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**NORTH CAROLINA  
PUBLIC STAFF  
UTILITIES COMMISSION**

**FILED**

**SEP 20 2011**

**Clerk's Office  
N.C. Utilities Commission**

September 20, 2011

Ms. Renné C. Vance  
Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4325

Re: Docket No. E-7, Sub 979  
Duke Energy Carolinas, LLC

Dear Ms. Vance:

Enclosed for filing in the above-referenced docket are twenty-one (21) copies of the Supplemental Testimony and Exhibit of Timothy Duff and the Joint Proposed Order of Duke Energy Carolinas, LLC, Southern Alliance for Clean Energy, and the Public Staff.

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

Sincerely,

Lucy E. Edmondson  
Staff Attorney

[lucy.edmondson@psncuc.nc.gov](mailto:lucy.edmondson@psncuc.nc.gov)

AG  
7 Comm  
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Hodge  
Hilburn

Enclosure

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733-2435

Communications  
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Economic Research  
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Legal  
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Accounting  
733-4279

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733-9277

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Water  
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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 979

**FILED**

**SEP 20 2011**

*Clerk's Office*  
**N.C. 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 )  
SUPPLEMENTAL TESTIMONY OF  
TIMOTHY DUFF  
FOR  
DUKE ENERGY CAROLINAS, LLC

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1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Timothy Duff. My business address is 526 South Church Street, Charlotte,  
3 North Carolina 28202.

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

5 A. I am employed by Duke Energy Business Services LLC as General Manager, Retail  
6 Customer and Regulatory Strategy.

7 **Q. DID YOU PREVIOUSLY FILE DIRECT AND REBUTTAL TESTIMONY IN**  
8 **SUPPORT OF DUKE ENERGY CAROLINAS' APPLICATION IN THIS**  
9 **DOCKET?**

10 A. Yes, I did.

11 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY?**

12 A. During the hearing in this Docket, Duke Energy Carolinas, LLC ("Duke Energy  
13 Carolinas" or the "Company"), Southern Alliance for Clean Energy ("SACE"), and the  
14 Public Staff (collectively, the "Parties") agreed to work jointly to resolve their dispute  
15 regarding application of evaluation, measurement and verification ("EM&V") results to  
16 the Company's energy efficiency ("EE") programs<sup>1</sup> and to report the results of such  
17 efforts to the Commission. The Parties have worked diligently to reconcile their differing  
18 interpretations of their settlement in Docket No. E-7, Sub 831 and were able to reach an  
19 agreement as to how to apply EM&V results to EE programs. The purpose of my  
20 supplemental testimony is to describe this agreement. Supplemental Exhibit 1 to my

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<sup>1</sup> No Parties had issues with how Duke Energy Carolinas applies EM&V results to its demand side management ("DSM") programs, and accordingly, the application of EM&V results to DSM programs continues to be treated in the same manner as currently treated by the Company (as filed in this Docket).

1 testimony is a visual representation of the application of EM&V results for the true-up  
2 process pursuant to the Parties' agreement.

3 **Q. PLEASE DESCRIBE THE PARTIES' DIFFERING INTERPRETATIONS OF**  
4 **THE PROPER APPLICATION OF EM&V RESULTS UNDER THE**  
5 **SETTLEMENT AGREEMENT IN DOCKET NO. E-7, SUB 831.**

6 A. On June 12, 2009, Duke Energy Carolinas, SACE, Environmental Defense Fund, Natural  
7 Resources Defense Council, the Southern Environmental Law Center and the Public Staff  
8 filed an Agreement and Joint Stipulation of Settlement ("Settlement Agreement"), which  
9 was approved with modifications in the Commission's *Order Approving Agreement and*  
10 *Joint Stipulation of Settlement Subject to Certain Commission-Required Modifications*  
11 *and Decisions on Contested Issues* issued February 9, 2010 in the same Docket.

12 In connection with the filing of Duke Energy Carolinas' application for approval  
13 of its DSM/EE Rider for Vintage 3 ("Rider 3"), which included an Experience  
14 Modification Factor or "true-up" for the Company's first vintage of DSM and EE  
15 programs, it became apparent that Duke Energy Carolinas, SACE and the Public Staff  
16 had differing interpretations of certain provisions of the Settlement Agreement relating to  
17 the application of EM&V to the Company's EE programs, and in particular, the proper  
18 interpretation of Section I.4 of Exhibit B to the Settlement Agreement, which provides, in  
19 part, that "[t]he initial estimates of load impacts and free ridership (gross to net) will be  
20 utilized up until the first set of impact evaluations is completed. The results from those

1 impact evaluation studies will then be used prospectively until the next set is  
2 completed.”<sup>2</sup>

3 In short, Duke Energy Carolinas interpreted Section I.4 to mean that EM&V  
4 results are to be applied prospectively from the first day of the month after the EM&V  
5 report is final, and that these results should not be applied retrospectively during the true-  
6 up process (*i.e.*, EM&V should not be used to revise estimated impacts from prior  
7 vintages). The Public Staff agreed that, consistent with Section I.4, load impacts derived  
8 from EM&V will replace on a prospective basis the initial estimates adopted at the  
9 beginning of the save-a-watt pilot to calculate the prospective component of the annual  
10 rider. However, the Public Staff asserted that that Duke Energy Carolinas’ EM&V  
11 results should also be applied retrospectively to replace initial estimates for Vintage 1  
12 load impacts. While SACE Witness John Wilson testified that the Company was  
13 correctly implementing the Settlement Agreement by using “deemed savings” based on  
14 industry experience and practice, the Company learned through subsequent discussions  
15 with SACE that SACE shares the Public Staff’s view that during or prior to the final true-  
16 up of the modified save-a-watt pilot, the Company should true up its original impact  
17 estimates to reflect results based upon EM&V conducted on the programs in the  
18 Carolinas.

19 **Q. WILL YOU SUMMARIZE THE AGREEMENT REACHED BY THE PARTIES?**

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<sup>2</sup> EM&V results are the outputs of both process and impact evaluations performed by Duke Energy Carolinas’ independent third party evaluator and may include any or all of the following: kWh and kW load impacts, net to gross savings analysis, and realization rates. As Company Witness Nick Hall testified, EM&V results for Duke Energy Carolinas’ EE programs were not technically designed to be applied to periods of time prior to the EM&V study sample dates (consistent with the California Evaluation Framework).

1 A. For the purpose of resolving the Parties' dispute over interpretation of the Settlement  
2 Agreement, Duke Energy Carolinas agrees that initial EM&V results shall be applied  
3 retrospectively to program impacts that were based upon estimated impact assumptions  
4 derived from industry standards (rather than EM&V results for the program in the  
5 Carolinas).

6 Accordingly, the Parties have reached agreement that for all EE programs, with  
7 the exception of Non-Residential SmartSaver Custom Rebate Program and Low Income  
8 Energy Efficiency and Weatherization Assistance Program, EM&V results shall be  
9 applied retrospectively to the beginning of the program offering. For the purposes of the  
10 vintage true-ups, these initial EM&V results will be considered actual results for a  
11 program until the next EM&V results are received. The new EM&V results will then be  
12 considered actual results going forward and applied prospectively for the purposes of  
13 truing up vintages from the first day of the month immediately following the month in  
14 which the study participation sample for the EM&V was completed. This EM&V will  
15 then continue to apply and be considered actual results until it is superseded by new  
16 EM&V results, if any.<sup>3</sup>

17 **Q. WHY IS THE APPLICATION OF EM&V DIFFERENT FOR NON-**  
18 **RESIDENTIAL SMARTSAVER CUSTOM?**

19 A. Duke Energy Carolinas believes that EM&V for the Non-Residential SmartSaver Custom  
20 Rebate Program should not apply retrospectively because the program is fundamentally  
21 different than other programs as each Custom project and impact is unique. As a  
22 consequence, the current true-up process employed by Duke Energy Carolinas recognizes

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<sup>3</sup> A visual representation of the application of EM&V results for the true-up process is attached hereto as Exhibit 1.

1 actual participants and actual projects undertaken under Custom. More specifically, each  
2 project has its own financial valuation and cost effectiveness test scores associated with  
3 it, and the unique impacts for each Custom project are evaluated separately by the  
4 Company's third party evaluator. Additionally, unlike the EM&V for most EE programs  
5 that yields results in the form of a net savings impact, the EM&V associated with Custom  
6 will yield realization rates that that can be applied to general categories of technology as  
7 a means to improve the estimate of savings for future projects. This realization rate is  
8 reflective of the market conditions and the general state of technology at the time of the  
9 sample and therefore it is appropriate to apply the realization rate going forward.

10 **Q. WHY IS THE APPLICATION OF EM&V DIFFERENT FOR THE LOW**  
11 **INCOME ENERGY EFFICIENCY AND WEATHERIZATION ASSISTANCE**  
12 **PROGRAM?**

13 A. Because the non-lighting components of the Low Income Energy Efficiency and  
14 Weatherization Assistance program (refrigerator replacement and weatherization) were  
15 never offered to customers (due to the Company's cooperative efforts with the State  
16 Energy Offices) and will likely be replaced with a new Neighborhood Low Income  
17 Program, there will not be any EM&V impact evaluation results to apply. As such, the  
18 Parties agree that once it is completed, any EM&V performed on the new Neighborhood  
19 Low Income Program will be applied retrospectively beginning with the first day the  
20 approved new program is offered. The Company has addressed the Compact Fluorescent  
21 Lights ("CFL") component of the original Low Income Energy Efficiency and  
22 Weatherization Assistance program by applying the results of the Residential CFL  
23 EM&V (kWh and kW load impacts) back to the beginning of the program offering.

1 **Q. IS IT REASONABLE TO USE THE RESIDENTIAL CFL EM&V REPORT FOR**  
2 **CFLS DISTRIBUTED TO LOW INCOME CUSTOMERS?**

3 A. Yes, it is reasonable to apply the measured and verified kWh and kW load impacts from  
4 the Residential CFL program to the lighting component of the Low Income program due  
5 to the similarity in the programs. In both of these programs, the customers receive bulbs  
6 and are responsible for installing the bulbs themselves (as opposed to a direct-install  
7 program like Home Energy House Call). Industry experience suggests that customers  
8 will respond similarly to a bulb received via one self-install program versus another self-  
9 install program. However, freeridership, according to process evaluation results from  
10 Duke Energy Carolinas' third party evaluator indicate the net to gross ratio for Low  
11 Income customers is 1.

12 **Q. HOW WILL EM&V APPLY FOR NEW PROGRAMS AND PILOTS?**

13 A. For all new programs and pilots, the Company will follow a consistent methodology,  
14 meaning that initial estimates of impacts will be used until Duke Energy Carolinas has  
15 valid EM&V results, which will then be applied back retrospectively to the beginning of  
16 the offering and will be considered actual results until a second EM&V is performed.

17 **Q. PLEASE DESCRIBE WHY YOU BELIEVE THE PARTIES' AGREEMENT**  
18 **REGARDING INTERPRETATION OF THE SETTLEMENT AGREEMENT IS**  
19 **GOOD FOR CUSTOMERS AND SHOULD BE ACCEPTED BY THE**  
20 **COMMISSION.**

21 A. The agreement ensures that customers will not be subject the potential risk associated  
22 with original program estimates, and at the same time will benefit from a robust EM&V  
23 process that is designed to be applied prospectively. For this reason, I believe the Parties'



1 agreement is in the public interest and should be accepted by the Commission as a fair  
2 and reasonable resolution of the issues in this proceeding.

3 **Q. WHEN WILL RIDER 3 RATES REFLECTING THE PARTIES' AGREEMENT**  
4 **GO INTO EFFECT?**

5 A. The Parties agree that the Company's proposed Rider 3 shall go into effect beginning  
6 January 1, 2012 (subject to the Commission's ruling on whether the avoided costs of the  
7 Company's Home Energy Comparison Report pilot should be included in Rider 3), and  
8 that any adjustments to the Vintage 1 true-up portion of Rider 3 due to the Parties'  
9 agreement in this Docket shall be made in the Company's next DSM/EE rider filing in  
10 March 2012.

11 **Q. PUBLIC STAFF WITNESS FLOYD RECOMMENDS THAT THE KW SAVINGS**  
12 **IN THE COMPANY'S RESIDENTIAL SMARTSAVER CFL AND HIGH BAY**  
13 **LIGHTING EM&V REPORTS BE RECALCULATED USING A COINCIDENT**  
14 **PEAK AT THE TIME OF SYSTEM PEAK. HOW DO YOU RESPOND?**

15 A. The Company's position is that because logger studies for these measures were done at  
16 the equinox, meaning equal hours of day and night light, no calibration is needed.  
17 Nevertheless, Duke Energy Carolinas and the Public Staff have agreed that they will  
18 address the appropriate coincident peak in the Company's next DSM/EE rider filing.

19 **Q. WITNESS FLOYD ALSO RECOMMENDS THAT THE COMPANY'S EM&V**  
20 **SHOULD ADDRESS PERSISTENCE AND SNAPBACK OR EXPLAIN WHY IT**  
21 **SHOULD NOT BE APPLICABLE. DO YOU AGREE?**

22 A. As Duke Energy Carolinas witness Ashlie Ossege testified, both snapback and short-term  
23 persistence are measured and captured in the Company's EM&V reports, though not

1 explicitly. In particular, she explains that the effects of snapback and persistence are  
2 embedded in the results of billing analysis and on-site metering. The Company agrees to  
3 explain the effects of persistence and snapback in future DSM/EE rider filings.

4 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?**

5 **A. Yes.**

Program/Measure	2009		2010				2011				2012				2013			
	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	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Smart Saver RCFL					7/1/2010													
Non Residential Smart Saver Prescriptive Lighting				4/30/2010				4/26/2011					Quarter 2	Quarter 4				
Non-Residential SmartSaver Prescriptive (VFDs or other)								6/16/2011										
Residential Energy Assessments: Personalized Energy Report CFLs							3/31/2011				10/1/2011		Quarter 3	Quarter 4				
Residential Energy Assessments: OLS Audit CFLs							3/31/2011				10/1/2011		Quarter 3	Quarter 4				
Energy Efficiency Education (K12 Curriculum)							3/31/2011				10/31/2011		Quarter 3	Quarter 4				
Residential SmartSaver AC and HP								6/30/2011			Quarter 4		Quarter 3	Quarter 4				
Home Energy Comparison Report (South Carolina Pilot began May 2010)								6/1/2011	Quarter 3				Quarter 3	Quarter 4				Quarter 1
Residential Energy Assessments: Home Energy House Call				7/1/2010				6/13/2011					Quarter 3	Quarter 4				
Low Income Energy Efficiency and Weatherization Assistance													Quarter 3	Quarter 4				
Non-Residential SmartSaver Custom Rebate													Quarter 1	Quarter 2				
Smart Energy Now (Approved February 2011)																	Quarter 4	Quarter 1

Original Estimates apply  
 1st EM&V results apply  
 2nd EM&V results apply

**Date**      **Sample Date**  
**Date**      **Report Date**

**FILED**

**SEP 20 2011**

**Clerk's Office  
N.C. Utilities Commission**

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION  
DOCKET NO. E-7, SUB 979

In the Matter of:	)	
Application of Duke Energy Carolinas, LLC for	)	<b>JOINT PROPOSED ORDER OF</b>
Approval of Demand-Side Management and	)	<b>DUKE ENERGY CAROLINAS,</b>
Energy Efficiency Cost Recovery Rider Pursuant	)	<b>LLC, THE PUBLIC STAFF AND</b>
to G.S. 62-133.9 and Commission Rule R8-69	)	<b>SOUTHERN ALLIANCE FOR</b>
	)	<b>CLEAN ENERGY</b>

**HEARD:** Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina on Tuesday, June 23, 2011

**BEFORE:** Chairman Edward S. Finley, Jr., Presiding; Commissioners Lorinzo L. Joyner; William T. Culpepper, III; Brian E. Beatty; ToNola D. Brown-Bland; Susan W. Rabon; and Lucy T. Allen

**APPEARANCES:**

For Duke Energy Carolinas, LLC:

Molly L. McIntosh, K&L Gates, LLP, 214 N. Tryon Street, 47th Floor, Charlotte, North Carolina 28202

Robert W. Kaylor, Law Office of Robert W. Kaylor, P.A., 3700 Glenwood Avenue, Suite 330, Raleigh, North Carolina 27612

For the Using and Consuming Public:

Antoinette Wike, Chief Counsel and Lucy E. Edmondson, Staff Attorney, Public Staff – North Carolina Utilities Commission, 4326 Mail Service Center, Raleigh, North Carolina 27699

For Southern Alliance for Clean Energy:

Gudrun Thompson, Southern Environmental Law Center, 601 W. Rosemary Street, Suite 220, Chapel Hill, North Carolina 27516

**BY THE COMMISSION:** G.S. 62-133.9(d) authorizes the North Carolina Utilities Commission (“NCUC” or “Commission”) to approve an annual rider to the rates of electric public utilities, outside of a general rate case, for recovery of all reasonable and prudent costs

incurred for adoption and implementation of new demand-side management (“DSM”) and energy efficiency (“EE”) measures. The Commission is also authorized to award incentives to electric companies for adopting and implementing new DSM/EE measures, including rewards based on the capitalization of a percentage of avoided costs achieved by the measures. Commission 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 the reasonable and prudent costs incurred for adopting and implementing new DSM/EE measures previously approved by the Commission pursuant to Rule R8-68. Further, Commission Rule R8-69(b) provides for the establishment of a DSM/EE experience modification factor (“EMF”) rider to allow the electric public utility to collect the difference between reasonable and prudently incurred costs and the revenues that were actually realized during the test period under the DSM/EE rider then in effect.

On February 8, 2011, Duke Energy Carolinas, LLC (“Duke Energy Carolinas” or the “Company”) filed a motion to request an extension of time to file its annual DSM/EE rider application from March 9, 2011 to March 23, 2011. The Commission granted the motion on February 11, 2011. On March 23, 2011, the Company filed in Docket No. E-7, Sub 979 an application for approval of its DSM/EE rider (“Rider EE” or “Rider”) for Vintage 3 (“Application”) and the direct testimony and exhibits of Jane L. McManeus, Managing Director – Rates; Timothy Duff, General Manager – Energy Efficiency and Smart Grid Policy and Collaboration; and Ashlie J. Ossege, Manager – Market Analytics for Duke Energy Business Services LLC.

On March 31, 2011, the Commission issued an Order scheduling a hearing for June 23, 2011, establishing discovery guidelines, providing for intervention and testimony by other parties, and requiring public notice.

The intervention of the Public Staff has been recognized pursuant to G.S. 62-15(d) and Commission Rule R1-19(e). On April 20, 2011, Carolina Utility Customers Association, Inc. ("CUCA") filed a petition to intervene which was subsequently granted by Commission Order issued on April 26, 2011. Southern Alliance for Clean Energy ("SACE") filed a petition to intervene on June 1, 2011 which was granted by Commission Order issued on June 6, 2011.

On June 8, 2011, the Public Staff filed its direct testimony and exhibits of Michael C. Maness, Assistant Director of the Accounting Division, and Jack L. Floyd, Electric Engineer in the Electric Division. Also on June 8, SACE filed its direct testimony and exhibits of John D. Wilson, Director of Research. On June 21, 2011 Duke Energy Carolinas filed its rebuttal testimony and exhibits of witnesses McManeus, Duff, and Ossege and Nick Hall, President and Owner – TecMarket Works. On June 22, 2011, upon waiver of cross-examination by all parties, SACE filed a motion requesting its witness be excused from the hearing. That motion was granted by a Commission order issued the same day.

The case came on for hearing as ordered on June 23, 2011. On July 26, 2011, the Company filed three late-filed exhibits.

On September 20, 2011, Duke Energy Carolinas filed the supplemental testimony and exhibit of witness Duff, describing an agreement reached by Duke Energy Carolinas, SACE, and the Public Staff regarding the application of evaluation, measurement and verification ("EM&V") results to the Company's EE programs ("EM&V Agreement"). Also on September 20, Duke Energy Carolinas, SACE, and the Public Staff filed a joint proposed order.

### OTHER RELEVANT DOCKETS

On February 9, 2010, the Commission issued an *Order Approving Agreement and Joint Stipulation of Settlement Subject to Certain Commission-Required Modifications and Decisions on Contested Issues* in Duke Energy Carolinas' first DSM/EE rider proceeding, Docket No. E-7, Sub 831 ("Sub 831 Order"). In the Sub 831 Order, the Commission approved, with certain modifications, the Agreement and Joint Stipulation of Settlement between Duke Energy Carolinas, the Public Staff, SACE, Environmental Defense Fund, the Natural Resources Defense Council, and the Southern Environmental Law Center ("Settlement"), which describes the modified save-a-watt mechanism, pursuant to which Duke Energy Carolinas calculates the revenue requirements underlying its DSM/EE riders based on percentages of avoided costs, plus compensation for net lost revenues.

On February 15, 2010, Duke Energy Carolinas filed an Application for Waiver of Commission Rule R8-69(a)(4) and R8-69(a)(5) in Docket No. E-7, Sub 938 ("Waiver Application"), requesting waiver of the definitions of "rate period" and "test period." Under the modified save-a-watt mechanism, customer participation in the Company's DSM and EE programs and corresponding responsibility to pay Rider EE are determined on a vintage year basis. A vintage year is generally the 12-month period in which a specific DSM or EE measure is installed for an individual participant or group of participants.<sup>1</sup> For purposes of the modified save-a-watt portfolio of programs, the Company has applied the vintage year concept on a calendar year basis for administrative ease for the Company and its customers. Consistent with the Waiver Application, the Company calculated Rider EE for purposes of this proceeding using the rate period of January 1, 2012 through December 31, 2012.

Pursuant to the Waiver Application, “test period” is defined as the most recently completed vintage year at the time of the Company’s DSM/EE rider application filing date. As a result, this filing for Rider EE includes an EMF component for Vintage 1 because that vintage has been completed as of the filing date.

On February 24, 2010, the Commission issued an *Order Requesting Comments* on the Company’s Waiver Application. After receiving comments and reply comments, the Commission entered an *Order Granting Waiver, in Part, and Denying Waiver, in Part* (“Waiver Order”) on April 6, 2010. In the Waiver Order, the Commission approved the requested waiver of R8-69(d)(3) in part, but denied the Company’s requested waiver of the definitions of “rate period” and “test period.”

On May 6, 2010, Duke Energy Carolinas filed a Motion for Clarification or, in the Alternative, for Reconsideration, asking the Commission reconsider its denial of the waiver of the definitions of “test period” and “rate period,” and the Commission clarify that the EMF may incorporate adjustments for multiple test periods. In response, the Commission issued an *Order on Motions for Reconsideration* on June 3, 2010 (“Second Waiver Order”), granting Duke Energy Carolinas’ Motion.

On February 8, 2011, the Commission issued its *Order Adopting “Decision Tree” to Determine “Found Revenues” and Requiring Reporting in DSM/EE Cost Recovery Filings* in Docket No. E-7, Sub 831 (“Found Revenues Order”) which provided in Appendix A a “Decision Tree” to identify, categorize, and net possible found revenues against the net lost revenues created by the Company’s EE programs. Found revenues may result from activities that directly

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<sup>1</sup> Vintage 1 is an exception in terms of length. Vintage 1 is a 19-month period beginning June 2009 and ending December 2010, as a result of the approval of save-a-watt programs prior to the approval of the cost recovery mechanism.



or indirectly result in an increase in customer demand or energy consumption within Duke Energy Carolinas' service territory.

Based upon consideration of the pleadings, testimony, and exhibits received into evidence at the hearing, the late-filed exhibits and supplemental testimony, and the record as a whole, the Commission makes the following:

### FINDINGS AND CONCLUSIONS

1. Duke Energy Carolinas is a public utility with a public service obligation to provide electric utility service to customers in its service area in North Carolina and is subject to the jurisdiction of the Commission.

2. The Commission has jurisdiction over this Application pursuant to the Public Utilities Act. A utility may petition the Commission for approval of an annual rider to recover all reasonable and prudent costs incurred for the adoption and implementation of new DSM and EE measures pursuant to G.S. 62-133.9 and Commission Rules R8-68 and R8-69. The Commission concludes that it has the authority to consider and approve the relief the Company is seeking in this docket.

3. Pursuant to the Commission's Second Waiver Order, the rate period for the purposes of this proceeding is January 1, 2012 through December 31, 2012.

4. Rider EE as proposed in this proceeding includes an EMF component for Vintage 1 EE and DSM programs. Consistent with the Second Waiver Order, the test period for the EMF component is the period from June 1, 2009 through December 31, 2010.

5. Duke Energy Carolinas' and the Public Staff's proposed rates for Rider EE include the estimated avoided cost revenue requirements for Vintage 3 EE and DSM programs, the first year of net lost revenues for Vintage 3 EE programs, the second year of estimated net

lost revenues for Vintage 2 EE programs, and the Vintage 1 EMF. The Commission concludes that [Duke Energy Carolinas'] [the Public Staff's]<sup>2</sup> Rider EE and the associated billing factors should be approved, in light of the evidence presented, subject to appropriate true-ups in future cost recovery proceedings consistent with the Settlement, Sub 831 Order, and the EM&V Agreement.

6. [Duke Energy Carolinas] The reasonable and prudent Rider EE billing factor for residential customers, subject to later adjustment in accordance with Finding of Fact and Conclusion No. 5, is 0.2363 cents per kilowatt-hour (“kWh”) (including gross receipts tax and regulatory fee). [Public Staff] The reasonable and prudent Rider EE billing factor for residential customers, subject to later adjustment in accordance with Finding of Fact and Conclusion No. 5, is 0.2329 cents per kilowatt-hour (“kWh”) (including gross receipts tax and regulatory fee).

7. The reasonable and prudent Rider EE billing factor for non-residential customers who participated in Vintage 2, subject to later adjustment in accordance with Finding of Fact and Conclusion No. 5, is 0.0037 cents per kWh (including gross receipts tax and regulatory fee).

8. The reasonable and prudent Rider EE billing factor for non-residential customers who elect to participate in Vintage 3 of the Company's EE programs, subject to later adjustment in accordance with Finding of Fact and Conclusion No. 5, is 0.0406 cents per kWh (including gross receipts tax and regulatory fee).

9. The reasonable and prudent Rider EE billing factor for non-residential customers who elect to participate in Vintage 3 of the Company's DSM programs, subject to later

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<sup>2</sup> The Public Staff's Rider EE does not include the avoided costs of the Home Energy Comparison Report (“HECR”) pilot program in South Carolina.

adjustment in accordance with Finding of Fact and Conclusion No. 5, is 0.0526 cents per kWh (including gross receipts tax and regulatory fee).

10. The reasonable and prudent Rider EE billing factor for non-residential customers who participated in Vintage 1 of the Company's EE programs, subject to later adjustment in accordance with Finding of Fact and Conclusion No. 5, is 0.0218 cents per kWh (including gross receipts tax and regulatory fee).

11. The reasonable and prudent Rider EE billing factor for non-residential customers who participated in Vintage 1 of the Company's DSM programs, subject to later adjustment in accordance with Finding of Fact and Conclusion No. 5, is 0.0205 cents per kWh (including gross receipts tax and regulatory fee).

12. The EM&V Agreement provides that for the Company's EE programs, with the exception of the Non-Residential SmartSaver Custom Rebate Program and the Low Income Energy Efficiency and Weatherization Assistance Program, initial EM&V results shall be applied retrospectively to the beginning of the program offering to replace initial estimates of impacts. For the purposes of the vintage true-ups, these initial EM&V results will be considered actual results for a program until the next EM&V results are received. The new EM&V results will then be considered actual results going forward and applied prospectively for the purposes of trueing up vintages from the first day of the month immediately following the month in which the study participation sample for the EM&V was completed. This EM&V will then continue to apply and be considered actual results until it is superseded by new EM&V results, if any.

13. The EM&V Agreement provides that EM&V for the Non-Residential SmartSaver Custom Rebate Program would not apply retrospectively and that the current true-up process, which recognizes actual participants and actual projects undertaken, should remain in effect.

The EM&V Agreement also provides that the non-lighting components of the Low Income Energy Efficiency and Weatherization Assistance Program (refrigerator replacement and weatherization) were never offered to customers (due to the Company's cooperative efforts with the State Energy Offices) and will likely be replaced with a new Neighborhood Low Income Program. Thus, for the non-CFL components of the Low Income Program, there will not be any EM&V impact evaluation results to apply. Under the EM&V Agreement, any EM&V performed on a new Neighborhood Low Income Program will be applied retrospectively beginning with the first day the approved new program is offered.

14. It is reasonable to apply the results of the Residential CFL EM&V (kWh and kW load impacts) to the CFL component of the Low Income Energy Efficiency and Weatherization Assistance program back to the beginning of the program offering, consistent with the EM&V Agreement.

15. Pursuant to the EM&V Agreement, for all new programs and pilots approved, the initial estimates of impacts will be used until Duke Energy Carolinas has valid EM&V results, which will then be applied back retrospectively to the beginning of the program/pilot offering and will be considered actual results until a second EM&V is performed.

16. The EM&V Agreement is reasonable and appropriate and in the public interest.

17. Duke Energy Carolinas should file a list of all changes it has made to existing programs and a proposal for any further changes to programs, with an updated evaluation of cost effectiveness for each program using all four applicable tests, including supporting documentation for its calculations, in Docket No. E-7, Sub 831, within 30 days of this Order.

18. Duke Energy Carolinas, SACE, and the Public Staff should file a joint proposal regarding Commission approval of program modifications, in Docket No. E-7, Sub 831, within 90 days of a Commission Order in this proceeding.

19. The Company should file cost-effectiveness test results using all four applicable tests, including supporting documentation for its calculations for each program, with future annual DSM/EE rider applications.

20. **[Duke Energy Carolinas]** Pursuant to G.S. 62-133.9(d) which allows the Commission to grant an electric public utility recovery of DSM and EE program costs, the avoided cost-based revenue requirements from all of the Company's EE and DSM programs, including pilots, offered to customers in North Carolina or South Carolina should be allocated to customers in both states and recovered through the Company's Rider EE. **[Public Staff]** The costs associated with the Home Energy Comparison Report (HECR) Program pilot in South Carolina should be removed from Rider EE as proposed in this proceeding. Duke Energy Carolinas may recover through base rates reasonably and prudently incurred costs producing system benefits allocable to North Carolina retail customers.

#### **EVIDENCE FOR FINDINGS AND CONCLUSIONS Nos. 1 & 2**

The evidence in support of these findings of fact can be found in the Application, pleadings, testimony and exhibits in this docket, as well as in the statutes, case law, and rules governing the authority and jurisdiction of this Commission. These findings are informational, procedural, and jurisdictional in nature.

G.S. 62-133.9 grants the Commission the authority to approve an annual rider, outside of a general rate case, for recovery of reasonable and prudent costs incurred in the adoption and implementation of new DSM and EE measures. Similarly, Commission Rule R8-68 provides,

among other things, that reasonable and prudent costs of new DSM or EE programs approved by the Commission shall be recovered through the annual rider described in G.S. 62-133.9 and Commission Rule R8-69. The Commission may also consider in the annual rider proceeding whether to approve any utility incentive pursuant to G.S. 62-133.9(d)(2)a-c.

Commission Rule R8-69 outlines the procedure whereby a utility applies for and the Commission establishes an annual DSM/EE rider. The Rule defines DSM/EE rider as “a charge or rate established by the Commission annually pursuant to G.S. 62-133.9(d) to allow the electric public utility to recover all reasonable and prudent costs incurred in adopting and implementing new demand-side management and energy efficiency measures after August 20, 2007, as well as, if appropriate, utility incentives, including net lost revenues.” Rule R8-69(a)(2). Rule R8-69(c) allows a utility to apply for recovery of incentives for which the Commission will determine the appropriate ratemaking treatment.

G.S. 62-133.9, Rule R8-68 and Rule R8-69 establish a procedure whereby an electric public utility files an application in a unique docket for the Commission’s approval of an annual rider for recovery of reasonable and prudent costs of approved EE and DSM programs as well as appropriate utility incentives, potentially including specifically “[a]ppropriate rewards based on capitalization of a percentage of avoided costs achieved by demand-side management and energy efficiency measures.” Consistent with the modified save-a-watt mechanism as approved by the Sub 831 Order, the cost recovery and incentives the Company seeks through Rider EE are based upon paying the Company a percentage of the avoided capacity costs achieved by DSM measures, and a separate percentage of the net present value (“NPV”) of avoided capacity costs and avoided energy costs achieved by EE measures. In addition, the Settlement provides for a limited period of recovery of the Company’s net lost revenues resulting from implementation of

its EE measures. The Commission concludes that it has the authority to consider and approve the relief the Company is seeking in this docket.

#### **EVIDENCE FOR FINDINGS AND CONCLUSIONS Nos. 3 & 4**

The evidence in support of these findings can be found in the Second Waiver Order and the testimony of Company witnesses McManeus and Duff and the testimony of Public Staff witness Maness. The rate period and inclusion of an EMF component for Rider EE are consistent with the Commissions' ruling in the Second Waiver Order, and are uncontroverted by any party.

#### **EVIDENCE FOR FINDINGS AND CONCLUSIONS Nos. 5 – 11**

The evidence in support of these findings of fact can be found in the Sub 831 Order, the Application in this docket, the testimony and exhibits of Company witnesses McMancus, Ossege, and Duff, the testimony of SACE witness Wilson, and the testimony of Public Staff witnesses Maness and Floyd.

On March 23, 2011, Duke Energy Carolinas filed the Application seeking approval of Rider EE, which includes the formula for calculation of the Rider, as well as the proposed billing factors to be effective for Vintage 3. Furthermore, SACE witness Wilson, Company witness McMancus, and Public Staff witness Maness testified that the method by which Duke Energy Carolinas has calculated its proposed Rider is the modified save-a-watt mechanism as described in the Settlement and approved, with certain modifications, in the Sub 831 Order. (Tr. at 16; 35-37; 195).

#### **Modified Save-a-Watt Mechanism**

The modified save-a-watt mechanism is a four-year pilot, with an extension allowed beyond the four years to allow for the recovery of net lost revenues experienced due to EE

measures installed or implemented during the four years. Duke Energy Carolinas is allowed to recover in revenues 75% of the avoided capacity costs resulting from its DSM measures installed or implemented during the four-year term, and 50% of the NPV of avoided capacity and energy costs resulting from its EE measures installed or implemented during the same period. The Company is also allowed to recover 36 months of net lost revenues resulting from the installation of EE measures.<sup>3</sup> Initial revenue requirements are set based on 85% of targeted savings. As explained above, customer participation in the Company's DSM and EE programs, and corresponding responsibility to pay Rider EE, are determined on a vintage year basis.

The Settlement provides for a series of annual true-ups that will be conducted to update revenue requirements based on actual customer participation results. Additionally, Duke Energy Carolinas' final avoided cost-related revenue requirements over the four-year period will be based on its measured and verified savings achieved. The final avoided cost-related revenue requirements will also be subject to an earnings cap, with earnings measured as the excess of revenue requirements over DSM or EE program costs. Additionally, the Found Revenues Order provides a mechanism to identify, categorize and net possible found revenues from net lost revenues that stem from the Company's EE programs.

#### Calculation of Rider EE

Company witness McManeus described how the Company calculated Rider EE as proposed in this proceeding in accordance with the modified save-a-watt mechanism. (Tr. at 34). She testified that the estimated revenue requirements for Vintage 3 are determined separately for residential and nonresidential customer classes and are based on the expected avoided costs (and

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<sup>3</sup> Pursuant to the Sub 831 Order, such recovery of net lost revenues will end upon Commission approval of an alternative recovery mechanism, or the implementation of new rates in a general rate case or comparable proceeding to the extent that rates set in a rate case or comparable proceeding are set to explicitly or implicitly recover those net



associated net lost revenues) to be realized at an 85% level of achievement of targeted savings. (*Id.* at 35). Consistent with the modified save-a-watt mechanism, the proposed Rider is designed to allow Duke Energy Carolinas to collect a level of revenue equal to 75% of its estimated avoided capacity costs applicable to DSM programs and 50% of the NPV of estimated avoided capacity and energy costs applicable to EE programs, as well as estimated net lost revenues for EE programs. (*Id.*). Witness McManeus explained that as a result, the revenue requirements for proposed Rider EE include: (1) the avoided cost revenue requirements for Vintage 3 DSM programs; (2) the avoided cost revenue requirements and the first year of net lost revenues for Vintage 3 EE programs; (3) the second year of net lost revenues for Vintage 2 EE programs; and (4) the EMF participation true-up for Vintage 1. (*Id.* at 38-39).

McManeus Exhibit 1 sets forth the calculations of the residential and nonresidential billing factors. Ms. McManeus explained that the numerator of the residential billing factor is calculated by first adding the DSM component of the avoided cost revenue requirement to the EE component of the avoided cost revenue requirement to get the residential avoided cost revenue requirement. (*Id.* at 41). She testified that the residential avoided cost revenue requirement is then multiplied by the gross receipts tax and regulatory fee factor to obtain the adjusted residential avoided cost revenue requirement. (*Id.*). As explained by Ms. McManeus, this figure is then added to net lost revenues for the second year of Vintage 2 programs and the net lost revenues for the first year of Vintage 3 programs to obtain the Residential Save-a-Watt Revenue Requirement,<sup>4</sup> the numerator of the billing factor. (*Id.*). The Residential Save-a-Watt Revenue Requirement is then divided by a denominator consisting of the projected North Carolina residential retail kWh sales for Vintage 3 to obtain the residential billing factor.

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lost revenues. Recovery of net lost revenues for vintage year installations not covered by the new rates will continue, subject to the 36-month limitation.

Witness McManeus testified that the calculation of the nonresidential billing factors is essentially the same, using nonresidential inputs instead. (*Id.*) However, she added, because nonresidential customers are allowed to opt out of either DSM or EE programs separately in an annual election, nonresidential billing factors have been separately computed for DSM versus EE programs and within EE programs, by vintage. (*Id.* at 42).

Witness McManeus also described the calculation to determine the DSM and EE components. (*Id.*) The DSM component is calculated by multiplying the projected kW demand impacts from DSM measures for Vintage 3, the Company's annual avoided capacity costs per kW, and 75%. (*Id.*) Similarly, the EE component is calculated by multiplying the projected kW demand impacts from EE programs by the annual avoided capacity costs per kW from the Avoided Cost Filing. (*Id.* at 43). The next step is to take the NPV of these numbers and multiply the result by 50%. (*Id.*) The avoided cost of energy revenue requirement is calculated by first multiplying the projected kWh impacts for the EE programs by the Company's annual avoided energy costs, determining the NPV of those numbers, and multiplying by 50%. (*Id.*) No party disputed the methodology of the Company's DSM and EE component calculations for Rider EE as described by witness McManeus, and these calculations are consistent with the method adopted by the Commission in the Sub 831 Order.

Witness McManeus then described how the net lost revenue component of the billing factors was determined. (*Id.* at 44). She testified that net lost revenues were estimated by multiplying the portion of the Company's tariff rates that represent the recovery of fixed costs by the estimated kW and kWh reductions applicable to EE programs. (*Id.*) She explained that the Company calculated the portion of retail tariff rates representing the recovery of fixed costs by

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<sup>4</sup> Revenue requirements are set at 85% achievement of target avoided costs savings.

deducting the recovery of fuel and variable operating and maintenance (“O&M”) costs from its tariff rates. (*Id.*) According to witness McManeus, the kWh reductions to which the fixed cost rates are applied reflect 12 months of expected reductions, representing one year out of the total three years of net lost revenues recoverable, for each applicable vintage. (*Id.*) Rider EE includes net lost revenues for the second year of Vintage 2 programs in addition to net lost revenues for the first year of Vintage 3 programs. (*Id.* at 44-45). For the Vintage 3 net lost revenues, the kWh reductions to which the fixed costs rates are applied reflect an assumption that enrollment in programs will be staggered throughout the year, using a “half-year convention” (i.e., six months of net lost revenues), to minimize the potential for over-collection. (*Id.* at 45). Witness McManeus testified the Company is not recovering net lost revenues on its DSM programs. (*Id.* at 45). She also stated that net lost revenues and found revenues were calculated at the NC retail level, rather than at a system level, aligning results with how fixed costs would be recovered from retail customers in base rates. (*Id.* at 51). Lastly, she testified that actual net lost revenues for year one of Vintage 1 for residential customers were calculated by taking the weighted average of residential rate schedules RS and RE. (*Id.* at 50). According to her testimony, the actual net lost revenues for year one of Vintage 1 for non-residential customers was calculated by taking the weighted average of Schedules OPT-I and OPT-G, the two rate schedules that have the most participation in the Company’s DSM and EE programs. (*Id.*)

Witness McManeus also explained in her testimony that the Vintage 3 component of Rider EE contains an estimate of found revenues to offset lost revenues for year one of the Vintage 3 programs. (*Id.*) Her testimony stated that the Vintage 2 lost revenue component of Rider EE has been adjusted by an estimate of found revenues for year two of Vintage 2 programs. (*Id.*) Additionally, the EMF component of Rider EE, which trues up for participation

in Vintage 1, has also been adjusted to incorporate found revenues into the true-up of lost revenues for year 1 of Vintage 1. (*Id.*) Other adjustments to lost revenues from her testimony include the opt-out adjustment and the load impacts from EM&V data. Witness McManeus also notes that the lack of an election period related to Vintage 3 has caused the Company to use currently known information regarding Vintage 2 opt-out elections to estimate Vintage 3 elections. (*Id.*) Furthermore, the Company has received load impact results for its Compact Fluorescent Light Bulb (“CFL”) measure. (*Id.* at 46). Accordingly, Ms. McManeus testifies the Vintage 3 component of Rider EE incorporates the updated CFL load impact results in the estimates of avoided cost revenue requirements for Vintage 3 DSM programs, avoided cost revenue requirements for Vintage 3 EE programs, and the first year of net lost revenues for Vintage 3 EE programs. (*Id.*)

In addition to describing the DSM and EE components and the net lost revenue calculations, Witness McManeus testified to the calculation of the Rider EE Vintage 1 EMF component. The EMF includes updates for actual participation, lost margins, found revenues, and certain pilot programs for Vintage 1. (*Id.* at 47-48). McManeus Exhibit 3 demonstrates the calculations of the EMF. Additionally, Witness McManeus explains the Company’s avoided cost rates used in the calculation of the avoided cost revenue requirements for Rider EE remain unchanged because they have not increased or decreased more than 25% from those fixed at the outset of the Settlement. (*Id.*) Ms. McManeus also provided testimony regarding allocation of the revenue requirements for Rider EE. (*Id.* at 46). In particular, she explained that the revenue requirement amounts for nonresidential customers differ depending on customer participation elections. (*Id.*) Furthermore, she explained that the revenue requirement levels included in the billing factors are calculated based on 85% achievement of target savings. (*Id.*)

While not challenging the methodology used in the Company's calculation of net lost revenues for the prospective and EMF components of Rider EE as described by Duke Energy Carolinas' witness McManeus, the Public Staff presented two exceptions to the Company's calculated Rider EE components. First, as described in the Evidence for Findings and Conclusion No. 20, Public Staff witnesses Floyd and Maness recommended that the revenue requirements associated with the South Carolina HECR pilot program be excluded from Rider EE. In Maness Exhibit I, Public Staff witness Maness set forth the Public Staff's calculation of the Residential components of Rider EE, excluding HECR-related revenue requirements. Second, Public Staff witness Maness contended that the Company's incorporation of the updated load impact results for its residential CFL and non-residential lighting-related programs for Vintage 1 was inconsistent with the Settlement, as approved by the Commission in the Sub 831 Order. (*Id.* at 201-06). As discussed in the Evidence for Findings and Conclusions No. 12-16 *supra*, the Company, SACE, and the Public Staff subsequently entered into the EM&V Agreement regarding the incorporation of updated load impacts for the Company's portfolio of DSM and EE programs. (Duff Supplemental Testimony at 4). Pursuant to the EM&V Agreement, the Company, SACE and the Public Staff agree that the Company's proposed Rider EE shall go into effect beginning January 1, 2012, and that any adjustments to the Vintage 1 true-up portion of Rider EE due to the EM&V Agreement will be made in the Company's next DSM/EE rider filing in March 2012. (*Id.* at 8).

As set forth in the Evidence for Findings and Conclusion Nos. 12-16, the Commission concludes that the EM&V Agreement is reasonable and appropriate and in the public interest. [Duke Energy Carolinas] Furthermore, as set forth in the Evidence for Findings and Conclusion No. 20, the Commission concludes that it is reasonable and appropriate to include the

revenue requirements associated with the HECR program in the calculation of Rider EE. [Public Staff] Furthermore, as set forth in the Evidence for Findings and Conclusion No. 20, the Commission concludes that the Public Staff's recommendation to exclude the revenue requirements associated with the HECR program from the calculation of Rider EE is reasonable and appropriate.} The components of Rider EE set forth in Findings of Fact 5-11 appropriately reflect the Commission's findings and conclusions herein.

### **EVIDENCE FOR FINDINGS AND CONCLUSIONS Nos. 12-16**

The evidence in support of these findings of fact can be found in the Application, the direct testimony of Company witness McManeus, the rebuttal testimony of Company witnesses Duff, Ossege and Hall, the testimony of Public Staff witness Maness, the supplemental testimony of Company witness Duff, and the record in the Sub 831 docket.

In her direct testimony, Duke Energy Carolinas' witness McManeus explained how the Company would incorporate updated load impact results from EM&V data and conduct annual participation true-ups and a final true-up pursuant to the Company's interpretation of the Settlement. (Tr. at 36-37). She pointed to Section I.4 of Exhibit B of the Settlement, which states, "[t]he initial estimates of load impact and free ridership (gross to net) will be used until the first set of impact evaluations is completed. The results from those impact evaluations will then be used prospectively until the next set is completed."

Based on this section of the Settlement, Duke Energy Carolinas incorporated the updated load impact results from EM&V data prospectively into its calculations of Rider EE. Duke Energy Carolinas witness Hall offered testimony that retrospective application of EM&V results had caused uncertainty and created disincentives to pursue EE in California, and recommended

against the retrospective application of EM&V. (Tr. at 119). Company witness Ossege testified on rebuttal that retrospective application of EM&V could add significant volatility, uncertainty, and unpredictability to the EM&V results. (*Id.* at 105).

Public Staff witness Maness disagreed with Duke Energy Carolinas' interpretation of the Settlement regarding the incorporation of updated load impacts, and pointed to Sections H.5, H.6, I.2, and I.5 of Exhibit B, the Settlement testimony and exhibits of Company witnesses Schultz and Farmer, verified information submitted by the Company, and the final tariff approved by the Commission in Sub 831. (*Id.* at 202-06). According to Mr. Maness, the Settlement provides that EM&V will be used to true up estimated energy and capacity savings with achieved energy and capacity savings. (*Id.* at 206). Thus, the dispute between Duke Energy Carolinas and the Public Staff involves whether the Settlement required EM&V data to be used only prospectively, or both prospectively and retrospectively in calculating the EMF and net lost revenues.

SACE witness John Wilson testified that the Company was correctly implementing the Settlement by using "deemed savings" based on industry experience. (*Id.* at 19). In his supplemental testimony, Duke Energy Carolinas' witness Duff testified that the Company had learned through subsequent discussions that SACE shared the Public Staff's view that the Company should true up its original impact estimates to reflect results based upon EM&V conducted on the programs in the Carolinas, during or prior to the final true up of the modified Save-A-Watt pilot. (Duff Supplemental Testimony at 4).

Following the hearing in this matter, the Company, SACE and the Public Staff were able to reach agreement regarding the application and incorporation of updated load impacts from EM&V data. (*Id.* at 2). Under this EM&V Agreement, for the purposes of resolving the dispute

over the interpretation of the Settlement Agreement, Duke Energy Carolinas has agreed that initial EM&V results<sup>5</sup> shall be applied retrospectively to program impacts that were based upon estimated impact assumptions. (*Id.* at 5). Thus, Duke Energy Carolinas witness Duff explained that for all of the Company's EE programs, with the exception of the Non-Residential SmartSaver Custom Rebate Program and the Low Income Energy Efficiency and Weatherization Assistance Program, the initial EM&V results would be applied retrospectively to the beginning of the program offering. For vintage true-ups, the initial EM&V results will be considered actual results for a program until the next EM&V results are received. Mr. Duff further testified that the initial EM&V results will continue to apply and be considered actual results until superseded by new EM&V results, if any. (*Id.*)

In regard to the Non-Residential SmartSaver Custom Rebate Program ("Custom"), Company witness Duff explained that it was the Company's view that EM&V should not apply retrospectively because the program is fundamentally different than other programs as each Custom project and impact is unique. (*Id.* at 5-6). Mr. Duff explained that while EM&V for most EE programs yields net savings impacts, the EM&V associated with Custom will yield realization rates that that can be applied to general categories of technology as a means to improve the estimate of savings for future projects. (*Id.* at 6). Because this realization rate reflects market conditions and the general state of technology at the time of the sample, Mr. Duff stated that it is appropriate to apply the realization rate going forward for Custom. (*Id.*). Thus, under the EM&V Agreement, Duke Energy Carolinas' current true-up process for this program, which recognizes actual participants and actual projects undertaken, would remain in place.

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<sup>5</sup> EM&V results are the outputs of both process and impact evaluations performed by Duke Energy Carolinas' independent third party evaluator and may include any or all of the following: kWh and kW load impacts, net to gross savings analysis, and realization rates



In regard to the Low Income Energy Efficiency and Weatherization Assistance program (“Low Income Program”), Duke Energy Carolinas’ witness Duff testified that the non-lighting components of the program (refrigerator replacement and weatherization) were never offered to customers (due to the Company’s cooperative efforts with the State Energy Offices) and will likely be replaced with a new Neighborhood Low Income Program. (*Id.*) Thus, for the non-CFL components of the Low Income Program, Mr. Duff noted that there will not be any EM&V impact evaluation results to apply. (*Id.*) Under the EM&V Agreement, any EM&V performed on a new Neighborhood Low Income Program will be applied retrospectively beginning with the first day the approved new program is offered. (*Id.*)

Public Staff witness Floyd and Company witnesses Ossege and Duff addressed Duke Energy Carolinas’ application of the EM&V results (kWh and kW load impacts) from the Residential CFL program to the CFL components of its Low Income Program. (Tr. at 103, 227; Duff Supplemental Testimony at 6-7). Ms. Ossege testified that the Company has agreed to include with its next DSM/EE rider application an explanation of how it applied EM&V data, including the programs or measures to which impacts are being applied. (Tr. at 103). Mr. Duff explained that it was appropriate to apply the EM&V results from the Residential CFL Program to the CFL components of the Low Income Program because in both of these programs, the customers receive bulbs and are responsible for installing the bulbs themselves. (Duff Supplemental Testimony at 7). Under the EM&V Agreement, the parties to the Agreement have agreed that the results of the Residential CFL EM&V (kWh and kW load impacts) may be applied to the CFL components of the Low Income Program back to the beginning of the program offering. (*Id.*)

For all new programs and pilots, under the EM&V Agreement, initial estimates of impacts will be used until Duke Energy Carolinas has valid EM&V results, which will then be applied back retrospectively to the beginning of the offering and will be considered actual results until a second EM&V is performed. (*Id.*). Finally, the parties to the EM&V Agreement have agreed that the Company's proposed Rider EE in the current proceeding would go into effect beginning January 1, 2012, and that any adjustments to the Vintage 1 true-up portion of Rider EE resulting from the EM&V Agreement should be made in the Company's next DSM/EE rider filing in March 2012. (*Id.* at 8).

The Commission finds that the EM&V Agreement, which supplies a more detailed and specific understanding regarding the application of EM&V pursuant to the Settlement, ensures that customers will not be subject to the potential risk associated with original program estimates, and at the same time will benefit from a robust EM&V process that is designed to be applied prospectively. The EM&V Agreement is found to be reasonable and appropriate and in the public interest, and is accepted by the Commission as a fair and reasonable resolution of the issues in this proceeding.

#### **EVIDENCE FOR FINDINGS AND CONCLUSIONS Nos. 17-19**

The evidence in support of this finding of fact and conclusion can be found in the testimony of Company witness Duff and Public Staff witness Floyd.

On February 26, 2009, the Commission issued its *Order Resolving Certain Issues, Requesting Information on Unsettled Matters and Allowing Proposed Rider to Become Effective Subject to Refund* in Docket No. E-7, Sub 831 (*February 26, 2009, Order*). This Order requires Commission approval of: (1) changes in program costs greater than 20%, (2) changes that resulted in program savings of greater than 20%, (3) any change to the participant incentives offered, (4)

changes to the target customer group, (5) any changes that would result in the reassignment of costs and benefits from one class to another, or (6) any combination of the first five criteria. Section J. 2 of the Settlement Agreement filed in Sub 831 states: "Consistent with the North Carolina Utilities Commission's February 26, 2009, Order in this docket, the Company will submit all new programs and major program modifications to the Commission for approval."

Public Staff witness Floyd testified that Duke Energy Carolinas has changed the incentives of several programs to improve participation and savings. (Tr. at 223). He noted that while the Company did not receive Commission approval prior to making these changes, he does not believe that many of the changes made to program incentives for the purpose of addressing lackluster participation or to reducing costs, should necessarily require Commission approval as first contemplated in Sub 831. (*Id.* at 223-24). Mr. Floyd recommended that the Commission require the Company to file a full accounting of all changes it has made to existing programs and a proposal for any further changes to programs, with an updated evaluation of cost effectiveness for each program using all four applicable tests, including supporting documentation for its calculations. (*Id.*). He also proposed that in future DSM/EE rider proceedings, Duke be required to file these test results with its application. (*Id.*).

Mr. Floyd testified that he supported modification of the requirement that Duke Energy Carolinas seek Commission approval prior to making changes to its DSM and EE programs. He opined that the Company could maximize its portfolio's effectiveness if it were able to make program changes, including changes to incentives, as long as the changes have limited impact on program and portfolio cost effectiveness. (*Id.*). Mr. Floyd proposed that the Company and the Public Staff continue discussing revisions to the program flexibility requirements and file a joint proposal in Docket No. E-7, Sub 831, within 90 days of a Commission Order in this proceeding.

(*Id.*). He testified that it would be appropriate for SACE to participate in the discussions and formulation of the proposal. (*Id.*). Duke Energy Carolinas' witness Duff testified that working with the Public Staff to create a formal proposal would help the Company better optimize its programs and improve the value customers realize from the Company's portfolio of DSM and EE programs. (*Id.* at 158).

The Commission concludes that the the issue of program modifications should be reviewed in Docket No. E-7, Sub 831, as well as the pertinent docket for the various EE or DSM programs approved subsequent to the Sub 831 docket. The Company should file a list of all changes it has made to existing programs and a proposal for any further changes to programs, with an updated evaluation of cost effectiveness for each program using all four applicable tests, including supporting documentation for its calculations within 30 days of this Order. The Commission also concludes that the company, SACE, and the Public Staff should discuss revisions to the program flexibility requirements in the *February 26, 2009, Order* and file a joint proposal within 60 days of this Order. Finally, the Commission finds that there is merit to Mr. Floyd's recommendation that the Company be required to file cost-effectiveness test results for each program with its application. An annual review of cost-effectiveness allows the Commission to monitor the progress and success of the programs enacted under the Commission's aegis.

#### **EVIDENCE FOR FINDINGS AND CONCLUSION No. 20**

[**Duke Energy Carolinas**] The evidence in support of this finding can be found in the testimony of Company witnesses McManeus and Duff and the testimony of Public Staff witnesses Floyd and Maness, as well as in the statutes, case law, and rules governing the authority and jurisdiction of this Commission.

Company witness Duff testified that Duke Energy Carolinas' Home Energy Comparison Report program ("HECR") was approved in South Carolina after the Company's Vintage 1 programs were launched in North Carolina. (Tr. at 144). While HECR is currently only being piloted in South Carolina, the Duke Energy Carolinas system is planned, designed, and operated on an integrated basis. (*Id.*). Duke Energy Carolinas contends that, therefore, avoided cost benefits from this pilot should be allocated to customers in both North and South Carolina and incorporated in the Vintage 1 EMF. (*Id.*). Mr. Duff distinguished avoided costs from net lost revenues, which are determined on a state and class-specific basis, and explained that accordingly, net lost revenues from HECR are not included in Rider EE and will not be included in the EMF. (*Id.* at 144-45).

Witness McManeus provided testimony that it is appropriate to allocate avoided costs from HECR to North Carolina retail customers because of the way the modified save-a-watt compensation mechanism is structured. (*Id.* at 60). Under the modified save-a-watt mechanism as approved by the Commission in Docket No. E-7, Sub 831, Duke Energy Carolinas is compensated based on predetermined percentages of the Company's capacity- and energy-related "avoided cost," an estimate of the cost of supplying electricity. (*Id.*). In other words, modified save-a-watt provides for compensation to Duke Energy Carolinas for successful implementation of EE and DSM programs on the basis of a discount to the avoided costs of a power plant, rather than on the basis of what the Company spends on DSM and EE programs. (*Id.*). Ms. McManeus explained that just as a power plant built by Duke Energy Carolinas in South Carolina provides system benefits to the Company's customers in North and South Carolina, a DSM or EE program approved and implemented in South Carolina provides system benefits – by delaying or avoiding the cost of constructing new supply-side resources – to

customers in both North and South Carolina. (*Id.*) As such, Duke Energy Carolinas believes it is appropriate to allocate avoided costs from HECR (or any other program approved in South Carolina but not North Carolina) to North Carolina customers, and that it is likewise appropriate for the Company to allocate the avoided costs of a DSM or EE program approved in North Carolina but not South Carolina to South Carolina customers. (*Id.*) As witness McManeus testified, the Company has allocated the avoided costs for Smart Energy Now, which is currently only being piloted in North Carolina, to both North and South Carolina customers. (*Id.* at 60-61, 70, 74-75).

Ms. McManeus further testified that costs that are avoided through the operation of DSM and EE programs are for the most part demand- and energy-driven generation and transmission costs. (*Id.* at 61-62). The Company operates its generation and transmission system on a total-system basis to serve all customers in its service territory across two states. (*Id.* at 62). Accordingly, for rate-making purposes, the Commission traditionally has not directly assigned system-level generation and transmission costs to either North or South Carolina, but rather has instead allocated those costs to each state on the basis of demand at the system peak and annual energy usage as percentages of system peak demand and annual energy usage. (*Id.*) Thus, the costs avoided by utilization of DSM and EE, if incurred instead, would likely have been handled for ratemaking purposes by aggregating them with other generation and production costs on a total system basis and allocating them by state. (*Id.*) Accordingly, assigning avoided costs for DSM and EE programs approved in one state to only that state would result in that state subsidizing the other and would discourage either state from approving DSM and EE programs. Ms. McManeus concluded that if the Company is not permitted to recover avoided costs for HECR from North Carolina customers despite the fact that HECR produces system benefits, then

either South Carolina customers would be subsidizing North Carolina customers, just as if the Company were to recover in rates the costs of a generation asset built in South Carolina from South Carolina customers only, or the Company would have stranded costs which it could not recover. (*Id.*).

Witness McManeus also provided testimony explaining why, unlike avoided costs, net lost revenues for HECR are not included in Rider EE. (*Id.* at 61). According to Ms. McManeus, recovery of net lost revenues addresses the situation in which the Company has under collected the amount of system fixed costs that have been allocated to a particular retail jurisdiction. (*Id.*). The Company believes it is appropriate to allocate net lost revenues for HECR to South Carolina, rather than a system allocation, because this produces a result that aligns with how fixed costs would be recovered from retail customers in base rates. (*Id.*). Ms. McManeus explained that if system allocation of net lost revenues is used, one jurisdiction would subsidize another in terms of fixed costs, and the proper allocation of fixed costs would not be maintained. (*Id.*). She testified that determining lost revenues for North Carolina retail jurisdiction based on actual North Carolina retail kWh savings and rates maintains the proper allocation of fixed costs among rate jurisdictions. (*Id.*).

Public Staff Witness Floyd agreed that DSM and EE programs provide system benefits. (*Id.* at 244). However, he testified the Company's HECR pilot program should be removed from the revenue requirements for North Carolina customers pursuant to Commission Rule R8-69(b)(1) because this pilot program has not been approved by this Commission and no application is currently pending. (*Id.* at 225, 252-53). Witness Floyd appears to base his objection to inclusion of avoided costs for HECR in Rider EE primarily on Rule R8-68(b)(1), as demonstrated by his responses to questioning by Commission Chairman Edward S. Finley, Jr.:

Chairman Finley: “Mr. Maness [sic] makes the point that what we’re doing here is avoiding costs of a production plant, and that just because you’ve got a production plant in South Carolina that’s producing energy and capacity for use in North Carolina, you still allocate some of those costs to North Carolina. What’s your response to that line of reasoning?”

Witness Floyd: “I don’t necessarily disagree with that. The system is designed on a systemwide basis. DSM and efficiency programs are designed to provide system benefits and they should be compensated on that basis. However, because of rule R8-68B I’m pretty much stuck with my recommendation.”

Chairman Finley: “Do you think that there may be some need to change rule R-69B [sic]?”

Witness Floyd: “I don’t know.”

(*Id.* at 253-54).

As a result, the Public Staff recommends that the Rider EE billing factors be adjusted to remove the impacts of HECR. (*Id.* at 201). However, the Public Staff does not recommend that the Company likewise adjust Rider EE to allocate 100% of avoided costs for Smart Energy Now to North Carolina customers. (*See id.* at 253). Witness Floyd admitted that “there is some inconsistency” in adjusting Rider EE to exclude HECR avoided costs, but not to include Smart Energy Now costs that are currently being allocated to South Carolina customers. (*See id.*).

Public Staff witness Maness testified that the issue is not allocation of the costs of HECR, but rather, whether these costs should be recovered in base rates or through Rider EE. (*Id.* at 254-56). In response to a question from the Public Staff indicating that the Public Staff does not oppose the recovery of reasonable and prudent costs of out-of-state DSM/EE programs through base rates, Ms. McManeus explained that “the ability to recover through a rider our DSM and EE programs as a result of this Senate Bill 3 should apply to all reasonable and prudent costs



incurred with a DSM program and it should not be bifurcated into a base rate recovery separately from a rider EE recovery.” (*Id.* at 68).

As witness McManeus points out in her rebuttal testimony, although R8-69(b)(1) refers to “measures previously approved pursuant to Rule R8-68,” there are several places in G.S. 62-133.9 and the Commission Rules that support the concept of EE and DSM programs being viewed as system resources that should be paid for by the retail customers that directly benefit from the programs. (*Id.* at 63). Notably, she cites the definition of DSM/EE rider in Rule R8-69(a)(2) which states that such charge or rate should “...allow the electric public utility to recover all reasonable and prudent costs incurred in adopting and implementing new demand side management and energy efficiency measures....” (*Id.*). In addition, G.S. 62-133.9(b) requires electric power suppliers to implement DSM and EE measures and incorporate them into its resource plans for meeting the electricity needs of its customers. Furthermore, subsection (d) of G.S. 62-133.9 allows the electric public utility to seek cost recovery for “...all reasonable and prudent costs incurred for adoption and implementation of new demand-side management and new energy efficiency measures.....” (*Id.*).

The Commission agrees with the Company that the benefit of a DSM or EE program to the utility system is the long-term reduction in cost of service achieved by the utility as a result of it acquiring DSM and EE resources to serve load growth at a lower cost than would have been incurred had the utility instead been required to serve that load growth through acquisition of supply-side resources. This reduction in cost accrues to the benefit of all system customers because the costs, themselves, if incurred, would be allocated to the entire system. Moreover, the Commission concludes that G.S. 62-133.9(b) and Commission Rule R8-69 allow recovery of costs associated with programs that produce system benefits. Because Duke Energy Carolinas

uses one set of resources to supply customers across two states, it is therefore appropriate to allocate to North Carolina customers a portion of the reasonable and prudent costs of all EE and DSM programs that are implemented as part of the Company's plan to meet the electricity needs of customers in both states. Since the Commission has previously ordered that the cost of retail EE and DSM programs should not be allocated to wholesale customers, accordingly, the avoided costs of HECR should be allocated across all retail customers notwithstanding that it has only been approved in South Carolina.

[Public Staff] The evidence in support of this finding of fact and conclusion can be found in G.S. 62-133.9, Commission Rules R8-68 and 69, and the testimony of Company witnesses McManeus and Duff and Public Staff witnesses Floyd and Maness.

Duke Energy Carolinas witness Duff testified that the HECR program was approved as a 12-month pilot by the Public Service Commission of South Carolina in Docket 2010-50-E on March 24, 2010, and had been recently completed. (Tr. at 144). Public Staff witness Floyd testified that Duke Energy Carolinas filed a HECR pilot program in North Carolina on June 7, 2010. The Public Staff reviewed the application and filed comments recommending approval of the HECR pilot and denial of Duke Energy Carolinas' proposed recovery of lost revenues. Following further discussions with Duke Energy Carolinas, the Public Staff filed additional comments recommending that the HECR pilot be approved and be eligible for lost revenues if it were ultimately found to be cost effective. Duke Energy Carolinas subsequently withdrew its application for approval of HECR in North Carolina on November 24, 2010. (*Id.* at 224-25).

Mr. Floyd pointed out that Commission Rule R8-69(b)(1) states that an energy efficiency (EE) rider may be established pursuant to Commission Rule R8-69 to recover costs related to programs that have been approved pursuant to Commission Rule R8-68. As the South Carolina

HECR program is not an approved EE program pursuant to Commission Rule R8-68, he stated that it is inappropriate for Duke Energy Carolinas to include its costs in the costs used to calculate the Vintage 3 Rider EE. (*Id.* at 225). Public Staff witness Maness incorporated Mr. Floyd's recommendation to exclude these costs associated with HECR into the calculation of the Public Staff's recommended Vintage 1 and Vintage 3 billing factors, which is set forth on Exhibit 1 to Mr. Maness' testimony.

Duke Energy Carolinas witness McMancus explained that the Duke Energy Carolinas system is planned, designed, and operated on an integrated basis. She explained that an EE or demand-side management (DSM) program approved and implemented in South Carolina provides system benefits by delaying or avoiding the cost of constructing new supply-side resources to customers in both states. As such, it is appropriate to allocate avoided costs from HECR (or any other program approved in South Carolina but not North Carolina) to North Carolina customers. Likewise, it is appropriate for the Company to allocate the avoided costs of an EE or DSM program approved in North Carolina but not South Carolina to South Carolina customers. As noted by Duke Energy Carolinas' witness Duff, the Company has allocated the avoided costs for Smart Energy Now, which is currently only being piloted in North Carolina, to both North and South Carolina customers. (*Id.* at 59-61).

Ms. McMancus noted that as net lost revenues are determined on a state and class-specific basis, net lost revenues from HECR are not included in Rider 3 and will not be included in the EMF. She testified that net lost revenues are recovered when the Company has undercollected the amount of system fixed costs that have been allocated to a particular retail jurisdiction. Thus, Ms. McMancus contended that it is appropriate to allocate net lost revenues for HECR to South Carolina, rather than a system allocation, because this produces a result that

aligns with how fixed costs would be recovered from retail customers in base rates and maintains the proper allocation of fixed costs among rate jurisdictions. (*Id.* at 61-62).

Ms. McManeus further contended that failure to assign a portion of the avoided cost revenue requirements related to HECR to North Carolina retail customers creates either cross subsidies between states or stranded costs for the Company. She stated that assigning avoided costs for DSM and EE programs approved in one state to only that state would result in one state subsidizing the other and would discourage either state from approving DSM and EE programs. (*Id.* at 62).

Ms. McManeus pointed out that there are several places in the statute and rulemaking that support the concept of EE and DSM programs being viewed as system resources that should be paid for by the retail customers that directly benefit the programs. She pointed to the definition of DSM/EE rider in Rule R8-69(a)(2) that states that such charge or rate should “allow the electric public utility to recover all reasonable and prudent costs incurred in adopting and implementing new demand side management and energy efficiency measures. . . .” She also noted that G.S. 62-133.8(b) requires electric power suppliers to implement DSM and EE measures and incorporate them into its resource plans for meeting the electricity needs of its customers, and that G.S. 62-133.8(d) allows the electric public utility to seek cost recovery for “all reasonable and prudent costs incurred for adoption and implementation of new demand-side management and new energy efficiency measures. . . .” Ms. McManeus contended that since Duke Energy Carolinas uses one system of resources to supply customers across two states, it is appropriate to allocate to North Carolina customers a portion of the reasonable and prudent costs of all programs that are implemented as part of the Company’s plan to meet electricity needs of customers in both states. (*Id.* at 63).

On cross examination, Ms. McMancus testified that if the Commission had rejected an application for an EE or DSM program filed by the Company, but the same program was approved in South Carolina, she would recommend that the Company be allowed recovery for the program in North Carolina based on the kilowatts or kilowatt hour savings. She agreed that the objective of Senate Bill 3 was to promote the development of renewable energy and energy efficiency in North, rather than South, Carolina, but pointed out that North Carolina customers benefitted from impacts realized in South Carolina. (*Id.* at 68-69).

In response to questions from the Commission as to whether there was some inconsistency in its exclusion of the costs of the South Carolina HECR program and its allocation of costs of the Smart Energy Now pilot program to the South Carolina jurisdiction, witness Floyd noted that the allocation of the costs of the Smart Energy Now pilot program to the South Carolina jurisdiction was consistent with the save-a-watt mechanism adopted in Docket No. E-7, Sub 831. (*Id.* at 253). Witness Maness noted that the Public Staff does not dispute that the reasonable and prudent costs of the HECR program in South Carolina could not be recovered through base rates as part of the general ratemaking process. He pointed out that the Public Staff is only disputing the recovery of the costs of the HECR program through the DSM/EE Rider. Mr. Maness noted that Commission Rule R8-69 expressly requires that the program has to be approved in North Carolina for its costs to be recovered through the rider. He posited that this may be due in part to the fact that until a program has come before the Commission, it has not had a chance to formally evaluate that program and determine if it is an appropriate DSM or EE program. Mr. Maness testified that that he believed that the requirement that the program be approved in North Carolina is an appropriate protection mechanism for North Carolina customers regardless of its treatment in South Carolina. In regard to the Smart

Energy Now pilot program, he noted that it had been approved by the Commission in its current form and, was appropriately included in the rider. Mr. Maness stated that in regard to the Smart Energy Now program, the issue was not really whether its costs should be allocated, but whether the costs should be recovered through the rider or through base rates. (*Id.* at 254-56).

G.S. 62-133.9(c) requires electric power suppliers to submit cost-effective DSM and EE options that require incentives to the Commission for approval. Accordingly, subsections (b)(1) and (c)(1) of Commission Rule 8-69 include the requirement that program approval precede recovery through a DSM/EE rider of either costs or incentives. Whatever the system benefits produced by the HECR program approved in South Carolina, it has not been approved by this Commission pursuant to Commission Rule R8-68 and therefore is not eligible for inclusion in Rider EE in North Carolina. This ineligibility for rider recovery does not subject the Company to the risk of incurring stranded costs, however, as it may seek recovery of the costs of DSM/EE programs not approved in North Carolina through its base rates.

The Commission agrees with the testimony of Public Staff witnesses Floyd and Maness on this issue and, therefore, concludes that the costs associated with the HECR program pilot in South Carolina should be removed from the Rider EE as proposed in this proceeding.

#### **GENERAL EM&V ISSUES**

The Commission notes that this is the first proceeding in which Duke Energy Carolinas has presented EM&V data which has been incorporated into its DSM/EE Rider. The Public Staff and SACE raised several issues regarding the EM&V analyses or the overall EM&V process.

SACE witness Wilson presented a chart that indicated that certain EM&V analyses have been delayed. (Tr. at 22-23). Company witness Ossege disputes that the EM&V reports are delayed, but notes that the Company can not forecast exactly when the reports will begin or end.

(*Id.* at 104). She notes that the Company files with its rider application a projected schedule for EM&V. (*Id.*) The Commission concludes that in future DSM/EE rider proceedings, Duke Energy Carolinas should include with its projected schedule for EM&V, explanations for delays or changes to its EM&V schedule from the prior proceeding.

Public Staff witness Floyd testified that in regard to the Residential SmartSaver CFL EM&V report (Exhibit A to Company witness Ossege's direct testimony) and the High Bay Lighting EM&V report (Exhibit B to Company witness Ossege's direct testimony), he recommended that the coincident peaks be recalculated using a coincident peak at the time of system peak. (Tr. at 227-28). Duke Energy Carolinas witness Duff testified that because logger studies for these measures were done at the equinox, no calibration is necessary. (Duff Supplemental Testimony at 8). However, Duke Energy Carolinas and the Public Staff have agreed to address the appropriate coincident peak in the Company's next DSM/EE rider filing. Public Staff witness Floyd further recommended that Duke Energy Carolinas provide in future rider applications an explanation as to how EM&V results are applied, including the date it begins using updated impacts or participation results in its calculations or models, the programs or measures to which it applies the results, an analysis of the costs associated with performing additional EM&V work for other measures, and any other pertinent information regarding the applicability of the EM&V findings to the other CFL measures, including any differences in the characteristics of the targeted participants that would alter savings estimates. (Tr. at 227). Duke Energy Carolinas witness Ossege testified that the Company would provide in its next rider filing the detail regarding EM&V suggested by Mr. Floyd. (*Id.* at 103).

Mr. Floyd also contended that in future proceedings, the Company's EM&V should address persistence and snapback, or explain why it should not be applicable. (*Id.* at 229). Duke

Energy Carolinas witness Ossege testified that both snapback and short-term persistence are already measured and included in the EM&V reports, though not explicitly, primarily through billing analysis and on-site metering. (*Id.* at 102-03). She explained that the long-term effects of persistence could not be directly measured during the current 12- to 18-month cycle for each EM&V report, but would require regular, cyclical studies with the same respondents over the life of each measure. (*Id.*). Moreover, Ms. Ossege indicated that such long-term evaluations would increase the cost of EM&V reporting significantly and would provide little, if any, increase in the accuracy of the analysis. (*Id.*). Finally, she pointed out that the results from such a long-term study would only be available well after the end of the four-year Save-a-Watt pilot program. (*Id.*). Duke Energy Carolinas witness Duff noted that the Company had agreed to explain the effects of persistence and snapback in future DSM/EE rider filings. (Duff Supplemental Testimony at 8-9).

IT IS, THEREFORE, ORDERED as follows:

1. [Duke Energy Carolinas] That the Commission hereby approves the calculation of Rider EE as filed by Duke Energy Carolinas and the resulting billing factors as demonstrated in McManeus Exhibit 1 to go into effect for the rate period January 1, 2012 through December 31, 2012; subject to appropriate true-ups in future cost recovery proceedings consistent with the Settlement, Sub 831 Order, and the EM&V Agreement; [Public Staff] That the Commission hereby approves the calculation of Rider EE as filed by Duke Energy Carolinas, and the resulting billing factors as demonstrated in McManeus Exhibit 1, as adjusted to reflect the Public Staff's recommended billing factors set forth on Maness Exhibit 1, to go into effect for the rate period January 1, 2012 through December 31, 2012; subject to appropriate true-ups in future cost recovery proceedings consistent with the Settlement, Sub 831 Order, and the EM&V Agreement;



2. That Duke Energy Carolinas shall file for Commission review an exhibit detailing the actual and expected dates where each program or measure's EM&V will become effective as soon as practicable, but no later than the Company's 2012 DSM/EE cost recovery proceeding;

3. That Duke Energy Carolinas, SACE, and the Public Staff shall file a joint proposal regarding Commission approval of program modifications in Docket No. E-7, Sub 831, within 90 days of a Commission Order in this proceeding;

4. That Duke Energy Carolinas shall file annually with each DSM/EE rider application a full list of all changes it has made to existing programs and a proposal for any further changes to programs. This list shall also include an updated evaluation of cost effectiveness for each program using all four applicable cost-effectiveness tests and provide supporting documentation for its calculations;

5. That in future DSM/EE rider proceedings, Duke Energy Carolinas shall include with its projected schedule for EM&V, explanations for delays or changes to its EM&V schedule from the prior proceeding;

6. That Duke Energy Carolinas and the Public Staff shall include information in their filings in the next rider proceeding regarding the appropriate coincident peak to be used to calculate the avoided costs benefits of specific DSM and EE programs;

7. That in its future DSM/EE rider applications, the Company shall provide an explanation as to how EM&V results are applied, including:

(a) the date it begins using updated impacts or participation results in its calculations or models,

(b) the programs or measures to which it applies the results,

(c) an analysis of the costs associated with performing additional EM&V work for other measures, and

(d) any other pertinent information regarding the applicability of the EM&V findings to the other CFL measures, including any differences in the characteristics of the targeted participants that would alter savings estimates; and

8. That in future DSM/EE rider application, the Company shall explain the effects of persistence and snapback.

This \_\_\_\_ day of \_\_\_\_\_, 2011.

THE NORTH CAROLINA UTILITIES COMMISSION

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Renné C. Vance, Chief Clerk