NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION

July 20, 2018

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

Re: Docket No. E-7, Sub 1164

Dear Ms. Jarvis:

Attached for filing is the Proposed Order of the Public Staff in the above-referenced docket.

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

Sincerely,

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

LEE/cla

Attachment

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STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-7, SUB 1164

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	)))))	PROPOSED ORDER APPROVING DSM/EE RIDER AND REQUIRING FILING OF PROPOSED CUSTOMER NOTICE

HEARD: On Tuesday, June 5, 2018, in Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina

BEFORE: Commissioner ToNola D. Brown-Bland, Presiding; Chairman Edward S. Finley; and Commissioners Jerry C. Dockham; James G. Patterson; and Lyons Gray

APPEARANCES:

For Duke Energy Carolinas, LLC:

Kendrick C. Fentress, Duke Energy Carolinas, LLC, Post Office Box/1551/NCRH 20, Raleigh, North Carolina 27602

Molly McIntosh Jagannathan, Troutman Sanders LLP, 301 South College Street, Suite 3400, Charlotte, North Carolina 28202

For the North Carolina Sustainable Energy Association:

Benjamin Smith and Peter H. Ledford, 4800 Six Forks Road, Suite 300, Raleigh, North Carolina 27609

For the Carolina Utility Customers Association, Inc.:

Robert F. Page, Crisp & Page, PLLC, 4010 Barrett Drive, Suite 205, Raleigh, North Carolina 27609

For the North Carolina Justice Center and the Southern Alliance for Clean Energy:

David Neal, Southern Environmental Law Center, 601 West Rosemary Street, Suite 220, Chapel Hill, North Carolina 27516

For The Carolina Industrial Group for Fair Utility Rates III

Warren Hicks, Bailey & Dixon, LLP, Post Office Box 1351, Raleigh, North Carolina 27602

For the Using and Consuming Public:

Lucy E. Edmondson, Public Staff – North Carolina Utilities Commission, 4326 Mail Service Center, Raleigh, North Carolina 27699

BY THE COMMISSION: General Statute 62-133.9(d) authorizes the North Carolina Utilities Commission (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, but not limited to, appropriate rewards based on (1) the sharing of savings achieved by the DSM and EE measures and/or (2) the capitalization of a percentage of avoided costs achieved by the measures. Commission Rule R8-69(b) provides that every year the Commission will conduct a proceeding for each electric public utility to establish an annual DSM/EE rider to recover the reasonable and prudent costs incurred by the electric utility in adopting and implementing new DSM/EE measures previously approved by the Commission pursuant to Commission 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. Commission Rule R8-69(c) permits the utility to request the inclusion of utility incentives (the rewards authorized by the statute), including net lost revenues (NLR), in the DSM/EE rider and the DSM/EE EMF rider.

In the present proceeding, Docket No. E-7, Sub 1164, on March 7, 2018, Duke Energy Carolinas, LLC (DEC or the Company), filed an application for approval of its DSM/EE rider (Rider EE[1] or Rider 10) for 2019[2] (Application) and the direct testimony and exhibits of Carolyn T. Miller, Manager, Rates and Regulatory Strategy for DEC, and Robert P. Evans, Senior Manager – Strategy and Collaboration for the Carolinas in the Company's Market Solutions Regulatory Strategy and Evaluation group.

On March 29, 2018, the Commission issued an Order scheduling a hearing for June 5, 2018, establishing discovery guidelines, providing for intervention and testimony by other parties, and requiring public notice.

The intervention of the Public Staff – North Carolina Utilities Commission (Public Staff) is recognized pursuant to G.S. 62-15(d) and Commission Rule R1-19(e). On March 16, 2018, the North Carolina Sustainable Energy Association (NCSEA) filed a petition to intervene, which was granted on March 23, 2018. On April 10, 2018, the Carolina Utility Customers Association, Inc. filed a petition to intervene, which was granted on April 11, 2018. On May 1, 2018, the North Carolina Justice Center (NC Justice Center) and the Southern Alliance for Clean

[1] DEC refers to its DSM/EE Rider as "Rider EE"; however, this rider includes charges intended to recover both DSM and EE revenue requirements.

[2] The Rider EE proposed in this proceeding is the Company's tenth Rider EE and includes components that relate to Vintages 2014, 2015, 2016, 2017, 2018, and 2019 of the Revised Mechanism. For purposes of clarity, the aggregate rider is referred to in this Order as "Rider 10" or the proposed "Rider EE." Rider 10 is proposed to be effective for the rate period January 1, 2019, through December 31, 2019.

Energy (SACE) filed a petition to intervene, which was granted on May 2, 2018. The Carolina Industrial Group for Fair Utility Rates III filed a petition to intervene on May 17, 2018, which was granted on May 18, 2018.

On May 21, 2018, the Public Staff and NC Justice Center/SACE filed a motion for an extension of time in which to file intervenor testimony to May 22, 2018, and to file rebuttal testimony to June 1, 2018. The motion was granted by the Commission on May 21, 2018.

On May 22, 2018, NC Justice Center/SACE filed the testimony of Chris Neme, co-founder and Principal of Energy Futures Group; and the Public Staff filed the testimony and exhibits of Michael C. Maness, Director of the Accounting Division; David M. Williamson, Engineer in the Electric Division; and Eric L. Williams, Financial Analyst in the Economic Research Division.

On June 1, 2018, DEC filed the joint rebuttal testimony of Timothy J. Duff, General Manager of Customer Regulatory Strategy and Evaluation at Duke Energy Business Services LLC, and Richard G. Stevie, Ph.D, Vice President of Forecasting at Integral Analytics, Inc.; and the rebuttal testimony and exhibits of witnesses Miller and Evans.

On June 1, 2017, DEC filed a motion to excuse witness Miller and NC Justice Center/SACE filed a motion to excuse witness Neme from appearing at the June 5, 2018, expert witness hearing. On June 2, 2017, the Commission issued an order granting both motions.

The case came on for hearing as scheduled on June 5, 2018. No public witnesses appeared at the hearing.

On July 19, 2018, the Public Staff filed a letter indicating that it had completed its review of 2017 DSM/EE program costs and had found no exceptions.

On July 20, 2018, the parties filed briefs or proposed orders, as allowed by the Commission.

Other Pertinent Proceedings:

Docket Nos. E-7, Subs 831, 938, 979, 1032, and 1130, and E-100, Sub 148

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 DEC's 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 (Sub 831 Settlement) between DEC, the Public Staff, SACE, the Environmental Defense Fund (EDF), the Natural Resources Defense Council (NRDC), and the Southern Environmental Law Center (SELC), which described the modified save-a-watt mechanism (Sub 831 Mechanism), pursuant to which DEC calculated, for the period from June 1, 2009 until December 31, 2013, the revenue requirements underlying its DSM/EE riders based on percentages of avoided costs, plus compensation for NLR resulting from EE programs only. The Sub 831 Mechanism was approved as a pilot (Sub 831 Pilot) with a term of four years, ending on December 31, 2013.

On February 15, 2010, the Company filed an Application for Waiver of Commission Rule R8-69(a)(4) and R8-69(a)(5) in Docket No. E-7, Sub 938 (Sub 938 Waiver Application), requesting waiver of the definitions of "rate period" and "test period." Under the Sub 831 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.[3] For purposes of the modified save-a-watt portfolio of programs, the Company applied the vintage year concept on a calendar-year basis for administrative ease for the Company and its customers. Pursuant to the Sub 938 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.[4]

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[3] Vintage 1 is an exception in terms of length. Vintage 1 is a 19-month period beginning June 1, 2009, and ending December 31, 2010, as a result of the approval of DSM/EE programs prior to the approval of the Sub 831 Mechanism.

[4] In the Sub 938 Second Waiver Order issued June 3, 2010, the Commission concluded that DEC should true up all costs during the save-a-watt pilot through the EMF rider provided in Commission Rule R8-69(b)(1). The modified save-a-watt approach approved in the Sub 831 Order required a final calculation after the completion of the four-year program, comparing the cumulative revenues collected related to all four vintage years to amounts due the Company, taking into consideration the applicable earnings cap.

On February 24, 2010, in Docket No. E-7, Sub 938, the Commission issued an Order Requesting Comments on the Company's Sub 938 Waiver Application. After receiving comments and reply comments, the Commission entered an Order Granting Waiver, in Part, and Denying Waiver, in Part (Sub 938 Waiver Order) on April 6, 2010. In this 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, DEC filed a Motion for Clarification or, in the Alternative, for Reconsideration, asking that the Commission reconsider its denial of the waiver of the definitions of "test period" and "rate period," and that 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 (Sub 938 Second Waiver Order), granting DEC's Motion. The Sub 938 Second Waiver Order established that the rate period for Rider EE would align with the 12-month calendar year vintage concept utilized in the Commission-approved save-a-watt approach (in effect, the calendar year following the Commission's order in each annual DSM/EE cost recovery proceeding), and that the test period for Rider EE would be the most recently completed vintage year at the time of the Company's Rider EE cost recovery application filing date.

On February 8, 2011, in Docket No. E-7, Sub 831, 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 (Sub 831

Found Revenues Order), which included, in Appendix A, a "Decision Tree" to identify, categorize, and net possible found revenues against the NLR created by the Company's EE programs. Found revenues may result from activities that directly or indirectly result in an increase in customer demand or energy consumption within the Company's service territory.

On November 8, 2011, in Docket No. E-7, Sub 979, the Commission issued its Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice (Sub 979 Order), in which it approved the Evaluation, Measurement, and Verification (EM&V) agreement (EM&V Agreement) reached by the Company, SACE, and the Public Staff. Pursuant to the EM&V Agreement, for all EE programs, with the exception of the Non-Residential Smart Saver Custom Rebate program and the Low-Income EE and Weatherization Assistance program, actual EM&V results are applied to replace all initial impact estimates back to the beginning of the program offering. 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 will be applied 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 the EM&V was completed. These EM&V results will then continue to apply and be considered actual results until superseded by new EM&V results, if any. For all new programs and pilots, the Company will follow a consistent methodology, meaning that initial estimates of impacts will be used until DEC has valid EM&V results, which will then be applied back to the beginning of the offering and will be considered actual results until a second EM&V is performed.

On February 6, 2012, in the Sub 831 docket, the Company, SACE, and the Public Staff filed a proposal regarding revisions to the program flexibility requirements (Flexibility Guidelines). The proposal divided potential program changes into three categories based on the magnitude of the change, with the most significant changes requiring regulatory approval by the Commission prior to implementation; less extensive changes requiring advance notice prior to making such program changes; and minor changes being reported on a quarterly basis to the Commission. The Commission approved the joint proposal in its July 16, 2012 Order Adopting Program Flexibility Guidelines.

On October 29, 2013, the Commission issued its Order Approving DSM/EE Programs and Stipulation of Settlement in Docket No. E-7, Sub 1032 (Sub 1032 Order), which approved a new cost recovery and incentive mechanism for DSM/EE programs (Sub 1032 Mechanism) and a portfolio of DSM and EE programs to be effective January 1, 2014, to replace the cost recovery mechanism and portfolio of DSM and EE programs approved in Docket No. E-7, Sub 831. 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, NCSEA, EDF, SACE, the South Carolina Coastal Conservation League, NRDC, the Sierra Club, and the Public Staff, which incorporates the Sub 1032 Mechanism (Sub 1032 Stipulation).

Under the Sub 1032 Stipulation, as approved by the Commission, the portfolio of DSM and EE programs filed by the Company was approved with no specific duration (unlike the programs approved in Sub 831, which explicitly expired on December 31, 2013). Additionally, the Sub 1032 Stipulation also provided that the Company's annual DSM/EE rider would be determined according to the Sub 1032 Stipulation and the terms and conditions set forth in the Sub 1032 Mechanism, until otherwise ordered by the Commission. Under the Sub 1032 Stipulation, the Sub 1032 Mechanism was to be reviewed in four years. Pursuant to the Sub 1032 Stipulation, any proposals for revisions to the Sub 1032 Mechanism were to be filed by parties along with their testimony in the annual DSM/EE rider proceeding.

The overall purpose of the Sub 1032 Mechanism is to (1) allow DEC to recover all reasonable and prudent costs incurred for adopting and implementing new DSM and 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 (net of found revenues) 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 kilowatt-hour (kWh) savings achievements. The Sub 1032 Mechanism also includes the following provisions, among several others: (a) it shall continue until terminated pursuant to Commission Order; (b) modifications to Commission-approved DSM/EE programs will be made using the Flexibility Guidelines;

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; (d) the EM&V Agreement shall continue to govern the application of EM&V results; and (e) the determination of found revenues will be made using the Decision Tree approved in the Sub 831 Found Revenues Order. Like the Sub 831 Mechanism, the Sub 1032 Mechanism also employs a vintage year concept based on the calendar year.[5]

In Docket No. E-7, Sub 1130 (Sub 1130), the Commission approved certain revisions to the Sub 1032 Mechanism effective January 1, 2018 (Revised Mechanism). The Sub 1032 Mechanism was revised to (1) set out how the avoided costs are determined for purposes of calculating the PPI, (2) specify the avoided costs to be used for purposes of program approval, and (3) specify the avoided costs to be used in calculating ongoing cost-effectiveness, as well as setting out a procedure for modification or closure of programs that are no longer cost-effective.

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[5] Each vintage under the Sub 1032 Mechanism and the Revised Mechanism is referred to by the calendar year of its respective rate period (e.g., Vintage 2018).

Based upon consideration of DEC's Application, the pleadings, the testimony and exhibits received into evidence at the hearing, the parties' briefs and the record as a whole, the Commission now makes the following

FINDINGS OF FACT

1. DEC 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. Based on the specific recovery of costs and incentives proposed by DEC in this proceeding, the Commission finds that it has the authority to consider and approve the relief the Company is seeking in this docket.

3. For purposes of this proceeding, DEC has requested approval of costs and incentives related to the following DSM/EE programs to be included in Rider 10: Energy Assessments program; EE Education program; Energy Efficient Appliances and Devices; Residential Smart Saver EE program; Multi-Family EE program; My Home Energy Report (MyHER); Income-Qualified EE and Weatherization program; Power Manager; Non-Residential Smart Saver Energy Efficient Food Service Products program; Non-Residential Smart Saver Energy Efficient HVAC Products program; Non-Residential Smart Saver Energy Efficient IT Products program; Non-Residential Smart Saver Energy Efficient Lighting Products program; Non-Residential Smart Saver Energy Efficient Process

Equipment Products program; Non-Residential Smart Saver Energy Efficient Pumps and Drives Products program; Non-Residential Smart Saver Custom program; Non-Residential Smart Saver Custom Energy Assessments program; PowerShare; PowerShare Call Option (canceled effective January 31, 2018); Small Business Energy Saver; Smart Energy in Offices canceled effective June 30, 2018); EnergyWise for Business; and Non-Residential Smart Saver Performance Incentive.

4. If either the EnergyWise for Business program or combined Non-Residential Smart Saver Custom Energy Assessments and Non-Residential Smart Saver Custom program shows a prospective Total Resource Cost (TRC) test result of less than 1.00 in next year's DSM/EE proceeding, the Company should include a discussion of what actions it has taken to improve cost-effectiveness of that program pursuant to Paragraph 23C of the Revised Mechanism.

5. The Residential Smart Saver EE program should be suspended as of December 31, 2018, until the Company can determine what is necessary for this program to attain and maintain cost-effectiveness.

6. For purposes of inclusion in Rider 10, the Company's portfolio of DSM and EE programs is cost-effective.

7. The EM&V reports filed as Evans Exhibits A, D, E, F, G, H, I, J, K, and L are acceptable for purposes of this proceeding and should be considered complete for purposes of calculating program impacts.

8. The EM&V report for the Non-Residential Smart Saver Custom program (Evans Exhibit B) should be revised as discussed by Public Staff witness Williamson and refiled in the next rider.

9. The acceptance of the EM&V report for the MyHER program (Evans Exhibit C) should be postponed and addressed in next year's proceeding pending completion of the Public Staff's review.

10. Pursuant to the Commission's Sub 938 Second Waiver Order and the Sub 1032 Order, the rate period for the purposes of this proceeding is January 1, 2019, through December 31, 2019.

11. Rider 10 includes EMF components for Vintage 2017 DSM and EE programs. Consistent with the Sub 938 Second Waiver Order, the test period for these EMF components is the period from January 1, 2017, through December 31, 2017 (Vintage 2017).

12. DEC's proposed rates for Rider 10 are comprised of both prospective and EMF components. The prospective components include factors designed to collect program costs and the PPI for the Company's Vintage 2019 DSM and EE programs, as well as the first year of NLR for the Company's Vintage 2019 EE programs; the second year of NLR for Vintage 2018 EE programs; and the third year of NLR for Vintage 2017 EE programs. The EMF components include true-ups of Vintage 2017 program costs, NLR, and PPI, as well as true-ups for PPI and NLR for Vintages 2014, 2015 and 2016.

13. It is appropriate to reduce the Company's proposed level of 2019 estimated kWh sales for each Non-Residential vintage/factor combination by

3.90%, to hold open the true-up process for Rider 10 until the total actual amount of Rider 10 revenues collected can be reflected in the rate calculation process, and to allow the Company to recover carrying costs on any understatement of Rider 10 billing factors due to the 3.90% reduction, but limited to the portion of the understatement the difference between the Public Staff's recommended levels of participating Rider 10 kWh sales and the Company's initially proposed levels of such sales in this proceeding.

14. It is inappropriate and inconsistent with the Revised Mechanism to include avoided capacity savings in the calculations of cost-effectiveness and utility incentives for the Company's Vintage 2019 DSM and EE programs for years in which the Company's Integrated Resource Plan (IRP) does not show a need for capacity.

15. The components of Rider 10, as reflected in Maness Exhibit 1, have been calculated in a manner that appropriately reflects the Commission's findings and conclusions in this Order, as well as the Commission's findings and conclusions as set forth in the Sub 831 Order, the Sub 831 Found Revenues Order, the Sub 938 Waiver Order, the Sub 938 Second Waiver Order, the Sub 979 Order, the Sub 1032 Order, and the Commission's Order in Docket No. E-7, Sub 1130 (Sub 1130 Order).

16. The reasonable and prudent Rider 10 billing factor for residential customers[6] is 0.5180 cents per kWh, which, as is the case for all the other billing factors stated in these findings of fact, includes the regulatory fee.

17. The reasonable and prudent Rider 10 Vintage 2019 EE prospective billing factor for non-residential customers who do not opt out of Vintage 2019 of the Company's EE programs is 0.3100 cents per kWh.

18. The reasonable and prudent Rider 10 Vintage 2019 DSM prospective billing factor for non-residential customers who do not opt out of Vintage 2019 of the Company's DSM programs is 0.0736 cents per kWh.

19. The reasonable and prudent Rider 10 Vintage 2018 prospective EE billing factor for non-residential customers who participated in Vintage 2018 of the Company's EE programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2018 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is 0.0695 cents per kWh.

20. The reasonable and prudent Rider 10 Vintage 2018 DSM prospective billing factor for non-residential customers who participated in Vintage 2018 of the Company's DSM programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2018 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is 0.0030 cents per kWh.

21. The reasonable and prudent Rider 10 Vintage 2017 prospective EE billing factor for non-residential customers who participated in Vintage 2017 of the

[6] The residential billing factor applicable to all residential customers is the sum of the residential prospective and residential true-up factors for the applicable vintage years.

Company's EE programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2017 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is 0.0801 cents per kWh.

22. The reasonable and prudent Rider 10 Vintage 2017 EE EMF billing factor for non-residential customers who participated in Vintage 2017 of the Company's EE programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2017 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is 0.2924 cents per kWh.

23. The reasonable and prudent Rider 10 Vintage 2017 DSM EMF billing factor for non-residential customers who participated in Vintage 2017 of the Company's DSM programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2017 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is 0.0005 cents per kWh.

24. The reasonable and prudent Rider 10 Vintage 2016 EE EMF billing factor for non-residential customers who participated in Vintage 2016 of the Company's EE programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2016 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is (0.0126) cents per kWh.

25. The reasonable and prudent Rider 10 Vintage 2016 DSM EMF billing factor for non-residential customers who participated in Vintage 2016 of the Company's DSM programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2016 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is (0.0015) cents per kWh.

26. The reasonable and prudent Rider 10 Vintage 2015 EE EMF billing factor for non-residential customers who participated in Vintage 2015 of the Company's EE programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2015 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is 0.0024 cents per kWh.

27. The reasonable and prudent Rider 10 Vintage 2015 DSM EMF billing factor for non-residential customers who participated in Vintage 2015 of the Company's DSM programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2015 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is (0.0024) cents per kWh.

28. The reasonable and prudent Rider 10 Vintage 2014 EE EMF billing factor for non-residential customers who participated in Vintage 2014 of the Company's EE programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2014 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is (0.0061) cents per kWh.

29. The reasonable and prudent Rider 10 Vintage 2014 DSM EMF billing factor for non-residential customers who participated in Vintage 2014 of the Company's DSM programs (or who did not so participate, but neither (a) explicitly opted out of Vintage 2014 during the annual enrollment period for that vintage, nor (b) opted out of Vintage 2019) is (0.0002) cents per kWh.

30. DEC should continue to leverage its Collaborative to address: (a) the recommendations made and concerns expressed by Mr. Neme regarding improving participation in the Residential Smart Saver program, promoting whole-

building retrofits; building on recent success and progress in promoting efficiency measures for business customers through the midstream channel of its non-residential Smart Saver prescriptive rebate program; assessing the potential to reduce the number of customers who opt out of DEC's non-residential programs; considering implementation of a Technical Reference Manual (TRM); improving the effectiveness of the Collaborative; the amount and persistence of the savings from the MyHER program, and the impact on DEC's DSM/EE portfolio of upcoming changes in lighting standards; and (b) the issues raised by Public Staff witness Williamson regarding the MyHER program and the impact of upcoming lighting standards. DEC should report on the outcome of all these matters referred to the Collaborative in its 2019 rider filing.

EVIDENCE FOR FINDINGS AND CONCLUSIONS NOS. 1-2

The evidence and legal bases in support of these findings and conclusions can be found in the Application, the pleadings, the testimony, and the 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, as well as appropriate rewards for adopting and implementing those 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 (reward) pursuant to G.S. 62-133.9(d)(2)a through c.

Commission Rule R8-69 outlines the procedure whereby a utility applies for and the Commission establishes an annual DSM/EE rider. Commission Rule R8-69(a)(2) defines a 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.

Commission 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, along with Commission Rules 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 DSM and EE programs as well as appropriate utility incentives, potentially including "[a]ppropriate rewards based on capitalization of a percentage of avoided costs achieved by demand-side management and energy efficiency measures." Consistent with this provision, as well as the Commission-approved Revised Sub 1032 Mechanism, the Company filed an application for approval of such annual rider (Rider 10) and the cost recovery and utility incentives the Company seeks through Rider 10 are based on the Company recovering DSM/EE program costs, NLR (net of found revenues), and a PPI incentive related to the DSM and EE programs approved in the Sub 1032 Order and those approved following the Sub 1032 Order.[7] Recovery of these costs and utility incentives is also consistent with G.S. 62-133.9, Rule R8-68, and Rule R8-69. Therefore, the Commission concludes that it has the authority to consider and approve the relief the Company is seeking in this docket.

EVIDENCE FOR FINDING AND CONCLUSION NO. 3

The evidence for this finding can be found in DEC's Application, the testimony and exhibits of Company witnesses Evans and Miller, the testimony of Public Staff witness Williamson, and various Commission orders.

DEC witness Miller's testimony and exhibits show that the Company's request for approval of Rider 10 is associated with the Sub 1032 portfolio of programs, as well as the programs approved by the Commission after the Sub

[7] The programs approved by the Commission following the Sub 1032 Order are as follows: Smart Energy in Offices (formerly, the Smart Energy Now Pilot), which was approved in Docket No. E-7, Sub 961 on August 13, 2014; Small Business Energy Saver, which was approved on August 13, 2014 in Docket No. E-7, Sub 1055; the Business Energy Report Pilot, which was approved in Docket No. E-7, Sub 1081 on August 19, 2015; EnergyWise for Business, which was approved in Docket No. E-7, Sub 1093 on October 27, 2015; and Smart Energy in Healthcare, which was approved in Docket No. E-7, Sub 1141 on July 25, 2017. The Company's Energy Management Information Services Pilot, Business Energy Report Pilot, Residential Appliance Recycling program, PowerShare CallOption, Smart Energy in Healthcare program, and Smart Energy in Offices have since been discontinued.

1032 Order. The direct testimony and exhibits of DEC witness Evans listed the applicable DSM/EE programs as follows: Energy Assessments; EE Education; Energy Efficient Appliances and Devices; Residential Smart Saver EE; Multi-Family EE; MyHER; Income-Qualified EE and Weatherization; Power Manager; Non-Residential Smart Saver Energy Efficient Food Service Products; Non-Residential Smart Saver Energy Efficient HVAC Products; Non-Residential Smart Saver Energy Efficient IT Products; No-Residential Smart Saver Energy Efficient Lighting Products; Non-Residential Smart Saver Energy Efficient Process Equipment Products; Non-Residential Smart Saver Energy Efficient Pumps and Drives Products; Non-Residential Smart Saver Custom; Non-Residential Smart Saver Custom Energy Assessments; PowerShare; PowerShare Call Option (canceled effective January 31, 2018); Small Business Energy Saver; Smart Energy in Offices (canceled effective June 30, 2018); EnergyWise for Business; and Non-Residential Smart Saver Performance Incentive.

In his testimony, Public Staff witness Williamson also listed the DSM/EE programs and pilots for which the Company seeks cost recovery and noted that each of these programs and pilots has received approval as a new DSM or EE program and is eligible for cost recovery in this proceeding under G.S. 62-133.9.

Thus, the Commission finds and concludes that each of the programs and pilots listed by witnesses Evans and Williamson has received Commission approval as a new DSM or EE program or pilot and is, therefore, eligible for cost recovery in this proceeding under G.S. 62-133.9.

EVIDENCE FOR FINDINGS AND CONCLUSIONS NOS. 4 - 6

The evidence in support of these findings can be found in the testimony and exhibits of DEC witness Evans and Public Staff witness Williamson, and the testimony of NC Justice Center/SACE witness Neme.

DEC witness Evans testified that the Company performed prospective analyses of each of its programs and the aggregate portfolio for the Vintage 2019 period, the results of which are incorporated in Evans Exhibit No. 7. DEC's calculations indicate that, with the exception of the Income-Qualified EE and Weatherization program (which was not cost-effective at the time it was approved by the Commission), the Non-Residential Smart Saver Performance Incentive, and the Residential Smart Saver EE programs, the programs within the portfolio continue to be cost-effective. Evans Exhibit 7 shows that the projected portfolio cost-effectiveness is 2.46 under the UC test and 1.98 under the TRC.

Public Staff witness Williamson stated in his testimony that he reviewed DEC's calculations of cost-effectiveness under each of the four standard cost-effectiveness tests - the Utility Cost (UC), TRC, Participant, and Ratepayer Impact Measure (RIM) tests. He indicated that under DEC's calculations, each program was cost-effective under both the UC and the TRC tests, with the exception of the Income-Qualified EE and Weatherization program (TRC of 0.83 and UC of 0.19), the Residential Smart Saver EE program (formerly, HVAC EE) (TRC of 0.59 and UC of 0.94), the EnergyWise for Business program (TRC of 1.21 and UC of 0.83), and the Non-Residential Smart Saver Performance Incentive (TRC of 0.81 and

UC of 2.70). Mr. Williamson noted that while many programs continue to be cost effective, the TRCs calculated by the Company for all programs have decreased since the 2017 DSM/EE rider proceeding, mainly due to the changes in avoided cost rates.

NC Justice Center/SACE witness Neme testified that DEC's DSM/EE portfolio was very cost-effective, producing $2.46 in supply- cost savings for every dollar spent. He noted that cost-effectiveness tests are dependent on avoided cost rates and would need to be updated as avoided costs change.

Public Staff witness Williamson testified that the Public Staff's calculations of cost-effectiveness provide no capacity value for years in which DEC's underlying IRP shows zero capacity need. Using this specification, Mr. Williamson determined that in addition to the Income-Qualified EE and Weatherization, Residential Smart Saver EE, and the Non-Residential Smart Saver Performance Incentive programs, the Non-Residential Smart Saver Custom/Assessments and EnergyWise for Business programs are also not projected to be cost-effective under the TRC test. However, Mr. Williamson stated that the portfolio of programs seems generally to be performing satisfactorily.

Mr. Williamson cited the provisions of Paragraph 23 (including Subparagraphs A-D) of the Revised Mechanism that provide that for any program that initially demonstrates a TRC of less 1.00, the Company should include in its annual DSM/EE rider filing a discussion of the actions being taken to maintain or improve cost-effectiveness, or alternatively, its plans to terminate the program.

If a program demonstrates a prospective TRC of less than 1.00 in a second DSM/EE rider proceeding, the Company should include a discussion of actions it has taken to Improve cost-effectiveness. If a program demonstrates a prospective TRC of less than 1.00 in a third DSM/EE rider proceeding, the Company should terminate the program effective at the end of the year following the DSM/EE rider order, unless otherwise ordered by the Commission. Mr. Williamson stated that these provisions of the Revised Mechanism allow the Company ample time to make modifications to a program to improve cost-effectiveness.

Mr. Williamson applied the provisions of Paragraphs 23B and C of the Revised Mechanism to the EnergyWise for Business program and recommended that the Company provide a discussion of the actions it is taking to maintain or improve cost-effectiveness, or any plans to terminate the program. If the program continues to have a TRC of less than 1.00 in the 2019 rider proceeding, the Company should include a discussion of actions it is taking to improve cost-effectiveness.

In regard to the Non-Residential Smart Saver Performance Incentive program, Mr. Williamson noted that it was launched in January of 2017 and thus it was too early in the 2017 rider proceeding to assess the program's performance. Therefore, he recommended that the same provisions of the Revised Mechanism, Paragraphs 23B and C, which applied to the EnergyWise for Business program be implemented for the Non-Residential Smart Saver Performance Incentive program, as well as to the Non-Residential Smart Saver Assessments/Custom program.

Mr. Williamson recommended that the Residential Smart Saver EE program be terminated or suspended effective December 31, 2018. He explained that the program has struggled to achieve cost-effectiveness for several years because of higher efficiency standards mandated by the federal government, and the need for large participant incentives to overcome the upfront out-of-pocket costs to participants. Williamson Exhibit No. 3 shows that in general, the program has not been projected to be cost-effective since its 2015 rider filing,[8] and the cost-effectiveness projections in the current rider have fallen significantly below 1.00 to 0.59.

Mr. Williamson noted DEC's desire to continue offering a residential HVAC (heating, ventilation, and air conditioning) replacement program as HVAC is one of the largest energy-consuming appliances in the home. He agreed that a HVAC program is a fundamental EE program for a utility EE portfolio and understood the desire to maintain a good vendor network that provides customers with accurate, reliable information on HVAC energy consumption and other assistance.

Mr. Williamson pointed out that in the Sub 1130 proceeding, Public Staff witness Floyd recommended that the Company either terminate the program or

[8] In a July 20, 2017 filing for approval of a modification to the program, DEC projected a TRC of 1.08; however, the avoided cost source data were updated after this filing.

modify it to transition away from non-referral channel measures that are not cost-effective under the TRC. While the Company indicated in testimony that it agreed with this recommendation, Mr. Williamson stated that DEC did not remove the non-referral channel. He also testified that new data suggest that participation is shifting from the non-referral to the referral channel, with approximately 70% of the current participation coming through the referral channel; however, the referral channel is also not projected to be cost-effective for the calendar year 2019. Mr. Williamson indicated that although the Company has modified the program twice since 2015 to improve its cost-effectiveness, these modifications have only made marginal improvements to cost-effectiveness mainly due to the tighter efficiency standards and decreases in the avoided cost benefits.

Because a HVAC program is a cornerstone program for a utility portfolio, Mr. Williamson recommended that the Company suspend this program effective December 31, 2018, and determine what is necessary in the future for this program to attain and maintain cost-effectiveness. He argued that ratepayers should not be forced to pay for programs that are not-cost effective and have poor prospects for viability.

NC Justice Center/SACE witness Neme testified that DEC should try to increase participation in the Residential Smart Saver Energy Efficiency program by establishing a midstream marketing channel, increasing incentives, and enhancing marketing. He did not address how his recommendations might impact the program's cost-effectiveness.

In his rebuttal testimony, DEC witness Evans agreed that the Residential Smart Saver Energy Efficiency program is not cost-effective, but that the recommendation to suspend the program was not reasonable considering this is the only program offering assistance for the largest single energy user in a residence, and the investment in an HVAC unit is made only approximately every 15 years. He contended that the Public staff's recommendation did not take into account the effect on the Company's relationships with trade allies. Mr. Evans contended that the Company had effectively modified the program to restore cost-effectiveness in the past and should have that opportunity again. He pointed to several possible changes the Company was investigating to improve cost-effectiveness, including moving to an all referral structure, updating and performing cost studies of the incremental costs actually paid by customers, and updating the measure mix, measure designs, and requirements that may be able to be removed or altered.

On cross-examination, Mr. Evans testified that the Company was in the process of beginning a new analysis of the incremental price of EE equipment, but the decrease in avoided costs had made attaining cost-effectiveness all the more difficult. He agreed that since 2015, the Residential Smart Saver EE program had been struggling to be a cost effective offering. Mr. Evans indicated that in the 2017 DSM/EE proceeding, he had testified that as the program's TRC was 0.99 and thus very close to the 1.0 threshold, the program should not be canceled, and that additional modifications were planned. He noted the testimony of Public Staff witness Floyd in the 2017 proceeding recommending elimination of the non-referral channel, and that the Company did not object to the recommendation. However, Mr. Evans testified that the Company had not yet eliminated the non-referral channel, and in a data response had stated its preference that the Public Staff request the Commission order that the non-referral channel be eliminated, and the Company be given up to 60 days after a Commission order to make a compliance filing implementing the change. He also acknowledged that the Company had been given approval to modify the program in the summer of 2017 to improve cost-effectiveness, but that the implementation of the avoided costs rates approved in Docket No. E-100, Sub 148 (Sub 148) had significantly affected cost-effectiveness. Mr. Evans stated that he believed the program would continue to struggle due to the avoided costs, but that some of the deficiency could be alleviated through program modifications.

Mr. Evans indicated that other than the low-income program, he was unaware of any other program that has had cost-effectiveness projections so low where the Company had not proposed closure. He also was unaware of any program for which the Company had made so many modifications requiring Commission approval. Mr. Evans testified that under the Revised Mechanism, the Company was entitled to receive reasonably and prudently incurred program costs and the incentive of NLR for three years, regardless of the cost-effectiveness of the program. He noted that the low cost-effectiveness result of the program would lower the amount of the PPI received by the Company. When asked when he believed the Residential Smart Saver EE program would be cost-effective, Mr. Evans indicated that the Company was "trying to be resilient with making modifications," but that the primary factor was the value of avoided costs. However, he stated that the current projected TRC of 0.59 was not even marginal and was disappointing.

Commission Conclusions on Program and Portfolio Cost-Effectiveness

As discussed below, the Commission has determined that avoided capacity costs should not be included in calculations of cost-effectiveness until 2023, as indicated by the Company's 2016 IRP and the Sub 148 Order. Therefore, it appears that the provisions of Paragraphs 23B and C should, in addition to the programs listed by the Company as having TRC cost effectiveness tests of less than 1.00, apply to the EnergyWise for Business program and the Non-Residential Smart Saver Assessments/Custom program. Therefore, within 30 days of this Order, the Company should provide a discussion of the actions it is taking to maintain or improve cost-effectiveness, or any plans to terminate each of these programs. If any of these programs continues to have a TRC of less than 1.00 in the 2019 rider proceeding, the Company should include a discussion of actions it is taking to improve cost-effectiveness.

In regard to the Residential Smart Saver EE program, the Commission notes as a preliminary matter that DEC's projected TRC cost-effectiveness result of 0.59 is overstated once the Commission's determination that it inappropriate to include an avoided capacity value when there is no capacity need is taken into account. In short, for every dollar of costs ratepayers incur for this program, they will receive considerably less than the 59 cents of benefits originally projected by DEC.

The Commission shares the concern of DEC, NC Justice Center/SACE, and the Public Staff over the importance of having a residential HVAC program in the Company's DSM/EE portfolio. The Commission also understands the desire to maintain relationships with trade allies that assist in implementing this program, and the importance of this program to trade allies.[9] However, the inescapable fact in this case is that the costs of the program paid by ratepayers significantly outweigh the benefits. In addition, the ratepayers have paid an incentive to the Company for 36 months in NLR for a program that has been at best marginally cost effective since 2015.

The Revised Mechanism provides a period of three years for a struggling program to improve its cost-effectiveness before termination is required, unless otherwise ordered by the Commission. While the Company has offered several possible ways that it may improve the cost-effectiveness of this program,[10] it

[9]The Commission notes the letter submitted on behalf of the North Carolina Building Performance Association on November 9, 2015, in Docket No. E-7, Sub 1032 supporting modifications to this program (called the HVAC EE program at that time) and a similar program offered by Duke Energy Progress, LLC, the Home Energy Improvement Program or "HEIP") which stated, "A large percentage of the work that many of our member companies perform is provided through leads generated in utility-funded energy audit and home energy improvement programs, such as HEIP and HVAC EE. These programs are the life blood to many contractors in our industry that secure work due in large part to the leads, rebates and incentives that they provide. Losing access to these programs would cause devastating financial loss to our companies and significantly reduce homeowner interest in home energy improvement across the state."

[10] The Commission notes the Company's reticence to adopt the recommendation of Public Staff witness Floyd in the Sub 1130 proceeding to terminate the non-referral channel and improve cost-effectiveness. Had the Company acted proactively on this recommendation, cost-

appears unlikely that they could overcome the effect of the current avoided cost rates, which should potentially be in effect in the next two rider proceedings. Further, DEC's 2016 IRP, which is the underlying IRP for the avoided costs derived from the Sub 148 proceeding, shows no need for capacity until 2023. Thus, it appears to be highly unlikely that this program will achieve cost-effectiveness in the next few years. As such, it is not in the public interest for the program to continue under the current conditions. Therefore, the Commission adopts the recommendation of Public Staff witness Williamson to suspend the program as of December 31, 2018, and directs the Company to revise the program to improve cost-effectiveness before it proposes to reactivate the program. The Commission encourages the Company to review successful HVAC programs offered in other jurisdictions, engage stakeholders, take into account current and likely future avoided costs and efficiency standards before coming back to the Commission with a revised program.

Other than the exceptions noted above, while DEC's calculations of overall portfolio cost-effectiveness do not reflect the impact of allowing zero capacity value in years when DEC's IRP shows no need for capacity, the Commission finds it

effectiveness may have been improved and the current situation avoided to some extent. Further, the final order in Sub 148 was issued on October 17, 2017, significantly lowering DEC's avoided costs, thereby further affecting the cost-effectiveness of this program. Other than a program modification regarding combined heat and power, the Company has not proposed any program modifications to improve cost effectiveness requiring Commission approval.

reasonable to conclude that even with that recalculation, DEC's portfolio of DSM and EE programs is cost-effective and eligible for inclusion in Rider 10.

EVIDENCE FOR FINDINGS AND CONCLUSIONS NOS. 7-9

The evidence in support of these findings can be found in the testimony and exhibits of DEC witness Evans and the testimony of Public Staff witness Williamson.

DEC witness Evans testified regarding the EM&V process, activities, and results presented in this proceeding. He explained that the EMF component of Rider 10 incorporates actual customer participation and evaluated load impacts determined through EM&V and applied pursuant to the EM&V Agreement. In addition, actual participation and evaluated load impacts are used prospectively to update estimated NLR. In this proceeding, the Company submitted, as exhibits to witness Evans' testimony, detailed completed EM&V reports or updates for the following programs: PowerShare 2016; Non-Residential Smart Saver Energy Efficient Products and Assessment - Custom 2014-2015; MyHER 2015-2016; Power Manager Load Control Service 2016; Small Business Energy Saver 2014-2016; Non-Residential Smart Saver Energy Efficient Products and Assessment - Assessment 2014-2016; EnergyWise for Business 2016; Multi-Family EE 2014-2016; Non-Residential Smart Saver Energy Efficient Products and Assessment - Prescriptive 2013-2015; Residential Energy Efficient Appliances and Devices - Save Energy and Water Kit: 2016; Energy Efficient Appliances and Devices - Free LED 2016-2017; and Smart Energy in Offices 2014-2016.

In his testimony, Public Staff witness Williamson testified that to the extent recommendations made by the Public Staff regarding EM&V in prior DSM/EE rider proceedings were applicable to the EM&V reports filed in this proceeding, the reports incorporated those recommendations and that it was his understanding that future reports would incorporate those recommendations as well. He stated that with the exception of the EM&V reports for the Non-Residential Smart Saver Custom and MyHER programs, the program vintages for which EM&V reports were filed in this proceeding should be considered complete and do not require any adjustment to the impacts at this time. Mr. Williamson recommended that acceptance of the report for the Non-Residential Smart Saver Custom program be postponed until a revised report containing an adjusted net-to-gross scoring scale is filed in the next rider proceeding. He also recommended that acceptance of the report for the MyHER program be postponed until DEC's 2019 DSM/EE rider proceeding so that the Public Staff can complete its review of the savings estimates. Mr. Williamson noted that the EM&V reports for the Multifamily EE, Non-Residential Smart Saver Prescriptive Incentive, and Small Business Energy Saver programs, which had previously been filed in the 2017 DSM/EE rider proceeding, had appropriately incorporated the Public Staff's previous recommendations.

NC Justice Center/SACE witness Neme testified that the EM&V framework used by DEC is well-conceived and that his review of the EM&V reports suggests that studies have been conducted professionally.

With the exception of the recommendations made by Public Staff witness Williamson regarding the EM&V for the Non-Residential Smart Saver Custom and MyHER programs (none of which were disputed by DEC), no party contested the EM&V information submitted by the Company. The Commission therefore finds that the EM&V reports filed as Evans Exhibits A, D, E, F, G, H, I, J, K, and L are acceptable for purposes of this proceeding and should be considered complete for purposes of calculating program impacts; that the EM&V report for the Non-Residential Smart Saver Custom program (Evans Exhibit B) be revised as recommended by Mr. Williamson and filed in the next rider proceeding; and that acceptance of the EM&V for the MyHER program (Evans Exhibit C) be postponed until DEC's 2019 DSM/EE rider proceeding so that the Public Staff can complete its review of the savings estimates.

EVIDENCE FOR FINDINGS AND CONCLUSIONS NOS. 10-11

The evidence in support of these findings can be found in the Sub 938 Second Waiver Order; the Sub 1032 Order; the testimony of Company witnesses Miller and Evans; and the testimony of Public Staff witness Maness. The rate period and the scope of the EMF components of Rider 10 are consistent with the Commission's ruling in the Sub 938 Second Waiver Order and the Sub 1032 Order, and are uncontroverted by any party.

EVIDENCE FOR FINDINGS AND CONCLUSIONS NOS. 12-29

The evidence in support of these findings and conclusions can be found in the Sub 831 Order, Sub 831 Found Revenues Order, Sub 938 Waiver Order, Sub 938 Second Waiver Order, Sub 979 Order, Sub 1032 Order, and Sub 1130 Order; as well as in the Company's Application; the direct and rebuttal testimony and exhibits of Company witnesses Miller and Evans; the rebuttal testimony of Company witnesses Duff and Stevie; and the testimony and exhibits of Public Staff witnesses Maness, Williams, and Williamson.

On March 7, 2018, DEC filed its Application seeking approval of Rider 10, which includes the formula for calculation of Rider EE, as well as the proposed billing factors to be effective for the 2019 rate period. Company witness Miller and Public Staff witness Maness testified that the methods by which DEC has calculated its proposed Rider EE are those provided by the Sub 1032 Stipulation, the Sub 1032 Mechanism approved in the Sub 1032 Order, and the Revised Mechanism approved in Sub 1130, as set out in Maness Exhibit 2.

Witness Miller provided an overview of the Revised Mechanism, which is designed to allow the Company to collect revenue equal to its incurred program costs[11] for a rate period, plus a PPI based on shared savings achieved by the Company's DSM and EE programs, and to recover NLR for EE programs only.

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

She explained that the PPI is calculated by multiplying the net dollar savings achieved by the system portfolio of DSM and EE programs by a factor of 11.5%. The system amount of PPI is then allocated to North Carolina retail customer classes in order to derive customer rates. Company witness Evans explained that the calculation of the PPI is based on avoided cost savings, net of program costs, achieved through the implementation of the Company's DSM and EE programs. Ms. Miller noted the revisions to the Sub 1032 Mechanism approved in Sub 1130, i.e., provisions related to the source of the avoided cost inputs used for calculating the PPI and cost-effectiveness, and requirements for programs that appear not to be cost-effective on an ongoing basis.

The Company is allowed to recover NLR associated with a particular vintage for a maximum of 36 months or the life of the measure, or until the implementation of new rates in a general rate case to the extent that the new rates are set to recover NLR. DEC witness Miller testified that for the prospective components of Rider EE, NLR are estimated by multiplying the portion of the Company's tariff rates that represents the recovery of fixed costs by the estimated North Carolina retail kilowatt (kW) and kWh reductions applicable to EE programs by rate schedule, and reducing this amount by estimated found revenues. The fixed cost portion of the tariff rates is calculated by deducting the recovery of fuel and variable operation and maintenance costs from the tariff rates. The NLR totals for residential and non-residential customers are then reduced by North Carolina retail found revenues computed using the weighted average lost revenue rates for each customer class. Lost revenues associated with vintages through the test period of the Company's current general rate case proceeding in Docket No. E-7, Sub 1146 were removed from the prospective period as of May 1, 2018, assuming the NLR would be recovered through new base rates. All amounts will be trued up during the next EMF period. For the EMF components of Rider EE, NLR are calculated by multiplying the fixed cost portion of the tariff rates by the actual and verified North Carolina retail kW and kWh reductions applicable to EE programs by rate schedule, and reducing this amount by actual found revenues.

Witness Evans described how, in accordance with the Commission’s Sub 831 Found Revenues Order and the Sub 1032 Stipulation, DEC reduces NLR by net found revenues. Additionally, he stated that the Company has continued the practice the Commission approved in Docket No. E-7, Sub 1073 for purposes of that proceeding of reducing net found revenues by the monetary impact (negative found revenues) caused by reductions in consumption resulting from the Company’s current initiative to replace Mercury Vapor lights with Light Emitting Diode (LED) fixtures.

In each of its annual rider filings, DEC performs an annual true-up process for the prior calendar year vintages. The true-up will reflect actual participation and verified EM&V results for the most recently completed vintage, applied in accordance with the EM&V Agreement. The Company expects that most EM&V will be available in the period needed to true-up each vintage in the following calendar year. If any EM&V results for a vintage are not available in time for inclusion in DEC's annual rider filing, however, then the Company will make an appropriate adjustment in the next annual filing.

Under the Sub 1032 Stipulation, as witness Miller explained, deferral accounting may be used for over- and under-recoveries of costs eligible for recovery through the annual DSM/EE rider. The balance in the deferral accounts, net of deferred income taxes, may accrue a return at the net-of-tax rate of return approved in the Company's then most recent general rate case. She testified that the methodology used for the calculation of interest shall be the same as that typically utilized for the Company's Existing DSM Program Rider proceedings. Pursuant to Commission Rule R8-69(c)(3), the Company will not accrue a return on NLR or the PPI.

Under the Sub 1032 Stipulation, as with the Sub 938 First Waiver Order and the Sub 831 Pilot, qualifying non-residential customers may opt-out of the DSM and/or EE portion of Rider EE during annual election periods. Rider EE will be charged to all customers who have not elected to opt-out during an enrollment period and who participate in any vintage year of programs, and these customers will be subject to all true-up provisions of the approved Rider EE for any vintage in which the customers participate. Company witness Miller explained that the Revised Mechanism affords an additional opportunity for participation, whereby qualifying customers may opt-in to the Company's EE and/or DSM programs during the first five business days of March. Customers who elect to begin participating in the Company's DSM and/or EE programs during the special "opt-in period" during March of each year will be retroactively billed the applicable Rider EE amounts back to January 1 of the vintage year, such that they will pay the appropriate Rider EE amounts for the full rate period.

Witness Miller explained that the billing factors are computed separately for DSM and EE measures by dividing the revenue requirements for each customer class, residential and non-residential, by the forecasted sales for the rate period for the customer class. For non-residential rates, the forecasted sales exclude the estimated sales to customers who have elected to opt-out of paying Rider EE. The non-residential billing factors are separately computed for each vintage.

Company witness Miller testified that program costs and incentives for EE programs targeted at retail residential customers across North Carolina and South Carolina are allocated to the North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales (grossed up for line losses) to total retail kWh sales (grossed up for line losses), and then recovered only from North Carolina retail residential customers. Revenue requirements related to EE programs targeted at retail non-residential customers across North Carolina and South Carolina are allocated to the North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales (grossed up for line losses) to total retail kWh sales (grossed up for line losses), and then recovered from only North Carolina retail non-residential customers. The portion of revenue requirements related to NLR is computed based on the kW and kWh savings of North Carolina retail customers.

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

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

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

Prospective Components of Rider 10

DEC witness Miller testified that Rider 10 consists of four components: (1) a prospective Vintage 2019 component designed to collect program costs and the PPI for DEC's 2019 vintage of DSM programs; (2) a prospective Vintage 2019 component to collect program costs, the PPI, and the first year of NLR for DEC's 2019 vintage of EE programs; (3) a prospective Vintage 2018 component designed to collect the second year of estimated NLR for DEC's 2018 vintage of EE programs; and (4) a prospective Vintage 2017 component designed to collect the third year of estimated NLR for DEC's 2017 vintage of EE programs.

Pursuant to the Sub 938 Second Waiver Order and the Sub 1032 Order, the rate period for the prospective components of Rider 10 is January 1, 2019, through December 31, 2019.

DEC witness Miller noted that lost revenues associated with Vintage 2016 had not been included in the prospective component based on the assumption that new base rates would go into effect May 1, 2018.

The prospective revenue requirements for Vintage 2017 are determined separately for residential and non-residential customer classes and are based on the third year of estimated NLR for the Company’s Vintage 2017 EE programs. The amounts are based on estimated North Carolina retail kW and kWh reductions and the rates approved in Docket No. E-7, Sub 1026 (Sub 1026 Rates). These rates will be trued up during the EMF period to reflect the rates approved in Sub 1146.

The prospective revenue requirements for Vintage 2018 are determined separately for residential and non-residential customer classes and are based on the second year of estimated NLR for the Company's Vintage 2018 EE programs. The amounts are based on estimated North Carolina retail kW and kWh reductions and the Sub 1026 Rates. These rates will be trued up during the EMF period to reflect the rates approved in Sub 1146.

The prospective revenue requirements for Vintage 2019 EE programs include estimates of program costs, the PPI, and the first year of NLR determined separately for residential and non-residential customer classes. The program costs and shared savings incentive are computed at the system level and allocated to North Carolina retail operations. The NLR for EE programs are based on estimated North Carolina retail kW and kWh reductions and the Sub 1026 Rates. These rates will be trued up during the EMF period to reflect the rates approved in Sub 1146.

In her direct testimony, DEC witness Miller filed testimony and exhibits reflecting a residential prospective billing factor for Rider 10 of 0.4229 cents per kWh. On June 1, 2018, DEC witness Miller filed rebuttal testimony and exhibits reflecting revised non-residential prospective billing factors[12] for Rider 10 of 0.3158 cents per kWh for non-residential Vintage 2019 EE participants, 0.0877 cents per kWh for non-residential Vintage 2019 DSM participants, 0.0695 cents per kWh for non-residential Vintage 2018 EE participants, 0.0030 cents per kWh for non-residential Vintage 2018 DSM participants, and 0.0801 cents per kWh for non-residential Vintage 2017 EE participants.

EMF Components of Rider 10

Rider 10 includes the following EMF components: (1) an EMF component which consists of the true-up of program participation in the Company's 2017 vintage of DSM and EE programs, updated load impacts, NLR updated for actual participation, updated found revenues, and updates to include costs for new programs approved prior to estimated filing; (2) an EMF component which consists of the true-up of Vintage 2016 avoided costs and NLR for the Company's 2016 vintage of DSM and EE programs; (3) an EMF component which consists of the true-up of Vintage 2015 avoided costs and NLR for the Company's 2015 vintage of DSM and EE programs; and (4) an EMF component which consists of the true-up of avoided costs and NLR for the Company's 2014 vintage of DSM and EE programs.

[12] The non-residential billing factors were revised based on an agreement made between the Company and the Public Staff to adjust the proposed non-residential participating sales, which is addressed *supra*.

Company witness Miller testified that pursuant to the Sub 938 Second Waiver Order and the Sub 1032 Order, the “test period” for the Vintage 2017 EMF component is January 1, 2017, through December 31, 2017. As the Sub 938 Second Waiver Order allows the EMF to cover multiple test periods, the test period for the Vintage 2016 EMF component is January 1, 2016, through December 31, 2016, the test period for the Vintage 2015 EMF component is January 1, 2015, through December 31, 2015, and the test period for the Vintage 2014 EMF component is January 1, 2014, through December 31, 2014.

Witness Miller explained the updates to the Vintage 2017 estimate filed in 2016 that comprise the Vintage 2017 EMF component of Rider 10. Estimated participation for Vintage 2017 was updated for actual participation for the period January through December 2017. With regard to NLR, estimated participation for the Year 1 Vintage 2017 estimate assumed a January 1, 2017, sign-up date and used a half-year convention, while the NLR Year 1 Vintage 2017 true-up was updated for actual participation for the period January through December 2017 and actual 2017 lost revenue rates. Found revenues for Year 1 of Vintage 2017 were trued up according to Commission-approved guidelines. To reflect the results of EM&V, Vintage 2017 initial assumptions of load impacts were updated pursuant to the EM&V Agreement. Finally, while the Vintage 2017 estimate included only the programs approved prior to the filing of the estimated Vintage 2017 revenue requirement, the Vintage 2017 true-up was updated for new programs and pilots approved and implemented during Vintage 2017. For DSM programs, the Vintage 2017 true-up reflects the actual quantity of demand reduction capability for the Vintage 2017 period.

Actual year one (2017) NLR for Vintage 2017 were calculated using actual kW and kWh savings by North Carolina retail participants by customer class in 2017, based on actual participation and load impacts applied according to the EM&V Agreement. The rates applied to the kW and kWh savings are those in effect for 2017, reduced by fuel and variable operation and maintenance costs. NLR were then offset by actual found revenues for Year 1 NLR of Vintage 2017. NLR were calculated by rate schedule within the residential and non-residential customer classes.

DEC witness Miller also described the basis for the Vintage 2016 EMF component of Rider 10. She explained that avoided costs and NLR for Vintage 2016 EE programs were trued-up based on updated EM&V participation results. Avoided costs for Vintage 2016 DSM were also trued-up to correct participation results. She explained that the actual kW and kWh savings were as experienced during the period January 1, 2016, through December 31, 2016. The rates applied to the kW and kWh savings are the retail rates that were in effect during each period the lost revenues were earned, reduced by fuel and other variable costs.

DEC witness Miller explained the basis for the Vintage 2015 EMF component of Rider 10. She explained that avoided costs and NLR for Vintage 2015 EE programs were trued-up based on updated EM&V participation results. She explained that the actual kW and kWh savings were as experienced during the period January 1, 2015, through December 31, 2015. The rates applied to the kW and kWh savings are the retail rates that were in effect during each period the lost revenues were earned, reduced by fuel and other variable costs.

DEC witness Miller explained the basis for the Vintage 2014 EMF component of Rider 10. She explained that avoided costs and NLR for Vintage 2014 EE programs were trued-up based on updated EM&V participation results. She explained that the actual kW and kWh savings were as experienced during the period January 1, 2014, through December 31, 2014. The rates applied to the kW and kWh savings are the retail rates that were in effect during each period the lost revenues were earned, reduced by fuel and other variable costs.

Overall, as set forth on Miller Rebuttal Exhibit 1, the Company proposed an EMF of 0.1091 cents per kWh for its North Carolina retail residential customers, 0.2924 cents per kWh for non-residential Vintage 2017 EE participants, 0.0005 cents per kWh for non-residential Vintage 2017 DSM participants, (0.0126) cents per kWh for non- residential Vintage 2016 EE participants, (0.0015) cents per kWh for non-residential Vintage 2016 DSM participants, 0.0024 cents per kWh for non-residential Vintage 2015 EE participants, (0.0024) cents per kWh for non-residential Vintage 2015 DSM participants, (0.0061) cents per kWh for non-residential Vintage 2014 EE participants, and (0.0002) cents per kWh for non-residential Vintage 2014 DSM participants.

Public Staff Review of Company Rider 10 Calculations

As discussed above, Public Staff witness Williamson filed testimony in this proceeding discussing several EM&V-related issues related to the Company's filing, none of which necessitates an adjustment to the Company's billing factor calculations. Public Staff witness Maness testified that his 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 1032 Settlement, the Sub 1130 Order, and the Revised Mechanism, and (b) otherwise adhered to sound ratemaking concepts and principles.

Public Staff witness Maness testified that 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, 2017. 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. Mr. Maness indicated that the Public Staff had not completed its review. With the exception of the two issues discussed below, Mr. Maness found that the Company calculated the Rider 10 billing factors in a manner consistent with G.S. 62-133.9, Commission Rule R8-69, the Sub 1032 Settlement, the Sub 1130 Order, the Revised Mechanism, and other relevant Commission Orders.

kWh Sales used to Calculate Non-Residential Billing Factors

Mr. Maness testified that during his review of the Company's rate calculations, he noted that for each Non-Residential vintage/factor combination for Vintage Years 2014-2018, there has been a significant decrease in the level of estimated participating kWh sales from 2018 to 2019 of approximately 12%. He explained that this decrease was attributable to a decrease in the overall non-residential kWh sales forecast of 3.90%, as well as a 6.92% increase in the Company's estimate of opt-out sales. Mr. Maness testified that the net effect of these two dynamics was a substantial increase in the non-residential billing factors. He believed that the estimated participating Rider kWh sales may be understated, and recommended that the Company's proposed level of 2019 estimated kWh sales for each Non-Residential vintage/factor combination be reduced by 3.90%. Additionally, Mr. Maness recommended that the true-up process for Rider 10 be held open until the total actual amount of Rider 10 revenues collected can be reflected in the rate calculation process, and that the Company be allowed to recover carrying costs on any understatements of Rider 10 billing factors caused by use of the Public Staff's recommended levels of participating Rider 10 kWh sales versus the actual levels of such kWh sales, but with the understatement eligible for carrying charges limited to the difference between the Public Staff's recommended levels of participating Rider 10 kWh sales and the Company's initially proposed levels of such sales in this proceeding.

Avoided Costs Used in Calculating the PPI

The second issue raised by the Public Staff, as noted previously, is the appropriate level of avoided costs to be used in the determination of the PPI and calculations of cost-effectiveness. Paragraph 69 of the Revised Mechanism provides:

> For the PPI for Vintage Years 2019 and afterwards, the program-specific per kW avoided capacity benefits and per kWh avoided energy benefits used for the initial estimate of the PPI and any PPI true-up will be derived from the underlying resource plan, production cost model, and cost inputs that generated the avoided capacity and avoided energy credits reflected in the most recent Commission-approved Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities as of December 31 of the year immediately preceding the date of the annual DSM/EE rider filing. However, for the calculation of the underlying avoided energy credits to be used to derive the program-specific avoided energy benefits, the calculation will be based on the projected EE portfolio hourly shape, rather than the assumed 24x7 100 MW reduction typically used to represent a qualifying facility.

Paragraphs 19 and 23A of the Revised Mechanism, which govern the appropriate avoided costs to be used in calculating cost-effectiveness of new and existing programs, contain similar language. Under these provisions, the appropriate biennial avoided costs to be used for Vintage Year 2019 are those approved in Sub 148 on October 11, 2017. In Sub 148, the Commission concluded that

> G.S. 62-156(b)(3) requires that, when calculating avoided capacity rates using the peaker method, a utility's standard offer to purchase should include a capacity credit for those years when the utility's most recent IRP demonstrates a need for capacity.

G.S. 62-156(b)(3) was amended in 2017 in Part I of Session Law 2017-192 (House Bill 589) to require that with regard to power sales by small power producers to public utilities,

> a future capacity need shall only be avoided in a year where the utility's most recent biennial integrated resource plan filed with the Commission pursuant to G.S. 62-110.1(c) has identified a projected capacity need to serve system load and the identified need can be met by the type of small power producer resource based upon its availability and reliability of power, other than swine or poultry waste for which a need is established consistent with G.S. 62-133.8(e) and (f).

As discussed by Public Staff witness Williams, under the Sub 148 Order, “new” Qualified Facilities (QFs) seeking to sell their energy and capacity to DEC will not be paid capacity payments until new capacity is needed in 2023, as identified in the Company’s 2016 IRP. He pointed out that in the Sub 148 Order, the Commission noted that besides setting rates for QFs, the avoided costs are used for determining cost-effectiveness of and performance incentives for DSM/EE programs.[13] Mr. Williams stated that to be consistent with the Sub 148 Order and the Revised Mechanism, determinations of cost-effectiveness and utility incentives for new and existing programs should be based on avoided capacity rates that reflect zero avoided capacity value in years prior to the identified need for new

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[13] Sub 148 Order, p. 69.

capacity in the Company's IRP (2023). He noted that in Sub 1130, Public Staff witness J. Robert Hinton had testified that

> the use of PURPA[14]-based avoided costs appropriately links the Company's DSM/EE savings and financial incentives with the avoided cost rates it pays qualified facilities, will lead to better estimates of the costs avoided by the Company's DSM/EE programs, and will provide a more accurate view of the value of DSM and EE.[15]

Mr. Hinton further testified that

> . . . the use of PURPA-based avoided costs links the savings and financial incentives afforded the Company for its DSM/EE programs with the rates it pays QFs for avoided energy and avoided capacity. Therefore, I believe that the use of PURPA-based avoided energy and capacity costs will lead to better estimates of the costs avoided by the Company's DSM/EE programs thereby providing a more accurate view of the value of DSM and EE.[16]

Mr. Williams explained that the Company included avoided capacity cost benefits in every year of the life of a measure in calculating the PPI, and explained in a data response that "[du]e to fundamental differences between a QF and a DSM/EE measure, the avoided cost benefits for EE and DSM programs should not be, and were not intended to be, exactly the same as those used to establish QF payments." The Company also assumed that DSM/EE would be included as

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[14] The Public Utility Regulatory Policies Act (Pub.L. 95–617, 92 Stat. 3117, enacted November 9, 1978)

[15] T. p. 257.

[16] T. pp. 250-51.

fixed resource in the IRP, and contended that removal of the resources would result in a more immediate need for new capacity. Mr. Williams did not disagree with this contention, but pointed out that removal of projected QF capacity would also result in a more immediate need for capacity. With the Commission's determination in Sub 148 and the revision to G.S. 62-156(c), Mr. Williams stated that the clear intent is that customers should not have to pay for capacity in years when the IRP does not show a need regardless of the source of the capacity.

Mr. Williams noted that DEC had indicated in a data response that it agreed that DSM/EE incremental to the block of DSM/EE in its IRP should be treated in the same way as new QFs and not receive avoided capacity cost payment when there is no need for capacity. However, Mr. Williams' understanding was that the composition of the block of DSM/EE would be fluid. He also pointed out that based on DEC's stated capacity needs, the capacity provided by all new EE programs and all new vintages of existing EE programs would be incremental to the DSM/EE block in the IRP. Therefore, he recommended that the avoided capacity benefits used for program approval, PPI, and review of on-going cost-effectiveness of the Company's DSM/EE programs be "derived from the same underlying resource plan, production cost model, and cost inputs" as agreed to in the Revised Mechanism.

Based on the treatment of avoided capacity costs recommended by Mr. Williams, Public Staff witness Maness recommended that DEC adjust its estimated Vintage Year 2019 PPI proposed in this case to bring it into compliance with Paragraph 69 of the Revised Mechanism. According to calculations provided by the Company, treating avoided capacity costs as recommended by Mr. Williams reduces the estimated Vintage Year 2019 system-level PPI from $25,050,064 to $16,055,813, a decrease of $8,994,251. This reduction, as well as the adjustment to non-residential kWh sales, produces the following billing factors, as set forth on Maness Exhibit I (all in (cents per kWh):

EMF Residential	0.1091
Prospective Residential	0.4089
2014 EMF Non-Residential EE	(0.0061)
2014 EMF Non-Residential DSM	(0.0002)
2015 EMF Non-Residential EE	0.0024
2015 EMF Non-Residential DSM	(0.0024)
2016 EMF Non-Residential EE	(0.0126)
2016 EMF Non-Residential DSM	(0.0015)
2017 EMF Non-Residential EE	0.2924
2017 EMF Non-Residential DSM	0.0005
2017 Prospective Non-Residential EE	0.0801
2018 Prospective Non-Residential EE	0.0695
2018 Prospective Non-Residential DSM	0.0030
2019 Prospective Non-Residential EE	0.3100
2019 Prospective Non-Residential DSM	0.0736

Mr. Maness recommended that the $8,994,251 reduction in the system PPI be included in all future true-ups of the Vintage 2019 DSM/EE revenue requirement and billing factors. Additionally, he recommended that for as long as the Sub 148 avoided cost rates remain in effect, the Company continue to assign a capacity cost value of zero to all kW savings occurring before year 2023 that are related to Vintage Years 2019 and afterwards, consistent with Paragraph 69 of the Revised Mechanism.

Mr. Maness also noted that the Company has continued to use its net-of-tax rate of return to calculate the interest amount on over-recoveries in this DSM/EE Rider 10 proceeding, rather than the 10% rate normally used by the Commission for over-recoveries in certain other rider proceedings. However, Mr. Maness found the impact of this rate differential to be immaterial to the DSM/EE billing factors. The Public Staff reserved the right to raise this issue in the future.

In its June 19, 2018, letter, the Public Staff indicated that it had found no further exceptions or necessary adjustments to test year (Vintage Year 2017) DSM/EE program costs.

<u>DEC's Response to Public Staff Adjustments</u>

kWh Sales used to Calculate Non-Residential Billing Factors

In regard to the adjustment proposed by Public Staff witness Maness to adjust non-residential participating kWh sales, DEC witness Miller indicated in her rebuttal testimony that the Company has seen an increase in the number of opt-outs each year, so it does not believe a decline is probable. She also noted that using actual opt-out sales from the test period to determine projected opt-out sales has consistently resulted in undercollections for prior Vintage Years. However, the Company would agree to the adjustment, as it would be made whole with the collection of any underrecovery and carrying charges as described by Mr. Maness. Ms. Miller noted that this adjustment is unique and should not be used as precedent. Attached to Ms. Miller's rebuttal testimony were exhibits incorporating this adjustment.

Avoided Costs Used in Calculating the PPI

DEC witnesses Duff and Stevie provided rebuttal testimony on the issue of the appropriate avoided capacity value to be used in calculation of the PPI and cost-effectiveness. Mr. Duff explained that the revisions to the Mechanism approved in Sub 1130, eliminated the Mechanism triggers to change the avoided cost rates to be used to evaluate the PPI and cost-effectiveness, and approved the current language of Paragraphs 19, 23A, and 69 of the Revised Mechanism. He also noted that a second primary purpose of the revision was to change the source and methodology for calculating avoided energy costs from the IRP to the most recently approved avoided cost proceeding. He contended that the revisions to the Sub 1032 Mechanism did not change the source of methodology underlying the avoided capacity calculation.

Mr. Duff indicated that he believed that the Company had calculated avoided capacity values consistent with Public Staff Witness Hinton's testimony in

Sub 1130, and that Mr. Hinton had never testified that the avoided capacity rates used for existing DSM EE programs should be the same as those paid to QFs. He also stated that during the Sub 1130 proceeding, DEC had provided the Public Staff with a projection of what the change in Vintage 2019 PPI would be under the revisions to the 1032 Mechanism if DEC's proposed avoided costs rates in Sub 148 were approved which showed capacity values in each year. Mr. Duff testified that adoption of the Public Staff's recommendation would be inconsistent with State policy that recognizes the important role EE plays in allowing the Company to meet the State's Renewable Energy Portfolio Standard.

Dr. Stevie testified that the Public Staff's adjustment would remove the avoided capacity value of DSM/EE in the years 2019 to 2022 for purposes of evaluating cost-effectiveness and PPI, a removal of capacity value for 1,119 MW of DSM impacts and 220 MW of EE impacts of summer capability from DEC's portfolio of DSM/EE programs. Dr. Stevie argued that the Public Staff's approach was not reasonable.

In regard to DSM programs, Dr. Stevie contended that the Public Staff had ignored the legacy aspect of DSM programs, which are not incremental programs. He stated that the Company's DSM programs had been established over a number of years and were a useful resource. He pointed to Public Staff witness William's testimony that by year 2022, 95% of the DSM programs' capacity would be needed to defer the need for new capacity in 2023. Dr. Stevie contended that the legacy DSM programs should be treated similarly to QFs that had established legally enforceable obligations (LEOs) or had signed purchased power agreements (PPAs) prior to November 15, 2016. These QFs are entitled to capacity values for every year of their contracts. As the Commission or House Bill 589 did not retroactively end those capacity payments, Dr. Stevie argued that the Commission should not discontinue attributing capacity value to legacy DSM programs.

Dr. Stevie stated that most EE programs represent incremental new impacts in the IRP. He found it a reasonable conclusion that the capacity of approved EE programs is not needed and should not receive a capacity value until 2023, except for the MyHER program. Dr. Stevie contended that the MyHER program was established prior to Sub 148 and should be treated in the same manner as a legacy DSM program. He noted that the MW impacts of the MyHER program were not included in the EE impacts shown in the Company's IRP. Further, he pointed out that there is a summer capacity need of 425 MW from EE programs in 2023, and that this amount of EE cannot be created overnight. Dr. Stevie also indicated that an estimate of the PPI for EE programs, which contains a capacity value, is included in the Company's inputs to the IRP.

<u>Conclusions on Calculations of Rider EE</u>

The Commission finds and concludes that the Public Staff's adjustment to non-residential participating kWh sales, as agreed to by DEC, is reasonable.

The Commission also finds and concludes that it is reasonable and appropriate that determinations of cost-effectiveness and utility incentives for new and existing DSM/EE programs should be based on avoided capacity rates that reflect zero avoided capacity value in years prior to the identified need for new capacity in the Company's most recent IRP. In the Sub 148 avoided cost proceeding, the Commission determined that if the Company's IRP shows no need for capacity in particular years, ratepayers should not be required to pay for additional capacity from QFs. The Commission stated in the Sub 148 Order, "PURPA was not intended to force a utility and its customers to pay for capacity that it otherwise does not need."

The Commission noted in the Sub 148 Order that the Sub 148 avoided cost rates would be used not only to set rates appropriately for QFs, but to determine cost-effectiveness and PPI in DSM/EE proceedings. The Commission stated in the Sub 1130 Order that the use of the proper avoided costs "better links the savings and financial incentives for DEC's DSM/EE programs with the rates it pays QFs for avoided energy and avoided capacity, and provides for regular updating to prevent stale or outdated rates."[17]

Company witness Duff testified that the revisions to the Sub 1032 Mechanism in Sub 1130 did not alter the methodology of how avoided capacity values would be calculated. Rather, it removed the triggers in the Sub 1032 Mechanism, and instead requires use of values "derived from the underlying resource plan, production cost model, and cost inputs that generated the avoided

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[17] Sub 1130 Order, p. 35.

capacity and avoided energy credits reflected in the most recent" approved avoided cost rates. (Paragraph 69, Revised Mechanism) Clearly, the values to be used are those that are derived from the IRP, production cost model, and cost inputs that generated the Sub 148 avoided cost rates. The underlying IRP used for the Sub 148 rates shows no capacity need until 2023. The same logic applies here as stated in the Sub 148 Order, i.e., a utility and its customers should not be forced to pay for capacity that is otherwise not needed. Further, it is fair and in the public interest that DSM/EE capacity be treated in the same manner as QF capacity, as it provides a level playing field for resources and incentivizes DEC to request avoided cost rates that send appropriate market signals.

While the Commission acknowledges the role of DSM in resource plans, it rejects the contention that the Company's DSM programs are legacy programs, and thus should be treated similarly to QFs that have PPAs or an LEO. First, the current DSM programs were approved as "new" programs under S.L. 2007-393 (Senate Bill 3) in Docket No. E-7, Sub 831.[18] Further, the Company uses a one-year measure life for its DSM programs "because customers have the ability to terminate their participation in the programs on an annual basis." (See Stevie/Duff Stipulated Exhibit 7, Response to Question 1(a)) Thus, DEC treats each year of its DSM programs as a new vintage. Additionally, the MyHER program also has a

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[18] In that docket, Public Staff witness Floyd contended that the proposed PowerShare and PowerManager programs were not "new" programs (or legacy programs) under Senate Bill 3; however, the Commission found, as urged by DEC, that these two programs were "new" under G.S. 62-133.8.

one-year measure life due to its categorization of being a behavioral program, unlike other non-behavioral EE programs that have longer-term impacts or persistence.

One basis of the Commission's Sub 148 decision was a consideration of the operating characteristics of a QF resource, including dispatchability and reliability, as to whether the QF could help avoid the utility's planned capacity. Similar considerations should apply to DSM and EE. The Commission notes the testimony of DEC witness Hager in Docket No. E-7, Sub 831 that "the performance of demand-side resources is more difficult to predict because these resources (i) do not produce a measurable output, (ii) depend on customer behavior, and (iii) are not dispatchable."[19] Similarly, the Commission stated in its June 27, 2017 *Order Accepting Integrated Resource Plans and Accepting REPS Compliance Plans* in Docket No. E-100, Sub 147:

> [t]he Commission recognizes that the amount of DSM load reduction actually realized during a DSM event may be different than the totals included in IRP planning and included in the load forecast tables. However, the Commission is of the opinion that the planned reserve margin targets, in part, exist to address the difference in actual DSM achieved versus planned, in much the same way it covers generating capacity that is not available at the time of the peak.

Likewise, the performance of EE programs is also difficult to predict as the Company has no control over customer's decisions to participate or to opt-out. As

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[19] Transcript of testimony heard July 31, 2008, Vol. 7, Pt. 2, p. 303, http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=44170e45-38e0-4a2c-9b8f-07d9287dde25

DEC rebuttal witness Stevie stated, "There is no reserve margin for the EE impacts. The Company can only make offers that it hopes customers will embrace. But, there are no guarantees." Thus, based on a consideration of the characteristics of DSM and EE, it is appropriate and fair to treat the capacity value of DSM and EE as found appropriate for QFs in the Sub 148 proceeding; it certainly would not be consistent with the characteristics of DSM and EE programs as previously described to treat DSM and EE programs more favorably than QFs in this regard..

The Commission specifically rejects the contention of DEC rebuttal witness Duff that adoption of the Public Staff's proposal is contrary to North Carolina policy. While one of Senate Bill 3's purposes was to promote to development of EE, G.S. 62-133.9(b) requires the utilities to "implement demand-side management and energy efficiency measures and use supply-side resources to establish the least cost mix of demand reduction and generation measures that meet the electricity needs of its customers." To establish the least cost mix, it is only appropriate to value the benefits of a resource using the most current avoided costs. Likewise, in considering whether a new program and should be offered or an existing program should continue, or the amount of utility incentive to which DEC is entitled, the current avoided cost values should be used. In arriving at its decision in Sub 148 Order, the Commission balanced PURPA's goals with economic and regulatory circumstances in North Carolina. Similarly, the Commission has balanced the mandates of Senate Bill 3 regarding promotion of DSM and EE with least cost principles in arriving at its decision herein.

The Commission finds and concludes that the components of Rider 10, as shown in Maness Exhibit 1, are appropriately in compliance with the Commission's findings and conclusions herein, as well as the Commission's findings and conclusions as set forth in the Sub 831 Found Revenues Order, the Sub 938 First Waiver Order, the Sub 938 Second Waiver Order, the Sub 979 Order, the Sub 1032 Order, and the Sub 1130 Order. Additionally, the Commission finds and concludes that the $8,994,251 reduction in the system PPI should be included in all future true-ups of the Vintage 2019 DSM/EE revenue requirement and billing factors, and that as long as the Sub 148 avoided cost rates remain in effect, the Company should continue to assign a capacity cost value of zero to all kW savings occurring before year 2023 that are related to Vintage Years 2019 and afterwards, consistent with Paragraph 69 of the Revised Mechanism.

EVIDENCE FOR FINDING AND CONCLUSION NO. 30

The evidence in support of this finding and conclusion can be found in the testimony of DEC witness Evans, Public Staff witness Williamson, and NC Justice Center/SACE witness Neme.

Company witness Evans noted that Vintage 2017 of the Company's DSM and EE programs produced over 907 million kWh of energy savings and over 1,022 megawatts MW of capacity savings, which produced net present value avoided cost savings of over $586 million. During Vintage 2017, DEC's portfolio of DSM/EE programs was able to deliver energy and capacity savings that yielded avoided costs that were 162 percent of its target, while expending only 147 percent of targeted program costs.

Witness Evans testified that opt-outs by qualifying industrial and commercial customers have had a negative effect on the Company's overall non-residential impacts. For Vintage 2017, 4,075 eligible customer accounts opted out of participating in DEC's non-residential portfolio of EE programs, and 4,863 eligible customer accounts opted out of participating in the Company's non-residential DSM programs. While only 78 eligible customers that were opted out of the Vintage 2015 EE Rider opted in to the Vintage 2016 DSM Rider, 199 eligible customers that were previously opted out chose to opt in to the Vintage 2017 EE Rider.

Witness Evans stated that to reduce opt-outs, the Company continues to evaluate and revise its non-residential portfolio of programs to accommodate new technologies, eliminate product gaps, remove barriers to participation, and make its programs more attractive to opt-out eligible customers. It also continues to leverage its Large Account Management Team to make sure customers are informed about product offerings and their ability to opt-into the Company's DSM and/or EE offerings during the March opt-in window.

NC Justice Center/SACE witness Neme testified that DEC delivered its highest DSM/EE portfolio savings in 2017, 1.07% of prior year sales. In regard to the proposed 2019 portfolio, he noted with approval the forecast of new annual savings of about 0.95 percent of total forecast sales, and 1.38 percent of sales to non-opt-out customers, as well as the projected portfolio cost-effectiveness of 2.46%. Mr. Neme also pointed out the wide array of efficiency measures and programs, as wells as some state-of-the-art program design features. However, he noted his concern that DEC was achieving 70% of its residential savings and 40% of its total portfolio savings from MyHER, which has short-lived savings. Mr. Neme testified that DEC was inadequately promoting programs with longer-lived major measures such as the Residential Smart Saver EE program that comprehensively treat buildings. He also pointed out that as DEC's calculations assume that the annual savings produced by a residential LED light bulb installed as a result of its EE programs will be realized in each of the next 12 years at the same level experienced in the first year despite the new federal efficiency standards imposed by the Energy Independence and Security Act for most residential light bulbs. Mr. Neme also contended that DEC needed to increase its investment in lower-income communities and programs that reached rental units. In particular, he recommended that DEC:

> (1) endeavor to improve participation in its Residential Smart Saver program significantly through establishment of a midstream channel for promoting some of the measures through equipment distributors (and possibly retailers and/or other parts of the supply chain), increasing incentives, enhancing marketing, and/or other means to reach more customers.
>
> (2) consider greater promotion of whole-building retrofits, including support for both (A) improvements to building envelopes (e.g. insulation and air leakage reduction); and (B) retrofitting single-family and multi-family buildings that currently have electric-resistance heating with high-efficiency heat pumps.

(3) build on recent success and progress-in promoting efficiency measures for business customers through the midstream channel of its non-residential Smart Saver prescriptive rebate program.

(4) assess the potential to reduce the number of customers who opt out of its programs by improving business customers' understanding of its programs and/or improving the designs of its programs to make them more attractive to such customers.

Mr. Neme recommended that these issues be referred to the collaborative for discussion, and that DEC report back on them in its 2019 rider filing. He also suggested that it would be less burdensome to conduct EM&V if DEC or the State as whole used a TRM, and discussed a number of factors that allow collaborative, such as the EE Collaborative conducted by DEC, to function well. .

Public Staff witness Williamson also discussed his concerns regarding the fact that the EE lighting market is being transformed and that non-specialty LED lighting will likely become the baseline standard for general service bulb technologies by January 2020, thereby decreasing savings from EE lighting programs. He indicated that it appears that the lighting market may be close to adopting EE lighting technologies as a baseline and that further incentives for certain EE lighting measures for certain customers may not be necessary after January 1, 2020. Mr. Williamson recommended that the Company include in its 2019 rider filing in its plans to incorporate the impacts identified in its lighting shelving study, including any baseline changes for non-specialty LED bulb lighting technology in its EE programs.

Mr. Williamson also testified that the Company was in the process of installing Advanced Metering Infrastructure (AMI) meters and new customer information systems, and there may be some redundancy in the information available through these new systems and the information provided through the MyHER program. He stated that the EM&V for the MyHER program will need to clearly isolate any savings associated with enhanced access to customer data provided through AMI and customer information systems from the Impacts solely attributable to the customized suggestions for the home provided by the MyHER program.

In his rebuttal testimony, DEC witness Evans did not disagree with considering the items recommended by NC Justice Center/SACE witness Neme to be discussed in the DEC Collaborative, but suggested that a combined DEC and Duke Energy Progress (DEP) collaborative would be more efficient given the commonality between DEC's and DEP's programs. Mr. Evans suggested that a combined collaborative meet every two months rather than quarterly and that working groups be employed when deemed beneficial by the Collaborative. He did not object to a working group being initiated to review the use of a TRM, but noted that the working group should include at a minimum, representation by the Public Staff, Electric Membership Cooperatives, impacted municipalities, and investor owned utilities, as well as South Carolina utilities.

The Commission believes that the Collaborative is the appropriate forum for consideration of the recommendations made and concerns expressed by Mr.

Neme regarding improving participation in the Residential Smart Saver program, promoting whole-building retrofits; building on recent success and progress in promoting efficiency measures for business customers through the midstream channel of its non-residential Smart Saver prescriptive rebate program; assessing the potential to reduce the number of customers who opt out of DEC's non-residential programs; considering implementation of a TRM; improving the effectiveness of the Collaborative; the amount and persistence of the savings from the MyHER program, and the impact on DEC's DSM/EE portfolio of upcoming changes in lighting standards. The Collaborative should also consider the issues raised by Public Staff witness Williamson regarding the MyHER program and the impact of upcoming lighting standards. Further, the Commission does not object to DEC combining its collaborative with that of DEP and meeting on a more frequent basis. Finally, the Commission agrees that if the Collaborative determines that a TRM working group should be established, electric power suppliers and other stakeholders from both North and South Carolina should be invited to participate. DEC should report on the outcome of all these matters referred to the Collaborative in its 2019 rider filing.

IT IS, THEREFORE, ORDERED as follows:

1. That the Commission hereby approves the billing factors as set forth in Maness Exhibit 1, to go into effect for the rate period January 1, 2019, through December 31, 2019, subject to appropriate true-ups in future cost recovery

proceedings consistent with the Sub 1032 and Sub 1130 Orders, and other relevant orders of the Commission.

2. That DEC shall work with the Public Staff to prepare a proposed Notice to Customers of the rate changes approved herein. Within 30 days from the date of this Order, the Company shall file said notice and the proposed time for service of such notice for Commission approval.

3. That within 30 days of this Order, the Company should file with the Commission a discussion of the actions it is taking to maintain or improve cost-effectiveness of the EnergyWise for Business and Non-Residential Smart Saver Assessments/Custom programs, or any plans to terminate either of these programs. If either of these programs continue to have a TRC of less than 1.00 in the 2019 rider proceeding, the Company should include a discussion of actions it is taking to improve cost-effectiveness in its 2019 rider filing.

4. That the Residential Smart Saver EE program should be suspended as of December 31, 2018, until the Company can determine what is necessary for this program to attain and maintain cost-effectiveness.

5. That the EM&V report for the Non-Residential Smart Saver Custom program (Evans Exhibit B) should be revised and refiled in the next rider.

6. That acceptance of the EM&V report for the MyHER program (Evans Exhibit C) should be postponed and addressed in next year's proceeding pending completion of the Public Staff's review.

7. That DEC should leverage its Collaborative to address: (a) the recommendations made and concerns expressed by Mr. Neme regarding

improving participation in the Residential Smart Saver program, promoting whole-building retrofits; building on recent success and progress in promoting efficiency measures for business customers through the midstream channel of its non-residential Smart Saver prescriptive rebate program; assessing the potential to reduce the number of customers who opt out of DEC's non-residential programs; considering implementation of a TRM; improving the effectiveness of the Collaborative; the amount and persistence of the savings from the MyHER program, and the impact on DEC's DSM/EE portfolio of upcoming changes in lighting standards; and (b) the issues raised by Public Staff witness Williamson regarding the MyHER program and the impact of upcoming lighting standards. DEC should report on the outcome of all these matters referred to the Collaborative in its 2019 rider filing.

ISSUED BY ORDER OF THE COMMISSION.

NORTH CAROLINA UTILITIES COMMISSION

M. Lynn Jarvis, Chief Clerk