

**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,)	ORDER APPROVING
for Approval of Demand-Side Management)	DSM/EE RIDER AND
and Energy Efficiency Cost Recovery Rider)	REQUIRING FILING OF
Pursuant to N.C. Gen. Stat. § 62-133.9 and)	CUSTOMER NOTICE
Commission Rule R8-69)	

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, Jr.; Commissioners Jerry C. Dockham; James G. Patterson; and Lyons Gray

APPEARANCES:

For Duke Energy Carolinas, LLC:

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For the North Carolina Sustainable Energy Association:

Benjamin Smith and Peter H. Ledford, 4800 Six Forks Road,
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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, Natural Resources Defense Council, and the Southern Alliance for Clean Energy:

David Neal and Gudrun Thompson, 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:

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For the Using and Consuming Public:

Lucy E. Edmondson, Public Staff – North Carolina Utilities Commission,
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BY THE COMMISSION: Pursuant to N.C. Gen. Stat. § 62-133.9(d) the North Carolina Utilities Commission (Commission) is authorized 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 EE¹ or Rider 10) for 2019² (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 N.C. Gen. Stat. § 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. (CUCA) 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 Energy (SACE), filed a petition to intervene, and on May 21, 2018, Natural Resources Defense Council (NRDC, collectively, NC Justice Center) filed a petition to intervene. These petitions were granted on May 2 and 30, 2018, respectively. The Carolina Industrial Group for Fair Utility Rates III (CIGFUR) 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 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 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.

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.

On June 1, 2017, DEC filed a motion to excuse witness Miller and NC Justice Center filed a motion to excuse witness Neme from appearing at the June 5, 2018, expert witness hearing. On June 4, 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 13, 2018, DEC filed a late-filed exhibit containing information relating to the My Home Energy Report Program that was requested by Presiding Commissioner Brown-Bland during the expert witness hearing.

On July 19, 2018, the Public Staff filed a letter indicating that it had completed its review of DEC's 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), National 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

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.

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 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 \$aver 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 are considered actual results for a program until the next EM&V results are received. The new EM&V results are then 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 includes the following provisions, among several others: (a) the mechanism shall continue until terminated pursuant to Commission Order; (b) modifications to Commission-approved DSM/EE programs will be made using the Flexibility Guidelines; (c) 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

On August 23, 2017, 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.

Specifically in Sub 1130, paragraph 69 of the Sub 1032 Mechanism, which describes how avoided costs are determined for purposes of calculating the PPI, was revised such that for Vintage 2019 and beyond, the program-specific avoided capacity benefits and avoided energy benefits will be derived from the underlying resource plan, production cost model, and cost inputs that generated the avoided capacity and avoided energy credits reflected in the most recent Commission-approved Biennial Determination of Avoided Cost Rates as of December 31 of the year immediately preceding the annual DSM/EE rider filing date. 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-megawatt (MW) reduction typically used to represent a qualifying facility (QF).

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).

Additionally, Paragraph 19 of the Sub 1032 Mechanism was revised to specify that the avoided costs used for purposes of program approval filings would also be determined using the method outlined in revised Paragraph 69. The specific Biennial Determination of Avoided Cost Rates used for each program approval filing would be derived from the rates most recently approved by the Commission as of the date of the program approval filing. Paragraph 23 of the Sub 1032 Mechanism was revised, and Paragraphs 23A-D were added, to specify which avoided costs should be used for determining the continuing cost-effectiveness of programs and actions to be taken based on the results of those tests. Pursuant to Paragraph 23, each year the Company files an analysis of the current cost-effectiveness of each of its DSM/EE programs as part of the DSM/EE rider filing. New Paragraph 23A requires the use of the same method for calculating the avoided costs outlined in the revisions to Paragraph 69 to determine the continued cost-effectiveness for each program. Like revised Paragraph 69, Paragraph 23A specifies that the avoided capacity and energy costs used to calculate cost-effectiveness will be derived from the avoided costs underlying the most recent Commission-approved Biennial Determination of Avoided Cost Rates as of December 31 of the year immediately preceding the annual DSM/EE rider filing date. New Paragraphs 23B through 23D address the steps that will be taken if specific DSM/EE programs continue to produce Total Resource Cost (TRC) test results less than 1.00 for an extended period. For any program that initially demonstrates a TRC of less than 1.00, the Company shall 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 shall include a discussion of what actions it has taken to improve cost-effectiveness. If a program demonstrates a prospective TRC of less than 1.0 in a third DSM/EE rider proceeding, the Company shall terminate the program effective at the end of the year following the DSM/EE rider order, unless otherwise ordered by the Commission.

The Sub 1032 Mechanism, as revised by the Sub 1130 Order, is set forth in Public Staff witness Maness Exhibit II and referred to herein as the "Mechanism."

Docket No. E-7, Sub 1164

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. A utility may petition the Commission for approval of an annual rider to recover all reasonable and prudent costs incurred for the adoption and implementation

of new DSM and EE measures pursuant to N.C. Gen Stat. § 62-133.9 and Commission Rules R8-68 and R8-69. 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. Pursuant to Paragraph 19 of the Mechanism, the Income-Qualified EE and Weatherization program is not required to pass the TRC or UCT tests in order to be eligible for inclusion in the Company's portfolio. No further action by the Company is required with respect to this program.

5. The Non-Residential Smart Saver Custom Energy Assessments and EnergyWise for Business programs are cost-effective under DEC's calculation of avoided capacity costs.

6. The Residential Smart Saver EE program should not be suspended at this time. The Company should propose modifications to this program no later than October 31, 2018, with the goal of restoring the TRC score to 1.0 or greater. The Company should include a discussion of the impact of these modifications and other actions it has taken to improve cost-effectiveness in next year's DSM/EE rider proceeding.

7. Due to both the short amount of time it has been in place and the anticipated increase in cost-effectiveness, the Non-Residential Smart Saver Performance Incentive Program does not require additional scrutiny at this time. If the program does not project cost-effectiveness for Vintage 2020, pursuant to Paragraph 23B of the Mechanism, the Company should provide a discussion of the actions being taken to maintain or improve cost-effectiveness, or alternatively, its plans to terminate the program in its next DSM/EE rider proceeding.

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

9. 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.

10. The EM&V report for the Non-Residential Smart \$aver Custom program (Evans Exhibit B) should be revised as discussed by Public Staff witness Williamson and refiled in the next DSM/EE rider proceeding.

11. 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.

12. 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.

13. 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).

14. 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.

15. 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. It is also appropriate to limit the portion of the understatement eligible for recovery 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.

16. It is inappropriate to calculate the avoided capacity cost benefits for purposes of the PPI and cost-effectiveness of the Company's DSM/EE programs under the assumption that capacity avoided prior to year 2023 be assigned a zero dollar value. The Public Staff's recommendation of such, and the corresponding reduction to the Company's Vintage 2019 PPI, is rejected.

17. The components of Rider 10, as reflected in the testimony and exhibits of Company witnesses Miller and Evans, 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).

18. The reasonable and prudent Rider 10 billing factor for residential customers⁶ is 0.5320 cents per kWh, which, as is the case for all the other billing factors stated in these findings of fact, includes the regulatory fee.

19. 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 0.3158 cents per kWh.

20. 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 0.0877 cents per kWh.

21. 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.

22. 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.

23. The reasonable and prudent Rider 10 Vintage 2017 prospective EE 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 0.0801 cents per kWh.

24. 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.

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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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.

32. DEC should leverage its collaborative stakeholder meetings (Collaborative) to discuss the EM&V issues and program design issues raised in the testimony of NC Justice Center witness Neme and report the results of those discussions in the Company's 2019 DSM/EE rider filing.

33. Beginning in 2019, the Company should increase the frequency of the Collaborative meetings so that the combined DEC/Duke Energy Progress, LLC (DEP) Collaborative meets every two months.

EVIDENCE AND COCLUSIONS FOR FINDINGS OF FACT 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.

Pursuant to N.C. Gen. Stat. § 62-133.9 the Commission has 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 N.C. Gen. Stat. § 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 N.C.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 N.C. Gen. Stat. § 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.

Section 62-133.9 of the North Carolina General Statutes, along with Commission Rules R8-68 and Rule R8-69, establish a procedure whereby an electric public utility files an application in a separate 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 N.C. 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 AND CONCLUSIONS FOR FINDING OF FACT 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 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; Non-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 N.C.G.S. § 62-133.9.

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.

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 N.C.G.S. § 62-133.9.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 4 - 8

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 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 Utility Cost (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 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). Witness 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. Witness Williamson stated that the decreasing cost-effectiveness is also partially attributable to anticipated unit savings being lower than expected as determined through EM&V of the programs. Also, as programs mature, baseline standards increase, or avoided cost rates decrease, and it becomes more difficult for a program to produce cost-effective savings.

Company Witness Evans also testified that the avoided cost rates used in the 2019 portfolio projection were significantly lower than those employed in the Sub 1130 proceeding. Witness Evans further noted that the reductions in avoided costs lowered cost-effectiveness of all of the Company's DSM and EE programs, as well as DEC's portfolio as a whole.

NC Justice Center 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, witness Williamson determined that in addition to the Income-Qualified EE and Weatherization, Residential Smart \$aver EE, and the Non-Residential Smart \$aver Performance Incentive programs, the Non-Residential Smart \$aver Custom/Assessments and EnergyWise for Business programs are also not projected to be cost-effective under the TRC test. However, witness Williamson stated that the portfolio of programs seems generally to be performing satisfactorily.

NC Justice Center witness Neme testified that DEC's DSM/EE portfolio is very cost-effective, demonstrating that DSM/EE programs are a least cost resource for meeting consumers' electricity needs. Based on DEC's estimated UCT benefit-cost ratio, he stated that for every dollar that DEC spends on its programs, it is eliminating the need to spend \$2.46 on new power plants, the fuel to run those power plants, new power lines, and other investments otherwise needed to supply electricity to homes and businesses. DEC's analysis also suggests that the programs are very cost-effective under the TRC test, with a benefit cost-ratio of approximately 2 to 1. Witness Neme added that since 2014, DEC's programs have saved enough energy at the time of system peak to eliminate the need for the equivalent of more than four natural gas peaker power plants.

As a whole, the Commission concludes that DEC's portfolio of DSM and EE programs is cost-effective and eligible for inclusion in Rider 10. The Commission makes specific findings and conclusions as to the individual programs that DEC and/or the Public Staff have identified as not being cost-effective and discusses each below.

Income-Qualified EE and Weatherization Program

Witness Williamson testified that the Company's Income-Qualified EE and Weatherization Program - Low-Income was hit with a major decrease in cost-effectiveness due largely to the update of the avoided cost sources. However, witness Williamson explained that, as a matter of policy, low-income programs are not required to meet the cost-effectiveness test thresholds that other programs must meet in order to be considered for continuation, because they are intended to provide EE measures to a sector of customers who would not otherwise participate in an EE program on their own.

Pursuant to Paragraph 19 of the Mechanism (which provides an exception for low-income programs and other non-cost-effective programs with similar societal benefits), the Income-Qualified EE and Weatherization Program is not required to pass the TRC or UCT tests in order to be eligible for inclusion in the Company's portfolio. Therefore, based on the foregoing, the Commission finds and concludes that no further action by the Company is required with respect to this program.

EnergyWise for Business and Non-Residential Smart \$aver Custom Energy Assessments

Witness Williamson testified that DEC's EnergyWise for Business Program is a DSM program that draws the majority of its avoided cost benefits from capacity and transmission and distribution (T&D) reductions. He acknowledged that using the Company's application of avoided capacity costs, this program is cost-effective under the TRC test. However, when using the Public Staff's methodology, this program is no longer cost-effective. Thus, according to witness Williamson, pursuant to Paragraph 23B of the Mechanism, the Company should provide a discussion of the actions being taken to maintain or improve cost-effectiveness, or alternatively, its plans to terminate the program. He recommended further that pursuant to Paragraph 23C of the Mechanism, if this program shows a prospective TRC of less than 1.00 in next year's DSM/EE rider proceeding, the Company should include a discussion of what actions it has taken to improve cost-effectiveness.

Witness Williamson explained that the Non-Residential Smart \$aver Custom Energy Assessments and Non-Residential Smart \$aver Custom programs were filed separately in the last proceeding, but since then, the Company has decided to combine these two programs for purposes of program performance due to their similarities, including target participants. Under the combined efforts, the cost-effectiveness of these two programs shows a TRC greater than 1.00; however, when applying the Public Staff's methodology, the combined program is no longer cost-effective. As a result, witness Williamson recommended that, pursuant to Paragraph 23B of the Mechanism, the Company should provide a discussion of the actions being taken to maintain or improve cost-effectiveness, or alternatively, its plans to terminate the program. He recommended further that, pursuant to Paragraph 23C of the Mechanism, if the combined program shows a prospective TRC of less than 1.00 in next year's DSM/EE rider proceeding, the Company should include a discussion of the actions taken to improve cost-effectiveness.

In his rebuttal testimony, witness Evans made it clear that the Company does not agree with the application of zero avoided capacity cost values proposed by the Public Staff for the determination of program cost-effectiveness. He reiterated that while use of the Public Staff's proposed zero avoided capacity cost values would render the Non-Residential Smart \$aver Custom Energy Assessments and EnergyWise for Business programs non-cost-effective, these programs are considered to be cost-effective under the avoided cost rates applied by the Company. He concluded that because these programs are cost-effective under the Company's methodology, Paragraph 23B of the Mechanism does not apply.

The Commission finds and concludes, based on all of the evidence in the record, that the Non-Residential Smart \$aver Custom Energy Assessments and EnergyWise for Business programs are cost-effective under DEC's calculation of avoided capacity costs. Consistent with the Commission's findings regarding the determination of avoided capacity costs, the Commission further finds and concludes that these programs are cost-effective, and no further action is required by the Company.

Residential Smart \$aver EE Program

The Company's Residential HVAC EE – Air Conditioning Program (HVAC EE) was originally approved as a new EE program in the Sub 1032 Order. It includes EE measures associated with duct insulation and sealing, attic insulation and air sealing, tune-up of existing HVAC systems, and replacement of existing central air conditioning and heat pump HVAC systems with more efficient units. The program replaced the original Residential Smart \$aver program that was approved in the Sub 831 Order and included many of the same measures.

On October 2, 2015, DEC filed an application seeking approval of modifications to the HVAC EE Program, including changes to the incentive structure and addition of a referral channel to guide interested customers to one or more DEC-approved HVAC contractors who have paid DEC a fee to be on the referral list. In its comments, the Public

Staff raised the concern that the program as a whole, and some of the individual measures, were not projecting cost-effectiveness under the TRC test. The Company responded that the cost-effectiveness results were due to elevated participant costs due to the high upfront cost of efficient HVAC equipment; DEC predicted that, as the cost of HVAC equipment declined, the TRC result would improve. The Public Staff and DEC reached an agreement that the Public Staff would support approval of the modifications, as amended by the Public Staff, with the exception that if the program did not have a projected TRC greater than 1.0 by March 1, 2017, then the program would terminate effective March 31, 2017. The Company also agreed that if the projected TRC was lower than 1.0 as of March 1, 2017, or if the actual TRC for 2016 and the early part of 2017 was below 1.0, DEC would refund any Vintage 2016 and 2017 incentives associated with the program (i.e., PPI or net lost revenues) that DEC had collected in rates. The Commission approved the agreed-to program modifications with these conditions on February 9, 2016.

In the Sub 1130 proceeding, the projected TRC score for the HVAC EE Program in Vintage 2018 was 0.99. Public Staff witness Jack L. Floyd testified that approximately 99% of the participation in the HVAC replacement measures of the program was through the non-referral channel. He recommended that the Company either terminate the program or modify it to transition away from non-referral channel measures that are not cost-effective under the TRC and instead focus more on cost-effective referral measures. The Company agreed with this recommendation.

On July 20, 2017, the Company filed an application seeking approval of modifications to the HVAC EE Program and the Residential EE Appliances and Devices Program. (See Public Staff Evans Cross Examination Ex. 7, p. 1.) The proposed modifications included the removal of measures that were not cost-effective, restructuring the incentives for several of the measures that would remain, and generally aligning the program with a similar program offered by DEP. DEC proposed to consolidate the surviving measures from both programs into the Residential Smart \$aver EE Program. The projected TRC for the Residential Smart \$aver EE Program at the time of the filing was 1.08. The Public Staff stated that the program overall appeared to be cost-effective, but also noted that measures offered through the non-referral channel were not cost-effective. The Public Staff also acknowledged the Company's concerns related to

the perception of discrimination and that the program would be considered a “pay for play” by HVAC contractors if the non-referral channel were eliminated. However, the Public Staff observed that as long as the Company continued to offer measures through the non-referral channel, the program would continue to be marginally cost-effective. The Commission approved the proposed modifications on September 11, 2017.

In his direct testimony in this proceeding, witness Evans testified that despite several modifications, the Residential Smart \$aver EE Program continues to struggle to maintain cost-effectiveness. More specifically, he explained that during 2016 and 2017, the Company made a number of changes to the program to address the erosion in the program’s cost-effectiveness caused by advancement in efficiency standards and the associated lower incremental savings associated with exceeding the new standards. These program changes, which included redesign of the program to include a referral channel that reduced program costs, proved successful in returning the program to cost-effectiveness in 2017 and 2018. Unfortunately, with the application of the new lower avoided costs in 2019, the program is again projecting to no longer be cost-effective. According to witness Evans, the Company is actively working to evaluate additional programmatic changes, such as the Public Staff’s recommendation to transition to referral channel measures, that would offset the decline in avoided costs and make the program cost-effective in 2019 and beyond.

Witness Williamson testified that the Residential Smart \$aver EE program has struggled to achieve cost-effectiveness for several years because of (1) higher efficiency standards mandated by the federal government, which have increased baselines against which savings impacts have been measured, and (2) the need for large participant incentives to overcome the upfront out-of-pocket costs to participants. He asserted that the two sets of program modifications approved by the Commission have only made marginal improvements to cost-effectiveness. He explained that the main drivers decreasing cost-effectiveness continue to be the tighter efficiency standards and decreases in the avoided cost benefits.

Witness Williamson noted that DEC has expressed a strong desire to continue offering a residential HVAC replacement program. With HVAC being one of the largest energy-consuming appliances in the home, witness Williamson agreed that an EE program that encourages adoption of high efficiency HVAC equipment is a fundamental program for a utility’s EE portfolio. He also acknowledged that it is critical to maintain a good vendor network that provides customers with accurate, reliable information on HVAC energy consumption and other assistance.

Witness Williamson stated that while this program has continually struggled to maintain cost-effectiveness, a residential HVAC program is a cornerstone program for any electric utility. He testified that he thinks it is preferable that the Company suspend rather than terminate the program until it can determine what is necessary for this program to achieve and maintain cost-effectiveness. His recommendation is that the program be suspended effective December 31, 2018.

Witness Neme encouraged the Company to focus on promoting longer-lived major measures, such as those included in the Residential Smart Saver EE Program. He suggested that the Company make efforts to increase participation in rebate offers for high-efficiency heat pumps, central air conditioners, heat pump water heaters, pool pumps, attic insulation, air sealing, and duct sealing. He stated that there should be significant savings potential from these measures as they address the largest electricity end-uses in homes.

In his rebuttal testimony, witness Evans responded to witness Williamson's recommendation that the Residential Smart Saver Program be suspended. He testified that the Company believes that suspending the only program that offers assistance for making the largest single energy user in the home, a customer's HVAC system, more energy efficient does not seem reasonable, especially when the decision to make an investment in HVAC equipment only comes around once every fifteen years.

Furthermore, witness Evans pointed out that the recommended suspension of the program does not take into consideration the Company's relationships with HVAC contractors. He anticipates that the proposed suspension would likely erode trust and engagement, making it more like a termination than a suspension and also making it difficult to offer similar types of programs that would require trade ally support in the future.

In the past, when the program's cost-effectiveness has struggled due to efficiency standard changes, the Company has demonstrated the ability to effectively modify the program to restore cost-effectiveness and should have the opportunity to attempt to restore the cost-effectiveness of the program that was eroded by a reduction in avoided costs. As Witness Evans testified, "We have been resilient with attempts to make changes to keep that program viable. We have had one thing after another and that's just the nature of things with the [decrease in] avoided cost... [and increase in] incremental prices associated with the enhanced energy efficient equipment, so it's been difficult...but we continue to try."

The Company is currently investigating several opportunities to increase the cost-effectiveness of the program, including the following:

1. While the Company does have some concerns with respect to the Public Staff's recommendation to move the program to an all referral structure, the Company is not opposed to adopting this proposal so long as the Commission deems it appropriate;
2. Performing updated studies of the incremental costs actually being paid by customers to adopt higher efficiency equipment, in order to ensure these costs are reflective of the current market; and
3. Updating the measure mix, measure designs, and requirements that may be able to be removed/altered, thus lowering product cost to customers and increasing the TRC score.

Witness Evans concluded that the Company is confident that there is a solution available that will lead to a cost-effective program and that shutting down the current

operations without an appropriate time frame for planning and adjustment is not the best answer for DEC's customers. In response to questioning from counsel for NC Justice Center, witness Evans explained the importance of the Company's trade ally network to the success of a residential HVAC EE program. He noted that while trade allies provide advice to customers relating to energy efficient HVAC systems, non-trade allies tend to provide less emphasis on high efficiency equipment. He testified that the Company's trade allies go through a certification process to ensure customer satisfaction and quality. The Company also uses feedback from customers to "make sure [DEC has] a high quality group of folks making those installations and again be assured that they are at least providing customers with information related to high efficiency options." Witness Evans emphasized that DEC wants to maintain trust with these contractors so that they will remain available to do HVAC EE upgrades in the future: "if you were to drop our Trade Ally Network and then try to reestablish it a year later, I think that would be very difficult."

Witness Evans also testified that the Company is in the process of beginning a new analysis of the incremental price of higher efficiency equipment in the marketplace. The Company expects that as higher efficiency equipment becomes more available in the marketplace and there is additional competition, prices will go down. As such, a more updated detailed cost-effectiveness analysis that takes into account these anticipated price decreases would likely result in an increase in the program's TRC score.

In response to cross-examination from counsel for the Public Staff, witness Evans acknowledged that in the Sub 1130 rider proceeding, witness Floyd recommended that the Company modify the program to transition from non-referral channel measures to be more heavily focused on referred measures. He also acknowledged that, in the same proceeding, the Company agreed to modify the program design to improve the ratio of customers participating in referral measures.

While the Company did file modifications to the program shortly after the Sub 1130 proceeding designed to improve cost-effectiveness, DEC did not completely eliminate the non-referral channel. Witness Evans explained that while the Company does not object to witness Floyd's recommendation and is focused on increasing participation in the referral channel, it has concerns with eliminating the non-referral channel altogether: "We are concentrating on referred measures with trade allies;" "however, we did not go to complete referral."

As DEC stated in response to a Public Staff data request:

While the Company does not disagree with the changes proposed by the Public Staff in the last case, Docket No. E-7, Sub 1130, regarding the elimination of the non-referral channel provided in the Residential Smart Saver EE program, the Company did have concerns regarding the broader trade ally network response to such a drastic programmatic change. As the Program's cost-effectiveness is of an ongoing concern for both the Public Staff and the Company, the Company is not adverse [sic] to adopting the Public Staff's

recommendation to eliminate the non-referral channel. The Company would prefer that the Public Staff, in the context of the current proceeding, request that the Commission order the Company to make this Program change. If the Commission approves the Public Staff's request, which the Company does not plan to object to, the Company will file the changes, in the form of a compliance tariff within 60 days of the Commission's Order.

Witness Evans clarified that the "concerns" about the impact on trade allies that the Company referred to in this data request response are the same as those stated in the Commission's Order approving the 2017 program modifications:

DEC indicated to the Public Staff that the Company will continue to provide incentives for measures installed outside of the referral channel because of concerns that converting the [Residential Smart Saver EE Program] to a 'referral only' program would create a 'pay for play' environment. DEP [sic] believes the proposed modifications will increase participation in the referral-based delivery channel.

The 2017 modifications have, in fact, improved the ratio of customers participating in referral measures, as promised by witness Duff and as stated above. According to witness Williamson, new data provided by the Company in this proceeding 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 (versus only 1% of the participation coming through the referral channel as of last year's proceeding).

In response to questions relating to who bears the risk with respect to the Residential Smart Saver EE Program, witness Evans acknowledged that while ratepayers do receive benefits from the program, they do bear some risk if the program continues to struggle with cost-effectiveness. However, he pointed out that this is a shared risk – if the program is not cost-effective, the Company's PPI is adversely impacted. He testified that if the Company were looking at incentives in isolation, the motivation would perhaps be to remove it from the portfolio. However, the Company has faith in the program in the long run and continues to believe it is a critical piece of its overall portfolio.

Witness Evans concluded his testimony relating to the Residential Smart Saver Program by explaining why the Company thinks it is important to offer a residential HVAC program:

Again, it's the largest energy user in a domicile. It lasts 15 years. A customer can make a decision today to go baseline or to go to a higher efficiency unit. We're talking about long life benefits and this is the opportunity to do it now ... it's very important because it impacts so many homes and we have an opportunity here to provide long lasting energy efficiency benefits, thus our desire to maintain the program.

The Commission agrees with witnesses Evans, Neme, and Williamson that a residential HVAC program is an important program for an electric utility to offer as part of its DSM/EE portfolio. All three witnesses testified that the HVAC is one of the largest – if not, the largest – energy-consuming appliances in the home. In addition, as stated by witnesses Neme and Evans, the long measure life of an HVAC unit makes it particularly important to maintain this program as part of the Company’s portfolio. A rebate for a high-efficiency HVAC unit could lead to savings for many years to come.

Both witnesses Evans and Williamson also recognize that DEC’s relationship with its trade ally network – i.e., the HVAC contractors that service participants in the Residential Smart Saver EE Program – is crucial to maintaining a viable HVAC program. The Commission agrees with witness Evans that a suspension of the program would put those relationships at risk, which could jeopardize the entire program. Accordingly, the Commission finds and concludes that the Residential Smart Saver EE Program should not be suspended at this time. That said, the Commission is mindful of the Public Staff’s concerns that ratepayers not pay for non-cost-effective programs. Based on the Company’s persistent efforts to maintain the viability of the program through program modifications, as well as the negative impact on the Company’s PPI if the program continues to struggle to maintain cost-effectiveness, the Commission believes that DEC is highly motivated to continue to find ways to improve cost-effectiveness.⁸ To that end, witness Evans outlined a number of ways in which the Company could modify the Residential Smart Saver EE Program to improve cost-effectiveness. Thus, the Commission directs the Company (1) to propose modifications to this program no later than October 31, 2018, with the goal of restoring the TRC score to 1.0 or greater, and (2) to include a discussion of the impact those modifications and other actions it has taken to improve cost-effectiveness in next year’s DSM/EE rider proceeding.

Non-Residential Smart Saver Performance Incentive Program

Witness Evans testified that the forecasted 2019 TRC score for DEC’s Non-Residential Smart Saver Performance Incentive Program is 0.81 and the UCT score is 2.70. He explained that while the TRC score may be viewed as less than optimal in isolation, it is important to note that this program is largely an extension of the custom portion of the Non-Residential Smart Saver Program. In particular, the Performance Incentive Program encompasses energy saving measures related to new technologies, unknown building conditions and system constraints, as well as uncertain operating circumstances, occupancy, or production schedules. Witness Evans testified that, as a result, energy savings are difficult to project with any level of accuracy. In addition, the Company believes that if this program were no longer offered as part of the Company’s

⁸ Counsel for the Public Staff suggested that in order to show the faith that it has in the future of this program, the Company should agree to pick up a portion of the program costs and the net lost revenues to the extent that the program is not cost-effective. The Commission finds that because failing cost-effectiveness results in a hit to the Company’s PPI, DEC already has “skin in the game” and there is no need to apply additional financial pressure to motivate the Company to pursue program modifications to improve cost-effectiveness.

EE portfolio, additional opt-out eligible customers may elect to opt out of the EE portion of Rider EE as a result. Witness Evans also noted that, due to the nature of the program, the risk of overcompensating participants at the expense of other customers or, conversely, undercompensating participants for their EE improvements, is limited. He concluded that the Company believes that this program is an essential element of its EE portfolio and that its cost-effectiveness results will improve.

Witness Williamson testified that the Non-Residential Smart \$aver Performance Incentive Program was approved in the fall of 2016 and launched in January 2017. In the Sub 1130 proceeding, this program was not cost-effective but was still too new to assess its full potential. This year, it is again not cost-effective, but because of its status last year, witness Williamson considers this program to fall under paragraph 23B of the Mechanism. Thus, he recommended that in its rebuttal or supplemental testimony in this proceeding, the Company provide a discussion of the actions being taken to maintain or improve cost-effectiveness, or alternatively, its plans to terminate the program. Further, if this program is again not cost-effective at the time of the next rider filing, he recommended that the Company should include a discussion in that proceeding of the actions taken to improve cost-effectiveness pursuant to Paragraph 23C of the Mechanism.

In his rebuttal testimony, witness Evans explained that the Non-Residential Smart \$aver Performance Incentive Program was intended to encompass large EE-related projects with uncertainty relative to their performance – for example, projects that employ new technologies. Related program incentives are provided in installments based on actual savings. In this manner, participants are properly incentivized for their EE-related investments and other customers are shielded from the impacts of overstated performance. That said, very few projects are appropriate for participation in the program. The 0.81 TRC test score reflected in Evans Exhibit 7 was based upon participation forecasts and costs used in the Company's 2016 program filing. During 2017, only two projects were involved. Currently, there are 12 projects underway in the Company's North Carolina service territory. The Company's estimated TRC score for this program, based on these and other projects under review, will exceed 1.75.

Based upon the foregoing, the Commission finds and concludes that this program does not require additional scrutiny at this time, due to both the short time it has been in place and the anticipated improvement in cost-effectiveness results. Nevertheless, if the program does not project cost-effectiveness for Vintage 2020, pursuant to Paragraph 23B of the Mechanism, the Company shall provide a discussion of the actions being taken to maintain or improve cost-effectiveness, or alternatively, its plans to terminate the program in its next DSM/EE rider proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 9-11

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. Witness 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. Public Staff witness 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 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 witness 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 AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 12-13

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 AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 14-31

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, Evans, 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. Witness Miller provided an overview of the Revised Mechanism, which is designed to allow the Company to collect revenue equal to its incurred program costs⁹ 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. 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

⁹ 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.

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. Witness 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, 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 were not 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 factors¹⁰ 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.

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

¹⁰ 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.

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's 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. As of the date of filing of the Public Staff testimony, Witness Maness indicated that the Public Staff had not completed its review¹¹. With the exception of the two issues discussed below, witness Maness found that the Company calculated the Rider 10 billing factors in a manner consistent with N.C. Gen. Stat. § 62-133.9, Commission Rule R8-69, the Sub 1032 Settlement, the Sub 1130 Order, the Revised Mechanism, and other relevant Commission Orders.

¹¹ 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.

Kilowatt Hour Sales used to Calculate Non-Residential Billing Factors

Public Staff witness 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. Public Staff witness 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, witness 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.

Regarding 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 under-collections for prior Vintage Years. However, the Company would agree to the adjustment, as it would be made whole with the collection of any under-recovery and carrying charges as described by witness Maness. Witness Miller noted that this adjustment is unique and should not be used as precedent. Attached to DEC witness Miller's rebuttal testimony were exhibits incorporating this adjustment.

Witness 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, Witness 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.

Commission Conclusions Concerning kWh Sales

Based upon the foregoing, 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 concludes that 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 limit the portion of the understatement eligible for recovery 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. The Public Staff contends that DEC is required by the revised mechanism and the Sub 148 Order to use zero as the input when calculating the avoided capacity values for DSM/EE until 2023, when DEC's IRP shows a capacity need. 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.¹² Witness 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 capacity in the Company's IRP (2023).

Background

Paragraphs 68 and 69 of the cost recovery mechanism, which sets out the determination of the avoided capacity costs, approved by the Commission in Sub 1032, state as follows:

68. For the PPI for Vintage Year 2014, the per kW avoided capacity costs used to calculate avoided cost savings shall be those reflected in the filing by Duke Energy Carolinas in Docket No. E-100, Sub 136. The per kWh avoided energy costs shall be those reflected in or underlying the most recently filed integrated resource plan (IRP)...

69. For the PPI for Vintage Years 2015, 2016, and 2017, the presumptive per kW avoided capacity costs and per kWh avoided energy costs used to calculate avoided cost savings shall be those

¹² Sub 148 Order, p. 69.

determined pursuant to paragraph 68 above. However, if at the time of initial estimation of the PPI for each of those years, either (a) the Company's per kWh avoided energy costs calculated for the purposes of the Company's annual IRP or resource plan update filings have increased or decreased by 20% or more or (b) the Company's per kW avoided capacity costs reflected in the rates approved in the biennial avoided cost proceedings have increased or decreased by 15% or more, the avoided costs (both energy and capacity) will be updated for purposes of the DSM/EE rider proceeding.

The parties sometimes referred to the method for updating avoided costs under Paragraph 69 of the Sub 1032 Mechanism as the "trigger" or "ratchet" method, in that avoided costs would remain the same unless and until the specified thresholds were met - either a change in avoided energy costs of at least 20% or a change in avoided capacity costs of at least 15% - which would then trigger an update of both avoided energy and avoided capacity costs. In addition, under Paragraph 69 of the Sub 1032 Mechanism, avoided energy costs and avoided capacity costs were derived from two different sources: the annual IRP or resource plan update filings for avoided energy and the biennial avoided cost proceedings for avoided capacity.

In the previous year's DSM/EE proceeding, Sub 1130, the Public Staff and DEC discovered that they had differing interpretations as to the appropriate avoided costs to be used in calculating Rider 9 pursuant to Paragraph 69 of the Sub 1032 Mechanism. The Public Staff believed that the "ratchet" that would cause avoided capacity and energy costs to be updated for purposes of the DSM/EE rider proceeding had been triggered for purposes of the PPI to be calculated for Vintage 2018. The Company maintained that the ratchet had not been triggered. Had avoided cost rates been updated in a manner consistent with the Public Staff's interpretation of Paragraph 69, the Vintage 2018 PPI would have been reduced by approximately \$9.5 million.

The Company and the Public Staff eventually reached a comprehensive agreement (the Sub 1130 Agreement or Agreement) resolving their differences which consisted of (1) a monetary adjustment which reduced the Vintage 2018 PPI by \$6,750,000 million; and (2) certain revisions to the Sub 1032 Mechanism, including the method by which avoided costs would be updated for purposes of the PPI and DSM/EE program cost-effectiveness. The Commission approved the Sub 1130 Agreement and the resulting revisions to the Sub 1032 Mechanism in Sub 1130.

Revised Paragraph 69 states as follows:

69. 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 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 23 (which govern the calculation of cost-effectiveness for program approval filings and continuing cost-effectiveness for existing programs, respectively) were also revised to reflect the same method for determining avoided costs.¹³

In the most recent Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities (Avoided Cost Proceeding) in Sub 148, the Commission was faced with whether certain changes to the previously-approved methods used to calculate avoided cost rates and to the current framework for implementing Section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA) were warranted given the amount and pace of the development of QFs, and in particular solar-powered QFs, in North Carolina. The issue arose as to whether utilities should have to pay QFs for capacity in years in which they do not have a capacity need. Witnesses in the proceeding described significant growth in solar production in the State resulting in over-supply, operational challenges, and artificially high costs passed on to North Carolina residents, businesses, and industries. Both DEP and DEC proposed, and a number of parties, including the Public Staff, agreed, that a utility should include zeros in the calculation of capacity rates for the years in which the utility does not have a capacity need.

While the case was pending, N.C. Gen. Stat. § 62-156(b)(3) was amended by the General Assembly to provide, with respect 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).

¹³ The Public Staff refers to the method for calculating avoided cost rates pursuant to the revised Paragraphs 19, 23, and 69 as the "PURPA method."

In its Order in Sub 148, the Commission concluded that with regard to QFs that are small power producers, N.C.G.S. § 62-156(b)(3) requires that when calculating avoided capacity rates using the peaker method, it is appropriate to require a payment for capacity in years of a utility's IRP forecast period only when a capacity need is demonstrated during that period. Sub 148 Order, p. 48. The Commission found that providing a levelized capacity payment over the term of the standard offer contract is a reasonable means of implementing this capacity payment. The Commission also determined that this avoided capacity payment methodology is appropriate with regard to the standard offer to purchase available to QFs that are not small power producers. The Commission based this change in methodology upon the "changed economic and regulatory circumstances facing QFs and utilities" – namely, the increasing amount of solar powered QF development activity and its impact on utilities' systems and rates.

The underlying IRP for purposes of the Sub 148 proceeding – DEC's 2016 IRP – does not show a capacity need until 2023. As such, the Commission's ruling in Sub 148 results in avoided capacity rates that use a zero value for capacity for the years 2019 to 2022. However, that ruling does not apply to QFs that established a legally enforceable obligation (LEO) prior to the date the Company made its avoided cost filing in Sub 148. As a result, QFs establishing a LEO after November 15, 2016 (new QFs) receive a capacity value that is zero in years 2019 through 2022¹⁴; QFs that established LEOs prior to November 15, 2016 (legacy QFs) receive a capacity value that is not zero in years 2019 through 2022.

Parties Discussion of the Issue

In this proceeding, the parties agree that the applicable Avoided Cost Proceeding for Rider 10 is Sub 148. The key issue in dispute between the Company and the Public Staff is whether because the Company does not show a capacity need until 2023, the Company is required by the Sub 1130 Agreement and the Sub 148 Order to use zero as the input when calculating its avoided capacity values for DSM/EE for years 2019 through 2022.

Public Staff witness Williams testified that the Public Staff interprets the Sub 1130 Order and the Sub 148 Order to mean that the Company's avoided capacity rates for DSM/EE should reflect zero avoided capacity value in years prior to the identified need for new capacity in the Company's IRP. He explained that as a result of the Commission ruling in the Sub 148 Order, "new" 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.

¹⁴ New QFs under the standard offer tariff will receive capacity payments in years prior to the utilities' first capacity need because the new QFs will receive a levelized capacity rate reflecting a lower annual payment to account for those initial years in which there are no avoidable capacity costs. Sub 148 Order, pp. 40, 48.

Witness Williams pointed out that the Commission noted in Sub 148 that “in addition to providing the basis for electric power purchases from QFs by a utility, the Commission determined avoided costs are utilized in, among other applications, the determination of the cost-effectiveness of DSM/EE programs and the calculation of the performance incentives for such programs...” He also asserted that witness Hinton’s testimony in Sub 1130 explicitly linked the PURPA-based avoided capacity and energy costs to the savings and financial incentives of the Company’s DSM/EE programs. As a result, he concluded that “in order to be consistent with the Sub 148 Order and the Revised Mechanism, “determinations of ongoing cost-effectiveness and utility incentives of both new DSM/EE programs and new vintages of existing DSM/EE programs starting in vintage 2019 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 IRP (2023).”

Witness Williams testified that the Public Staff believes that the Company was not consistent with Sub 148 and the Mechanism in how it applied avoided capacity value with respect to its DSM/EE programs.¹⁵ He stated that, in assessing the ongoing cost-effectiveness of its DSM/EE programs and the appropriate level of utility incentives, the Company used avoided cost rates that reflected a “full capacity value,” based on the peaker method, beginning in year one.

Witness Williams noted that in response to data requests, the Company contended DSM/EE is distinct from QFs in that without DSM/EE in the IRP, there would be a more immediate need for new capacity. As such, witness Williams stated, the Company’s position is that the DSM/EE within the IRP has capacity value and should receive “full avoided capacity benefits” in all years. Witness Williams disagreed. First, he stated that in the context of the IRP, on a MW to MW basis, the contribution to peak provided by DSM/EE is functionally equivalent to the contribution to peak provided by QF contracts. Therefore, he concluded that DSM/EE capacity is not distinct from QF capacity in this context and should not be treated differently.

In response to the Company’s argument that DSM/EE value is derived from its usefulness in delaying new capacity need until 2023, witness Williams argued that only the DSM/EE actually needed to delay new capacity need would have any value.¹⁶ According to witness Williams’ calculations, from 2019 through 2022, only 40%, 49%, 63%, and 74% of the DSM/EE capacity is needed to maintain a 17% reserve margin. He stated that DSM programs alone can meet this need through 2021 and can meet 95% of

¹⁵ Witness Williams concluded that the avoided energy and T&D costs that DEC used to evaluate ongoing cost-effectiveness of its DSM/EE programs are reasonable and are based on the approved Sub 148 proceeding and the agreed methodology of the Mechanism, as revised in Sub 1130. The Company’s calculation of avoided energy and avoided T&D were not disputed by any party.

¹⁶ DEC witness Williams characterized the DSM/EE programs included in the DSM/EE IRP block as “fluid,” because they are based on projections of participation and savings associated with approved programs, as well as the Company’s market potential study. However, he acknowledged that the DSM programs in the DSM/EE IRP block are stable and expected to continue for the foreseeable future.

the need in 2022. As such, he maintained that any new EE program or EE vintage would contribute effectively no capacity value and should, thus, be ineligible to receive capacity payments that are greater than zero.

Public Staff witness Maness testified that he concurs with witness Williams' recommendation that the avoided capacity cost benefits for purposes of the PPI and cost-effectiveness of the Company's DSM/EE programs be calculated under the assumption that capacity avoided prior to year 2023 be assigned a zero dollar value. Since the Company did not apply this method to calculate the estimated PPI for Vintage 2019, witness Maness recommended that the estimated Vintage 2019 PPI proposed by DEC in this case be adjusted to reflect this assumption. He testified that the Public Staff asked the Company to provide a calculation of estimated avoided cost benefits related to Vintage Year 2019 under the assumption that avoided capacity kW occurring prior to year 2023 is assigned a zero dollar value. According to the Company's calculation, making this assumption reduces the estimated Vintage 2019 system-level PPI from \$25,050,064 to \$16,055,813, a decrease of \$8,994,251. Witness Maness incorporated this reduction into the billing factors set forth on Maness Exhibit 1. He also 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.

Public Staff witness Williamson discussed the impact to the cost-effectiveness of the Company's DSM/EE portfolio that would result from applying zero capacity value for years prior to 2023, in accordance with the Public Staff's recommendation. Williamson Exhibit 2 shows the decrease in cost-effectiveness scores for each program when no capacity value is given for years that DEC's 2016 IRP does not show a capacity need. As mentioned above, in addition to the programs that were not cost-effective under the TRC test according to the Company's calculations, DEC's Non-Residential Smart Saver Custom/Assessments Program and EnergyWise for Business Program would no longer be cost-effective under the Public Staff's methodology.

In their rebuttal testimony, DEC witnesses Duff and Stevie explained that the Company strongly disagrees with the Public Staff's recommendation that the avoided capacity cost benefits for purposes of the PPI and cost-effectiveness of the Company's DSM/EE programs be calculated under the assumption that capacity avoided prior to year 2023 be assigned a zero dollar value.

Witness Duff described the Sub 1130 Agreement and explained why the Company believes that the Agreement does not support the Public Staff's position. According to witness Duff, one of the primary purposes for the Sub 1130 revisions to the mechanism was to eliminate the previous "trigger" approach for updating avoided costs, so that avoided energy and capacity costs are updated essentially every two years instead of waiting for certain thresholds to be met. The second primary purpose of the agreement is that it changed the source and methodology for calculating avoided energy costs which previously had been based on the IRP, so that like avoided capacity costs, they would now be derived from the biennial avoided cost proceeding. He noted that the revisions to

the mechanism approved by the Commission in Sub 1130 did not change the data source or methodology by which the Company was to calculate avoided capacity costs.

Witness Duff described how, consistent with the revisions to DEC's DSM/EE cost recovery mechanism that the Commission approved in the Sub 1130 Order, the Company derived both the avoided energy and avoided capacity using the rates approved in the Company's most recent biennial avoided cost proceeding, which in this case is Sub 148. In particular, he noted that the Company utilized the avoided capacity value calculated using the Peaker Method consistent with the Company's understanding of the Sub 1130 Agreement, which, in the Company's view, did not modify the approach used in past DSM/EE proceedings.

He explained how the Company's application of avoided capacity values for its DSM/EE programs is also consistent with his testimony in last year's DSM/EE proceeding (which, he stated, witness Williams mischaracterized and took out of context), as well as that of Public Staff witness Hinton. In fact, the Company agrees with Public Staff witness Hinton's testimony that the rates paid QFs are generally linked to the avoided cost rates utilized for DSM/EE; however, that does not mean the rates are the same.

Witness Duff also testified about how the Company's application of values for avoided capacity for DSM/EE is also consistent with calculations the Company provided the Public Staff when the parties reached the Sub 1130 agreement, which showed what the change in Vintage 2019 PPI would be under the proposed revisions to the mechanism if the avoided costs rates pending before the Commission in E-100, Sub 148 were approved. This analysis clearly reflected avoided capacity values in the years 2019 through 2022, rather than the zero value advocated by witness Williams.

Witness Duff also disagreed with the Public Staff's argument that the Sub 148 Order dictates that the Company must use zero values instead of capacity values for existing DSM/EE programs. He explained how witness Williams quoted the Sub 148 Order out of context, and that the language witness William's referenced does not support the Public Staff's position. He also noted that witness Williams appears to imply that EE is the first capacity resource that should be cut out of the Company's resource plan, which would be inconsistent with the policy articulated by the North Carolina legislature in Senate Bill 3 to promote energy efficiency in this state.

Witness Stevie explained why DEC believes the Public Staff's approach is inappropriate and underestimates the value of the Company's DSM/EE programs. Witness 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.

In regard to DSM programs, DEC witness 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. DEC witness 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, Company witness Stevie argued that the Commission should not discontinue attributing capacity value to legacy DSM programs.

Further, DEC witness Stevie observed that, with respect to the Company's EE programs, the Company's MyHER program is effectively in the same position as the legacy DSM programs. The MW capability provided by the MyHER EE program was created in the past, prior to the establishment of the new avoided cost rates. All that is required is the expenditure of funds to maintain the impacts, just like the Company must do to maintain the availability of the impacts from the legacy DSM programs. Accordingly, he determined that the MyHER program impacts are also not incremental or new after November 2016; they are embedded in the resource plan, and like legacy QFs with LEOs existing prior to November 15, 2016, should receive a capacity value in the 2019 to 2022 timeframe.

Additionally, Company witness Stevie testified that it makes sense to recognize the capacity value of the Company's other EE programs during the 2019 to 2022 period in order to be consistent with the underlying resource plan and because it would not be realistic or advisable to suspend these programs until a capacity need arises.

In its Post-Hearing Brief, DEC stated that the Public Staff's interpretation of the issue is (1) contrary to the plain language and intent of the current Mechanism, (2) underestimates the value of DEC's DSM/EE programs, and (3) is contrary to the State's public policy.

In that brief, DEC explained that with regard to the parties' intent, the avoided capacity rate used for DSM/EE and the avoided capacity rate paid to a QF are not identical. DEC emphasized the language in the Sub 1032 Mechanism stating that the per kW avoided capacity costs reflected in avoided cost proceeding are "used to calculate avoided cost savings" for purposes of the PPI, and the revised paragraphs of the Mechanism stating that the program-specific per kW avoided capacity benefits shall 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." According to DEC, the avoided capacity cost reflected in the avoided cost proceeding has always been an input to the calculation of avoided capacity benefits for purposes of DSM/EE, but was never intended to be the same value. Further, DEC maintains that if the parties had intended for the avoided capacity rate the Company pays QFs to be equivalent to the avoided capacity rate calculated for DSM/EE, they would have said so in the plain language of the Mechanism.

DEC discusses the details of the testimony of several witnesses that it contends support its plain language interpretation of Paragraph 69 of the Mechanism. With respect to DEC's argument regarding the effect on estimating the value of DEC's DSM/EE programs, the Company noted that the Public Staff's interpretation of Paragraph 69 ignores the legacy aspect of the Company's DSM programs. DEC maintains that the DSM programs included in its IRP are stable and are expected to continue for the foreseeable future. Therefore, these programs are treated as a dispatchable resource in the Company's IRP. According to DEC, it defies logic for a resource such as the legacy DSM programs not to receive a capacity valuation.

In addition, DEC contends that its MyHER EE program is effectively in the same position as its legacy DSM programs because the MyHER program impacts are embedded in the IRP, and, therefore, should receive a capacity value in the 2019 to 2022 time period. DEC acknowledges that its other EE programs, aside from MyHER, are in some respects different than the DSM programs in that most represent incremental new impacts in the IRP. However, DEC states that the Company's inputs to the IRP for the cost of the DSM and EE programs include not just the implementation cost, but also the estimate of the utility's PPI, which contains a capacity value for the years 2019 through 2022. As a result, to be consistent with the underlying IRP, including the cost inputs, DEC contends that the PPI should include the avoided capacity value of these EE programs as well for the years 2019 to 2022. Regarding public policy, DEC stated that DSM and EE programs are a desirable resource that is not only encouraged but mandated by the State, citing language from Senate Bill 3 that was incorporated into N.C. Gen. Stat. § 62-2(10). DEC notes that the stated goals of the legislation are to diversify the resources used to reliably meet the energy needs of consumers in the State, provide greater energy security through the use of indigenous energy resources available within the State, encourage private investment in renewable energy and EE, and provide improved air quality and other benefits to energy consumers and citizens of the State. In addition, DEC notes that Senate Bill 3 provides that the utilities shall be compensated for their DSM/EE efforts, and allows incentives to be awarded, including rewards based upon shared savings and avoided costs achieved by DSM/EE measures. N.C. Gen. Stat. § 62-133.9. DEC maintains that the Public Staff's interpretation of Paragraph 69 would eliminate a substantial portion of the incentive payments for those DSM/EE programs that help avoid capacity additions.

Finally, DEC argues that if the Commission had intended for DSM/EE to receive zero capacity payments, it would have said so in the Sub 148 Order. Yet, according to DEC, nowhere in the Commission's discussion of either the changed circumstances, mostly related to solar QFs, warranting the change in avoided cost methodology (Finding of Fact No. 1), or in its discussion of the adoption of the approach that new QFs should not receive payments for capacity in years in which there is no capacity need (Finding of Fact Nos. 5 and 6), does the Commission mention DSM/EE. See Sub 148 Order, pp. 9-19, 39-50. Further, DEC states that in concluding that QFs should only receive capacity payments in years in which the utility has a capacity need, the Commission noted that the operating characteristics of a QF must be considered in evaluating whether a QF resource can help to avoid the utility's planned capacity addition. In considering these

characteristics and other factors, the Commission concluded that the capacity value provided by additional solar PV does not necessarily help the utilities offset or avoid their next capacity need. However, DEC contends that DSM/EE is different from solar QFs, and that none of the policy reasons behind the Commission's shift in avoided costs methodology articulated in the Sub 148 Order apply to DSM/EE. DEC states, for example, that there is no evidence in this proceeding that there is an over-supply of DSM/EE programs that customers are paying artificially high prices for DSM/EE, or that DSM/EE is burdening the system. Finally, DEC submits that there is a fundamental difference between DEC's customers paying for capacity in the form of additional QF generation that the Company does not need, compared to the Company's implementation of DSM/EE programs to encourage customers to use less energy and capacity in accordance with State policy, as expressed in Senate Bill 3 and elsewhere in the Public Utilities Act.

In its Post-Hearing Brief, NCSEA states that eliminating proper compensation for avoided capacity costs could have a dire effect on the cost effectiveness of DSM/EE programs, and could discourage DEC from maintaining or increasing its deployment of DSM/EE resources. NCSEA cites the testimony of Public Staff witness Williams that the removal of avoided capacity costs when measuring the cost effectiveness of programs whose useful lives do not extend to periods when DEC's IRP shows a capacity need would cause certain programs, including the Non-Residential Smart Saver Custom Assessments program, not to be cost effective for vintage 2019. NCSEA submits that the Commission should reject the Public Staff's position that the avoided capacity benefits used for program approval, PPI, and review of on-going cost effectiveness of DEC's DSM/EE programs should include zero capacity value in years prior to 2023.

In their Post-Hearing Brief, NC Justice, SACE and NRDC agree with DEC's calculation of avoided capacity costs for purposes of establishing the PPI and calculating cost effectiveness. They further contend that assigning a zero-capacity value to DEC's suite of cost-effective DSM/EE programs that carry on from year to year would discourage the Company from making investments that save ratepayers money in part because of the avoided capacity.

Commission Discussion

Based on the foregoing and the plain language of Paragraph 69 of the Mechanism, the Commission concludes that the appropriate avoided capacity benefits and per kWh avoided energy benefits to be used for the initial estimate of the PPI and any PPI true-up should be derived from DEC's IRP, production cost model, and cost inputs that generated the avoided capacity and avoided energy credits approved in the Sub 148 Order. In particular, the Commission is persuaded that if DEC and the Public Staff had achieved a meeting of the minds on simply using the avoided costs adopted in the Sub 148 Order and subsequent avoided cost proceedings, then they would have simply stated that in Paragraph 69. They did not do so. Furthermore, based on the record in this proceeding, as well as the record in Sub 1130, the Commission finds and concludes that the Company's calculation of Rider 10 is consistent with the language and intent of the Sub 1130 Agreement. As DEC witness Duff testified, the Sub 1130 Agreement was

intended to eliminate the trigger method, so that avoided costs would be updated more frequently, and to change the source of avoided energy costs, so that avoided energy and avoided capacity rates for DSM/EE would be derived from the same proceeding. The revisions to Paragraphs 19, 23, and 69 resulting from the Sub 1130 Agreement did not alter the source or manner in which the avoided capacity costs are to be derived for the purpose of calculating cost-effectiveness and incentives associated with DSM/EE programs. The Commission generally agrees with the testimony of DEC's witnesses and DEC's arguments that evaluating the contributions that DSM/EE measures make to a utility avoiding future capacity needs to determine cost-effectiveness is inherently different than the evaluation undertaken to determine the capacity costs avoided through the purchase of the electric output from a QF¹⁷. In addition, the Commission is persuaded by the arguments of DEC, NCSEA and NC Justice Center that assigning a zero capacity value to DSM programs would under-value the contributions of those programs and send the wrong pricing signal. The Commission, therefore, declines to accept the Public Staff's downward adjustment to the Vintage 2019 PPI, and, instead, accepts the cost-effectiveness calculations performed by the Company for purposes of Rider 10, and approves the Company's calculation of the DSM/EE rates for Vintage 2019, as reflected in the rebuttal testimony and exhibits of DEC witness Miller.

The Commission further finds and concludes that the components of Rider 10, as shown in the testimony and exhibits of Company witnesses Miller and Evans, 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.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 32-33

The evidence in support of these findings and conclusions can be found in the testimony of DEC witness Evans, Public Staff witness Williamson, and NC Justice Center 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

¹⁷ However, the Commission is not prepared to agree wholly with those arguments, because in the Sub 148 Order the Commission distinguished between "small power producers" colloquially referred to as "renewable QFs," and those QFs that are not "small power producers," such as combined heat and power QFs. See N.C.G.S. 62-3(27a); Sub 148 Order at 18. With regard to small power producers, and the subset of QFs who DEC refers to as Solar QFs, the changes in capacity payments that the Commission approved in the Sub 148 Order were required pursuant to amended N.C.G.S. 62-156(b)(3). Sub 148 Order at 48. Much of the discussion cited by DEC in its proposed order was related to evidence that supported the Commission's findings and conclusions that the same changes would be appropriate with regard to the standard offer to purchase that is available to QFs that are not small power producers. Id.

\$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% of its target, while expending only 147% 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 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% of total forecast sales, and 1.38% of sales to non-opt-out customers, as well as the projected portfolio cost-effectiveness of 2.46%.

Witness Neme also pointed out the wide array of efficiency measures and programs, as well 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. Witness 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. Witness 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 \$aver 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.

Witness 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 collaboration, 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. Witness Williamson recommended that the Company include in its 2019 rider filing 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.

Witness 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 witness Neme to be discussed in the DEC Collaborative, but suggested that a combined DEC and Duke Energy Progress, LLC (DEP) collaborative would be more efficient given the commonality between DEC's and DEP's programs. Witness 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 initiating a working group 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.

In its Post-Hearing Brief, NC Justice Center stated that it generally supports DEC's application, and applauds DEC for the energy savings achieved by the Company's portfolio of DSM/EE programs. Nonetheless, NC Justice Center stated that it continues to have concerns about the Company's: (1) over reliance on short-lived measures, particularly its residential behavioral program; (2) inadequate promotion of longer-lived measures and comprehensive treatment of buildings; (3) insufficient planning to offset a significant loss of lighting savings once the 2020 federal EISA efficiency standards go into effect; and (4) need to reach more lower-income communities and deliver programs that reach rental units. NC Justice Center reiterated the testimony of its witness, Neme, on each of these points. In addition, NC Justice Center discussed Neme's recommendations for overall improvements to DEC's programs, and changes to more accurately calculate savings from the Company's major residential behavioral and lighting programs. NC Justice Center stated that the Commission should order DEC to take up these issues in the Collaborative over the course of the next year.

Further, NC Justice Center stated that in order for the Collaborative to make progress on these substantive issues the Commission should adopt the recommendations put forward by witness Neme to make the Collaborative function more effectively. Moreover, NC Justice Center stated that it agrees with the Company's plan to continue offering the Residential Energy Saver program, even though DEC is still working on making the program cost effective.

NCSEA, in its Post-Hearing Brief, supported the recommendations made by NC Justice Center. In summary, NCSEA stated that a TRM could be used to streamline the regulatory process for DEC's DSM/EE programs by, among other things, providing baseline energy usage, data for use in calculating energy savings, algorithms for calculating energy savings, and a process for updating deemed savings for existing measures, as well as determining deemed savings for new measures. Further, NCSEA submitted that a TRM would create greater certainty as to the savings to be produced by DEC's DSM/EE measures, thereby reducing regulatory risk and regulatory costs.

In addition, NCSEA noted that DEC is currently deploying AMI meters throughout its territory, and that the data provided by AMI meters can be utilized to reduce energy consumption. NCSEA agreed with Public Staff witness Williams' suggestion that the incremental data collected by AMI meters should be leveraged to improve the MyHER program and integrate these two technologies in a way that reduces the "redundancy in the information available through these new systems and the information provided through the MyHER program[.]"

Moreover, NCSEA supported witness Neme's suggestions for modifying DEC's portfolio of programs, and shared witness Neme's concern that DEC places too much relative emphasis on programs that deliver only short-lived savings. Further, NCSEA stated that DEC should continue its investigation, as discussed at past Collaborative meetings, into on-bill financing programs to support retrofits and provide greater access to efficiency for low-income customers.

NCSEA also agreed with witness Neme's suggestions for improving DEC's Collaborative, and agreed that examples from other states' collaboratives should be discussed at future Collaborative meetings. In addition, NCSEA stated that full participation in the Collaborative by experts in energy efficiency and regulatory policy may be hampered by the exclusion of attorneys from the meetings, and it requested that the Commission direct the Collaborative to discuss whether to remove this informal restriction and allow attorneys to attend Collaborative meetings.

Finally, NCSEA disagreed with Public Staff witness Williamson's suggestion that DEC's HVAC EE program should be suspended. It contended that suspension of the program would eliminate important financial incentives for increasing the efficiency of the largest component of energy use in a residence, and eliminate a primary source of long-term residential energy efficiency opportunities. Further, NCSEA contended that suspending the program would create a severe market disruption for both customers and HVAC contractors, and would unfairly eliminate this long-term energy efficiency opportunity for DEC residential customers who need to replace qualifying HVAC equipment in the upcoming program year. NCSEA submitted that by working closely with stakeholders, trade allies, and investigating lessons learned from other states and utilities, DEC can again make this critical program cost effective. Instead of program suspension, NCSEA supported the Public Staff's suggestion that DEC show faith in the program by "agreeing to pick up a portion of the program costs and the net loss revenues to the extent the program is not cost-effective."

The Commission is of the opinion that the Collaborative is the appropriate forum for consideration of the recommendations made and concerns expressed by witness 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's 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 Carolina 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 Miller Rebuttal 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 the Company shall propose modifications to the Residential Smart Saver EE Program no later than October 31, 2018, with the goal of restoring the TRC score to 1.0 or greater, and the Company shall include a discussion of impact of these modifications and any other actions it has taken to improve cost-effectiveness in next year's DSM/EE rider proceeding.

4. That in its next rider application, DEC shall address the continuing cost-effectiveness of the Non-Residential Smart Saver Performance Incentive Program and if it is not cost-effective, provide details of plans to modify or close the program.

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

6. That the results of the EM&V report for the My Home Energy Report program (Evans Exhibit C) are accepted conditionally for purposes of this proceeding. The Public Staff may continue to review this report and offer further recommendations for the Company's consideration in the next DSM/EE rider proceeding.

7. That DEC shall leverage its Collaborative to discuss the EM&V issues and program design issues raised in the testimony of NC Justice Center witness Neme as discussed herein. The results of these discussions shall be reported to the Commission in the Company's 2019 DSM/EE rider filing.

8 That beginning in 2019, the combined DEC/DEP Collaborative shall meet every other month.

ISSUED BY ORDER OF THE COMMISSION.

This the 11th day of September, 2018.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in dark ink, appearing to read "Jan H. Ful", is centered below the commission name.

Janice H. Fulmore, Deputy Clerk