NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION

May 20, 2015

Ms. Gail L. Mount, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

Re: Docket No. E-7, Sub 1073

Dear Ms. Mount:

In connection with the above-captioned docket, I transmit herewith for filing on behalf of the Public Staff the affidavits of Michael C. Maness, Assistant Director, Accounting Division, and Jack L. Floyd, Electric Engineer, Electric Division.

By copy of this letter, I am forwarding a copy to all parties of record.

Sincerely yours,

Electronically submitted
/s/ Lucy E. Edmondson
Staff Attorney
lucy.edmondson@psncuc.nc.gov

LEE/bll

Enclosures

c: Parties of Record

DOCKET NO. E-7, SUB 1073

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of		
Application of Duke Energy Carolinas, LLC,	)	
For Approval of Demand-Side Management	)	AFFIDAVIT
and Energy Efficiency Cost Recovery Rider	)	OF
Pursuant to G.S. 62-133.9 and Commission	)	MICHAEL C. MANESS
Rule R8-69	)	

STATE OF NORTH CAROLINA

COUNTY OF WAKE

I, Michael C. Maness, first being duly sworn, do depose and say:

I am an Assistant Director of the Accounting Division of the Public Staff, which is charged by statute with intervening on behalf of the using and consuming public in Commission proceedings affecting public utility rates and service. I am responsible for the performance, supervision, and/or management of the following activities: (1) the examination and analysis of testimony, exhibits, books and records, and other data presented by utilities and other parties under the jurisdiction of the Commission or involved in Commission proceedings; and (2) the preparation and presentation to the Commission of testimony, exhibits, and other documents in those proceedings. I have been employed by the Public Staff since July 12, 1982. A summary of my education and experience is attached to this affidavit as Appendix A.

The purpose of my affidavit is to present my recommendations regarding the overall Demand-Side Management / Energy Efficiency (DSM/EE) rider (Rider

7) proposed by Duke Energy Carolinas, LLC (DEC or the Company), in its Application filed in this docket on March 4, 2015, pursuant to G.S. 62-133.9 and Commission Rule R8-69, as revised and amended on March 16, 2015, and as further modified by the Supplemental Testimony and Exhibits of Carolyn T. Miller and Supplemental Exhibits of Conitsha B. Barnes (Supplemental Filing), filed on May 15, 2015.

THE RATE-SETTING PROCESS FOR DEC'S DSM/EE REVENUE REQUIREMENTS

G.S. 62-133.9(d) allows a utility to petition the Commission for approval of an annual rider to recover (1) the reasonable and prudent costs of new DSM and EE measures and (2) other incentives to the utility for adopting and implementing new DSM and EE measures. Commission Rule R8-69, which was adopted by the Commission pursuant to G.S. 62-133.9(h), sets forth the general parameters and procedures governing approval of the annual rider, including but not limited to (1) provisions for both (a) a DSM/EE rider to recover the estimated costs and incentives (including Net Lost Revenues (NLR)) applicable to the "rate period" in which that DSM/EE rider will be in effect, and (b) a DSM/EE experience modification factor (EMF) rider to recover the difference between the DSM/EE rider in effect for a given test period (plus a possible extension) and the actual recoverable amounts incurred during that test period; and (2) provisions for interest or return on amounts deferred and on refunds to customers.

In this proceeding, DEC has calculated each proposed billing factor making up Rider 7 by use of one of two "mechanisms" previously approved by the

Commission. To calculate the Rider 7 billing components related to DSM and EE measures installed or implemented during the period stretching from June 1, 2009, through December 31, 2013, DEC has used the Modified Save-A-Watt Mechanism (Save-A-Watt) approved on February 9, 2010, in Docket No. E-7, Sub 831 (the Sub 831 Order). To calculate the billing components applicable to this proceeding that are related to DSM and EE measures actually or expected to be installed or implemented during calendar years 2014, 2015, and 2016, the Company has used the Cost Recovery and Incentive Mechanism for Demand-Side Management and Energy Efficiency Programs (the Sub 1032 Mechanism) approved on October 29, 2013, in Docket No. E-7, Sub 1032 (the Sub 1032 Order). In the following paragraphs, I will describe the essential characteristics of each rate-setting method; however, both the Save-A-Watt Mechanism and the Sub 1032 Mechanism include and are subject to many additional and more detailed criteria than are set forth in this affidavit.

<u>The Modified Save-A-Watt Mechanism and Related Commission Orders</u>

Docket No. E-7, Sub 831:

In the Sub 831 Order, the Commission approved, with modifications, an Agreement and Joint Stipulation of Settlement by and between DEC, the Public Staff, and certain other intervenors (Sub 831 Settlement). The Sub 831 Settlement set forth the parameters of Save-A-Watt, including the following major characteristics, subject to many additional, detailed criteria:

1. Save-A-Watt was a four-year pilot, with an extension to allow for the recovery of NLR experienced due to EE measures installed or implemented during the four years.

2. DEC would be allowed to recover in revenues 75% of the avoided generation costs resulting from its DSM measures installed or implemented during the four-year term, and 50% of the net present value of the avoided generation costs resulting from its installed or implemented EE measures, as determined pursuant to the Utility Cost Test. Initial revenue requirements were set based on 85% of targeted savings.

3. DEC's final avoided cost related revenue requirements would be based on its measured and verified savings achieved, as well as how well those achievements measured up to an aggregate monetary target.

4. The final avoided cost related revenue requirements would also be subject to an earnings cap, with earnings measured as the excess of those revenue requirements over DSM/EE program costs.

5. The Company would be allowed to recover the first 36 months of NLR resulting from the installation of EE measures.[1] NLR would be net of any increases in revenues resulting from any activity by the Company's public utility operations that caused a customer to increase demand or energy consumption, whether or not that activity had been approved as a DSM/EE program ("found revenues").

Docket No. E-7, Sub 938

On April 6, 2010, the Commission issued an Order in Docket No. E-7, Sub 938 (Sub 938), approving in part a request by DEC for a waiver from certain provisions of Commission Rule R8-69 dealing with the right of industrial and large commercial customers to "opt out" of participating in and paying the rider associated with utility DSM and EE programs. The waiver allows eligible non-residential DEC customers the flexibility to opt out of either or both of the DSM and

[1] The Sub 831 Settlement erroneously did not reflect the parties' intent that recovery of NLR was limited to amounts resulting from EE programs only. The Commission's February 9, 2010, Order in Docket No. E-7, Sub 831, corrected this error and expressly limited the recovery of NLR to amounts associated with EE programs.

EE categories of programs for one or more vintage years, as well as the ability to opt back into either or both the categories for a later vintage year. If a customer opts back into the DSM category, it cannot opt out again for three years; however, a customer has the freedom to opt in or out of the EE category for each vintage year. Additionally, the Sub 938 Order clarified that if a customer opts out of paying the Rider for a vintage year after one or more in which the customer was "opted in," DEC may charge the customer subsequent DSM/EE and DSM/EE EMF Riders only for those vintage years in which the customer actually participated in a DSM/EE program.

Subsequent Sub 831 Order

On February 8, 2011, the Commission issued an Order in Sub 831 approving the Decision Tree approach developed by DEC and the Public Staff to aid the Company in identifying activities that produce found revenues.

Docket No. E-7, Sub 979

On November 8, 2011, the Commission issued its Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice (Sub 979 Order). As part of this Order, the Commission accepted and found reasonable and appropriate an agreement reached between DEC, the Southern Alliance for Clean Energy (SACE), and the Public Staff regarding the application of Evaluation, Measurement, and Verification (EM&V) results to DSM/EE revenue requirements (EM&V Agreement).

<u>The Sub 1032 Cost Recovery and Incentive Mechanism for Demand-Side Management and Energy Efficiency Programs</u>

Docket No. E-7, Sub 1032

In the Sub 1032 Order, the Commission approved an Agreement and Stipulation of Settlement, filed on August 19, 2013, and amended on September 23, 2013, by and between DEC, the Public Staff, and certain other intervenors[2] (Sub 1032 Settlement), which incorporates the Sub 1032 Mechanism. The Sub 1032 Settlement, as approved by the Commission, included the following major terms:

1. The portfolio of DSM and EE programs filed by the Company was approved with no specific duration.

2. The Company's annual DSM/EE rider would be determined according to the Stipulation and the terms and conditions set forth in the Sub 1032 Mechanism.

3. The Company and Public Staff would study the issue of the appropriate avoided transmission and distribution (T&D) costs to be used in the Company's calculations of cost-effectiveness and, if appropriate, recommend in the Company's 2014 DSM/EE rider proceeding adjustments to the rate filed in this proceeding to be made on a prospective basis.

4. Within a short time after the proceeding, the Company would meet with the North Carolina Waste Awareness and Reduction Network (NC WARN) and other interested intervenors to discuss the low income program proposed by NC WARN. The parties also agreed to discuss and consider on-bill repayment and combined heat and power as part of the Collaborative, and to report to the Commission the status and results of that discussion and consideration.

[2] The parties participating in the Sub 1032 Settlement are DEC; the North Carolina Sustainable Energy Association; the Environmental Defense Fund; SACE; the South Carolina Coastal Conservation League; the Natural Resources Defense Council; the Sierra Club; and the Public Staff.

The Sub 1032 Settlement also set forth the parameters of the Sub 1032 Mechanism, the overall purpose of which is to (1) allow DEC to recover all reasonable and prudent costs incurred for adopting and implementing new DSM and new EE measures; (2) establish certain requirements, in addition to those of Commission Rule R8-68, for requests by DEC for approval, monitoring, and management of DSM and EE programs; (3) establish the terms and conditions for the recovery of NLR and a Portfolio Performance Incentive (PPI) to reward DEC for adopting and implementing new DSM and EE measures and programs; and (4) provide for an additional incentive to further encourage kWh savings achievements. The Sub 1032 Mechanism includes the following major characteristics:

1. The Sub 1032 Mechanism shall continue until terminated pursuant to Commission Order.

2. Modifications to Commission-approved DSM/EE programs will be made using the Flexibility Guidelines approved on July 16, 2012, in Docket No. E-7, Sub 831.

3. Treatment of opted-out and opted-in customers will continue to be guided by the Commission's Orders in Docket No. E-7, Sub 938, with the addition of an additional opt-in period during the first week in March of each year.

4. DSM/EE and DSM/EE EMF riders shall continue to be calculated on a vintage year basis, with separate riders being calculated for the Residential customer class and for those rate schedules within the Non-Residential customer class that have Duke Energy Carolinas DSM/EE program options in which they can participate.

5. Incurred DSM and EE program costs shall be directly recovered as part of the annual riders. Deferral accounting for over- and underrecoveries of costs is allowed, and the balance in the deferral account(s), net of deferred income taxes, may accrue a return at the net-of-tax rate of return approved in DEC's then most recent general rate case.

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

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

8. NLR will be reduced by net found revenues, as defined in the Mechanism, that occur in the same 36-month period. Net found revenues will continue to be determined according to the "Decision Tree" process approved by the Commission in Docket No. E-7, Sub 831.

9. DEC shall be allowed to recover a PPI for its DSM and EE portfolio based on a sharing of actually achieved and verified energy and peak demand savings (excluding those related to general programs and measures and research and development activities). Any PPI related to pilot programs is subject to additional qualifying criteria. Unless the Commission determines otherwise in an annual DSM/EE rider proceeding, the amount of the pre-income-tax PPI initially to be recovered for the entire DSM/EE portfolio for a vintage year shall be equal to 11.5% multiplied by the present value of the estimated net dollar savings associated with the DSM/EE portfolio installed in that vintage year. Low-income programs approved with expected Utility Cost Test results less than 1.00 and other non-cost-effective programs with similar societal benefits as approved by the Commission shall not be included in the portfolio for purposes of the PPI calculation.

10. The PPI for each vintage year shall ultimately be trued up based on net dollar savings as verified by the EM&V process and approved by the Commission.

11. If the Company achieves incremental energy savings of 1% of its prior year's system retail electricity sales in any year during the five-year 2014-2018 period, the Company will receive a bonus incentive of $400,000 for that year.

12. The terms and conditions of the Mechanism shall be reviewed by the Commission every four years unless otherwise ordered.

The Company's Proposed Billing Factors and Other Aspects of Its Filing

Proposed Revenue Requirements, Billing Factors, and Applicability

In its Application (as revised and corrected) and the supporting testimony and exhibits, as modified by the Supplemental Filing, DEC requested approval of 16 billing factors [including the North Carolina Regulatory Fee (NCRF)] comprising Rider 7, which is to be charged for service rendered during the rate period January 1, 2016, through December 31, 2016. These proposed billing factors are set forth on Maness Exhibit I.

Vintage Years

For purposes of the Company's filing, the following vintage year time periods apply:

Vintage Year 1:	The 19-month period ended December 31, 2010.
Vintage Year 2:	The 12-month period ended December 31, 2011.
Vintage Year 3:	The 12-month period ended December 31, 2012.
Vintage Year 4:	The 12-month period ended December 31, 2013.
Vintage Year 2014:	The 12-month period ended December 31, 2014.
Vintage Year 2015:	The 12-month period ended December 31, 2015.
Vintage Year 2016:	The 12-month period ended December 31, 2016.

The billing factor(s) applicable to each vintage year and group of customers is/are determined pursuant to G.S. 62-133.9 and Commission Rule R8-69. For Vintage Years 1 through 4, the factors are also subject to Commission rulings in Docket No. E-7, Subs 831, 938, and 979, including the Sub 831 Settlement and the Save-A-Watt Mechanism. For Vintage Years 2014, 2015, and 2016, the billing factors are subject to the Commission's findings and conclusions in Docket No. E-7, Sub 1032 (including the Sub 1032 Settlement and the Sub 1032 Mechanism). Particular billing factors may also be subject to Commission rulings in the various annual DSM/EE cost and incentive recovery proceedings, as well as individual program approval proceedings.

General Characteristics of DEC's Proposed DSM/EE Billing Factors:

As discussed earlier, DEC has proposed certain billing factors applicable to each of Vintage Years 1, 2, 3, 4, 2014, 2015, and 2016 for inclusion in DSM/EE Rider 7, as follows:

1. For Vintage Year 2016, pursuant to the Sub 1032 Settlement, proposed Rider 7 includes billing factors intended to recover estimated program costs and a PPI, as well as estimated calendar year 2016 NLR, applicable to DSM and EE measures projected to be installed or implemented during Vintage Year 2016, all subject to future true-up.
2. For Vintage Year 2015, pursuant to the Sub 1032 Settlement, the proposed Rider includes billing factors (or components of billing factors) intended to prospectively recover estimated calendar year 2016 NLR associated with Vintage Year 2015 installations, subject to future true-up.
3. For Vintage Year 2014, pursuant to the Sub 1032 Settlement, the proposed Rider includes billing factors (or components of billing factors) intended to (a) prospectively recover estimated calendar year 2016 NLR associated with Vintage Year 2014 installations, subject to future true-up, and (b) true up 2014 program cost and, to the extent EM&V of these results has been completed, participation and per-participant avoided cost savings and calendar year 2014 NLR.

4. For Vintage Years 3 (2012) and 4 (2013), pursuant to the Sub 831 Settlement and associated Orders, proposed Rider 7 includes billing factors intended to (a) true-up all NLR revenue requirements related to those vintage years, (b) true up participation and per-participant avoided cost savings, and (c) make certain final corrections and reflect the Company's final calculation of the true-up of avoided cost revenue requirements to reflect 100% of avoided cost revenues and the impact of the Save-A-Watt earnings cap.

5. For Vintage Years 1 (June 1, 2009 through December 31, 2010) and 2 (2011), pursuant to the Sub 831 Settlement and associated Orders, proposed Rider 7 includes billing factors intended to make certain final corrections and reflect the Company's final calculation of the true-up of avoided cost revenue requirements to reflect 100% of avoided cost revenues and the impact of the Save-A-Watt earnings cap.

Limitations on the Recovery of NLR

There are certain limitations on the recovery of NLR reflected in DEC's proposed billing factors in this proceeding due to the Company's most recent general rate case (Docket No. E-7, Sub 1026). In that proceeding, for purposes of setting rates, DEC's kWh usage per customer and sales revenues were annualized through June 30, 2012. In this DSM/EE proceeding, therefore, pursuant to the Sub 831 Settlement, for any participation beginning on or prior to June 30, 2012, DEC has ceased including NLR in the billing factor calculations, effective September 25, 2013 (the effective date of the rates established in the Sub 1026 general rate case). In this proceeding, this limitation affects NLR related to Vintage Years 2 and 3. For participation commencing after June 30, 2012, full recovery of 36 months of NLR will be allowed (barring another general rate case or other cessation event covered by the Sub 831 and Sub 1032 Settlements), since those NLR will not be recovered through base rates.

Net Found Revenues and Negative Found Revenues

In this proceeding, in accordance with the Sub 831 Settlement, the Commission's February 8, 2011, further Order in Sub 831, and the Sub 1032 Settlement, DEC has continued to reduce NLR by net found revenues, as they are defined earlier in this affidavit. Additionally, as discussed in DEC's 2014 DSM/EE cost and incentive recovery proceeding (Docket No. E-7, Sub 1050), the Company has begun reducing net found revenues by the monetary impact ("negative found revenues") caused by reductions in consumption resulting from the current initiative to replace mercury vapor (MV) lights with light emitting diode (LED) fixtures. More specifically, Company witness Barnes testifies that DEC has recognized negative found revenues for the differential between energy consumed by an installed LED fixture and a standard high pressure sodium (HPS) fixture, even though the lights being replaced are MV lights. She also notes that the Company has not reduced any total net found revenues to a negative amount. Per Barnes Exhibit 4, negative found revenues affect the net found revenues totals for Vintage Years 2014, 2015, and 2016.

Final True-up of Save-A-Watt before Application of Earnings Cap

In Sub 1050, although the EM&V of Save-A-Watt Vintage Years 2 through 4 was not yet complete, DEC calculated a preliminary true-up of avoided cost revenues at the 100% level, as opposed to the 85% level it had utilized in previous annual proceedings pursuant to the Sub 831 Settlement and the Save-A-Watt Mechanism. In the current proceeding, the Company has adjusted this true-up to what it deems a final amount, taking into account its proposed final Save-A-Watt avoided cost revenues.

Final Save-A-Watt Earnings Cap True-Up

In Sub 1050, although the EM&V of Save-A-Watt Vintage Years 2 through 4 was not yet complete, DEC calculated a preliminary earnings cap true-up pursuant to the Sub 831 Settlement and the Save-A-Watt Mechanism, and applied it to the calculation of the Rider 6 billing factors. In the current proceeding, the Company has adjusted the earnings cap true-up to what it deems a final amount, taking into account its proposed final Save-A-Watt avoided cost revenues and program costs. Company witness Barnes testifies that during the four-year term of Save-A-Watt, DEC has achieved nearly 123% of the nominal $754 million avoided cost savings target set forth in the Sub 831 Settlement. Therefore, she concludes that the maximum percentage allowed by the Sub 831 Settlement, 15%, should be used to determine the earnings cap. Using this percentage, Company witness Miller has performed calculations that indicate that the final four-year

Save-A-Watt avoided cost revenue requirements calculated using the 75% and 50% factors applied to DSM and EE avoided cost savings, respectively, are in excess of the earnings cap by approximately $42 million. Therefore, Ms. Miller has incorporated allocated credits equal in the aggregate to this amount in the calculations of the Company's final trued-up Save-A-Watt vintage year revenue requirements proposed by the Company in this case. Company witness Miller also testifies that Rider 7 will be the final DSM/EE rider to include any amounts related to the Save-A-Watt vintages.

Future True-Ups

It should also be noted that certain components of the revenue requirements related to prior years (Vintage Years 2014 and 2015) will remain subject to prospective update adjustments and/or retrospective true-ups in the future; no final rate for those vintage years is being set in this proceeding. The various types of other expected and/or possible adjustments to the revenue requirement for these vintage years include prospective recovery of years 2 and/or 3 NLR requirements; true-ups of program cost; and true-ups of the PPI and NLR requirements to reflect the results of and possible adjustments to participation and EM&V analyses.

Investigation and Conclusions

Investigation

My investigation of DEC's filing in this proceeding focused on whether the Company's proposed DSM/EE billing factors (a) were calculated in accordance with the Sub 831 Settlement (as modified by the Commission) and the Sub 1032 Settlement, as applicable, as well as other relevant Commission orders, and (b) otherwise adhered to sound ratemaking concepts and principles. The procedures I and other members of the Public Staff's Accounting Division utilized included a review of (a) the Company's filing, (b) relevant Commission proceedings and orders, and (c) workpapers and source documentation used by the Company to develop the proposed billing factors. Performing the investigation required the review of responses to written and verbal data requests, as well as discussions with Company personnel.

Conclusions

Effects of Public Staff Witness Floyd's Affidavit

Public Staff witness Floyd has filed an affidavit in this proceeding discussing several topics and issues related to the Company's filing. None of these topics and issues necessitate an adjustment in this particular proceeding to the Company's billing factor calculations. However, as Mr. Floyd notes, the Public Staff and DEC have agreed to further discuss the EM&V for the Smart Energy Now pilot program and the specialty bulb measure of the Energy Efficient Appliances and Devices program, and therefore agree that the vintages of these programs covered by the EM&V filed in Ham Exhibits B and E in this proceeding are subject to further adjustment in next year's proceeding.[3]

My Findings and Conclusions

Overall with regard to the DSM/EE billing factors proposed by the Company in this proceeding, with the possible exception of the EM&V items identified by Mr. Floyd, which may require adjustment in next year's proceeding, I am of the opinion that the Company has calculated the Rider 7 billing factors in a manner consistent with G.S. 62-133.9, Commission Rule R8-69, the Sub 831 Settlement as modified by the Commission, the EM&V Agreement, the Sub 1032 Settlement, and other relevant Commission Orders. However, this conclusion is subject to the caveat that the Public Staff is still in the process of reviewing certain data responses received from the Company; should this review result in any further issues, the Public Staff will file additional information with the Commission.

I would like to note the following particulars regarding my investigation:

(1) Accounting Errors – In the course of the investigation, the Public Staff and DEC became aware of certain relatively minor input and calculation errors in the determination of the billing factors. Although these errors were relatively minor, their correction did affect program costs, net found revenues, and net lost revenues. These corrections are reflected in the Supplemental Filing.

---

[3] It should be noted that, pursuant to the Commission's Order of February 14, 2011, in Docket No. E-7, Sub 961, the Smart Energy Now Program pilot shall be eligible for recovery of NLR only if it is ultimately determined to have been cost effective. Thus, if further adjustments to the cost-effectiveness of the Program should result in its being found to be not cost-effective overall, DEC should be required to refund to the customers all NLR collected.

(2) Save-A-Watt Earnings Cap True-Up – As noted previously in this affidavit, DEC has calculated its proposed final earnings cap true-up and applied it to the calculation of the Rider 7 billing factors. Per the Company (and as agreed to by Public Staff witness Floyd), EM&V analyses covering all of the Save-A-Watt vintage years have been completed. The results of these analyses have been incorporated into the avoided cost revenue requirements used in the earnings cap calculation. (As discussed previously, the Public Staff and DEC have agreed to further discuss the EM&V for the Smart Energy Now program and the specialty bulb measure of the Energy Efficient Appliances and Devices program; thus, the vintages of these programs covered by the EM&V filed in Ham Exhibits B and E in this proceeding are subject to further adjustment in next year's proceeding.) Additionally, as noted in the letter filed by the Public Staff in Sub 1050 on October 1, 2014, the Public Staff has completed its audit of Save-A-Watt program costs, and the revised level of costs has also been incorporated into the final calculation. Therefore, subject to future adjustment to vintages of the programs covered by the EM&V filed in Ham Exhibits B and E in this proceeding, the Public Staff has no objection to the Company making an earnings cap true-up in this case, subject to possible future adjustment and further true-up.

My affidavit in the Sub 1050 proceeding expressed certain concerns regarding the Company's application of the Save-A-Watt Stipulation's provisions regarding interest on various true ups, and specifically the Company's decision not to calculate interest on the earnings cap overcollection. I discussed the appropriateness of calculating interest on the various true ups separately, versus netting them as DEC has done. Based on further discussions with the Company and further internal deliberation, the Public Staff has concluded that the Company's approach is reasonable, and that no interest (other than the amount that the Company has calculated for Vintage 3 non-residential DSM) is necessary. Essentially, the earnings cap overcollection has been beneficially offset by the avoided cost revenue requirement being set at 85% of the amount that could be justified throughout the Save-A-Watt period, resulting in customers' bills being lower than they otherwise would have been (in fact, lower than the bills justified by the earnings cap). In this particular case, the Public Staff considers it reasonable to allow this benefit to offset the earnings cap for purposes of the calculation of interest.

(3) Negative Found Revenues – In my testimony in Sub 1050, I stated that the Commission possesses significant discretion as to what items may be included in the calculation of the DSM/EE rider as either NLR or found revenues, but that negative found revenues should be approved only to the extent to which the underlying activity actually reduces the Company's profitability, much like positive found revenues increase profitability. I also testified that the underlying circumstances and impacts on the utility of any proposal to offset positive found revenues with negative ones should be evaluated very carefully, on a case-by-case basis.[4] As noted previously, Company witness Barnes testifies in this

[4] My affidavit also states that in order for DEC to include negative found revenues as an offset to NLR, it would appear that either an amendment to or a waiver of Rule R8-68(b)(5) would be necessary. However, on advice of counsel, I am no longer making this recommendation. After further consideration, the Public Staff has concluded that negative found revenues can be considered a component of found revenues under the rule as currently formulated.

proceeding that DEC has recognized negative found revenues for the differential between energy consumed by an installed LED fixture and a standard high pressure sodium (HPS) fixture. After review, the Public Staff has concluded that DEC's currently ongoing initiative to replace MV lighting with LED fixtures is an activity that can reasonably be considered to produce negative found revenues for inclusion in the Company's calculations. The Public Staff has reviewed DEC's calculations of negative found revenues and accepts them for purposes of this proceeding.

(4) Review of Vintage Year 2014 Program Costs – As part of its investigation in this proceeding, the Public Staff performed a review of the DSM/EE program costs incurred by DEC during the 12-month period ended December 31, 2014. To accomplish this, the Public Staff selected and reviewed a sample of source documentation for test year costs included by the Company for recovery through the DSM/EE riders. Review of this sample was intended to test whether the costs included by the Company in the DSM/EE riders are valid costs of approved DSM and EE programs. The Public Staff's review resulted in only one error being found in the costs included in the sample; however, this error had already been corrected by DEC in its books and records. Therefore, no adjustments to program costs have been found necessary as a result of this review.

Summary of Conclusions Regarding Rider 7 Billing Factors

In summary, other than possible future adjustments resulting from the ongoing discussions between the Public Staff and DEC regarding the Smart Energy Now program and the specialty bulb measure of the Energy Efficient Appliances and Devices program, the Public Staff has found no errors or other issues related to the Rider 7 billing factors that have not been satisfactorily resolved by the Company in its Supplemental Filing.

Recommendation

Based on the results of the Public Staff's investigation, I recommend approval of the DSM/EE riders proposed by DEC in its Supplemental Filing in this proceeding. All of the recommended factors should be approved subject to any appropriate and reasonable true-ups in future cost recovery proceedings consistent with the Sub 831 and Sub 1032 Orders, as well as other relevant orders of the Commission, including the Commission's final order in this proceeding.

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

This completes my affidavit.

Michael C. Maness

Michael C. Maness

Sworn to and subscribed before me

this the 20th day of May, 2015.

Laura D. Bradley

Laura D. Bradley
Notary Public

Laura D. Bradley
Notary Public
WAKE COUNTY
State Of North Carolina

My Commission Expires: 8-28-2016

APPENDIX A

MICHAEL C. MANESS

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

Since joining the Public Staff in July 1982, I have filed testimony or affidavits in several general, fuel, and demand-side management/energy efficiency rate cases of the utilities currently organized as Duke Energy Carolinas, LLC, Duke Energy Progress, Inc., and Virginia Electric and Power Company (Dominion North Carolina Power) as well as in several water and sewer general rate cases. I have also filed testimony or affidavits in other proceedings, including applications for certificates of public convenience and necessity for the construction of generating facilities, applications for approval of self-generation deferral rates, applications for approval of cost and incentive recovery mechanisms for electric utility demand-side management and energy efficiency (DSM/EE) efforts, and applications for approval of cost and incentive recovery pursuant to those mechanisms.

I have also been involved in several other matters that have come before this Commission, including the investigation undertaken by the Public Staff into the operations of the Brunswick Nuclear Plant as part of the 1993 Carolina Power &

Light Company fuel rate case (Docket No. E-2, Sub 644), the Public Staff's investigation of Duke Power's relationship with its affiliates (Docket No. E-7, Sub 557), and several applications for business combinations involving electric utilities regulated by this Commission. Additionally, I was responsible for performing an examination of Carolina Power & Light Company's accounting for the cost of Harris Unit 1 in conjunction with the prudence audit performed by the Public Staff and its consultants in 1986 and 1987.

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

DUKE ENERGY CAROLINAS, LLC
Docket No. E-7, Sub 1073
RIDER 7 DSM/EE BILLING FACTORS PROPOSED BY COMPANY

Description	Revenue Requirement	Applicable Rate Period MWH Sales	Billing Factor (cents per kWh)	Applicable Customers
Residential Vintage Year 2016 (Prospective) – Subtotal	$58,886,406	[redacted]		
Residential Vintage Year 2015 (Prospective Net Lost Revenues) – Subtotal	$4,071,955			
Residential Vintage Year 2014 (Prospective Net Lost Revenues) – Subtotal	$9,895,892			
Total Prospective Residential Rider 7	$72,854,253	21,674,738	0.3361[1]	All residential customers
Residential Vintage Year 2014 True-Up – Subtotal	$666,440	[redacted]		
Residential Vintage Year 4 True-Up – Subtotal	$4,129,838			
Residential Vintage Year 3 True-Up – Subtotal	$(4,004,005)			
Residential Vintage Year 2 True-Up – Subtotal	$3,177,348			
Residential Vintage Year 1 True-Up – Subtotal	$1,668,314			

[1] The aggregate proposed billing factor applicable to all Residential customers is the sum of the Residential prospective and Residential true-up factors: 0.3621 cents per kWh.

DUKE ENERGY CAROLINAS, LLC
Docket No. E-7, Sub 1073
RIDER 7 DSM/EE BILLING FACTORS PROPOSED BY COMPANY

Description	Revenue Requirement	Applicable Rate Period MWH Sales	Billing Factor (cents per kWh)	Applicable Customers
Total Residential Rider 7 True-Up	$5,637,935	21,674,738	0.0260[1]	All residential customers
Non-Residential Vintage Year 2016 EE Participant (Prospective)	$51,408,650	23,753,678	0.2164	Non-residential customers that do not opt out of Vintage Year 2016 EE
Non-Residential Vintage Year 2016 DSM Participant (Prospective)	$16,375,648	23,082,736	0.0709	Non-residential customers that do not opt out of Vintage Year 2016 DSM
Non-Residential Vintage Year 2015 EE Participant (Prospective Net Lost Revenues)	$8,194,003	23,753,678	0.0345	Non-residential customers that opted in and participated in an EE program during Vintage Year 2015 or, if they did not participate, do not opt out of Vintage Year 2016 EE
Non-Residential Vintage Year 2014 EE Participant (Prospective Net Lost Revenues)	$6,094,150	23,824,291	0.0256	Non-residential customers that opted in and participated in an EE program during Vintage Year 2014 or, if they did not participate, do not opt out of Vintage Year 2016 EE
Non-Residential Vintage Year 2014 EE Participant (True-Up)	$3,581,616	23,824,291	0.0150	Non-residential customers that opted in and participated in an EE program during Vintage Year 2014 or, if they did not participate, do not opt out of Vintage Year 2016 EE

DUKE ENERGY CAROLINAS, LLC
Docket No. E-7, Sub 1073
RIDER 7 DSM/EE BILLING FACTORS PROPOSED BY COMPANY

Description	Revenue Requirement	Applicable Rate Period MWH Sales	Billing Factor (cents per kWh)	Applicable Customers
Non-Residential Vintage Year 2014 DSM Participant (True-Up)	$(1,012,916)	23,138,123	(0.0044)	Non-residential customers that opted in and participated in a DSM program during Vintage Year 2014 or, if they did not participate, do not opt out of Vintage Year 2016 DSM
Non-Residential Vintage Year 4 EE Participant (True-Up)	$7,819,931	23,966,011	0.0326	Non-residential customers that opted in and participated in an EE program during Vintage Year 4 (2013) or, if they did not participate, do not opt out of Vintage Year 2016 EE
Non-Residential Vintage Year 4 DSM Participant (True-Up)	$105,113	23,215,694	0.0005	Non-residential customers that opted in and participated in a DSM program during Vintage Year 4 (2013) or, if they did not participate, do not opt out of Vintage Year 2016 DSM
Non-Residential Vintage Year 3 EE Participant (True-Up)	$6,155,063	23,556,940	0.0261	Non-residential customers that opted in and participated in an EE program during Vintage Year 3 (2012) or, if they did not participate, do not opt out of Vintage Year 2016 EE

DUKE ENERGY CAROLINAS, LLC
Docket No. E-7, Sub 1073
RIDER 7 DSM/EE BILLING FACTORS PROPOSED BY COMPANY

Description	Revenue Requirement	Applicable Rate Period MWH Sales	Billing Factor (cents per kWh)	Applicable Customers
Non-Residential Vintage Year 3 DSM Participant (True-Up)	$(402,296)	23,100,221	(0.0017)	Non-residential customers that opted in and participated in a DSM program during Vintage Year 3 (2012) or, if they did not participate, do not opt out of Vintage Year 2016 DSM
Non-Residential Vintage Year 2 EE Participant (True-Up)	$3,442,055	23,295,755	0.0148	Non-residential customers that opted in and participated in an EE program during Vintage Year 2 (2011) or, if they did not participate, do not opt out of Vintage Year 2016 EE
Non-Residential Vintage Year 2 DSM Participant (True-Up)	$428,535	22,950,231	0.0019	Non-residential customers that opted in and participated in a DSM program during Vintage Year 2 (2011) or, if they did not participate, do not opt out of Vintage Year 2016 DSM
Non-Residential Vintage Year 1 EE Participant (True-Up)	$613,874	22,972,365	0.0027	Non-residential customers that opted in and participated in an EE program during Vintage Year 1 (2009-2010) or, if they did not participate, do not opt out of Vintage Year 2016 EE

DUKE ENERGY CAROLINAS, LLC
Docket No. E-7, Sub 1073
RIDER 7 DSM/EE BILLING FACTORS PROPOSED BY COMPANY

Description	Revenue Requirement	Applicable Rate Period MWH Sales	Billing Factor (cents per kWh)	Applicable Customers
Non-Residential Vintage Year 1 DSM Participant (True-Up)	$388,582	22,484,503	0.0017	Non-residential customers that opted in and participated in a DSM program during Vintage Year 1 (2009-2010) or, if they did not participate, do not opt out of Vintage Year 2016 DSM

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-7, SUB 1073

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of Application of Duke Energy Carolinas, LLC, For Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to G.S. 62-133.9 and Commission Rule R8-69	)))))	<u>AFFIDAVIT OF JACK L. FLOYD</u>

STATE OF NORTH CAROLINA

COUNTY OF WAKE

I, Jack L. Floyd, being first duly sworn, do depose and say:

I am an Engineer in the Electric Division of the Public Staff – North Carolina Utilities Commission representing the using and consuming public. I have attached, as Appendix A, a summary of my education and experience.

In preparing this affidavit, I reviewed the application and the testimony and exhibits of Conitsha B. Barnes and Roshena M. Ham filed on March 4, 2015, the corrected testimony and exhibits of Carolyn T. Miller filed on March 16, 2015, and the supplemental testimony and exhibits of Carolyn T. Miller and the supplemental exhibits of Conitsha B. Barnes filed on May 15, 2015, by Duke Energy Carolinas, LLC (DEC), pursuant to G.S. 62-133.9 and Commission Rule R8-69, as well as DEC's responses to Public Staff data requests. In addition, I have reviewed previous Commission orders related to DEC's demand-side management (DSM) and energy efficiency (EE) programs and cost recovery rider proceedings, and more specifically:

1. The Agreement and Stipulation of Settlement (Sub 1032 Agreement) approved by the Commission on October 29, 2013, in Docket No. E-7, Sub 1032,

2. The Agreement and Joint Stipulation of Settlement (Sub 831 Agreement) approved by the Commission on February 9, 2010, in Docket No. E-7, Sub 831,

3. The agreement regarding evaluation, measurement, and verification (EM&V) approved by the Commission on November 8, 2011, in Docket No. E-7, Sub 979 (EM&V Agreement), and

4. The joint motion regarding program modifications approved by the Commission on July 16, 2012, in Docket No. E-7, Sub 831 (Flexibility Guidelines).

The EM&V Agreement and the Flexibility Guidelines were incorporated into the Sub 1032 Agreement and approved by the Commission on October 29, 2013, in Docket No. E-7, Sub 1032 (Sub 1032 Order).

I also assisted Public Staff witness Maness with his review of the rider calculations and inputs underlying the riders proposed by DEC in this proceeding.

The purpose of my affidavit is to present the Public Staff's analysis and recommendations with respect to: (1) the portfolio of DSM and EE programs included in DEC's application for approval of its DSM/EE rider (Rider 7), including modification of those programs; (2) the cost-effectiveness of each DSM and EE program; and (3) the EM&V studies filed as exhibits to DEC witness Ham's testimony in this proceeding.

DSM and EE Programs in Rider 7

In its proposed Rider 7, DEC included the costs and incentives associated with the following programs:

- Residential Energy Assessments;
- Energy Efficient Appliances and Devices (formerly Residential Smart $aver® - Energy Star Products);
- HVAC Energy Efficiency (formerly Residential Smart $aver® – HVAC EE);
- Income-Qualified Energy Efficiency and Weatherization Assistance, including the former Residential Low Income Neighborhood program;
- Energy Efficiency Education;
- Residential Retrofit Pilot[1];
- My Home Energy Report;

[1] The Residential Retrofit Pilot has been canceled; however, costs associated with measures installed in 2011 and 2012 are included in Rider 7.

- Multi-Family Energy Efficiency;
- Appliance Recycling;
- Power Manager;
- Nonresidential Smart $aver® Custom Energy Assessments;
- Nonresidential Smart $aver® Energy Efficiency Food Service Products;
- Nonresidential Smart $aver® Energy Efficiency HVAC Products;
- Nonresidential Smart $aver® Energy Efficiency IT Products;
- Nonresidential Smart $aver® Energy Efficiency Lighting Products;
- Nonresidential Smart $aver® Energy Efficiency Process Equipment Products;
- Nonresidential Smart $aver® Energy Efficiency Pumps and Drives
- Nonresidential Smart $aver® Energy Efficiency Custom;
- PowerShare® Nonresidential Load Curtailment, which includes the Mandatory, Voluntary, and Stand-by Generator options;
- Power Share® Nonresidential Call Option;
- Energy Management and Information Services Pilot[2];
- Smart Energy in Offices (formerly the Smart Energy Now Pilot); and
- Small Business Energy Saver.

[2] The Energy Management and Information Services Pilot was canceled by the Commission on November 26, 2014, in Docket No. E-7, Sub 1032. Program costs are included Rider 7 pursuant to the cost recovery mechanism approved by the Sub 1032 Order.

Each of these programs has previously received Commission approval as a new DSM or EE program and is eligible for cost recovery in this proceeding under G.S. 62-133.9, subject to certain program-specific conditions imposed by the Commission. Also, several of these programs were included in the Save-A-Watt portfolio of programs approved in Docket No. E-7, Sub 831. The Commission approved the current portfolio of DSM/EE programs in its Sub 1032 Order, along with the new cost recovery mechanism.

Program Performance

In her testimony and exhibits, Ms. Barnes discusses the performance of each program in DEC's portfolio. While I do not discuss each program in the portfolio, I want to bring certain information to the Commission's attention regarding the performance of DEC's portfolio and particular programs.

DEC witness Barnes states in her direct testimony that DEC's portfolio of programs for Vintages 1 through 4 (2009-2013) exceeded the targets for capacity and energy impacts by 15% and 35%, respectively, and that the actual nominal avoided cost benefits associated with the Save-A-Watt program portfolio exceeded Save-A-Watt's target by 23%. Vintage 2014 (the first year covered by the Sub 1032 Agreement) exceeded its target for energy impacts by 38%, and almost achieved its target for capacity (99%), producing an avoided cost benefit that exceeded the target by 19%. Ms. Barnes indicates that through Vintage 2014, lighting measures in several of the residential and non-residential programs continue to provide substantial contributions to the overall portfolio impacts. Ms.

Barnes also notes that changes to the Energy Efficiency Education program in 2012 have improved its impacts.

While not specifically mentioned by witness Barnes in her testimony, it is also noteworthy that the My Home Energy Report program provided 40% of the overall residential portfolio energy savings for Vintage 2014. This program is projected to produce 72%[3] of the Vintage 2016 residential portfolio energy savings.

The Low Income program (weatherization and refrigerator replacement measures), which was approved in Docket No. E-7, Sub 831, was not actually implemented until April 2015. In my affidavit in the last DSM/EE rider proceeding, Docket No. E-7, Sub 1050 (Sub 1050), I noted that DEC was working on implementing this program and expected to begin delivering measures in the third quarter of 2014. However, due to logistical issues with vendors, DEC did not actually begin implementation until recently. In its data responses to the Public Staff, DEC stated that as of April 17, 2015, it had completed 34 weatherization installations and two refrigerator replacements.

DEC witness Barnes also states that the HVAC EE program was not cost-effective under the Utility Cost (UC) or Total Resource Cost (TRC) tests. In response to a Public Staff data request, DEC indicated that the cost-effectiveness of the HVAC EE program was impacted by new federal standards increasing the efficiency of heat pumps and air conditioning units that became effective in January

[3] System energy savings for Vintage 2016 (Barnes Exhibit 1, page 7, line 9 divided by line 10).

2015. DEC states that it intends to discuss continuation of this program with its EE Collaborative later this year to see if there are program design changes that can be made to improve the cost-effectiveness of the program.

DEC witness Barnes also states that the Appliance Recycling Program underperformed in Vintage 2014. However, since the participant payment was increased in May 2014, participation has increased two-fold.

Cost-Effectiveness

The Public Staff reviews the cost-effectiveness of the individual programs at the time they are proposed for approval, and annually in the rider proceedings, to ensure that the benefits of the DSM/EE programs continue to outweigh the costs. Pursuant to the Sub 1032 Agreement, cost-effectiveness is evaluated at both the program and portfolio levels. The Public Staff reviews cost-effectiveness using the UC, TRC, Participant, and Ratepayer Impact Measure (RIM) tests. Under each of these four tests, a result above 1.0 indicates that a program is cost-effective.

DEC's calculations of the cost-effectiveness of its portfolio of DSM and EE programs included the modeling inputs associated with the calculations relating to unit savings and net-to-gross (NTG) data obtained from EM&V reports, avoided costs, and program participation. The Public Staff's review of this information indicates that:

1. With the exception of the Income-Qualified EE and Weatherization program, and the HVAC EE program, the DSM and EE programs are cost-effective under the TRC and UC tests;

2. A comparison of the cost-effectiveness test results in Docket No. E-7, Sub 1050 (Duff Exhibit 7) to Barnes Exhibit 7 in this proceeding suggests that several programs produced lower cost-effectiveness test results under all four tests. As discussed by DEC witness Barnes, DEC updated its avoided capacity cost rate pursuant to the Agreement and Settlement filed October 29, 2013, in Docket No. E-100, Sub 136. DEC also updated its transmission and distribution avoided cost rates to those determined by the avoided cost study conducted pursuant to the Sub 1032 Order. While the updated avoided capacity cost rate was higher than originally filed in the Sub 136 case, the updated transmission and distribution rates were substantially lower, which netted in fewer avoided cost benefits from all programs.[4] Additionally, participation and EM&V may have negatively impacted the results. Barnes Exhibit 8, which provides the variances in program performance as related to both impacts and participation, shows that the resulting per participant impacts declined between the Sub 1032 proceeding and this proceeding for several of the programs.

3. The entire portfolio of programs remains cost-effective under all four tests.

The Public Staff will continue to evaluate and monitor the ongoing cost-effectiveness of programs that demonstrated lower test results in this proceeding.

[4] The avoided energy rates did not change from those identified in DEC's 2012 Integrated Resource Plan filed in Docket No. E-100, Sub 137.

With respect to the HVAC EE program, the Public Staff will continue to participate in DEC's EE Collaborative and work with DEC to address how program cost-effectiveness can be improved.

EM&V Recommendations

I have reviewed the testimony and exhibits filed by DEC witness Ham in this proceeding concerning the EM&V of DEC's DSM and EE programs. The Public Staff also contracted the services of GDS Associates to provide additional review of EM&V.

In previous cost recovery proceedings, the Commission has ordered that DEC address certain issues in future EM&V studies. In the Sub 1050 proceeding, I offered several recommendations concerning the determination of program impacts related to light emitting diode (LED) lighting technology, persistence of behavior-oriented programs like the My Home Energy Report program, DEC's adoption of process-related recommendations made by the third-party EM&V evaluator, the use of a "direct-net" approach for certain EE measures, and spillover impacts. Based on my review of DEC witness Ham's exhibits, I believe DEC has appropriately addressed these issues. I will address these more specifically below:

1. Ham Exhibit E included a discussion of the baseline impacts related to LED lighting;

2. DEC provided information from an independent evaluator that suggested a long term evaluation of the persistence of program impacts would be too costly and likely not cost beneficial;

3. In response to a Public Staff data request, DEC addressed the process-oriented recommendations made by the program evaluator, and indicated which recommendations it adopted and did not adopt. For those that were not adopted, DEC explained why;

4. The use of a "direct-net" approach, which uses a billing analysis to estimate net savings without making adjustments for free ridership or spillover, is becoming a more widely accepted industry practice in the EM&V of certain prescriptive EE measures. The Public Staff's earlier reservations with this approach have been addressed; and,

5. The EM&V reports in this proceeding appropriately addressed spillover when it was included in an NTG analysis.

Based on my review of the EM&V studies contained in Ms. Ham's exhibits in this proceeding, I make the following recommendations concerning EM&V[5]:

1. The Public Staff and DEC should further discuss the EM&V presented in Ham Exhibit E (Energy Efficient Appliances and Devices Program (Specialty Bulbs measures)), and Ham Exhibit B (Smart Energy Now Pilot) and therefore agree that the vintages of these programs covered by these EM&V

[5] DEC's implementation of these recommendations would be subject to the consideration of whether the cost would outweigh the benefit. If the cost does outweigh the benefit, the EM&V should discuss that analysis.

reports are subject to further adjustment in next year's proceeding. Therefore, the impacts derived through these EM&V analyses should be accepted for purposes of this rider, but may be subject to true up in next year's proceeding.

2. DEC and the Public Staff should work to coordinate an expeditious review of future planned program evaluations of existing programs and methodologies proposed for future EM&V;

3. Future planned program evaluation plans of existing programs, should include, as applicable, the survey instrument and scoring methodology used to account for NTG adjustments;

4. Future light logging studies should consider using stratification criteria to account for variables such as the percentage of people at home during the weekday (in the sample vs. the population) when appropriate;

5. Future evaluations which use an S-curve to estimate free-ridership (or spillover) in any NTG analysis, should provide an explanation of changes made to current S-curves relative to S-curves used in past evaluations of DEC programs;

6. Future evaluations which use technical reference manuals (TRMs) from other states to estimate program savings, should use available data (to the extent that is reasonable and cost-effective do to so) from DEC's Carolinas' service territory when calculating savings using algorithms in these TRMs; and,

7. Future evaluation plans (for any program which addresses residential lighting measures) should consider the feasibility of collecting specific data from DEC's Carolinas' service territory to revise the final adjusted in-service rates for program bulbs.

Status of EM&V

Pursuant to the EM&V Agreement, initial EM&V results apply retrospectively to the initiation of a program to replace initial estimates of all program impacts, with the exception of those impacts associated with the Non-Residential Smart $aver Custom Program. Subsequent EM&V results would apply prospectively for the purposes of truing up vintages from the first day of the month immediately following the month in which the study participation sample for that EM&V was completed.

I reviewed EM&V data and the exhibits of Company witnesses supporting EM&V from each of DEC's DSM/EE rider proceedings to gain a better understanding of the application of the EM&V results. Beginning in the DSM/EE rider proceeding in Docket No. E-7, Sub 1031, DEC included an exhibit comparing the impacts derived through EM&V of various measures with the original estimates of the impacts of kW and kWh savings for those measures. This data is provided in Barnes Exhibit 8 and serves as the basis for the true-ups to previous riders and vintages.

These data illustrate where EM&V results are final and where additional EM&V needs to be performed in order to verify the savings related to a particular vintage of a program or measure. Any program or measure that has not had any EM&V applied to it remains open for true-up. In this proceeding, DEC witness Barnes states that all program vintages for the original Save-A-Watt portfolio have been evaluated and that this rider represents a "final" true-up of the program impacts for these vintages and programs. Based on my review of the exhibits attached to the direct testimony of Company witnesses Barnes and Ham, I believe that, with the exception of the Specialty Bulb measures in the Energy Efficient Appliances and Devices program, and the Smart Energy Now pilot (Smart Energy in Offices) program, each of the vintages and programs have been sufficiently evaluated such that those vintages can be considered complete.

With respect to program vintages for which EM&V reports were filed in this proceeding, I do not recommend any adjustment to the impacts at this time. However, DEC and the Public Staff have agreed to further discuss the EM&V presented in Ham Exhibit E (Energy Efficient Appliances and Devices Program (Specialty Bulbs measures)), and Ham Exhibit B (Smart Energy Now Pilot) and therefore agree that the impacts derived through these EM&V analyses may be subject to further review and adjustment in next year's proceeding. With the exception of Ham Exhibits B and E, the EM&V of the vintages of the measures covered by the reports filed in this proceeding should be considered complete.

Review of Rider Calculations

To verify that the changes to program impacts and participation were appropriately incorporated into the rider calculations for each DSM and EE program, as well as the actual participation and impacts calculated with EM&V data, I reviewed: (1) workpapers provided in response to data requests; (2) a sampling of the EE programs; and (3) Barnes Exhibit 1, which incorporates data from various EM&V studies. Based on my ongoing review of this data, I believe DEC has appropriately incorporated the findings from EM&V studies and annual participation into its rider calculations. I continue to review this information and, if necessary, will file further information with the Commission should my review discover any relevant issues that would cause me to alter my recommendation herein.

This completes my affidavit.

Jack L. Floyd

Sworn to and subscribed before me

on this the 20th day of May 2015.

KIMBERLEY A CAMPBELL
Notary Public, North Carolina
Wake County
My Commission Expires
11-15-16

Notary Public

My Commission Expires: 11-15-16

APPENDIX A

JACK L. FLOYD

I am a graduate of North Carolina State University with a Bachelor of Science Degree in Chemical Engineering. I am also licensed in North Carolina as a Professional Engineer. I have more than seventeen years of experience in the water and wastewater treatment field, nine of which have been with the Public Staff's Water Division. In addition, I have been with the Electric Division for over eleven years.

Prior to my employment with the Public Staff, I was employed by the North Carolina Department of Natural Resources, Division of Water Quality as an Environmental Engineer. In that capacity, I performed various tasks associated with environmental regulation of water and wastewater systems, including the drafting of regulations and general statutes.

In my capacity with the Public Staff's Water Division, I investigated the operations of regulated water and sewer utility companies and prepared testimony and reports related to those investigations.

Currently, my duties with the Public Staff include evaluating the operation of regulated electric utilities, including rate design, cost of service, and demand side management and energy efficiency resources. My duties also include assisting in the preparation of reports to the Commission; preparing testimony regarding my investigation activities; reviewing Integrated Resource Plans; and making recommendations to the Commission concerning the level of service for electric utilities.