rate is used as the estimate for 2019 and 2020. This will be subject to true-up based on actual rates in effect.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential EE Programs Vintage 2015

NC Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%			(1-233503)	
Beginning Balance - source F		(200,678)			**(47,390)**						
2018	January	(186,248)	0.236149	3,408	(43,982)	(142,265)	0.006075	(432)	(432)	0.766497	(564)
2018	February	(157,663)	0.236149	6,750	(37,232)	(120,431)	0.006075	(798)	(1,230)	0.766497	(1,605)
2018	March	(136,697)	0.236149	4,951	(32,281)	(104,416)	0.006075	(683)	(1,913)	0.766497	(2,496)
2018	April	(115,580)	0.236149	4,987	(27,294)	(88,286)	0.006075	(585)	(2,498)	0.766497	(3,259)
2018	May	(97,147)	0.236149	4,353	(22,941)	(74,206)	0.006075	(494)	(2,992)	0.766497	(3,903)
2018	June	(70,765)	0.236149	6,230	(16,711)	(54,054)	0.006075	(390)	(3,382)	0.766497	(4,412)
2018	July	(40,447)	0.236149	7,160	(9,551)	(30,895)	0.006075	(258)	(3,640)	0.766497	(4,748)
2018	August	(12,568)	0.236149	6,584	(2,968)	(9,600)	0.005692	(115)	(3,755)	0.766497	(4,899)
2018	September	17,373	0.236149	7,070	4,103	13,270	0.005692	10	(3,744)	0.766497	(4,885)
2018	October	38,455	0.236149	4,979	9,081	29,374	0.005692	121	(3,623)	0.766497	(4,727)
2018	November	57,923	0.236149	4,597	13,679	44,245	0.005692	210	(3,414)	0.766497	(4,453)
2018	December	(536,672)	0.236149	(140,413)	(126,735)	(409,938)	0.005692	(1,041)	(4,454)	0.766497	(5,811)
								(4,454)			(5,811)

Note 1: Revenues collected represent amounts actually collected through 2018.

Interest Calculation

2017 - Rider 8	Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	Lost Revenues	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	**Total Cumulative Under/Over Collected**
Beginning Balance		27,959,114	26,837,675	1,121,439		-	-		-	-	1,121,439
	January					-	-		-	-	1,121,439
	February					-	-		-	-	1,121,439
	March					-	-		-	-	1,121,439
	April					-	-		-	-	1,121,439
	May					-	-		-	-	1,121,439
	June					-	-		-	-	1,121,439
	July					-	-		-	-	1,121,439
	August					-	-		-	-	1,121,439
	September					-	-		-	-	1,121,439
	October					-	-		-	-	1,121,439
	November					-	-		-	-	1,121,439
	December					-	-		-	-	1,121,439
YTD Balance		27,959,114	26,837,675	1,121,439	14,733,024	14,142,082	590,942	4,852,974	4,658,321	194,654	1,907,034

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential EE Programs Vintage 2015

Interest Calculation

2018 - Rider9 Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	Lost Revenues	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	**Total Cumulative Over/Under Collected**
Beginning Balance	27,959,114	26,837,675	1,121,439	14,733,024	14,142,082	590,942	4,852,974	4,658,321	194,654	1,907,034
January		-	-		155,318	(155,318)		2,365	(2,365)	1,749,351
February		-	-		390,165	(390,165)		5,942	(5,942)	1,353,244
March		-	-		326,594	(326,594)		4,974	(4,974)	1,021,675
April		-	-		242,852	(242,852)		3,699	(3,699)	775,124
May		-	-		236,501	(236,501)		3,602	(3,602)	535,022
June		-	-		316,267	(316,267)		4,817	(4,817)	213,938
July		-	-		402,008	(402,008)		6,123	(6,123)	(194,192)
August		-	-		420,989	(420,989)		6,412	(6,412)	(621,592)
September		-	-		406,238	(406,238)		6,187	(6,187)	(1,034,017)
October		-	-		267,581	(267,581)		4,075	(4,075)	(1,305,673)
November		-	-		235,865	(235,865)		3,592	(3,592)	(1,545,130)
December		-	-	8,263,187	565,268	7,697,919	126,047	8,609	117,438	6,270,227
YTD Balance	-	-	-	8,263,187	3,965,645	4,297,542	126,047	60,396	65,651	
Cumulative Ending Balance	27,959,114	26,837,675	1,121,439	22,996,211	18,107,728	4,888,483	4,979,022	4,718,717	260,305	6,270,227

Interest Calculation

2019 - Rider10 Month	NC Program Costs Incurred	Revenue Collected	**Cumulative Undercollected Balance**	Lost Revenues	Revenue Collected	**Cumulative Undercollected Balance**	PPI	Revenue Collected	**Cumulative Undercollected Balance**	**Total Cumulative Under/(Over) Collected Balance**
Beginning Balance	27,959,114	26,837,675	1,121,439	22,996,211	18,107,728	4,888,483	4,979,022	4,718,717	260,305	6,270,227
January		53,450	1,067,989		-	4,888,483		-	260,305	6,216,777
February		105,182	962,808		-	4,888,483		-	260,305	6,111,595
March		96,023	866,784		-	4,888,483		-	260,305	6,015,572
April		91,900	774,884		-	4,888,483		-	260,305	5,923,672
May		85,130	689,755		-	4,888,483		-	260,305	5,838,542
June		108,233	581,522		-	4,888,483		-	260,305	5,730,310
July		134,008	447,514		-	4,888,483		-	260,305	5,596,302
August		132,032	315,482		-	4,888,483		-	260,305	5,464,270
September		114,599	200,883		-	4,888,483		-	260,305	5,349,671
October		89,350	111,533		-	4,888,483		-	260,305	5,260,321
November		87,057	24,476		-	4,888,483		-	260,305	5,173,264
December		225,155	(200,678)	6,753,855	8,269,323	3,373,016		148,603	111,702	3,284,039
YTD Balance	-	1,322,117		6,753,855	8,269,323		-	148,603		
Cumulative Ending Balance	27,959,114	28,159,792	(200,678)	29,750,066	26,377,050	3,373,016	4,979,022	4,867,320	111,702	**3,284,039**

Interest Calculation

2020 - Rider 11 Month	NC Program Costs Incurred	Revenue Collected	**Cumulative Undercollected Balance**	Lost Revenues	Revenue Collected	**Cumulative Undercollected Balance**	PPI	Revenue Collected	**Cumulative Undercollected Balance**	**Total Cumulative Under/(Over) Collected Balance**
Beginning Balance	27,959,114	28,159,792	(200,678)	29,750,066	26,377,050	3,373,016	4,979,022	4,867,320	111,702	3,284,039
January		(14,431)	(186,248)	900,128	393,209	3,879,934		10,620	101,081	3,794,768
February		(28,585)	(157,663)	797,208	778,892	3,898,250		21,037	80,044	3,820,631
March		(20,966)	(136,697)	708,474	571,275	4,035,448		15,430	64,614	3,963,366
April		(21,117)	(115,580)	625,633	575,405	4,085,676		15,541	49,073	4,019,169
May		(18,433)	(97,147)	543,299	502,268	4,126,708		13,566	35,507	4,065,068
June		(26,381)	(70,765)	450,244	718,851	3,858,100		19,416	16,091	3,803,425
July		(30,319)	(40,447)	365,764	826,133	3,397,731		22,313	(6,222)	3,351,062
August		(27,879)	(12,568)		759,650	2,638,081		20,518	(26,740)	2,598,773
September		(29,941)	17,373		815,838	1,822,243		22,035	(48,775)	1,790,841
October		(21,082)	38,455		574,463	1,247,781		15,869	(64,645)	1,221,592
November		(19,468)	57,923		530,467	717,314		14,328	(78,972)	696,265
December		(45,704)	103,627		1,245,359	(528,045)		33,282	(112,255)	(536,672)
YTD Balance	-	(304,305)		4,390,750	8,291,811		-	223,956		
Cumulative Ending Balance	27,959,114	27,855,487	103,627	34,140,816	34,668,861	(528,045)	4,979,022	5,091,276	(112,255)	**(536,672)**

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential DSM Programs Vintage 2015

NC Residential DSM		Total System NC DSM Program Costs Incurred	NC Residential DSM Allocation %	NC Allocated DSM Residential Program Costs	NC Residential Revenue Collected(EEC2)	NC Residential DSM Program Collection %	DSM Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5, pg 2 Line 9			See calc. at right		
Beginning Balance - from Ri		**31,962,633**	**32.5218612%**	**10,394,843**	**12,983,975**		**(10,384,396)**	**10,447**
2018	January		32.5218612%	-	1,070	61.5470492%	(659)	(659)
2018	February		32.5218612%	-	2,102	61.5470492%	(1,294)	(1,294)
2018	March		32.5218612%	-	1,547	61.5470492%	(952)	(952)
2018	April		32.5218612%	-	1,558	61.5470492%	(959)	(959)
2018	May		32.5218612%	-	1,362	61.5470492%	(838)	(838)
2018	June		32.5218612%	-	1,942	61.5470492%	(1,195)	(1,195)
2018	July		32.5218612%	-	2,229	61.5470492%	(1,372)	(1,372)
2018	August		32.5218612%	-	2,051	61.5470492%	(1,262)	(1,262)
2018	September		32.5218612%	-	2,201	61.5470492%	(1,355)	(1,355)
2018	October		32.5218612%	-	1,555	61.5470492%	(957)	(957)
2018	November		32.5218612%	-	1,437	61.5470492%	(885)	(885)
2018	December		32.5218612%	-	3,351	61.5470492%	(2,062)	(2,062)
		-		10,394,843	13,006,378		(10,398,185)	(3,341)

Program Costs to be recovered in Rider 11	10,447
Revenue Requirement Requested in Rider 11	16,974
Percent of Revenue to be applied to total collections	62%

NC Residential DSM		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
Beginning Balance - from Ri		**10,447**			**2,467**	**7,980**					
2018	January	9,789	0.236149	(156)	2,312	7,477	0.006075	47	47	0.766497	61
2018	February	8,495	0.236149	(306)	2,006	6,489	0.006075	42	89	0.766497	117
2018	March	7,543	0.236149	(225)	1,781	5,762	0.006075	37	127	0.766497	165
2018	April	6,584	0.236149	(226)	1,555	5,029	0.006075	33	159	0.766497	208
2018	May	5,746	0.236149	(198)	1,357	4,389	0.006075	29	188	0.766497	245
2018	June	4,551	0.236149	(282)	1,075	3,476	0.006075	24	212	0.766497	276
2018	July	3,179	0.236149	(324)	751	2,429	0.006075	18	230	0.766497	300
2018	August	1,917	0.236149	(298)	453	1,464	0.005692	11	241	0.766497	314
2018	September	563	0.236149	(320)	133	430	0.005692	5	246	0.766497	321
2018	October	(395)	0.236149	(226)	(93)	(301)	0.005692	0	247	0.766497	322
2018	November	(1,279)	0.236149	(209)	(302)	(977)	0.005692	(4)	243	0.766497	317
2018	December	(3,341)	0.236149	(487)	(789)	(2,552)	0.005692	(10)	233	0.766497	304
								233			304

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Non- Residential EE Programs Vintage 2015

NC Non- Residential EE		Non-Residential EE Program Costs Incurred	NC Allocation %	NC Allocated EE Program Costs	NC Residential Revenue Collected(EEC15)	NC Non-Residential EE Program Collection %	Non-Residential EE Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5. pg 2, Line 4			See calc. at right		
Beginning Balance - source Rider		**40,096,318**	**72.9564706%**	**29,252,858**	**49,895,986**		**(27,536,038)**	**1,716,820**
2018	January		72.9564706%	-	568,041	20.6964576%	(117,564)	(117,564)
2018	February		72.9564706%	-	602,713	20.6964576%	(124,740)	(124,740)
2018	March		72.9564706%	-	539,207	20.6964576%	(111,597)	(111,597)
2018	April		72.9564706%	-	571,303	20.6964576%	(118,239)	(118,239)
2018	May		72.9564706%	-	583,957	20.6964576%	(120,858)	(120,858)
2018	June		72.9564706%	-	707,348	20.6964576%	(146,396)	(146,396)
2018	July		72.9564706%	-	719,033	20.6964576%	(148,814)	(148,814)
2018	August		72.9564706%	-	715,298	20.6964576%	(148,041)	(148,041)
2018	September		72.9564706%	-	797,739	20.6964576%	(165,104)	(165,104)
2018	October		72.9564706%	-	826,401	20.6964576%	(171,036)	(171,036)
2018	November		72.9564706%	-	568,555	20.6964576%	(117,671)	(117,671)
2018	December		72.9564706%	-	787,159	20.6964576%	(162,914)	(162,914)
		-		29,252,858	57,882,741		(25,883,063)	63,845

Program Cost Allocation Calculation	
Non-Res EE Program Costs under collected balance	1,716,820
Non-Res EE Revenue Requirement in Rider 9	8,295,238
% Revenue related to Program Costs	21%
Note: Vintage Year 2015 collections in 2018 stem from Rider 9	

NC Non-Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29% 6.83%			0.766497	
Beginning Balance from Rider 9		**1,716,820**			**405,425**	**1,311,395**					
2018	January	1,599,256	0.236149	(27,762.70)	377,663	1,221,593	0.006075	7,694	7,694	0.766497	10,038
2018	February	1,474,516	0.236149	(29,457.30)	348,205	1,126,310	0.006075	7,132	14,826	0.766497	19,342
2018	March	1,362,919	0.236149	(26,353.48)	321,852	1,041,067	0.006075	6,583	21,409	0.766497	27,931
2018	April	1,244,680	0.236149	(27,922.13)	293,930	950,750	0.006075	6,050	27,459	0.766497	35,824
2018	May	1,123,821	0.236149	(28,540.60)	265,389	858,432	0.006075	5,495	32,955	0.766497	42,994
2018	June	977,425	0.236149	(34,571.28)	230,818	746,607	0.006075	4,875	37,830	0.766497	49,354
2018	July	828,611	0.236149	(35,142.37)	195,676	632,935	0.006075	4,190	42,020	0.766497	54,821
2018	August	680,569	0.236149	(34,959.80)	160,716	519,854	0.005692	3,281	45,301	0.766497	59,101
2018	September	515,466	0.236149	(38,989.08)	121,727	393,739	0.005692	2,600	47,901	0.766497	62,493
2018	October	344,430	0.236149	(40,389.92)	81,337	263,093	0.005692	1,869	49,770	0.766497	64,932
2018	November	226,759	0.236149	(27,787.83)	53,549	173,210	0.005692	1,242	51,012	0.766497	66,552
2018	December	63,845	0.236149	(38,471.97)	15,077	48,768	0.005692	632	51,643	0.766497	67,376
								51,643			67,376

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation -Non - Residential DSM Programs Vintage 2015

NC Non- Residential DSM		Total System NC DSM Program Costs Incurred	NC Non-Residential DSM Allocation %	NC Allocated DSM Non-Residential Program Costs	Incentives Earned & GRT remitted (Allocated based on WA of Program Costs Incurred)	Total DSM Revenue Requirement	NC Non-Residential DSM Revenue Collected(DS15)	NC Non-Residential DSM Program Collection %	Non-Residential DSM Program Costs Revenue Collected	(Over)/Under Collection
			See Miller Exhibit 5 pg. 2, Line 10		calculated interest on entire balance due to over-collection in total			100% used due to over-collection of entire vintage		
Beginning Balance - revenue rec		**31,958,782**	**42.4483655%**	**13,565,981**	**2,960,385**	**16,526,366**	**16,946,105**	**100.000000%**	**(16,946,105)**	**(419,739)**
2018	January	-	42.4483655%	-		-	(53,805)	100.000000%	(53,805)	53,805
2018	February	-	42.4483655%	-		-	(37,120)	100.000000%	(37,120)	37,120
2018	March	-	42.4483655%	-		-	(32,596)	100.000000%	(32,596)	32,596
2018	April	-	42.4483655%	-		-	(35,291)	100.000000%	(35,291)	35,291
2018	May	-	42.4483655%	-		-	(35,545)	100.000000%	(35,545)	35,545
2018	June	-	42.4483655%	-		-	(42,596)	100.000000%	(42,596)	42,596
2018	July	-	42.4483655%	-		-	(44,317)	100.000000%	(44,317)	44,317
2018	August	-	42.4483655%	-		-	(43,372)	100.000000%	(43,372)	43,372
2018	September	-	42.4483655%	-		-	(48,517)	100.000000%	(48,517)	48,517
2018	October	-	42.4483655%	-		-	(50,018)	100.000000%	(50,018)	50,018
2018	November	-	42.4483655%	-		-	(35,152)	100.000000%	(35,152)	35,152
2018	December	-	42.4483655%	-		-	(56,830)	100.000000%	(56,830)	56,830
		-		-		16,526,366	16,430,948			95,418

Program Cost Allocation Methodology
No program cost allocation is needed because the vintage was overcollected in total and interest due was calculated on the entire vintage.

Therefore, 100% of all revenues offset the overcollected balance.

NC Non-Residential DSM		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
Beginning Balance - from Rider		**(419,739)**			**(99,121)**	**(320,618)**					
2018	January	(365,934)	0.236149	12,706	(86,415)	(279,519)	0.006075	(1,823)	(1,823)	0.766497	(2,378)
2018	February	(328,814)	0.236149	8,766	(77,649)	(251,165)	0.006075	(1,612)	(3,435)	0.766497	(4,481)
2018	March	(296,218)	0.236149	7,697	(69,952)	(226,267)	0.006075	(1,450)	(4,885)	0.766497	(6,373)
2018	April	(260,927)	0.236149	8,334	(61,618)	(199,310)	0.006075	(1,293)	(6,178)	0.766497	(8,060)
2018	May	(225,383)	0.236149	8,394	(53,224)	(172,159)	0.006075	(1,128)	(7,306)	0.766497	(9,532)
2018	June	(182,787)	0.236149	10,059	(43,165)	(139,622)	0.006075	(947)	(8,253)	0.766497	(10,767)
2018	July	(138,470)	0.236149	10,465	(32,700)	(105,771)	0.006075	(745)	(8,999)	0.766497	(11,740)
2018	August	(95,098)	0.236149	10,242	(22,457)	(72,641)	0.005692	(508)	(9,506)	0.766497	(12,402)
2018	September	(46,581)	0.236149	11,457	(11,000)	(35,581)	0.005692	(308)	(9,814)	0.766497	(12,804)
2018	October	3,437	0.236149	11,812	812	2,625	0.005692	(94)	(9,908)	0.766497	(12,926)
2018	November	38,589	0.236149	8,301	9,113	29,476	0.005692	91	(9,817)	0.766497	(12,807)
2018	December	95,418	0.236149	13,420	22,533	72,885	0.005692	291	(9,525)	0.766497	(12,427)
								(9,525)			(12,427)

Note 1: Revenues collected represent amounts actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential EE Programs Vintage 2016

NC Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
Beginning Balance - source		11,777,137			2,781,159	8,995,978					
2018	January	11,187,036	0.236149	(139,352)	2,641,807	8,545,229	0.006075	53,281	53,281	0.766497	69,513
2018	February	9,990,702	0.236149	(282,513)	2,359,294	7,631,407	0.006075	49,137	102,418	0.766497	133,618
2018	March	9,120,709	0.236149	(205,448)	2,153,846	6,966,862	0.006075	44,342	146,760	0.766497	191,469
2018	April	8,244,224	0.236149	(206,981)	1,946,865	6,297,359	0.006075	40,290	187,050	0.766497	244,033
2018	May	7,482,701	0.236149	(179,833)	1,767,032	5,715,668	0.006075	36,490	223,540	0.766497	291,638
2018	June	6,380,741	0.236149	(260,227)	1,506,806	4,873,936	0.006075	32,166	255,706	0.766497	333,603
2018	July	5,110,153	0.236149	(300,048)	1,206,757	3,903,395	0.006075	26,661	282,367	0.766497	368,386
2018	August	3,944,064	0.236149	(275,371)	931,387	3,012,678	0.005692	19,682	302,049	0.766497	394,064
2018	September	2,689,658	0.236149	(296,227)	635,160	2,054,498	0.005692	14,420	316,469	0.766497	412,877
2018	October	1,814,656	0.236149	(206,631)	428,529	1,386,127	0.005692	9,791	326,261	0.766497	425,652
2018	November	1,008,808	0.236149	(190,300)	238,229	770,579	0.005692	6,138	332,398	0.766497	433,659
2018	December	(1,972,320)	0.236149	(703,990)	(465,762)	(1,506,559)	0.005692	(2,094)	330,304	0.766497	430,926
								330,304			430,926

Note 1: Amounts represent all revenue actually collected through 2018.

Interest Calculation

2018 - Rider 9	Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	Lost Revenue	Revenue Collected	Undercollected Balance	**Total Cumulative Under/Over Collected**
Beginning Balance		40,021,103	28,243,964	11,777,138	6,821,368	4,814,022	2,007,346	16,669,126	11,763,849	4,905,277	18,689,761
	January					-	-				18,689,761
	February					-	-				18,689,761
	March					-	-				18,689,761
	April					-	-				18,689,761
	May					-	-				18,689,761
	June					-	-				18,689,761
	July					-	-				18,689,761
	August					-	-				18,689,761
	September					-	-				18,689,761
	October					-	-				18,689,761
	November					-	-				18,689,761
	December					-	-	-	-	-	18,689,761
YTD Balance		40,021,103	28,243,964	11,777,138	6,821,368	4,814,022	2,007,346	16,669,126	11,763,849	4,905,277	18,689,761

		%
EE Program Costs	40,021,103	0.63
EE PPI & GRT	6,821,368	0.11
EE Lost Revenue	16,669,126	0.26
Total EE Revenue Requirement	63,511,597	

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential EE Programs Vintage 2016

Interest Calculation

2019 - Rider 10 Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	Lost Revenue	Revenue Collected	Undercollected Balance	**Total Cumulative Over/Under Collected**
Beginning Balance	40,021,103	28,243,964	11,777,138	6,821,368	4,814,022	2,007,346	16,669,126	11,763,849	4,905,277	18,689,761
January			-			-				18,689,761
February			-			-				18,689,761
March			-			-				18,689,761
April			-			-				18,689,761
May			-			-				18,689,761
June			-			-				18,689,761
July			-			-				18,689,761
August			-			-				18,689,761
September			-			-				18,689,761
October			-			-				18,689,761
November			-			-				18,689,761
December	(2)		(2)	(50,792.97)		(50,793)	2,424,300	5,570,022	(3,145,722)	15,493,244
YTD Balance	(2)	-	(2)	(50,793)	-	(50,793)	2,424,300	5,570,022	(3,145,722)	15,493,244
Cumulative Ending Balance	40,021,101	28,243,964	11,777,137	6,770,575	4,814,022	1,956,553	19,093,426	17,333,871	1,759,555	15,493,244

Note: Year 2 of all residential vintages goes toward the collection of Year 2 lost revenues. Therefore, no revenues offset the undercollection of Year 1 Program costs or PPI. Interest continued to accrue on beginning balance.

Interest Calculation

2020- Rider 11 Month	NC Program Costs Incurred	Revenue Collected	Cumulative Under/(Over)collected Balance	PPI	Revenue Collected	Cumulative Under/(Over)'collected Balance	Lost Revenue	Revenue Collected	Cumulative Under/(Over)collected Balance	**Total Cumulative Over/Under Collected**
Beginning Balance	40,021,101	28,243,964	11,777,137	6,770,575	4,814,022	1,956,553	19,093,426	17,333,871	1,759,555	15,493,244
January		590,101	11,187,036		98,034	1,858,519	1,390,664	575,924	2,574,295	15,619,850
February		1,196,334	9,990,702		198,749	1,659,770	1,390,664	1,167,592	2,797,367	14,447,839
March		869,993	9,120,709		144,533	1,515,237	1,390,664	849,091	3,338,940	13,974,885
April		876,484	8,244,224		145,612	1,369,625	1,390,664	855,427	3,874,178	13,488,027
May		761,524	7,482,701		126,513	1,243,112	1,390,664	743,228	4,521,614	13,247,426
June		1,101,959	6,380,741		183,070	1,060,042	1,390,664	1,075,485	4,836,793	12,277,576
July		1,270,589	5,110,153		211,085	848,957	1,390,651	1,240,063	4,987,381	10,946,491
August		1,166,088	3,944,064		193,724	655,233		1,138,073	3,849,308	8,448,606
September		1,254,406	2,689,658		208,396	446,837		1,224,269	2,625,039	5,761,535
October		875,003	1,814,656		145,365	301,471		853,981	1,771,059	3,887,186
November		805,848	1,008,808		133,877	167,595		786,488	984,571	2,160,973
December		1,929,546	(920,739)		320,558	(152,964)		1,883,189	(898,618)	(1,972,320)
Cumulative Ending Balance	40,021,101	40,941,840	(920,739)	6,770,575	6,923,539	(152,964)	28,828,063	29,726,681	(898,618)	(1,972,320)

Revenue Requirement:		
Program Costs	11,777,137	0.47
PPI & GRT	1,956,553	0.08
Lost Revenue	11,494,191	0.46
Total Revenue Requirement	25,227,881	

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential DSM Programs Vintage 2016

NC Residential DSM		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
Beginning Balance - source		(986,784)			(233,028)	(753,756)					
2018	January	(943,803)	0.236149	10,150	(222,878)	(720,925)	0.006075	(4,479)	(4,479)	0.766497	(5,844)
2018	February	(851,272)	0.236149	21,851	(201,027)	(650,245)	0.006075	(4,165)	(8,644)	0.766497	(11,278)
2018	March	(785,414)	0.236149	15,552	(185,475)	(599,939)	0.006075	(3,797)	(12,442)	0.766497	(16,232)
2018	April	(719,025)	0.236149	15,678	(169,797)	(549,228)	0.006075	(3,491)	(15,932)	0.766497	(20,786)
2018	May	(662,033)	0.236149	13,459	(156,338)	(505,694)	0.006075	(3,204)	(19,137)	0.766497	(24,966)
2018	June	(577,215)	0.236149	20,030	(136,309)	(440,906)	0.006075	(2,875)	(22,012)	0.766497	(28,718)
2018	July	(478,615)	0.236149	23,284	(113,024)	(365,590)	0.006075	(2,450)	(24,462)	0.766497	(31,914)
2018	August	(388,556)	0.236149	21,267	(91,757)	(296,799)	0.006075	(2,012)	(26,474)	0.766497	(34,539)
2018	September	(291,278)	0.236149	22,972	(68,785)	(222,493)	0.006075	(1,577)	(28,051)	0.766497	(36,596)
2018	October	(225,011)	0.236149	15,649	(53,136)	(171,875)	0.006075	(1,198)	(29,249)	0.766497	(38,159)
2018	November	(164,396)	0.236149	14,314	(38,822)	(125,574)	0.006075	(904)	(30,152)	0.766497	(39,338)
2018	December	(11,973)	0.236149	35,994	(2,827)	(9,146)	0.006075	(409)	(30,562)	0.766497	(39,872)
								(30,562)			(39,872)

Note 1: Amounts represent all revenue actually collected through 2018.

Interest Calculation

2018 - Rider 9	Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	**Total Cumulative Under/Over Collected**
	Beginning Balance	9,600,575	10,366,049	(765,474)	2,775,672	2,996,983.02	(221,311)	(986,784)
	January					-	-	(986,784)
	February					-	-	(986,784)
	March					-	-	(986,784)
	April					-	-	(986,784)
	May					-	-	(986,784)
	June					-	-	(986,784)
	July					-	-	(986,784)
	August					-	-	(986,784)
	September					-	-	(986,784)
	October					-	-	(986,784)
	November					-	-	(986,784)
	December					-	-	(986,784)
YTD Balance		9,600,575	10,366,049	(765,474)	2,775,672	2,996,983	(221,311)	

		%
DSM Program Costs	9,600,575	0.78
DSM PPI & GRT	2,775,672	0.22
Total Revenue Requirement	12,376,248	

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential DSM Programs Vintage 2016

Interest Calculation

2019 - Rider 10 Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	**Total Cumulative Over/Under Collected**
Beginning Balance	9,600,575	10,366,049	(765,474)	2,775,672	2,996,983	(221,311)	(986,784)
January			-			-	(986,784)
February			-			-	(986,784)
March			-			-	(986,784)
April			-			-	(986,784)
May			-			-	(986,784)
June			-			-	(986,784)
July			-			-	(986,784)
August			-			-	(986,784)
September			-			-	(986,784)
October			-			-	(986,784)
November			-			-	(986,784)
December			-			-	(986,784)
YTD Balance	-	-	-		-	-	(986,784)
Cumulative Ending Balance	9,600,575	10,366,049	(765,474)	2,775,672	2,996,983	(221,311)	(986,784)

Note: Year 2 of all residential vintages goes toward the collection of Year 2 lost revenues. Therefore, no revenues offset the overcollection of Program costs or PPI. Interest continued to accrue on beginning balance.

Interest Calculation

2020- Rider 11 Month	NC Program Costs Incurred	Revenue Collected	Cumulative Under/(Over)collected Balance	PPI	Revenue Collected	Cumulative Under/(Over)collected Balance	**Total Cumulative Over/Under Collected**
Beginning Balance	9,600,575	10,366,049	(765,474)	2,775,672	2,996,983	(221,311)	(986,784)
January		(38,138)	(727,336)	(6,183)	(11,026)	(216,467)	(943,803)
February		(76,575)	(650,761)	(6,183)	(22,139)	(200,511)	(851,272)
March		(55,884)	(594,877)	(6,183)	(16,157)	(190,537)	(785,414)
April		(56,295)	(538,582)	(6,183)	(16,276)	(180,443)	(719,025)
May		(49,007)	(489,575)	(6,183)	(14,169)	(172,458)	(662,033)
June		(70,591)	(418,984)	(6,183)	(20,409)	(158,231)	(577,215)
July		(81,283)	(337,701)	(6,183)	(23,500)	(140,914)	(478,615)
August		(74,657)	(263,044)	(6,183)	(21,585)	(125,512)	(388,556)
September		(80,257)	(182,787)	(6,183)	(23,204)	(108,491)	(291,278)
October		(56,201)	(126,586)	(6,183)	(16,249)	(98,425)	(225,011)
November		(51,817)	(74,769)	(6,183)	(14,981)	(89,627)	(164,396)
December		(123,063)	48,294	(6,220)	(35,579)	(60,267)	(11,973)
YTD Balance	-	(813,768)		(74,230)	(235,273)	(60,267)	(11,973)
Cumulative Ending Balance	9,600,575	9,552,281	48,294	2,701,443	2,761,710	(60,267)	(11,973)

Revenue Requirement:		
Program Costs	(765,474)	0.78
PPI	(221,311)	0.22
Total	(986,784)	

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Non- Residential EE Programs Vintage 2016

NC Non- Residential EE		Non-Residential EE Program Costs Incurred	NC Allocation %	NC Allocated EE Program Costs	Total Revenue Collected	Percent Attributable to Program Costs	NC Residential Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5. pg 3, Line 4					
Beginning Balance - Source Rider		68,416,594		50,009,987	45,662,897	69.71121%	(31,832,160)	18,177,827
2018	January		73.0962827%	-	679,787	45.63863%	(310,246)	(310,246)
2018	February		73.0962827%	-	2,902,313	45.63863%	(1,324,576)	(1,324,576)
2018	March		73.0962827%	-	2,586,992	45.63863%	(1,180,668)	(1,180,668)
2018	April		73.0962827%	-	2,741,877	45.63863%	(1,251,355)	(1,251,355)
2018	May		73.0962827%	-	2,801,556	45.63863%	(1,278,592)	(1,278,592)
2018	June		73.0962827%	-	3,405,104	45.63863%	(1,554,043)	(1,554,043)
2018	July		73.0962827%	-	3,471,798	45.63863%	(1,584,481)	(1,584,481)
2018	August		73.0962827%	-	3,444,453	45.63863%	(1,572,001)	(1,572,001)
2018	September		73.0962827%	-	3,831,885	45.63863%	(1,748,820)	(1,748,820)
2018	October		73.0962827%	-	4,000,975	45.63863%	(1,825,990)	(1,825,990)
2018	November		73.0962827%	-	2,724,564	45.63863%	(1,243,454)	(1,243,454)
2018	December		73.0962827%	-	3,701,529	45.63863%	(1,689,327)	(1,689,327)
		-		50,009,987	81,955,731		(48,395,713)	1,614,274

Program Costs to be Recovered in Rider 9	**18,177,827**
Revenues to be Collected in Rider 9	39,829,912
% Revenue to be assigned to Program Costs	0.4564

NC Non-Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
Beginning Balance - Source Rider		18,177,827			4,292,676						
2018	January	17,867,582	0.236149	(73,264.18)	4,219,412	13,648,170	0.006075	41,456	41,456	0.766497	54,085
2018	February	16,543,006	0.236149	(312,797.25)	3,906,614	12,636,391	0.006075	79,839	121,296	0.766497	158,247
2018	March	15,362,338	0.236149	(278,813.47)	3,627,801	11,734,537	0.006075	74,027	195,322	0.766497	254,825
2018	April	14,110,983	0.236149	(295,506.26)	3,332,295	10,778,689	0.006075	68,384	263,706	0.766497	344,041
2018	May	12,832,391	0.236149	(301,938.21)	3,030,356	9,802,035	0.006075	62,514	326,220	0.766497	425,599
2018	June	11,278,348	0.236149	(366,985.70)	2,663,371	8,614,977	0.006075	55,942	382,162	0.766497	498,582
2018	July	9,693,867	0.236149	(374,173.59)	2,289,197	7,404,670	0.006075	48,660	430,822	0.766497	562,066
2018	August	8,121,866	0.236149	(371,226.57)	1,917,970	6,203,895	0.006075	41,336	472,158	0.766497	615,994
2018	September	6,373,046	0.236149	(412,982.12)	1,504,988	4,868,057	0.006075	33,631	505,789	0.766497	659,870
2018	October	4,547,055	0.236149	(431,205.81)	1,073,783	3,473,273	0.006075	25,337	531,125	0.766497	692,926
2018	November	3,303,601	0.236149	(293,640.40)	780,142	2,523,459	0.006075	18,215	549,341	0.766497	716,690
2018	December	1,614,274	0.236149	(398,932.93)	381,209	1,233,065	0.006075	11,410	560,751	0.766497	731,576
								560,751			731,576

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation -Non - Residential DSM Programs Vintage 2016

NC Non-Residential DSM		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
Beginning Balance - Source Ride		45,391			10,719	34,672					
2018	January	38,152	0.236149	(1,710)	9,010	29,142	0.006075	194	194	0.766497	253
2018	February	(3,375)	0.236149	(9,807)	(797)	(2,578)	0.006075	81	275	0.766497	358
2018	March	(39,808)	0.236149	(8,604)	(9,401)	(30,407)	0.006075	(100)	174	0.766497	227
2018	April	(17,951)	0.236149	5,161	(4,239)	(13,712)	0.006075	(134)	40	0.766497	53
2018	May	(42,359)	0.236149	(5,764)	(10,003)	(32,356)	0.006075	(140)	(100)	0.766497	(130)
2018	June	(71,615)	0.236149	(6,909)	(16,912)	(54,703)	0.006075	(264)	(364)	0.766497	(475)
2018	July	(102,080)	0.236149	(7,194)	(24,106)	(77,974)	0.006075	(403)	(767)	0.766497	(1,001)
2018	August	(131,902)	0.236149	(7,042)	(31,148)	(100,753)	0.005692	(509)	(1,276)	0.766497	(1,664)
2018	September	(164,952)	0.236149	(7,805)	(38,953)	(125,999)	0.005692	(645)	(1,921)	0.766497	(2,506)
2018	October	(199,743)	0.236149	(8,216)	(47,169)	(152,574)	0.005692	(793)	(2,714)	0.766497	(3,540)
2018	November	(223,833)	0.236149	(5,689)	(52,858)	(170,975)	0.005692	(921)	(3,635)	0.766497	(4,742)
2018	December	(250,377)	0.236149	(6,268)	(59,126)	(191,251)	0.005692	(1,031)	(4,665)	0.766497	(6,087)
								(4,665)			(6,087)

Note 1: Amounts represent all revenue actually collected through 2018.

Interest Calculation

2018 - Rider 9	Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	**Total Cumulative Under/Over Collected**
Beginning Balance		11,594,497	11,354,396	240,102	3,352,151	3,282,731	69,419	309,521
	January					-	-	309,521
	February					-	-	309,521
	March					-	-	309,521
	April					-	-	309,521
	May					-	-	309,521
	June					-	-	309,521
	July					-	-	309,521
	August					-	-	309,521
	September					-	-	309,521
	October					-	-	309,521
	November					-	-	309,521
	December					-	-	309,521
YTD Balance		11,594,497	11,354,396	240,102	3,352,151	3,282,731	69,419	

		%
DSM Program Costs	11,594,497	0.78
DSM PPI & GRT	3,352,151	0.22
Total Revenue Requirement	14,946,648	

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation -Non - Residential DSM Programs Vintage 2016

Interest Calculation

2019 - Rider 10 Month	NC Program Costs Incurred	Revenue Collected	Undercollected Balance	PPI	Revenue Collected	Undercollected Balance	**Total Cumulative Over/Under Collected**
Beginning Balance	11,594,497	11,354,396	240,102	3,352,151	3,282,731	69,419	309,521
January		192,582	(192,582)		55,678	(55,678)	61,261
February		1,806	(1,806)		522	(522)	58,933
March		(2,074)	2,074		(600)	600	61,607
April		(294)	294		(85)	85	61,986
May		20	(20)		6	(6)	61,960
June		(7)	7		(2)	2	61,969
July		(4)	4		(1)	1	61,974
August		(2,270)	2,270		(656)	656	64,901
September		(31)	31		(9)	9	64,940
October		8	(8)		2	(2)	64,930
November		(8)	8		(2)	2	64,940
December		4,982	(4,982)		1,440	(1,440)	58,517
YTD Balance	-	194,710	(194,710)	-	56,294	(56,294)	58,517
Cumulative Ending Balance	11,594,497	11,549,106	45,391	3,352,151	3,339,025	13,125	58,517

Note: There was no Non-Residential DSM Rider in Rider 10.
All revenues collected represented bill corrections, so
all revenues were allocated on the same basis as prior year.

Interest Calculation

2020- Rider 11 Month	NC Program Costs Incurred	Revenue Collected	Cumulative Under/(Over)collected Balance	PPI	Revenue Collected	Cumulative Under/(Over)collected Balance	**Total Cumulative Over/Under Collected**
Beginning Balance	11,594,497	11,549,106	45,391	3,352,151	3,339,025	13,125	58,517
January		7,239	38,152	(485)	(3,286)	15,927	54,079
February		41,527	(3,375)	(2,780)	(18,850)	31,998	28,623
March		36,433	(39,808)	(2,439)	(16,538)	46,097	6,289
April		39,543	(79,351)	(2,647)	(17,950)	61,400	(17,951)
May		39,817	(119,168)	(2,665)	(18,074)	76,809	(42,359)
June		47,726	(166,894)	(3,195)	(21,665)	95,279	(71,615)
July		49,697	(216,591)	(3,327)	(22,559)	114,511	(102,080)
August		48,648	(265,240)	(3,256)	(22,083)	133,338	(131,902)
September		53,916	(319,155)	(3,609)	(24,474)	154,203	(164,952)
October		56,754	(375,909)	(3,799)	(25,763)	176,167	(199,743)
November		39,300	(415,209)	(2,631)	(17,839)	191,375	(223,833)
December		43,300	(458,509)	(2,898)	(19,655)	208,133	(250,377)
YTD Balance	-	503,901	(458,509)	(33,730)	(228,737)	208,133	(250,377)
Cumulative Ending Balance	11,594,497	12,053,007	(458,509)	3,318,420	3,110,288	208,133	(250,377)

Revenue Requirement:		
Program Costs	45,391	1.83
PPI	(20,605)	(0.83)
Total	24,787	
Revenue Collected:	276,923	
Less Interest collected:	1,759	
Total	275,164	

Reconciliation to Filing - Exhibit 2 page 2 :

Interest not yet paid Rider 10 & 11	(2,667)
Revenue not yet given back	267,721
	14,678
Exhibit 2 page 2 Line 35	14,674
	3

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Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential EE Programs Vintage 2017

NC Residential EE		Residential EE Program Costs Incurred	NC Allocation %	NC Allocated EE Program Costs	NC Residential Revenue Collected	NC Residential EE Program Collection %	EE Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5 pg. 4, Line 4			see calc. at right		
2018	January	65,222,734	72.8087506%	47,487,858	49,132,586	59.7964%	(29,379,532)	18,108,325
2018	February		72.8087506%	-		0.0000%	-	-
2018	March		72.8087506%	-		0.0000%	-	-
2018	April		72.8087506%	-		0.0000%	-	-
2018	May		72.8087506%	-		0.0000%	-	-
2018	June		72.8087506%	-		0.0000%	-	-
2018	July		72.8087506%	-		0.0000%	-	-
2018	August		72.8087506%	-		0.0000%	-	-
2018	September		72.8087506%	-		0.0000%	-	-
2018	October		72.8087506%	-		0.0000%	-	-
2018	November		72.8087506%	-		0.0000%	-	-
2018	December		72.8087506%	-		0.0000%	-	-
		65,222,734		47,487,858	49,132,586			18,108,325

Note: All revenues collected in Rider 9 were to collect Y2 of lost revenue. Therefore, no revenue received in 2018 would offset the under collected balance of program costs and a return would still be earned.

NC Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29% 6.83%			0.766497	
2018	January	18,108,325	0.236149	4,276,263	4,276,263	13,832,063	0.006075	42,015	42,015	0.766497	54,814
2018	February	18,108,325	0.236149	-	4,276,263	13,832,063	0.006075	84,030	126,045	0.766497	164,442
2018	March	18,108,325	0.236149	-	4,276,263	13,832,063	0.006075	84,030	210,074	0.766497	274,071
2018	April	18,108,325	0.236149	-	4,276,263	13,832,063	0.006075	84,030	294,104	0.766497	383,699
2018	May	18,108,325	0.236149	-	4,276,263	13,832,063	0.006075	84,030	378,134	0.766497	493,327
2018	June	18,108,325	0.236149	-	4,276,263	13,832,063	0.006075	84,030	462,164	0.766497	602,956
2018	July	18,108,325	0.236149	-	4,276,263	13,832,063	0.006075	84,030	546,194	0.766497	712,584
2018	August	18,108,325	0.236149	-	4,276,263	13,832,063	0.005692	78,727	624,921	0.766497	815,295
2018	September	18,108,325	0.236149	-	4,276,263	13,832,063	0.005692	78,727	703,649	0.766497	918,006
2018	October	18,108,325	0.236149	-	4,276,263	13,832,063	0.005692	78,727	782,376	0.766497	1,020,716
2018	November	18,108,325	0.236149	-	4,276,263	13,832,063	0.005692	78,727	861,104	0.766497	1,123,427
2018	December	18,108,325	0.236149	-	4,276,263	13,832,063	0.005692	78,727	939,831	0.766497	1,226,138
								939,831			1,226,138

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential DSM Programs Vintage 2017

NC Residential DSM		Total System NC DSM Program Costs Incurred	NC Residential DSM Allocation %	NC Allocated DSM Residential Program Costs	NC Residential Revenue Collected	NC Residential DSM Program Collection %	DSM Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5, pg 4 Line 9			See calc. at right		
2018	January	29,822,653	33.8075104%	10,082,297	12,781,955	77.3907656%	(9,892,053)	190,244
2018	February		33.8075104%	-			-	-
2018	March		33.8075104%	-			-	-
2018	April		33.8075104%	-			-	-
2018	May		33.8075104%	-			-	-
2018	June		33.8075104%	-			-	-
2018	July		33.8075104%	-			-	-
2018	August		33.8075104%	-			-	-
2018	September		33.8075104%	-			-	-
2018	October		33.8075104%	-			-	-
2018	November		33.8075104%	-			-	-
2018	December		33.8075104%	-			-	-
		29,822,653		10,082,297	12,781,955		(9,892,053)	190,244

Note: All revenues collected in Rider 9 were to collect Y2 of lost revenue. Therefore, no revenue received in 2018 would offset the under collected balance of program costs and a return would still be earned.

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NC Residential DSM		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
2018	January	190,244	0.236149	44,926	44,926	145,318	0.006075	441	441	0.766497	576
2018	February	190,244	0.236149	-	44,926	145,318	0.006075	883	1,324	0.766497	1,728
2018	March	190,244	0.236149	-	44,926	145,318	0.006075	883	2,207	0.766497	2,879
2018	April	190,244	0.236149	-	44,926	145,318	0.006075	883	3,090	0.766497	4,031
2018	May	190,244	0.236149	-	44,926	145,318	0.006075	883	3,973	0.766497	5,183
2018	June	190,244	0.236149	-	44,926	145,318	0.006075	883	4,855	0.766497	6,335
2018	July	190,244	0.236149	-	44,926	145,318	0.006075	883	5,738	0.766497	7,486
2018	August	190,244	0.236149	-	44,926	145,318	0.005692	827	6,565	0.766497	8,565
2018	September	190,244	0.236149	-	44,926	145,318	0.005692	827	7,392	0.766497	9,644
2018	October	190,244	0.236149	-	44,926	145,318	0.005692	827	8,220	0.766497	10,724
2018	November	190,244	0.236149	-	44,926	145,318	0.005692	827	9,047	0.766497	11,803
2018	December	190,244	0.236149	-	44,926	145,318	0.005692	827	9,874	0.766497	12,882
								9,874			12,882

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Non- Residential EE Programs Vintage 2017

NC Non- Residential EE		Non-Residential EE Program Costs Incurred	NC Allocation %	NC Allocated EE Program Costs	NC Residential Revenue Collected	NC Non-Residential EE Program Collection %	Non-Residential EE Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5. pg 4, Line 4			See calc. at right		
2018	January	97,443,527	72.8087506%	70,947,415	46,928,129	65.9170989%	(30,933,661)	40,013,754
2018	February			-			-	-
2018	March			-			-	-
2018	April			-			-	-
2018	May			-			-	-
2018	June			-			-	-
2018	July			-			-	-
2018	August			-			-	-
2018	September			-			-	-
2018	October			-			-	-
2018	November			-			-	-
2018	December			-			-	-
		97,443,527		70,947,415	46,928,129		(30,933,661)	40,013,754

Note: All revenues collected in Rider 9 were to collect Y2 of lost revenue. Therefore, no revenue received in 2018 would offset the under collected balance of program costs and a return would still be earned.

NC Non-Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29% 6.83%			0.766497	
2018	January	40,013,754	0.236149	9,449,208.08	9,449,208	30,564,546	0.006075	92,840	92,840	0.766497	121,122
2018	February	40,013,754	0.236149	-	9,449,208	30,564,546	0.006075	185,680	278,519	0.766497	363,367
2018	March	40,013,754	0.236149	-	9,449,208	30,564,546	0.006075	185,680	464,199	0.766497	605,611
2018	April	40,013,754	0.236149	-	9,449,208	30,564,546	0.006075	185,680	649,879	0.766497	847,855
2018	May	40,013,754	0.236149	-	9,449,208	30,564,546	0.006075	185,680	835,558	0.766497	1,090,100
2018	June	40,013,754	0.236149	-	9,449,208	30,564,546	0.006075	185,680	1,021,238	0.766497	1,332,344
2018	July	40,013,754	0.236149	-	9,449,208	30,564,546	0.006075	185,680	1,206,918	0.766497	1,574,589
2018	August	40,013,754	0.236149	-	9,449,208	30,564,546	0.005692	173,963	1,380,881	0.766497	1,801,547
2018	September	40,013,754	0.236149	-	9,449,208	30,564,546	0.005692	173,963	1,554,844	0.766497	2,028,506
2018	October	40,013,754	0.236149	-	9,449,208	30,564,546	0.005692	173,963	1,728,807	0.766497	2,255,465
2018	November	40,013,754	0.236149	-	9,449,208	30,564,546	0.005692	173,963	1,902,770	0.766497	2,482,424
2018	December	40,013,754	0.236149	-	9,449,208	30,564,546	0.005692	173,963	2,076,734	0.766497	2,709,383
								2,076,734			2,709,383

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation -Non - Residential DSM Programs Vintage 2017

NC Non- Residential DSM		Total System NC DSM Program Costs Incurred	NC Non-Residential DSM Allocation %	NC Allocated DSM Non-Residential Program Costs	NC Non-Residential DSM Revenue Collected	NC Non-Residential DSM Program Collection %	Non-Residential DSM Program Costs Revenue Collected	(Over)/Under Collection
			See Miller Exhibit 5 pg. 4, Line 10					
Beginning Balance		29,822,653	40.0747013%	11,951,339	15,361,431	77.3901377%	(11,888,233)	63,106
2018	January				-	77.3901377%		
2018	February	-		-	289	77.3901377%	(223)	(223)
2018	March	-		-	114	77.3901377%	(88)	(88)
2018	April	-		-	(135)	77.3901377%	104	104
2018	May	-		-	(109)	77.3901377%	85	85
2018	June	-		-	(46)	77.3901377%	36	36
2018	July	-		-	71	77.3901377%	(55)	(55)
2018	August	-		-	(48)	77.3901377%	37	37
2018	September	-		-	(2)	77.3901377%	2	2
2018	October	-		-	(2)	77.3901377%	2	2
2018	November	-		-	(0)	77.3901377%	0	0
2018	December	-		-	(1,215)	77.3901377%	940	940
		29,822,653		11,951,339	15,360,347		(11,887,394)	63,945

No rider was collected in 2018 for Vintage 2017.
All revenue collected in 2018 represents
bill corrections. Amounts allocated at same
% as calculated in Rider 9.

NC Non-Residential DSM		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29%			0.766497	
							6.83%				
2018	January	63,106	0.236149	14,903	14,903	48,204	0.006075	146	146	0.766497	191
2018	February	62,883	0.236149	(53)	14,850	48,033	0.006075	292	439	0.766497	572
2018	March	62,795	0.236149	(21)	14,829	47,966	0.006075	292	730	0.766497	953
2018	April	62,899	0.236149	25	14,854	48,046	0.006075	292	1,022	0.766497	1,333
2018	May	62,984	0.236149	20	14,874	48,110	0.006075	292	1,314	0.766497	1,714
2018	June	63,019	0.236149	8	14,882	48,137	0.006075	292	1,606	0.766497	2,096
2018	July	62,964	0.236149	(13)	14,869	48,095	0.006075	292	1,899	0.766497	2,477
2018	August	63,002	0.236149	9	14,878	48,124	0.005692	274	2,173	0.766497	2,834
2018	September	63,003	0.236149	0	14,878	48,125	0.005692	274	2,446	0.766497	3,192
2018	October	63,005	0.236149	0	14,879	48,126	0.005692	274	2,720	0.766497	3,549
2018	November	63,005	0.236149	0	14,879	48,126	0.005692	274	2,994	0.766497	3,906
2018	December	63,945	0.236149	222	15,101	48,845	0.005692	276	3,270	0.766497	4,266
								3,270			4,266

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential EE Programs Vintage 2018

NC Residential EE		Residential EE Program Costs Incurred	NC Allocation %	NC Allocated EE Program Costs	NC Residential Revenue Collected	NC Residential EE Program Collection %	EE Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5 pg. 4, Line 4			see calc. at right		
2018	January	6,092,327	72.7130507%	4,429,917	3,364,993	65.2053%	(2,194,154)	2,235,763
2018	February	4,207,163	72.7130507%	3,059,157	6,611,534	65.2053%	(4,311,070)	(1,251,914)
2018	March	4,408,777	72.7130507%	3,205,756	4,863,891	65.2053%	(3,171,514)	34,242
2018	April	4,357,763	72.7130507%	3,168,662	4,898,653	65.2053%	(3,194,181)	(25,519)
2018	May	1,949,686	72.7130507%	1,417,676	4,283,009	65.2053%	(2,792,749)	(1,375,072)
2018	June	9,594,979	72.7130507%	6,976,802	6,106,131	65.2053%	(3,981,521)	2,995,281
2018	July	7,017,359	72.7130507%	5,102,536	7,009,187	65.2053%	(4,570,362)	532,174
2018	August	8,991,684	72.7130507%	6,538,128	6,449,559	65.2053%	(4,205,454)	2,332,674
2018	September	4,496,588	72.7130507%	3,269,606	6,922,525	65.2053%	(4,513,853)	(1,244,247)
2018	October	8,315,873	72.7130507%	6,046,725	4,890,719	65.2053%	(3,189,008)	2,857,717
2018	November	7,870,683	72.7130507%	5,723,014	4,520,378	65.2053%	(2,947,526)	2,775,488
2018	December	10,505,708	72.7130507%	7,639,021	10,538,080	65.2053%	(6,871,387)	767,634
		77,808,590		56,576,999	70,458,658			10,634,221

EE Program Costs	56,577,001
EE Revenue Requirement	86,767,491
% Revenue related to Program Costs	65.2053%

NC Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29% 6.83%			0.766497	
2018	January	2,235,763	0.236149	527,973	527,973	1,707,790	0.006075	5,187	5,187	0.766497	6,768
2018	February	983,849	0.236149	(295,638)	232,335	751,514	0.006075	7,470	12,658	0.766497	16,514
2018	March	1,018,091	0.236149	8,086	240,421	777,670	0.006075	4,645	17,302	0.766497	22,573
2018	April	992,572	0.236149	(6,026)	234,395	758,177	0.006075	4,665	21,968	0.766497	28,660
2018	May	(382,500)	0.236149	(324,722)	(90,327)	(292,173)	0.006075	1,415	23,383	0.766497	30,506
2018	June	2,612,781	0.236149	707,333	617,006	1,995,775	0.006075	5,175	28,558	0.766497	37,257
2018	July	3,144,955	0.236149	125,672	742,678	2,402,277	0.006075	13,359	41,917	0.766497	54,686
2018	August	5,477,629	0.236149	550,859	1,293,537	4,184,092	0.005692	18,744	60,661	0.766497	79,140
2018	September	4,233,382	0.236149	(293,828)	999,709	3,233,673	0.005692	21,110	81,770	0.766497	106,680
2018	October	7,091,099	0.236149	674,847	1,674,556	5,416,543	0.005692	24,617	106,387	0.766497	138,797
2018	November	9,866,587	0.236149	655,429	2,329,985	7,536,603	0.005692	36,862	143,250	0.766497	186,889
2018	December	10,634,221	0.236149	181,276	2,511,261	8,122,961	0.005692	44,565	187,814	0.766497	245,029
								187,814			245,029

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Residential DSM Programs Vintage 2018

NC Residential EE		Residential EE Program Costs Incurred	NC Allocation %	NC Allocated EE Program Costs	NC Residential Revenue Collected	NC Residential EE Program Collection %	EE Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5 pg. 4, Line 9			see calc. at right		
2018	January	1,796,566	32.1574721%	577,730	629,131	78.9688%	(496,817)	80,913
2018	February	1,530,759	32.1574721%	492,253	1,236,115	78.9688%	(976,146)	(483,892)
2018	March	1,744,325	32.1574721%	560,931	909,370	78.9688%	(718,119)	(157,188)
2018	April	1,806,257	32.1574721%	580,847	915,869	78.9688%	(723,251)	(142,404)
2018	May	1,425,924	32.1574721%	458,541	800,766	78.9688%	(632,356)	(173,814)
2018	June	3,051,553	32.1574721%	981,302	1,141,623	78.9688%	(901,526)	79,776
2018	July	3,527,230	32.1574721%	1,134,268	1,310,462	78.9688%	(1,034,856)	99,412
2018	August	3,581,196	32.1574721%	1,151,622	1,205,832	78.9688%	(952,231)	199,391
2018	September	4,029,852	32.1574721%	1,295,899	1,294,259	78.9688%	(1,022,061)	273,837
2018	October	3,506,777	32.1574721%	1,127,691	914,386	78.9688%	(722,080)	405,611
2018	November	1,643,444	32.1574721%	528,490	845,145	78.9688%	(667,401)	(138,911)
2018	December	2,762,644	32.1574721%	888,396	1,970,236	78.9688%	(1,555,872)	(667,476)
		30,406,527		9,777,970	13,173,193		(10,402,715)	(624,745)

DSM Program Costs	9,777,970
DSM Revenue Requirement	12,382,064
% Revenue related to Program Costs	78.9688%

NC Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29% 6.83%			0.766497	
2018	January	80,913	0.236149	19,108	19,108	61,806	0.006075	188	188	0.766497	245
2018	February	(402,979)	0.236149	(114,271)	(95,163)	(307,816)	0.006075	(747)	(560)	0.766497	(730)
2018	March	(560,167)	0.236149	(37,120)	(132,283)	(427,884)	0.006075	(2,235)	(2,794)	0.766497	(3,645)
2018	April	(702,571)	0.236149	(33,629)	(165,911)	(536,660)	0.006075	(2,930)	(5,724)	0.766497	(7,468)
2018	May	(876,386)	0.236149	(41,046)	(206,958)	(669,428)	0.006075	(3,663)	(9,388)	0.766497	(12,247)
2018	June	(796,610)	0.236149	18,839	(188,119)	(608,491)	0.006075	(3,882)	(13,269)	0.766497	(17,311)
2018	July	(697,198)	0.236149	23,476	(164,643)	(532,555)	0.006075	(3,466)	(16,735)	0.766497	(21,833)
2018	August	(497,807)	0.236149	47,086	(117,557)	(380,250)	0.006075	(2,773)	(19,508)	0.766497	(25,451)
2018	September	(223,970)	0.236149	64,666	(52,890)	(171,079)	0.005692	(1,569)	(21,077)	0.766497	(27,497)
2018	October	181,642	0.236149	95,785	42,895	138,747	0.005692	(92)	(21,169)	0.766497	(27,618)
2018	November	42,731	0.236149	(32,804)	10,091	32,640	0.005692	488	(20,681)	0.766497	(26,981)
2018	December	(624,745)	0.236149	(157,624)	(147,533)	(477,212)	0.005692	(1,265)	(21,946)	0.766497	(28,632)
								(21,946)			(28,632)

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation - Non- Residential EE Programs Vintage 2018

NC Non- Residential EE		Non-Residential EE Program Costs Incurred	NC Allocation %	NC Allocated EE Program Costs	NC Residential Revenue Collected	NC Non-Residential EE Program Collection %	Non-Residential EE Program Costs Revenue Collected	(Over)/Under Collection
			Miller Exhibit 5. pg 4, Line 4			See calc. at right		
2018	January	4,673,061	72.7130507%	3,397,925	1,957,913	54.3091341%	(1,063,325)	2,334,600
2018	February	7,695,239	72.7130507%	5,595,443	4,028,107	54.3091341%	(2,187,630)	3,407,813
2018	March	3,924,553	72.7130507%	2,853,662	3,609,259	54.3091341%	(1,960,157)	893,505
2018	April	3,329,880	72.7130507%	2,421,257	3,808,504	54.3091341%	(2,068,365)	352,892
2018	May	3,622,228	72.7130507%	2,633,832	3,892,120	54.3091341%	(2,113,777)	520,056
2018	June	3,399,916	72.7130507%	2,472,183	4,770,029	54.3091341%	(2,590,562)	(118,379)
2018	July	4,064,438	72.7130507%	2,955,377	4,861,345	54.3091341%	(2,640,154)	315,223
2018	August	3,790,914	72.7130507%	2,756,489	4,804,248	54.3091341%	(2,609,146)	147,344
2018	September	3,217,141	72.7130507%	2,339,281	5,326,524	54.3091341%	(2,892,789)	(553,508)
2018	October	3,753,904	72.7130507%	2,729,578	5,686,288	54.3091341%	(3,088,174)	(358,595)
2018	November	3,782,445	72.7130507%	2,750,331	3,774,427	54.3091341%	(2,049,859)	700,472
2018	December	6,005,262	72.7130507%	4,366,609	5,480,038	54.3091341%	(2,976,161)	1,390,448
		51,258,981		37,271,969	51,998,801		(28,240,099)	9,031,870

Non-Res EE Program Costs	37,271,969
Non-Res EE Revenue Requirement	68,629,282
% Revenue related to Program Costs	54%

NC Non-Residential EE		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29% 6.83%			0.766497	
2018	January	2,334,600	0.236149	551,313.41	551,313	1,783,286	0.006075	5,417	5,417	0.766497	7,067
2018	February	5,742,413	0.236149	804,751.59	1,356,065	4,386,348	0.006075	18,740	24,157	0.766497	31,516
2018	March	6,635,918	0.236149	211,000.34	1,567,065	5,068,852	0.006075	28,720	52,877	0.766497	68,985
2018	April	6,988,810	0.236149	83,335.06	1,650,400	5,338,409	0.006075	31,612	84,489	0.766497	110,228
2018	May	7,508,865	0.236149	122,810.66	1,773,211	5,735,654	0.006075	33,637	118,127	0.766497	154,112
2018	June	7,390,486	0.236149	(27,955.08)	1,745,256	5,645,230	0.006075	34,569	152,696	0.766497	199,213
2018	July	7,705,709	0.236149	74,439.49	1,819,695	5,886,013	0.006075	35,026	187,722	0.766497	244,909
2018	August	7,853,053	0.236149	34,795.04	1,854,491	5,998,562	0.005692	33,822	221,544	0.766497	289,034
2018	September	7,299,545	0.236149	(130,710.25)	1,723,780	5,575,765	0.005692	32,939	254,482	0.766497	332,007
2018	October	6,940,950	0.236149	(84,681.96)	1,639,098	5,301,851	0.005692	30,956	285,438	0.766497	372,393
2018	November	7,641,422	0.236149	165,415.88	1,804,514	5,836,908	0.005692	31,699	317,137	0.766497	413,749
2018	December	9,031,870	0.236149	328,352.93	2,132,867	6,899,003	0.005692	36,244	353,382	0.766497	461,035
								353,382			461,035

Note 1: Amounts represent all revenue actually collected through 2018.

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1192
Estimated Return Calculation -Non - Residential DSM Programs Vintage 2018

NC Non- Residential DSM		Total System NC DSM Program Costs Incurred	NC Non-Residential DSM Allocation %	NC Allocated DSM Non-Residential Program Costs	NC Non-Residential DSM Revenue Collected	NC Non-Residential DSM Program Collection %	Non-Residential DSM Program Costs Revenue Collected	(Over)/Under Collection
			See Miller Exhibit 5 pg. 4, Line 10					
2018	January	1,796,566	41.4712829%	745,059	517,085	78.9688266%	(408,336)	336,723
2018	February	1,530,759	41.4712829%	634,825	1,108,919	78.9688266%	(875,700)	(240,875)
2018	March	1,744,325	41.4712829%	723,394	976,678	78.9688266%	(771,271)	(47,877)
2018	April	1,806,257	41.4712829%	749,078	1,056,527	78.9688266%	(834,327)	(85,249)
2018	May	1,425,924	41.4712829%	591,349	1,064,087	78.9688266%	(840,297)	(248,948)
2018	June	3,051,553	41.4712829%	1,265,518	1,275,106	78.9688266%	(1,006,936)	258,582
2018	July	3,527,230	41.4712829%	1,462,788	1,327,182	78.9688266%	(1,048,060)	414,727
2018	August	3,581,196	41.4712829%	1,485,168	1,298,531	78.9688266%	(1,025,435)	459,733
2018	September	4,029,852	41.4712829%	1,671,231	1,432,259	78.9688266%	(1,131,038)	540,194
2018	October	3,506,777	41.4712829%	1,454,305	1,521,526	78.9688266%	(1,201,531)	252,774
2018	November	1,643,444	41.4712829%	681,557	1,048,352	78.9688266%	(827,872)	(146,314)
2018	December	2,762,644	41.4712829%	1,145,704	1,448,672	78.9688266%	(1,143,999)	1,705
		30,406,527		12,609,977	14,074,924		(11,114,802)	1,495,175

DSM Program Costs	12,609,977
DSM Revenue Requirement	15,968,297
% Revenue related to Program Costs	79%

NC Non-Residential DSM		Cumulative (Over)/Under Recovery	Current Income Tax Rate	Monthly Deferred Income Tax	Cumulative Deferred Income Tax	Net Deferred After Tax Balance	Monthly Return	Monthly A/T Return on Deferral	YTD After Tax Interest	Gross up of Return to Pretax Rate	Gross up of Return to Pretax
			2018				7.29% 6.83%			0.766497	
2018	January	336,723	0.236149	79,517	79,517	257,206	0.006075	781	781	0.766497	1,019
2018	February	95,848	0.236149	(56,882)	22,634	73,214	0.006075	1,004	1,785	0.766497	2,329
2018	March	47,971	0.236149	(11,306)	11,328	36,642	0.006075	334	2,119	0.766497	2,764
2018	April	(37,278)	0.236149	(20,131)	(8,803)	(28,475)	0.006075	25	2,143	0.766497	2,796
2018	May	(286,226)	0.236149	(58,789)	(67,592)	(218,634)	0.006075	(751)	1,393	0.766497	1,817
2018	June	(27,644)	0.236149	61,064	(6,528)	(21,116)	0.006075	(728)	665	0.766497	867
2018	July	387,083	0.236149	97,937	91,409	295,674	0.006075	834	1,499	0.766497	1,955
2018	August	846,816	0.236149	108,566	199,975	646,841	0.005692	2,682	4,181	0.766497	5,454
2018	September	1,387,010	0.236149	127,566	327,541	1,059,469	0.005692	4,856	9,037	0.766497	11,790
2018	October	1,639,784	0.236149	59,692	387,233	1,252,551	0.005692	6,580	15,616	0.766497	20,374
2018	November	1,493,470	0.236149	(34,552)	352,681	1,140,788	0.005692	6,811	22,427	0.766497	29,260
2018	December	1,495,175	0.236149	403	353,084	1,142,091	0.005692	6,497	28,924	0.766497	37,735
								28,924			37,735

Note 1: Amounts represent all revenue actually collected through 2018.

Miller Exhibit 4

Duke Energy Carolinas, LLC
DSM/EE Actual Revenues Collected from Years 2015-2018 (By Vintage)
and Estimated 2019 Collections from revised forecast of Rider 10 (by Vintage)
Docket Number E-7, Sub 1192
For Vintage Year 2015-2019 Estimate and True Up Calculations

Line			Actual 2015 Rider 6	Actual 2016 Rider 7	Actual 2017 Rider 8	Actual 2018 Rider 9	Estimated 2019 Rider 10 [1]	Total
	Residential							
1	EE/DSM	Year 2015	58,227,163	4,026,042	10,183,996	8,311,657	(1,014,271)	79,734,588
2		Year 2016		58,184,868	5,570,022	27,108,101	(2,560,305)	88,302,686
3		Year 2017			61,914,541	4,435,871	35,770,078	102,120,490
4		Year 2018				83,631,851	6,294,025	89,925,876
5		Year 2019					77,019,869	77,019,869
6	**Total Residential**		$ 58,227,163	$ 62,210,909	$ 77,668,559	$ 123,487,480	$ 115,509,396	$ 437,103,508
	Non-Residential							
7	EE	Year 2015	25,791,031	8,194,784	24,104,955	7,986,755	456,319	66,533,843
8		Year 2016		45,662,897	8,632,771	36,292,834	(2,329,721)	88,258,782
9		Year 2017			46,928,129	10,882,796	67,733,478	125,544,403
10		Year 2018				51,998,801	12,285,044	64,283,845
11		Year 2019					55,797,199	55,797,199
12	DSM	Year 2015	19,579,477	280,553	(2,398,768)	(515,157)	(451,445)	16,494,660
13		Year 2016		14,637,127	251,004	276,923	(267,721)	14,897,332
14		Year 2017			15,361,431	(1,084)	86,311	15,446,658
15		Year 2018				14,074,924	534,763	14,609,687
16		Year 2019					15,847,512	15,847,512
17	**Total Non-Residential**		$ 45,370,507	$ 68,775,361	$ 92,879,523	$ 120,996,791	$ 149,691,739	$ 477,713,921
18	**Total Revenue**		**$ 103,597,671**	**$ 130,986,270**	**$ 170,548,082**	**$ 244,484,271**	**$ 265,201,135**	**$ 914,817,429**

[1] Rider 10 estimates are based on Order issued in Docket No. E-7 Sub 1164 dated 9/11/18

Duke Energy Carolinas, LLC
Vintage Year 2015 Allocation Factors for the Period January 1, 2015 to December 31, 2015
Docket Number E-7, Sub 1192
Allocation Factors

Line			MWH
	New Mechanism Sales Allocator at Generator		
1	NC Retail MWH Sales Allocation	Company Records	59,567,575
2	SC Retail MWH Sales Allocation	Company Records	22,080,529
3	Total Retail	Line 1 + Line 2	81,648,104
	Allocation 1 to state based on kWh sales		
4	NC Retail	Line 1 / Line 3	**72.9564706%**

	Demand Allocators		**NC**	**SC**	**Total**
5	Residential	Company Records	4,994,057	1,469,714	6,463,771
6	Non Residential	Company Records	6,518,371	2,373,858	8,892,229
7	Total	Line 5 + Line 6	11,512,428	3,843,572	15,356,000
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	**74.9702266%**		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 NC/ Line 7 Total	**32.5218612%**		
10	NC Non-residential	Line 6 NC/ Line 7 Total	**42.4483655%**		

Duke Energy Carolinas, LLC
Vintage Year 2016 Allocation Factors for the Period January 1, 2016 to December 31, 2016
Docket Number E-7, Sub 1192
Allocation Factors

Line			MWH
	New Mechanism Sales Allocator at Generator		
1	NC Retail MWH Sales Allocation	Company Records	60,762,752
2	SC Retail MWH Sales Allocation	Company Records	22,364,255
3	Total Retail	Line 1 + Line 2	83,127,007
	Allocation 1 to state based on kWh sales		
4	NC Retail	Line 1 / Line 3	**73.0962827%**

	Demand Allocators		**NC**	**SC**	**Total**
5	Residential	Company Records	5,403,520	1,714,752	7,118,272
6	Non Residential	Company Records	6,525,765	2,343,963	8,869,728
7	Total	Line 5 + Line 6	11,929,285	4,058,715	15,988,000
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	**74.6139917%**		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 NC/ Line 7 Total	**33.7973480%**		
10	NC Non-residential	Line 6 NC/ Line 7 Total	**40.8166437%**		

Duke Energy Carolinas, LLC
Vintage Year 2017 Allocation Factors for the Period January 1, 2017 - December 31, 2017
Docket Number E-7, Sub 1192
Allocation Factors

Line			MWH
	New Mechanism Sales Allocator at Generator		
1	NC Retail MWH Sales Allocation	Company Records	60,219,051
2	SC Retail MWH Sales Allocation	Company Records	22,489,484
3	Total Retail	Line 1 + Line 2	82,708,535
	Allocation 1 to state based on kWh sales		
4	NC Retail	Line 1 / Line 3	**72.8087506%**

	Demand Allocators		**NC**	**SC**	**Total**
5	Residential	Company Records	5,545,784	1,803,958	7,349,742
6	Non Residential	Company Records	6,573,854	2,480,404	9,054,258
7	Total	Line 5 + Line 6	12,119,638	4,284,362	16,404,000
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	**73.8822117%**		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 NC/ Line 7 Total	**33.8075104%**		
10	NC Non-residential	Line 6 NC/ Line 7 Total	**40.0747013%**		

Duke Energy Carolinas, LLC
Vintage Year 2018 Allocation Factors for the Period January 1, 2018 - December 31, 2020
Docket Number E-7, Sub 1192
Allocation Factors

Line			MWH
	New Mechanism Sales Allocator at Generator		
1	NC Retail MWH Sales Allocation	Company Records	58,534,269
2	SC Retail MWH Sales Allocation	Company Records	21,966,093
3	Total Retail	Line 1 + Line 2	80,500,362
	Allocation 1 to state based on kWh sales		
4	NC Retail	Line 1 / Line 3	**72.7130507%**

	Demand Allocators		**NC**	**SC**	**Total**
5	Residential	Company Records	5,078,308	1,617,566	6,695,874
6	Non Residential	Company Records	6,549,145	2,546,981	9,096,126
7	Total	Line 5 + Line 6	11,627,453	4,164,547	15,792,000
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	**73.6287551%**		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 NC/ Line 7 Total	**32.1574721%**		
10	NC Non-residential	Line 6 NC/ Line 7 Total	**41.4712829%**		

Duke Energy Carolinas, LLC
DSM/EE Cost Recovery Rider 11
Docket Number E-7 Sub 1192
Forecasted 2020 kWh Sales for Rate Period for Vintage Years 2015-2020

	Fall 2018 Sales Forecast - kWhs	**Forecasted 2020 sales**
	North Carolina Retail:	
Line		
1	Residential	**21,487,301,475**
2	Non-Residential	**35,668,140,542**
3	Total Retail	**57,155,442,017**

	NC Opt Out Sales	**Total Usage**	**Revised Opt-Outs**	**Net Usage**
	Vintage 2015 Actual Opt Out			
4	EE	35,668,140,542	17,296,168,323	18,371,972,219
5	DSM	35,668,140,542	17,254,905,530	18,413,235,012
	Vintage 2016 Actual Opt Out			
6	EE	35,668,140,542	17,541,642,770	18,126,497,772
7	DSM	35,668,140,542	17,501,309,036	18,166,831,506
	Vintage 2017 Actual Opt Out			
8	EE	35,668,140,542	17,749,899,702	17,918,240,840
9	DSM	35,668,140,542	17,532,357,862	18,135,782,680
	Vintage 2018 Estimated Opt Out			
10	EE	35,668,140,542	18,347,183,120	17,320,957,422
11	DSM	35,668,140,542	17,611,595,199	18,056,545,344
	Vintage 2019 Estimated Opt Out			
12	EE	35,668,140,542	18,483,624,730	17,184,515,812
13	DSM	35,668,140,542	17,568,801,199	18,099,339,344
	Vintage 2020 Estimated Opt Out			
14	EE	35,668,140,542	18,483,624,730	17,184,515,812
15	DSM	35,668,140,542	17,568,801,199	18,099,339,344

Rider EE (NC)
ENERGY EFFICIENCY RIDER

APPLICABILITY (North Carolina Only)

Service supplied under the Company's rate schedules is subject to approved adjustments for new energy efficiency and demand-side management programs approved by the North Carolina Utilities Commission (NCUC). The Rider Adjustments are not included in the Rate Schedules of the Company and therefore, must be applied to the bill as calculated under the applicable rate.

As of January 1, 2020, cost recovery under Rider EE consists of the four year term program, years 2014-2017, as well as rates under the continuation of that program for years 2018-2020 as outlined below. This Rider applies to service supplied under all rate schedules, except rate schedules OL, FL, PL, GL and NL for program years 2015-2020.

GENERAL PROVISIONS

This Rider will recover the cost of new energy efficiency and demand-side management programs beginning January 1, 2014, using the method approved by the NCUC as set forth in Docket No. E-7 Sub 1032, Order dated October 29, 2013, as revised by Docket No. E-7, Sub 1130, Order dated August 23, 2017.

TRUE-UP PROVISIONS

Rider amounts will initially be determined based on estimated kW and kWh impacts related to expected customer participation in the programs, and will be trued-up as actual customer participation and actual kW and kWh impacts are verified. If a customer participates in any vintage of programs, the customer is subject to the true-ups as discussed in this section for any vintage of programs in which the customer participated.

RIDER EE OPT OUT PROVISION FOR QUALIFYING NON-RESIDENTIAL CUSTOMERS

The Rider EE increment applicable to energy efficiency programs and/or demand-side management programs will not be applied to the energy charge of the applicable rate schedule for customers qualified to opt out of the programs where:

a. The customer has notified the Company that it has implemented, or has plans for implementing, alternative energy efficiency measures in accordance with quantifiable goals.
b. Electric service to the customer must be provided under:
    1. An electric service agreement where the establishment is classified as a "manufacturing industry" by the Standard Industrial Classification Manual published by the United States Government and where more than 50% of the electric energy consumption of such establishment is used for its manufacturing processes. Additionally, all other agreements billed to the same entity associated with the manufacturing industry located on the same or contiguous properties are also eligible to opt out.
    2. An electric service agreement for general service as provided for under the Company's rate schedules where the customer's annual energy use is 1,000,000 kilowatt hours or more. Additionally, all other agreements billed to the same entity with lesser annual usage located on the same or contiguous properties are also eligible to opt out.

The following additional provisions apply for qualifying customers who elect to opt out:

For customers who elect to opt out of energy efficiency programs, the following provisions also apply:

- Qualifying customers may opt out of the Company's energy efficiency programs each calendar year only during the annual two-month enrollment period between November 1 and December 31 immediately prior to a new Rider EE becoming effective on January 1. (Qualifying new customers have sixty days after beginning service to opt out).
- Customers may not opt out of individual energy efficiency programs offered by the Company. The choice to opt out applies to the Company's entire portfolio of energy efficiency programs.
- If a customer participates in any vintage of energy efficiency programs, the customer, irrespective of future opt out decisions, remains obligated to pay the remaining portion of the lost revenues for each vintage of energy efficiency programs in which the customer participated.
- Customers who elect to opt out during the two-month annual enrollment period immediately prior to the new Rider EE becoming effective may elect to opt in to the Company's energy efficiency programs during the first 5 business days of March each calendar year. Customers making this election will be back-billed retroactively to the effective date of the new Rider EE.

For customers who elect to opt out of demand-side management programs, the following provisions also apply:

- Qualifying customers may opt out of the Company's demand-side management program during the enrollment period between November 1 and December 31 immediately prior to a new Rider EE becoming effective on January 1 of the applicable year. (Qualifying new customers have sixty days after beginning service to opt out).

Rider EE (NC)
ENERGY EFFICIENCY RIDER

- If a customer elects to participate in a demand-side management program, the customer may not subsequently choose to opt out of demand-side management programs for three years.
- Customers who elect to opt out during the two-month annual enrollment period immediately prior to the new Rider EE becoming effective may elect to opt in to the Company's demand-side management program during the first 5 business days of March each calendar year. Customers making this election will be back-billed to the effective date of the new Rider EE.

Any qualifying non-residential customer that has not participated in an energy efficiency or demand-side management program may opt out during any enrollment period, and has no further responsibility to pay Rider EE amounts associated with the customer's opt out election for energy efficiency and/or demand-side management programs.

ENERGY EFFICIENCY RIDER ADJUSTMENTS (EEA) FOR ALL PROGRAM YEARS

The Rider EE amounts applicable to the residential and nonresidential rate schedules for the period January 1, 2019 through December 31, 2019 including utility assessments are as follows:

Residential	Vintage 2015[1],2016[1], 2017[1], 2018[1]	0.0956¢ per kWh
	Vintage 2017[2], 2018[2], 2019[2], 2020[2]	0.3892¢ per kWh
	Total Residential Rate	0.4848¢ per kWh
Nonresidential		
Vintage 2015[3]		
	Energy Efficiency	0.0064¢ per kWh
	Demand Side Management	0.0001¢ per kWh
Vintage 2016[3]		
	Energy Efficiency	0.0512¢ per kWh
	Demand Side Management	0.0001¢ per kWh
Vintage 2017[3]		
	Energy Efficiency	0.0957¢ per kWh
	Demand Side Management	0.0000¢ per kWh
Vintage 2018[3]		
	Energy Efficiency	0.0827¢ per kWh
	Demand Side Management	0.0077¢ per kWh
Vintage 2019[3]		
	Energy Efficiency	0.0509¢ per kWh
	Demand Side Management	0.0000¢ per kWh
Vintage 2020[3]		
	Energy Efficiency	0.3082¢ per kWh
	Demand Side Management	0.1101¢ per kWh
Total Nonresidential		0.7131¢ per kWh

[1] Includes the true-up of program costs, shared savings and lost revenues from Year 1 of Vintage 2018 and Year 2 of Vintage 2017, and Year 3 of 2016 and Year 4 of 2015.
[2] Includes prospective component of Vintage 2017, 2018, 2019 and 2020
[3] Not Applicable to Rate Schedules OL, FL, PL, GL, and NL.

Each factor listed under Nonresidential is applicable to nonresidential customers who are not eligible to opt out and to eligible customers who have not opted out. If a nonresidential customer has opted out of a Vintage(s), then the applicable energy efficiency and/or demand-side management charge(s) shown above for the Vintage(s) during which the customer has opted out, will not apply to the bill.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1192

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

I. INTRODUCTION AND PURPOSE

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

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

Q. PLEASE BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

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

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

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

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

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

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

Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

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

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

A. My testimony supports DEC's Application for approval of its DSM/EE Cost Recovery Rider, Rider EE, for 2020 ("Rider 11"), which encompasses the Company's currently effective cost recovery and incentive mechanism ("Mechanism") and portfolio of programs approved in the Commission's *Order Approving DSM/EE Programs and Stipulation of Settlement* issued October 29, 2013, in Docket No. E-7, Sub 1032 ("Sub 1032 Order"). My testimony provides (1) a discussion of items the Commission specifically directed the Company to address in this proceeding; (2) an overview of the Commission's Rule R8-69 filing requirements; (3) a synopsis of the DSM/EE programs included in this filing; (4) a discussion of program results; (5) an explanation of how these results have affected the Rider 11 calculations; (6) information on DEC'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, for each program, load impacts and avoided cost revenue requirements by vintage. Evans Exhibit 2 contains a summary of net lost revenues for the period January 1, 2015 through December 31, 2020. Evans

Exhibit 3 contains the actual program costs for North Carolina for the period January 1, 2014 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 and the results of DEC's programs and a comparison of actual impacts to previous estimates. Evans Exhibit 7 contains the projected program and portfolio cost-effectiveness results for the Company's current portfolio of programs. Evans Exhibit 8 contains a summary of 2018 program performance and an explanation of the variances between the forecasted program results and the actual results. Evans Exhibit 9 is a list of DEC's industrial and large commercial customers that have opted out of participation in its DSM or EE programs and a listing of those customers that have elected to opt in to DEC's DSM or EE programs after having initially notified the Company that they declined to participate, as required by Commission Rule R8-69(d)(2). Evans Exhibit 10 contains the projected shared savings incentive (PPI) associated with Vintage 2020. Evans Exhibit 11 provides a summary of the estimated activities and timeframe for completion of EM&V by program. Evans Exhibit 12 provides the actual and expected dates when the EM&V for each program or measure will become effective. Evans Exhibits A through L provide the detailed completed EM&V reports or updates for the following: PowerShare Program 2017 (Evans Exhibit A); Nonresidential Smart $aver Energy Efficient Products and Assessment – Prescriptive 2015-2017 (Evans Exhibit B); Residential Energy Efficient Appliances and Devices – Retail

Lighting 2016-2017 (Evans Exhibit C); Power Manager Load Control Service 2017 (Evans Exhibit D); Residential Smart $aver EE - HVAC 2016-2017 (Evans Exhibit E); Residential Income-Qualified EE and Weatherization Assistance 2015-2016 (Evans Exhibit F); Small Business Energy Saver 2016-2017 (Evans Exhibit G); Revised Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom 2014-2015 (Evans Exhibit H); Residential Energy Efficient Appliances and Devices – Online Savings Store 2015-2017 (Evans Exhibit I); Residential Energy Assessment 2016-2017 (Evans Exhibit J); EnergyWise for Business 2017 (Evans Exhibit K); and Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom 2016-2017 (Evans Exhibit L).

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

A. Yes, they were.

II. ACTIONS ORDERED BY THE COMMISSION

Q. PLEASE DESCRIBE THE ACTIONS THE COMMISSION DIRECTED DEC TO TAKE IN THE COMMISSION'S ORDER IN DOCKET NO. E-7, SUB 1164.

A. In its September 11, 2018 *Order Approving DSM/EE Rider and Requiring Filing of Customer Notice* in Docket No. E-7, Sub 1164 ("Sub 1164") Order, the Commission ordered: (1) that the Company shall propose modifications to the Residential Smart $aver EE Program no later than October 31, 2018, with the goal of restoring the Total Resource Cost ("TRC") score to 1.0 or greater,

and the Company shall include a discussion of impact of these modifications and any other actions it has taken to improve cost-effectiveness in next year's DSM/EE rider proceeding; (2) that in its next rider application, DEC shall address the continuing cost-effectiveness of the Nonresidential Smart $aver Performance Incentive Program and if it is not cost-effective, provide details of plans to modify or close the program; (3) that the EM&V report for the Nonresidential Smart $aver Custom program shall be revised as discussed by Public Staff witness Williamson and refiled in the next rider; (4) that DEC shall leverage its Collaborative to discuss the EM&V issues and program design issues raised in the testimony of Southern Alliance for Clean Energy ("SACE"), Natural Resources Defense Council, and NC Justice Center (collectively, "NCJC") witness Neme, and the results of these discussions shall be reported to the Commission in the Company's 2019 DSM/EE rider filing; and (5) that beginning in 2019, the combined DEC/DEP Collaborative shall meet every other month.

Q. DID THE COMPANY FILE PROPOSED MODIFICATIONS TO ITS RESIDENTIAL SMART $AVER EE PROGRAM WITH THE COMMISSION WITH THE GOAL OF RESTORING THE TRC SCORE TO 1.0 OR GREATER?

A. The Company filed its proposed program modifications with the Commission on October 31, 2018.

Q. WHAT ACTIONS HAS THE COMPANY TAKEN TO IMPROVE THE COST-EFFECTIVENESS SCORES OF THE RESIDENTIAL SMART $AVER EE PROGRAM?

A. The Company is: (1) recognizing the lower incremental costs of higher efficiency HVAC equipment using participant cost auditing tools allowing it to review costs across various contractors, brands, and efficiency levels; (2) improving Trade Ally engagement by making participation less costly and streamlining requirements; (3) reducing program administration costs; and (4) implementing a three-year phase-in to a referral-only channel.

Q. WHAT ARE THE ANTICIPATED COST-EFFECTIVENESS RESULTS RESIDENTIAL SMART $AVER EE PROGRAM RESULTS DUE TO THESE MODIFICATIONS?

A. The program's updated cost-effectiveness results from its October 31, 2018 filing and the previous results reported in Docket No. E-7, Sub 1164 have been provided in the following table:

Cost-Effectiveness Tests	Updated Results:	Previous Results:
Utility Cost Test *(UCT)*	1.42	0.94
Total Resource Cost Test *(TRC)*	1.01	0.59
Rate Impact Measure Test *(RIM)*	0.66	0.45
Participant Test	1.77	1.52

It is important to note that the previous estimates were based on calendar year 2019 and the updated cost-effectiveness estimates are based on the five-year period beginning in 2019. Also, in its October 31, 2018 filing, the Company

had projected a 0.91 TRC score for 2020 as part of the five-year period it used for its projected overall TRC score. The Company's updated estimate for 2020 is 0.95 which in isolation would imply that the 1.01 TRC score, referenced above, had been understated.

Q. DID THE COMMISSION APPROVE THE COMPANY'S PROPOSED RESIDENTIAL SMART $AVER EE PROGRAM MODIFICATIONS?

A. Yes. The Commission approved the proposed program modifications in its January 7, 2019 Order issued in Docket No. E-7, Subs 1032 and 1164.

Q. HAVE THERE BEEN ANY CHANGES IN THE RESIDENTIAL SMART $AVER EE PROGRAM'S TRC SCORE SINCE THE COMPANY MADE ITS OCTOBER 31, 2018 FILING?

A. Yes. As indicated above, the forecasted TRC score for 2020 is greater than that contained in the October 31, 2018 filing.

Q. PLEASE ADDRESS THE COST-EFFECTIVENESS OF THE COMPANY'S NONRESIDENTIAL SMART $AVER PERFORMANCE INCENTIVE PROGRAM.

A. DEC's Nonresidential Smart $aver Performance Incentive Program is expected to have a TRC cost-effectiveness score exceeding 1.0 and as such, the program is deemed by the Company to be cost-effective. Projections of the program's cost-effectiveness results, and those previously reported in Sub 1164, have been provided in the following table:

Cost-Effectiveness Tests	Updated Results:	Previous Results:
Utility Cost Test *(UCT)*	3.29	2.70

Total Resource Cost Test *(TRC)*	1.06	0.81
Rate Impact Measure Test *(RIM)*	0.33	0.69
Participant Test	1.79	1.50

III. PUBLIC STAFF'S EM&V RECOMMENDATION

Q. PLEASE DESCRIBE PUBLIC STAFF WITNESS WILLIAMSON'S RECOMMENDATION REGARDING THE COMPANY'S NONRESIDENTIAL SMART $AVER - CUSTOM EM&V REPORT.

A. In the Sub 1164 proceeding, Public Staff witness Williamson recommended that the filed EM&V report for the Nonresidential Smart $aver - Custom should not be considered complete until a revised report, containing an adjusted net-to-gross scoring scale, is filed by the Company in the 2019 rider proceeding.

Q. HAS DEC INCLUDED A REVISED NONRESIDENTIAL SMART $AVER – CUSTOM EM&V REPORT, ADDRESSING WITNESS WILLIAM'S RECOMMENDED MODIFICATION?

A. Yes. The revised Nonresidential Smart $aver - Custom EM&V report is identified as Evans Exhibit H, and includes tracked changes to show what has changed from the version filed in Sub 1164.

IV. NCJC RECOMMENDATIONS & COLLABORATIVE

Q. HAS THE COLLABORATIVE MET AFTER THE ISSUANCE OF COMMISSION'S SUB 1164 ORDER?

A. Yes. Subsequent to the Commission's September 11, 2018 Sub 1164 Order, The Collaborative has met on three occasions: September 27, 2018; November 27, 2018; and January 31, 2019.

Q. WERE NCJC WITNESS NEME'S RECOMMENDATIONS DISCUSSED BY THE COLLABORATIVE?

A. Yes. The Collaborative discussed the key issues affecting each of the topics, which are outlined below, and considered the likelihood of the group being able to make a positive contribution at this time. The following contains a summary of the discussions and their outcome:

TRM ("Technical Resource Manual")

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 DEC and DEP, the group decided it is not the appropriate venue to pursue questions related to a state-wide or multi-state TRM at this time. The Collaborative should, however, advise on ways to ensure that the Company's EM&V is transparent, reliable, consistent with industry standards, and updated as needed.

Residential Smart $aver EE Program Participation

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 the Residential Smart $aver EE Program, an issue of importance to many

members of the Collaborative and to the Company. While the membership is committed to developing strategies for overcoming these obstacles, it agreed that the conversation is best located in the Collaborative's larger discussion of threats and opportunities that face EE investments at the portfolio level, especially the parts of the portfolio that promote long-lived measures. Nevertheless, the Collaborative will continue to review the Company's Residential Smart $aver EE Program through the semi-annual program reports and EM&V reviews.

Whole House Retrofits

Whole house retrofit programs face many of the same obstacles identified in the Residential Smart $aver EE Program discussion. The EE opportunities are substantial but are often eclipsed by the large upfront capital investment and the shortage of contractors willing to specialize in this field. The Collaborative will consider the obstacles to whole house retrofits as part of the larger discussion of threats and opportunities that face EE investments in long-lived measures.

Building on Midstream Channel Success

The Collaborative was unanimous in its optimism for midstream expansion in future program years. Furthermore, the Company is committed to investigating opportunities for offering new measures to new markets as it is able. The Collaborative will continue to be a forum to discuss the Company's progress in the midstream arena and make recommendations when appropriate.

My Home Energy Report Program Impact Persistence and Savings

The My Home Energy Report Program ("MyHER") and its EM&V are designed to account for the fact that the program features an opt-out design in that customers remain in the program until they opt out. Issues of persistence are consequently not currently 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 and agrees to investigate the feasibility and cost benefit analysis of incorporating persistence testing in upcoming EM&V studies. Since any testing will require several years to complete, the Collaborative decided that this issue did not warrant further discussion until more information is available. However, the role of this and other programs with short-lived measures will be part of the larger discussion of threats and opportunities at the portfolio level.

Industrial and Large Commercial Opt-Outs

All members of the Collaborative, including the Company, recognize that commercial and industrial customers represent enormous EE potential. DEC program managers explained the Company's comprehensive approach to customer education and engagement in detail. The approach includes the services of Large Account Managers and EE 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 if/when the opt-out guidelines are modified, although the performance of programs aimed to attract commercial and industrial programs will remain part of the semi-annual program reviews and periodic EM&V. Nevertheless, commercial and industrial EE potential will be part of the larger discussion of threats and opportunities at the portfolio level.

Collaborative Effectiveness

In response to intervenor comments in DEC's last rider filing, Duke Energy made a number of modifications to the Collaborative meetings. DEC and DEP meetings are now combined and held bi-monthly. Members are asked 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 agree that the modifications have improved the group's effectiveness. Although the Commission did not require the Collaborative to address low-income programs specifically, the need for equitable accessibility to EE is a high priority for many Collaborative members and for the Company. The Collaborative is committed to discussing the Company's income-qualified programs this year, to

recommending improvements, and to examining opportunities to make existing residential programs more accessible to low- and middle-income customers.

V. RULE R8-69 FILING REQUIREMENTS

Q. WHAT INFORMATION DOES DEC PROVIDE IN RESPONSE TO THE COMMISSION'S FILING REQUIREMENTS?

A. The information for Rider 11 is provided in response to the Commission's filing requirements contained in R8-69(f)(1) and can be found in the testimony and exhibits of Company witnesses Evans and Miller as follows:

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

VI. PORTFOLIO OVERVIEW

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

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

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

RESIDENTIAL CUSTOMER PROGRAMS

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

NONRESIDENTIAL CUSTOMER PROGRAMS

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

- PowerShare CallOption Program (program canceled effective January 31, 2018)
- Small Business Energy Saver Program
- Smart Energy in Offices Program (program canceled effective June 30, 2018)
- EnergyWise for Business Program
- Nonresidential Smart $aver Performance Incentive Program

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

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

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

A. Updates to underlying assumptions that materially impact DEC's 2020 portfolio projection are related to EM&V-related impacts and the cancellation of programs.

Q. PLEASE DESCRIBE THE EM&V IMPACT TO DEC'S ESTIMATED 2020 PROGRAM PORTFOLIO.

A. Changes in the EM&V results were updated to reflect the savings impacts for those programs for which DEC received EM&V results after it prepared its

application in Sub 1164. Updating EM&V for its programs results in changes to the projected avoided cost benefits associated with the projected participation and hence will impact the calculation of the specific program and overall portfolio cost-effectiveness, as well as impact the calculation of DEC's projected shared savings incentive.

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

A. DEC performed a prospective analysis of each of its programs and the aggregate portfolio for the Vintage 2020 period. The cost-effectiveness results for the entire portfolio for Vintage 2020 are contained in Evans Exhibit 7. This exhibit shows that, with the exception of the Income-Qualified EE Products and Services Program, which was not cost-effective at the time of Commission approval, as well as the Residential Smart $aver EE Program, discussed earlier in my testimony, and elements of the Nonresidential Smart $aver Program, the aggregate portfolio continues to project cost-effectiveness. Based on the results of these cost-effectiveness tests, there are no reasons at this time to either discontinue or modify any of DEC's programs. It is important to note that irrespective of cost-effectiveness results, the Company for the purpose of increasing program effectiveness, continues to examine its programs for potential modifications.

Q. WHICH ELEMENTS OF THE NONRESIDENTIAL SMART $AVER WERE NOT COST EFFECTIVE?

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

Q. WOULD IT BE APPROPRIATE TO DISCONTINUE THESE THE ELEMENTS?

A. No, it would not. The Company believes that these elements are important for insuring that a robust portfolio of prescriptive offerings is available for its non-residential customers. In addition, these elements are merely measure categories within a much larger program. The TRC score for the prescriptive portion of the Nonresidential Smart $aver Program is 1.92 and the TRC score for the Nonresidential Smart $aver Program, as a whole, is 1.84.

Q. DID DEC MAKE ANY MODIFICATIONS TO ITS PORTFOLIO OF PROGRAMS DURING VINTAGE 2018?

A. Yes. The Company has made several modifications to its portfolio of programs during Vintage 2018. These modifications were made in compliance with the Flexibility Guidelines approved by the Commission in its Sub 1032 Order. The six impacted programs and summaries of their modifications are provided below.

<u>Nonresidential Smart $aver Energy Efficient Products and Assessment Program</u>

Combined Heat and Power ("CHP") related incentives were removed from this program and added to the Nonresidential Smart $aver Performance

Incentive Program. In addition, incentives were modified, CFL measures were removed, and new measures were added. These new measures include those associated with high efficiency refrigeration, lighting, air circulation, and HVAC-related end-uses.

Nonresidential Smart $aver Performance Incentive Program

Both Bottom and Topping-cycle CHP related incentives and related eligibility guidelines were added to this program. In addition, the incentive payment structure was modified.

Residential Multi-Family EE Program

The program eligibility requirement that four or more multi-family dwelling units per building was removed.

Residential Appliances and Devices Program

New measures were added to the program. These the new measures include Wi-Fi enabled smart thermostats, Thermostatic Valve Shower Start Device enabled low flow shower heads, and Smart Power Strips.

Power Manager Load Control Service

An option was added to the program to allow the use of customer-owned smart thermostats to effectively function as load control devices. In addition, changes were made to provide options with respect to the manner in which incentive payments are provided to program participants (e.g., bill credits, checks, and prepaid credit cards).

PowerShare Nonresidential Load Curtailment Program

The program eligibility requirement which limited the maximum curtailable demand to 50 megawatts was removed.

VII. DSM/EE PROGRAM RESULTS TO DATE

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

A. During Vintage 2018, DEC's DSM/EE programs delivered close to 862 million kilowatt-hours ("kWh") of energy savings and close to 1,048 megawatts ("MW") of capacity savings, which produced net present value of avoided cost savings of over $513 million. The 2018 performance results for individual programs are provided on page 4 of Evans Exhibit 1.

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

A. Yes. During Vintage 2018, DEC's portfolio of programs was able to deliver energy and capacity savings that yielded avoided costs that were 105 percent of the target, and it did so while expending 112 percent of targeted program costs. While the Company's entire portfolio of programs performed well, programs in the portfolio that feature lighting measures continued to contribute the largest portion of the avoided cost impacts. In the residential market, the three highest ranked programs in terms of percentage increases in avoided costs from those forecasted for 2018 were the Energy Efficient Appliances and Devices Program, the Smart $aver EE Program, and the

Power Manager Program. These impacts were achieved largely due to elevated participation of customers adopting measures at a higher rate than originally forecasted. The avoided cost savings impacts for these three programs, compared to those originally filed for Vintage 2018, exceeded the projections by 110 percent, 20 percent, and 6 percent, respectively. The energy savings impacts for the first two of these programs, compared to those originally filed for Vintage 2018, exceeded the projections by 100 percent and 26 percent, respectively. Energy impacts are not tracked for the Power Manager DSM Program.

The nonresidential offering with the largest percentage increase in avoided cost savings impacts from those forecasted for 2018 was the Prescriptive portion of the Nonresidential Smart $aver Energy Efficient Products and Assessments Program. This produced 206 percent of expected avoided costs and 179 percent of expected energy savings.

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

A. Yes. In the residential market, the two lowest ranked programs, in terms of percentage variations in avoided costs from those forecasted for 2018, are the EE Education Program and the Income-Qualified EE and Weatherization Program.

During 2018, the EE Education Program produced 75 percent of forecasted avoided costs, 87 percent of forecasted energy savings, and 87

percent of forecasted capacity savings. The underperformance of this program is due to lower than forecasted program participation.

The Income-Qualified EE and Weatherization Program produced 95 percent of forecasted avoided costs, 99 percent of forecasted energy savings, and 88 percent of forecasted capacity savings. The underperformance of this program is due to lower than forecasted program participation.

VIII. PROJECTED RESULTS

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

A. Consistent with its practices during the save-a-watt pilot, DEC will update the actual and projected EE achievement levels in its annual Rider EE filing to account for any program or measure additions based on the performance of programs, market conditions, economics and consumer demand. The actual results for Vintage 2018 and projection of the results for Vintages 2019 and 2020, as well as the associated projected program expense for DEC's portfolio of programs, are summarized in the following table:

DEC System (NC & SC) DSM/EE Portfolio 2018 Actual Results and 2019-2020 Projected Results			
	2018	2019	2020
Annual System MW	1,048	1,040	1,119
Annual System Net GWh	862	781	695
Annual Program Costs (Millions)	$159	$145	$136

The Vintage 2019 projections are similar to those provided by DEC and reported to the Commission in Sub 1164. The projected impacts and cost for Vintage 2020 are different as a result of updated participation estimates as well as the EM&V results that have been applied to the following programs: PowerShare; Nonresidential Smart $aver Energy Efficient Products and Assessment – Prescriptive; Residential Energy Efficient Appliances and Devices; Power Manager Load Control Service; Residential Smart $aver EE - HVAC; Residential Income-Qualified EE and Weatherization Assistance; Small Business Energy Saver; Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom; Residential Energy Efficient Appliances and Devices – Online Savings Store; Residential Energy Assessment; EnergyWise for Business; and Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom.

IX. EM&V ACTIVITIES

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

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

Evans Exhibit	EM&V Reports	Report Finalization Date	Evaluation Type
A	PowerShare Program: 2017	3/20/2018	Impact
B	Nonresidential Smart $aver Energy Efficient Products and Assessment – Prescriptive: 2015-2017	3/25/2018	Process and Impact
C	Residential Energy Efficient Appliances and Devices – Retail Lighting: 2016-2017	4/6/2018	Process and Impact
D	Power Manager Load Control Service: 2017	5/1/2018	Impact
E	Residential Smart $aver EE – HVAC: 2016-2017	5/25/2018	Process and Impact
F	Income-Qualified EE and Weatherization Assistance: 2015-2016	6/13/2018	Process and Impact
G	Small Business Energy Saver: 2016-2017:	9/10/2018	Process and Impact
H	Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom: 2014-2015 (Revised)	9/27/2018	Impact
I	Residential Energy Efficient Appliances and Devices – Online Savings Store: 2015-2017	10/4/2018	Process and Impact
J	Duke Energy Carolinas Residential Energy Assessments Program – 2016-2017	10/12/2018	Process and Impact
K	EnergyWise for Business: 2017	11/9/2018	Process and Impact
L	Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom: 2016-2017	11/29/2018	Process and Impact

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

A. The Company has applied EM&V in accordance with the process as agreed upon by DEC, SACE, and the Public Staff and approved by the Commission in its *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* issued on November 8, 2011, in Docket No. E-7, Sub 979 ("EM&V Agreement"). In accordance with the Sub 1032 Order, DEC continues to apply EM&V in accordance with the EM&V Agreement.

Actual participation and evaluated load impacts are used prospectively to update net lost revenues estimated for 2018. In addition, the EM&V Agreement provides that initial EM&V results shall be applied retrospectively to program impacts that were based upon estimated impact assumptions derived from industry standards (rather than EM&V results for the program in the Carolinas), in particular the DSM/EE programs initially approved by the Commission in Docket No. E-7, Sub 831 ("Sub 831") programs, with the exception of the Nonresidential Smart $aver Custom Rebate Program and the Low-Income EE and Weatherization Assistance Program.

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

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

Since program impacts from EM&V in this Application apply only to the programs for which the analysis was directly performed, there are no costs

associated with performing additional EM&V for other measures, other than the original cost for EM&V for these programs. As indicated in previous proceedings, DEC estimates that 5 percent of total portfolio program costs will be required to adequately and efficiently perform EM&V on the portfolio.

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

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

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

PowerShare 2017 (Evans Exhibit A); Nonresidential Smart $aver Energy Efficient Products and Assessment – Prescriptive 2015-2017 (Evans Exhibit B); Residential Energy Efficient Appliances and Devices – Retail Lighting 2016-2017 (Evans Exhibit C); Power Manager Load Control Service 2017 (Evans Exhibit D); Residential Smart $aver EE - HVAC 2016-2017 (Evans Exhibit E); Residential Income-Qualified EE and Weatherization Assistance 2015-2016 (Evans Exhibit F); Small Business Energy Saver 2016-2017 (Evans Exhibit G); Revised Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom 2014-2015 (Evans Exhibit H);

Residential Energy Efficient Appliances and Devices – Online Savings Store 2015-2017 (Evans Exhibit I); Residential Energy Assessment 2016-2017 (Evans Exhibit J); EnergyWise for Business 2017 (Evans Exhibit K); and Nonresidential Smart $aver Energy Efficient Products and Assessment – Custom 2016-2017 (Evans Exhibit L).

X. RIDER IMPACTS

Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE VINTAGE 2018 EXPERIENCE MODIFICATION FACTOR?

A. Yes. The EMF in Rider 11 accounts for changes to actual participation relative to the forecasted participation levels utilized in DEC's Vintage 2016 Rider EE. As DEC receives actual participation information, it is then able to update participation-driven actual avoided cost benefits from its DSM/EE programs and the net lost revenues derived from its EE programs. For example, as previously mentioned, the EE Education Program and Income-Qualified EE and Weatherization Program underperformed relative to their original participation targets. As a result, the EMF will be reduced to reflect the lower costs, net lost revenues, and shared savings incentive (PPI) associated with these programs. On the other hand, higher-than-expected participation in programs, such as the Energy Efficient Appliances and Devices and the Residential Smart $aver EE programs, cause the EMF to reflect higher program costs, net lost revenues, and PPI. In addition to the above, the EMF is impacted by the application of EM&V results.

Q. HOW WILL EM&V BE INCORPORATED INTO THE VINTAGE 2017 TRUE-UP COMPONENT OF RIDER 11?

A. All of the final EM&V results that have been received by DEC 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 in accordance with the EM&V Agreement. Accordingly, for any program for which DEC has received EM&V results, the per participant impact applied to the projected program participation in Vintage 2018 is based upon the actual EM&V results that have been received.

Q. PLEASE DESCRIBE HOW DEC CALCULATED FOUND REVENUES.

A. Consistent with the Sub 1032 Order and with the "Decision Tree" found in Appendix A of the Commission's February 8, 2011 order in Docket No. E-7, Sub 831, and approved for the new portfolio in the Sub 1032 Order, possible found revenue activities were identified, categorized, and netted against the net lost revenues created by DEC's EE programs. Found revenues may result from activities that directly or indirectly result in an increase in customer demand or energy consumption within DEC's service territory. Load-building activities such as these, however, would not be considered found revenues if they (1) would have occurred regardless of DEC's activity, (2) were a result of a Commission-approved economic development activity not determined to produce found revenues, or (3) were part of an unsolicited

request for DEC to engage in an activity that supports efforts to grow the economy. On the other hand, found revenues would occur for load growth that did not fall into the previous categories but was directly or indirectly a result of DEC's activities. Based on the results of this work, all potential found revenue-related activities are identified and categorized in Evans Exhibit 4. Additionally, consistent with the methodology employed and approved in Docket No. E-7, Sub 1073, as discussed in detail in the testimony of Company witness Timothy J. Duff in Docket No. E-7, Sub 1050, DEC also proposes to adjust calculation of found revenues to account for the impacts of activities outside of its EE programs that it undertakes that reduce customer consumption – i.e., "negative found revenues."

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

A. DEC continues to aggressively pursue, with its outdoor lighting customers, the replacement of aging Mercury Vapor lights with Light Emitting Diode ("LED") fixtures. By moving customers past the standard High Pressure Sodium ("HPS") fixture to an LED fixture in this replacement process, DEC is generating significant energy savings. These energy savings, since they come outside of DEC's EE programs, are not captured in DEC's calculation of lost revenues. Since one of the activities that DEC includes in the calculation of found revenues is the increase in consumption from new outdoor lighting fixtures added by DEC, it is logical and symmetrical to count

the energy consumption reduction realized in outdoor lighting efficiency upgrades. The Company does not take credit for the entire efficiency gain from replacing Mercury Vapor lights, but rather only the efficiency gain from replacing HPS with LED fixtures. In addition, DEC has not recognized any negative found revenues in excess of the found revenues calculated; in other words, the net found revenues number will never be negative and have the effect of increasing net lost revenue calculations. In Docket No. E-7, Sub 1073, the Commission found inclusion of negative found revenues associated with the Company's initiative to replace Mercury Vapor lighting with LED fixtures in the calculation of net found revenues to be reasonable, and the Company proposes to continue to this practice in Rider 11.

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

A. Yes, the opt-out of qualifying nonresidential customers has had a negative effect on DEC's overall nonresidential impacts. For Vintage 2018, DEC had 4,514 eligible customer accounts opt out of participating in DEC's nonresidential portfolio of EE programs. In addition, DEC had 5,075 eligible customer accounts opt out of participating in DEC's nonresidential DSM programs. It is important to note that during 2018, 22 opt-out eligible customers opted-in to the EE portion of the Rider and four opt-out eligible customers opted-in to the DSM portion of the Rider.

Q. PLEASE EXPLAIN THE INCREASE IN THE NUMBER OF OPT-OUTS IN 2018 COMPARED TO 2017.

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

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

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

XI. PPI CALCULATION

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

A. Pursuant to the Sub 1032 Order, the Mechanism allows DEC to (1) recover the reasonable and prudent costs incurred for adopting and implementing DSM and EE measures in accordance with N.C. Gen. Stat. § 62-133.9 and Commission Rules R8-68 and R8-69; (2) recover net lost revenues incurred for up to 36 months of a measure's life for EE programs; and (3) earn a PPI based upon the sharing of 11.5% of the net savings achieved through DEC's DSM/EE programs on an annual basis.

Q. PLEASE EXPLAIN HOW DEC DETERMINES THE PPI.

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

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

A. Consistent with the Sub 1032 Order, DEC has excluded the impacts and costs associated with the Income-Qualified EE and Weatherization Program from

its calculation of the PPI. At the time the program was approved, it was not cost-effective, but was approved based on its societal benefit. As such, although DEC is eligible to recover the program costs and 36 months of the net lost revenues associated with the impacts of the program, it does not earn an incentive, and the negative net savings associated with these types of programs is not factored into the calculation of the annual shared savings PPI.

XII. CONCLUSION

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

A. Yes.

Duke Energy Carolinas, LLC
Vintage 2015 Actual for January 1, 2015 to December 31, 2015
Docket Number E-7, Sub 1192
Load Impacts and Estimated Revenue Requirements, excluding Lost Revenue by Program

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	A System NPV of Avoided Cost	B System Cost	C Earned Utility Incentive	D= B+C System Cost Plus Incentive	E NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 1)	NC Residential Revenue Requirement D * E
	Residential Programs								
	EE Programs								
1	**Appliance Recycling Program**	748	5,534,546	$ 1,901,321	$ 1,537,241	$ 41,869	$ 1,579,111	72.9564706%	$ 1,152,063
2	**Energy Efficiency Education**	830	4,417,898	$ 2,498,417	$ 2,054,672	$ 51,031	$ 2,105,702	72.9564706%	$ 1,536,246
3	**Energy Efficient Appliances and Devices**	14,743	129,350,071	$ 49,525,402	$ 12,050,485	$ 4,309,616	$ 16,360,100	72.9564706%	$ 11,935,752
4	**HVAC Energy Efficiency**	2,663	4,763,631	$ 6,816,479	$ 5,416,833	$ 160,959	$ 5,577,792	72.9564706%	$ 4,069,360
5	**Income Qualified Energy Efficiency and Weatherization Assistance**	608	3,125,184	$ 1,854,068	$ 2,238,776	$ -	$ 2,238,776	72.9564706%	$ 1,633,332
6	**Multi-Family Energy Efficiency**	1,339	13,988,109	$ 7,431,163	$ 2,092,935	$ 613,896	$ 2,706,831	72.9564706%	$ 1,974,808
7	**Energy Assessments**	1,275	10,293,765	$ 10,115,222	$ 3,086,173	$ 808,341	$ 3,894,514	72.9564706%	$ 2,841,300
8	**Subtotal**	22,205	171,473,205	$ 80,142,073	$ 28,477,114	$ 5,985,712	$ 34,462,825		$ 25,142,861
9	**My Home Energy Report (1)**	61,770	228,776,428	$ 16,583,325	$ 9,845,895	$ 774,805	$ 10,620,699	72.9564706%	$ 7,748,487
10	**Total for Residential Energy Efficiency Programs**	83,975	400,249,633	$ 96,725,398	$ 38,323,008	$ 6,760,516	$ 45,083,525		**$ 32,891,348**

								NC Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 1)	D11* E11
11	**Total DSM Programs (2)**	871,944	18,374	101,113,558	$ 31,958,782	$ 7,952,799	$ 39,911,582	32.5218612%	**$ 12,979,989**
12	**Total Residential Revenue Requirement**								**$ 45,871,337**

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Cost	System Cost	Earned Utility Incentive	System Cost Plus Incentive	NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 1)	NC Non-Residential Revenue Requirement D * E
	Non-Residential Programs								
	EE Programs								
13	**Non Residential Smart Saver Custom Energy Assessments**	87	765,303	$ 321,686	$ 660,420	$ (38,954)	$ 621,465	72.9564706%	$ 453,399
14	**Non Residential Smart Saver Custom**	11,108	76,142,627	53,882,448	9,932,877	5,054,201	14,987,078	72.9564706%	10,934,043
15	**Non Residential Smart Saver Energy Efficient Food Service Products**	140	1,672,329	1,099,734	194,425	104,111	298,535	72.9564706%	217,801
16	**Non Residential Smart Saver Energy Efficient HVAC Products**	1,611	5,405,220	6,221,217	1,142,522	584,050	1,726,572	72.9564706%	1,259,646
17	**Non Residential Smart Saver Energy Efficient Lighting Products**	11,523	67,083,512	42,227,035	11,335,798	3,552,492	14,888,290	72.9564706%	10,861,971
18	**Non Residential Smart Saver Energy Efficient Pumps and Drives Products**	423	3,354,574	1,924,058	466,478	167,622	634,100	72.9564706%	462,617
19	**Non Residential Smart Saver Energy Efficient IT Products**	540	5,196,710	1,130,386	716,542	47,592	764,134	72.9564706%	557,485
20	**Non Residential Smart Saver Energy Efficient Process Equipment Products**	112	630,354	517,342	88,823	49,280	138,103	72.9564706%	100,755
21	**Small Business Energy Saver**	14,417	77,515,622	47,989,975	13,968,790	3,912,436	17,881,226	72.9564706%	13,045,511
22	**Smart Energy in Offices**	3,109	14,938,552	1,666,306	1,463,240	23,353	1,486,592	72.9564706%	1,084,565
23	**Business Energy Report**	-	-	-	126,404	-	126,404	72.9564706%	92,220
24	**Total for Non-Residential Energy Efficiency Programs**	43,072	252,704,804	$ 156,980,188	$ 40,096,318	$ 13,456,181	$ 53,552,499		**39,070,014**

								NC Non-Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 1)	D23*E23
25	**Total DSM Programs(2)**	871,944	18,374	$ 101,113,558	$ 31,958,782	$ 7,952,799	$ 39,911,582	42.4483655%	**$ 16,941,814**
26	**Total Non-Residential Revenue Requirement**								**$ 56,011,828**

								NC Retail Peak Demand Allocation Factor (Miller Exhibit 5 pg. 1)	D28* E28
	Total DSM Program Breakdown								
27	**Power Manager (Residential)**	454,663	-	$ 52,718,688	$ 14,634,279	$ 4,379,707	$ 19,013,986		
28	**EnergyWise for Business**	6	18,374	$ 11,248	$ 1,549,305	$ (176,876)	$ 1,372,428		
29	**Power Share CallOption (Non-Residential)**	-	-	$ -	$ -	$ -	$ -		
30	**Power Share (Non-Residential)**	417,276	-	$ 48,383,622	$ 15,779,050	$ 3,749,526	$ 19,528,576		
31	**Disallowed Costs from 2015 Program Costs Audit (Order E-7 Sub 1105, dated 8/25/16)**				$ (3,851)	$ 443	$ (3,408)		
32	**Total DSM**	871,944	18,374	101,113,558	31,958,782	7,952,799	39,911,582	74.9702266%	$ 29,921,803

(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintage
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duke Energy Carolinas, LLC
Vintage 2016 Actual for January 1, 2016 to December 31, 2016
Docket Number E-7, Sub 1192
Load Impacts and Estimated Revenue Requirements, excluding Lost Revenue by Program

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	A System NPV of Avoided Cost	B System Cost	C = (A-B) *11.5% Earned Utility Incentive	D= B+C System Cost Plus Incentive	E NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 2)	NC Residential Revenue Requirement D * E
	Residential Programs								
	EE Programs								
1	**Appliance Recycling Program**	21	164,720	$ 59,758	$ (97,397)	$ 18,073	$ (79,324)	73.0962827%	$ (57,983)
2	**Energy Efficiency Education**	1,512	6,441,283	3,695,507	2,126,509	180,435	2,306,944	73.0962827%	1,686,290
3	**Energy Efficient Appliances and Devices**	14,518	120,226,223	82,262,218	24,069,774	6,692,131	30,761,905	73.0962827%	22,485,809
4	**HVAC Energy Efficiency**	2,462	6,294,837	7,476,100	7,839,566	(41,799)	7,797,767	73.0962827%	5,699,878
5	**Income Qualified Energy Efficiency and Weatherization Assistance**	649	4,801,478	2,984,760	4,792,436	-	4,792,436	73.0962827%	3,503,093
6	**Multi-Family Energy Efficiency**	1,572	15,235,497	8,950,706	2,518,988	739,648	3,258,636	73.0962827%	2,381,941
7	**Energy Assessments**	1,070	7,389,091	6,822,806	2,678,893	476,550	3,155,443	73.0962827%	2,306,512
8	**Subtotal**	21,804	160,553,127	$ 112,251,855	$ 43,928,769	$ 8,065,038	$ 51,993,807		$ 38,005,540
9	**My Home Energy Report (1)**	71,814	283,569,925	20,423,954	10,822,444	1,104,174	11,926,618	73.0962827%	8,717,914
10	**Total for Residential Energy Efficiency Programs**	93,618	444,123,052	$ 132,675,808	$ 54,751,213	$ 9,169,211	$ 63,920,424		**$ 46,723,454**
								NC Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 2)	D11* E11
11	**Total DSM Programs (2)**	825,492	718,623	98,643,760	$ 28,406,298	$ 8,077,308	$ 36,483,606	33.7973480%	**$ 12,330,491**
12	**Total Residential Revenue Requirement**								**$ 59,053,945**
									NC Non-Residential Revenue Requirement
		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Cost	System Cost	Earned Utility Incentive	System Cost Plus Incentive	NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 2)	D * E
	Non-Residential Programs								
	EE Programs								
13	**Non Residential Smart Saver Custom Energy Assessments**	1,584	16,953,402	$ 9,572,687	$ 2,034,308	$ 866,914	$ 2,901,222	73.0962827%	$ 2,120,685
14	**Non Residential Smart Saver Custom**	7,934	52,154,624	39,025,086	7,356,509	3,629,838	10,986,347	73.0962827%	8,030,611
15	**Non Residential Smart Saver Energy Efficient Food Service Products**	356	3,809,316	2,474,312	324,117	247,272	571,389	73.0962827%	417,664
16	**Non Residential Smart Saver Energy Efficient HVAC Products**	808	3,316,901	3,344,669	1,473,991	215,128	1,689,119	73.0962827%	1,234,683
17	**Non Residential Smart Saver Energy Efficient Lighting Products**	29,268	167,342,422	120,392,639	39,622,944	9,288,515	48,911,459	73.0962827%	35,752,458
18	**Non Residential Smart Saver Energy Efficient Pumps and Drives Products**	368	2,494,340	1,574,965	471,930	126,849	598,779	73.0962827%	437,685
19	**Non Residential Smart Saver Energy Efficient IT Products**	107	2,462,027	777,601	285,430	56,600	342,030	73.0962827%	250,011
20	**Non Residential Smart Saver Energy Efficient Process Equipment Products**	50	313,131	279,184	125,947	17,622	143,569	73.0962827%	104,944
21	**Non Residential Smart Saver Performance Incentive**	-	-	-	35,670	(4,102)	31,568	73.0962827%	23,075
22	**Small Business Energy Saver**	16,110	85,687,928	55,685,830	15,360,852	4,637,372	19,998,224	73.0962827%	14,617,959
23	**Smart Energy in Offices**	3,505	16,842,267	1,843,559	1,061,729	89,911	1,151,640	73.0962827%	841,806
24	**Business Energy Report**	388	5,561,349	302,497	263,169	-	263,169	73.0962827%	192,367
25	**Total for Non-Residential Energy Efficiency Programs**	60,480	356,937,707	$ 235,273,030	$ 68,416,596	$ 19,171,918	$ 87,588,514		**$ 64,023,948**
								NC Non-Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 2)	D24*E24
26	**Total DSM Programs(2)**	825,492	718,623	$ 98,643,760	$ 28,406,298	$ 8,077,308	$ 36,483,606	40.8166437%	**$ 14,891,384**
27	**Total Non-Residential Revenue Requirement**								**$ 78,915,332**
								NC Retail Peak Demand Allocation Factor (Miller Exhibit 5 pg. 2)	D29* E29
	Total DSM Program Breakdown								
28	**Power Manager (Residential)**	455,393	-	$ 54,179,776	$ 13,644,970	$ 4,661,503	$ 18,306,473	`	
27	**EnergyWise for Business (Non-Residential)**	1,199	718,623	$ 574,590	$ 470,304	$ 11,993	$ 482,297		
29	**Power Share CallOption (Non-Residential)**	-	-	$ -	$ -	$ -	$ -		
30	**Power Share (Non-Residential)**	368,900	-	$ 43,889,394	$ 14,291,024	$ 3,403,812	$ 17,694,836		
31	**Total DSM**	825,492	718,623	$ 98,643,760	$ 28,406,298	$ 8,077,308	$ 36,483,606	74.6139917%	$ 27,221,875

(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintage
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duke Energy Carolinas, LLC
Vintage 2017 Actual for January 1, 2017 to December 31, 2017
Docket Number E-7, Sub 1192
Load Impacts and Estimated Revenue Requirements, excluding Lost Revenue by Program

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	A System NPV of Avoided Cost	B System Cost	C = (A-B) *11.5% Earned Utility Incentive	D= B+C System Cost Plus Incentive	E NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 3)	NC Residential Revenue Requirement D * E
	Residential Programs								
	EE Programs								
1	**Appliance Recycling Program**	-	-	$ -	$ 5,307	$ (610)	$ 4,697	72.8087506%	$ 3,420
2	**Energy Efficiency Education**	1,393	5,932,086	3,597,724	2,077,611	174,813	2,252,424	72.8087506%	1,639,962
3	**Energy Efficient Appliances and Devices**	24,606	137,959,781	105,085,087	30,340,728	8,595,601	38,936,329	72.8087506%	28,349,055
4	**Residential – Smart $aver Energy Efficiency Program**	1,853	6,954,889	7,428,903	7,403,327	2,941	7,406,269	72.8087506%	5,392,412
5	**Income Qualified Energy Efficiency and Weatherization Assistance**	771	5,341,624	3,185,867	5,505,992	-	5,505,992	72.8087506%	4,008,844
6	**Multi-Family Energy Efficiency**	1,918	19,056,155	13,325,932	3,168,422	1,168,114	4,336,535	72.8087506%	3,157,377
7	**Energy Assessments**	1,040	7,720,549	6,602,466	2,909,098	424,737	3,333,835	72.8087506%	2,427,324
8	**Subtotal**	31,581	182,965,084	$ 139,225,978	$ 51,410,486	$ 10,365,596	$ 61,776,082		$ 44,978,394
9	**My Home Energy Report (1)**	79,070	311,368,855	21,728,369	13,812,250	910,354	14,722,603	72.8087506%	10,719,344
10	**Total for Residential Energy Efficiency Programs**	110,651	494,333,939	$ 160,954,347	$ 65,222,736	$ 11,275,950	$ 76,498,685		**$ 55,697,737**
								NC Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 3)	**D11* E11**
11	**SubTotal DSM Programs (2)**	846,941	2,943,906	105,087,510	$ 29,822,652	$ 8,655,459	$ 38,478,111	33.8075104%	**$ 13,008,491**
12	**Total DSM Programs**								**13,008,491**
13	**Total Residential Revenue Requirement**								**$ 68,706,228**
		System kW Reduction - Summer Peak	**System Energy Reduction (kWh)**	**System NPV of Avoided Cost**	**System Cost**	**Earned Utility Incentive**	**System Cost Plus Incentive**	**NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 3)**	**NC Non-Residential Revenue Requirement D * E**
	Non-Residential Programs								
	EE Programs								
14	**Non Residential Smart Saver Custom Energy Assessments**	1,627	15,791,732	$ 10,272,302	$ 2,139,875	$ 935,229	$ 3,075,104	72.8087506%	$ 2,238,945
15	**Non Residential Smart Saver Custom**	6,010	40,609,855	34,693,083	7,304,838	3,149,648	10,454,486	72.8087506%	7,611,781
16	**Non Residential Smart Saver Energy Efficient Food Service Products**	112	1,383,542	959,251	306,488	75,068	381,556	72.8087506%	277,806
17	**Non Residential Smart Saver Energy Efficient HVAC Products**	894	2,954,877	2,958,336	1,560,769	160,720	1,721,489	72.8087506%	1,253,395
18	**Non Residential Smart Saver Energy Efficient Lighting Products**	47,322	270,572,885	240,054,511	66,689,770	19,936,945	86,626,715	72.8087506%	63,071,829
19	**Non Residential Smart Saver Energy Efficient Pumps and Drives Products**	687	4,806,849	3,070,044	528,937	292,227	821,164	72.8087506%	597,879
20	**Non Residential Smart Saver Energy Efficient IT Products**	-	2,945	523	61,215	(6,980)	54,235	72.8087506%	39,488
21	**Non Residential Smart Saver Energy Efficient Process Equipment Products**	99	651,289	530,295	162,413	42,306	204,719	72.8087506%	149,054
22	**Non Residential Smart Saver Performance Incentive**	3	12,373	8,958	320,559	(35,834)	284,725	72.8087506%	207,305
23	**Small Business Energy Saver**	17,263	90,297,362	63,169,894	17,350,972	5,269,176	22,620,148	72.8087506%	16,469,447
24	**Smart Energy in Offices**	2,138	10,272,154	1,067,480	891,010	20,294	911,304	72.8087506%	663,509
25	**Business Energy Report**	3	42,398	696	126,680	-	126,680	72.8087506%	92,234
26	**Sub-Total for Non-Residential Energy Efficiency Programs**	76,158	437,398,260	$ 356,785,373	$ 97,443,527	$ 29,838,800	$ 127,282,328		**$ 92,672,672**
27	**Total for Non-Residential Energy Efficiency Programs**								**$ 92,672,672**
								NC Non-Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 3)	**D24*E24**
28	**Total DSM Programs(2)**	846,941	2,943,906	$ 105,087,510	$ 29,822,652	$ 8,655,459	$ 38,478,111	40.0747013%	**$ 15,419,988**
29	**Total Non-Residential DSM Programs**								**15,419,988**
30	**Total Non-Residential Revenue Requirement**								**$ 108,092,661**
								NC Retail Peak Demand Allocation Factor (Miller Exhibit 5 pg. 3)	**D29* E29**
	Total DSM Program Breakdown								
31	**Power Manager (Residential)**	501,118	-	$ 61,074,105	$ 14,021,500	$ 5,411,050	$ 19,432,549	`	
32	**EnergyWise for Business (Non-Residential)**	5,453	2,943,906	$ 2,530,761	$ 2,484,618	$ 5,306	$ 2,489,924		
33	**Power Share CallOption (Non-Residential)**	-	-	$ -	$ -	$ -	$ -		
34	**Power Share (Non-Residential)**	340,369	-	$ 41,482,644	$ 13,316,535	$ 3,239,103	$ 16,555,638		
35	**Total DSM**	846,941	2,943,906	$ 105,087,510	$ 29,822,652	$ 8,655,459	$ 38,478,111	73.8822117%	$ 28,428,479

(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintage
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duke Energy Carolinas, LLC
Vintage 2018 Actual for January 1, 2018 to December 31, 2018
Docket Number E-7, Sub 1192
Load Impacts and Estimated Revenue Requirements, excluding Lost Revenue by Program

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	A System NPV of Avoided Cost	B System Cost	C = (A-B) *11.5% Earned Utility Incentive	D= B+C System Cost Plus Incentive	E NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 4)	NC Residential Revenue Requirement D * E
	Residential Programs								
	EE Programs								
1	**Appliance Recycling Program**	-	-	$ -	$ -	$ -	$ -	72.7130507%	$ -
2	**Energy Efficiency Education**	1,148	4,889,354	2,713,062	1,991,998	82,922	2,074,920	72.7130507%	1,508,738
3	**Energy Efficient Appliances and Devices**	32,803	195,316,844	135,264,553	42,681,401	10,647,062	53,328,464	72.7130507%	38,776,753
4	**Residential – Smart $aver Energy Efficiency Program**	1,644	6,727,882	7,277,653	6,954,193	37,198	6,991,391	72.7130507%	5,083,654
5	**Income Qualified Energy Efficiency and Weatherization Assistance**	726	5,211,991	3,497,900	6,489,856	-	6,489,856	72.7130507%	4,718,972
6	**Multi-Family Energy Efficiency**	2,167	21,309,576	13,647,187	3,604,442	1,154,916	4,759,358	72.7130507%	3,460,674
7	**Energy Assessments**	929	7,716,668	5,753,248	2,835,847	335,501	3,171,348	72.7130507%	2,305,984
8	**Subtotal**	39,416	241,172,314	$ 168,153,604	$ 64,557,737	$ 12,257,600	$ 76,815,337		$ 55,854,775
9	**My Home Energy Report (1)**	81,409	320,613,567	21,200,492	13,250,856	914,208	14,165,064	72.7130507%	10,299,850
10	**Total for Residential Energy Efficiency Programs**	120,825	561,785,881	$ 189,354,096	$ 77,808,593	$ 13,171,808	$ 90,980,401		**$ 66,154,625**
								NC Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 4)	**D11* E11**
11	**SubTotal DSM Programs (2)**	876,165	2,498,948	100,354,654	$ 30,406,526	$ 8,044,035	$ 38,450,561	32.1574721%	**$ 12,364,728**
12	**Total DSM Programs**								**12,364,728**
13	**Total Residential Revenue Requirement**								**$ 78,519,353**

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Cost	System Cost	Earned Utility Incentive	System Cost Plus Incentive	NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 4)	NC Non-Residential Revenue Requirement D * E
	Non-Residential Programs								
	EE Programs								
14	**Non Residential Smart Saver Custom Energy Assessments**	13	83,588	$ 67,270	$ 407,250	$ (39,098)	$ 368,152	72.7130507%	$ 267,695
15	**Non Residential Smart Saver Custom**	4,054	30,333,040	23,309,478	6,068,278	1,982,738	8,051,016	72.7130507%	5,854,140
16	**Non Residential Smart Saver Energy Efficient Food Service Products**	106	1,151,114	741,177	235,579	58,144	293,723	72.7130507%	213,575
17	**Non Residential Smart Saver Energy Efficient HVAC Products**	893	2,908,386	2,808,828	1,620,574	136,649	1,757,223	72.7130507%	1,277,731
18	**Non Residential Smart Saver Energy Efficient Lighting Products**	31,537	178,360,156	146,522,016	25,869,602	13,875,028	39,744,629	72.7130507%	28,899,532
19	**Non Residential Smart Saver Energy Efficient Pumps and Drives Products**	421	2,669,016	1,616,886	277,755	154,000	431,755	72.7130507%	313,942
20	**Non Residential Smart Saver Energy Efficient IT Products**	-	17,639	3,023	36,871	(3,892)	32,978	72.7130507%	23,980
21	**Non Residential Smart Saver Energy Efficient Process Equipment Products**	75	331,222	226,606	67,502	18,297	85,799	72.7130507%	62,387
22	**Non Residential Smart Saver Performance Incentive**	168	3,271,186	1,670,847	479,559	136,998	616,557	72.7130507%	448,317
23	**Small Business Energy Saver**	13,374	76,696,523	46,808,081	15,976,281	3,545,657	19,521,938	72.7130507%	14,194,997
24	**Smart Energy in Offices**	310	1,488,592	143,208	219,729	(8,800)	210,929	72.7130507%	153,373
25	**Business Energy Report**	-	-	-	-	-	-	72.7130507%	-
26	**Sub-Total for Non-Residential Energy Efficiency Programs**	50,950	297,310,461	$ 223,917,419	$ 51,258,981	$ 19,855,720	$ 71,114,701		**$ 51,709,669**
27	**Total for Non-Residential Energy Efficiency Programs**								**$ 51,709,669**
								NC Non-Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 4)	**D24*E24**
28	**Total DSM Programs(2)**	876,165	2,498,948	$ 100,354,654	$ 30,406,526	$ 8,044,035	$ 38,450,561	41.4712829%	**$ 15,945,941**
29	**Total Non-Residential DSM Programs**								**15,945,941**
30	**Total Non-Residential Revenue Requirement**								**$ 67,655,610**
								NC Retail Peak Demand Allocation Factor (Miller Exhibit 5 pg. 4)	**D29* E29**
	Total DSM Program Breakdown								
31	**Power Manager (Residential)**	535,418	-	$ 62,141,831	$ 14,422,260	$ 5,487,751	$ 19,910,011	`	
32	**EnergyWise for Business (Non-Residential)**	8,117	2,498,948	$ 2,234,923	$ 3,062,497	$ (95,171)	$ 2,967,326		
33	**Power Share CallOption (Non-Residential)**	-	-	$ -	$ -	$ -	$ -		
34	**Power Share (Non-Residential)**	332,631	-	$ 35,977,900	$ 12,921,769	$ 2,651,455	$ 15,573,224		
35	**Total DSM**	876,165	2,498,948	$ 100,354,654	$ 30,406,526	$ 8,044,035	$ 38,450,561	73.6287551%	$ 28,310,669

(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintage
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duke Energy Carolinas, LLC
Vintage 2020 Estimate for January 1, 2020 to December 31, 2020
Docket Number E-7, Sub 1192
Load Impacts and Estimated Revenue Requirements, excluding Lost Revenue by Program

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	A System NPV of Avoided Cost	B System Cost	C = (A-B) *11.5% Earned Utility Incentive	D= B+C System Cost Plus Incentive	E NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 4)	NC Residential Revenue Requirement D * E
	Residential Programs								
	EE Programs								
1	**Appliance Recycling Program**	-	-	$ -	$ -	$ -	$ -	72.7130507%	$ -
2	**Energy Efficiency Education**	4	7,034,771	3,268,716	2,621,628	74,415	2,696,043	72.7130507%	1,960,375
3	**Energy Efficient Appliances and Devices**	10,988	47,578,710	28,090,798	9,114,148	2,182,315	11,296,463	72.7130507%	8,214,003
4	**Residential – Smart $aver Energy Efficiency Program**	2,718	10,603,088	9,458,665	7,663,598	206,433	7,870,031	72.7130507%	5,722,540
5	**Income Qualified Energy Efficiency and Weatherization Assistance**	653	4,245,993	1,694,957	8,689,280	-	8,689,280	72.7130507%	6,318,240
6	**Multi-Family Energy Efficiency**	2,034	20,196,677	10,124,236	3,613,126	748,778	4,361,903	72.7130507%	3,171,673
7	**Energy Assessments**	725	6,119,618	3,579,246	2,795,258	90,159	2,885,417	72.7130507%	2,098,075
8	**Subtotal**	17,122	95,778,857	$ 56,216,617	$ 34,497,038	$ 3,302,099	$ 37,799,137		$ 27,484,906
9	**My Home Energy Report (1)**	77,745	306,337,865	20,734,326	11,645,405	1,045,226	12,690,631	72.7130507%	9,227,745
10	**Total for Residential Energy Efficiency Programs**	94,867	402,116,722	$ 76,950,943	$ 46,142,443	$ 4,347,325	$ 50,489,768		**$ 36,712,651**
								NC Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 4)	**D11* E11**
11	**SubTotal DSM Programs (2)**	976,260	2,557,590	124,330,187	$ 38,073,241	$ 9,919,549	$ 47,992,790	32.1574721%	**$ 15,433,268**
12	**Total DSM Programs**								**15,433,268**
13	**Total Residential Revenue Requirement**								**$ 52,145,919**

		System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System NPV of Avoided Cost	System Cost	Earned Utility Incentive	System Cost Plus Incentive	NC Retail kWh Sales Allocation Factor (Miller Exhibit 5 pg. 4)	NC Non-Residential Revenue Requirement D * E
	Non-Residential Programs								
	EE Programs								
14	**Non Residential Smart Saver Custom Energy Assessments**	908	7,950,216	$ 4,114,401	$ 1,414,676	$ 310,468	$ 1,725,144	72.7130507%	$ 1,254,405
15	**Non Residential Smart Saver Custom**	7,658	67,082,262	34,716,460	10,756,254	2,755,424	13,511,678	72.7130507%	9,824,753
16	**Non Residential Smart Saver Energy Efficient Food Service Products**	288	4,363,034	1,892,593	1,435,926	52,517	1,488,443	72.7130507%	1,082,292
17	**Non Residential Smart Saver Energy Efficient HVAC Products**	756	2,546,698	2,005,587	1,358,750	74,386	1,433,137	72.7130507%	1,042,077
18	**Non Residential Smart Saver Energy Efficient Lighting Products**	23,878	131,137,431	87,238,062	21,546,401	7,554,541	29,100,942	72.7130507%	21,160,183
19	**Non Residential Smart Saver Energy Efficient Pumps and Drives Products**	730	4,603,201	2,264,861	653,139	185,348	838,487	72.7130507%	609,689
20	**Non Residential Smart Saver Energy Efficient IT Products**	-	323,520	40,508	71,858	(3,605)	68,253	72.7130507%	49,629
21	**Non Residential Smart Saver Energy Efficient Process Equipment Products**	85	547,055	348,206	172,146	20,247	192,393	72.7130507%	139,895
22	**Non Residential Smart Saver Performance Incentive**	2,797	22,097,800	11,816,217	3,810,989	920,601	4,731,590	72.7130507%	3,440,484
23	**Small Business Energy Saver**	8,756	50,048,128	27,132,368	10,638,607	1,896,783	12,535,390	72.7130507%	9,114,864
24	**Smart Energy in Offices**	-	-	-	-	-	-	72.7130507%	-
25	**Business Energy Report**	-	-	-	-	-	-	72.7130507%	-
26	**Sub-Total for Non-Residential Energy Efficiency Programs**	45,856	290,699,344	$ 171,569,263	$ 51,858,747	$ 13,766,709	$ 65,625,456		**$ 47,718,271**
27	**Total for Non-Residential Energy Efficiency Programs**								**$ 47,718,271**
								NC Non-Residential Peak Demand Allocation Factor (Miller Exhibit 5 pg. 4)	**D24*E24**
28	**Total DSM Programs(2)**	976,260	2,557,590	$ 124,330,187	$ 38,073,241	$ 9,919,549	$ 47,992,790	41.4712829%	**$ 19,903,226**
29	**Total Non-Residential DSM Programs**								**19,903,226**
30	**Total Non-Residential Revenue Requirement**								**$ 67,621,497**
								NC Retail Peak Demand Allocation Factor (Miller Exhibit 5 pg. 4)	**D29* E29**
	Total DSM Program Breakdown								
31	**Power Manager (Residential)**	616,237	-	$ 77,685,921	$ 19,391,626	$ 6,703,844	$ 26,095,470	`	
32	**EnergyWise for Business (Non-Residential)**	17,397	2,557,590	$ 3,451,278	$ 5,098,177	$ (189,393)	$ 4,908,784		
33	**Power Share CallOption (Non-Residential)**	-	-	$ -	$ -	$ -	$ -		
34	**Power Share (Non-Residential)**	342,625	-	$ 43,192,988	$ 13,583,438	$ 3,405,098	$ 16,988,536		
35	**Total DSM**	976,260	2,557,590	$ 124,330,187	$ 38,073,241	$ 9,919,549	$ 47,992,790	73.6287551%	$ 35,336,494

(1) My Home Energy Report impacts reflect cumulative capability as of end of vintage year, including impacts for participants from prior vintage
(2) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duke Energy Carolinas, LLC
Docket Number E-7, Sub 1192
North Carolina Net Lost Revenue for Vintages 2015 - 2020

Line	Residential	Vintage 2015 2015	2016	2017[(a)]	2018	2019	2020	Total
1	Residential Energy Assessments	$ 283,798	$ 477,738	$ 473,182	$ 163,880			$ 1,398,597
2	My Home Energy Report	10,047,270	-	-	-			10,047,270
3	Energy Efficient Appliances and Devices	3,690,771	6,169,123	6,116,216	2,163,569			18,139,680
4	HVAC Energy Efficiency	132,089	234,967	232,892	91,744			691,692
5	Appliance Recycle Program	150,786	279,840	277,098	115,671			823,394
6	Income Qualified Energy Efficiency and Weatherization Assistance	69,833	152,201	150,742	68,856			441,633
7	Multi-Family Energy Efficiency	336,658	681,177	676,879	285,091			1,979,805
8	Energy Efficiency Education	89,806	220,572	218,470	89,897			618,746
9	Total Lost Revenues	14,801,010	8,215,618	8,145,479	2,978,708			34,140,816
10	Found Residential Revenues *	-	-	-	-			-
11	Net Lost Residential Revenues	**$ 14,801,010**	**$ 8,215,618**	**$ 8,145,479**	**$ 2,978,708**			**$ 34,140,816**

	Non-Residential	2015	2016	2017[(a)]	2018	2019	2020	Total
12	Nonresidential Smart Saver Custom Energy Assessments	$ 5,659	$ 22,194	$ 21,744	$ 12,719			$ 62,316
13	Non Residential Smart Saver Custom	1,432,898	2,477,128	2,416,373	830,053			7,156,453
14	Energy Management Information Services	-	-	-	-			-
15	Non Residential Smart Saver Energy Efficient Food Service Products	33,714	65,479	64,761	25,584			189,538
16	Non Residential Smart Saver Energy Efficient HVAC Products	109,819	196,207	193,346	73,963			573,335
17	Non Residential Smart Saver Energy Efficient Lighting Products	1,439,011	2,400,931	2,289,093	769,611			6,898,646
18	Non Residential Smart Saver Energy Efficient Pumps and Drives Products	51,265	82,153	80,494	25,843			239,755
19	Non Residential Smart Saver Energy Efficient IT Products	58,585	173,258	170,131	83,735			485,709
20	Non Residential Smart Saver Energy Efficient Process Equipment Products	14,723	25,414	24,674	8,676			73,487
21	Smart Business Energy Saver	1,832,775	3,599,216	3,572,716	1,515,918			10,520,625
22	Smart Energy in Offices	178,960	387,139	-	-			566,099
23	EnergyWise for Business	-	-	-	-			-
24	Total Lost Revenues	5,157,409	9,429,119	8,833,331	3,346,104			26,765,963
25	Found Non-Residential Revenues *	-	-	-	-			-
26	Net Lost Non-Residential Revenues	**$ 5,157,409**	**$ 9,429,119**	**$ 8,833,331**	**$ 3,346,104**			**$ 26,765,963**

Vintage 2016

Line	Residential	2015	2016	2017[(a)]	2018	2019	2020	Total
27	Residential Energy Assessments		$ 193,357	$ 336,600	$ 194,978		$	724,934
28	My Home Energy Report		13,052,806	-	-			13,052,806
29	Energy Efficient Appliances and Devices		2,665,348	5,787,926	3,353,196			11,806,469
30	HVAC Energy Efficiency		132,531	334,414	193,675			660,620
31	Appliance Recycle Program		5,096	8,147	4,719			17,961
32	Income Qualified Energy Efficiency and Weatherization Assistance		115,500	242,117	140,230			497,847
33	Multi-Family Energy Efficiency		347,362	698,540	403,459			1,449,361
34	Energy Efficiency Education		142,689	301,026	174,350			618,064
35	Total Lost Revenues	-	16,654,687	7,708,770	4,464,606			28,828,063
36	Found Residential Revenues *		-	-	-			-
37	Net Lost Residential Revenues	**$ -**	**$ 16,654,687**	**$ 7,708,770**	**$ 4,464,606**		**$**	**28,828,063**

	Non-Residential	2015	2016	2017[(a)]	2018	2019	2020	Total
38	Nonresidential Smart Saver Custom Energy Assessments		$ 199,079	$ 389,585	$ 318,658		$	907,321
39	Non Residential Smart Saver Custom		914,009	1,703,790	1,398,549			4,016,348
40	Energy Management Information Services		-	-	-			-
41	Non Residential Smart Saver Energy Efficient Food Service Products		24,889	66,328	54,035			145,252
42	Non Residential Smart Saver Energy Efficient HVAC Products		46,952	103,028	83,640			233,620
43	Non Residential Smart Saver Energy Efficient Lighting Products		2,925,514	6,589,455	5,321,493			14,836,462
44	Non Residential Smart Saver Energy Efficient Pumps and Drives Products		38,898	66,558	54,453			159,908
45	Non Residential Smart Saver Energy Efficient IT Products		59,904	75,403	61,613			196,920
46	Non Residential Smart Saver Energy Efficient Process Equipment Products		4,731	10,652	8,811			24,194
47	Small Business Energy Saver		2,145,932	4,346,981	3,511,109			10,004,022
48	Smart Energy in Offices		227,062	418,553	-			645,616
49	Business Energy Report		-	-	-			-
75	EnergyWise for Business		15,922	36,788	29,639			82,348
76	Total Lost Revenues		6,602,893	13,807,121	10,841,999			31,252,013
77	Found Non-Residential Revenues *		-	-	-			-
78	Net Lost Non-Residential Revenues		**$ 6,602,893**	**$ 13,807,121**	**$ 10,841,999**		**$**	**31,252,013**

Vintage 2017

Line	Residential	2015	2016	2017[(a)]	2018	2019	2020	Total
78	Residential Energy Assessments			$ 198,264	$ 274,951	$ 366,739	$ 75,609	$ 915,563
79	My Home Energy Report			14,455,527	-	-	-	14,455,527
80	Energy Efficient Appliances and Devices			3,387,819	5,136,360	6,635,996	1,570,511	16,730,686
81	Residential – Smart $aver Energy Efficiency Program			202,125	274,698	433,059	73,486	983,368
82	Appliance Recycle Program			-	-	-	-	-
83	Income Qualified Energy Efficiency and Weatherization Assistance			141,450	210,612	242,487	63,120	657,669
84	Multi-Family Energy Efficiency			535,630	744,297	946,417	204,951	2,431,295
85	Energy Efficiency Education			165,283	221,302	279,889	57,994	724,468
86	Total Lost Revenues	-	-	19,086,098	6,862,220	8,904,587	2,045,671	36,898,575
87	Lost Revenue Decrement Pending Rate Case Implementation						290,418	290,418
88	Found Residential Revenues *			-	-	-	-	-
89	Net Lost Residential Revenues	**$ -**	**$ -**	**$ 19,086,098**	**$ 6,862,220**	**$ 8,904,587**	**$ 1,755,253**	**$ 36,608,157**

	Non-Residential	2015	2016	2017[(a)]	2018	2019	2020	Total
90	Nonresidential Smart Saver Custom Energy Assessments			$ 220,191	$ 358,289	$ 355,020	$ 139,226	$ 1,072,725
91	Non Residential Smart Saver Custom			435,407	871,334	916,764	435,511	2,659,016
92	Energy Management Information Services			-	-	-	-	-
93	Non Residential Smart Saver Energy Efficient Food Service Products			28,410	40,771	69,365	12,596	151,142
94	Non Residential Smart Saver Energy Efficient HVAC Products			61,639	110,255	131,612	48,778	352,284
95	Non Residential Smart Saver Energy Efficient Lighting Products			6,200,869	10,299,304	8,730,546	4,144,248	29,374,967
96	Non Residential Smart Saver Energy Efficient Pumps and Drives Products			58,808	127,509	93,363	68,742	348,421
97	Non Residential Smart Saver Energy Efficient IT Products			82	162	186	81	512
98	Non Residential Smart Saver Energy Efficient Process Equipment Products			8,160	12,172	10,555	4,015	34,902
99	Non Residential Smart Saver Performance Incentive			66	774	818	686	2,344
100	Small Business Energy Saver			2,203,337	3,774,927	4,099,390	1,591,993	11,669,648
101	Smart Energy in Offices			209,310	149,382	-	-	358,692
102	Business Energy Report			-	-	-	-	-
103	EnergyWise for Business			85,268	158,514	162,762	74,100	480,644
104	Total Lost Revenues		-	9,511,547	15,903,393	14,570,381	6,519,975	46,505,296
105	Lost Revenue Decrement Pending Rate Case Implementation						925,623	925,623
106	Found Non-Residential Revenues *			-	-	-	-	-
107	Net Lost Non-Residential Revenues		**$ -**	**$ 9,511,547**	**$ 15,903,393**	**$ 14,570,381**	**$ 5,594,352**	**$ 45,579,673**

* Found Revenues - See Evans Exhibit 4

(a) Lost revenues were estimated by applying forecasted lost revenue rates for residential and non-residential customers to state specific forecasted program participation.

Line	Residential	Vintage 2018 2015	2016	2017[a]	2018	2019	2020	Total
108	Residential Energy Assessments				$ 204,104	$ 353,963	$ 353,514	$ 911,581
109	My Home Energy Report				15,088,601	-	-	15,088,601
110	Energy Efficient Appliances and Devices				4,301,898	4,054,825	9,085,760	17,442,483
111	Residential – Smart $aver Energy Efficiency Program				171,065	213,538	337,373	721,976
112	Appliance Recycle Program				-	-	-	-
113	Income Qualified Energy Efficiency and Weatherization Assistance				130,598	246,384	252,956	629,937
114	Multi-Family Energy Efficiency				500,983	1,165,290	1,087,381	2,753,653
115	Energy Efficiency Education				122,869	260,025	231,584	614,478
116	Total Lost Revenues	-	-	-	20,520,118	6,294,025	11,348,568	38,162,710
117	Lost Revenue Decrement Pending Rate Case Implementation						1,611,124	1,611,124
118	Found Residential Revenues *				-	-	-	-
119	Net Lost Residential Revenues	$ -	$ -	$ -	$ 20,520,118	$ 6,294,025	$ 9,737,443	$ 36,551,586

	Non-Residential	2015	2016	2017[a]	2018	2019	2020	Total
120	Nonresidential Smart Saver Custom Energy Assessments				$ 212	$ 549,855	$ 849	$ 550,916
121	Non Residential Smart Saver Custom				461,343	2,688,812	740,662	3,890,816
122	Energy Management Information Services				-	-	-	-
123	Non Residential Smart Saver Energy Efficient Food Service Products				13,485	26,794	21,497	61,776
124	Non Residential Smart Saver Energy Efficient HVAC Products				50,511	134,931	114,693	300,135
125	Non Residential Smart Saver Energy Efficient Lighting Products				4,078,660	2,987,074	6,538,710	13,604,445
126	Non Residential Smart Saver Energy Efficient Pumps and Drives Products				66,649	49,390	84,066	200,106
127	Non Residential Smart Saver Energy Efficient IT Products				185	117,948	859	118,991
128	Non Residential Smart Saver Energy Efficient Process Equipment Products				6,501	11,082	10,246	27,829
129	Non Residential Smart Saver Performance Incentive				20,243	160,962	82,058	263,263
129	Small Business Energy Saver				1,772,873	3,493,883	3,374,219	8,640,976
130	Smart Energy in Offices				39,733	-	-	39,733
131	Business Energy Report				-	-	-	-
132	EnergyWise for Business				64,755	51,234	113,468	229,458
133	Total Lost Revenues		-	-	6,575,151	10,271,966	11,081,327	27,928,443
134	Lost Revenue Decrement Pending Rate Case Implementation						1,573,185	1,573,185
135	Found Non-Residential Revenues *				-	-	-	-
136	Net Lost Non-Residential Revenues	$ -	$ -	$ -	$ 6,575,151	$ 10,271,966	$ 9,508,142	$ 26,355,258

* Found Revenues - See Evans Exhibit 4

(a) Lost revenues were estimated by applying forecasted lost revenue rates for residential and non-residential customers to state specific forecasted program participation.

Line	Residential	Vintage 2019 2015	2016	2017[a]	2018	2019	2020	Total
137	Residential Energy Assessments					$ 178,309	$ 287,735	$ 466,044
138	My Home Energy Report					15,206,604	-	15,206,604
139	Energy Efficient Appliances and Devices					2,553,378	4,303,976	6,857,354
140	Residential – Smart $aver Energy Efficiency Program					129,065	158,904	287,969
141	Appliance Recycle Program					-	-	-
142	Income Qualified Energy Efficiency and Weatherization Assistance					99,398	185,634	285,032
143	Multi-Family Energy Efficiency					496,951	904,718	1,401,669
144	Energy Efficiency Education					119,499	261,545	381,044
145	Total Lost Revenues	-	-	-		18,783,204	6,102,512	24,885,717
146	Lost Revenue Decrement Pending Rate Case Implementation						866,357	866,357
147	Found Residential Revenues *					-	-	-
148	Net Lost Residential Revenues	$ -	$ -	$ -		$ 18,783,204	$ 5,236,156	$ 24,019,360

	Non-Residential	2015	2016	2017[a]	2018	2019	2020	Total
149	Nonresidential Smart Saver Custom Energy Assessments					$ 145,699	$ 300,502	$ 446,201
150	Non Residential Smart Saver Custom					1,059,600	2,335,850	3,395,450
151	Energy Management Information Services					-	-	-
152	Non Residential Smart Saver Energy Efficient Food Service Products					146,435	153,750	300,185
153	Non Residential Smart Saver Energy Efficient HVAC Products					193,528	322,214	515,742
154	Non Residential Smart Saver Energy Efficient Lighting Products					1,921,414	3,497,532	5,418,946
155	Non Residential Smart Saver Energy Efficient Pumps and Drives Products					77,800	214,313	292,113
156	Non Residential Smart Saver Energy Efficient IT Products					77,654	125,792	203,445
157	Non Residential Smart Saver Energy Efficient Process Equipment Products					18,722	39,115	57,837
158	Non Residential Smart Saver Performance Incentive					375,261	656,829	1,032,089
158	Small Business Energy Saver					1,523,101	2,471,538	3,994,639
159	Smart Energy in Offices					-	-	-
160	Business Energy Report					-	-	-
161	EnergyWise for Business					51,234	76,675	127,908
162	Total Lost Revenues		-	-		5,590,446	10,194,109	15,784,556
163	Lost Revenue Decrement Pending Rate Case Implementation						1,447,229	1,447,229
164	Found Non-Residential Revenues *					-	-	-
165	Net Lost Non-Residential Revenues	$	-	$ -		$ 5,590,446	$ 8,746,880	$ 14,337,327

* Found Revenues - See Evans Exhibit 4

(a) Lost revenues were estimated by applying forecasted lost revenue rates for residential and non-residential customers to state specific forecasted program participation.

Line	Residential	Vintage 2020 2015	2016	2017[a]	2018	2019	2020	Total
166	Residential Energy Assessments						161,966	$ 161,966
167	My Home Energy Report						14,686,468	14,686,468
168	Energy Efficient Appliances and Devices						1,238,379	1,238,379
169	Residential – Smart $aver Energy Efficiency Program						271,482	271,482
170	Appliance Recycle Program						-	-
171	Income Qualified Energy Efficiency and Weatherization Assistance						103,534	103,534
172	Multi-Family Energy Efficiency						496,663	496,663
173	Energy Efficiency Education						146,751	146,751
174	Total Lost Revenues	-	-	-		-	17,105,243	17,105,243
175	Lost Revenue Decrement Pending Rate Case Implementation						2,428,384	2,428,384
176	Found Residential Revenues *						-	-
177	Net Lost Residential Revenues	$ -	$ -	$ -		$ -	$ 14,676,859	$ 14,676,859

	Non-Residential	2015	2016	2017[a]	2018	2019	2020	Total
178	Nonresidential Smart Saver Custom Energy Assessments						$ 136,414	$ 136,414
179	Non Residential Smart Saver Custom						1,201,984	1,201,984
180	Energy Management Information Services						-	-
181	Non Residential Smart Saver Energy Efficient Food Service Products						93,624	93,624
182	Non Residential Smart Saver Energy Efficient HVAC Products						61,819	61,819
183	Non Residential Smart Saver Energy Efficient Lighting Products						3,029,908	3,029,908
184	Non Residential Smart Saver Energy Efficient Pumps and Drives Products						94,651	94,651
185	Non Residential Smart Saver Energy Efficient IT Products						6,639	6,639
186	Non Residential Smart Saver Energy Efficient Process Equipment Products						12,061	12,061
187	Non Residential Smart Saver Performance Incentive						402,902	402,902
187	Small Business Energy Saver						955,245	955,245
188	Smart Energy in Offices						-	-
189	Business Energy Report						-	-
190	EnergyWise for Business						46,148	46,148
191	Total Lost Revenues		-	-		-	6,041,394	6,041,394
192	Lost Revenue Decrement Pending Rate Case Implementation						857,680	857,680
193	Found Non-Residential Revenues *						-	-
194	Net Lost Non-Residential Revenues	$ -	$ -	$ -		$ -	$ 5,183,714	$ 5,183,714

* Found Revenues - See Evans Exhibit 4

(a) Lost revenues were estimated by applying forecasted lost revenue rates for residential and non-residential customers to state specific forecasted program participation.

Evans Exhibit 3

Duke Energy Carolinas, LLC
For the Period January 1, 2018 - December 31, 2018
Docket Number E-7 ,Sub 1192
Actual Program Costs for Vintage Years 2014, 2015, 2016, 2017 and 2018

		Carolinas System - 12 Months Ended 12/31/2014	Carolinas System - 12 months Ended 12/31/2015	Carolinas System - 12 months Ended 12/31/2016	Carolinas System - 12 months Ended 12/31/2017	Carolinas System - 12 months Ended 12/31/2018
1	Residential Energy Assessments	$ 3,605,737	$ 3,086,173	2,678,893	2,909,098	2,835,847
2	My Home Energy Report	8,285,066	9,845,895	10,822,444	13,812,250	13,250,856
3	Energy Efficient Appliances and Devices	14,738,129	12,050,485	24,069,774	30,340,728	42,681,401
4	Residential – Smart $aver Energy Efficiency Program	4,786,807	5,416,833	7,839,566	7,403,327	6,954,193
5	Appliance Recycle Program	1,515,867	1,537,241	(97,397)	5,307	-
6	Income Qualified Energy Efficiency and Weatherization Assistance	1,917,192	2,238,776	4,792,436	5,505,992	6,489,856
7	Multi family Energy Efficiency	1,442,533	2,092,935	2,518,988	3,168,422	3,604,442
8	Energy Efficiency Education	1,963,153	2,054,672	2,126,509	2,077,611	1,991,998
9	Nonresidential Smart Saver Custom Energy Assessments	1,458,195	660,420	2,034,308	2,139,875	407,250
10	Energy Management Information Systems	74,855	-	-	-	-
11	Non-Residential Smart Saver Custom	8,136,712	9,932,877	7,356,509	7,304,838	6,068,278
12	Non-Residential Smart Saver Performance Incentive			35,670	320,559	479,559
13	Non-Residential Energy Efficient Food Service Products	199,350	194,425	324,117	306,488	235,579
14	Non-Residential Smart Saver Energy Efficient HVAC Products	815,339	1,142,522	1,473,991	1,560,769	1,620,574
15	Non-Residential Smart Saver Energy Efficient Lighting Products	6,727,675	11,335,798	39,622,944	66,689,770	25,869,602
16	Nonresidential Energy Efficient Pumps and Drives Products	584,874	466,478	471,930	528,937	277,755
17	Nonresidential Energy Efficient ITEE	25,730	716,542	285,430	61,215	36,871
18	Nonresidential Energy Efficient Process Equipment Products	89,809	88,823	125,947	162,413	67,502
19	Smart Energy In Offices	1,156,497	1,463,240	1,061,729	891,010	219,729
20	Small Business Energy Saver	1,026,607	13,968,790	15,360,852	17,350,972	15,976,281
21	Business Energy Report	-	126,404	263,169	126,680	-
22	Power Manager	15,662,693	14,634,279	13,644,970	14,021,500	14,422,260
23	EnergyWise for Business	-	1,549,305	470,304	2,484,618	3,062,497
24	Power Share	15,520,492	15,779,050	14,291,024	13,316,535	12,921,769
25	Disallowed Costs from 2015 Program Costs Audit (Order E-7 Sub 1105, dated 8/25/16)		(3,851)			
26	**Total Energy Efficiency & Demand Side Program Costs**	**$ 89,733,313**	**$ 110,378,109**	**$ 151,574,107**	**$ 192,488,915**	**$ 159,474,100**
27	NC Allocation Factor for EE programs	72.9600473%	72.9564706%	73.0962827%	72.8087506%	72.7130507%
28	NC Allocation Factor for DSM programs-Residential	34.0209980%	32.5218612%	33.7973480%	33.8075104%	32.1574721%
29	NC Allocation Factor for DSM programs-Non-Residential	41.2108021%	42.4483655%	40.8166437%	40.0747013%	41.4712829%

		NC Allocated - 12 Months Ended 12/31/2014	NC Allocated - 12 Months Ended 12/31/2015	NC Allocated - 12 Months Ended 12/31/2016	2	NC Allocated - 12 Months Ended 12/31/2018
30	Residential Energy Assessments	$ 2,630,748	$ 2,251,563	$ 1,958,171	$ 2,118,078	$ 2,064,745
31	My Home Energy Report	6,044,788	7,183,217	7,910,805	10,056,526	9,647,783
32	Energy Efficient Appliances and Devices	10,752,946	8,791,608	17,594,110	22,090,705	31,075,795
33	Residential – Smart $aver Energy Efficiency Program	3,492,457	3,951,930	5,730,431	5,390,270	5,063,261
34	Appliance Recycle Program	1,105,977	1,121,517	(71,194)	3,864	-
35	Income Qualified Energy Efficiency and Weatherization Assistance	1,398,784	1,633,332	3,503,093	4,008,844	4,725,183
36	Multi family Energy Efficiency	1,052,473	1,526,931	1,841,287	2,306,888	2,624,349
37	Energy Efficiency Education	1,432,317	1,499,016	1,554,399	1,512,683	1,450,349
38	Nonresidential Smart Saver Custom Energy Assessments	1,063,900	481,819	1,487,003	1,558,016	296,513
39	Energy Management Information Systems	54,614	-	-	-	-
40	Non-Residential Smart Saver Custom	5,936,549	7,246,677	5,377,335	5,318,561	4,418,238
41	Non-Residential Smart Saver Performance Incentive			26,073		
42	Non-Residential Energy Efficient Food Service Products	145,446	141,845	236,918	223,150	171,522
43	Non-Residential Smart Saver Energy Efficient HVAC Products	594,872	833,543	1,077,433	1,136,376	1,179,920
44	Non-Residential Smart Saver Energy Efficient Lighting Products	4,908,515	8,270,198	28,962,899	48,555,988	18,835,334
45	Nonresidential Energy Efficient Pumps and Drives Products	426,724	340,326	344,963	385,112	202,230
46	Nonresidential Energy Efficient ITEE	18,773	522,764	208,639	44,570	26,845
47	Nonresidential Energy Efficient Process Equipment Products	65,525	64,802	92,062	118,251	49,147
48	Smart Energy In Offices	843,781	1,067,528	776,084	648,734	159,982
49	Small Business Energy Saver	749,013	10,191,136	11,228,212	12,633,026	11,632,131
50	Business Energy Report	-	92,220	192,366	92,234	-
51	Power Manager	10,608,831	10,394,843	9,600,575	10,082,296	9,777,970
52	EnergyWise for Business		1,213,062	369,407	1,879,262	2,416,002
53	Power Share	12,850,841	12,354,553	11,225,091	10,072,077	10,193,974
54	Disallowed Costs from 2015 Program Costs Audit (Order E-7 Sub 1105, dated 8/25/16)		(2,887)			
55	**Total Energy Efficiency & Demand Side Program Costs**	**$ 66,177,873**	**$ 81,171,544**	**$ 111,226,163**	**$ 140,235,514**	**$ 116,011,274**

Evans Exhibit 4

Duke Energy Carolinas, LLC
January 2014 - December 2018 Actuals
January 2019 - December 2020 Estimates
Docket Number E-7, Sub 1192
North Carolina Found Revenues

	Actual/ Reported KWH					Estimated KWH			
	2014	2015	2016	2017	2018	2019	2020	Total	Decision Tree Node
Economic Development	166,234,550	464,610,000	271,322,290	348,693,600	507,965,880	-	-	1,758,826,320	Box 5 - exclude
Plug-in Electric Charging Station Pilot	238,696	-	-	-	-	-	-	238,696	Box 3 - exclude
Lighting								-	
Residential	105,354	90,653	90,608	78,437	62,832	62,832	62,832	553,548	Box 6 - include
Non Residential (Regulated)	95,391	76,081	96,691	102,200	67,443	67,443	67,443	572,692	Box 6 - include
MV to LED Credit - Residential (Regulated)	(156,381)	(171,375)	(189,823)	(172,702)	(150,968)	(685,126)	(217,615)	(1,743,990)	Box 6 - include
MV to LED Credit - Non-Residential (Regulated)	(104,331)	(160,589)	(173,799)	(193,494)	(248,852)	(1,129,345)	(358,711)	(2,369,121)	Box 6 - include
Total KWH	166,413,279	464,444,770	271,145,967	348,508,041	507,696,335	(1,684,197)	(446,050)	1,756,078,145	
Total KWH Included	(59,967)	(165,230)	(176,323)	(185,559)	(269,545)	(1,684,197)	(446,050)	(2,986,871)	
Total KWH Included (net of Free Riders 15%)	(50,972)	(140,446)	(149,875)	(157,725)	(229,113)	(1,431,567)	(379,143)	(2,538,840)	
Annualized Found Revenue - Non Residential	$ (3,700)	$ (37,868)	$ (37,575)	$ (47,791)	$ (96,471)	$ (574,663)	$ (1,640,089)	$ (2,438,156)	
Annualized Found Revenue - Residential	$ (34,952)	$ (55,340)	$ (67,984)	$ (63,987)	$ (59,285)	$ (420,645)	$ (1,297,039)	$ (1,999,232)	

	2014	2015	2016	2017	2018	2019	2020	Total
Vintage 2014 - Non Res	1,474	(3,700)	(3,700)	(5,174)				(11,099)
Vintage 2015 - Non Res		(21,561)	(37,868)	(37,868)	(13,108)			(110,406)
Vintage 2016 - Non Res			(19,734)	(37,575)	(30,884)	(10,217)		(98,410)
Vintage 2017 - Non Res				(19,415)	(47,791)	(47,791)	(28,377)	(143,374)
Vintage 2018 - Non Res					(51,684)	(96,471)	(96,471)	(244,626)
Vintage 2019 - Non Res						(311,276)	(574,663)	(885,939)
Vintage 2020 - Non Res							(85,379)	
Net Negative Found Revenues to Zero*	-	25,261	61,302	100,031	143,468	465,755	784,890	1,580,706
Subtotal - Non Res	$ 1,474	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,474
Vintage 2014 - Res	(12,947)	(34,952)	(34,952)	(22,005)	-			(104,857)
Vintage 2015 - Res		(32,355)	(55,340)	(55,340)	(17,981)	-	-	(161,015)
Vintage 2016 - Res			(38,231)	(67,984)	(39,657)	-	-	(145,873)
Vintage 2017 - Res				(26,862)	(50,953)	(32,706)	(18,976)	(129,498)
Vintage 2018 - Res					(28,318)	(59,285)	(59,285)	(146,888)
Vintage 2019 - Res						(227,850)	(420,645)	(648,495)
Vintage 2020 - Res							(56,673)	(56,673)
Net Negative Found Revenues to Zero*	12,947	67,307	128,523	172,192	136,909	319,841	555,579	1,393,299
Subtotal - Residential	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Found Revenues	$ 1,474	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,474

* Eliminates the inclusion of total negative found revenues at the Residential and Non-Residential level

Evans Exhibit 5

Duke Energy Carolinas
System Event Based Demand Response January 1, 2018 - December 31, 2018
Docket Number E-7, Sub 1192

Date	State	Program Name	Event Trigger	High / Low System Temp (F)	Customers Notified /Switches Dispatched	MW Reduction
1/2/2018	NC and SC	PowerShare	Emergency, Low Reserves	32/10	163	282.1
1/7/2018	NC and SC	PowerShare	Emergency, Low Reserves	29/12	163	210.0
8/30/2018	NC and SC	Power Manager	Test Event	91 / 72	225,210 / 270,511	184.1

Notes:

- The 'High / Low System Temperature' is the average of the daily high & low temperatures from 3 weather stations (Charlotte, Greensboro, Greenville/Spartanburg)
- 'Customers Notified' is the number of participants notified to participate in the event
- 'Switches Dispatched' values represent the monthly active switch counts
- 'MW Reduction' values are based on the average across all hours of the event
- A loss adjustment of 1.0622 has been included in the 'MW Reduction' values.

Duke Energy Carolinas, LLC – Executive Summary

A. Description

During the first quarter 2018 Duke Energy Carolinas Collaborative meeting, Duke Energy Carolinas, LLC (the "Company") will provide an update on the performance of its energy efficiency and demand side management programs/pilots for the timeframe of January 2018 through December 2018. The Company's product managers prepared reports on each program describing the offerings and detailing each program's performance. This Executive Summary describes how the Company performed at an aggregate level during the full year of Vintage 2018 in comparison to as-filed information. Program-specific details are provided in the individual reports.

Program reports include:

Program	Category	Customer
Energy Assessments	EE	Residential
Energy Efficient Appliances and Devices	EE	Residential
Energy Efficiency Education Programs	EE	Residential
Residential – Smart $aver Energy Efficiency Program (HVAC EE)	EE	Residential
Income Qualified Energy Efficiency and Weatherization Assistance	EE	Residential
My Home Energy Report	EE	Residential
Multi-Family Energy Efficiency	EE	Residential
Non-Residential Smart $aver Prescriptive	EE	Non-residential
Non-Residential Smart $aver Custom	EE	Non-residential
Non-Residential Smart $aver Custom Assessment	EE	Non-residential
Non-Residential Smart $aver Performance Incentive	EE	Non-residential
Small Business Energy Saver	EE	Non-residential
EnergyWise for Business	EE/DSM	Non-residential
Power Manager	DSM	Residential
PowerShare	DSM	Non-residential

Audience

All retail Duke Energy Carolinas customers who have not opted out.

B &C. Impacts, Participants and Expenses

The tables below include actual results for the full year of Vintage 2018 in comparison to as-filed data for Vintage 2018.

The Company includes the number of units achieved and a percentage comparison to the as filed values. The unit of measure varies by measure as a participant, for example, may be a single LED bulb, a kW, a kWh, a household or a square foot. Due to the multiple measures in a given program or programs, units may appear skewed and are not easily comparable.

Duke Energy Carolinas, LLC – Executive Summary

Carolinas System Summary[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$487.8	$513.6	105%
Program Cost	$141.8	$159.5	112%
MW[2]	1,059.3	1,047.9	99%
MWH	816,507.7	861,595.3	106%
Units	155,366,844	95,766,795	62%

1) Values are reflected at the system level.
2) As filed MW are annual maximum peak. Coincident peak is tracked for impacts.

Carolinas Demand Response Summary[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$114.6	$100.4	88%
Program Cost	$29.3	$30.4	104%
MW[2]	908.4	876.2	96%
MWH	3,530.1	2,498.9	71%
Units[3]	846,008	828,690	98%

1) Values are reflected at the system level.
2) MW capability derived by taking the average over the PowerShare and PowerManager contract periods.
3) Units included in filing represented kW at meter, rather than number of participants. YTD value reflects average participation for 2018.

Carolinas Energy Efficiency Summary[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$373.2	$413.3	111%
Program Cost	$112.5	$129.1	115%
MW[2]	150.9	171.8	114%
MWH	812,977.6	859,096.3	106%
Units	154,520,835	94,938,105	61%

1) Values are reflected at the system level.
2) As filed MW are annual maximum peak. Coincident peak is tracked for impacts.

D. Qualitative Analysis

Energy efficiency impacts have primarily been driven by lighting measures for both residential and non-residential customers. This is a result of a higher take-rate for lighting offerings than originally projected.

Highlights

Energy Efficiency

Customer participation continues to be largely driven by lighting and assessments programs. These measures provide customers with a relatively low cost efficiency upgrade, with minimal effort, creating a positive initial energy efficiency experience.

Demand Side Management (DSM)

The DSM portfolio is comprised of PowerShare (non-residential), Power Manager (residential), and EnergyWise for Business (non-residential) programs. The impacts and participation were very close to the 2018 as-filed targets.

Issues

A few of the Company's programs struggled to be cost-effective and filed for program modifications at the close of the year. The Company faces a significant challenge with reductions in avoided costs, making programs and their measures potentially less impactful. As a result of this and other factors, the Company's continued assessment of its portfolio may result in the removal of or change in measures.

Potential Changes

Several programs are reviewing their current processes and are considering potential changes to increase customer adoption. Potential changes are discussed in individual program reports.

E. Marketing Strategy

Located in individual reports.

F. Evaluation, Measurement and Verification

Located in individual program reports.

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Energy Efficient Appliances and Devices

A. Description

The Energy Efficient Appliances and Devices program ("Program") offers a variety of measures to eligible Duke Energy Carolinas, LLC (the "Company") customers to facilitate a reduction in their energy consumption. The Program includes offers for lighting measures, pool pumps, heat pumps water heaters, and water measures.

Free LED Program

The Free LED (Light Emitting Diode) program is designed to increase the energy efficiency of residential customers by offering customers 9 watt A19 LEDs to install in high-use fixtures within their homes.

The LEDs are offered through multiple channels to eligible customers, including an on-demand ordering platform which enables eligible customers to request LEDs and have them shipped directly to their homes.

The program consists of two types of eligible customers:

1. Customers who have not yet met or exceeded the Duke Energy bulb (CFL or LED) limit of 15. These customers have the option to choose kits in quantities of 3, 6, 8, 12, and 15 bulbs. Available order quantities presented are dependent on past campaign participation (i.e., coupons, Business Reply Cards ("BRCs") and other Company programs offering lighting).

2. Customers who have met or exceeded the 15 bulb limit (CFL or LED) but 5 years have passed since their shipment dates. Depending upon past order quantities, these customers could have the option to order bulbs in quantities of 6 or 12.

Customers have the flexibility to order and track their shipments through three separate channels:

1) Telephone: Customers may call a toll-free number to access the Interactive Voice Response ("IVR") system, which provides prompts to facilitate the ordering process. The IVR is designed to handle requests for both English- and Spanish-speaking customers. Customers may easily validate their accounts, determine their eligibility and order their LEDs over the phone.

2) The Program's Web Site: Customers can go online to order LEDs, check their order status, see eligibility requirements and view frequently asked questions.

3) My Account: Once enrolled and authenticated in OLS, eligible customers will have the ability to order LEDs, check their order status and view frequently asked questions.

Specialty Lighting

The Duke Energy Savings Store ("Store") is an extension of the on-demand ordering platform enabling eligible customers to purchase specialty bulbs and have them shipped directly to their homes. The Store launched on April 26, 2013, and offers a variety Light Emitting Diodes lamps ("LEDs") including reflectors, globes, candelabra, 3-way, dimmable and A-line type bulbs. The incentive levels vary by bulb type, and the customer pays the difference. Various shipping promotions are run throughout the year, ranging from free to a reduced flat rate price.

The maximum number of incented bulbs the Company provides is 36 per account. However, customers may choose to order additional bulbs without the Company's incentive.

In late April 2018, the program added smart thermostats, smart strips, & water products. Customer purchase limits are as follows:

- Smart thermostats- 2 total
- Water measures- 3 total
- Smart Strips- 4 total

Customers can check eligibility and shop for specialty bulbs through four separate channels.

1) The Program Web Site: Customers can access the store via the program's public webpage on DukeEnergy.com. By clicking the "Shop Now" button, customers move to the store where they can purchase specialty bulbs. Frequently asked questions are available to help customers learn more about the program and the sustainability benefits of using LED lighting.
2) My Account/OLS: Customers enrolled in the Company's OLS or My Account may visit the Store and purchase specialty bulbs. Upon login, eligible customers are intercepted with the Store offer. Customers can select "Shop Now" or "No Thanks." Additional links and promos within OLS also prompt customers to access the Store.
3) Phone Ordering: Customers can call a toll-free phone number provided on all promotional pieces for the program and place their orders over the phone directly with the programs third party vendor.
4) On occasion, Duke Energy provides customers with a mail-in option for placing an order. Direct mail campaigns offer specially priced bulb bundles with the option to order these bundles online, by phone or with a postage paid return mailer.

The Store is managed by a third-party vendor, Energy Federation Inc. ("EFI"). EFI is responsible for maintaining the Store website, fulfilling all customer purchases, supporting the program call center, and recommending products. The store's landing page provided information about the store, product offerings, highlights promotions, account information and order history. Support features include a toll free number, chat, package tracking and frequently asked questions..

Educational information is available to help customers with their purchase decisions. This information includes videos and documents that speaks to how the customer can reduce their energy usage while maintaining comfortable atmosphere within their home.

Product pages include application photos, product images, product specifications, purchase limits, and program pricing. Customers may place items in their shopping carts to purchase at a later time. Customers can pay for their purchases with a credit card or by check.

Benefits of the four distinct channels for the Savings Store include the following:

- Improved customer experience
- Advanced inventory management
- Simplified program coordination
- Enhanced reporting
- Increased program participation
- Reduced program costs
- Quick and convenient
- Discounted pricing

Retail Lighting

The Retail Lighting Program launched in March of 2016 with the goal of reducing electric energy consumption and peak demand through increased awareness and adoption of energy-efficient lighting technologies. The program partners with retailers and manufacturers across North and South Carolina to provide price markdowns on customer purchases of efficient lighting. The product mix includes Energy Star-rated standard, reflector, and specialty LEDs and fixtures. Participating retailers include a variety of store types, including Big Box, DIY, club, and discount stores.

The program promotes customer awareness and the purchase of program-discounted products through a range of marketing and outreach strategies, including in-store collateral and events, bill inserts, direct mail and email marketing, mass media advertising, online advertising, and community events. The program also provides training to store staff to enable better customer education at the point of purchase. Ensuring

customers are purchasing the right bulb for the application through proper customer education is imperative to obtain high satisfaction with lighting products and subsequent purchases.

Water Measures

The Save Energy and Water Kit Program ("SEWK") launched in 2014. The Program is designed to increase the energy efficiency of residential customers by offering customers energy efficient water fixtures and insulating pipe tape for use within their homes.

The SEWK program is offered through a selective eligibility process, enabling eligible customers to request a kit and have it shipped directly to their homes. Customers owning and living in a single-family home with an electric water heater and who have not received similar measures through another Company-offered energy efficiency program are eligible for the program. Kits are available in two sizes for homes with one or more full bathrooms and contain varying quantities of shower heads, bathroom aerators, a kitchen aerator and insulating pipe tape. Program participants are eligible for one kit shipped free of charge to their homes.

Customers are pre-screened based on the eligibility requirements. Marketing channels include both a direct mail business reply card ("BRC") and direct email. Customers receiving the BRC may choose to return the BRC, navigate to a redemption website listed on the card, or call a toll-free number to take advantage of the offer. Customers receiving a direct email simply click on a redemption link to redeem the offer online. Upon receiving the order from the customer through one of the methods above, EFI ships the kit to the customer. Due to the unique eligibility requirements of this program, BRCs and direct email are the only two methods being used to solicit customers for participation.

High Efficiency Pool Pumps

The High Efficiency Pool Pumps measure ("Pool Energy Efficiency Program") is designed to encourage the purchase and installation of energy efficient variable speed pool pumps for residential in-ground swimming pools. Eligible customers receive an incentive of $300 for the replacement of an eligible single-speed pool pump with a new Energy Star-certified variable speed pump. New swimming pool construction is also eligible for the rebate. The program is marketed through a network of participating contractors ("Trade Allies") that interface directly with the customer, as well as through various marketing channels such as direct mail, email, company website, bill inserts and other customer communications. Eligible customers include single-family, owner-occupied residential customers with an in-ground pool in the Duke Energy Carolinas service territory. Builders of single-family residences are eligible for new residence construction that includes an in-ground swimming pool. In late 2017, this measure was moved to the Residential Smart $aver® Energy Efficiency Program (previously known as HVAC EE).

High Efficiency Heat Pump Water Heater

The high efficiency heat pump water heater measure is designed to encourage the installation and adoption of heat pump water heaters. Eligible customers receive an incentive of $350 for the replacement of an existing electric water heater with an Energy Star-certified heat pump water heater having an Energy Factor ("EF") rating of 2.0 or higher. The program is marketed through a network of participating contractors ("Trade Allies") that interface directly with the customer, as well as through various marketing channels such as direct mail, email, company website, bill inserts and other customer communications. Eligible customers include single-family, owner-occupied residential customers with electric water heating in the Duke Energy Carolinas service territory. Builders of single-family residences that include an eligible heat pump water heater are also eligible for the rebate. In late 2017, this measure was moved to the Residential Smart $aver® Energy Efficiency Program (previously known as HVAC EE).

Audience

Customers who meet the Program eligibility requirements.

Energy Efficient Appliances and Devices

B &C. Impacts, Participants and Expenses

Energy Efficient Appliances and Devices[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$75.7	$158.6	210%
Program Cost	$23.7	$42.7	180%
MW	11.7	32.8	280%
MWH	97,729.2	195,316.8	200%
Units	3,533,486	10,242,945	290%

1) Values are reflected at the system level.

D. Qualitative Analysis

Free LED Program

Highlights
The program results were strong in 2018. Overall, over 485,000 orders were placed accounting for 6.2 million bulbs.

From an order channel perspective, the IVR intercept was the ordering channel that accounted for the most orders (45%). This was followed by the authenticated portal (formally OLS, now My Account) accounting for 38% of orders in 2018. The Duke Energy public website rounded out the rest of the order channel splits accounting for 17% of orders.

Issues
Analyzing customer data and finding ways to effectively market to non-participating customers is the primary challenge of this program.

Potential Changes
There are no changes for the program anticipated at this time.

Specialty Lighting

Highlights
The OLS provides an ecommerce platform that allows customers to purchase LEDs on demand, at any time. Over 62,418 orders were placed during 2018 resulting in the delivery of over 432,593 bulbs; 23,799 smart thermostats; 1,752 smart strips; and 219 water products have been delivered to customers. Over 90 percent of customers accessed OLS via the public website, while 10 percent accessed OLS by logging into their OLS account.

Issues
Educating and bringing awareness of the Store to eligible customers, while providing expanded product offerings that meet customers energy efficient needs from a holistic perspective is the primary issue at this time.

Potential Changes
The introduction of more non-lighting products to provide variety to the product mix is a potential change for 2019. Additionally, upgrading the entire site to improve the overall customer shopping experience and enhance certain features is also being planned for 2019.

Retail Lighting

Energy Efficient Appliances and Devices

Highlights
In 2018, the program moved a total of 3,005,796 measures, including 2,314,516 LEDs and 691,280 fixtures into customers' homes.

The DEC Energy Efficiency Program had 8 lighting retail channels actively participating in 2018. While the top four retail channels account for 81% of the program sales, all retail channels are important in that they allow access to the program for a widely diverse and geographically spread population of DEC customers. Locations are selected to ensure that the Program reaches 90% of customers within 30 miles of a participating retail location.

The Program is operating efficiently with 78% of overall Program costs going directly to customers in the form of incentives. Most of the remaining Program costs (80% of the remaining 22%) are spent on implementation and administration of the Program, including incentives and management fees. Only 5% of these costs are spent on marketing, labor and other costs.

Issues
No issues are known at this time.

Potential Changes
The Program will continue to evaluate the market and adjust products and incentive levels as necessary, focusing on specialty applications and strategically targeting underserved customers through select channels and events.

Save Energy and Water Kit Program

Highlights

In 2018, the program distributed over 516,000 measures. In 1Q 2018, the program launched online ordering allowing customers to redeem the offer online. As a part of this launch, the Company began using direct email to reach market segments more prone to interact and do business online instead of through traditional mail. Online redemptions accounted for 16% of all redemptions.

Issues

The Company continues to analyze data from non-respondents to the BRC offer to identify opportunities to increase the adoption rate. The Company also continues to review customer satisfaction surveys to identify opportunities for improvement in service rates and overall customer satisfaction.

Potential Changes
In early 2019, the program will add other energy efficient water saving products to the online ordering platform to allow customers to upgrade the products offered through the program and pay the difference during check out.

High Efficiency Pool Pumps

Highlights
The Company partnered with several wholesale distributors across North and South Carolina to serve as distribution channels for program awareness and to develop the Trade Ally Network. Trade Allies are important to the program's success because they interface with the customer during the decision-making process. Several training classes were conducted throughout the jurisdiction to continue educating the trade allies on the advanced technology variable speed as well as on how to sell the technology to the end user.

Issues
Customer buy-in and the Trade Ally network are vital to the success of the program. Educating contractors on emerging technologies and the value the technologies provide customers is critical in growing the trade ally network and their willingness to promote the program. Additionally, many distributors are requesting point-of-sale rebates as they do not want to deal with submitting rebates or handling the additional paper work requirements for the Program. The Company is currently working to determine if a technology can be put in place to accommodate distributor needs and boost participation.

High Efficiency Heat Pump Water Heater

Highlights
The Company has partnered with manufacturers and national retailers such as General Electric and Lowes to increase program awareness and maximize in store purchases. The program continued recruiting plumbing contractors and currently registered HVAC companies to increase coverage across the jurisdictions and maximize participation. The Program conducted training classes throughout the jurisdiction to educate the Trade Allies on the advanced technology offers for reducing energy consumption as well as on how to sell the technology to the end user.

Issues
Educating and bringing awareness of the program to both customers and potential contractors has been challenging. Educating contractors has been addressed through additional Trade Ally marketing, recruitment and training but remains slow due to the re-emerging technology of heat pump water heaters and their willingness to adopt more technical services. Customer awareness is being addressed through program design and marketing tactics but will be primarily targeted as a joint effort with manufactures and national retailers. Their willingness to co-brand and the frequency of campaigns will be critical in reaching our customer base.

E. Marketing Strategy

Free LED Program
The overall strategy of the program is to reach residential customers who have not adopted LED lighting. The Company educates customers on the benefits of LEDs while addressing barriers for customers who have not participated in the program. Additionally, the ease of Program participation will also be highlighted to encourage use of the on-demand ordering platform. The Free LED and Specialty Lighting offers utilize the same ordering platform so the Company can promote both lighting offers efficiently and bring awareness to non-adopters.

From an outreach standpoint, the program relies on our My Account intercept, a pop up that launches as a customer logs into the My Account authenticated portal to pay their bill or view account information, to generate interest in the program. A customer can click “continue” to move to the Free LED ordering page. In 2018, approximately 30% of orders came as a result of this intercept. In addition to the My Account intercept, the program leveraged it’s IVR Intercept that presents when a customer calls into the Duke Energy customer service line and goes through one of three flows—Billing Questions, Meter Read, Make a Payment. After authenticating, if eligible, a message will present that they are eligible for the offer and allowing them to place an order and then be placed back into the flow of their intended call. Overall, there were 203,422 IVR intercept orders out of 582,788 times the intercept presented, translating to a 34.9% take rate.

In addition to the intercepts, the program also solicited customers via emails and direct mail pieces. Such pieces usually targeted New Customers (typically yielding an 18% take rate) and customers who became re-eligible for the Free lighting program after 5 years passed since their Free CFL order (typically yielding a 16% take rate).

A sample of program collateral and emails (which cross promote Specialty Lighting) are available in the Appendix.

Energy Efficient Appliances and Devices

Specialty Lighting
Since the launch of the Store, the marketing efforts include the following:

- bill messages
- bill inserts
- email campaigns
- direct mail

Examples of the marketing pieces can be found in the Appendix. Awareness and education will continue to be a focus in collateral messages to eligible customers, as well as highlighting great pricing and other promotional offerings such as free shipping.

Retail Lighting
The program's marketing efforts for 2018 include the following:

- Point of Purchase materials at participating retailer locations
- Duke Energy and Program website
- General Awareness Campaigns
    - Bill Inserts
    - Email
    - Online Advertising

- Advertised events at key retailers including:
    - Direct mail
    - Email
    - In-Store materials (fliers, bag stuffers, posters, banners, etc.)

- Community outreach events (national night out, cultural events, etc.)

These marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities, and to emphasize the convenience of Program participation. Additionally, marketing efforts related to in-store events are designed to motivate customer participation.

Save Energy and Water Kit Program
The overall strategy of the program is to reach residential customers who have not adopted low flow water devices. In 2Q 2018 the Company updated water kit materials to better educate customers on the benefits of low flow water devices. The updates also included streamlining the instruction manual to address installation barriers for consumers who have not participated in the program.

Both direct mail marketing in the form of BRCs and direct email are the current marketing channels being utilized by this program in the Carolinas. With the addition of online ordering and email as a marketing channel, the paper and cost associated with traditional mail solicitations has been reduced. Examples of the updated kit materials, direct mail, and direct email are included in the Appendix.

High Efficiency Pool Pumps
The Company implemented several customer marketing campaigns in 2017 which leveraged channels such as email, paid search, display ads, direct mail and social media to build awareness of the program. Other channels such as co-branded retail displays with selected distributors created awareness of the program. The program's messaging was built around the benefits of the product including payback, annual savings and cleaner pools.

High Energy Efficiency Heat Pump Water Heater
The Company implemented several customer marketing campaigns in 2017 which leveraged channels such as bill inserts, paid search, and display ads to build awareness of the program. Other channels such as co-branded retail displays with selected manufacturers and national retailers created awareness for the program.

F. Evaluation, Measurement and Verification

Residential Lighting

The DEC Free LED program completed an impact and process evaluation in Dec 2017. The impact evaluation consisted of a review of the tracking data, engineering estimates to calculate energy savings as well as summer and winter demand savings. A participant survey was also conducted to refine in-service rates, assess free ridership and spillover, and determine potential program process improvements.

The impact evaluation verified energy savings at 67% of expected savings; summer and winter demand savings were verified at realization rates of 77% and 103%, respectively. The net-to-gross was estimated at 50%.

No additional EM&V activities are planned for this program due to future sunsetting of the program.

The DEC Online Saving program completed an impact and process evaluation in October 2018 and summary results were presented at the 4th Quarter 2018 DEC/DEP Collaborative.

The impact evaluation consisted of a review of the tracking data, engineering estimates to calculate energy savings as well as summer and winter demand savings. A participant survey was also conducted to refine in-service rates, assess free ridership and spillover, and determine potential program process improvements.

Verified impacts reveal that energy savings achieved 81% of the expected savings, while the realization rate for summer demand savings was 99% and for winter demand, 49%. Estimated net-to-gross was 72%.

Future evaluations are tentatively scheduled for 2020, subject to participation levels for the non-lighting marketplace measures.

Heat Pump Water Heaters/Pool Pump

The evaluation for Heat Pump Water Heater and Variable Speed Pool Pump measures were included in the DEC Smart $aver HVAC evaluation, completed in May 2018, and presented to the DEC/DEP Collaborative in 4th Quarter 2018.

Detailed results for these measures can be found in the Smart $aver program update.

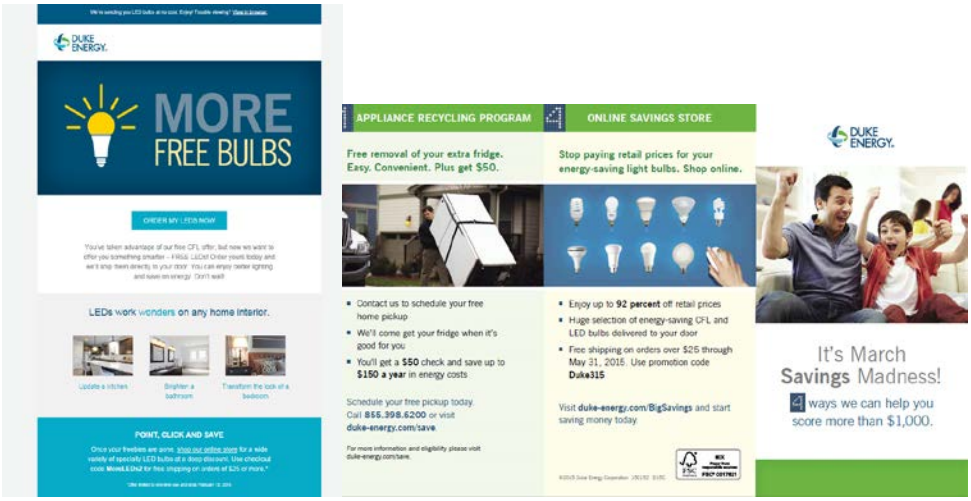
Save Energy & Water

No evaluation activities were conducted in 2018 for this program. Evaluation planning is expected to commence in 2019, with a final evaluation report tentatively scheduled for 2nd Quarter 2020.

G. Appendix

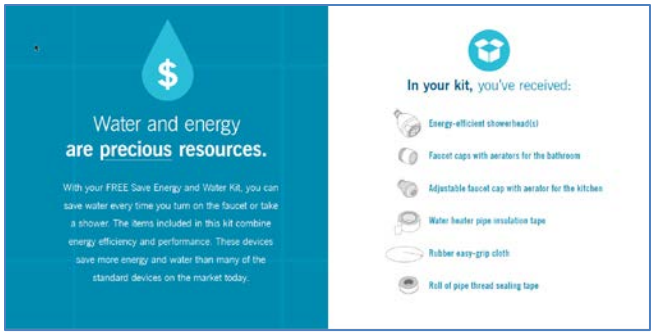
Free LED Program – Direct Mail New Customer Letter:

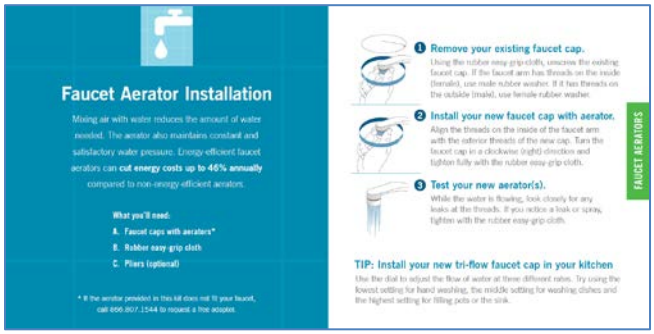
Free LED Program – Email Campaign:



Save Energy and Water Kit Program Installation Guide

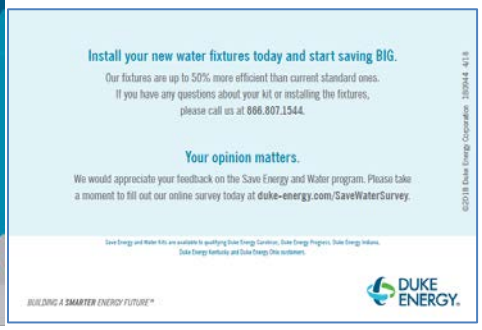
Energy Efficient Appliances and Devices





Energy Efficient Appliances and Devices

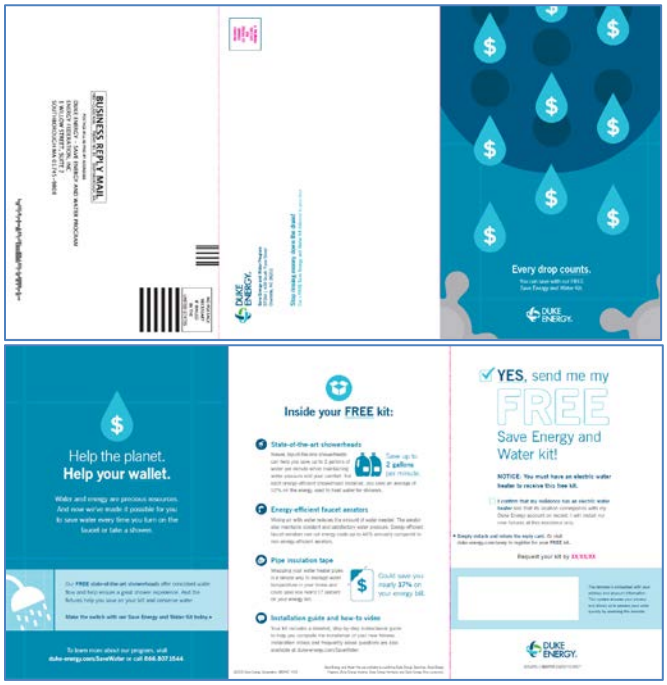
Save Energy and Water Kit Program Thank You Survey Card



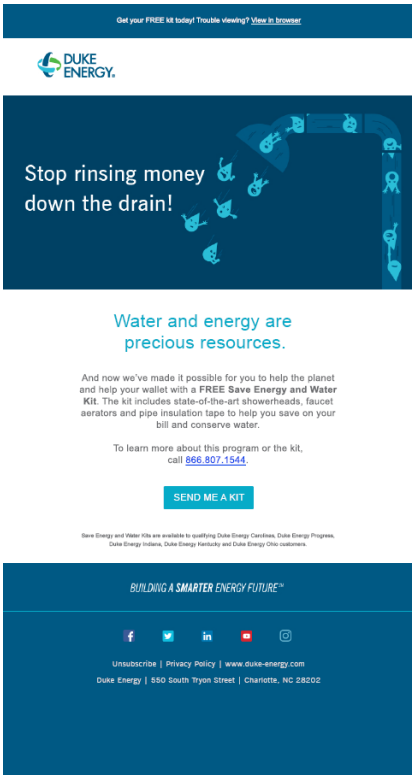
Save Energy and Water Kit Program Direct Mail

Energy Efficient Appliances and Devices

Save Energy and Water Kit Program Direct Mail



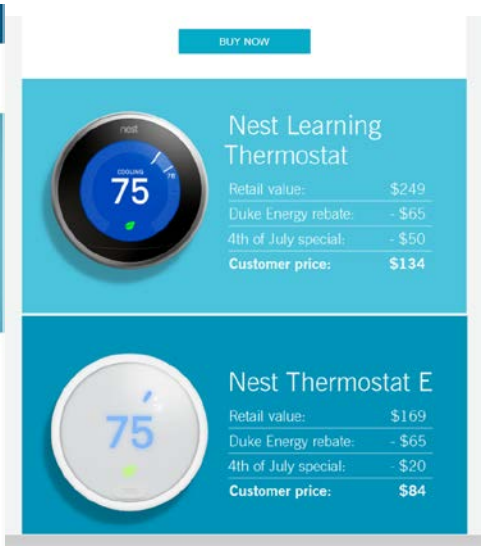
Save Energy and Water Kit Program Direct Email

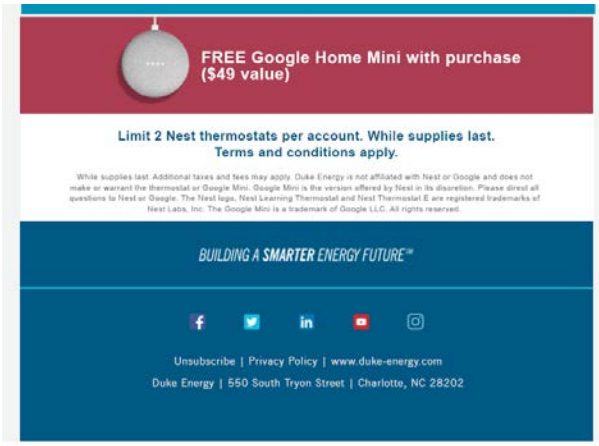


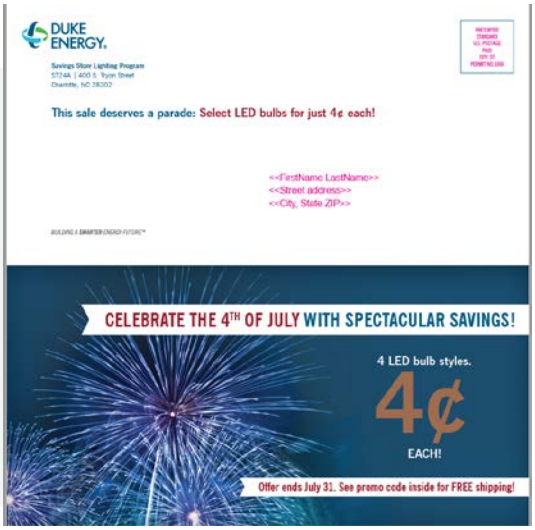
Energy Efficient Appliances and Devices

Online Savings Store

July-







Energy Efficient Appliances and Devices

August

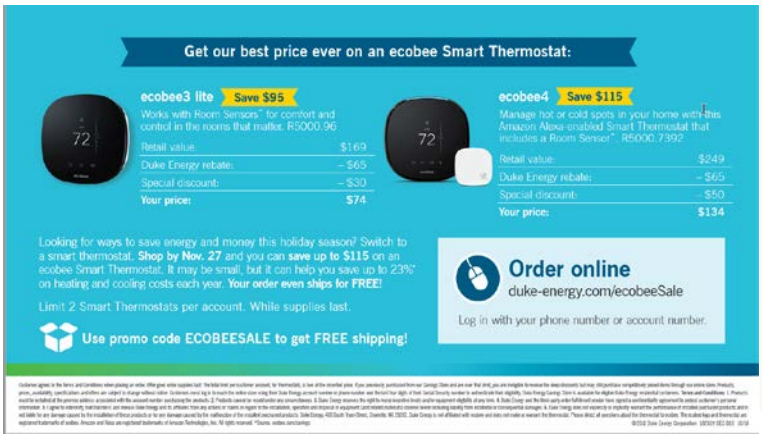
September-

Energy Efficient Appliances and Devices

October

November-

Energy Efficient Appliances and Devices

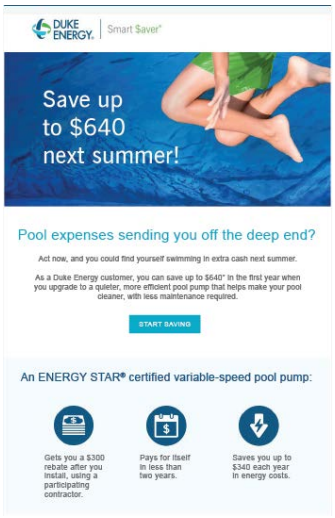


December-

Energy Efficient Appliances and Devices

Retail Lighting Sidebar Banner

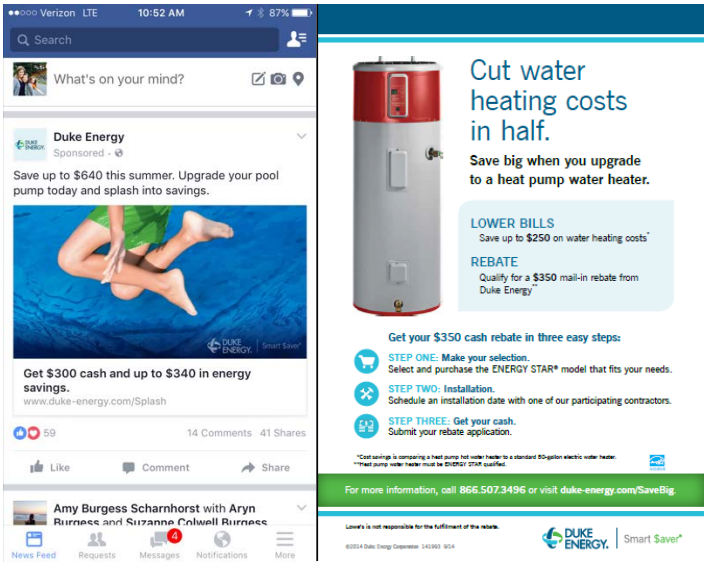
High Efficiency Pool Pump Digital Ad



High Efficiency Heat Pump Water Heater National Retailer Display

Energy Efficient Appliances and Devices

High Efficiency Pool Pump Facebook Posting



High Efficiency Heat Pump Water Heater Digital Media

Energy Efficiency Education Program

A. Description

The Energy Efficiency Education Program ("Program") is available to students in grades K-12 enrolled in public and private schools in the Duke Energy Carolinas (the "Company" or "DEC") service territory. The current curriculum administered by The National Theatre for Children ("NTC") provides performances in elementary, middle and high schools.

The Program provides principals and teachers with an innovative curriculum to educate students about energy, resources, how energy and resources are related, ways energy is wasted, and how to be more energy efficient. The centerpiece of the curriculum is a live theatrical production focused on concepts such as energy, renewable fuels and energy efficiency and performed by two professional actors. Teachers receive supportive educational material for classroom and student take-home assignments. The workbooks, assignments and activities meet state curriculum requirements.

School principals are the main point of contact for scheduling their school's performance at their convenience. Two weeks prior to the performance, all materials are delivered to the principal's attention for classroom and student distribution. Materials include school posters, teacher guides, and classroom and family activity books.

Students are encouraged to compete a request form with their families (found in their classroom and family activity book, as well as online) to receive an Energy Efficiency Starter Kit. The kit contains specific energy efficiency measures to reduce home energy consumption. It is available at no cost to eligible Duke Energy customer households at participating schools.

Audience

Eligible participants include the Company's residential customers who reside in households served by Duke Energy Carolinas with school-age children enrolled in public and private schools.

B &C. Impacts, Participants and Expenses

Energy Efficiency Education[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$3.6	$2.7	75%
Program Cost	$2.1	$2.0	95%
MW	1.3	1.1	87%
MWH	5,604.4	4,889.4	87%
Units	26,250	22,901	87%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

The Company is supporting arts and theatre in schools while providing an important message about energy efficiency for students through an innovative delivery channel. Enhancing the message with a live theatrical production captivates the students' attention and reinforces the classroom curriculum materials provided.

For the 2018-2019 school year, elementary students enjoy watching *Showdown at Resource Ranch* performed by two professional actors who lead the students through an action-packed Wild West adventure, all while teaching about energy conservation and resources.

In this 25-minute play, Sheriff Carrie Gooper is on the case of a natural resource crisis throughout Dodge Ball City – but that's not all she has to deal with … she's also been challenged to a showdown by none

Energy Efficiency Education Program

other than notorious bandit, Billy the Kit! With the help of the students, will the sheriff be able to face Billy and find out what in tarnation is going on with the city's resources?

The Resource Force is performed by two professional actors who lead the students through a series of comical improvisational shenanigans, all while teaching about energy conservation and resources.

In this 40-minute show, the middle school students in grades 6-9 assist the actors in constructing the show in front of them, as it happens, with their very own suggestions – so each show is unique to the audience that creates it! The show is a series of improvised comedy sketches between characters in all sorts of hilarious situations. Before each scene, actors interact with the audience and get ideas to use during the sketch, such as their favorite bands or a household pet. The ideas are incorporated into the show and may change the course of a scene.

What's Your Goal? is performed by two professional actors who lead the students through a series of interactive comedy sketches, all while teaching about the importance of energy efficiency.

In this 45-minute show, the high school students in grades 9-12 assist with the improvisation process via audience participation and suggestions. Volunteers will be brought up on stage for games like "Carbon Footrace," puzzles, general improv shenanigans and energy-oriented trivia – so each performance is unique to the group of students that help create it!

The objective of the program is to encourage high school science classrooms, environmental clubs and Green Teams to champion energy conservation in their schools and communities. *What's Your Goal?* also offers the opportunity for the students (and staff) to save energy at home by providing Energy Kits that contain items to conserve electricity and water.

From January through December 2018, a total of 418 schools hosted 653 performances in the Company's DEC service territory, reaching approximately 177,174 students and spurring the distribution of 22,901 kits.

Once an eligible customer submits a completed energy efficiency, the Energy Efficiency Starter Kit is shipped for delivery within two to four weeks. To ensure customer satisfaction with the Energy Efficiency Starter Kit and the installation of items, customers receive an email reminder monthly after the kit delivery to encourage families to return their Business Reply Card (BRC) verifying installation of measures. Qualified households that submit their energy efficiency survey and return the BRC are automatically entered into the household contest drawing, sponsored by NTC.

Additionally, school and classroom contests encourage sign-ups, and NTC awards checks to schools whose students, along with their families, completed home energy surveys and received energy efficiency kits. In the fall and spring of each year, a drawing is held selecting one school and one household contest winner. Principals, teachers and students may view their school's progress and compare the number of sign ups to other schools via the website, www.trackmysignups.org.

Updates

The Company continues to enhance the Program by the following:

- Introducing new productions each school year to refresh and refocus the materials and scripts to keep participating schools engaged.
- Promoting the program through social media to encourage awareness, recognition and participation.
- Partnering with Duke Energy Account and District Managers to leverage existing relationships in the community to develop positive media stories while encouraging kit sign ups.
- Offering teacher satisfaction survey evaluations after the performances for both the elementary and middle school shows. Average survey data from January through December indicated 95% of

the Elementary teachers surveyed and 94% of Middle School teachers surveyed had very high satisfaction ratings.

- Enhancing the offering by providing additional materials for all student households, but particularly those that have already received the current Energy Efficiency Starter Kit as well as non-Duke Energy customer student households. Including non-Duke customer households increases customer satisfaction and provides additional energy savings impacts for all customers, but particularly those customers that would otherwise have been excluded from the kit offering.
- In Q1 2019, the Program plans to release a gamification application that will further drive participation in the program and provide an additional channel of on-going engagement with the students.

E. Marketing Strategy

The National Theatre for Children is responsible for all marketing campaigns and outreach. NTC utilizes direct mail and email sent directly to principals to market the Program.

F. Evaluation, Measurement and Verification

The next evaluation work is combined Duke Energy Carolinas and Duke Energy Progress process and impact evaluation. Evaluation activities began third quarter of 2018, with a final report delivery date of First Quarter 2019.

The evaluator will verify impacts through engineering estimates. Participant surveys were also utilized to refine in-service rates, provide inputs into other algorithm variables, and help establish free ridership and spillover.

The process evaluation will help uncover participants' program awareness, identify opportunities to improve program operations, and measure participants' satisfaction with measures provided through the kit.

A. Description

Duke Energy Carolinas, LLC's (the "Company's" or "DEC") EnergyWise Business (the "Program") is an energy efficiency and demand response program for non-residential customers that allows the Company to reduce the operation of participants' air conditioning units to help manage the power grid. The Program provides customers with options for how they would like to participate. In exchange for participation, the Company applies an annual incentive directly to their bills.

For each air conditioning or heat pump unit that they have, Program participants can choose between a Wi-Fi thermostat or a load control switch professionally installed for free by the Program. In addition to choosing the equipment, participants also choose the cycling level at which they participate—30%, 50% or 75%. The levels represent the percentage of the normal on/off cycle of the unit that is reduced. During a conservation period, Company sends a signal to the thermostat or switch to reduce the amount of time a unit is on by the percentage the participant selected. For participating at the 30% level the customer receives a $50 annual bill credit for each unit, $85 for 50% cycling, and $135 for 75% cycling. Finally, participants that have a heat pump unit with electric resistance emergency/back up heat and choose the thermostat can also participate in a winter option that allows the Company to control the emergency/back up heat. For 100% control of the emergency/back up heat, the Company provides an additional $25 annual bill credit.

Participants choosing the thermostat are given access to a portal that allows them to control their units from anywhere they have internet access. They can set schedules, adjust the temperature set points and receive energy conservation tips and communications from the Company. In addition to the portal access, participants also receive conservation period notifications. Notifications allow participants to make adjustments to their schedules or notify their employees of the upcoming conservation period. Participants are allowed to override two conservation periods per year either before or during the conservation period.

Audience

The Program is available to existing non-residential customers that are not opted-out of the DSM portion of the Company's EE/DSM rider, Rider DSM; have at least one air conditioner or heat pump that operates to maintain a conditioned space on weekdays during the calendar months of May through September; and are not served under Schedules BC and HP, Riders NM, SCG, IS, PS or PSC. Also, customers must have an average minimum usage of 1,000 kWh during those same calendar months.

B & C. Impacts, Participants and Expenses

EnergyWise for Business[1]

$ in millions, rounded	Vintage 2018 As Filed[3]	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$3.1	$2.2	71%
Program Cost	$2.2	$3.1	141%
MW	17.0	8.1	48%
MWH	3,530.1	2,498.9	71%
Units[2]	6,863	11,462	167%

1) Values are reflected at the system level.
2) Units represent average monthly kW at meter for demand response measures (6,858), plus individual participants for smart thermostat energy efficiency measure (4,604).
3) As filed values not included as program was not included in filing.

D. Qualitative Analysis

Highlights

During 2018, the Program experienced significant growth. The Program installed almost 400 new devices bringing the total installed devices in DEC to over 9,400. The door-to-door marketing (canvassing) efforts have continued to be the most productive marketing efforts for producing enrollments, installations and positive customer interactions. In 2018, the Program canvassed in the Winston-Salem/Greensboro, Charlotte, the greater Charlotte region, Greenville/Spartanburg, and Hickory areas. Over 20,000 customers were reached during 2018 through the canvassing efforts.

Issues

One factor impacting the Programs overall performance is the high number of customers selecting to enroll in the 30% cycling option. Approximately 80% of customers are participating in this option. The assumption when the Program was filed was that 50% of customers would select this option. Also, over the second half of the year the Program experienced an increase in the number of customers that failed to reschedule their installation appointments. To recapture some of these customers, the Company is implementing a recurring monthly email targeting these customers. Finally, evaluations indicated that technicians were not doing a consistent job promoting the winter option to customers with heat pumps. The Program has addressed this with technicians and implemented a recurring email to those customers that have the heat pumps and selected the thermostat.

Potential Changes

Program staff is working with canvassers to improve their pitches to promote the higher cycling options. The Program will follow those changes with compensation modifications to support the promotion of the higher cycling options. Also, the Program is evaluating the possibility of adding additional thermostat options to offer customers during the install. The new thermostat will reduce the number of installs that are turned down due to the current version not having features used by the customer.

E. Marketing Strategy

In 2018 the Program continued the efforts of door-to-door marketing using a dedicated canvassing vendor. In addition to canvassing, the Program targets slightly larger and multi-location customers through Duke Energy's Business Energy Advisors.

F. Evaluation, Measurement and Verification

Process findings in the 2017 evaluations indicated customers rated the following very highly:

- ease of program enrollment when enrolling on their own (mean of 9.2).
- satisfaction with the representatives who installed the device,
- the time required to install the device

DEC participants reported lower satisfaction with participation in Conservation Periods (mean of 7.2) and with their use of the program's online portal (mean of 8.2).

Energy Assessments

A. Description

The Home Energy House Call Program ("Program") is offered under the Energy Assessment Program. Duke Energy Carolinas, LLC (the "Company") partners with several key vendors to administer the Program.

The Program provides a free in-home assessment performed by a Building Performance Institute ("BPI") certified energy specialist and designed to help customers reduce energy usage and save money. The BPI-certified energy specialist completes a 60- to 90-minute walk through assessment of a customer's home and analyzes energy usage to identify energy savings opportunities. The energy specialist discusses behavioral and equipment modifications that can save energy and money with the customer. The customer also receives a customized report that identifies actions the customer can take to increase the home's efficiency. Examples of recommendations might include the following:

- Turning off vampire load equipment when not in use.
- Turning off lights when not in the room.
- Using energy efficient lighting.
- Using a programmable thermostat to better manage heating and cooling usage.
- Replacing older equipment.
- Adding insulation and sealing the home.

In addition to a customized report, customers receive an energy efficiency starter kit with a variety of measures that can be directly installed by the energy specialist. The kit includes measures such as energy efficiency lighting, a low-flow shower head, low flow faucet aerators, outlet/switch gaskets, weather stripping, and an energy saving tips booklet.

Audience

Eligible Program participants are the Company's residential customers that own a single-family residence with at least four months of billing history and central air, electric heat or an electric water heater.

B &C. Impacts, Participants and Expenses

Energy Assessments[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$6.9	$6.8	98%
Program Cost	$2.6	$2.8	108%
MW	1.1	0.9	81%
MWH	7,436.0	7,716.7	104%
Units	8,440	10,268	122%

1) Values are reflected at the system level.

2) Units represent number of kits, and do not include additional LEDs.

D. Qualitative Analysis

Highlights

The Company continues with a multi-channel approach which includes Duke Energy website pages, website banners, online services banner, paid search campaigns, Pandora, Facebook, email, bill inserts, bill messages, direct mail, and customer segmentation to reach customers with a high propensity to participate. Examples of online, bill inserts and direct mail promotions are available in the appendix. Program staff explores other channels for marketing campaigns to reach the target audience and maximize both program performance as well as customer experience.

Vendors, partners and the team at Duke Energy collaborate regarding marketing initiatives, future scheduling, availability, routing, targeting, backlog, etc. to drive efficient operations as well as customer satisfaction.

Through December 2018, the program conducted 10,268 assessments and installed 45,710 additional LEDs. The program continues to focus on maximizing the number of measures installed as well as cross-promoting other Duke Energy programs and offerings.

Enhancements to the program in 2018 include a continued focus on cross promotion of other programs and integration of in-field referrals for FindItDuke, upgrading showerheads to chrome, implementing thermal imaging technology, testing handheld showerheads, removing four month usage eligibility requirement and performing route optimization updates.

Potential Changes

Some program enhancements to increase the effectiveness of the Program being considered include the following:

- Continuing to optimize the online scheduling tool to enhance the customer experience
- Upgrading free measures to include pipewrap and additional bathroom aerators where relevant.
- Evaluation of upgradeable measures in field such as hand-held showerheads, smart thermostats, specialty bulbs, blower door option.
- Evaluating the incentive offerings to maximize savings and impacts as well as customer acceptance
- Including for townhomes/condos for audit eligibility
- Implementing post audit follow up with reminders of recommendations/referrals

E. Marketing Strategy

Program participation continues to be driven through a multichannel approach including targeted mailings to pre-qualified residential customers, bill inserts, online promotions and online video. For those who elect to receive offers electronically, email marketing continues to be used to supplement direct mail. Information about the Program was included in the My Home Energy Report distributed in January 2018 and July 2018. The Program management team continues to explore additional channels to drive awareness such as social, event marketing and other cross-promotional opportunities. The creative team continues to drive engagement and interest in the program based on online survey results and enrollment. Core messaging remains simple and focused on key benefits—a free energy assessment from Duke Energy can help save energy and money while also increasing comfort and it only takes three easy steps (You Call, We Come Over, You Save).

Home Energy House Call program information and an online assessment request form are available at www.duke-energy.com.

F. Evaluation, Measurement and Verification

The program completed an impact and process evaluation in October 2018, with the summary findings presented at the Fourth Quarter 2018 DEC/DEP Collaborative.

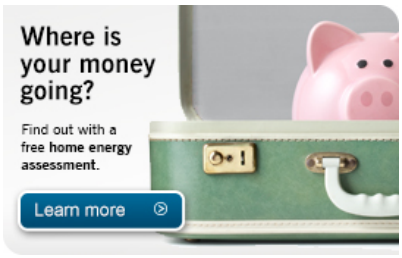
A billing analysis was the primary methodology to determine energy and demand savings. The billing analysis compared the consumption of program participants to future program participants. Engineering estimates for the HEHC kit measures were also conducted to provide insight into the behavioral impacts achieved through the program and to provide impacts for the Additional Bulbs provided to program

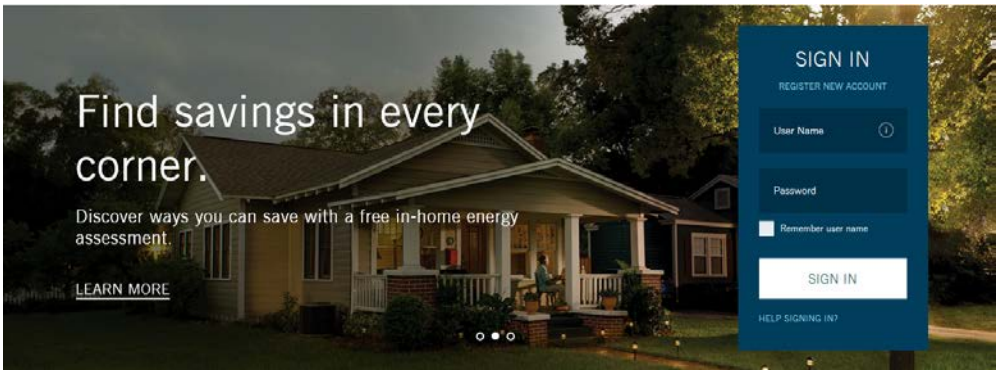
participants. Participants surveys were used to determine in-service rates and determine free ridership at the measure level.

The process evaluation consisted of participant surveys; results were used to identify barriers to participation and improve program processes.

G. Appendix: 2016 Marketing Samples

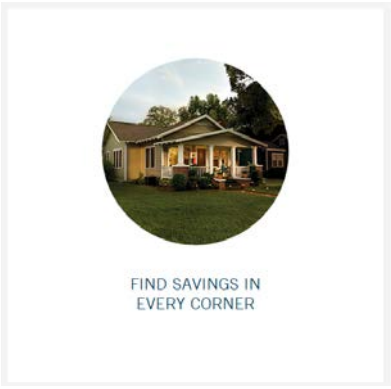
Online Banners:

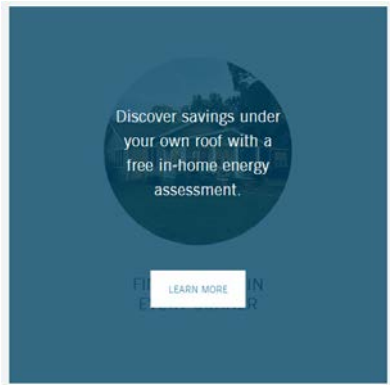


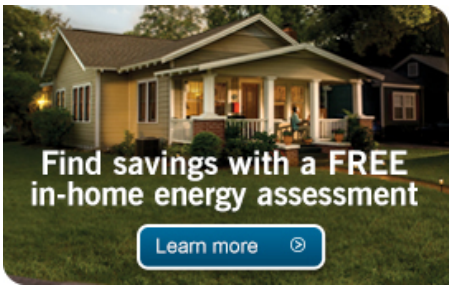


Find savings in every corner ›

Discover savings under your own roof with a free in-home energy assessment.





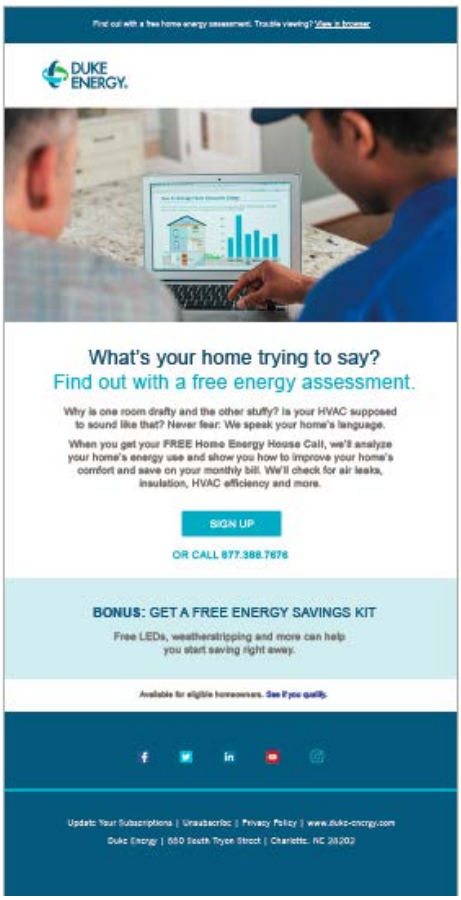


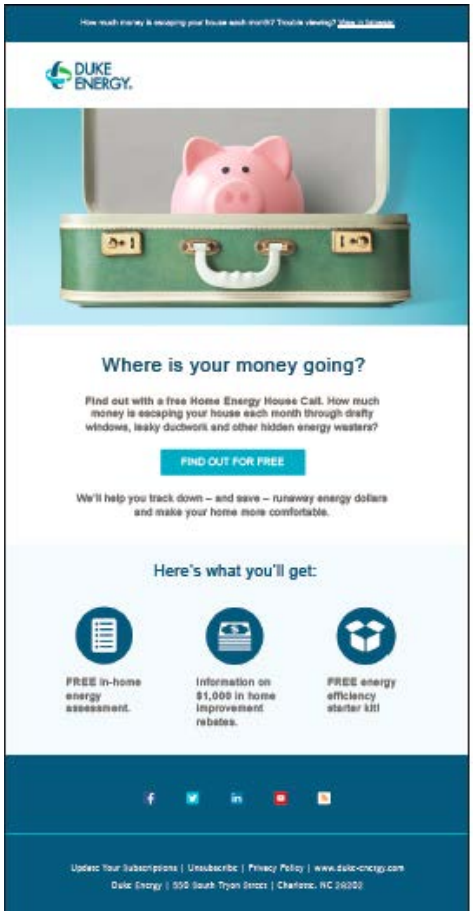
Energy Assessments

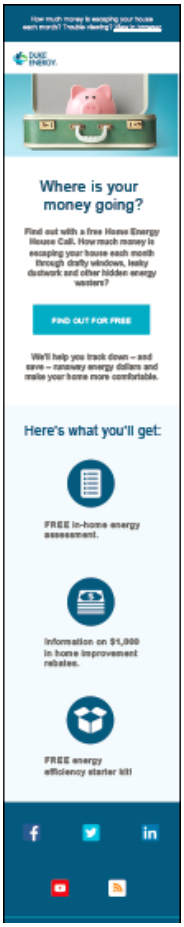
Free home energy assessment >

Find ways to save energy and money in your home.

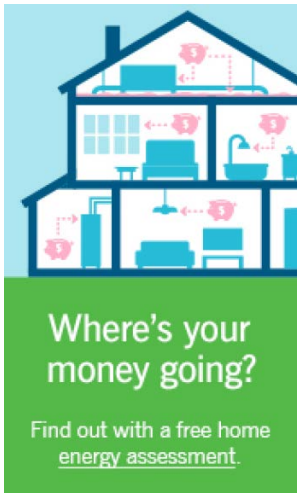
Email:





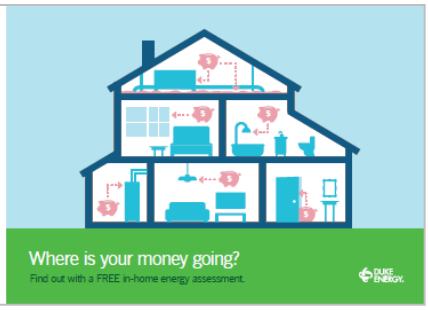


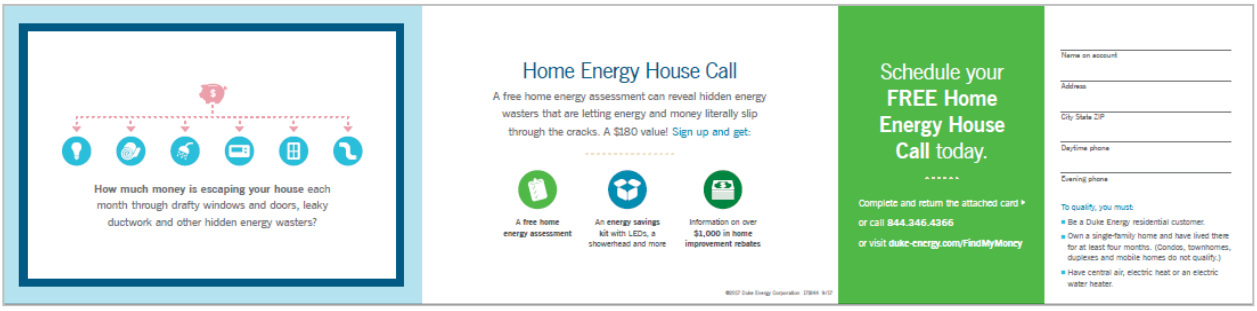
Energy Assessments



Direct Mail:

Energy Assessments



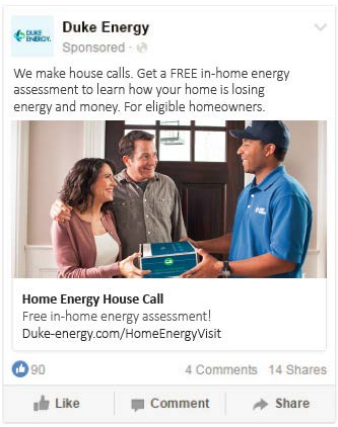


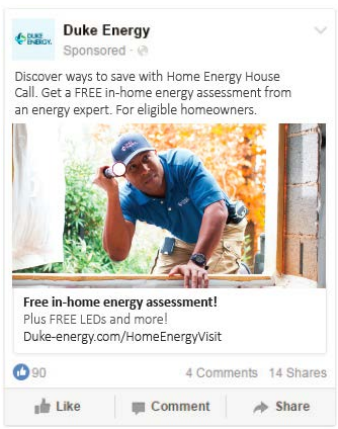
Bill Inserts:

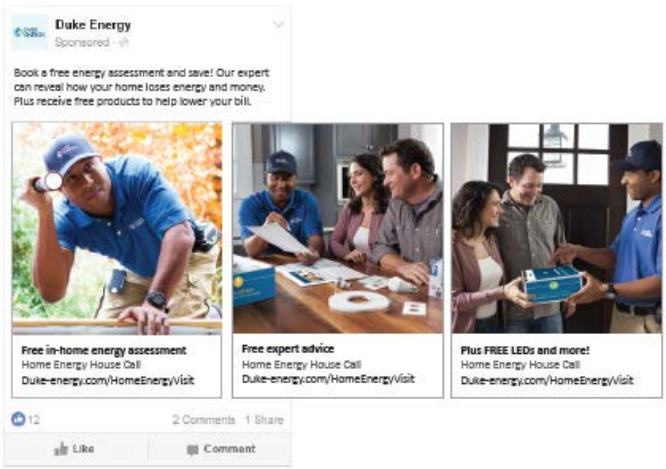
Energy Assessments

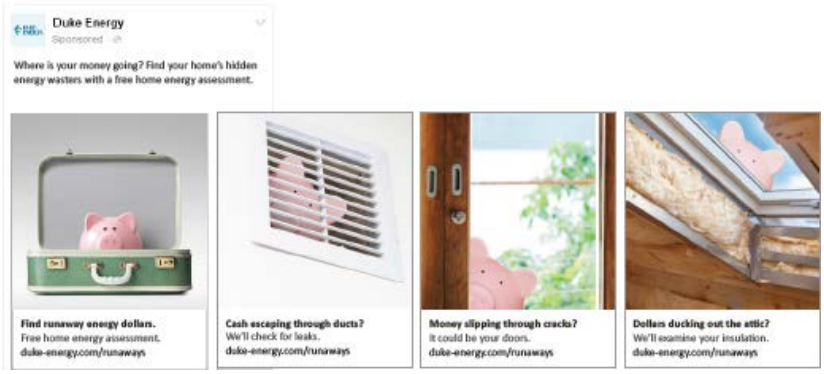
Energy Assessments

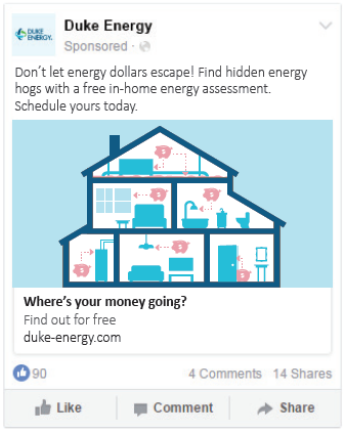
Facebook

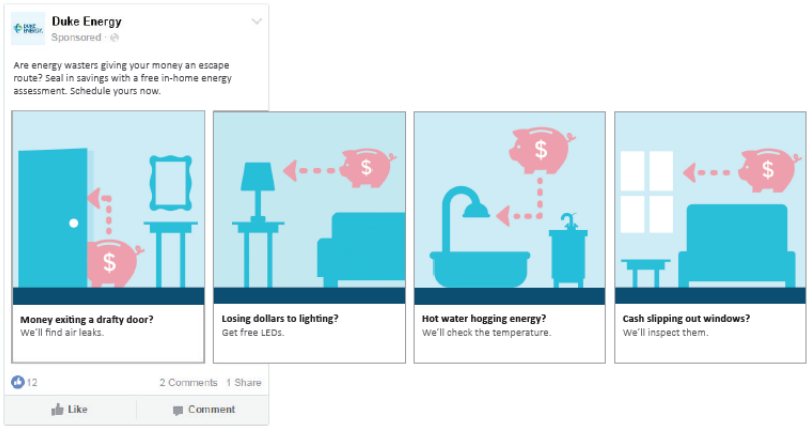












Income-Qualified Energy Efficiency and Weatherization Assistance Program

A. Description

The purpose of the Low Income Energy Efficiency and Weatherization Assistance Program ("Program") is to assist low income customers with installing energy efficiency measures in their homes. There are three offerings currently in the Program:

- Neighborhood Energy Saver ("NES")
- Weatherization and Equipment Replacement Program ("WERP")
- Refrigerator Replacement Program ("RRP").

WERP and RRP are available for income-qualified customers in Duke Energy Carolinas, LLC's (the "Company's") service territory for existing, individually metered single-family homes, condominiums, and mobile homes. Funds are available for (i.) weatherization measures and/or (ii.) heating system replacement with a 15 or greater SEER heat pump, and/or (iii.) refrigerator replacement with an Energy Star appliance. The measures eligible for funding will be determined by a full energy audit of the residence. Based on the results of the audit, customers are placed into a tier based on energy usage so that high energy users to receive more extensive weatherization measures. (Tier 1 provides up to $600 for energy efficiency services; and Tier 2 provides up to $4,000 for energy efficiency services, including insulation.) WERP and RRP are delivered in coordination with State agencies that administer the state's weatherization programs.

Customers participating in the NES receive a walk-through energy assessment to identify energy efficiency opportunities in the customer's home and a one-on-one education on energy efficiency techniques and measures. Additionally, the customer receives a comprehensive package of energy efficient measures. NES participants may have the measures listed below installed in their homes based on the opportunities identified during the energy assessment.

1. Energy Efficient Bulbs - Up to 15 energy efficient bulbs (LEDs) to replace incandescent bulbs
2. Electric Water Heater Wrap and Insulation for Water Pipes
3. Electric Water Heater Temperature Check and Adjustment
4. Water Saving Faucet Aerators - Up to three faucet aerators
5. Water Saving Showerheads - Up to two showerheads
6. Wall Plate Thermometer
7. HVAC Winterization Kits – Up to three kits for wall/window air conditioning units will be provided along with education on the proper use, installation and value of the winterization kit as a method of stopping air infiltration.
8. HVAC Filters - A one-year supply of HVAC filters will be provided along with instructions on the proper method for installing a replacement filter.
9. Air Infiltration Reduction Measures - Weather stripping, door sweeps, caulk, foam sealant and clear patch tape will be installed to reduce or stop air infiltration around doors, windows, attic hatches and plumbing penetrations.

Audience

WERP is available to qualified customers in existing individually metered, owner-occupied single-family residences, condominiums or manufactured homes.

RRP is available to qualified customers in individually metered residences irrespective of whether the property owner or the tenant owns the refrigerator.

NES is available to individually metered residential customers in selected neighborhoods where ~50% of the homeowners have income equal to or less than 200% of the Federal Poverty Guidelines, based on third party and census data.

Income-Qualified Energy Efficiency and Weatherization Assistance Program

B &C. Impacts, Participants and Expenses

Income Qualified Energy Efficiency and Weatherization Assistance[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$3.7	$3.5	95%
Program Cost	$7.5	$6.5	87%
MW	0.8	0.7	88%
MWH	5,287.5	5,212.0	99%
Units	10,426	10,681	102%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Neighborhood Energy Saver: After receiving regulatory approval from both the North Carolina Utilities Commission and the South Carolina Public Service Commission in the fall of 2012, the Program was officially launched by the Company in March 2013. The yearly goal is to serve a minimum of 8,926 households. Honeywell Building Solutions was awarded the contract through a competitive bid process to administer the Program.

In 2018, NES offered free walk-through energy assessments to 7 qualifying neighborhoods in NC – Durham, Chapel Hill, Salisbury and Hickory, Graham, Charlotte and Sylvia and 4 qualifying neighborhoods in SC – Belton, Wellford, Great Falls and Greenville. Neighborhood events have included support from community groups and speakers such as elected officials, community leaders and community action agency representatives.

Weatherization: The Company launched WERP and RRP in February 2015 in North and South Carolina. The Company selected the program administrator, North Carolina Community Action Agency (NCCAA), in December 2014 via competitive bidding. The company is working with the NC and SC Weatherization Agencies to deliver this program.

In 2018, 631 homes received weatherization in conjunction with the DOE weatherization program, with 168 refrigerators replaced, 70 Tier 1 services provided and 561 Tier 2 services provided.

E. Marketing Strategy

Neighborhood Energy Saver: NES continues to target neighborhoods with a significant low-income customer base using a grassroots marketing approach to interact on an individual customer basis and gain trust. Participation is driven through a neighborhood kick-off event that includes trusted community leaders and local and state officials explaining the benefits of the Program. The purpose of the kick-off event is to rally the neighborhood around energy efficiency and to educate customers on methods to lower their energy bills. Customers have the option to make an appointment for an energy assessment at the time of the event.

Weatherization: WERP and RRP plan to piggy-back the marketing efforts of the current state Weatherization Assistance Programs administered by the state weatherization service providers. Additionally, agencies may utilize referrals generated from other Company energy efficiency programs as well as from their existing pool of weatherization applicants.

In addition to the kick-off event, the Company plans to use the following avenues to inform eligible customers about the Program:

- Direct mail (letters and reminder post cards)

- Door hangers
- Press releases and/or neighborhood flyers
- Community presentations and partnerships
- Inclusion in community publications such as newsletters, etc.

F. Evaluation, Measurement and Verification

The process and impact evaluation report for the Neighborhood Energy Saver portion of the Program is scheduled for completion in the third quarter of 2019 upon the program's transition to LEDs. This will be a combined evaluation with DEP.

Low Income Weatherization completed an impact and process evaluation in June 2018. The evaluation consisted of a billing analysis (comparing program participants' consumption in the sample period against a comparison group of future program participants) to estimate impacts for the Tier 1 and Tier II measures.

The process evaluation assessed program operations and identified potential opportunity areas. Activities for the impact and process evaluation began in early 2016 and the summary findings were presented to the DEC/DEP Collaborative in fourth quarter of 2018.

Multi-Family Energy Efficiency Program

A. Description

The Multi-Family Energy Efficiency program ("Program") provides energy efficient lighting and water measures to reduce energy usage in eligible multi-family properties. The Program allows Duke Energy Carolinas, LLC (the "Company") to utilize an alternative delivery channel which targets multi-family apartment complexes. The measures are installed in permanent fixtures by Franklin Energy, the program administrator, or the property management staff. Franklin Energy oversees all aspects of the Program including outreach, direct installations, and customer care.

The Program helps property managers save energy by offering energy efficient lighting and water products. The Program offers LED lighting measures including A-lines, globes, candelabras, recessed, and track bulbs and energy efficient water measures such as bath and kitchen faucet aerators, water saving showerheads and pipe wrap. Water measures are available to eligible customers with electric water heating. These measures assist with reducing maintenance costs while improving tenant satisfaction through lower energy bills.

The Program offers a service where Franklin Energy installs the lighting and water measures during scheduled visits. Crews carry tablets to keep track of which measures are installed in each apartment. Alternatively, property managers have the option to complete the installations during routine maintenance visits. In these cases, the property maintenance crews track the number of measures they install and report these totals, by apartment, back to Franklin Energy. Franklin Energy then validates the information and submits the results to the Company.

After installations are completed, Quality Assurance ("QA") inspections are conducted on 20 percent of properties that completed installations in each month. The QA inspections are conducted by an independent third party. Any QA adjustments are provided to the Company to update participation records.

Audience

The target audience is property managers who have properties served on individually metered residential rate schedules. To receive water measures, apartments must have electric water heating.

Properties that have already been served by the Property Manager CFL program are only eligible for water measures and specialty LED bulbs. However, properties with CFL installations over 5 years old are eligible for all the new LEDs and water measures.

B &C. Impacts, Participants and Expenses

Multi-Family Energy Efficiency[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$16.6	$16.0	96%
Program Cost	$4.2	$3.6	87%
MW	2.2	2.2	99%
MWH	22,582.1	21,309.6	94%
Units	370,882	430,474	116%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Through December 2018, the Program completed installations at 198 properties, accounting for over 30,600 units. The Program installed 430,474 measures with lighting representing 67% of the measures and water measures representing the remaining 33%. In 2018, the Program successfully added new LED

bulb options to the offering for recessed and track fixtures, which have been well received by tenants and property managers. The new recessed and track LEDs approved in April represented 12% of the LEDs installed during 2018. Also in 3Q and 4Q 2018, the Program successfully added brushed nickel bath aerators and showerheads as an option. Added in late September, brushed nickel bath aerators represented 12% of total bath aerators installed. Added in December, brushed nickel showerheads represented 1% of all total showerheads installed. Additionally, the Program expanded the criteria to serve all units in a complex by removing the requirement that buildings must have 4 conjoined units to receive measures.

Issues

There are no issues to report now.

Potential Changes

Program Management continues to evaluate new energy efficient measures for addition to the program.

New technology enhancements are being implemented to increase the accuracy of recording the measures installed and the bulb wattages removed, to increase efficiencies with scheduling units, and to improve the tracking of new opportunities from both the direct installers and energy advisors.

E. Marketing Strategy

As program implementer, Franklin Energy is responsible for marketing and outreach to property managers in the Company's service territory. Marketing is primarily done through outbound calls and on-site visits to gauge initial interest in the program. The Program staff also utilizes local apartment association memberships to obtain access to contact information for local properties and attends association trade shows or events to promote the program. The Program was an exhibitor in the May 2018 AANC Conference in Raleigh, NC and generated over 57 leads for the region and 15 property contacts.

A Multi-Family Energy Efficiency public website landing page is available for property managers to learn more about the Program. A program brochure and a frequently asked question sheet are available for download.

Other ways a property manager may learn more about this Program are through the MyDuke Portal, an online tool used to pay the utility bills of vacant units at their property. The MyDuke Portal presents a promo link that directs the user to the Program website for more information.

Once enrolled, Franklin Energy provides property managers with a variety of marketing tools to create awareness of the Program among their tenants. The tools include letters to each tenant informing them of energy efficient measures being installed and of when the installations are taking place. Tenants receive educational leave-behind brochures when the installation is complete.
Feedback from both property managers and tenants is important for the Program's continued success. Property managers are provided with leave-behind materials about the program which also includes survey for them to complete and return. For tenants, the educational leave-behind brochure includes a satisfaction survey to return to Duke Energy. Online versions of both the Program Manager and Tenant surveys are also available.

After the installation, window clings are placed in strategic areas throughout the property, specifically in the common areas entry and on each residential building on site (to the extent applicable). Using the window cling ensures that the program and Duke Energy are recognized long after the installation has taken place.

F. Evaluation, Measurement and Verification

The combined DEC/DEP EM&V evaluation began in April of 2018. The evaluation will determine the net annual energy and demand associated with the program participants between January 1, 2017, and May 1, 2018. The evaluator will use a combination of surveys, on site data collection, a lighting logger study, and engineering analysis to determine the impacts for the program. The final report is in draft stage and should be complete in 1Q 2019.

Multi-Family Energy Efficiency Program

Appendix

Tenant Letter-

Updated for new LEDs and safety messages

DUKE ENERGY.

Dear Resident:

Congratulations! Your property manager has enrolled your building in the Multifamily Energy Efficiency Program. Based on an assessment of your unit, a selection of these complimentary products may be installed to help reduce your monthly energy usage:

Straight Line, Globe and Candelabra LED Light-bulbs to replace your outdated incandescent lightbulbs

Water-saving showerheads to replace your existing fixtures

High-efficiency faucet aerators for your kitchen and bathroom sinks

Hot water pipe wrap to reduce heat loss

Trained technicians will perform the free installations in each unit on the date and time indicated below. The technicians will be accompanied by a member of the maintenance or management staff, who will provide access to your unit if you are not home at the time of installation. Additionally, the technicians will be in uniform with proper photo identification.

Technicians will be in your building:

After the installations are completed, you will receive documentation and other educational materials about the energy-saving products that were installed free of charge in your unit. Included in these materials is a customer satisfaction survey that we would appreciate your completing.

For additional information about this offering, or other offerings from Duke Energy, contact the Multifamily Energy Efficiency Program at 888.297.1671, email dukeenergymultifamilyeep@franklinenergy.com or visit duke-energy.com/multifamily.

Thank you!

Multifamily Energy Efficiency Team

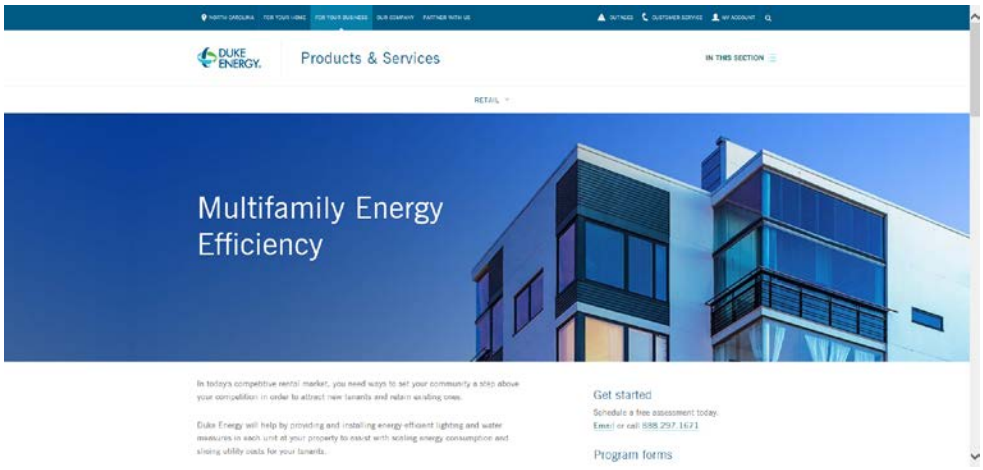
Help Us Help You!

In preparation for your installations, please make sure to:

- ❑ Safely contain your pet(s) during our visit
- ❑ Provide access to your water heater, shower(s), sinks and light fixtures
- ❑ Put away your valuables
- ❑ Have an adult present during installation
- ❑ Keep a safe distance while installers are working in your unit

Multi-Family Energy Efficiency Program

Program Web Page-



Program Brochure-

Updated for new LEDs and chrome aerators

Multi-Family Energy Efficiency Program

Window Cling-

Tenant Leave Behind-

Updated for new LEDs, chrome aerators and Survey modifications

Multifamily Energy Efficiency Program

DUKE ENERGY.

Based on an assessment of your unit, these products were selected to offset your monthly energy usage:

Electric

Straight Line, Globe, Candelabra, Recessed and Track LED Lightbulbs

LEDs last longer and use up to 90 percent less energy than incandescent bulbs.

Water

(Water-saving products are only installed in properties that use electricity to heat water.)

Faucet aerators*

Faucet aerators installed in the kitchen and bathroom use up to 55 percent less water than standard faucet aerators.

Allows for adjustable flow

Showerhead*

An energy-efficient 1.5-gpm showerhead will use less water than a regular showerhead, which means you can also use less energy to heat the water.

Adjustable flow

Pipe wrap*

Hot water pipe wrap reduces water and energy use by preventing heat loss while hot water travels through the pipes.

*Provided only to properties that use electricity to heat water.

For more information, contact the Multifamily Energy Efficiency Program at 888.297.1671 or dukeenergymultifamilyeep@franklinenergy.com. Or, visit duke-energy.com/multifamily.

Note that this program is administered by Franklin Energy, a contractor of Duke Energy with experience in the installation of home energy-saving products.
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Customer Survey

Property name:

Name:

Address: Unit No.: City: State: ZIP:

Email:

I was at home while the technicians installed the products. ❑ Yes ❑ No

What effect has your participation in the Multifamily Energy Efficiency Program had on your overall satisfaction with Duke Energy? ❑ Positive effect ❑ Negative effect ❑ No effect ❑ Don't know

ON A SCALE OF 1 TO 10, PLEASE RATE YOUR OVERALL SATISFACTION OR LEVEL OF AGREEMENT:
1=NOT SATISFIED/DISAGREE 10=VERY SATISFIED/AGREE Not satisfied Very satisfied

Overall, I was satisfied with the Duke Energy Multifamily Energy Efficiency Program.	0	1	2	3	4	5	6	7	8	9	10
The Technicians treated me with courtesy and my property with respect.	0	1	2	3	4	5	6	7	8	9	10
My questions were answered about the products installed.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Light-Emitting Diode (LED bulb).	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Kitchen faucet aerators.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Bathroom faucet aerators.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Shower head.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Pipe wrap.	0	1	2	3	4	5	6	7	8	9	10

Comments:

Thank you for participating in this program. We'd like to know how we did installing your new energy-saving products. Please complete the survey at left and mail it to us. The survey is also available online at **duke-energy.com/multifamilysurvey**.

My Home Energy Report

A. Description

The My Home Energy Report ("MyHER" or the "Program") is a periodic usage report that compares a customer's energy use to similar residences in the same geographical area based upon the age, size and heating source of the home. The report includes recommendations to encourage energy saving behaviors. Customers with email addresses on file receive an electronic version of their reports monthly.

Customers receive reports up to 12 times per year via paper and electronic delivery. (Delivery may be interrupted during the off-peak energy usage months in the fall and spring.) The report delivers energy savings by encouraging customers to alter their energy use. Customer's usage is compared to the average homes (top 50 percent) in their area as well as the efficient homes (top 25 percent). It also suggests energy efficiency improvements, given the usage profile for that home. In addition, the report recommends measure-specific offers, rebates or audit follow-ups from the Company's other programs, based on the customer's energy profile. As of December 31, 2018, over 1.2 million single-family DEC customers and over 202,000 multi-family DEC customers receive the MyHER report.

The MyHER interactive online portal allows customers to learn more about their energy use and about opportunities to reduce their usage. Customers can set goals, track their progress, and receive more targeted tips. As of December 31, 2018, over 51,000 single-family customers and over 4,100 multi-family customers were enrolled on the portal.

Audience

Target customers reside in individually metered, single-family and multi-family residences with active accounts and concurrent service from Duke Energy Carolinas, LLC (the "Company"). Single-family residences receive 8 printed reports and, if they have an email address on file, 12 electronic reports. Multi-family residences with registered email addresses with the Company receive 4 printed reports and 8 electronic reports. Multi-family residences without registered email addresses with the Company receive 6 printed reports a year with a strong call to action to provide their email addresses.

B & C. Impacts, Participants and Expenses

My Home Energy Report[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$24.7	$24.5	100%
Program Cost	$12.5	$13.3	106%
MW[2]	77.3	81.4	105%
MWH[2]	304,387.0	320,613.6	105%
Units[3]	1,354,138	1,432,263	106%

1) Values are reflected at the system level.

2) Values represent the annual MW and MWH savings associated with the December 2018 month end participation.

3) At December 2018 month end, single-family participation was 1,229,370, while multifamily participation was 202,893.

D. Qualitative Analysis

As customers receive subsequent reports and learn more about their specific energy use and how they compare to their peer group, their engagement increases. The report then provides tools in the form of targeted energy efficiency tips with actionable ideas to become more efficient. Program participants are encouraged to contact the Company with their questions, comments and report corrections. Report corrections continue to generate the largest number of inquiries. Customers wishing to be removed from the Program represent 0.04% of single-family Program participants and .02% of multi-family Program participants.

Highlights

In 2018, the program team created a specialized multi-family MyHER report which shares energy savings tips for multi-family dwellings. Starting in Q2 2018, qualified customers living in multi-family homes began receiving the MyHER report throughout DEC. With the deployment of AMI meters throughout DEC, the program has begun sending AMI data to Tendril. Customers with AMI meters can see their interval energy usage on the MyHER interactive experience.

E. Marketing Strategy

The Program is marketed on the reports themselves by referring customers to the program website for additional information, Frequently Asked Questions ("FAQs") and contact resources. The MyHER Interactive portal is marketed by email campaigns as well as in the printed report.

F. Evaluation, Measurement and Verification

The next process and impact evaluation report, combined with DEP, is scheduled for completion in the second quarter of 2019. As is typical with MyHER evaluations, the impact evaluation will consist of a billing analysis to determine the consumption differences between the treatment group and the control group.

Residential –Smart $aver® Energy Efficiency Program

A. Description

The Residential – Smart $aver® Energy Efficiency Program ("Program") offers measures that allow eligible Duke Energy Carolinas, LLC (the "Company") customers to reduce energy consumption in the home. The Program provides incentives for the purchase and installation of eligible central air conditioner or heat pump replacements in addition to Wi-Fi enabled Smart Thermostats when installed and programmed at the time the heating ventilation and air conditioning (HVAC) system is installed. Program participants may also receive an incentive for attic insulation, air sealing, duct sealing, variable speed pool pumps, and heat pump water heaters.

Program staff is responsible for establishing relationships with HVAC and home performance contractors ("Trade Allies") who interface directly with residential customers. These Trade Allies market and leverage the Program to assist with selling these products and services to customers. Once the Trade Ally has sold the service/product, they complete and submit incentive applications on behalf of the customer. An incentive is disbursed to the customer and/or Trade Ally after the application has been approved and processed.

Duke Energy contracts with a third-party vendor for application processing, incentive payment disbursement, and Trade Ally and customer call processing.

Audience

The Company's residential customers that meet the eligibility requirements of the Program may participate.

B &C. Impacts, Participants and Expenses

Residential - Smart $aver Energy Efficiency Program[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$7.0	$8.4	120%
Program Cost	$4.4	$7.0	159%
MW	1.6	1.6	104%
MWH	5,359.6	6,727.9	126%
Units	9,480	25,293	267%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

The Company's tiered incentive structure continues to receive a positive reaction from customers as well as Trade Allies. Reporting continued to show that the increased incentive amounts for higher SEER equipment has encouraged customers to install higher efficiency equipment as well as having it managed with newer thermostat technologies.

The Referral Channel which provides free, trusted referrals to customers who are trying to find reliable home improvement contractors for their energy-related needs, successfully generated over 21,000 customer referrals during 2018 exceeding the total number of referrals generated in all of 2017 by 150%. Customers whose referral generated a sale for the Trade Ally received a survey to rate their experience with a referred contractor. The Referral Network maintained a contractor rating of 4.8 out of 5.0 stars during this period. Additionally, the referral channel experienced a 44% increase in the number of contractors who qualified and opted into the referral channel. The program also saw a reduction in the incremental cost to the customer across all measures. The reduced cost, which was part of a filing

approved in North Carolina on January 7, 2019, will continue to improve the Program's cost effectiveness in 2019 and beyond.

Issues

The buy-in and participation of the Trade Ally network is vital to the success of the Program. The Program continues to try to shift market practices away from relying heavily on decentralized training, varying knowledge levels, and imprecise manual field calculations and towards industry trained and certified trade allies using higher quality diagnostic instruments and processes when applicable. The Company has continued to struggle to gain contractor acceptance with diagnostic based measures due to the need to purchase diagnostic equipment, obtain additional industry certifications and alter current business practices. The program will continue to emphasize best practices and to build support by offering additional training to the Trade Allies and modifications to program requirements when needed.

E. Marketing Strategy

Promotion of the Program is targeted to HVAC and home performance contractors as well as pool and plumbing contractors that install variable speed pumps and heat pump water heater technology. Trade Allies are important to the Program's success because they interface with the customer during the decision-making event.

Program information to educate customer about the Program and encourage participation and Trade Ally enrollment links are available on the Program's website. Increasing the overall awareness of the Program and the participation of Trade Allies ensures more customers are considering the benefits of the Program at the time of purchase.

Based on numerous customer engagement surveys and focus groups, the Program rebranded the referral channel, currently known as "Find It Duke," in March of 2018 with the intent of positioning Duke Energy as a trusted advisor for customers who are making energy related home improvements. Various customer marketing campaigns during 2018 leveraged channels such as direct mail, TV, radio, and email messaging in order to build awareness of the referral service. Other marketing efforts, such as a paid search and co-branded special offer campaigns with eligible referral contractors, manufacturers, and national retailers, also created awareness for the channel.

F. Evaluation, Measurement and Verification

An impact and process evaluation was completed for this program in the second quarter of 2018 and the summary results presented to the DEC/DEP Collaborative in the fourth quarter of 2018.

The impact evaluation included onsite measurement and verification for specific HVAC measures and engineering estimates for the other measures. Participants surveys also helped refine inputs into the engineering algorithms as well as establish free ridership and participant spillover. Trade ally surveys and interviews helped establish non-participant spillover.

The process evaluation was designed to document program operations, identify needed program improvements, and gauge participant and trade ally satisfaction with the program measures and the overall program.

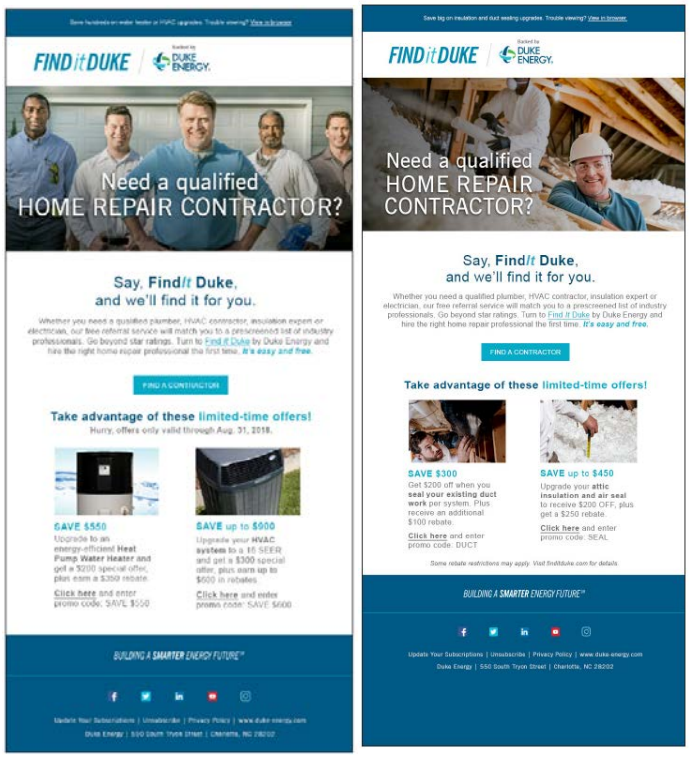
Residential –Smart $aver® Energy Efficiency Program

G. Appendix

Residential Referral – Bill Insert

Residential –Smart $aver® Energy Efficiency Program

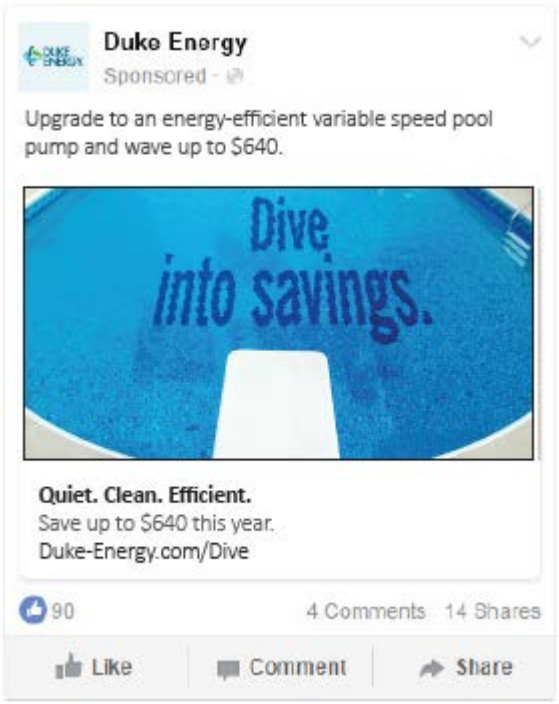
Residential HVAC – Referral Special Offer Campaigns



Residential HPWH – Partnership Email

Residential –Smart $aver® Energy Efficiency Program

Residential PoolSocial Ad



Power Manager®

A. Description

Power Manager® ("Program") is a demand response program that cycles residential central air conditioning to ensure power reliability during high summer peak demand periods. Duke Energy Carolinas, LLC (the "Company") installs a load cycling device near the outdoor unit of a qualifying air conditioner. This enables the customer's air conditioner to be cycled off and on when the Company initiates a control event. During these events, the Company can perform cycling or full shed interruptions of participating customers' air conditioning systems at any time to mitigate capacity constraints in the generation, transmission or distribution systems.

Program participants receive a financial incentive as a bill credit in the amount of $8 per month from July through October ($32 annually).

The customer's air-conditioning system experiences no adverse impacts because the load control device has built-in safeguards to prevent the "short cycling" of the air-conditioning system. Cycling simply reduces the amount of time the air-conditioning system runs in a given period. Additionally, the indoor fan continues to run and circulate air during the cycling event.

Audience

The Program is available to the Company's residential customers residing in owner-occupied, single-family residences with a qualifying central air-conditioning unit.

B & C. Impacts, Participants and Expenses

PowerManager[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$63.1	$66.8	106%
Program Cost	$12.2	$14.4	118%
MW[2]	503.3	535.4	106%
MWH	0.0	N/A	-
Units[3]	473,837	504,071	106%

Notes on Tables:

1) Values are reflected at the system level.

2) MW capability at the generator derived from the average reduction during the June - September control season achieved by a full shed of participating air conditioners.

3) Units included in filing represent average kW at the meter during the June - September control season.

YTD value is based on an average of 269,557 Power Manager devices during the June - September control season.

D. Qualitative Analysis

Although there were no Power Manager events called in the summer of 2018 as the result of system capacity issues, three successful tests were conducted.

1. The first, conducted in May, was a 15-minute test of the program's full shed capability. This test was done in coordination with Duke Energy Carolinas' Energy Control Center (formerly known as the System Operations Center) to ensure system readiness as the summer began.
2. The second was another 15-minute full shed test conducted in early August. This test was initiated by the Demand Response team to gauge system response.
3. The final, an hour long cycling test initiated by the ECC in late August, was done for two purposes: 1) as a test for the ECC, and 2) to utilize smart meter interval usage data on the day of the test to improve the effectiveness of the Power Manager program. See below for more information

In 2018, Duke Energy began using results from analysis of interval usage data collected from smart meters on Power Manager customers' homes during the July 13, 2017 cycling event. This analysis compared whole-house energy use before and during the event. Homes whose energy use did not change as expected were identified for follow up with a targeted field investigation.

Prior to this information being available, Duke Energy used a sample approach to conduct field investigations. Results from the targeted investigations are promising and will help reduce the number of and costs associated with field investigations, while improving the program's operational performance.

Following are several key comparisons of the targeted investigations with the prior sample approach:

- 30% of the investigations resulted in disconnected Power Manager devices being reconnected to customers' air conditioning systems – approximately three times more than before.
- 4% resulted in replacing a missing device; approximately twice as many as before.
- The percentage of devices that had failed was essentially unchanged.

Analysis of smart meter usage data for the late August 2018 test event will lead to targeted field investigations. Current plans are to have at least one event (actual or test) each summer to continue this practice. Results will be tracked and, if all goes as expected, this data will improve program performance by helping reduce costs and increasing the average KW reduction per device.

E. Marketing Strategy

Customers responded well to ongoing telephone marketing, placement in the January and April residential email newsletters, and an email offer in May. The April email newsletter featured the debut of two new videos designed to introduce Power Manager and explain how it works.

Over 18,900 new customers joined the Power Manager program in 2018, contributing to a net increase of 14,879 customers (+6.9%) and 18,152 air conditioners (+7%). At year-end 2018, there were 229,375 customers and 275,679 air conditioners on the program.

At the start of the summer season, Power Manager customers received postcards communicating the following:

- Reminding them of their participation in the program
- Thanking them for making a difference
- Explaining how Power Manager works, its benefits, tips and other information

Program information and an enrollment form are available to customers on the Power Manager website located at http://www.duke-energy.com/north-carolina/savings/power-manager.asp.

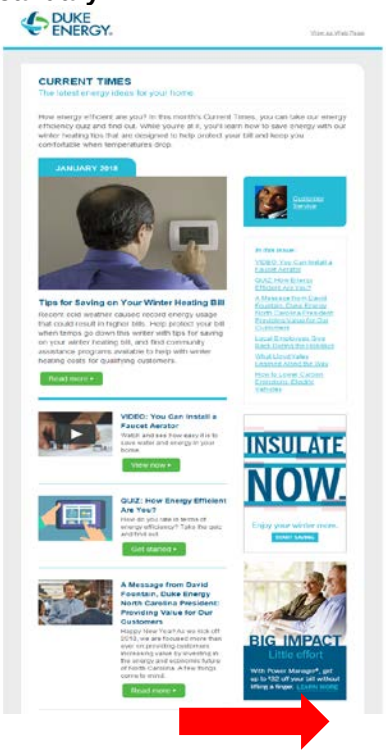
F. Evaluation, Measurement and Verification

Results for the 2017 Power Manager evaluation were provided in the 2018 4th Quarter Collaborative. There were no Power Manager events held in the summer of 2018; therefore, the planned impact analysis which was to be performed by Navigant, was cancelled. In 2019, a full process and impact analysis with bi-weekly planning for EM&V targeted events will occur.

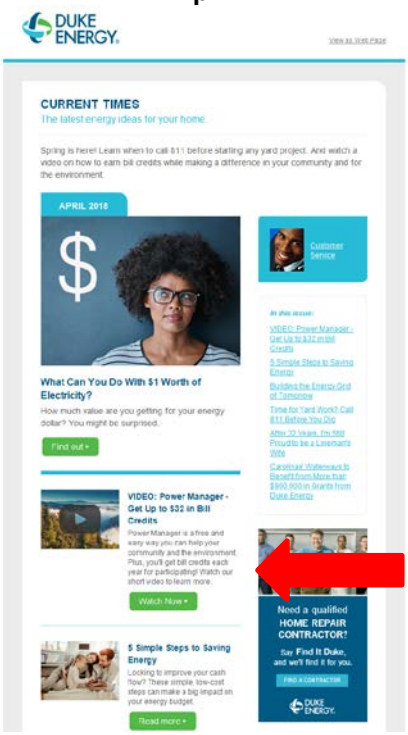
G. Appendix

Residential Email Newsletters

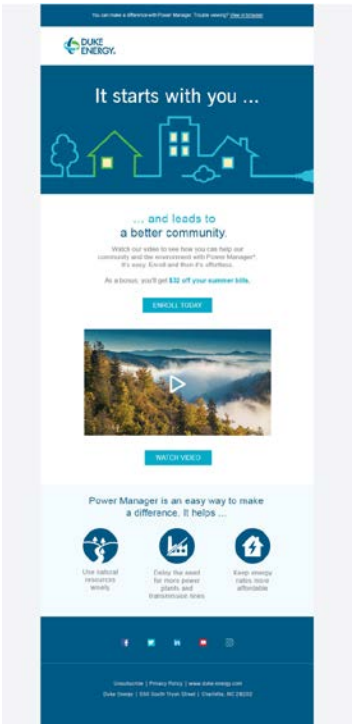
January



April

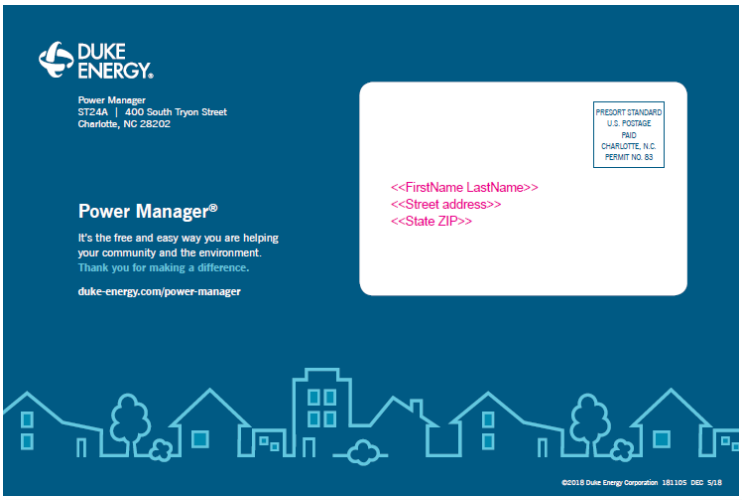


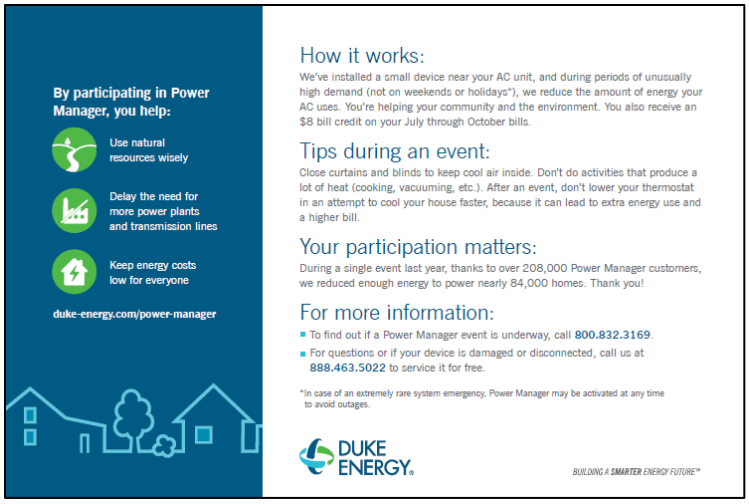
May Email



Power Manager®

Reminder/Thank You Postcard





A. Description

The purpose of Duke Energy Carolinas, LLC's (the "Company's" or "DEC") Small Business Energy Saver program (the "Program") is to reduce energy usage through the direct installation of energy efficiency measures within qualifying small non-residential customer facilities. All aspects of the Program are administered by a single Company-authorized vendor. Program measures address major end uses in lighting, refrigeration, and HVAC applications.

Program participants receive a free, no-obligation energy assessment of their facility and a recommendation of energy efficiency measures along with the projected energy savings, costs of all materials and installation, and up-front incentive amount from the Company. If the customer decides to move forward with the proposed project, the customer will make the final determination of which measures will be installed. The vendor then schedules the measure installation by electrical subcontractors at a time convenient for the customer.

The Program is designed as a pay-for-performance offering, meaning that the Company-authorized vendor administering the Program is compensated only for energy savings produced through the installation of energy efficiency measures.

Audience

The Program is available to existing non-residential customers that are not opted-out of the Company's Energy Efficiency Rider. Program participants must have an average annual demand of 180 kW or less per active account.

B & C. Impacts, Participants and Expenses

Small Business Energy Saver[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$68.8	$54.8	80%
Program Cost	$17.6	$16.0	91%
MW	17.1	13.4	78%
MWH	93,135.9	76,696.5	82%
Units[2]	75,800,000	73,493,029	97%

1) Values are reflected at the system level.

2) Units reflect gross kWh.

D. Qualitative Analysis

Highlights

Lime Energy is the Company-authorized vendor administering the Program in both DEC and DEP service areas.

In 2018, the Program continued to be popular with the Company's small and midsize business customers, with over 2,000 Small Business Energy Saver projects completed though year end in DEC's North and South Carolina territories.

The Company has administered a customer satisfaction survey to Program participants since the Program's launch in DEC. Customers continue to respond very positively to the Program, with 87% of all survey participants in 2018 rating their overall satisfaction with the Program experience at an 8 or above (out of a 10 scale). Also, the majority of Program participants continue to respond that the Program has

improved their perceptions of Duke Energy, with 86% of responders indicating that the Program has had a positive effect on their overall satisfaction with the Company.

Issues
While LED lighting measures are expected to remain the primary driver of kWh savings in the Program for the foreseeable future, the Company has been actively working with our vendor Lime Energy to implement initiatives focused on increasing refrigeration and HVAC measure adoption.

Potential Changes
Moving into 2019, the Company implemented a modification to the Program incentive design to offer higher, tiered incentives for deep energy retrofit projects with multiple measure technologies, actively incentivizing customers to undertake efficiency upgrades beyond lighting. Ultimately, the Company would like for the Program to encourage customers to take on more comprehensive energy efficiency upgrades to maximize energy savings.

As the Program matures, the Company will continue to evaluate opportunities to add incentivized measures which fit the direct install program model and are suitable for the small business market.

E. Marketing Strategy

The Program is marketed primarily using the following channels:

- Lime Energy field representatives
- Direct mail (letters and postcards to qualifying customers)
- Duke Energy Carolinas website
- Social media and search engine marketing
- Email & Duke Energy Business E-Newsletters
- Direct marketing & outreach via Program administrator
- Outreach via Duke Energy Business Energy Advisors
- Community events

All marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities and to emphasize the convenience of Program participation for the target market.

F. Evaluation, Measurement and Verification

Evaluation activities began in the third quarter of 2017 and completed in the third quarter of 2018. Summary findings were presented at the 4th Quarter DEC/DEP Collaborative.

New process evaluation activities included a customer journey mapping exercise to assess the qualitative experience of the customer, and revealed key information such as loyalty, satisfaction, and frustrations with the program. These customer journey findings were used to refine the subsequent participant survey.

The impact evaluation included site visits to conduct field metering and verification. Other impact methodology included engineering estimates. Participant surveys determined free ridership and spillover as well as participant satisfaction with the program measures and the program overall.

Non-Residential Smart $aver Prescriptive

A. Description

The Non-Residential Smart $aver® Prescriptive Program ("Program") provides incentives to Duke Energy Carolinas, LLC's (the "Company's") commercial and industrial customers to install high efficiency equipment in applications involving new construction and retrofits and to replace failed equipment. The program also uses incentives to encourage maintenance of existing equipment in order to reduce its energy usage. Incentives are provided based on the Company's cost effectiveness modeling to ensure cost effectiveness over the life of the measure.

Commercial and industrial customers can have significant energy consumption but may lack an understanding of the benefits of high efficiency alternatives. The Program provides financial incentives to help reduce the cost differential between standard and high efficiency equipment, offer a quicker return on investment, save money on customers' utility bills so it can be reinvested in their businesses, and foster a cleaner environment. In addition, the Program encourages dealers and distributors (or market providers) to stock and provide these high efficiency alternatives to meet increased demand for the products.

The Program promotes prescriptive incentives for the following technologies – lighting, HVAC, pumps, variable frequency drives, food services, process and information technology equipment.

Audience

All of the Company's non-residential opt-in customers billed on an eligible Duke Energy Carolinas rate schedule may participate.

B & C. Impacts, Participants and Expenses[1]

Non Residential Smart Saver Prescriptive[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$86.2	$177.9	206%
Program Cost	$21.3	$28.1	132%
MW	14.9	33.0	222%
MWH	103,721.0	185,437.5	179%
Units	19,681,171	5,052,567	26%

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient Food Service Products[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$0.7	$0.9	126%
Program Cost	$0.2	$0.2	150%
MW	0.1	0.1	88%
MWH	817.2	1,151.1	141%
Units	453	2,910	643%

1) Values are reflected at the system level.

[1] The information reflects results for the Non-Residential Smart $aver Prescriptive program in aggregate. Reference the Appendix for results by technology.

Non-Residential Smart $aver Prescriptive

Non Residential Smart Saver Energy Efficient HVAC Products[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$6.2	$3.2	52%
Program Cost	$1.8	$1.6	89%
MW	2.0	0.9	45%
MWH	4,345.6	2,908.4	67%
Units	5,124,564	2,189,324	43%

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient Lighting Products[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$76.1	$171.6	225%
Program Cost	$18.5	$25.9	140%
MW	12.4	31.5	254%
MWH	92,350.9	178,360.2	193%
Units	14,535,813	2,854,234	20%

1) Values are reflected at the system level.

Non Residential Energy Efficient Pumps and Drives Products[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$1.4	$1.9	131%
Program Cost	$0.4	$0.3	72%
MW	0.3	0.4	138%
MWH	2,067.8	2,669.0	129%
Units	2,750	2,480	90%

1) Values are reflected at the system level.

Non Residential Energy Efficient ITEE[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$1.6	$0.0	0%
Program Cost	$0.4	$0.0	10%
MW	0.0	0.0	0%
MWH	3,823.2	17.6	0%
Units	15,935	280	2%

1) Values are reflected at the system level.

Non Residential Energy Efficient Process Equipment Products[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$0.2	$0.3	164%
Program Cost	$0.1	$0.1	100%
MW	0.0	0.1	242%
MWH	316.3	331.2	105%
Units	1,657	3,339	201%

1) Values are reflected at the system level.

Non-Residential Smart $aver Prescriptive

D. Qualitative Analysis

Highlights

The Program has developed multiple approaches, including paper and online options for incentive payment applications and instant incentives through the midstream marketing channel and the Online Energy Savings Store, for reaching a broad, diverse audience of business customers.
Several 2018 program trends are listed below.

- Customers showed high interest in energy efficiency and had significant funds to invest in efficiency when rebates offset a portion of the cost. The program activity in 2018 exceeded target by 79%.
- More customers were drawn to the easy-to-use midstream marketing channel, which contributed half of the 2018 impacts.
- More applicants used the online application.
- Outreach continued to support Trade Allies working with the program.
- Targeted marketing reached out to customers and Trade Allies.
- A dedicated team of representatives answering customer questions via phone and email provided high levels of customer service.
- Large account management and Business Energy Advisors continue to leverage personal relationships with large and medium businesses to identify and support new EE projects.

Customers have several options for participating in the Program. The following chart summarizes 2018 participating customers by Program channel:

Program Option	Participating Customers*	% 2018 YTD Repeat Customer
Paper and Online Application Form	1,600	61%
Midstream Marketing Channel	12,508	59%
Online Energy Savings Store	730	49%

*May include multiple facilities/sites for one customer.

PAPER AND ONLINE APPLICATIONS
During 2018, the Company paid incentives for 2,755 applications, consisting of 6,543 measures. New application activity declined during the second half of 2018. During 2018, 61% of applications were submitted via the new online application portal. The average payment per paid application was $4,435.

To overcome another barrier that can delay investment in EE projects, the Program launched an optional new process for customers to pre-verify equipment eligibility giving certainty that selected equipment qualifies for an incentive prior to purchase. In 2018, 821 applications for pre-qualification were approved in NC and SC.

Many Trade Allies participating in the application process reduce the customer's invoice by the amount of the Smart $aver® Prescriptive incentive and then receive reimbursement from Duke Energy. Customers often prefer this method rather than paying the full equipment cost upfront and receiving an incentive check from Duke Energy.

Duke Energy utilizes an internal database that allows the Program to self-administer Program applications and track program data.

MIDSTREAM MARKETING CHANNEL
The midstream marketing channel provides instant incentives to eligible customers at a participating distributor's point of purchase. Approved midstream distributors validate eligible customers and selected lighting, HVAC, food service and IT products through an online portal and use that information to show customers the reduced price for high efficiency equipment. Upon purchase, the distributor reduces the customer's invoice for the eligible equipment by the amount of the Smart $aver® Prescriptive incentive.

Non-Residential Smart $aver Prescriptive

Distributors then provide the sales information to Duke Energy electronically for reimbursement. The incentives offered through the midstream channel are consistent with current program incentive levels.

Energy Solutions provides the online portal for distributors to manage the paperless validation and incentive application. During 2018, approximately 50% of the Smart $aver impacts were from participation through the midstream marketing channel. Duke Energy currently has 238 distributors signed up for the midstream channel.

ONLINE ENERGY SAVINGS STORE
Duke Energy also offers the Business Savings Store on the Duke Energy website, with orders fulfilled by the third-party EFI. The site provides customers the opportunity to take advantage of a limited number of incentivized measures by purchasing qualified products from an online store and receiving an instant incentive in the form of a reduced purchase price. The incentives offered in the online store are consistent with current program incentive levels.

TRADE ALLY MANAGEMENT
Over the years, the Program has worked closely with Trade Allies to promote the program to our business customers at the critical point in time when customers are considering standard or high efficiency equipment options. In 2018 the number of TAs grew, there are now 2,936 energy-efficiency equipment vendors, contractors, engineers, architects and energy services providers who are based in the Carolinas and are registered as a Trade Ally with the Smart $aver® Non-residential programs (prescriptive and custom). The Smart $aver® outreach team builds and maintains relationships with Trade Allies in and around Duke Energy's service territory. Existing relationships continue to be cultivated while recruitment of new Trade Allies also remains a focus. Duke Energy's efforts to engage Trade Allies include the following activities:

- Trade Ally Search tool located on the Smart $aver® website
- Inspections of a sample of all projects to ensure quality control
- Trade Ally co-marketing including information about the Smart $aver program in the TA's marketing efforts
- Online application portal training and support
- Midstream channel support
- Trade Ally year-end awards
- Trade Ally quarterly newsletter
- Technology- and segment-specific marketing collateral
- Trade Ally discussion group (20 Trade Allies that give input on programs)
- Trade Ally training
- Sponsorship of trade ally events
- Online collateral toolkit for access to marketing materials

The Trade Ally outreach team educates Trade Allies on the program rules and the Smart $aver Program expectations for Trade Ally conduct.

The Company continues to look for ways to engage the Trade Allies in promotion of the Program and to target Trade Allies based on market opportunities.

Issues

Feedback from participating customers and Trade Allies is positive overall but provides some insight into the barriers to participation in the program. Less than 5% of surveyed customers report dissatisfaction with the program. Reasons for dissatisfaction include unhappiness with the 90-day time limit to submit an application, communications issues, and changes to eligible products. Less than 10% of surveyed Trade Allies report dissatisfaction with the program, with the most frequent reasons offered that applications are too complex and incentive payment too slow. In response, the Program continues to work to improve communications, application forms and processing, as well as promote channels that do not require complex paperwork and offer faster incentive payment. Some Trade Allies cite competition with the vendor

implementing Small Business Energy Saver although competition is not intended in the programs' designs. Duke Energy also continues to reach out to those customers who have not yet participated in the Smart $aver® program.

Recently, the combination of the Program's incentives and the falling prices for LED equipment has been very attractive for customers and many have taken advantage of the opportunity to invest in LED upgrades. While there is still significant opportunity for high efficiency lighting, the excitement around LEDs has taken customers' attention away from EE opportunities outside of lighting. The Program has continued to promote non-lighting EE and encourage customers to go beyond lighting for efficiency projects. The Company continues to work with outside consultants and internal resources to develop strategies to understand equipment supply/value chains and increase awareness of these measures going forward.

Potential Changes

Standards continue to change and new, more efficient technologies continue to emerge in the market. Duke Energy periodically reviews major changes to baselines, standards, and the market for equipment that qualifies for existing measures and explores opportunities to add measures to the approved Program for a broader suite of options. A review is underway now and may initiate changes to a limited number of new measures and measure updates. When existing measures change, such as when a measure is removed or an incentive amount is reduced, customers have a 90-day grace period to apply for the past measure or incentive amount.

Duke Energy is considering new and innovative ways to reach out to customer segments that have had a lower rate of prescriptive incentive applications and to partner with other Duke Energy EE programs to cover gaps in the market. Additionally, the Program is planning to add limited quantities of new low-cost measures with no out-of-pocket costs to customers in 2019.

E. Marketing Strategy

Nonresidential customers learn of programs via targeted marketing material and communications. The 2018 marketing plan included direct marketing such as email and direct mail, online marketing, print marketing and supporting partnerships. The marketing team has selected a highlighted topic for each month and promotes coordinated communication around that topic.

The internal marketing channel consists of assigned Large Business Account Managers, small and medium Business Energy Advisors, and Local Government and Community Relations, who all identify potential opportunities as well as distribute program informational material to customers and Trade Allies. Duke Energy has two Business Energy Advisors in the Carolinas area to perform outreach to unassigned small and medium business customers. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors contact customers with revenue between $60,000 and $250,000 to promote the Smart $aver® programs.

The Economic and Business Development groups also provide a channel to customers who are new to the service territory.

The following chart summarizes the campaigns during 2018. Example images are found on the following pages.

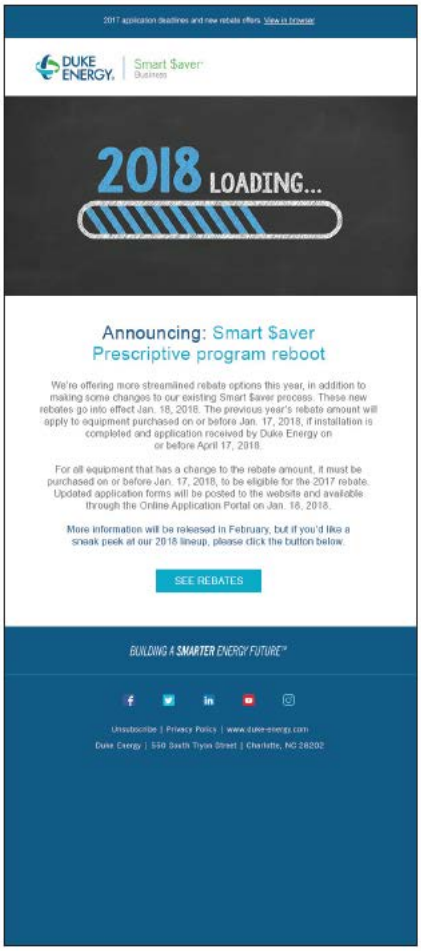
Month	Channel	Audience	Incentives Highlighted
January	Email	All Business Customers	Program Changes Teaser
February	Email	Commercial Real Estate	Good Better Best (All Measure Categories)

Non-Residential Smart $aver Prescriptive

February	Email, Direct Mail	All Business Customers	Program Changes Announcement
March	Email	Manufacturing Customers	Good Better Best (All Measure Categories)
March	Email, Direct Mail	Commercial Real Estate, Lodging, Restaurants	Commercial Cooking Equipment
March	Email	Previous Program Participants	Smart $aver Tools
April	Email	Lodging Customers	Good Better Best (All Measure Categories)
April	Email, Direct Mail	All Small Business Customers	Commercial Refrigerator, Clothes Washer and Clothes Dryer
May	Email	Education Customers	Good Better Best (All Measure Categories)
May	Email	All Assigned Customers	Custom Tools
June	Email, Direct Mail	All Business Customers	Online Application Portal
August	Email	All Business Customers	Website Refresh
September	Email	All Business Customers	Rapid Payback (HVAC)
October	Email	All Business Customers	Rapid Payback (Operations & Maintenance)
October	Email	All Business Customers	Rapid Payback (Food Service)
October	Email	All Business Customers	Rapid Payback (Lighting)
November	Email	All Business Customers	Exterior Lighting

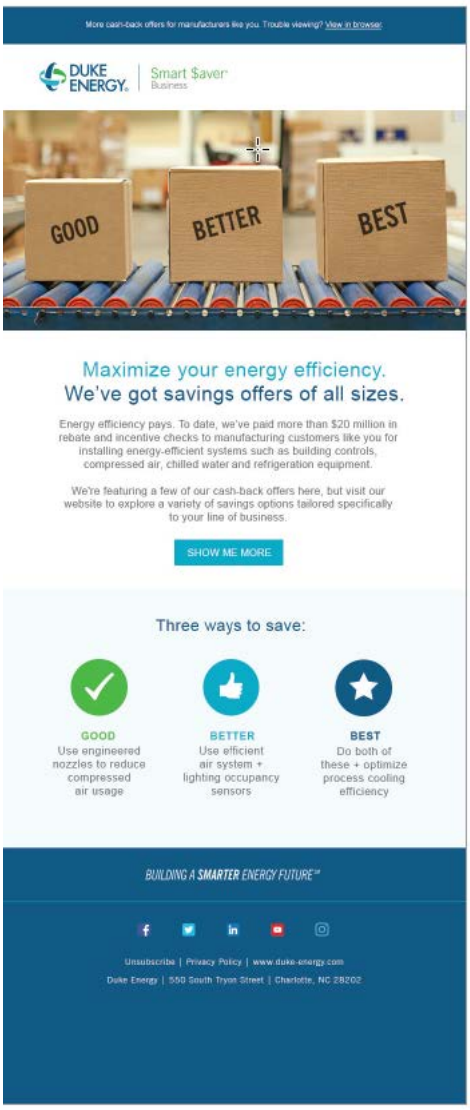
Non-Residential Smart $aver Prescriptive

January Program Changes Teaser – Email



Non-Residential Smart $aver Prescriptive

March Good Better Best (Manufacturing) Campaign – Email



Landing Page - https://www.duke-energy.com/customer-landing-pages/good-better-best-mfg

Non-Residential Smart $aver Prescriptive

April Small Business Week Campaign – Email and Direct Mail (DM below)

DUKE ENERGY. | Smart $aver® Business

ST29X | 400 South Tryon Street
Charlotte, NC 28202

Small business?
Get ready to save big.

First_name Last_name
Company_name
Mailing_address
City, State Zip

BUILDING A SMARTER ENERGY FUTURE™

SAVE BIG
DURING SMALL BUSINESS WEEK.

From the front door to the break room, we have great offers for businesses just like yours. These energy-efficient solutions are easy to install and will help you reduce overall energy usage. Plus, we offer deep discounts and rebates on select products.

So what are you waiting for?

Start saving today at
duke-energy.com/SmallButMighty.

★ SIX MIGHTY OFFERS FOR YOUR BUSINESS ★

NEST THERMOSTAT
Get $50 off this Wi-Fi-enabled thermostat that learns your favorite settings.

REFRIGERATORS
Use less energy. Get up to $50 per refrigerator.

VENDINGMISER
Vending machines run 24/7. But you can get energy savings up to $150 for each one.

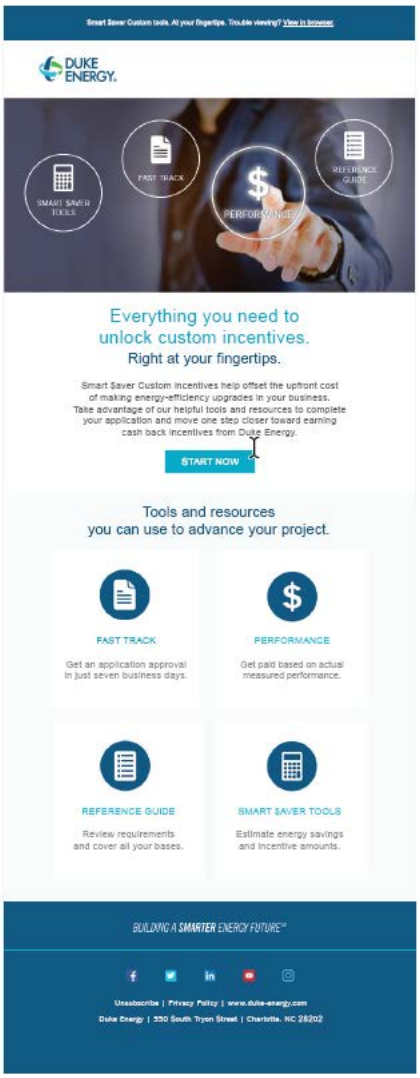
COMMERCIAL CLOTHES DRYER
Get top-notch performance and up to $80 per dryer.

COMMERCIAL CLOTHES WASHER
Save with every load and get up to $40 per washing machine.

TRICKLESTAR 7-OUTLET ADVANCED POWER STRIP
Help safeguard your equipment from power surges and lower your energy bill.

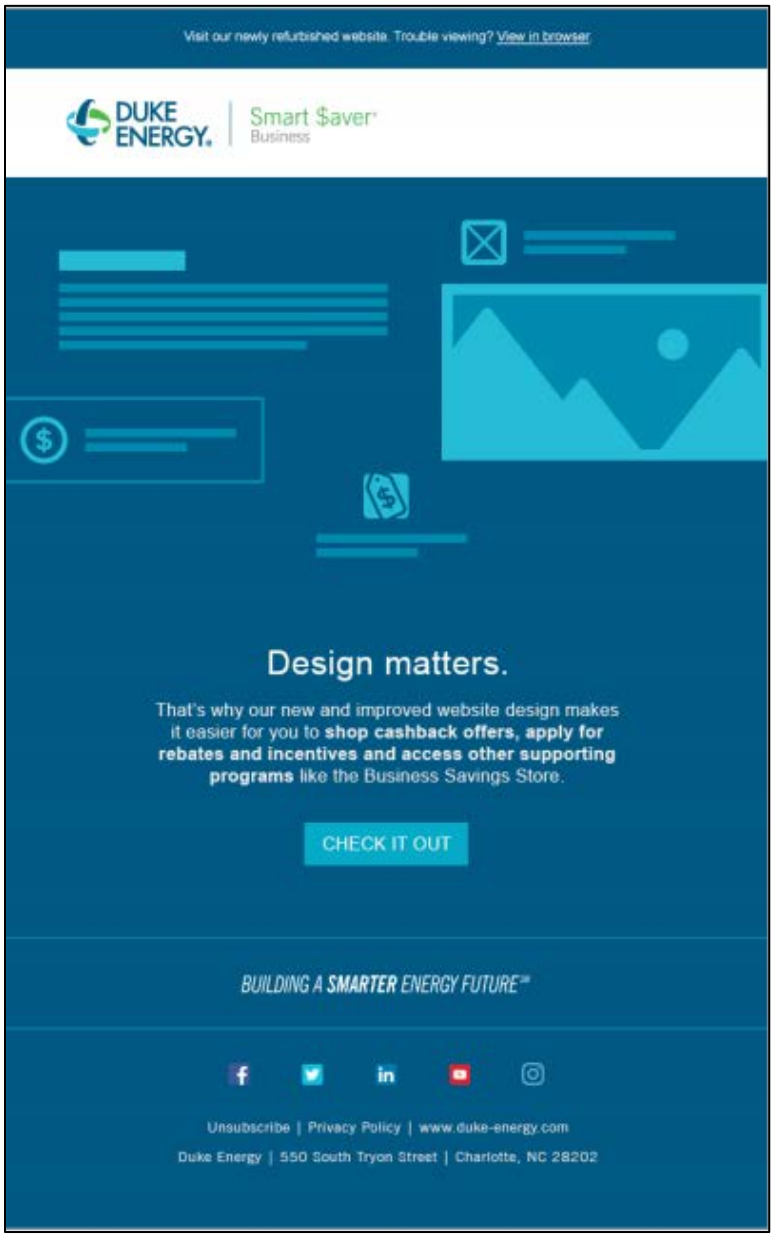
Non-Residential Smart $aver Prescriptive

May Custom Awareness – Email



Non-Residential Smart $aver Prescriptive

August Website Refresh – Email

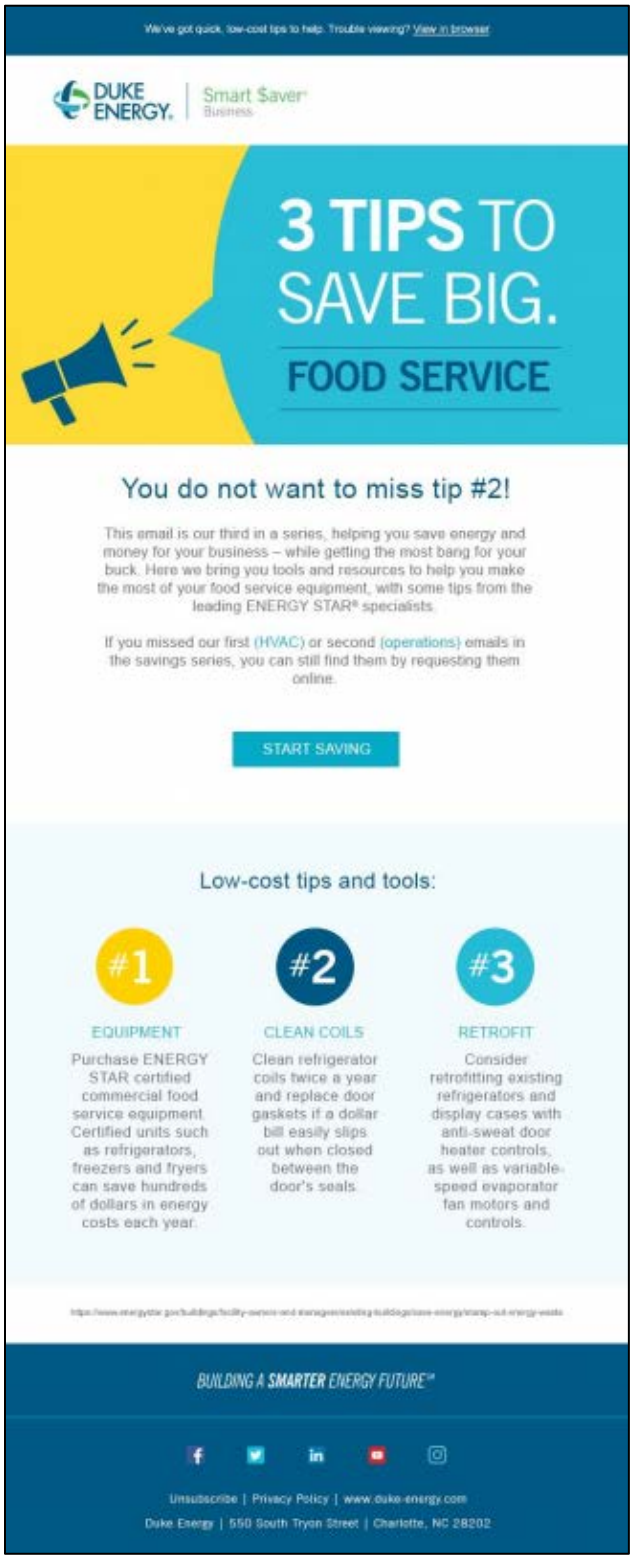


Non-Residential Smart $aver Prescriptive

September Rapid Payback Campaign (HVAC) – Email

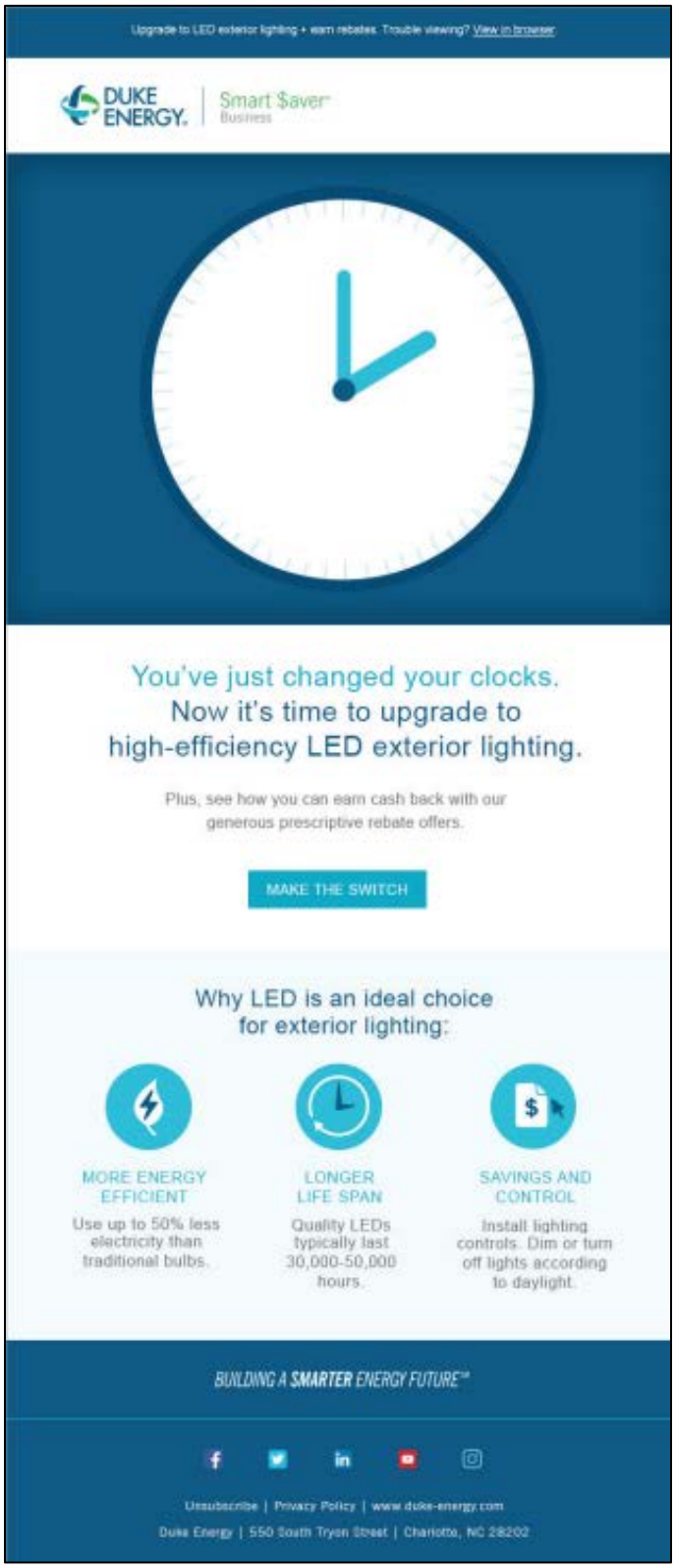
Non-Residential Smart $aver Prescriptive

October Rapid Payback Campaign (Food Service) – Email



Non-Residential Smart $aver Prescriptive

November Exterior Lighting – Email



Non-Residential Smart $aver Prescriptive

F. Evaluation, Measurement and Verification

Evaluation planning is underway for a combined DEC/DEP evaluation, consisting of an impact and process evaluation. Preliminary evaluation plans include estimating the savings for the NR Prescriptive Mid-Stream Channel, which will be the first evaluation for this channel. The tentative delivery schedule for a final report is the first quarter of 2020.

G. Appendix

Non Residential Smart Saver Energy Efficient Food Service Products[1]

$ in millions, rounded	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	$2.6	$1.6	61%
Program Cost	$0.8	$0.3	39%
MW	0.4	0.2	54%
MWH	3,968.3	2,257.3	57%
Units	5,293	2,730	52%

1) Values are reflected at the system level.
2) Numbers rounded.

Non Residential Smart Saver Energy Efficient HVAC Products[1]

$ in millions, rounded	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	$7.5	$3.4	45%
Program Cost	$3.3	$1.6	47%
MW	2.8	1.0	37%
MWH	6,253.8	3,382.7	54%
Units	121,841	3,016,407	2476%

1) Values are reflected at the system level.
2) Numbers rounded.

Non Residential Smart Saver Energy Efficient Lighting Products[1]

$ in millions, rounded	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	$41.4	$193.3	467%
Program Cost	$11.1	$66.7	601%
MW	11.3	33.0	292%
MWH	68,582.5	229,728.9	335%
Units	245,765	2,290,141	932%

1) Values are reflected at the system level.
2) Numbers rounded.

Non-Residential Smart $aver Prescriptive

Non Residential Energy Efficient Pumps and Drives Products[1]

$ in millions, rounded	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	$2.7	$2.2	83%
Program Cost	$0.7	$0.5	71%
MW	0.6	0.5	83%
MWH	4,745.7	3,470.7	73%
Units	4,347	4,361	100%

1) Values are reflected at the system level.
2) Numbers rounded.

Non Residential Energy Efficient ITEE[1]

$ in millions, rounded	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	$1.4	$0.0	0%
Program Cost	$0.4	$0.1	15%
MW	0.0	0.0	0%
MWH	3,184.7	3.3	0%
Units	2,613	45	2%

1) Values are reflected at the system level.
2) Numbers rounded.

Non Residential Energy Efficient Process Equipment Products[1]

$ in millions, rounded	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	$0.7	$0.4	60%
Program Cost	$0.1	$0.2	157%
MW	0.1	0.1	66%
MWH	564.1	577.6	102%
Units	1,509	8,936	592%

1) Values are reflected at the system level.
2) Numbers rounded.

Non-Residential Smart $aver® Custom Assessment

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart $aver® Custom Assessment (the "Program") offers financial assistance to qualifying commercial, industrial, and institutional customers to help fund an energy assessment and retro-commissioning design assistance in order to identify energy efficiency conservation measures of existing or new buildings or systems. The detailed study and subsequent list of suggested energy efficiency measures help customers to utilize the Non-Residential Smart $aver® Custom. The Program delivers a detailed energy report that includes the technical data needed for the Non-Residential Smart $aver® Custom Program and assistance with the Non-Residential Smart $aver® Application. All kWh and kW savings identified from measures implemented as a result of the pre-qualified assessments are attributed to Smart $aver Custom Program.

The intent of the Program is to encourage energy efficiency projects that would not otherwise be completed without the Company's technical and financial assistance. The Program's application requires pre-qualification for eligibility. Assessments are performed by professional engineering firms pre-selected and contracted by the Company. The current engineering firms are The Weidt Group, APTIM and ThermalTech Engineering, Inc. All firms offer a diversified set of skills that support all qualifying commercial, industrial, and institutional customers.

The program was modified in 2017 to allows customers to choose one of the firms the Company contracted or to seek third party engineering assistance of their own selection and receive the same financial assistance. Pre-established criteria ensuring that the Program maintains high standards for engineering and work quality must be met for the funds to be released. This modification, which provided customers with more flexibility and choices, is expected to drive an increase in participation.

In 2019, the program is modifying its approach again by utilizing a "virtual" approach to the assessment. Using energy modeling software called NEO from The Weidt Group and collecting all building information remotely will allow the audit to be completed in 2-3 weeks for less cost. Each audit will have a fixed cost of $5,000 of which the customer will be responsible for 50%. The virtual audit will not be applicable to buildings with process loads such as manufacturers. Audits of buildings with process loads will continue to be performed by Aptim and Thermaltech or the customer's vendor of choice. With the new methodology, the goal is to perform 30-50 assessments on an annual basis.

Audience

Pre-qualified non-residential electric customers, except those that choose to opt out of the Program, are eligible.

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Custom Technical Assessments[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$12.6	$0.1	1%
Program Cost	$2.1	$0.4	19%
MW	2.3	0.0	1%
MWH	20,322.2	83.6	0%
Units	13,248	218	2%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Participation in 2018 declined. Overall, 59 customers have completed an application for an energy assessment. Of these, 36 chose to switch to the Small Business Energy Saver Program because that

program fit the customer's needs better. Seven assessments were completed with 2 Custom projects in progress and 3 customers deciding whether to proceed.

E. Marketing Strategy

The marketing strategy for the Program is to work with those customers that need technical and financial assistance as a companion to their internal resources. Given the facility-wide approach, many of the energy savings opportunities are complex and interactive in nature which fits well with the end-to-end involvement utilized in the Program. Typical customer marketing activity involves direct marketing from Business Account Managers, electronic postcards, e-mails, and information attained through the Company's website and direct customer inquiries. Marketing in the future may shift as the virtual modeling software becomes more applicable. The opportunity to receive a quick readout of a building's efficiency level for a nominal cost will be a compelling message to Duke Energy customers.

F. Evaluation Measurement and Verification

No evaluation activities occurred in 2018.

Non-Residential Smart $aver® Custom

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart $aver® Custom Incentives (the "Program") offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted-out) to enhance their ability to install cost-effective electrical energy efficiency projects.

The Program is designed to meet the needs of the Company's customers with electrical energy saving projects involving more complicated or alternative technologies, or with measures not covered by the Non-Residential Smart $aver Prescriptive Program. The intent of the Program is to encourage energy efficiency projects that would not otherwise be completed without the Company's technical or financial assistance.

Unlike the Non-Residential Smart $aver Prescriptive Program, the Program requires pre-approval prior to the project initiation. Proposed energy efficiency measures may be eligible for customer incentives if they clearly reduce electrical consumption and/or demand.

The two approaches for applying for incentives for this Program are Classic Custom and Custom-to-Go. Each approach has a method by which energy savings are calculated, but the documents required as part of the application process vary slightly between the two.

Currently the application forms listed below are located on the Company's website under the Smart $aver® Incentives (Business and Large Business tabs).

- Custom Application, offered in word and pdf format.
- Energy savings calculation support:
    - Classic Custom excel spreadsheet approach (> 700,000 kWh or no applicable Custom-to-Go calculator)
        - Lighting worksheet (excel)
        - Variable Speed Drive (VFD) worksheet (excel)
        - Compressed Air worksheet (excel)
        - Energy Management System (EMS) worksheet (excel)
        - General worksheet (excel), to be used for projects not addressed by or not easily submitted using one of the other worksheets
    - Custom-to-Go Calculator approach (< 700,000 kWh and applicable Custom-to-Go calculator)
        - HVAC & Energy Management Systems
        - Lighting (no project size limit)
        - Process VFDs
        - Compressed Air

The Company contracts with AESC to perform technical review of applications. All other program implementation and analysis is performed by Duke Energy employees or direct contractors.

Audience

All of the Company's non-residential electric accounts billed on eligible rate schedules, except those that choose to opt-out of the Program, are eligible.

Non-Residential Smart $aver® Custom

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Custom[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$59.0	$27.4	46%
Program Cost	$12.1	$6.1	50%
MW	10.9	4.1	37%
MWH	95,315.6	30,333.0	32%
Units	62,136	23,345	38%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Customers continue to identify energy efficiency opportunities eligible for incentives under this Program. In 2018, 287 new pre-approval applications were submitted. However, the Program has seen and more small projects than large ones, resulting in an overall decrease in kWh savings.

Smart $aver Custom Incentives program uses a flat rate incentive for both energy and demand savings.

Efforts to educate trade allies and vendors who sell energy efficient equipment have been very successful. In many cases, vendors will submit the paperwork for the customer, eliminating a barrier for customers that do not have the resources to devote to completing the application.

The Program launched a fast track option for 2017 which gives customers the ability to pay a fee to speed up their application processing time to seven business days. This fee is passed through to the vendor for its cost to expedite the application.

In March of 2018, lighting and HVAC tools migrated from the Custom To Go platform to the new Smart Saver Tool web platform with plans to migrate the remaining tools later in 2018. Currently, for the lighting tool only, the customer is able to submit one file for both Prescriptive and Custom reducing some of the customer's administrative burden. To date DEC has received 12 combined lighting applications.

Issues

The Program application process is considered burdensome by some customers due to the individual and technically intensive review required for all projects applying for a custom incentive. Each year, Program staff explores ways to reduce the length of the application. By streamlining processes, the average processing time has dipped to 17 days for all states/jurisdictions.

The technical review often requires customers (or their vendors) to quantify the projected energy savings from the proposed project. This process can be lengthy and may require some level of engineering expertise. Where necessary, this requirement will continue, thus ensuring that incentives are being paid for cost-effective verifiable efficiency gains. Indications are that the Custom-to-Go suite and online application portal have relieved some of this burden.

The custom program is subject to large fluctuations in performance due to the importance of a small number of large projects. Although the number of small projects is significant compared to the number of large projects, the large projects drive the majority of annual impacts.

The custom program is still limited by customers who are opted out of the EE Rider. Those customers who are opted out are not eligible to participate and any projects completed by those customers are lost opportunities. The custom program is actively working with internal resources (large account managers and Business Energy Advisors) to determine if opting in to the EE Rider for a potential project is the best option for customers currently opted out.

Finally, the custom program continues to see changes in available technologies as specific measures become eligible for Smart $aver Prescriptive.

Potential Changes

The Custom program continues to evaluate additional improvements to enhance participation, processing speed and program efficiency.

E. Marketing Strategy

The Company will continue the Program marketing efforts in 2019 through various marketing channels that include but are not limited to the following:

- Direct mail (letters and postcards to qualifying customers)
- Duke Energy website
- Community outreach events
- Small Business Group outreach events
- Paid advertising/mass media
- Social media promotions
- Trade ally outreach
- Account managers
- Business Energy Advisors

These marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities, and to emphasize the convenience of Program participation.

Non-residential customers learn of programs via targeted marketing material and communications. Information about incentives is also distributed to trade allies who sell equipment and services to all sizes of nonresidential customers. Large business or assigned accounts are targeted primarily through Company account managers. Unassigned small to medium business customers are supported by the Company's Business Energy Advisors. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors promote the program to customers with electrical costs between $60,000 and $250,000.

The internal marketing channel consists of Large Business Account Managers and Local Government and Community Relations who all identify potential opportunities as well as distribute program informational material to customers and trade allies. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

The Program launched a new marketing channel in 2017 called New Construction Energy Efficiency Design Assistance (NCEEDA) to identify energy efficiency projects for customers currently underserved in the SMB market. This channel will utilize the vendor Weidt Group to help identify those opportunities, complete savings calculations, and submit applications for the customer. As of January 20, 2019, DEC has 156 projects enrolled in the NCEEDA offering, representing 14.3 million square feet of area. Of these, the 98 Smart $aver Custom project applications represent 32.8 million kWh of energy savings.

F. Evaluation, Measurement and Verification

An impact and process combined DEC/DEP evaluation was completed in the fourth quarter of 2018 and presented at the 4th Quarter DEC/DEP Collaborative. Methodologies to verify savings included desk reviews, onsite verification and billing analyses. Participant surveys helped establish net-to-gross.

Process evaluation activities included participant surveys and trade ally interviews. Key objectives for the process evaluation were to determine opportunities to improve program operations as well as gauge customer satisfaction with the program overall.

Non-Residential Smart $aver® Performance Incentive

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart $aver® Performance Incentives (the "Program") offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted-out) to enhance their ability to install cost-effective electrical energy efficiency projects.

The Program is designed to encourage the installation of high efficiency equipment in new and existing nonresidential establishments as well as the performance of efficiency-related repair activities designed to maintain or enhance efficiency levels in currently installed equipment. The Program provides incentive payments to offset a portion of the higher cost of energy efficient installations that are not eligible under either the Smart $aver® Prescriptive or Custom programs. The types of measures covered by the Program include projects with some combination of unknown building conditions or system constraints or uncertain operating, occupancy, or production schedules The specific type of measures are agreed upon with the Customer. The Program is delivered in close coordination with the existing Custom program team and shares resources for administrative review and payment processing. The Program requires pre-approval prior to project initiation.

The intent of the Program is to broaden participation in the Company's non-residential efficiency programs by providing incentives for projects that previously were deemed too unreliable to calculate an acceptably accurate savings amount predictively and, therefore, were not offered incentives. The program is also expected to provide a platform for gaining a better understanding of new technologies.

The key difference between the Performance Incentive Program and the Custom Program is that the customers in the Performance Incentive Program are paid incentives based on actual measured performance. For each project, a plan is developed to verify the actual performance of the project once completed and is the basis for the performance portion of the incentive.

The Program incentives will typically be paid out in the following manner, though payment installment quantities and timing may vary:

- Incentive #1: For the portion of savings that are expected to be achieved with a high degree of confidence, an initial incentive will be paid. This incentive is paid once installation is complete.
- Incentive #2: After performance is measured and verified, the performance-based part of the incentive will be paid out as follows:
    - If performance exceeds expectations, the incentive payout may be larger.
    - If performance does not meet expectations, the incentive payout may be smaller.

Application forms for applying for incentives are located on the Company's website.

The Company contracts with Alternative Energy Systems Consulting, Inc. (AESC) to perform technical review of applications. All other program implementation is performed by Duke Energy employees or direct contractors.

Audience

All of the Company's non-residential electric accounts billed on eligible rate schedules, except those that choose to opt-out of the Program, are eligible.

Non-Residential Smart $aver® Performance Incentive

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Performance Incentive[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$3.5	$2.0	56%
Program Cost	$1.0	$0.5	48%
MW	0.7	0.2	26%
MWH	5,706.0	3,271.2	57%
Units	6,174,765	118	0%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

As new technologies are introduced and changes occur in the energy efficiency marketplace, performance incentives are the perfect tool to influence and reward customers who invest in energy efficiency. The Smart $aver Performance Incentives program was launched on January 1, 2017. Efforts to encourage internal resources, trade allies and vendors who sell energy efficient equipment to promote the Program and assist customers to participate are continuous and on-going. In addition, the Program is marketed closely with the Smart $aver Custom Program.

In DEC, the program is beginning to reap the fruits of its marketing efforts as program participation increases significantly. Currently, DEC has

- 23 enrolled projects
- 138 individual project sites
- 22 million potential kWh of savings (realization of kWh savings impacts will occur over multiple years: 2018-2022)

The program experiences large fluctuations in performance due to long project lead times, long monitoring and verification times, and the timing and sizes of projects. With a compelling value proposition and internal resources and trade allies getting comfortable with this unique program offering, participation is expected to continue to be strong.

Issues

No issues have been observed at this time. However, program management is monitoring a few areas of interest.

- The preferred method for measurement and verification of performance is gathering, monitoring and analyzing customer billing history. However, energy savings are not significant enough at times to evaluate effectively through the review of billing information. If this is the case, sub-metering is required at the customer's expense and may be a hurdle due to the time and expense of monitoring and verifying savings.

- The Performance program cannot be offered to customers who are opted out of the EE Rider. Performance projects can easily carryover into multiple calendar years because of the monitoring and verification requirement, a situation which could make opting in more difficult to justify.

- Customers may not participate because of the risk of measured energy savings being less than expected and resulting in a smaller incentive payout.

Non-Residential Smart $aver® Performance Incentive

Potential Changes

The Company continuously considers functional improvements to enhance participation, processing speed and program efficiency.

E. Marketing Strategy

The 2019 marketing strategy for the Smart $aver Performance Incentive Program closely aligns with the Custom Program. The goal is to educate the Company's non-residential customers about the technologies incentivized through both programs, as well as the benefits of installing energy-efficient equipment. These efforts encompass a multi-channel approach including but not limited to the following:

- Email (targeted customers)
- Direct Mail (letters to qualified/targeted customers)
- Duke Energy Carolinas website
- Community outreach events
- Print advertising/mass media
- Target customer outreach
- Industry Associations
- Large Account Managers
- Business Energy Advisors
- Trade Ally Outreach

Marketing efforts are designed to create customer awareness of the Program, to educate customers on opportunities to save energy, and to emphasize the convenience of Program participation.

Non-residential customers learn of programs via targeted marketing material and communications. Information about incentives is also distributed to trade allies who sell equipment and services to all sizes of nonresidential customers. Large business or assigned accounts are targeted primarily through Company account managers. Unassigned small to medium business customers are supported by the Company's Business Energy Advisors. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors contact customers with electrical costs between $60,000 and $250,000 to promote the program.

The internal marketing channel consists of Large Business Account Managers, Business Energy Advisors, and Local Government and Community Relations who all identify potential opportunities as well as distribute program informational material to customers and trade allies. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

F. Evaluation, Measurement and Verification

Due to program launch in January 2017, no evaluation activities occurred in 2018. Future evaluation timing will depend upon sufficient participation.

A. Description

PowerShare® ("Program") is a demand response program offered to commercial and industrial customers. The Program is comprised of Mandatory ("PS-M"), Generator ("PS-G"), Voluntary ("PS-V") and CallOption options, and customers can choose from a variety of offers. Under PS-M, PS-G and CallOption, customers receive capacity credits for their willingness to shed load during times of peak system usage. Energy credits are also available for participation (shedding load) during curtailment events. The notice to curtail under these offers can be rather short (15-30 minutes), although every effort is made to provide as much advance notification as possible. Failure to comply during an event could result in penalties.

Audience

The Program is offered to Duke Energy Carolinas, LLC's (the "Company's") non-residential customers who have not opted-out and are able to meet the load shedding requirements.

B & C. Impacts, Participants and Expenses

PowerShare[1]

$ in millions, rounded	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	$48.4	$41.5	86%
Program Cost	$15.0	$12.9	86%
MW[2]	388.0	332.6	86%
MWH	0.0	N/A	-
Units[3]	365,308	313,157	86%

Notes on Tables:

1) Values are reflected at the system level.

2) MW capability derived by taking average over specific PowerShare contract periods.

3) Units included in filing represented KW at meter, rather than number of participants. The average participation for 2018 was 161.

D. Qualitative Analysis

Highlights

PS-M and PS-G continue to be well received by customers who have the flexibility to curtail load upon request in both North Carolina and South Carolina. Although several new participants joined the PowerShare program in 2018, the gains were offset by the loss of existing participants, including the closure of a major textile mill and the termination of two contracts due to repeated failure to comply during curtailment events. The Company dispatched the program twice in January 2018 due to high system peak loads during polar vortex events.

The Company sought approval in both North Carolina and South Carolina to make two changes to existing PowerShare programs this year. First, due to lack of customer interest in PowerShare CallOption (Rider PSC), the Company gained approval in both states to close the program permanently in 2018. More recently, the Company has sought to eliminate the 50,000 kW limitation under Rider PS in order to allow customers with greater curtailable demands to participate in the program. The rider revision was approved in North Carolina and South Carolina.

Issues

No current issues.

Potential Changes

No further changes anticipated at this time.

E. Marketing Strategy

To date, marketing efforts for the Program have focused on the relationship between the Company's account executives and their assigned customers. As part of their normal contact with customers, the account executives introduce the Program, including any new options/offers, while explaining the value proposition to the customer. Account executives share in-house analytics that show the incentives for each offer as applied to the customer's specific load profile and marketing collateral to explain the details of all the Program offers.

F. Evaluation, Measurement and Verification

Results for the 2017 evaluation were provided in the 4th Quarter Collaborative Meeting. During 2017, Navigant, the evaluator, reviewed the SAS code, which determines the customer baselines, to verify recommended changes from the previous evaluation had been implemented. Also, all credits and calculations in the EPO system were verified.

Evans Exhibit 7

Duke Energy Carolinas, LLC
Estimate - January 1, 2020 - December 31, 2020
Docket Number E-7, Sub 1192
Projected Program/Portfolio Cost Effectiveness - Vintage 2020

Program	UCT	TRC	RIM	PCT
Residential Programs				
· Energy Education Program for Schools	1.32	1.32	0.54	7.68
· Energy Efficient Appliances & Devices	3.27	3.54	0.70	7.50
· Residential – Smart $aver Energy Efficiency Program	1.31	0.95	0.60	1.84
· Income-Qualified EE Products & Services	0.21	0.35	0.17	2.80
· Multi-Family EE Products & Services	2.97	2.97	0.61	22.81
· My Home Energy Report	1.89	1.89	0.61	
· Power Manager	4.22	8.72	4.22	
· Residential Energy Assessments	1.36	1.34	0.49	30.23
Residential Total	**2.50**	**3.02**	**1.04**	**6.61**
Non-Residential Programs				
· Custom Assessment & Incentive	3.38	1.68	0.84	3.20
· EnergyWise for Business	0.72	1.25	0.61	
· Food Service Products	1.40	0.81	0.51	2.02
· HVAC	1.57	1.24	0.70	2.06
· Lighting	4.29	2.00	0.80	3.75
· Motors, Pumps & VFDs	3.68	2.63	0.86	5.38
· Non Res Information Technology	0.60	0.46	0.31	2.55
· Process Equipment	2.14	1.85	0.70	3.86
· Performance Incentive	3.29	1.06	0.83	1.79
· Small Business Energy Saver	2.70	1.67	0.80	2.93
· PowerShare	3.35	112.28	3.35	
Non-Residential Total	**3.28**	**2.13**	**0.94**	**3.34**
Overall Portfolio Total	**2.90**	**2.43**	**0.98**	**4.00**

Duke Energy Carolinas
Changes to DSM/EE Cost Recovery Vintage 2018 True Up January 1, 2018 - December 31, 2018
Changes from Prior Filing Due to Application of M&V and Participation
System kWh and kW Impacts Net Free Riders at the Plant

Residential Programs

Program Name	Filed in Docket No. E-7 Sub 1130		Filed in Docket No. E-7 Sub 1192		Overall Variance		E-7 Sub 1130	E-7 Sub 1192	Delta	Variance attributable to Participation		Variance attributable to Mix of Measures		Variance attributable to EM&V		Sum of Variances	
	kWh	kW	kWh	kW	kWh	kW	System Participation		Participation	kWh	kW	kWh	kW	kWh	kW	kWh	kW
Energy Efficiency Education Program for Schools	5,604,364	1,316	4,889,354	1,148	(715,010)	(168)	3,533,486	10,242,945	6,709,459	(715,010)	(168)	-	-	-	-	(715,010)	(168)
Energy Efficient Appliances and Devices	97,729,231	11,726	195,316,844	32,803	97,587,613	21,077	9,480	25,293	15,813	146,460,881	18,352	7,685,639	14	(56,558,907)	2,711	97,587,613	21,077
Residential – Smart $aver Energy Efficiency Program	5,359,616	1,577	6,727,882	1,644	1,368,266	67	10,426	10,681	255	3,844,491	1,175	(1,277,881)	(581)	(1,198,344)	(527)	1,368,266	67
Income Qualified Energy Efficiency and Weatherization Assistance	5,287,477	820	5,211,991	726	(75,487)	(95)	370,882	430,474	59,592	(557,065)	(80)	-	-	481,578	(15)	(75,487)	(95)
Multi-Family Energy Efficiency	22,582,141	2,197	21,309,576	2,167	(1,272,565)	(30)	59,080	55,978	(3,102)	(2,699,719)	(204)	1,427,154	174	-	-	(1,272,565)	(30)
Energy Assessments	7,435,992	1,145	7,716,668	929	280,676	(216)	1,354,138	1,432,263	78,125	984,660	172	-	-	(703,984)	(388)	280,676	(216)
My Home Energy Report	304,386,954	77,277	320,613,567	81,409	16,226,613	4,132	473,837	504,071	30,234	16,226,613	4,132	-	-	-	-	16,226,613	4,132
PowerManager	-	503,304	-	535,418	-	32,114	-	-	-	-	32,114	-	-	-	-	-	32,114
Residential Programs Total	448,385,775	599,362	561,785,881	656,243	113,400,106	56,881	5,811,330	12,701,705	6,890,375	163,544,851	55,493	7,834,912	(393)	(57,979,657)	1,782	113,400,106	56,881

Non-Residential Programs

Program Name	Filed in Docket No. E-7 Sub 1130		Filed in Docket No. E-7 Sub 1192		Overall Variance		E-7 Sub 1130	E-7 Sub 1192	Delta	Variance attributable to Participation		Variance attributable to Mix of Measures		Variance attributable to EM&V		Sum of Variances	
	kWh	kW	kWh	kW	kWh	kW	System Participation		Participation	kWh	kW	kWh	kW	kWh	kW	kWh	kW
Non Residential Smart Saver Custom Technical Assessments	20,322,216	2,320	83,588	13	(20,238,628)	(2,307)	62,136	23,345	(38,791)	-	-	(20,238,628)	(2,307)	-	-	(20,238,628)	(2,307)
Non Residential Smart Saver Custom	95,315,609	10,881	30,333,040	4,054	(64,982,570)	(6,827)	453	2,910	2,457	-	-	(64,982,570)	(6,827)	-	-	(64,982,570)	(6,827)
Non Residential Smart Saver Energy Efficient Food Service Products	817,239	120	1,151,114	106	333,875	(14)	5,124,564	2,189,324	(2,935,240)	723,121	46	421,245	48	(810,491)	(107)	333,875	(14)
Non Residential Smart Saver Energy Efficient HVAC Products	4,345,576	2,007	2,908,386	893	(1,437,191)	(1,113)	14,535,813	2,854,234	(11,681,579)	23,758	158	(973,126)	(1,102)	(487,822)	(169)	(1,437,191)	(1,113)
Non Residential Smart Saver Energy Efficient Lighting Products	92,350,939	12,435	178,360,156	31,537	86,009,217	19,102	2,750	2,480	(270)	53,261,333	4,160	(2,625,547)	291	35,373,431	14,651	86,009,217	19,102
Non Residential Energy Efficient Pumps and Drives Products	2,067,770	305	2,669,016	421	601,246	115	15,935	280	(15,655)	11,845	(1)	(253,717)	(17)	843,118	133	601,246	115
Non Residential Energy Efficient ITEE	3,823,152	0	17,639	-	(3,805,513)	(0)	1,657	3,339	1,682	(1,128,795)	-	(2,673,638)	(0)	(3,080)	-	(3,805,513)	(0)
Non Residential Energy Efficient Process Equipment Products	316,290	31	331,222	75	14,932	44	6,174,765	118	(6,174,647)	218,900	22	(222,046)	(20)	18,078	42	14,932	44
Non Residential Smart Saver Performance Incentive	5,706,017	651	3,271,186	168	(2,434,832)	(484)	47,462,400	4,194,003	(43,268,397)	-	-	(2,434,832)	(484)	-	-	(2,434,832)	(484)
Smart Energy in Offices	41,339,434	8,604	1,488,592	310	(39,850,843)	(8,294)	75,800,000	73,493,029	(2,306,971)	(10,380,698)	(2,161)	(27,305,788)	(5,683)	(2,164,357)	(450)	(39,850,843)	(8,294)
Small Business Energy Saver	93,135,919	17,124	76,696,523	13,374	(16,439,395)	(3,750)	14,013	-	(14,013)	(2,718,672)	(2,304)	-	-	(13,720,723)	(1,447)	(16,439,395)	(3,750)
Business Energy Report	5,051,658	353	-	-	(5,051,658)	(353)	6,863	11,462	4,598	(5,051,658)	(353)	-	-	-	-	(5,051,658)	(353)
EnergyWise for Business	3,530,072	17,034	2,498,948	8,117	(1,031,124)	(8,917)	365,308	313,157	(52,151)	3,560,876	4,835	-	-	(4,592,000)	(13,752)	(1,031,124)	(8,917)
PowerShare	-	388,025	-	332,631	-	(55,394)	-	-	-	-	(55,394)	-	-	-	-	-	(55,394)
Non-Residential Programs Total	368,121,892	459,890	299,809,409	391,698	(68,312,483)	(68,192)	149,566,656	83,087,680	(66,478,976)	38,520,009	(50,992)	(121,288,645)	(16,100)	14,456,153	(1,100)	(68,312,483)	(68,192)
Total Residential and Non-Residential Programs	816,507,667	1,059,251	861,595,290	1,047,941	45,087,623	(11,310)	155,377,986	95,789,386	(59,588,600)	202,064,860	4,501	(113,453,734)	(16,493)	(43,523,504)	682	45,087,623	(11,310)

NOTE - The actual per unit impacts are reflective of the following EM&V reports:

Program Name As Filed	Docket	Report Reference	Effective Date
Non Residential Smart Saver Energy Efficient Food Service Products	E-7, Sub 1192	Exhibit B - Nonresidential Smart $aver® Energy Efficient Products and Assessment – Prescriptive: 2015-2017	3/1/2017
Non Residential Smart Saver Energy Efficient HVAC Products	E-7, Sub 1192	Exhibit B - Nonresidential Smart $aver® Energy Efficient Products and Assessment – Prescriptive: 2015-2017	3/1/2017
Non Residential Smart Saver Energy Efficient Lighting Products	E-7, Sub 1192	Exhibit B - Nonresidential Smart $aver® Energy Efficient Products and Assessment – Prescriptive: 2015-2017	3/1/2017
Non Residential Energy Efficient Pumps and Drives Products	E-7, Sub 1192	Exhibit B - Nonresidential Smart $aver® Energy Efficient Products and Assessment – Prescriptive: 2015-2017	3/1/2017
Non Residential Energy Efficient ITEE	E-7, Sub 1192	Exhibit B - Nonresidential Smart $aver® Energy Efficient Products and Assessment – Prescriptive: 2015-2017	3/1/2017
Non Residential Energy Efficient Process Equipment Products	E-7, Sub 1192	Exhibit B - Nonresidential Smart $aver® Energy Efficient Products and Assessment – Prescriptive: 2015-2017	3/1/2017
Energy Efficient Appliances and Devices	E-7, Sub 1192	Exhibit C - Residential Energy Efficient Appliances and Devices – Retail Lighting: 2016-2017	4/1/2017
Residential – Smart $aver Energy Efficiency Program	E-7, Sub 1192	Exhibit E - Residential Smart $aver® Energy Efficiency - HVAC: 2016-2017	10/1/2017
Income Qualified EE and Weatherization Program	E-7, Sub 1192	Exhibit F - Income-Qualified Energy Efficiency and Weatherization Assistance: 2015-2016	1/1/2015
Small Business Energy Saver	E-7, Sub 1192	Exhibit G - Small Business Energy Saver: 2016-2017:	7/1/2017
Energy Efficient Appliances and Devices	E-7, Sub 1192	Exhibit I - Residential Energy Efficient Appliances and Devices – Online Savings Store: 2015-2017	2/1/2018
Energy Assessments	E-7, Sub 1192	Exhibit J - Duke Energy Carolinas Residential Energy Assessments Program: 2016-2017	5/1/2017
EnergyWise for Business	E-7, Sub 1192	Exhibit K - EnergyWise for Business: 2017	1/1/2018

	Number of Accounts
DSM RIDER OPT OUT YR 2018	5,075
EE RIDER OPT OUT YR 2018	4,515

Customer Bill Name	DSM YR 18 (JAN 1-DEC 31) RIDER OPT OUT	EE YR 18 (JAN 1-DEC 31) RIDER OPT OUT	GRAND TOTAL
101 SOUTH TRYON LP	2	2	4
200 NORTH COLLEGE CHARLOTTE LLC	1		1
301 COLLEGE STREET CENTER LLC	1	1	2
638 BREWING CO, INC	2	2	4
A & T STATE UNIV	13	10	23
A W NORTH CAROLINA INC	6	6	12
ABB MOTORS AND MECHANICAL INC	5	5	10
ABCO AUTOMATION INC	1	1	2
ABERCROMBIE TEXTILES LLC		1	1
ABSS FACILITIES DEPT	7	7	14
ADVANCE STORES CO	1	1	2
ADVANCED DRAINAGE SYSTEMS	2	2	4
ADVANCED MACHINE & FABRICATION, INC.	2	2	4
ADVANCED TECHNOLOGY	2	2	4
AE & T COMPANY INC	1	1	2
AERO ACCESSORIES INC	3	3	6
AERODYN WIND TUNNEL LLC	1	1	2
AFFILIATED COMPUTER SERVICE	2	2	4
AFRO AMERICAN CULTUR	1	1	2
AIR PRODUCTS & CHEMICALS, INC	1	1	2
ALADDIN MANUFACTURING CORPORATION		2	2
ALAMANCE FOODS INC		5	5
ALAMANCE REGIONAL MEDICAL CENTER	2	2	4
ALBEMARLE U. S., INC	1	1	2
ALBEMARLE U. S., INC	1	1	2
ALCAN PACKAGING FOOD AND TOBACCO,INC	2	2	4
ALDERSGATE	11	11	22
ALDI (NC) LLC	1	1	2
ALEVO MANUFACTURING, INC	1	1	2
ALEVO MANUFACTURING, INC.	9	9	18
ALEXANDER COUNTY SCHOOLS	2	1	3
ALEXANDRIA REAL ESTATE EQUITIES INC	5	4	9
ALL GRANITE INC	3	3	6
ALLIED DIE CASTING CO OF NC	2	2	4
ALLTEL MOBILE	1	1	2
ALLVAC, A DIVISION OF TDY INDUSTRIES, INC	1	1	2
ALTEC INDUSTRIES INC	1	1	2
AMERICAN & EFIRD LLC	8	9	17

AMERICAN AIRLINES	7	3	10
AMERICAN CAMPUS LLC	1	1	2
AMERICAN CAMPUS OPERATING CO LLC	3	3	6
AMERICAN CONVERTING, CO. LTD	2	2	4
AMERICAN EXPRESS TRAVEL RELATED SERVIC	1	1	2
AMERICAN FIBER & FINISHING	1	1	2
AMERICAN HEBREW ACADEMY	11	11	22
AMERICAN ROLLER BEARING	1	1	2
AMERICAN ROLLER BEARING CO OF NC	1	1	2
AMERICAN TOBACCO HH LLC	6	6	12
AMERICAN TOBACCO POWER HOUSE LLC	2	2	4
AMERICAN YARNS LLC	3	3	6
AMERICAN ZINC PRODUCTS LLC	1	1	2
AMSTAR SUGAR CORP	1	1	2
ANDALE INC	2	2	4
APPLE INC	1	1	2
AQUA PLASTICS INC	2	2	4
ARCHER-DANIELS-MIDLAND CO	3	3	6
ARDAGH METAL BEVERAGE USA, INC	2	2	4
ARE-NC REGION NO 11, LLC	2	2	4
ARJOBEX AMERICA	2	2	4
ARMACELL LLC	8	6	14
ARROW INTERNATIONAL INC	2	2	4
ASHLEY FURNITURE INDUSTRIES INC	5	5	10
AT&T BELLSOUTH	3	3	6
AT&T MOBILITY LLC	4	4	8
AT&T WIRELESS SERVICE	1	1	2
ATLANTIC SWEETNER CO	2	2	4
ATRIUM WINDOWS & DOORS	7	7	14
AUTOMATED SOLUTIONS LLC	2	2	4
AVAGO TECHNOLOGIES WIRELESS(USA) MAN	1	1	2
B & E WOODTURNING INC	1	1	2
B V HEDRICK GRAVEL & SAND COMPANY	10	10	20
B&G FOODS SNACKS, INC		1	1
B/E AEROSPACE, INC	13	17	30
BAKER INTERIORS FURNITURE COMPANY	9	9	18
BAKERY FEEDS INC	2	2	4
BANK NOTE CORP	3	3	6
BANK OF AMERICA	5	3	8
BARNHARDT MANUFACTURING COMPANY IN	4		4
BARRDAY CORP	3	3	6
BARTIMAEUS BY DESIGN INC	3	3	6
BASF CORPORATION	4	4	8
BAY STATE MILLING	4	4	8
BB&T	9	5	14

BEAL MANUFACTURING CORP	1	1	2
BECO MANAGEMENT	2	2	4
BED,BATH & BEYOND	2	2	4
BELK	6		6
BELL SOUTH MOBILITY	1	1	2
BELLSOUTH	10	10	20
BELLSOUTH BSC	14	14	28
BELLSOUTH COMMUNICATIONS, LLC	1	1	2
BEMIS MANUFACTURING CO	2	2	4
BENJAMIN THOMAS COOPER		1	1
BEOCARE INC	2	3	5
BERNHARDT FURNITURE COMPANY	8	8	16
BERRY TRI PLASTICS		1	1
BESTCO	4	4	8
BESTREADS INC	2	2	4
BEVERLY KNITS INC	5	5	10
BIC CORPORATION	5	5	10
BILLY GRAHAM EVANGELISTIC	6	6	12
BI-LO, LLC	58	58	116
BIOMERIEUX, INC	4	4	8
BISHOP MCGUINNESS	3	2	5
BISSELL CO	1		1
BISSELL COMPANIES	23	3	26
BJ'S WHOLESALE CLUB	3	3	6
BLACKSTONE CHARLOTTE, LLC	1	1	2
BLUE RIDGE COMMUNITY COLLEGE	16	14	30
BLUE RIDGE HEALTH CARE	1	1	2
BLUM, INC	1		1
BONSET AMERICA CORP	1	1	2
BORAL COMPOSITES INC.	4	2	6
BOSTON GEAR LLC	1	1	2
BOWMAN DAIRY	1	1	2
BOXBOARD PROD INC	2	2	4
BRASS CRAFT MFG CO		1	1
BRAXTON SAWMILL INC	3	3	6
BREVARD COLLEGE	19	19	38
BRF-A1,LLC	1	1	2
BRIDGESTONE AIRCRAFT TIRE USA INC	3	3	6
BRIGHT ENTERPRISES INC	2	2	4
BRIT CHARLOTTE LLC	1	1	2
BRIT-CHARLOTTE HOLDING LLC	3	3	6
BROAD RIVER WATER AUTHORITY	1		1
BSN MEDICAL INC	1		1
BUD ANTLE, INC	1	1	2
BURKE COUNTY SCHOOLS	27	22	49

BURLINGTON COAT FACTORY	3	2	5
BURLINGTON TECHNOLOGIES INC	3	3	6
CABARRUS COUNTY SCHOOLS	63	63	126
CALICO TECHNOLOGIES INC	3	3	6
CAMBRIDGE CC HOLDING COMPANY	1	1	2
CAMBRO MANUFACTURING CO	2	2	4
CAMCO MANUFACTURING, INC	5	5	10
CAMFIL USA INC	2	2	4
CANDLE CORPORATION OF AMERICA	2	2	4
CAP YARNS LLC		2	2
CAPITAL BROADCASTING COMPANY	9	9	18
CAPITOL TOWERS LLC	5	5	10
CARAUSTAR INC	4	2	6
CARAUSTAR INDUSTRIES	3	2	5
CARDINAL FLOAT GLASS	1	1	2
CARDINAL HEALTH	1	1	2
CARDINAL HEALTH 200, LLC	1	1	2
CARDINAL HEALTH INC	2	2	4
CAREFUSION MANUFACTURING, LLC	1	1	2
CARGILL, INCORPORATED	3	3	6
CARLISLE FOOD SERVIC	3	3	6
CARMEL COUNTRY CLUB	27	27	54
CARMEL CTRY CLUB	1	1	2
CARMIKE CINEMAS, INC	4	4	8
CAROLINA BEVERAGE GROUP, LLC	4	4	8
CAROLINA CONTAINER	5	5	10
CAROLINA GLOVE COMPANY	6	6	12
CAROLINA GRAPHIC SERVICES LLC	1	1	2
CAROLINA INVESMENT PROPERTIES	1	1	2
CAROLINA LASER CUTTING INC	1	1	2
CAROLINA PERLITE CO	1	1	2
CAROLINA PRECISION COMPONENTS, INC.	1	1	2
CAROLINA PRECISION PLASTICS LLC	6	6	12
CAROLINA STALITE CO	11	11	22
CAROLINA SUNROCK CORP	10	10	20
CAROLINA TRACTOR & EQUIPMENT COMPAN	4	4	8
CAROLINA VILLAGE	4	4	8
CAROLINA YARN	2	2	4
CAROLINAS HEALTHCARE SYSTEM	20	9	29
CARPENTER COMPANY	4	4	8
CASCADE DIE CASTING GRP INC		2	2
CASE FARMS	3	3	6
CASTLE & COOKE NORTH CAROLINA LLC	4	4	8
CATAWBA COLLEGE	1		1
CATAWBA COUNTY SCHOOLS	23	20	43

CATAWBA VALLEY MEDICAL CENTER	1	1	2
CB RICHARD ELLI	12	12	24
CBL ASSOCIATES MANAGEMENT, INC	1	1	2
CCC DEVELOPMENT PARTNERS, LLC	1	1	2
CEDAR FAIR SOUTHWEST, INC	3	3	6
CELGARD, LLC	4	1	5
CENTRAL CAROLINA PLASTICS INC	2	2	4
CENTRAL CAROLINA PRODUCTS	1	1	2
CENTRAL REGIONAL HOSPITAL		5	5
CENTRILOGIC, INC	1	1	2
CENTURY FURNITURE, LLC	7	13	20
CERTAINTEED CORP	1	3	4
CHAPEL HILL/ CARRBORO SCHO	59		59
CHARLOTTE COUNTRY DAY SCHOOL	10		10
CHARLOTTE DOUGLAS INTERNATIONAL AIRP	1		1
CHARLOTTE GATEWAY VILLAGE	2	2	4
CHARLOTTE LATIN SCHOOLS, INC	13	13	26
CHARLOTTE OBSERVER PUBLISHING COMPAN	1	1	2
CHARLOTTE PIPE & FOUNDRY	13	13	26
CHARTER COMMUNICATION	1	1	2
CHEROKEE BOYS CLUB	3	3	6
CHEROKEE INDIAN HOSPITAL	1	1	2
CHESAPEAKE TREATMENT COMPANY, LLC	1	1	2
CINEBARRE, LLC	2	2	4
CISCO SYSTEMS INC	1	1	2
CITY OF ASHEVILLE	1	2	3
CITY OF BELMONT	1	1	2
CITY OF BURLINGTON	5	3	8
CITY OF CHARLOTTE	88	101	189
CITY OF CHARLOTTE REGIONAL VISITORS AUT	4	4	8
CITY OF DURHAM	4	4	8
CITY OF EDEN		2	2
CITY OF GASTONIA	3	3	6
CITY OF GRAHAM	2	2	4
CITY OF GREENSBORO	27	29	56
CITY OF HENDERSONVILLE	4	4	8
CITY OF HICKORY	4	4	8
CITY OF KANNAPOLIS		1	1
CITY OF MARION	2	2	4
CITY OF MEBANE	1	1	2
CITY OF REIDSVILLE	2	2	4
CITY OF SALISBURY	10	10	20
CITY OF WINSTON SALEM	26	31	57
CK THREE TOWER CENTER,LLC	1	1	2
CKA LAKEPOINTE ONE OWNER LLC	1	1	2

CKA LAKEPOINTE TWO OWNER LLC	1	1	2
CKS PACKAGING INC	4	4	8
CLAPPS NURSING HOME CENTER	1	1	2
CLARIANT CORPORATION	11	10	21
CLEARWATER PAPER CORPORATION	4	4	8
CLEMENT PAPPAS NC, INC	4	3	7
CLEVELAND COUNTY SCHOOLS	64	56	120
CMBE	181		181
CMC-NORTHEAST INC	8	4	12
CMHA	8	5	13
COATS AMERICAN	2	2	4
COCA COLA BOTTLING CO CON	5	5	10
COLONIAL PIPELINE		5	5
COLUMBIA PLYWOOD CORPORATION	7	7	14
COMMONWEALTH BRANDS	2	2	4
COMMONWEALTH HOSIERY	3	3	6
COMMSCOPE, INC.	10	10	20
CONCRETE SUPPLY	3	3	6
CONCRETE SUPPLY CO	7	7	14
CONCRETE SUPPLY COMPANY LLC	1	1	2
CONOVER LUMBER CO	2	2	4
CONRAD HILL FEED &	1	1	2
CONSOLIDATED CONTAINER COMPANY	7	7	14
CONSOLIDATED METCO INC		1	1
CONTINENTAL AUTOMOTIVE SYSTEMS, INC	2	2	4
CONTINENTAL STRUCTURAL PLASTICS	4	3	7
CONVATEC INC	2	2	4
COPLAND FABRICS INC		1	1
CORE SCIENTIFIC INC		1	1
CORMETECH INC	1	1	2
CORNERSTONE CHARTER ACADEMY INC	2	2	4
CORNING CABLE SYSTEMS	5	5	10
CORNING INC	6	6	12
COSTCO WHOLESALE INC	5	5	10
COUSINS PROP INC	1	1	2
COUSINS PROPERTIES LP	4	4	8
COVERIS ADVANCED COATINGS US LLC	5	5	10
COVERIS FLEXIBLES (THOMASVILLE) US LLC	6	6	12
CPCC	47	38	85
CPP INTERNATIONAL LLC	1	1	2
CREE INC	12	12	24
CRONLAND LUMBER CO	6	6	12
CROWN CONVERTING	4	4	8
CS CAROLINA INC	1	1	2
CSHV 615 COLLEGE LLC	2	2	4

CSHV SOUTHPARK 6100 FAIRVIEW, LLC	1	1	2
CSHV SOUTHPARK, LLC	1	1	2
CULP HOME FASHIONS	1	1	2
CULP INC	2	2	4
CURTISS-WRIGHT CONTROLS INC	4	3	7
CV PRODUCTS CONSOLIDATED LLC	2	2	4
CYRUSONE-NC LLC	3	3	6
DAIMLER TRUCKS NORTH AMERICA, LLC	5	5	10
DAIRY FRESH	3	3	6
DALCO NONWOVENS, LLC	2	2	4
DANNY TERRELL	2	2	4
DATACHAMBERS, LLC	2	2	4
DAVIDSON COLLEGE	15	15	30
DAVIDSON COUNTY COMMUNITY COLLEGE	3	3	6
DAVIDSON WATER INC		1	1
DAVIS AMBULATORY SURGICAL CENTER	2	2	4
DE FEET INTERNATIONA	3	3	6
DEBOTECH INC	1	1	2
DEERE HITACHI CONST MACH	15	15	30
DELTA PHOENIX, INC.	1	1	2
DIAMOND VIEW I LLC	2	2	4
DIAMOND VIEW II	2	2	4
DILLARDS DEPARTMENT STORE	7	7	14
DISCOVERY PLACE INC	2	2	4
DISNEY WORLDWIDE SERVICES INC	1	1	2
DIZE AWNING TENT CO	1	1	2
DIZE COMPANY	3	3	6
DOOSAN INFRACORE PORTABLE POWER - A D	2	2	4
DOUGHTON MFG CO	3	3	6
DOVER FOUNDATION YMCA	2	1	3
DOW CORNING CORP		11	11
DUKE UNIVERSITY	12	12	24
DURHAM ACADEMY	10	10	20
DURHAM BULLS	2	2	4
DURHAM COCA COLA	4	4	8
DURHAM COUNTY HOSPITAL CORPORATION	1	1	2
DURHAM PUBLIC SCHLS	107		107
DURHAM TECH COMM COL	2		2
DYNAYARN USA, L.L.C.	1	1	2
E I DUPONT CO	1	1	2
E J VICTOR INC	1	1	2
EARTH FARE INC	3	3	6
EAST COAST LUMBER CO	1	1	2
EAST DECK INC	1	1	2
EASTERN BAND OF CHEROKEE INDIANS	3	3	6

ECMD INC	4	4	8
ECOFLO INC	3	3	6
EDS PALLETT WORLD INC	4	4	8
ELASTIC FABRICS OF AMERICA	2	1	3
ELECTRIC GLASS FIBER AMERICA,LLC	3	4	7
ELITE COMFORT SOLUTIONS LLC	1	1	2
ELLIS LUMBER CO	3	3	6
ELON UNIVERSITY	68	68	136
EMC CORPORATION	2	2	4
EMERGEORTHO, P.A	1	1	2
ENDURA PRODUCTS INC	5	5	10
ENGINEERED CONTROLS INTERNATIONAL INC	4	4	8
ENGINEERED RECYCLING COMPANY, LLC	4	4	8
ESSENTRA PACKAGING US, INC	1	4	5
ETHAN ALLEN OPERATIONS INC	2	2	4
EVANS,JAMES R	1	1	2
FAIRYSTONE FABRICS	4	4	8
FAMILY DOLLAR STORES OF NORTH CAROLIN	4	4	8
FERGUSON SUPPLY & BOX	1	1	2
FFNC INC	5	5	10
FIBER & YARN PRODUCTS, INC	1	2	3
FIBER COMPOSITES CORPORATION	2	4	6
FIBRIX, LLC	2	2	4
FIDELITY REAL ESTATE COMPANY, LLC	6	6	12
FIDELITY REAL ESTATE LLC	1	1	2
FILTRONA GREENSBORO, INC	3	3	6
FIRESTONE FIBERS & TEXTILES COMPANY, LLC	2	2	4
FISERV SOLUTIONS INC	1	1	2
FLEXTRONICS AMERICA, LLC	3	3	6
FLINT TRADING CO	2	2	4
FLOWERS BAKERY OF WINSTON SALEM LLC	4	4	8
FLOWERS BAKING COMPANY	2	2	4
FMC-LITHIUM CORP	5	5	10
FOCKE & CO, INC	1		1
FOOD LION	224	218	442
FORESTVIEW HIGH SCHOOL PTA	1		1
FORSYTH TECHNICAL COLLEGE	10	7	17
FOSS AUTO RECYCLING INC	5	5	10
FREUDENBERG IT LP	2	4	6
FREUDENBERG PERFORMANCE MATERIALS LI	3	3	6
FRITO-LAY, INC	1	1	2
FRONTIER SPINNING MILLS, INC		2	2
FRYE REGIONAL MEDICAL CENTER	6	5	11
FUJITSU AMERICA INC	1	1	2
FULLSTEAM BREWERY, LLC	1		1

FURNITURELAND SOUTH	8	8	16
GALENOR DESIGNS, LLC	1	1	2
GARDNER WEBB UNIV	1	1	2
GASTON CO SCHOOLS	37	35	72
GASTON COLLEGE	7	6	13
GATEWAY UNIVERSITY RESEARCH PARK	4	4	8
GBORO NEWS & RECORD	2	2	4
GE LIGHTING SOLUTIONS LLC	6	6	12
GENERAL ELECTRIC	2	2	4
GENPAK LLC	3	3	6
GENUINE PARTS COMPANY	2		2
GEORGIA-PACIFIC MT HOLLY LLC	1	1	2
GERDAU AMERISTEEL US INC	2	2	4
GETRAG GEARS OF NA	2	2	4
GF LINAMAR LLC	1	1	2
GIBSON ACCUMULATOR, LLC	3	3	6
GIGA DATA CENTER - 1 LLC	2	2	4
GILBARCO INC	1	1	2
GILDAN ACTIVEWEAR (EDEN) INC	3		3
GILDAN YARNS, LLC		1	1
GKN DRIVELINE NORTH AMERICA, INC	1	1	2
GLEN HIGH SCHOOL	1	1	2
GLEN RAVEN INC	2	2	4
GLOBAL TEXTILE ALLIANCE INC	5	5	10
GOLDING FARMS FOODS	2	2	4
GRANDEUR MFG	1	1	2
GRANGES AMERICAS INC	1	1	2
GRASS AMERICA INC	4	3	7
GRAY MANUFACTURING TECHNOLOGIES LLC	2	2	4
GREENE STREET HOLDINGS	2	2	4
GREENSBORO COLLEGE	13	13	26
GRIFFIN INDUSTRIES	2	2	4
GRIFOLS THERAPEUTICS INC	1	1	2
GUILFORD COLLEGE	42	30	72
GUILFORD COUNTY	8	8	16
GUILFORD COUNTY SCHOOLS	238	236	474
GUILFORD CTY SCH	1		1
GUILFORD TECH COMM COLL	19	19	38
H B D INC	1	1	2
HALYARD NORTH CAROLINA, INC		1	1
HAN FENG INC		1	1
HANCOCK & MOORE, INC		7	7
HANES COMPANIES INC	2	2	4
HANES DYE & FINISHING	1	1	2
HANSON BRICK EAST LLC	3	3	6

HANWHA L&C ALABAMA LLC	1	1	2
HARRIS TEETER INC	64	15	79
HASHMASTER TECH, LLC	2	2	4
HENDERSON COUNTY GOVERNMENT	3	4	7
HENDERSON COUNTY SCHOOLS	14	15	29
HENDERSONVILLE HEALTH & REHAB	1	1	2
HENKEL CORPORATION	6	6	12
HERBALIFE INTERNATIONAL OF AMERICA INC	1	1	2
HERITAGE HOME GROUP LLC	5	12	17
HERRON TEST LAB INC	1	1	2
HICKORY CITY SCHOOLS	13	13	26
HICKORY PRINTING SOLUTIONS, LLC	2	2	4
HICKORY SPRINGS MANUFACTURING COMPA	24	25	49
HIGH ASSOCIATES, LTD	2	2	4
HIGH COUNTRY LUMBER AND MULCH LLC		2	2
HIGHLAND INDUSTRIES INC	4	4	8
HIGHWOODS PROPERTIES	51	8	59
HIGHWOODS REALTY LIMITED PARTNERSHIP	1		1
HIGHWOODS REALTY LTP	1		1
HINES GLOBAL REIT HOCK PLAZA I LLC	1	1	2
HITACHI METALS NC LTD	1	1	2
HOME DEPOT	18	18	36
HONDA POWER EQUIPMENT	1	2	3
HOUSE OF RAEFORD FARMS INC	2	2	4
HTA-MOREHEAD MOB, LLC	1	1	2
HUGH CHATHAM MEM HOSPITAL	39	39	78
HUITT MILLS,INC	2	2	4
HUNTSMAN INTERNATIONAL LLC	2	2	4
IAC OLD FORT II LLC	1		1
IAC OLD FORT, LLC	2	2	4
IBM CORPORATION	1	1	2
IGM RESINS USA INC		1	1
IMAGES OF AMERICA	2	2	4
IMC-METALSAMERICA, LLC	1	1	2
INCHEM CORPORATION	2	2	4
INDEPENDENT BEVERAGE CORPORATION	4	4	8
INDUSTRIAL WOOD PROD	3	3	6
INDUSTRIAL WOOD PRODUCTS	3	3	6
INFO-GEL, LLC	3	3	6
ING CLARION REALTY SERVICES LLC	1		1
INGLES MARKETS, INC.	57	57	114
INGREDION INCORPORATED	1	1	2
INSTEEL INDUSTRIES, INC	2	2	4
INSTITUTION FOOD HOUSE, INC	7	7	14
INTELLIGENT IMPLANT SYSTEMS	1	1	2

INTERNATIONAL PAPER COMPANY	6	5	11
INTERNATIONAL TEXTILE GROUP INC	1	2	3
IPEX USA, INC	2	1	3
IQE INC	2	2	4
ISOTHERMAL COMMUNITY COLLEGE	5	5	10
ITG BRANDS LLC	2	2	4
ITL LLC	2	2	4
J C PENNEY CO	5	5	10
J E HERNDON CO	1	1	2
JACKSON BOE	7	7	14
JACKSON CREEK MFG INC	2	2	4
JACKSON PAPER MFG CO	1	1	2
JAMES M PLEASANTS CO	1		1
JAMESTOWN YMCA	1	1	2
JDL CASTLE CORP	1	1	2
JOHN JENKINS CO	1	1	2
JOHN UMSTEAD HOSPITAL		5	5
JOHNSON & WALES UNIVERSITY	3	3	6
JOHNSON CONTROLS BATTERY GROUP, INC	1	1	2
JOHNSON CONTROLS INC	2		2
JOWAT CORPORATION	6	6	12
KAYSER ROTH CORPORATION	2	2	4
KBSIII CARILLON LLC	1	1	2
KEATING GRAVURE USA, LLC	1	1	2
KEN SMITH YARN CO	1	1	2
KENDRION-SHELBY	2	2	4
KERRS HICKORY READY MIXED CONCRETE CO	2	2	4
KEYSTONE FOODS LLC	2	2	4
KIMBERLY CLARK	5	5	10
KINCAID FURNITURE	12	12	24
KINDER MORGAN SOUTHEAST TERMINAL	3	3	6
KINDER MORGAN TRANSMIX GROUP	1	1	2
KOHLER COMPANY	1	1	2
KOHLS DEPARTMENT STORES		1	1
KOOPMAN DAIRIES INC	2	2	4
KOURY CORPORATION	53	53	106
KOURY VENTURES	5	5	10
KROGER CO	5	5	10
KROGER LIMITED PARTNERSHIP I	1	1	2
KSM CASTINGS USA INC	2	2	4
KURZ TRANSFER PRODUCTS LP	4	4	8
KYOCERA INDUSTRIAL	1	1	2
L B PLASTICS INC	6	6	12
L S STARRETT CO	2	4	6
LAB CORP	8	7	15

LABELTECH INCORPORATED	2	2	4
LABORATORY CORPORATION OF AMERICA HC	1	1	2
LAKE HICKORY COUNTRY CLUB	6	6	12
LANXESS CORP		3	3
LANXESS SOLUTIONS US INC	1	1	2
LEE INDUSTRIES	3	3	6
LEESONA CORP	1	1	2
LEMCO MILLS INC	2	2	4
LENNY BOY LLC	1	1	2
LENOVO (UNITED STATES) INC	1	1	2
LEXINGTON FURNITURE IND	2	3	5
LIBERTY COMMONS NURSING AND REHABILI	1	1	2
LIBERTY HARDWARE	3	3	6
LIBERTY HEALTHCARE PROPERTIES OF BALLAI	2	2	4
LIBERTY HEALTHCARE PROPERTIES OF MECKL	1	1	2
LIDL US OPERATIONS LLC	1	1	2
LIGGETT GROUP INC	1	1	2
LINCOLN COMM HEALTH	1	1	2
LINDE LLC	1	1	2
LINDYS HOMEMADE, LLC	1	1	2
LOUISIANA-PACIFIC CORPORATION	1	1	2
LOWES FOODS	43	42	85
LOWE'S HOME CENTERS, INC	90	89	179
LOWES OF FRANKLIN #717	2	2	4
LOWE'S OF FRANKLIN #717	1	1	2
LSC COMMUNICATIONS US, LLC	4	5	9
LYDALL THERMAL ACOUSTICAL INC	4	1	5
MACK CONSOLIDATED CENTER LLC	3	3	6
MAGNOLIA CASTLE LLC	1	1	2
MANN+HUMMEL FILTRATION TECHNOLOGY	2	1	3
MANNINGTON WOOD FLOORS	1		1
MANUAL WOODWORKERS & WEAVERS INC	2	2	4
MARKET AMERICA	3	3	6
MARTIN MARIETTA MATERIALS INC	68	71	139
MARVEL-SCHEBLER AIRCRAFT CARBORATORS	2	2	4
MARVES INDUSTRIES, LLC	1	1	2
MASONIC & EASTERN STAR HOME	3	3	6
MAUSER CORP		4	4
MAY DEPT STORE	5	5	10
MCCREARY MODERN INC	8	6	14
MCDOWELL HOSPITAL INC	1		1
MCLEOD LEATHR & BELT	1	1	2
MCMICHAEL MILLS INC	4	4	8
MDI MANAGEMENT	1		1
MEAT AND SEAFOOD SOLUTIONS LLC		7	7

MECK AREA CATH SCHLS		3	3
MECK CNTY JAIL CENTRAL	1	1	2
MECKLENBURG COUNTY	20	5	25
MEDI MFG INC	1	1	2
MEDIA GENERAL OPERATIONS INC	1	1	2
MERCHANTS DISTRIBUTORS , LLC	1	1	2
MERCK SHARP & DOHME CORP	4	4	8
MERCY HOSPITAL, INC	1	1	2
MEREDITH WEBB PRINT	3	3	6
MERIDIAN HOSPITALITY HOLDINGS LLC	1	1	2
MERIDIAN LABORATORY INC	2	2	4
MERITOR HEAVY VEHICLE SYSTEMS	1	1	2
MERITOR HEAVY VEHICLE SYSTEMS LLC	1	1	2
METROLINA GREENHOUSES INC	20	19	39
METROMONT CORPORATION	2	2	4
MICHELIN AIRCRAFT TIRE CO	1	1	2
MICHELIN NORTH AMERICA	10	10	20
MILES TALBOTT	2	2	4
MILLERCOORS LLC	1	1	2
MILLIKEN & COMPANY	2	2	4
MINNESOTA MINING & MFG CO	2	2	4
MINT MUSEUM OF CRAFT & DESIGN	1	1	2
MITCHELL GOLD CO	4	2	6
MODERN DENSIFYING		2	2
MOM BRANDS COMPANY, LLC	1	1	2
MOORE WALLACE NORTH AMERICA INC	1	1	2
MOORESVILLE CITY SCHOOLS	8	8	16
MOORESVILLE ICE CREAM COMPANY LLC	1	1	2
MORINAGA AMERICA FOODS INC		1	1
MORRISETTE PAPER COMPANY INC	2	2	4
MORTON CUSTOM PLASTICS, LLC	2	2	4
MOSES CONE HEALTH SYS	16	16	32
MOUNT VERNON MILLS INC	1	1	2
MULTI SHIFTER INC	1	1	2
NATIONAL GENERAL MANAGMENT CORP.	7	8	15
NATIONAL GYPSUM CO	1	1	2
NATIONAL PIPE & PLASTICS	2	2	4
NC A&T UNIV FOUNDATION	1	1	2
NC BAPTIST HOSPITAL	9	8	17
NC BLUMENTHAL PAC	2	2	4
NC CENTER FOR PUBLIC TV	8	8	16
NC DEPT OF HEALTH & HUMAN SERVICES	24	24	48
NC DEPT OF PUBLIC SAFETY	23	23	46
NC OWNER LLC	1		1
NC STATE UNIVERSITY	1	1	2

NCFLA II OWNER LLC	3		3
NETAPP, INC	2	2	4
NEW EXCELSIOR, INC		1	1
NEW GENERATION YARNS		2	2
NEW SOUTH LUMBER COMPANY INC	3	3	6
NGK CERAMICS USA	2	2	4
NIAGARA BOTTLING LLC	1	1	2
NORAFIN AMERICAS INC	2	2	4
NORDFAB	5	5	10
NORDIC WAREHOUSE INC	1	1	2
NORDSTROM INC	2	1	3
NORFOLK SOUTHERN	2	2	4
NORTH STATE FLEXIBLES, LLC	3	3	6
NORTHERN HOSP OF SURRY CO	2	2	4
NORTHROP GRUMMAN GUIDANCE & ELECTR	2	2	4
NOVANT HEALTH INC	27	24	51
NOVOZYMES NORTH AMERICAN INC	1	1	2
NR CHARLOTTE LLC	1	1	2
NW BALLANTYNE ONE LP	1	1	2
NW BALLANTYNE THREE LP	1	1	2
NW BALLANTYNE TWO LP	1	1	2
NW BETSILL BUILDING LP	1	1	2
NW BOYLE BUILDINGS LP	2	2	4
NW BRIGHAM BUILDING LP	1	1	2
NW BRIXHAM GREEN ONE LP	1	1	2
NW BRIXHAM GREEN THREE LP	1	1	2
NW BRIXHAM GREEN TWO LP	1	1	2
NW CALHOUN BUILDING LP	1	1	2
NW CHANDLER BUILDING LP	1	1	2
NW CRAWFORD BUILDING LP	1	1	2
NW CULLMAN PARK LP	1	1	2
NW EVERETT BUILDING LP	1	1	2
NW FRENETTE BUILDING LP	1	1	2
NW GIBSON BUILDING LP	1	1	2
NW GRAGG BUILDING LP	1	1	2
NW HALL BUILDING LP	1	1	2
NW HAYES BUILDING LP	1	1	2
NW HIXON BUILDING LP	1	1	2
NW IRBY BUILDING LP	1	1	2
NW JJH BUILDING LP	2	2	4
NW MEDICAL TWO LP	1	1	2
NW RICHARDSON BUILDING LP	1	1	2
NW SIMMONS BUILDING LP	1	1	2
NW WINSLOW BUILDING LP	1	1	2
NW WOODWARD BUILDING LP	1	1	2

NWBH 1 LP	2	2	4
O T SPORTS IND INC	1	1	2
OAK FOREST HEALTH AND REHABILITATION C	1	1	2
O'MARA, INC.	1	1	2
OMNISOURCE SOUTHEAST	5	9	14
OMNOVA SOLUTIONS		1	1
ONEAL STEEL INC	4	4	8
OPTICAL EXPERTS MANUFACTURING	1	1	2
ORACLE FLEXIBLE PACKAGING	5	5	10
OWASA	6	6	12
OWENS & MINOR MEDICA	1	1	2
OWENS ILLINOIS, INC	2	2	4
P G MACHINE SHOP	1	1	2
PACKRITE LLC	5	4	9
PACTIV LLC		3	3
PALLETONE OF NC	6	6	12
PANTHER STADIUM, LLC	1		1
PAPER STOCK DEALERS	1	1	2
PARDEE MEMORIAL HOSPITAL	7	7	14
PARK RIDGE HOSPITAL	8	9	17
PARKDALE AMERICA LLC	10	10	20
PARKDALE MILLS, INC	2	3	5
PARKER HANNIFIN CORPORATION	9	9	18
PARMER RTP, LLC	3	3	6
PARTON LUMBER CO	5	7	12
PBM GRAPHICS INC	6	6	12
PEAK 10 INC.	2	2	4
PENN ENG & MANF CORP	2	1	3
PEPSI BOTTLING VENTURES, LLC	5	5	10
PERFORMANCE LIVESTOCK & FEED CO, INC.	1	1	2
PERMA TECH INC	1	1	2
PET DAIRY	2	2	4
PHARR YARNS, LLC	4	4	8
PIEDMONT CHEMICAL	2	2	4
PIEDMONT PUBLISHING	1	1	2
PIEDMONT ROW DRIVE, LLC	1		1
PIEDMONT TOWN CENTER ONE, LLC	1		1
PIEDMONT TRIAD REG WATER AUTH		4	4
PIERRE FOODS	7	7	14
PINE HALL BRICK COMPANY, INC	2	2	4
PINE NEEDLE LNG COMPANY	1	1	2
PIONEER COMMUNITY HOSPITAL OF STOKES	1		1
PIONEER DIVERSITIES CO	1	1	2
PITTSBURGH GLASS WORKS LLC	1	1	2
PLANTATION PIPE LINE	3	3	6

PLASTIC REVOLUTIONS	1	1	2
PLYCEM USA, INC	1	1	2
PNEUMAFIL CORPORATION	6	6	12
POLK COUNTY SCHOOLS	6	6	12
POLY PLASTIC PRODUCTS OF NC INC	4	4	8
POLYMER GROUP, INC	1	1	2
POPPELMANN PLASTICS USA LLC	1	1	2
PPG INDUSTRIES INC	2	2	4
PRECISION FABRICS GROUP INC	2	2	4
PRECOR MANUFACTURING LLC	1	1	2
PRESBYTERIAN HOMES,INC	9	9	18
PRESBYTERIAN HOSPITAL	11	11	22
PRESBYTERIAN MEDICAL CARE CORP	1	1	2
PRINCE MANUFACTURING CORP	1	1	2
PRINTCRAFT INCORP	1	1	2
PRINTPACK INC	1	1	2
PROCTER & GAMBLE MANUFACTURING COM	5	5	10
PRYSMIAN CABLE AND SYSTEMS USA, LLC	1	1	2
PUBLIC LIBRARY MECK CO	2	2	4
PUBLIX NORTH CAROLINA LP	17	17	34
PUROLATOR FACET INC	3	2	5
QORVO US , INC	1	1	2
QORVO US INC	4	4	8
QUALICAPS INC	3	3	6
R & R POWDER COATING INC	1	1	2
RACK ROOM SHOES	1	1	2
RALEIGH RC GREEN LLC	3	3	6
RALPH LAUREN CORPORATION	3	3	6
RANDOLPH CO BD OF ED	34	34	68
RANDY D MILLER	1	1	2
RD AMERICA LLC	1	1	2
REEP-OFC WATER RIDGE NC HOLDCO LLC	5	5	10
REGAL CINEMAS INC	5	5	10
REMATTR, INC	2	2	4
RENWOOD MILLS LLC		1	1
REPLACEMENTS LTD	7	7	14
RESEARCH TRIANGLE INSTITUTE		1	1
REYNOLDA MANUFACTURING SOLUTIONS, IN	4	4	8
RH MANUFACTURING LLC	2	2	4
RICHA INC	5	5	10
RITZ CARLTON CHARLOTTE	1	1	2
RJ REYNOLDS TOBACCO CO	5	5	10
ROCKINGHAM COMM COLLEGE	1	1	2
ROCKINGHAM COUNTY GOVERNMENT	2	2	4
ROCK-TENN CONVERTING COMPANY	1	1	2

ROGER MARK PENDLETON	4	4	8
RONNIE D MILES	1	1	2
ROUNDPOINT FINANCIAL GROUP	1		1
ROUSH & YATES RACING ENGINES, LLC	4	4	8
ROWAN COUNTY	4	3	7
ROWAN SALISBURY SCHOOLS	5		5
RUTHERFORD COUNTY SCHOOLS	3	2	5
RUTHERFORD HOSPITAL INC	6	6	12
SALEM ACADEMY & COLLEGE	14	14	28
SALISBURY MACHINERY	1	1	2
SAMS EAST INC	19	19	38
SANDVIK CORP	2	1	3
SANDY RDG GOLF CLUB	3	3	6
SANS TECHNICAL FIBERS, LLC	4	4	8
SAP ACQUISITION,LLC	5	5	10
SAPA BURLINGTON LLC	3		3
SCA PACKAGING NORTH AMERICA	2	2	4
SCHAEFER SYSTEMS	8		8
SCHNEIDER MILLS, INC	1	1	2
SCM METAL PRODUCTS INC	4	4	8
SEALED AIR CORPORATION	1	1	2
SEALED AIR CORPORATION (US)	2	2	4
SEALED AIR CORPORATION US	1	1	2
SECURITY NATIONAL PROPERTIES HOLDINGS	17	17	34
SELEE CORP	2	2	4
SENTINEL NC-1,LLC	3	3	6
SGL CARBON, LLC	1	1	2
SHAMROCK CORPORATION	4		4
SHAW INDUSTRIES GROUP, INC	4	4	8
SHEETZ DISTRIBUTION SERVICES LLC	1	1	2
SHERATON IMPERIAL	3	3	6
SHERRILL FURNITURE	4	5	9
SHERWIN WILLIAMS COMPANY	5	5	10
SHUFORD YARNS,LLC	2	2	4
SHURTAPE TECHNOLOGIES	7	7	14
SIEMENS ENERGY INC	2	3	5
SIEMENS ENERGY, INC	2	2	4
SIERRA NEVADA BREWING CO	1	1	2
S-L SNACKS NATIONAL , LLC	1	1	2
SLANE HOSIERY MILLS INC		1	1
SNIDER TIRE,INC	2	2	4
SOCIAL SECURITY ADMINISTRATION	1	1	2
SONESTA INTERNATIONAL HOTELS CORPORA	1		1
SONOCO CORRFLEX D & P LLC	2	2	4
SONOCO CRELLIN INC	2	2	4

SONOCO PRODUCTS COMPANY	2	2	4
SOUTH COLLEGE STREET LLC	1	1	2
SOUTH FORK INDUSTRIES	2	2	4
SOUTH GRANVILLE WATER AND SEWER AUTH	3	3	6
SOUTHCORR PACKAGING	1	1	2
SOUTHEASTERN CONTAINER INC		2	2
SOUTHERN CAST	3	3	6
SOUTHERN FURNITURE	4	2	6
SOUTHERN METALS CO	7	3	10
SOUTHERN PIPE INC	1	1	2
SOUTHERN PRECISION SPRING CO INC	2	2	4
SOUTHWESTERN COMMUNITY COLLEGE	12	12	24
SPECIALIZED PACKAGING FLEXO	1	1	2
SPECIALTY MANUFACTURING INC	1	1	2
SPENCERS INCORPORATED OF MOUNT AIRY,	1		1
SPORTS MENAGERIE	2	2	4
SPORTS SOLUTIONS INC	2	2	4
SPRINT	1	1	2
SPX FLOW INC.	1	1	2
SRPF A/300 SOUTH BREVARD LLC		1	1
ST LUKES HOSPITAL	1	1	2
STAMPSOURCE	1	1	2
STANDARD TOOLS AND EQUIPMENT	2	2	4
STANLEY TOTAL LIVING CENTER	1	1	2
STAR PAPER TUBE INC	1		1
STARPORT I,LLC	1	1	2
STEEL SPECIALTIES	2	2	4
STEFANO FOODS	3	3	6
STEWART SUPERABSORBENTS, LLC	1	1	2
STONEFIELD CELLARS WINERY LLC	1	1	2
STONEVILLE LUMBER CO	2	2	4
STURM RUGER & CO INC	2	2	4
SUMITOMO ELECTRIC ESC, INC	1	1	2
SUNCOM WIRELESS PCS, INC		3	3
SUNSET HILL INVESTMENTS LLC	1	1	2
SV CENTER LLC	2	2	4
SWAIN COUNTY SCHOOLS	6		6
SYCAMORE BREWING LLC	1	1	2
SYNERGY RECYCLING LLC		2	2
SYNGENTA CROP PROTECTION, LLC	1		1
SYNTEC SEATING SOLUTIONS LLC	1	1	2
SYNTHETICS FINISHING	10	9	19
T5@KINGS MOUNTAIN II, LLC	1	1	2
T5@KINGS MOUNTAIN VII LLC	2	2	4
TALBERT BUILDING SUPPLY INC	1	1	2

TARGET STORES	23	6	29
TAYLOR BROS	7	7	14
TAYLOR INVESTMENT PROPERTIES, LLC	3	3	6
TAYLOR KING FURNITUR	2	1	3
TCG OF THE CAROLINAS	1	1	2
TE CONNECTIVITY CORPORATION	15	15	30
TEAM INDUSTRIES	1	1	2
TECHNIBILT LTD	3	3	6
TECHNICAL PRECISION PLASTICS	8	8	16
TECHNIMARK INC	13	13	26
TELERX MARKETING INC	1	1	2
TERRA-MULCH PRODUCTS, LLC	3	4	7
THE CHARLOTTE-MECKLENBURG HOSPITAL A	2	2	4
THE CLEARING HOUSE PAYMENTS COMPANY	1	1	2
THE CYPRESS OF CHARLOTTE CLUB, INC	11	11	22
THE DAVID H MURDOCK CORE LABORATORY	1	1	2
THE FRESH MARKET	1	1	2
THE GC NET LEASE (CHARLOTTE) INVESTORS I	1		1
THE INSPIRATIONAL NETWORK INC	2	2	4
THE LINCOLN NATIONAL LIFE INSURANCE COI	2	2	4
THE NC A&T UNIVERSITY	1	1	2
THE NC AT UNIVERSITY A&T FOUNDATION LL	1	1	2
THE NC OFFICE OF INFORMATION TECHNOLO	3	3	6
THE POLYMERS CENTER OF EXCELLENCE	2	2	4
THE TIMKEN COMPANY	3	3	6
THIEMAN MANUFACTURING TECHNOLOGIES	1	1	2
THOMAS BUILT BUSES	3	3	6
THOMASVILLE,CITY OF	3	3	6
TICONA POLYMERS, INC	1	1	2
TIERPOINT, LLC	4	4	8
TIGHT LINES PARTNERS LLC	1	1	2
TIMCO AEROSYSTEMS, LLC	9	9	18
TIME WARNER CABLE SE LLC	15	15	30
TIME WARNER CABLE, INC.	1	1	2
TIMKENSTEEL CORPORATION	1	1	2
TJX COMPANIES	3	3	6
TKC MANAGEMENT SERVICES	1	1	2
TOSAF USA, INC	1	1	2
TOWN OF CHAPEL HILL		2	2
TOWN OF MOORESVILLE		2	2
TOWN OF VALDESE	3	3	6
TR 121 W TRADE LLC	1		1
TRANSCONTINENTAL GAS	1	2	3
TRANSYLVANIA COMMUNITY HOSPITAL	1		1
TRANSYLVANIA COUNTY SCHOOLS	11	11	22

TRELLEBORG COATED SYSTEMS US, INC	1	1	2
TREND OFFSET PRINTING	4	4	8
TREND OFFSET PRINTING SERVICES INC	1	1	2
TRIAD HOSPITALITY CORPORATION	1	1	2
TRIAD WINDOW DES & I	1	1	2
TRIBAL CASINO GAMING ENTERPRISES HARR/	1		1
TROPICAL NUT & FRUIT CO	1	1	2
TRUE TEXTILES, INC		1	1
TURBOCOATING CORP	1	1	2
TYSON FARMS INC	21	21	42
U S POSTAL SERVICE	5	5	10
U.S. COTTON, LLC	3	3	6
ULTIMATE TEXTILE INC	2	2	4
UNC - CHAPEL HILL	11	11	22
UNC GREENSBORO	23	23	46
UNC SCHOOL OF THE ARTS	37	37	74
UNCC	16	16	32
UNDERWRITERS LABORATORIES	1	1	2
UNIFI INC	1	1	2
UNIFI MANUFACTURING, INC	3	5	8
UNILIN FLOORING NC LLC	3	3	6
UNILIN NORTH AMERICA, LLC	1	1	2
UNION COUNTY PUBLIC SCHOOLS	2	2	4
UNIQUETEX	1	1	2
UNITED PARCEL SERV	2	2	4
UNITED STATES COLD STORAGE	1	1	2
UNIVERSAL FOREST PRODUCTS	2	2	4
UNIVERSITY OF NC HOSPITALS	9	9	18
UPM - RAFLATAC, INC	1	1	2
US FOODS, INC	1	1	2
US NATIONAL WHITEWATER CENTER, INC	13	13	26
VALASSIS COMMUNICATIONS	1	1	2
VALDESE WEAVERS	6	5	11
VALLEY HILLS MALL	9	9	18
VANGUARD FURNITURE INC	8	8	16
VERIZON WIRELESS	5	5	10
VIC INC	1	1	2
VULCAN CONSTRUCTION MATERIALS, L P	49	48	97
W S FORSYTH COUNTY SCHOOLS	94	70	164
W&G ASSOCIATES	1	1	2
WAGER,ROBERT CO,INC	4	4	8
WAKE FOREST UNIVERSITY	4	4	8
WAKE FOREST UNIVERSITY HEALTH SCIENCES	11	11	22
WAL-MART STORES EAST,LP	83	84	167
WALNUT CIRCLE PRESS	2	2	4

WATTS REGULATOR COMPANY	7	7	14
WAYNE FARMS LLC	8	8	16
WBTV LLC	2	2	4
WEIL MCLAIN	2	2	4
WELDING UNLIMITED IN	1	1	2
WELL SPRING RET	5	5	10
WELLS FARGO BANK NA	8	7	15
WELLSPRING RETIREMNT COMM INC	5	5	10
WESTERN CAROLINA UNIVERSITY	1	1	2
WESTROCK COMPANY	4	4	8
WESTROCK CONVERTING COMPANY	31	31	62
WEYERHAEUSER COMPANY	1	1	2
WFMY TV INC	2	2	4
WHOLE FOODS MARKET	5	5	10
WIELAND COPPER PRODUCTS LLC	1	1	2
WILSON COOK MEDICAL	7	7	14
WINDWARD PRINT STAR INC	1	1	2
WINGATE UNIVERSITY	19	19	38
WINSTON SALEM STATE UNIVERSITY	22	22	44
WINSTON TOWER MAIN LLC	1	1	2
WOODGRAIN MILLWORK INC	2	1	3
WORLD MEDIA ENTERPRISES, INC	1	1	2
WSOC TELEVISION INC	4	4	8
WXII TELEVISION	2	1	3
YMCA GREENSBORO	7	7	14
YMCA OF NORTHWEST NORTH CAROLINA	3	3	6
ZINK IMAGING INC	1	1	2
Grand Total	5,075	4,515	9,590

DSM RIDER OPT IN YR 2018
EE RIDER OPT IN YR 2018

Customer Bill Name	Number of Accounts	
	EE Rider	DSM Rider
ALEXANDER COUNTY SCHOOLS	2	
BB&T	2	
BEMIS MANUFACTURING	2	2
BSN MEDICAL INC	1	
CITY OF CHARLOTTE	1	
CPCC	1	
DEERE HITACHI	1	
DEERE HITACHI CONST MACH	1	
DUKE UNIVERSITY	1	
FOCKE & CO, INC	1	
FOOD LION	5	
FREUDENBERG IT LP	0	2
GUILFORD COUNTY SCHOOLS	1	
GUILFORD TECH COMM COLLEGE	1	
HIGHWOODS PROPERTIES	8	
HIGHWOODS REALTY LIMITED PARTNERSHIP	1	
HIGHWOODS REALTY LTP	1	
JPS COMPOSITE MATERIALS CORP	1	
LOWES FOODS	2	1
LSC COMMMUNICATIONS	1	
PARKER HANNIFIN CORPORATION	2	1
RENWOOD MILLS LLC	1	
SOUTHERN FURNITURE	1	
TIME WARNER CABLE SE LLC	6	
VALDESE WEAVERS	1	
PARKER HANNIFIN CORPORATION	2	
HIGHWOODS REALTY LTP	1	
PARKER HANNIFIN CORPORATION	4	
HIGHWOODS PROPERTIES	2	
LOWES FOODS	1	
Grand Total	55	6

Evans Exhibit 10

Duke Energy Carolinas, LLC
Shared Savings Incentive Calculation
Docket Number E-7, Sub 1192
Estimate January 1, 2020 - December 31, 2020

			System
NPV of AC - Res EE[1]		$	75,255,986
NPV of AC - Non Res EE			171,569,263
NPV of AC - DSM			124,330,187
Total NPV of Avoided Costs	**A**	**$**	**371,155,436**
Program Costs - Res EE[1]		$	37,453,164
Program Costs - Non Res EE			51,858,747
Program Costs - DSM			38,073,241
Total Program Costs	**B**	**$**	**127,385,152**
Net Savings	**C=A-B**	**$**	**243,770,285**
Sharing Percentage	**D**		**11.50%**
Shared Savings - Res EE		$	4,347,325
Shared Savings - Non Res EE			13,766,709
Shared Savings - DSM			9,919,549
Total Shared Savings	**E=(A-B)*D**	**$**	**28,033,583**

1) Excludes AC and Program Costs associated with Income Qualified Energy Efficiency and Weatherization Assistance, which is deemed to be cost recovery only.

EM&V Activities

Planned Evaluation, Measurement and Verification (EM&V) Activities through the rate period (Dec. 31, 2019)

Evaluation is a term adopted by Duke Energy Carolinas (DEC), and refers generally to the systematic process of gathering information on program activities, quantifying energy and demand impacts, and reporting overall effectiveness of program efforts. Within evaluation, the activity of measurement and verification (M&V) refers to the collection and analysis of data at a participating facility/project. Together this is referred to as "EM&V."

Refer to the accompanying Evans Exhibit 12 chart for a schedule of process and impact evaluation analysis and reports that are currently scheduled.

Energy Efficiency Portfolio Evaluation

DEC has contracted with independent, third-party evaluation consultants to provide the appropriate EM&V support, including the development and implementation of an evaluation plan designed to measure the energy and demand impacts of the residential and non-residential energy efficiency programs.

Typical EM&V activities:

- Develop evaluation action plan
- Process evaluation interviews
- Collect program data
- Verify measure installation and performance through surveys and/or on-site visits
- Program database review
- Impact data analysis
- Reporting

The process evaluation provides unbiased information on past program performance, current implementation strategies and opportunities for future program improvements. Typically, the data collection for process evaluation consists of surveys with program management, implementation vendor(s), program partner(s), and participants; and, in some cases, non-participants. A statistically representative sample of participants will be selected for the analysis.

The impact evaluation provides energy and demand savings resulting from the program. Impact analysis may involve engineering analysis (formulas/algorithms), billing analysis, statistically adjusted engineering methods, and/or building simulation models, depending on the program and the nature of the impacts. Data collection may involve surveys and/or site visits. A statistically representative sample of participants is selected for the analysis. Duke Energy Carolinas intends to follow industry-accepted methodologies for all measurement and

verification activities, consistent with International Performance Measurement Verification Protocol (IPMVP) Options A, C or D depending on the measure.

The field of evaluation is constantly learning from ongoing data collection and analysis, and best practices for evaluation, measurement and verification continually evolve. As updated best practices are identified in the industry, DEC will consider these and revise evaluation plans as appropriate to provide accurate and cost-effective evaluation.

Demand Response Program Evaluation

DEC has contracted with independent, third-party evaluation consultants to provide an independent review of the evaluation plan designed to measure the demand impacts of the residential and non-residential demand response programs and the final results of that evaluation.

Typical EM&V activities:

- Collect program data
- Process evaluation interviews
- Verify operability and performance through on-site visits
- Collect interval data
- Program database review
- Benchmarking research
- Dispatch optimization modeling
- Impact data analysis
- Reporting

The process evaluation provides unbiased information on past program performance, current implementation strategies and opportunities for future improvements. Typically, the data collection for process evaluation consists of surveys with program management, implementation vendor(s), program partner(s), and participants; and, in some cases, non-participants. A statistically representative sample of participants will be selected for the analysis.

The impact evaluation provides demand savings resulting from the program. Impact analysis for Power Manager involves a simulation model to calculate the duty cycle reduction, and then an overall load reduction. Impact analysis for PowerShare involves statistical modeling of an M&V baseline load shape for a customer, then modeling the event period baseline load shape and comparing to the actual load curve of the customer during the event period.

The field of evaluation is constantly learning from ongoing data collection and analysis, and best practices for evaluation, measurement and verification continually evolve. As updated best practices are identified in the industry, DEC will consider these and revise evaluation plans as appropriate to provide accurate and cost-effective evaluation.

EM&V EFFECTIVE DATE TIMELINE

This chart contains the expected timeline with end of customer data sample period for impact evaluation and when the impact evaluation report is expected to be completed.
Unless otherwise noted, original impact estimates are replaced with the first impact evaluation results, after which time subsequent impact evaluation results are applied prospectively.

Program	Program/Measure	2015				2016			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Appliance Recycling	Refrigerator, Freezer			2nd EM&V	Report				
Energy Efficiency Education (K12 Curriculum)	Energy Efficiency Education (K12 Curriculum)			3rd EM&V	Report				
Energy Efficient Appliance and Devices	Lighting - Smart Saver RCFL			3rd EM&V	Report				
	Lighting - Specialty Bulbs								
	SF Water EE Products			1st EM&V	Report				
	HP Water Heater & Pool Pumps								
HVAC Energy Efficiency	Residential Smart $aver AC and HP								
	Tune & Seal Measures								
Income-Qualified Energy Efficiency	Weatherization								
	Refrigerator Replacement								
	Low Income Neighborhood							2nd EM&V	Report
Multi-Family Energy Efficiency	MF Water EE Products			1st EM&V	Report			2nd EM&V	Report
	Lighting (CFL Property Manager)								3rd EM&V
My Home Energy Report	MyHER								
Residential Energy Assessments	Home Energy House Call								
Non-Residential Smart $aver Energy Efficiency Custom	Non-Res Smart$aver Custom Rebate								
Non-Residential Smart $aver Energy Effiency Food Service	Non-Res Smart $aver Energy Efficiency Food Service				2nd EM&V				2nd EM&V
Non-Residential Smart $aver Energy Effiency HVAC Products	Non-Res Smart $aver Energy Efficiency HVAC Products				2nd EM&V	Report			
Non-Residential Smart $aver Energy Effiency Lighting	Non Re Smart Saver Prescriptive Lighting								
	Non Res Smart Saver Prescriptive Other							1st EM&V	Report
Non-Residential Smart $aver Energy Effiency Motors Pumps Drives	Non-Res Smart$aver Prescriptive (VFDs or other)				2nd EM&V				
Non-Residential Smart $aver Energy Effiency Process Equipment	Non-Res Smart $aver Energy Efficiency Process Equip				2nd EM&V				
Small Business Energy Saver	SBES								
Smart Energy in Offices	SEiO								

Key
- Original Estimate
- 1st EM&V
- 2nd EM&V
- 3rd EM&V
- 4th EM&V
- 5th EM&V

Program	Program/Measure	2017				2018				2019				2020			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
~~Appliance Recycling~~	~~Refrigerator, Freezer~~																
Energy Efficiency Education (K12 Curriculum)	Energy Efficiency Education (K12 Curriculum)								4th EM&V	Report							5th EM&V
Energy Efficient Appliance and Devices	Lighting - Smart Saver RLED (Free LED)			1st EM&V	Report												
	Lighting - Smart Saver Retail					1st EM&V	Report										
	Lighting - Specialty Bulbs							2nd EM&V	Report								3rd EM&V
	SF Water EE Products			2nd EM&V	Report							3rd EM&V	3rd EM&V	Report			
	HP Water Heater & Pool Pumps					1st EM&V	Report										
HVAC Energy Efficiency	Referral and Non-Referral HVAC Measures					2nd EM&V	Report										
Income-Qualified Energy Efficiency	Weatherization					1st EM&V	Report								2nd EM&V	Report	
	Refrigerator Replacement					1st EM&V	Report								2nd EM&V	Report	
	Low Income Neighborhood											3rd EM&V	Report				
Multi-Family Energy Efficiency	Lighting & Water EE Products									3rd EM&V	Report						
My Home Energy Report	MyHER	Report								4th EM&V	Report						5th EM&V
Residential Energy Assessments	Home Energy House Call							3rd EM&V	Report							4th EM&V	Report
~~Business Energy Reports~~	~~BER~~				~~1st EM&V~~	~~Report~~				~~Report~~							
EnergyWise Business	EnergyWise Business (EE measure)	1st EM&V	Report				2nd EM&V	Report									
Non-Residential Smart $aver Energy Efficiency Custom	Custom Rebate & Custom Assessment	Report						3rd EM&V	Report							4th EM&V	Report
Non-Residential Smart $aver Prescriptive	All Prescriptive Technologies					3rd EM&V	Report									4th EM&V	Report
Non-Residential Energy Assessment			1st EM&V	Report													
Small Business Energy Saver	SBES						2nd EM&V	Report							3rd EM&V	Report	
Smart Energy in Offices	SEiO			1st EM&V	Report												

Note: Residential Smart $aver AC and HP and Non-Residential Prescriptive lighting measures have completed a additional EM&V report in the past. Future reports combine measures for the respective programs.