PLACE: Dobbs Building, Raleigh, North Carolina

DATE: November 8, 2018

DOCKET NO.: E-22, Sub 556

TIME IN SESSION: 9:40 a.m. - 9:49 a.m.

BEFORE: Commissioner ToNola D. Brown-Bland, Presiding

Chairman Edward S. Finley, Jr.

Commissioner Jerry C. Dockham

Commissioner James G. Patterson

Commissioner Lyons Gray

Commissioner Daniel G. Clodfelter

Commissioner Charlotte A. Mitchell

IN THE MATTER OF:

Application by Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to G.S. § 62-133.9 and Commission Rule R8-69

Volume 2

A P P E A R A N C E S:

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(All confidential schedules and/or portions thereof are filed under seal)

P R O C E E D I N G S

COMMISSIONER BROWN-BLAND: Good morning. Let's come on the record. I'm Commissioner ToNola D. Brown-Bland with the North Carolina Utilities Commission, presiding Commissioner for this hearing. With me this morning are Chairman Edward S. Finley, Jr.; Commissioners Jerry C. Dockham, James G. Patterson, Lyons Gray, Daniel G. Clodfelter, and Charlotte A. Mitchell.

I now call for hearing Docket Number E-22, Sub 556, In the Matter of Application by Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider pursuant to G.S. § 62-133.9 and Commission Rule R8-69.

G.S. § 62-133.9 establishes the procedure for cost recovery of Demand-Side Management, hereafter DSM, and Energy Efficiency, hereafter EE, expenditures and provides for an annual DSM/EE Rider for each electric public utility to recover all reasonable and prudent costs incurred, and appropriate incentives for adoption and implementation of new DSM and new EE measures.

Commission Rule R8-69(b) provides for the establishment of a DSM/EE Experience Modification Factor 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.

Rule R8-69(f) provides that each electric public utility shall publish notice of the annual hearing at least 30 days prior to the hearing.

On August 21, 2018, Dominion Energy North Carolina, hereafter Dominion, filed its annual Application for approval of DSM/EE Cost Recovery Rider. Filed with the Application were the direct testimony and exhibits of Witnesses Michael T. Hubbard, Deanna R. Kesler, Jarvis E. Bates, Alan J. Moore, J. Clayton Crouch, and Debra A. Stephens.

On September 7, 2018, the Commission issued an Order Scheduling Hearing, Establishing Discovery Guidelines, and Requiring Public Notice. The Order set the hearing in the docket for Monday, November 5, 2018.

The participation in this docket by the Public Staff - North Carolina Utilities Commission is recognized pursuant to G.S. § 62-15.

On October 2, 2018, in response to a motion filed by the Public Staff, the Commission issued an Order changing dates for intervention, direct and rebuttal prefiled testimony, and rescheduled the expert witness hearing to be held on Thursday, today, November 8th at 9:30 a.m.

The public hearing was held as initially scheduled and as initially noticed on November 5th.

On October 8, 2018, Dominion filed the corrected Schedules 1, 2, 4 and 7 of Company Witness Deanna R. Kesler.

On October 15, 2018, Carolina Industrial Group for Fair Utility Rates I filed a Petition to Intervene which was granted by Commission Order dated October 24, 2018.

Also on October 24, 2018, Dominion filed Corrected Schedule 1 of Company Witness Alan J. Moore, and also filed the required Affidavits of Publication of Notice.

On October 25, 2018, the Public Staff filed the testimony of Michael C. Maness and David M. Williamson.

In compliance with the requirement of Chapter 138A of the State Government Ethics Act, I remind the members of the Commission of our responsibility to avoid conflicts of interest, and I inquire whether any member has a conflict of interest with respect to the matter before us this morning?

(No response)

Let the record reflect that no conflicts were identified.

And I will now call for opinions beginning -- for appearances beginning with the Applicant.

MS. KELLS: Good morning, Presiding Commissioner Brown-Bland and Commissioners; Andrea Kells with the Law Firm of McGuireWoods appearing on behalf of Dominion Energy North Carolina. Also appearing on behalf of the Company is Mr. Brett Breitschwerdt, also of McGuireWoods. And with us today are Mr. Horace Payne and Ms. Teirra Everette, in-house counsel with the Company.

COMMISSIONER BROWN-BLAND: Good morning.

MR. McDONALD: Good morning. I'm Ralph McDonald with Bailey and Dixon appearing for Carolina Industrial Group for Fair Utility Rates. And I'd also like to note please that after all these years I still laugh politely at the Chairman's jokes.

(Laughter)

COMMISSIONER BROWN-BLAND: Well, we thank you for that, Mr. McDonald.

MS. FENNELL: Good morning. Heather Fennell the Public Staff on behalf of the Using and Consuming Public.

COMMISSIONER BROWN-BLAND: And good morning. So are there any preliminary matters before we begin?

MS. KELLS: No.

COMMISSIONER BROWN-BLAND: If not, we'll start with the introduction of the evidence.

MS. KELLS: Thank you, Commissioner Brown-Bland. I would first like to identify the Company's Application filed August 21, 2018, as DENC Exhibit 1, and request that it be included in the record in this case and received into evidence.

COMMISSIONER BROWN-BLAND: That motion will be allowed and the Application will be marked DENC Exhibit 1.

MS. KELLS: Thank you.

(WHEREUPON, DENC Exhibit 1 was marked for identification and received into evidence.)

MS. KELLS: And now I would like to go

through the testimonies and exhibits of the Company's witnesses who have been excused from appearing today and will ask that the testimonies and appendices be copied into the record as if given orally from the stand, and that the exhibits filed in support of the testimony be identified as premarked and received into evidence.

So, first, in support of the Application, the Company prefiled the direct testimony of Michael T. Hubbard consisting of 17 typed pages of questions and answers and an Appendix A.

Also, the direct testimony of Deanna R. Kesler with nine typed pages of questions and answers and an Appendix A and seven schedules. Schedule 5 was identified as confidential and filed under seal.

Next, the direct testimony of Jarvis E. Bates with 11 typed pages of questions and answers and an Appendix A, and seven schedules, all of which were identified as confidential.

The direct testimony of Alan J. Moore consisting of 17 typed pages of questions and answers and an Appendix A, and three schedules. Schedules 1 and 2 were identified as confidential.

And, finally, the direct testimony of J.

Clayton Crouch consisting of 10 typed pages of questions and answers and an Appendix A and four schedules. Schedules 1 and 3 were identified as confidential.

Excuse me. Now finally, the direct testimony of Debra A. Stephens consisting of eight typed pages of questions and answers and an Appendix A, and 16 schedules, all of which were public.

Also on October 8, 2018, the Company filed corrected Schedules 1, 2, 4 and 7 to Witness Kesler's direct testimony, all of which were public, as well as a correction to page 8, line 9 of her direct testimony.

On October 24, 2018, the Company filed the corrected Schedule 1 to Witness Moore's direct testimony which was identified as confidential.

I would ask that the Company's letter in lieu of rebuttal testimony filed on November 2, 2018, be identified as DENC Exhibit 2, included in the record, and received into evidence. And that all of the testimony and Appendices be copied into the record and all of the supporting -- move that all of the supporting exhibits be received into evidence at this time.

COMMISSIONER BROWN-BLAND: All right. The motion that the letter of no rebuttal testimony be received and admitted into evidence will be allowed and it will be identified as DENC Exhibit 2 as requested.

(WHEREUPON, DENC Exhibit 2 was marked for identification and received into evidence.)

COMMISSIONER BROWN-BLAND: And the direct testimony of the witnesses - Hubbard, Kesler, Bates, Moore, Crouch and Stephens - will all be received into evidence, treated as if given orally from the witness stand. Their Appendices will also be received into evidence. And the exhibits will be identified as they were marked when prefiled and received into evidence.

Those exhibits or portions of exhibits or schedules, which will also be identified as they were filed -- as they were marked when filed, those that were marked confidential and that still remain confidential according to the Company's filing will remain confidential in the record.

Is that -- so all is received into evidence.

(WHEREUPON, the prefiled direct testimony and Appendix A of

MICHAEL T. HUBBARD is copied into the record as if given orally from the stand.)

DIRECT TESTIMONY
OF
MICHAEL T. HUBBARD
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 556

Q. **Please state your name, business address, and position with Virginia Electric and Power Company ("Dominion Energy North Carolina" or the "Company").**

A. My name is Michael T. Hubbard, and I am Manager-Energy Conservation for the Company. My business address is 701 East Cary Street, Richmond, Virginia 23219. A statement of my background and qualifications is attached as Appendix A.

Q. **Please describe your area of responsibility with the Company.**

A. I am responsible for overseeing the Company's Energy Conservation ("EC") department, which manages the Company's demand-side management ("DSM") and energy efficiency ("EE") programs ("DSM/EE Programs" or "Programs").

Q. **What is the purpose of your testimony in this proceeding?**

A. My testimony supports the Company's request to recover all reasonable and prudent costs incurred in adopting and implementing the Company's authorized portfolio of North Carolina DSM/EE programs, as well as utility incentives, through updated Rider C and the test period experience modification factor ("EMF") rider, Rider CE ("Application"). The purpose of my testimony is to: (1) provide an update on the status of the Company's current DSM/EE Programs in North Carolina; and (2) present the Company's cost recovery request in this proceeding to the North Carolina Utilities Commission ("NCUC" or "Commission").

I. UPDATE ON DSM/EE PROGRAMS

Q. Please provide a brief overview of the Company's approved DSM/EE Programs in North Carolina.

A. In February 2011, the Commission approved five DSM/EE Programs, which the Company began offering to customers in the spring of 2011.[1] These "Phase I" DSM/EE Programs included the Company's:

- Residential Low Income Program;
- Residential Air Conditioner Cycling Program;
- Residential Lighting Program;
- Commercial HVAC Upgrade Program; and
- Commercial Lighting Program.

On December 31, 2011, the Company concluded the implementation phase of its Residential Lighting Program. Further, the Company concluded its Commercial Lighting Program and Commercial HVAC Upgrade Program on December 31, 2014.[2]

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[1] Orders approving these Programs were issued on February 22, 2011, in Docket Nos. E-22, Sub 463 (Low Income Program), Sub 465 (Air Conditioner Cycling Program), Sub 467 (Commercial HVAC Upgrade Program), Sub 468 (Residential Lighting Program), and Sub 469 (Commercial Lighting Program).

[2] On December 16, 2013, the Commission approved the Company's request to transition the Phase I Commercial HVAC Upgrade Program (Sub 467) and the Commercial Lighting Program (Sub 469) from system-wide Programs to North Carolina-only Programs. By Order issued August 8, 2014, the

In August 2013, the Company requested Commission approval to implement the following "Phase II" DSM/EE Programs:

- Non-residential Energy Audit Program;
- Non-residential Duct Testing and Sealing Program;
- Residential Home Energy Check-Up Program;
- Residential Duct Sealing Program;
- Residential Heat Pump Tune-Up Program; and
- Residential Heat Pump Upgrade Program.

The Commission approved the six Phase II Programs in December 2013, and the Company began accepting new customers in these Programs beginning on January 1, 2014.[3] On August 16, 2016, as amended on October 19, 2016, the Company filed a Motion for Commission Approval to close the Phase II programs to new applications as of February 7, 2017, contemporaneous with their closure to new participants in Virginia, with the exception of the Residential Heat Pump Upgrade Program, which the Company asked to suspend as of February 7, 2017. The Commission granted those requests by order issued on November 29, 2016.[4] On July 28, 2017, the Company filed a Motion to close the Residential Heat Pump Upgrade Program, which the Commission approved by order issued on September 5, 2017.[5]

Commission subsequently approved the Company's request to close these North Carolina-only Programs as of December 31, 2014.

[3] Orders approving these Programs were issued on December 16, 2013, in Docket Nos. E-22, Sub 495 (Non-Residential Energy Audit Program), Sub 496 (Non-Residential Duct Testing and Sealing Program), Sub 497 (Residential Duct Testing and Sealing Program), Sub 498 (Residential Home Energy Check Up Program), Sub 499 (Residential Heat Pump Tune Up Program), and Sub 500 (Residential Heat Pump Upgrade Program).

[4] *Order on Motion to Close or Suspend Programs*, Docket No. E-22, Subs 495, 496, 497, 498, 499, and 500 (Nov. 29, 2016).

[5] *Order Cancelling Program*, Docket No. E-22, Sub 500 (Sept. 5, 2017).

In June 2014, the Company requested Commission approval to implement the following "Phase III" DSM/EE Programs:

- Non-residential Heating and Cooling Efficiency Program;
- Non-residential Lighting Systems and Controls Program; and
- Non-residential Window Film Program.

The Commission approved the three Phase III Programs in October 2014, and the Company began accepting new customers in these Programs beginning on January 1, 2015.[6] On August 16, 2018, the Company filed a Motion to close the Phase III Non-Residential Window Film Program to new participants as of December 31, 2018.[7] Also on August 16, 2018, the Company requested Commission approval to transition the Phase III Non-residential Heating and Cooling Efficiency Program and the Non-residential Lighting Systems and Controls Program to be offered on a North Carolina-only basis.[8]

In July 2015, the Company requested Commission approval to implement the "Phase IV" Residential Income and Age Qualifying Home Improvement (RIAQHI) Program. After Commission approval in October 2015, this new Program opened to North Carolina customers on January 1, 2016.[9] The Phase IV RIAQHI Program replaced the Phase I North Carolina-only Low Income

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[6] Orders approving these Programs were issued on October 27, 2014, in Docket Nos. E-22, Sub 507 (Non-Residential Heating and Cooling Efficiency Program), Sub 508 (Non-Residential Lighting Systems and Controls Program), and Sub 509 (Non-Residential Window Film Program).
[7] Motion to Close Non-Residential Window Film Program and Residential Retail LED Lighting Program, Docket No. E-22, Subs 509, 539 (Aug. 16, 2018) ("Motion to Close").
[8] Application of Dominion Energy North Carolina for Approval of Non-Residential Heating and Cooling Efficiency Program, Docket No. E-22, Sub 507 (Aug. 16, 2018); Application of Dominion Energy North Carolina for Approval of Non-residential Lighting Systems and Controls Program, Docket No. E-22, Sub 508 (Aug. 16, 2018).
[9] *Order Approving Program*, Docket No. E-22, Sub 523 (Oct. 6, 2015).

Program, which concluded on December 31, 2015.[10] On November 6, 2017, the Commission approved the Company's request to suspend the RIAQHI Program since the Program was set to expire in Virginia in early 2018.[11] The Company stated that if the Virginia State Corporation Commission ("VSCC") granted an extension, it would file a request seeking to reopen the Program in North Carolina in accordance with the Program's system-wide design. On May 31, 2018, the Company filed a motion with the Commission to reopen the RIAQHI Program to customer participation beginning July 1, 2018.[12] On June 26, 2018, the Commission approved reopening the RIAQHI Program.[13]

In July 2016, the Company requested Commission approval to implement the "Phase V" Non-residential Small Business Improvement Program. After Commission approval in October 2016,[14] the Company launched the Program beginning on January 1, 2017.

In October 2016, the Company requested Commission approval to implement an instant discount type of Residential Retail LED Lighting Program on a North Carolina-only basis during 2017 and 2018. The Commission approved the Residential Retail LED Lighting Program in December 2016.[15] On

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[10] On September 9, 2014, the Commission approved the Company's request to transition the Phase I Residential Low Income Program from a system-wide Program to a North Carolina-only Program. *Order Granting Motion to Offer North Carolina-only Low Income Program*, Docket No. E-22, Sub 463 (Sept. 9, 2014).
[11] *Order Suspending Program*, Docket No. E-22, Sub 523 (Nov. 6, 2017).
[12] Motion to Reopen Program, Docket No. E-22, Sub 523 (May 31, 2018).
[13] *Order Approving Reopening Program*, Docket No. E-22, Sub 523 (June 26, 2018).
[14] *Order Approving Program*, Docket No. E-22, Sub 538 (Oct. 26, 2016).
[15] *Order Approving Program*, Docket No. E-22, Sub 539 (Dec. 20, 2016).

August 16, 2018, the Company filed a Motion to close the Program effective with the end of its contemplated two-year duration.[16]

In July 2017, the Company requested Commission approval to implement the "Phase VI" Non-residential Prescriptive Program. After Commission approval in October 2017,[17] the Company launched the Program in North Carolina beginning on January 1, 2018.

Q. Please provide a brief update on the Company's implementation of the approved DSM/EE Programs in North Carolina.

A. The approved DSM/EE Programs have been successful in North Carolina. The Company launched the Phase I Residential Lighting Program in May 2011, and over 37,000 bulbs were sold through December 31, 2011, when the program was completed. Through the Low Income Program, the Company has performed approximately 930 low income audits and repairs in North Carolina during the period June 2011 through June 30, 2015. Through the Air Conditioner Cycling Program, the Company began installing air conditioner cycling devices in August 2011, and approximately 3,407 customers are participating in the Program as of June 30, 2018.

The Phase II Programs launched in North Carolina in January 2014. Since Program launch through suspension and closure of the Phase II Programs in February 2017, approximately 5,294 units have been serviced as part of the

[16] *See* Motion to Close, *supra* n. 7.
[17] *Order Approving Program,* Docket No. E-22, Sub 543 (Oct. 16, 2017).

Residential Heat Pump Tune-Up Program and 1,349 units have been upgraded in North Carolina to more efficient models as part of the Residential Heat Pump Upgrade Program. The Residential Duct Testing and Sealing Program has resulted in testing and repair of duct work associated with approximately 554 heat pump units. Approximately 1,049 residential customers have received customized energy audit reports and direct install measures as part of the Residential Home Energy Check-Up Program.

Examples of direct install measures include installing compact fluorescent light bulbs, faucet aerators, and door weather-stripping. The Non-residential Energy Audit Program has provided approximately 115 audits to North Carolina customers since Program launch through Program closure in February 2017. Of these 115 audits, 108 customers have installed approved measures and obtained a rebate as part of the Program. The Non-residential Duct Testing and Sealing Program has had approximately 250 participants in North Carolina since Program launch.

The Non-residential Phase III Programs launched in North Carolina in January 2015. As of June 30, 2018, 186 customers have participated in the Company's Phase III Programs.

The Phase IV Residential Income and Age Qualifying Home Improvement Program launched in North Carolina in January 2016. As of June 30, 2018, 289 customers have participated in the Company's Phase IV Program.

The Phase V Non-residential Small Business Improvement Program became available to qualifying customers in January 2017. As of June 30, 2018, 28 customers have participated in the Company's Phase V Program.

The Phase VI Non-residential Prescriptive Program became available to qualifying customers in January 2018. The Company's implementation vendor has been working diligently with trade allies promoting the Program and building customer pipelines for future Program participants, as well as installing new program management software. The implementation vendor has participating contractors on board and these contractors are actively reaching out to customers. Based on the strong program activity thus far in Virginia for this Program, we remain confident that the 2018 annual goal of 29 participants and $292,000 of incentives will be achieved.

The Company's Residential Retail LED Lighting Program became available in 2017. As of June 30, 2018, there are 82 active stores that have sold over 172,000 bulbs as part of this Program.

As of June 30, 2018, the Company has 68 participating contractors for its North Carolina customers.

Q. Has the Company proposed additional Programs for Commission approval in North Carolina?

A. No. At this time, the Company is not requesting Commission approval for any new DSM programs in North Carolina.

Q. Has the Company evaluated extending the DSM Phase III Non-residential Programs on a North Carolina-only basis?

A. Yes. Consistent with prior direction by this Commission, the Company recently evaluated the possibility of implementing the DSM Phase III Programs on a North Carolina-only basis. After receiving input from the Company's program design consultant regarding the feasibility of North Carolina-only versions of these Program designs and evaluating their cost-effectiveness, the Company has determined that continuing to offer two of the Phase III Programs, the Non-residential Heating and Cooling Efficiency and Lighting Systems and Controls Programs, only in North Carolina would be reasonably cost-effective under the Mechanism and beneficial to the Companies' North Carolina non-residential customers. As noted above, the Company has requested Commission approval to close the Phase III Non-residential Window Film Program, as the Company determined that extremely limited past North Carolina customer participation did not support continuing to offer that Program.

Q. Does the Company have any additional plans to evaluate future DSM Programs?

A. Yes. The EC group is currently evaluating bids submitted in response to a request for proposals ("RFP") issued in March 2018 for new DSM program design ideas for development into potential future system-wide Programs. As the Commission is aware, the Company's EC group develops the Company's DSM/EE program portfolio to be deployed in "phases," with program approval first being sought in Virginia and, if approved in Virginia, then sought in North Carolina. The Company is currently evaluating the results of the 2018 Program design RFP, and anticipates seeking approval by the VSCC of a number of new residential and non-residential DSM/EE Program designs, which, if approved in Virginia, would then be brought to North Carolina to be offered on a system-wide basis.

II. OVERVIEW OF APPLICATION

Q. What is the purpose of the Company's Application in this proceeding?

A. In this Application, the Company is filing its annual update and requesting approval of an updated Rider C revenue requirement to be recovered during February 1, 2019, through January 31, 2020, the proposed rate period ("Rate Period"), as well as seeking true-up of January 1, 2017, through December 31, 2017 ("Test Period"), costs through the Company's EMF rider, Rider CE.

Q. Why is the Rate Period being used for this proceeding different than in previous years?

A. As addressed in the Application and further explained by Company Witness Alan J. Moore, Commission Rule R8-69(a) provides that the Rate Period for DSM/EE cost recovery is the same as the period during which the rider established under Commission Rule R8-55, the Company's fuel factor, is in effect. In previous years, the Company has proposed Rider C rates to be effective for a calendar year Rate Period, consistent with the rate period previously used for fuel factor riders under Rule R8-55. Based on discussions with the Public Staff following the conclusion of the Company's 2017 rider proceedings, the Company is proposing that updated Rider C be effective for a February 1, 2019, through January 31, 2020, Rate Period, and is proposing the same adjustment in its cost recovery rider applications filed pursuant to Rules R8-55 and R8-67. The Company is requesting this adjustment to the annual Rate Period in order to extend the time for the Commission to issue orders in the Company's three annual rider proceedings filed pursuant to NCUC Rules R8-55, R8-67, and R8-69, respectively, and to then allow the Company additional time to finalize rates and customer notices (including allowing reasonable time for Public Staff review) prior to the updated annual riders' effective date. The Company intends to continue to use a February 1 through January 31 rate period in future rider cases. As discussed further by Company Witness Deanna R. Kesler, because the Company's system for modeling projected costs and benefits is based on the calendar year, in this proceeding the Company is applying the projected costs for calendar year 2019 to the proposed February 1, 2019 – January 31, 2020 Rate Period.

Q. What rates does the Company propose to charge for the month of January 2019?

A. For the month of January 2019, the Company proposes to maintain Rider C as approved by the Commission in the Company's previous DSM/EE cost recovery proceeding, and to reduce Rider CE for all classes to zero. Company Witness Debra A. Stephens provides additional detail regarding this proposed one-time interim adjustment to Rider CE for the month of January 2019.

Q. Please provide a brief overview of the Company's approach to cost recovery for its North Carolina DSM/EE Programs as set forth in the Application.

A. The costs of the Company's approved DSM/EE Programs have been recovered during each annual Rule R8-69 cost recovery proceeding in accordance with the Agreement and Stipulation of Settlement agreed to between the Public Staff and the Company in the Company's initial 2010 cost recovery proceeding ("Stipulation"), as well as the Cost Recovery and Incentive Mechanism attached as Stipulation Exhibit 1 to the Stipulation.[18] In the fall of 2014, in accordance with provisions of the original Stipulation, the Commission undertook a review of the Stipulation and Cost Recovery and Incentive Mechanism. On May 7, 2015, after receiving comments from the Company and the Public Staff, the Commission approved a revised Cost Recovery and Incentive Mechanism that governed cost recovery in the 2015 and 2016 annual proceedings.[19] The 2015 Mechanism Order also required the Company and the Public Staff to file by March 1, 2017, as extended, an updated performance incentive proposal for Commission review and approval. On April 20, 2017, the Company and the Public Staff filed a Joint Proposal for New PPI, with a revised Mechanism attached as Appendix A (the "Mechanism"). The Commission issued an Order approving the revised Mechanism on May 22, 2017, which governs cost recovery for the instant

[18] *Order Approving Agreement and Stipulation of Settlement, Approving DSM/EE Rider, and Requiring Compliance Filing*, Docket No. E-22, Sub 464 (Oct. 14, 2011).
[19] *Order Approving Revised Cost Recovery and Incentive Mechanism and Granting Waiver*, Docket No. E-22, Sub 464 (May 7, 2015) ("2015 Mechanism Order").

Application.[20] The revised Mechanism amends the PPI to a "portfolio performance incentive" applicable to measures installed beginning with Vintage Year 2017. The Company has developed its Application and pre-filed testimony in accordance with the procedures set forth in the Mechanism.

Q. Will the Company present other witnesses in this proceeding?

A. Yes. Deanna R. Kesler, Regulatory Consultant, Demand-Side Planning, will provide certain information required by NCUC Rule R8-69(f)(1)(ii)(a), (b), (d), and (e), as well as the Utility Cost Test ("UCT"), and supporting documentation for the PPI Test Period and projected Vintage Year calculations made pursuant to the Mechanism. Company Witness Kesler will also present the Company's evaluation, measurement and verification ("EM&V") cost projections, and lost energy sales from EE Programs during the EMF Test Period. Jarvis E. Bates, Energy Conservation Compliance Manager, will support the projected calendar year 2019 costs associated with the Company's DSM/EE Programs to be recovered during the Rate Period, actual costs associated with the Company's DSM/EE Programs during the Test Period, as well as provide information on the Company's event sponsorship and consumer education initiatives during the Test Period and customer opt-outs pursuant to Commission Rule R8-69(d)(2). Alan J. Moore, Regulatory Analyst III, will present the revenue requirements associated with the DSM/EE Programs for the Rate Period as well as the EMF revenue

[20] *Order Approving Revised Cost Recovery and Incentive Mechanism*, Docket No. E-22, Sub 464 (May 22, 2017).

requirements associated with the DSM/EE Programs to be recovered during the Test Period. J. Clayton Crouch, Regulatory Performance Consultant, will explain the proposed assignment and allocation of costs to the North Carolina jurisdiction for the DSM/EE Programs. Debra A. Stephens, Regulatory Advisor, will present the calculation of the proposed updated Rider C and EMF Rider CE.

Q. Are the Company's North Carolina DSM/EE Programs consistent with the Company's system-wide integrated resource plan ("Plan")?

A. Yes. The Company has developed its Plan using a least cost modeling methodology of reliable supply-side and demand-side options, pursuant to North Carolina statutory and Commission policies. The Company's operational DSM/EE Programs were included in the Company's 2018 Plan, as filed on May 1, 2018, in Docket No. E-100, Sub 157.

Q. Please discuss the utility incentive the Company proposes for inclusion in the DSM/EE Rider.

A. The Company requests to recover a Rate Period PPI representing, as introduced above, a projected portfolio performance incentive as approved in the revised Mechanism. The Company also requests recovery of the Test Period PPI for Vintage Year 2017 and prior years. The Vintage Year 2017 PPI has been calculated under the new portfolio performance incentive approach, while the PPI for prior Vintage Years has been derived based upon the traditional individualized program-based approach, and is being calculated consistent with the 2015 Mechanism Order and the methodology approved by the Commission in the Company's previous annual cost recovery proceedings. Company Witness Bates supports calculation of a streamlined projected PPI, as allowed in Paragraph 56 of the Mechanism, as well as the true up of the PPI based upon actual installed measurement units during Vintage Year 2017, as required by Paragraph 60 of the Mechanism.

Q. Has the Company projected Rate Period net lost revenues in the utility incentives to be recovered during the Rate Period?

A. Not at this time in this proceeding. Consistent with the approach taken in the Company's 2014, 2015, 2016, and 2017 cost recovery applications, the Company has not projected lost revenues and proposes to include $0 as the projected Rate Period net lost revenue utility incentive for this proceeding.

The current Rider CE will true up the Company's recovery of net lost revenues during the Test Period, as supported by Company Witness Moore's testimony.[21]

Q. Has the Company identified any found revenues to offset its request to recover net lost revenues?

A. No. Consistent with Paragraph 47 of the Mechanism, the Company has evaluated its North Carolina activities for potential found revenues using the decision tree set forth in Attachment A of the Mechanism. Specifically, the Company's EC, Rates, and Customer Solutions departments (which

[21] Should the Company's projection of net lost revenues again become significant, it could choose to request projected cost recovery in a future proceeding, as provided for in the Mechanism.

collectively oversee Dominion Energy North Carolina's tariffs, Programs, and utility-funded activities) evaluated the Company's North Carolina activities during the Test Period to determine whether its activities may be causing customers to increase demand or energy consumption, resulting in found revenues. The Company's review of its North Carolina activities under the decision tree has not identified any activities that resulted in found revenues during the Test Period and has not identified any activities that would result in projected found revenues during the Rate Period.

III. OVERVIEW OF COST RECOVERY REQUEST

Q. Please summarize the components of updated Rider C and Rider CE and resulting revenue requirements proposed to be recovered in this proceeding.

A. In accordance with Rule R8-69 and the Mechanism, updated Rider C will recover the Company's North Carolina allocated share (including 100% assigned cost of the North Carolina-only Programs) of the following components during the Rate Period: (i) the Company's projected costs of implementing the approved DSM/EE Programs during the February 1, 2019 – January 31, 2020 Rate Period; (ii) the Company's projected Common Costs to be incurred during the Rate Period; and (iii) the Company's streamlined projected PPI. The Company's updated Rider C revenue requirement for the Rate Period is $2,510,301, as further detailed in Schedule 1 of Company Witness Moore's testimony.

In accordance with Rule R8-69 and the Mechanism, the Company's EMF Rider CE will true up and recover any under-recovery or refund any over-recovery of the Company's North Carolina allocated share (including 100% assigned cost of the North Carolina-only Programs) of the following components: (i) the Company's Test Period costs of implementing the approved DSM/EE Programs; (ii) the Company's Test Period Common Costs; (iii) the Company's Test Period Net Lost Revenues; and (iv) the Company's Test Period PPI. The Company's Rider CE revenue requirement for the Rate Period is $1,839,922 as further detailed in Schedule 2 of Company Witness Moore's testimony.

Q. **Does that conclude your prefiled direct testimony?**

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS OF MICHAEL T. HUBBARD

Michael T. Hubbard is Manager – Energy Conservation for Dominion Energy North Carolina. Since 2008, his responsibilities have included oversight of the design and implementation of new Demand Side Management programs, including vendor retention and oversight. In 2010, he served on the Virginia Governor's Operational Review Taskforce to reduce costs and improve efficiencies for state government and also served on the board of the Richmond Region Energy Alliance, working with stakeholders on key energy efficiency issues. He is a certified Six Sigma Green Belt.

Mr. Hubbard joined Dominion Virginia Power in 1996 and has served in a number of regulatory and customer service-related leadership roles in the Delivery and Service Company organizations.

While in the position of Underground Damage Prevention Manager, he was appointed to serve on the State Corporation Commission of Virginia's Advisory Committee for matters concerning the enforcement of the Virginia Underground Utility Line Damage Prevention Act, and also served on the board of directors that formed a new statewide Miss Utility call center.

Mr. Hubbard has a B.S. in History from Hampden-Sydney College and M.S.L.S. (Masters in Library Sciences) from the University of Kentucky, and is a member of the Phi Beta Kappa National Honor Society.

Mr. Hubbard has previously presented testimony before the North Carolina Utilities Commission and the State Corporation Commission of Virginia.

(WHEREUPON, Company Exhibit DRK-1, Revised Schedules 1, 2, 4 and 7 and Schedules 3, 5 and 6, is marked for identification as prefiled and received into evidence.)

(Confidential pages filed under seal.)

(WHEREUPON, the prefiled direct testimony and Appendix A of DEANNA R. KESLER is copied into the record as if given orally from the stand.)

**DIRECT TESTIMONY
OF
DEANNA R. KESLER
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 556**

Q. **Please state your name, business address, and position with Virginia Electric and Power Company ("Dominion Energy North Carolina" or the "Company").**

A. My name is Deanna R. Kesler and I am a Regulatory Consultant in Demand-Side Planning, which is part of the Company's Integrated Resource Planning organization. My business address is 120 Tredegar Street, Richmond, Virginia 23219. A statement of my background and qualifications is attached as Appendix A.

Q. **Please describe your area of responsibility with the Company.**

A. I am responsible for the evaluation of Dominion Energy North Carolina's demand-side management ("DSM") and energy efficiency ("EE") programs ("DSM/EE Programs" or "Programs"). This includes detailed analyses of approved and proposed DSM/EE Programs and the incorporation of DSM and EE measures into the Company's integrated resource planning ("IRP") process and long-term integrated resource plan (the "Plan"). My responsibilities also include planning, organizing, and coordinating evaluation, measurement, and verification ("EM&V") work for all DSM/EE Programs through an independent third-party EM&V contractor, DNV GL.

This responsibility includes ensuring EM&V data is collected and made available to DNV GL for review and analysis, reviewing EM&V processes and reports, and coordinating all pertinent EM&V activities.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony supports Dominion Energy North Carolina's request to recover all reasonable and prudent costs incurred in adopting and implementing the Company's portfolio of DSM/EE Programs as well as utility incentives, through its updated Rider C, as well as the Company's experience modification factor ("EMF") rider, Rider CE ("Application"). The purpose of my testimony is to support the true up of lost revenues and the Company's EM&V cost projections, as well as to provide certain information required by North Carolina Utilities Commission ("NCUC" or "Commission") Rule R8-69(f)(1)(ii)(a), (b), (d), and (e), with respect to the Company's DSM/EE Programs. Regarding EM&V, my testimony will: (i) show the energy savings for the previously-approved EE Programs over the EMF period January 1, 2017, through December 31, 2017 ("Test Period"), for purposes of calculating the Company's EMF; (ii) support the Company's EM&V costs over the January 1, 2019, through December 31, 2019, calendar year ("Calendar Year 2019") for the North Carolina jurisdiction, as well as the Test Period; and (iii) provide information on Air Conditioner Cycling Program activation events that occurred during the Test Period as required by Rule R8-69(f)(1)(iii)(g). My testimony will also provide the Utility Cost Test ("UCT") and supporting documentation for the Portfolio Performance

Incentive ("PPI") calculations for the Test Period and the upcoming Calendar Year 2019.

My testimony has been developed in accordance with the revised Cost Recovery and Incentive Mechanism ("Mechanism") approved by the Commission on May 22, 2017, in Docket No. E-22, Sub 464.

Q. Ms. Kesler, are you sponsoring any exhibits or schedules in connection with your testimony?

A. Yes. Company Exhibit DRK-1, consisting of Schedules 1-7 (Schedule 5 provided in public and confidential versions filed under seal), was prepared under my supervision and is accurate and complete to the best of my knowledge and belief. The Schedules I am sponsoring provide the following information in support of the Company's Application:

1. Schedule 1 of my pre-filed direct testimony provides the Company's total revenue requirement, avoided costs, and Calendar Year 2019 summer and winter peak and energy savings per unit measure for the Company's DSM/EE Programs, as required by Rule R8-69(f)(1)(ii)(a), (b), (d), and (e) and calculated consistent with the Mechanism.

2. Schedule 2 provides a UCT calculation for each Program and the portfolio of Programs for the projected Vintage Year 2019, as defined in Paragraph 14 of the Mechanism.

3. Schedule 3 provides a comparison of the forecasted energy and summer and winter capacity reductions for the Company's ongoing

Phase I Air Conditioner Cycling Program and Phase III, IV, V, and VI DSM/EE Programs, as required by Rule R8-69(f)(1)(iii)(h).

4. Schedule 4 provides the cost-effectiveness test evaluations required by Paragraph 41 of the Mechanism.

5. Schedule 5 provides the Company's actually-incurred EM&V costs during the Test Period, as well as projected EM&V costs during the Calendar Year 2019.

6. Schedule 6 supports the calculation of estimated energy savings for all DSM/EE Phase I, II, III, IV, and V programs, and the Residential Retail LED Lighting Program, over the Test Period for the EMF Rider, which is based on actual EM&V data collected and analyzed by DNV GL.

7. Schedule 7 presents the date, weather conditions, event trigger, and customer enrollment and activation data for the Air Conditioner Cycling Program during the Test Period.

Q. Please explain the information you have provided in your Schedule 1.

A. My Schedule 1 first presents the system-level revenue requirement per appropriate capacity, energy, and measure unit metric, for each ongoing Phase I,[1] Phase III,[2] Phase IV,[3] Phase V,[4] and Phase VI[5] DSM/EE Program. This

[1] The Company's ongoing Phase I DSM/EE Program is the Residential Air Conditioner Cycling Program (Docket No. E-22, Sub 465).
[2] The Company's ongoing Phase III programs are the Non-residential Heating and Cooling Efficiency Program (Docket No. E-22, Sub 507) and the Non-Residential Lighting Systems and Controls Program (Docket No. E-22, Sub 508). On August 16, 2018, the Company filed a motion in Docket No. E-22, Sub 509 to close the Non-residential Window Film Program, and filed applications in Docket No.

table was developed using the revenue requirement amounts requested for recovery during the upcoming Rate Period, as provided in Company Witness Alan J. Moore's Schedule 1. Next, my Schedule 1 provides the system-level avoided costs per appropriate capacity, energy, and measure unit metric, for each of the approved going-forward Phase I, Phase III, Phase IV, Phase V, and Phase VI Programs. The proposed jurisdictional allocation factors, as required by Rule R8-69(f)(1)(ii)(b), are provided in Company Witness J. Clayton Crouch's Schedule 4. Finally, my Schedule 1 shows the total expected system-level energy and summer and winter capacity reductions for each Program in the aggregate and per appropriate capacity, energy, and measure unit metric for Calendar Year 2019. The per unit cost for the Air Conditioning Cycling Program is based on summer demand reductions because the Company is a summer peaking utility.

Q. By the terms of the Mechanism, how was the UCT developed in support of the Calendar Year 2019 PPI calculation?

A. The UCT used to support the calculation of the Calendar Year 2019 PPI for each Vintage Year was developed in accordance with Paragraphs 13-14 of the Mechanism. The Strategist model, a computer modeling and resource optimization tool, was used to calculate a projected UCT based on the 2019

E-22, Subs 507 and 508 for Commission approval to transition the Non-residential Heating and Cooling Efficiency Program and the Non-residential Lighting Systems and Controls Program to be offered on a North Carolina-only basis.

[3] The Company's Phase IV Program is the Income and Age Qualifying Home Improvement Program (Docket No. E-22, Sub 523).

[4] The Company's Phase V program is the Small Business Improvement Program (Docket No. E-22, Sub 538).

[5] The Company's Phase VI program is the Non-residential Prescriptive Program (Docket No. E-22, Sub 543).

Vintage Year (as defined in Paragraph 14 of the Mechanism), using the base case assumptions consistent with the Company's most recent 2018 Integrated Resource Plan, as filed with the Commission on May 1, 2018, in Docket No. E-100, Sub 157 ("2018 Plan"). Because the Company's system for modeling projected costs and benefits is based on the calendar year, in this proceeding the Company is applying the projected costs for Calendar Year 2019 to the proposed February 1, 2019 – January 31, 2020 Rate Period, which is discussed in the direct testimony of Company Witnesses Michael T. Hubbard and Moore.

Q. Please explain the role of the Total Resource Cost ("TRC") Test in calculating PPI under the Mechanism.

A. The Commission approved amendments to the Mechanism on May 22, 2017,[6] which transitioned the PPI to a portfolio-based incentive calculation beginning with Vintage Year 2017. The TRC is one of the four cost/benefit tests required by the Mechanism to be applied in evaluating DSM/EE Programs, and is used in calculating the PPI under the portfolio-based approach applicable to the Test Period and Calendar Year 2019. Strategist values are calculated based on Calendar Year. Pursuant to Paragraph 51 of the pre-existing Mechanism, each individual DSM/EE program is required to have a Vintage Year TRC above 1.00 or that program is presumed ineligible for a PPI. Each of the Company's Program's Vintage Year TRC test results recoverable during the Test Period had a TRC value above 1.00 except for the

[6] *Order Approving Revised Cost Recovery and Incentive Mechanism*, Docket No. E-22, Sub 464 (May 22, 2017).

Residential Income and Age Qualifying Home Improvement Program, which is a program that is in the public interest. The Company is not seeking a PPI for this Program.

Q. **Please explain the role of the UCT Test in calculating PPI under the Mechanism for Vintage Year 2019 for recovery during the Rate Period.**

A. In accordance with Paragraph 53 of the Mechanism, the PPI shall be based on the net dollar savings of the Company's DSM/EE portfolio, as calculated using the UCT. Pursuant to Paragraph 52 of the Mechanism, Low-Income Programs or other programs explicitly approved with expected UCT results less than 1.00 shall not be included in the portfolio for purposes of the PPI calculation. However, for purposes of PPI determination, Low Income Programs shall be included, as appropriate, in dispatch calculations to determine avoided kW and kWh associated with Programs eligible for a PPI.

My Schedule 2 presents the 2019 Vintage Year UCT and TRC cost/benefit portfolio scores, as well as the individual program scores pursuant to Paragraphs 52-53 of the Mechanism.

Q. **Please explain the information you have provided in your Schedule 3.**

A. My Schedule 3 presents forecasted energy and summer and winter capacity reductions at the generator for the Company's ongoing Phase I, Phase III, Phase IV, Phase V, and Phase VI DSM/EE Programs during the Calendar Year 2019. Specifically, Schedule 3 provides a comparison of the Phase I, Phase III, Phase IV, Phase V, and Phase VI Programs forecasted in the

Company's 2017 Plan Update and 2018 Plan. Generally, differences in the forecasted energy and capacity reductions can be explained by differences in program modeling assumptions, such as penetrations and load shapes. These differences arise in part from data collected through the EM&V process, changes to implementation schedules, and jurisdictional requirements.

Q. Did the Company perform going-forward cost/benefit results for existing Programs as required by Paragraph 41 of the Mechanism?

A. Yes. Going-forward cost/benefit results were performed for the Phase I AC Cycling Program, ~~Phase III North Carolina-only~~, Phase IV, and Phase V Programs, and are included in my Schedule 4.

KHM Per 10-8-18 letter filed in docket

In accordance with Paragraph 41, the Company has not developed going-forward cost/benefit analyses for the Company's Phase VI Non-Residential Prescriptive Program, which has not been implemented for at least 12 months.

Q. What are the Company's objectives for EM&V?

A. The objectives of the Company's EM&V are to provide an assessment of each Program's progress toward its goals, including tracking actual cumulative indicators over time versus the planning assumptions, such as the number of participants, estimated energy (kWh) and demand (kW) savings, and Program costs. EM&V tracking also provides average peak kW reduction per participant, average kWh savings per participant, if appropriate, and average incentive per participant for each Program.

Q. Have you provided the Company's estimated EM&V cost for Calendar Year 2019 and actual EM&V costs during the Test Period?

A. Yes. My Schedule 5 provides the Company's projected EM&V costs during Calendar Year 2019, as well as the Company's actual EM&V costs during the Test Period for the North Carolina jurisdiction. The Company intends to continue to file its annual EM&V Report with the Commission on May 1 each year.

Q. Can you please describe the information provided in your Schedule 6?

A. Yes. My Schedule 6 supports the calculation of estimated energy savings for all DSM/EE Phases I, II, III, IV, and V Programs, and the Residential Retail LED Lighting Program, over the Test Period for the EMF Rider, which is based on actual EM&V data collected and analyzed by DNV GL. The lost sales (kWh) reflected in this schedule will be used by Company Witness Moore in the calculation of lost revenues in this proceeding.

Q. Have you provided information on the Air Conditioner Cycling Program activation events that occurred during the Test Period, as required by Rule R8-69(f)(1)(iii)(g)?

A. Yes. My Schedule 7 reflects event-based data for the Air Conditioner Cycling Program during the Test Period, including the date, weather conditions, event trigger, and customer enrollment and switch activation data.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS OF DEANNA R. KESLER

Ms. Kesler has held various positions with Dominion Virginia Power in the Power Operations Management Services, Generation and System Planning, Production Costing, Energy Efficiency, and Integrated Resource Planning areas. She originally joined Dominion Virginia Power in 1984 and returned in 2008. She has also had a variety of leadership roles prior to rejoining the Company both as a consultant and as an internal employee for several major corporations.

Ms. Kesler has a Masters in Business Administration from Virginia Commonwealth University. She also studied Business Administration at Virginia Commonwealth University and Chemical Engineering and Finance at Virginia Polytechnic Institute and State University.

(WHEREUPON, Company Exhibit JEB-1, Schedules 1 - 7, is marked for identification as prefiled and received into evidence.)

(Confidential pages filed under seal.)

(WHEREUPON, the prefiled direct testimony and Appendix A of JARVIS E. BATES is copied into the record as if given orally from the stand.)

DIRECT TESTIMONY
OF
JARVIS E. BATES
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 556

Q. Please state your name, business address, and position with Virginia Electric and Power Company ("Dominion Energy North Carolina" or the "Company").

A. My name is Jarvis E. Bates, and my title is Energy Conservation Compliance Consultant for Dominion Energy North Carolina. My business address is 701 East Cary Street, Richmond, Virginia 23219. My educational background and experience are detailed in Appendix A.

Q. Please describe your area of responsibility with the Company.

A. I am responsible for cost and reporting compliance matters in the Company's Energy Conservation ("EC") department including: (1) cost preparation and cost oversight associated with the demand-side management ("DSM") and energy efficiency ("EE") programs ("DSM/EE Programs" or "Programs"); (2) cost compliance with DSM/EE Program related rider requirements; and (3) EC department internal and external regulatory and managerial cost reporting.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony supports the Company's request to recover all reasonable and prudent costs incurred in adopting and implementing the Company's portfolio of DSM/EE Programs and utility incentives, through its updated Rider C, as well as the Company's experience modification factor ("EMF") rider, Rider CE ("Application"). In my testimony, I provide cost projections, including Common Costs, for the Company's DSM/EE Programs during January 1, 2019, through December 31, 2019, that have been used as a proxy for the projected February 1, 2019, through January 31, 2020, period (the "Rate Period"), as well as actual costs incurred during the EMF period January 1, 2017, through December 31, 2017 ("Test Period"). My testimony also presents the Portfolio Performance Incentive ("PPI") for each Program in accordance with the revised Cost Recovery and Incentive Mechanism ("Mechanism") approved by the North Carolina Utilities Commission ("NCUC" or the "Commission") on May 22, 2017, in Docket No. E-22, Sub 464. I also calculate the PPI EMF true-up for Vintage Year 2017 in accordance with the terms of the Mechanism. Additionally, my testimony lists the commercial and industrial customers that have elected to "opt out" of the Company's DSM/EE Programs as required by NCUC Rule R8-69(d)(2).

Q. Mr. Bates, are you sponsoring any exhibits or schedules in connection with your testimony?

A. Yes. Company Exhibit JEB-1, consisting of Schedules 1-7 (with all schedules provided in public and confidential versions filed under seal), was prepared under my direction and supervision and is accurate and complete to the best of my knowledge and belief. My Schedules 1-5 support the development of the projected Rate Period revenue requirement: Schedule 1 provides summary system-level Program and system-level Common Costs; Schedule 2 provides details for system-level Program Costs; Schedule 3 provides details for system-level Common Costs; Schedule 4 provides DSM Projected Program Costs, which are used by Company Witness J. Clayton Crouch for purposes of allocating Common Costs; and Schedule 5 provides the streamlined calculation of the Projected PPI for qualifying Programs. Schedule 6 provides actual cost information in support of the PPI true-up. Schedule 7 provides actual cost information in support of the Test Period EMF revenue requirement developed by Company Witness Alan J. Moore and includes actual system-level Program and system-level Common Costs incurred during the Test Period.

Q. Please identify the Company's DSM/EE Programs for which cost recovery is sought in this proceeding.

A. The Company is seeking cost recovery for adopting and implementing: (a) the previously approved Phase I DSM/EE program: Residential Air Conditioner Cycling Program;[1] (b) the previously approved Phase III DSM/EE programs: Non-Residential Lighting Systems and Controls, Non-residential Heating and Cooling Efficiency and Non-residential Window

[1] Docket No. E-22, Sub 465. All other Phase I programs except the Residential Air Conditioner Cycling Program have previously been concluded.

Film;[2] (c) the previously approved Phase IV Income and Age Qualifying Home Improvement Program;[3] (d) the previously approved Phase V Non-Residential Small Business Improvement Program;[4] (e) the previously approved Residential Retail LED Lighting program;[5] and (f) the previously approved Phase VI Non-Residential Prescriptive Program.[6] Due to the Company's proposed closures of its Phase III Non-residential Window Film Program and Residential Retail LED Lighting Program, only limited wind down and evaluation, measurement and verification ("EM&V") costs are projected to be incurred during the Rate Period for these programs.

Q. What is the nature of the costs for the DSM/EE Programs?

A. The costs are primarily categorized as direct "Program Costs" and indirect "Common Costs." These Program Costs and Common Costs are those solely associated with the EC department, which was assigned the responsibility to separately identify and track DSM/EE costs related to the proposed Programs. The projected Program Costs are those costs that are directly attributable to individual Programs and primarily include costs based on signed vendor contracts. Program Costs include design, implementation, marketing, information technology hardware and software, call center, customer

[2] Docket No. E-22, Subs 507, 508, and 509. On August 16, 2018, the Company filed a motion in Docket No. E-22, Sub 509 to close the Non-residential Window Film Program, and filed applications in Docket No. E-22, Subs 507 and 508 for Commission approval to transition the Non-residential Heating and Cooling Efficiency Program and the Non-residential Lighting Systems and Controls Program to be offered on a North Carolina-only basis.

[3] Docket No. E-22, Sub 523.

[4] Docket No. E-22, Sub 538.

[5] Docket No. E-22, Sub 539.

[6] Docket No. E-22, Sub 543.

incentives, equipment, startup costs, vendor margins, data collection and reporting, promotional events, management and field operations, EM&V costs, and similar vendor and/or internal costs. The majority of these Program Costs are based on contracts with the Company's four main Program vendors, Comverge, Inc., Ecova, Honeywell, and Nexant. The Company will also incur certain indirect Common Costs that are part of implementation of the DSM/EE Programs, which are not specifically associated with any individual DSM Program. These costs include certain customer communication costs, department labor costs, dues and association costs, and external vendor costs. Company Witness Moore further addresses deferral of DSM/EE Program costs in his direct testimony.

Q. **How is the information that you provide related to projected Rate Period Program Costs and Common Costs used by the other witnesses in this proceeding?**

A. The Company is seeking to recover reasonable and prudent costs that are projected for implementation of the DSM/EE Programs during the Rate Period. As discussed above, such costs include the Program Costs and Common Costs. Schedule 1 of my prefiled direct testimony shows both Program Costs and Common Costs, at the system level, associated with implementation of the Phase I, Phase III, Phase IV, Phase V, Phase VI, and Residential Retail LED Lighting DSM/EE Programs for the Rate Period. Company Witness Moore uses these costs to develop the revenue requirement in support of this Application. Company Witness Crouch then explains the assignment and allocation of these costs to the North Carolina jurisdictional customers, using penetration and participant percentages from my Schedule 4, which are provided pursuant to NCUC Rule R8-9(f)(1)(ii)(a). Finally, Company Witness Debra A. Stephens develops the DSM/EE Rider, Rider C, for recovery of the projected costs.

Q. **How is the information you provide in Schedules 6 and 7 related to actual Test Period Program and Common Costs used by the other witnesses in this proceeding?**

A. Through Rider CE, the Company is seeking to true up all DSM/EE Program and Common Costs incurred during the Test Period with the revenues received through Rider C during the Test Period. Company Witness Moore uses the actually incurred Test Period DSM/EE Program and Common Costs set forth in my Schedules 6 and 7 to develop the EMF revenue requirement to be recovered through Rider CE. Company Witness Crouch then explains the assignment and allocation of these costs to the North Carolina jurisdictional customers. Finally, Company Witness Stephens calculates Rider CE to recover these costs.

Q. **Please describe the PPI provisions in the Mechanism.**

A. The Mechanism has historically provided for a PPI based upon the performance of each individual program, which would be eligible for an incentive if the Program achieved a utility cost test ("UCT") score above 1.0. Through the revisions to the Mechanism agreed to between the Company and the Public Staff and approved by the Commission on May 22, 2017, the

Mechanism now provides for a "portfolio performance incentive" applicable to measures installed beginning with Vintage Year 2017. Paragraphs 49 – 61 of the Mechanism govern calculation and recovery of the PPI.

Q. **Please describe Schedule 5 of your prefiled direct testimony, which calculates the projected PPI to be recovered during the Rate Period consistent with the Mechanism.**

A. My Schedule 5 calculates the projected PPI to be recovered during the Rate Period in a manner consistent with Paragraphs 49-61 of the revised Mechanism, and consistent with the Company's approach approved in the 2017 cost recovery proceeding, Docket No. E-22, Sub 545 ("2017 DSM Case"). Specifically, my Schedule 5 utilizes two PPI components.

First, PPI actual results from pertinent Vintage Years (2016 and prior) were calculated using the methodology identical to past DSM cases. Starting with the 2017 Vintage Year, PPI actual results are calculated using the new portfolio methodology.

Second, Projected PPI estimates for Vintage Year 2019, and for Vintage Year 2018, are calculated in accordance with Paragraph 55(b) of the Mechanism.

Q. **Please explain the Company's approach for calculating the projected Rate Period PPI.**

A. Paragraph 55(b) of the Mechanism provides that the Company may utilize a reasonable, simplified approach to estimate net dollar savings associated with measurement units installed in future Vintage Years for purposes of projecting the PPI to be recovered during the Rate Period. The Company's approach for producing the projected PPI relies on the two components of the calculation. For the first component, the Company uses the data supporting its PPI calculation in the prior year's DSM cost recovery proceeding to isolate the actual PPI dollar amount for the prior Vintage Year and then continues to use that amount in this current case as the first component of the projected PPI total revenue requirement. Consistent with the Company's approach in the 2017 DSM Case, the second component of the PPI estimate is calculated using the current case's operating expense revenue requirement times 1% to produce a dollar amount for estimated PPI. Adding the actual PPI dollar amount to the estimated PPI dollar amount for the Rate Period thus produces a streamlined and reasonably conservative estimate of the projected PPI for each Program. This data would naturally refresh with every new DSM/EE cost recovery proceeding.

Q. Please describe Schedule 6 of your prefiled direct testimony, which calculates the PPI EMF true-up consistent with the Mechanism.

A. My Schedule 6 calculates the EMF true-up in a manner consistent with Paragraph 59 of the revised Mechanism. I have obtained the number of actual installed measurement units and the verified kW and kWh savings associated with each Program for Vintage Year 2017 from the Company's most recently filed EM&V Report, as filed May 1, 2018, in Docket No. E-22, Sub 545. Coupled with the Company's actual costs for Vintage Year 2017, this information is used to calculate the actual net cost/benefit results for each

Program. I then developed a comparison of actual results versus projected cost/benefit results that are used to derive a trued-up PPI. Once a PPI true-up for a given Vintage Year has been completed based upon final EM&V data filed with the Commission, the Company finalizes its PPI true-up for that Vintage Year.

Q. **Are you providing any updates to the 2016 Vintage Year True Up?**

A. Yes, due to updates in the 2018 EM&V Report for 2016 kWH savings for the Non-residential Duct Testing and Sealing, Non-residential HVAC, and Non-residential Lighting Systems and Controls programs. Revised PPI true up calculations have been included in my Schedule 6.

Q. **Are you also providing information regarding the Company's event sponsorship and consumer education and awareness initiatives during the Test Period?**

A. Yes. As directed by the Commission, the Company provides the following information regarding its event sponsorship and consumer education and awareness initiatives during the Test Period. The EC department actively ties its communication and outreach activities directly to a specific DSM/EE Program, so actual general education and awareness costs are limited.

The EC Department also relies heavily on the Dominion Energy, Inc. ("Dominion Energy") website to provide general education to our customers through tips, videos, and online energy audit tools, among other channels. The EC program pages have garnered approximately 89,000 visits in the current Test Period. In addition, the Company's DSM Phase II, III, V, and VI implementation vendor, Honeywell, has created its own program web pages for detailed tracking on marketing efforts. Honeywell's program pages have garnered over 99,000 hits during the Test Period. In addition, the EC department took advantage of other high-coverage, low-cost channels, such as social media. Dominion Energy is continually growing social media presence on both Facebook and Twitter gaining, since creation, over 74,000 fans and 58,000 followers, respectively. Whenever possible, the EC department attempts to utilize low-cost options to communicate general education to our customers.

Q. **Please elaborate on the status of DSM/EE opt-out customers.**

A. As required to be listed by NCUC Rule R8-69(d)(2), the following customers have elected to opt out of the Company's DSM/EE Programs pursuant to North Carolina General Statutes § 62-133.9(f) and NCUC Rule R8-69(d): Weyerhauser (1 account); Nucor Steel-Hertford (1 account); KapStone Paper and Packaging Company (2 accounts); KABA Ilco (1 account); Consolidated Diesel (1 account); Domtar Paper Company LLC (1 account); Enviva Pellets (2 accounts); Flambeau Products Corp. (1 account); Lowes Home Center, Inc. (5 accounts); Hospira, Inc. (1 account); Parkdale America LLC (1 account); and WalMart Stores (6 accounts). Company Witness Stephens' direct testimony provides projected North Carolina total retail monthly sales for the Calendar Year for accounts who have chosen to opt out of the DSM/EE Rider, as required by Rule R8-69(f)(1)(vii).

Q. Does that conclude your prefiled direct testimony?

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
JARVIS E. BATES

Mr. Bates is the Energy Conservation Compliance Consultant for Dominion Energy Virginia / Dominion Energy North Carolina. His responsibilities include demand-side management and energy efficiency ("DSM/EE") program cost oversight, compliance, and DSM/EE internal and external reporting. He has provided testimony in prior DSM filings in Virginia and North Carolina.

Mr. Bates has a Bachelor of Business Administration degree in Finance from James Madison University. Prior to joining the company in 2007, he had over 14 years of experience in finance, operations management, and leadership in the Telecom, Healthcare, and Retail industries. Since joining Dominion, he has held finance positions supporting the Services Company as well as supporting Energy Conservation.

(WHEREUPON, Company Exhibit AJM-1, Revised Schedule 1 and Schedules 2 and 3, is marked for identification as prefiled and received into evidence.)

(Confidential pages filed under seal.)

(WHEREUPON, the prefiled direct testimony and Appendix A of ALAN J. MOORE is copied into the record as if given orally from the stand.)

**DIRECT TESTIMONY
OF
ALAN J. MOORE
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 556**

Q. Please state your name, business address, and position with Virginia Electric and Power Company ("Dominion Energy North Carolina" or the "Company").

A. My name is Alan J. Moore. I am a Regulatory Analyst III in the Regulatory Accounting Department for Dominion Energy North Carolina. My business address is 701 East Cary Street, Richmond, Virginia 23219. A statement of my background and qualifications is attached as Appendix A.

Q. Please describe your area of responsibility with the Company.

A. I am responsible for analyzing and calculating revenue requirements for Dominion Energy North Carolina.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony supports the Company's request to recover all reasonable and prudent costs incurred in adopting and implementing the Company's portfolio of North Carolina demand-side management ("DSM") and energy efficiency ("EE") programs ("DSM/EE Programs" or "Programs") and utility incentives, through its updated Rider C, as well as the Company's experience modification factor ("EMF") rider, Rider CE ("Application").

The purpose of my testimony is to address the development of the updated Rider C and Rider CE revenue requirements in support of the Application. Pursuant to North Carolina Utilities Commission ("NCUC" or the "Commission") Rule R8-69, the Company's Rider C revenue requirement includes projected costs associated with: (a) the previously-approved Phase I Air Conditioner Cycling Program;[1] (b) the previously-approved Phase III DSM/EE programs: Non-residential Lighting Systems and Controls Program, Non-residential Heating and Cooling Efficiency Program, and Non-residential Window Film Program;[2] (c) the previously-approved Phase IV Residential Income and Age Qualifying Home Improvement Program;[3] (d) the previously-approved Phase V Small Business Improvement Program;[4] (e) the previously-approved Residential Retail LED Lighting program;[5] and (f) the previously-approved Phase VI Non-Residential Prescriptive Program.[6]

Pursuant to Paragraph 28 of the revised Cost Recovery and Incentive Mechanism ("Mechanism") approved by the Commission's May 22, 2017 Order issued in Docket No. E-22, Sub 464, the Rider CE revenue requirement includes a true-up of the Company's DSM/EE Rider C rates in effect for the

[1] Docket No. E-22, Sub 465. All other Phase I programs except the Residential Air Conditioner Cycling Program have previously been concluded.
[2] Docket No. E-22, Subs 507, 508, and 509. On August 16, 2018, the Company filed a motion in Docket No. E-22, Sub 509 requesting Commission approval to close the Non-residential Window Film Program. On August 16, 2018, the Company applied in Docket No. E-22, Subs 507 and 508 for Commission approval to transition the Non-residential Heating and Cooling Efficiency Program and the Non-residential Lighting Systems and Controls Program to be offered on a North Carolina-only basis.
[3] Docket No. E-22, Sub 523.
[4] Docket No. E-22, Sub 538.
[5] Docket No. E-22, Sub 539. On August 16, 2018, the Company filed a motion in Docket No. E-22, Sub 539 requesting Commission approval to close the Residential Retail LED Lighting Program.
[6] Docket No. E-22, Sub 543.

Phase I, Phase II, Phase III, Phase IV, Phase V, and Phase VI Programs, and the Residential Retail LED Lighting Program, during the 12-month period of January 1, 2017, through December 31, 2017 ("Test Period").

The Rider C and Rider CE revenue requirements presented in this filing are developed in accordance with the revised Mechanism. Development of these revenue requirements is also consistent with development of the revenue requirements approved in the Company's 2012 – 2017 DSM/EE cost recovery proceedings, except as modified to comply with the new Mechanism.

Q. Mr. Moore, are you sponsoring any exhibits or schedules in connection with your testimony?

A. Yes. Company Exhibit AJM-1, consisting of Schedules 1 – 3 (Schedules 1 and 2 provided in public and confidential versions filed under seal), was prepared under my supervision and direction and is accurate and complete to the best of my knowledge and belief. My Schedule 1 supports the projected rate period revenue requirement for Rider C, and Schedule 2 presents the revenue requirement for EMF Rider CE. Schedule 3 contains my supporting workpapers pursuant to NCUC Rule R8-69(f)(1)(viii).

Q. Please summarize the key components of the two revenue requirements presented in this case.

A. The pre-filed direct testimony of Company Witness Jarvis E. Bates provides the projected costs and Portfolio Performance Incentive ("PPI") related to each of the previously-identified DSM/EE Programs. I have used those cost projections pursuant to NCUC Rule R8-69 to calculate the expected revenue requirement to be recovered through Rider C, from February 1, 2019, through January 31, 2020, the proposed rate period (the "Rate Period") in this case. In particular, in order to calculate the projected revenue requirement for Rider C, I incorporated the following cost components: (1) operating expenses projected to be incurred during the Rate Period; (2) capital costs (including related depreciation expense) projected to be incurred during the Rate Period; and (3) PPI projected for the Rate Period pursuant to the revised Mechanism. As noted by Company Witness Michael T. Hubbard, and consistent with the Company's last four cost recovery proceedings,[7] the Company is not projecting net lost revenues for the Rate Period in this proceeding. Each of these other cost components will be discussed in more detail later in my testimony.

For the DSM/EE EMF Rider CE, I have incorporated actual costs (both capital and O&M components) and PPI as provided by Company Witness Bates for the 12-month period of January 1, 2017, through December 31, 2017 ("Test Period"). I have also included measured net lost revenues in the Rider CE revenue requirement for the Test Period as described in more detail later in my testimony.

[7] Docket No. E-22, Subs 513, 524, 536, and 545.

Q. How did you determine what the Rate Period and Test Period should be for this proceeding?

A. Pursuant to NCUC Rule R8-69(a), the Rate Period is the same as the period during which the rider established under Commission Rule R8-55, the Company's fuel factor, is in effect. As explained by Company Witness Hubbard, in previous years, the Company has proposed Rider C rates to be effective for a calendar year Rate Period, consistent with the rate period previously used for fuel factor riders under Rule R8-55. Based on discussions with the Public Staff following the conclusion of the Company's 2017 rider proceedings, the Company is proposing for updated Rider C to be effective for a February 1, 2019, through January 31, 2020, Rate Period. The Company is requesting this adjustment to the annual Rate Period in order to extend the time for the Commission to issue orders in the Company's three annual rider proceedings filed pursuant to NCUC Rules R8-55, R8-67, and R8-69, respectively, and to then allow the Company additional time to finalize rates and customer notices (including allowing reasonable time for Public Staff review) prior to the updated annual riders' effective date. The Company intends to continue to use a February 1 through January 31 rate period in future rider cases.

The Test Period for this proceeding will be the 12-month period ending December 31, 2017, as provided for in Paragraph 28 of the Mechanism.

Q. **What capital structure and rate of return on common equity has the Company used to calculate the capital related costs for the Test Period and Rate Period in this proceeding?**

A. Consistent with Paragraph 40 of the Mechanism, the Company has calculated the capital-related costs for the Test Period using the actual capital structure and cost of capital for the 12-month period ended December 31, 2017, incorporating a 9.90% return on common equity ("ROE") that was approved in the Company's most recent general rate case on December 22, 2016, in Docket No. E-22, Sub 532.[8] For calculating the projected Rate Period in this proceeding, the Company has utilized the most recently filed NCUC ES-1 capital structure and cost of capital for the period ending June 30, 2018, incorporating the 9.90% ROE.

Q. **Do the Rider C and Rider CE revenue requirements include recovery of net lost revenues?**

A. As addressed by Company Witness Hubbard, only Rider CE includes a request to recover measured net lost revenues, as allowed by Commission Rule R8-69(c)(1) and the Mechanism. As noted above, the Company has not projected Rate Period net lost revenues for recovery in this proceeding. Going forward, all net Vintage Year 2019 lost revenues will be appropriately recovered through a future EMF Rider CE true-up cost recovery factor. As I will discuss in greater detail below, Rider CE provides for the recovery of

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[8] *See Order Granting General Rate Increase,* Docket No. E-22, Sub 532 (Dec. 22, 2016).

actual incremental North Carolina jurisdictional kWh energy reductions for the Test Period.

Q. Are there any other limitations on the eligibility of energy savings as a result of the Company's approved EE programs to count towards recovery of net lost revenues?

A. Paragraph 43 of the Mechanism provides that kWh sales reductions achieved by a measurement unit installed in a given Vintage Year are eligible for use in calculating lost revenues for only the first 36 months after installation of the measurement unit. Further, Paragraph 46 of the Mechanism provides that notwithstanding this 36-month period of kWh sales reductions, any installed measurement unit shall cease being eligible for use in calculating net lost revenues as of the effective date of (a) a Commission-approved alternative cost recovery mechanism that accounts for the eligible recoverable net lost revenues associated with eligible kWh sales reductions, or (b) the implementation of new base rates approved in a general rate case or comparable proceeding to the extent that the rates set in that proceeding are set to explicitly or implicitly recover the net lost revenues associated with an installed measurement unit's kWh sales reductions.

Q. Did the installation of the measurement units used to calculate the actual net lost revenues for the Test Period in this filing fall within the 36-month limitation provided for under Paragraph 43 of the Mechanism?

A. Yes. As part of the DSM/EE EMF Rider CE, the Company is seeking to recover net lost revenues resulting from measures installed up through the end of the 2017 Test Period.

Q. Has a portion of kWh energy savings associated with previously-installed measures already been captured in the Company's non-fuel base rates?

A. Yes. The rates approved in the Company's 2016 general rate case were designed to include the cumulative kWh sales reductions recognized in the net lost revenues related to EE measurement units installed through June 30, 2016, to be recovered through base rates beginning on November 1, 2016. Therefore, consistent with Paragraph 46 of the Mechanism, beginning November 1, 2016, the Company excludes from total kWh energy savings, the June 30, 2016 total cumulative monthly level of kWh sales reductions that were incorporated into base rates effective November 1, 2016. The net lost revenues proposed for recovery in this filing for January 1, 2017, through December 31, 2017, include only incremental kWh energy savings resulting from energy efficiency measures installed subsequent to June 30, 2016.

Q. Mr. Moore, can you describe in more detail the projected Rate Period revenue requirement to be recovered through Rider C requested in this case?

A. Yes. The projected revenue requirement begins with the projected operating expense revenue requirement as reflected on line 1 of page 1 of my Schedule 1. The projected operating expenses for the Rate Period, as supported in the pre-filed direct testimony of Company Witness Bates, are presented for current recovery by program on line 1 of page 2 of my Schedule 1. Line 2 of page 2 of my Schedule 1 presents the system level common costs that are allocated to each program in accordance with the methodology described by Company Witness J. Clayton Crouch. The projected operating expenses and proportionate share of common costs for each program are then allocated to the North Carolina jurisdiction using the jurisdictional allocation factors supported by Company Witness Crouch, to derive the projected North Carolina jurisdictional operating expense revenue requirement presented on line 5 of page 3 of my Schedule 1.

The second component of the projected Rate Period revenue requirement is the projected capital costs revenue requirement as presented on line 2 of page 1 of my Schedule 1. Lines 6 through 8 of page 3 of my Schedule 1 present the projected North Carolina jurisdictional depreciation expense, property taxes, and rate base costs, respectively, related to the Air Conditioner Cycling Program. The projected rate base for the Rate Period as depicted on page 4 of my Schedule 1 includes the actual system level net plant balances as of June

30, 2018, and projected monthly system level capital expenditures as supported by Company Witness Bates. The Air Conditioner Cycling Program is the only DSM/EE program with capital expenditures being presented for recovery in this current filing. The capital expenditures, projected to be closed to plant-in-service each month, are added to the actual June 30, 2018 plant balance, and accumulated throughout the Rate Period. The projected monthly depreciation expense is projected using a 7.15% annual depreciation factor from the Company's most recent depreciation study. This projected annual depreciation rate factor assumes an estimated depreciable life of 15 years with 0% net salvage and includes interim retirement assumptions. The resulting depreciation expenses projected to be incurred during the Rate Period are included for current recovery as shown on line 5 of page 4 of my Schedule 1, and the projected accumulated depreciation balances are shown as a reduction to average rate base as reflected on line 6 of page 4. The monthly accumulated deferred income taxes, as supported by my Schedule 3, also serve as monthly reductions to the projected rate base for the Rate Period as reflected on line 8 of page 4 of my Schedule 1. These system level projected amounts are then allocated to the North Carolina jurisdiction as explained by Company Witness Crouch in his direct testimony in this proceeding.

The projected North Carolina jurisdiction rate base financing costs are determined by multiplying each two-month average rate base for the Rate Period by the Company's cost of capital as presented on line 4 of page 5 of my Schedule 1. As discussed above, for purposes of this Application, the

Company has used the capital structure and cost of capital as provided in its June 30, 2018 NCUC ES-1 Report, incorporating a rate of return on common equity of 9.90%, which resulted in a weighted average cost of capital of 7.328% as presented on page 5 of my Schedule 1. The equity component for purposes of determining the return on rate base is grossed up to a revenue level in developing the common equity including income taxes revenue requirement on rate base as presented on line 20 of page 4 of my Schedule 1.

The final component of my Rate Period revenue requirement is the projected PPI revenue requirement shown on line 4 of page 1 of my Schedule 1. Company Witness Bates provides the PPI calculation, which is incorporated into the revenue requirement and reflected on line 10 of page 3 of my Schedule 1.

Q. Please provide an overview of the DSM/EE EMF Rider CE revenue requirement.

A. Consistent with Paragraph 37 of the Mechanism, this DSM/EE EMF requests recovery of the "difference between the reasonable and prudent Costs incurred or amortized during the applicable test period and the revenues actually realized during such test period under the DSM/EE rider then in effect." The DSM/EE EMF Rider CE also includes a true-up of the PPI and net lost revenues components for this same Test Period. Finally, the DSM/EE EMF Rider CE includes a return on the over- or under-recovery balance up and until the effective date of the Rate Period on February 1, 2019, calculated at the rate of return approved in the Company's most recent general rate case in

Docket No. E-22, Sub 532. Commission Rule R8-69(e)(3) provides that the EMF will remain in effect for a fixed 12-month period and will continue as a rider to rates established in any intervening general rate case.

Q. Mr. Moore, can you now describe the details of the DSM/EE EMF Rider CE revenue requirement calculation presented on page 1 of your Schedule 2?

A. Yes. Page 1 of my Schedule 2 presents the DSM/EE EMF Rider CE revenue requirement requested for recovery during the Rate Period. The monthly revenue requirement on line 1 of page 1 of my Schedule 2 reflects the reasonable and prudent costs actually incurred during the Test Period in this proceeding. This actual monthly revenue requirement is calculated on pages 2 and 3 of my Schedule 2 and will be discussed in greater detail below. The actual monthly Rider C revenues included on line 4 of page 1 of my Schedule 2 were obtained from the Company's Accounting Department. As first established in the Company's 2013 DSM/EE cost recovery proceeding, pursuant to NCUC Rule R8-69(c)(3), lines 2 and 5 eliminate utility incentives from the calculation of carrying costs on the EMF Test Period over/under-recovery deferral. The net monthly over- or under-recovered amount as presented on line 7 of page 1 of my Schedule 2 will be refunded or collected over the Rate Period. In addition, as prescribed by Rule R8-69(b)(6), carrying costs are calculated on the over- or under-recovered deferral amounts net of utility incentives at the rate of return approved in the Company's most recent general rate case in Docket No. E-22, Sub 532. Also pursuant to Commission

Rule R8-69(b)(6), the equity component has been grossed up to reflect the necessary recovery of income taxes. The total carrying costs calculated on the monthly over- or under-recovered amounts net of utility incentives for the Test Period are presented on line 13 of page 1 of my Schedule 2.

Also pursuant to Rule R8-69(b)(6), financing costs are calculated for the current EMF Test Period over-recovery amount, exclusive of utility incentives, as presented on line 8 of page 1 of my Schedule 2. Line 15 reflects these carrying costs which are calculated on line 5 of page 6 of my Schedule 2 for the deferral period of January 2018 through January 2019 at the net-of-tax rate of return approved in the Company's most recent general rate case in accordance with Rule R8-69(b)(6).

The carrying costs net of utility incentives to be refunded on line 13 of page 1, combined with the related 2017 financing costs on line 15, are offset by the net monthly under-recovered amounts calculated on line 7, to reflect the total DSM/EE EMF Rider CE revenue requirement amount to be recovered over the Rate Period.

Q. **Please describe the remaining pages of Schedule 2 that support the DSM/EE EMF Rider CE revenue requirement presented on page 1 of your Schedule 2.**

A. Pages 2 and 3 of my Schedule 2 present the monthly revenue requirement for the reasonable and prudent costs actually incurred during the Test Period. The actual operating expenses provided by Company Witness Bates for each

Program include a proportionate share of Common Costs allocated according to the methodology described by Company Witness Crouch, and are included on line 2 of page 2 of my Schedule 2. This Common Cost allocation methodology is in compliance with the Mechanism and is also consistent with the methodology employed in the Company's previous DSM filings. The resulting system level amounts are then allocated to the North Carolina jurisdiction as explained by Company Witness Crouch to derive the North Carolina jurisdictional operating expenses including Common Costs presented on line 5 of page 3 of my Schedule 2. Line 6 of page 3 of my Schedule 2 presents the monthly property taxes related to the air conditioner cycling program assets, while lines 7 and 8 present the actual North Carolina jurisdictional depreciation expense and return on rate base as calculated on page 4 of my Schedule 2, and will be discussed in more detail below. Next, the North Carolina jurisdictional net lost revenues calculated on page 5 of my Schedule 2 are included on line 9 of page 3 of my Schedule 2. Finally, the actual PPI amounts for the Test Period, as calculated by Company Witness Bates, are included on line 10 of page 3 of my Schedule 2. The resulting monthly revenue requirement by program calculated on line 11 and totaled on line 12 of page 3 of my Schedule 2 reflects the reasonable and prudent costs actually incurred during the Test Period.

The revenue requirement on Rate Base Costs for the Test Period is calculated on page 4 of my Schedule 2. Actual monthly Net Plant balances and Accumulated Deferred Income Taxes were provided by the Fixed Assets

Department and Tax Department, respectively. Depreciation expenses incurred during the Test Period are included in the actual costs, and the accumulated balances are shown as a reduction to plant-in-service to derive cumulative system level of net plant as presented on line 4 of page 4 of my Schedule 2. The monthly accumulated deferred income taxes on line 5 of page 4, as supported by my Schedule 3, also serve as monthly reductions to the rate base for the Test Period. These system level amounts are then allocated to the North Carolina jurisdiction as explained by Company Witness Crouch to derive the monthly North Carolina jurisdictional AC Cycling rate base amounts as included on line 8.

The 2-month average North Carolina jurisdictional rate base over the Test Period is presented on line 9 of page 4. As described earlier in my testimony, to determine the return on rate base for the Test Period, the 2-month rate base averages on line 9 of page 4 were multiplied by the Company's cost of capital based on the capital structure and cost of capital for the 12-month period ended December 31, 2017. The Company utilized the Commission-approved ROE of 9.90% which resulted in a weighted average cost of capital of 7.345%, as presented on lines 8 of page 7 of my Schedule 2. The equity component is grossed up to a revenue level for purposes of calculating the revenue requirement on rate base costs during the Test Period as presented on line 17 of page 4 of my Schedule 2.

Page 5 of my Schedule 2 presents the calculation of the actual net lost revenues for the Test Period, based upon the actual North Carolina jurisdictional energy reductions as presented by Company Witness Deanna R. Kesler. Company Witness Debra A. Stephens provides the billing rates applied to these North Carolina jurisdictional net kWh energy savings as presented on line 2 of page 5 of my Schedule 2. The actual net lost revenues are then reduced for variable O&M savings and found revenues. The variable O&M savings presented on line 4 of page 5 were provided by the Company's Integrated Resource Planning Department. As discussed by Company Witness Hubbard, there were no actual found revenues for the Test Period as indicated on line 5 of page 5 of my Schedule 2. Line 6 of page 5 provides the net lost revenues by program for the Test Period.

As previously mentioned, page 6 of my Schedule 2 presents the calculation of financing costs on the Rider CE net of utility incentives over-recovery to be refunded over the Rate Period, pursuant to NCUC Rules R8-69(b)(3) and (6), and Paragraph 39 of the Mechanism.

Q. **Mr. Moore, do you have anything else you would like to discuss regarding the DSM/EE EMF Rider CE revenue requirement?**

A. Yes. The DSM/EE EMF Rider CE revenue requirement is materially larger for this filing than it has been previously. A significant majority of the true-up amount is the result of the Phase V Small Business Improvement Program and the Residential Retail LED Lighting program being excluded from the 2016 Rider C projection that set rates for the January 1, 2017 through December 31, 2017 rate year.

Q. What is the total revenue requirement for Riders C and CE?

A. As summarized on page 1 of my Schedule 1, the Company is requesting recovery of projected operating expenses of $2,071,198, and projected capital cost revenue requirement of $136,168. These amounts combined with the projected PPI of $302,935 provide for a total Rider C revenue requirement of $2,510,301.

As depicted on page 1 of my Schedule 2, the Rider CE revenue requirement presents the amount of $1,839,922, which will be recovered by the Company over the Rate Period. The combined revenue requirements for the two riders, Rider C and Rider CE, for the Rate Period totals $4,350,223, representing a $606,298 increase over the rates currently in effect.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
ALAN J. MOORE

Alan J. Moore received his undergraduate degree from Longwood University with a Bachelor of Science in Business Administration with an Accounting concentration in 2007. Mr. Moore received his Masters of Business Administration degree from Longwood University in 2015. Mr. Moore was hired by the Company in 2007 as an Internal Auditor prior to joining the Regulatory Accounting Department in April 2014. His current position of Regulatory Analyst III in the Regulatory Accounting Department includes responsibility for analyzing and calculating revenue requirements for Dominion Energy North Carolina rate proceedings.

(WHEREUPON, Company Exhibit JCC-1, Schedules 1 - 4, is marked for identification as prefiled and received into evidence.)

(Confidential pages filed under seal.)

(WHEREUPON, the prefiled direct testimony and Appendix A of J. CLAYTON CROUCH is copied into the record as if given orally from the stand.)

DIRECT TESTIMONY
OF
J. CLAYTON CROUCH
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 556

Q. Please state your name, business address, and position with Virginia Electric and Power Company ("Dominion Energy North Carolina" or the "Company").

A. My name is J. Clayton Crouch and I am a Regulatory Consultant for Dominion Energy North Carolina. My business address is 701 East Cary Street, Richmond, Virginia 23219. A statement of my background and qualifications is attached as Appendix A.

Q. Please describe your area of responsibility with the Company.

A. I am responsible for analyzing and calculating Company data used to create the allocation factors used in the cost of service studies and other applications for the Customer Rates Department.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony supports the Company's request to recover all reasonable and prudent costs incurred in adopting and implementing the Company's portfolio of North Carolina demand-side management ("DSM") and energy efficiency ("EE") programs ("DSM/EE Programs" or "Programs") and utility incentives, through its updated Rider C, as well as the Company's experience modification factor ("EMF") rider, Rider CE ("Application"). The purpose of my testimony is to explain the jurisdiction and customer class responsibility of costs for the approved and proposed DSM/EE Programs for which the Company seeks approval for cost recovery in this proceeding.

Q. Mr. Crouch, are you sponsoring any exhibits or schedules in connection with your testimony?

A. Yes. Company Exhibit JCC-1, consisting of Schedules 1-4 (Schedules 1 and 3 provided in public and confidential versions filed under seal) has been prepared under my direction and supervision, and is accurate and complete to the best of my knowledge and belief. My Schedules 1-4 support the jurisdictional allocation and customer class allocation of DSM/EE costs for the development of Rider C and Rider CE, as follows:

- Schedule 1 shows the allocation or assignment of system-level Common Costs to each individual DSM and EE Program and the determination of jurisdictional responsibility of system costs for approved Programs, including allocated Common Costs.
- Schedule 2 shows the factors for allocating total Program revenue requirements to customer classes.
- Schedule 3 shows how total Program revenue requirements are allocated to customer classes.
- Schedule 4 provides the documents to be filed in accordance with North Carolina Utilities Commission ("NCUC" or the "Commission") Rule R8-69(f)(1)(ii)(b) and NCUC Rule R8-69(f)(1)(viii).

Q. **Before describing how you propose to determine the jurisdictional and customer class responsibility for DSM/EE costs, is the manner you propose consistent with the allocation approach approved in last year's DSM/EE rider proceeding, Docket No. E-22, Sub 545?**

A. Yes. The methodology that I will describe is consistent with the methodology approved by the Commission's December 21, 2017 Order in the Company's most recent cost recovery proceeding in Docket No. E-22, Sub 545. This methodology is also consistent with the updated Cost Recovery and Incentive Mechanism ("Mechanism") approved by the Commission's May 22, 2017 Order issued in Docket No. E-22, Sub 464.

I. ALLOCATION OF COMMON COSTS TO DSM/EE PROGRAMS

Q. **Please explain Common Costs and how such costs are allocated to the DSM and EE Programs.**

A. Certain costs including internal labor and related costs, program marketing costs, and information gathering costs are not directly attributable to specific Programs. The Company characterizes these costs as "Common Costs," which are needed to design, implement, and operate the Programs. The DSM and EE Programs are administered in the Company's Virginia and North Carolina service territories that compose the PJM designated DOM Zone. Therefore, these costs will be incurred and recovered on the DOM Zone system-level basis.

According to Paragraphs 29 – 30 of the revised Mechanism, system-level Common Costs are to be allocated to each DSM/EE Program on the basis of the estimated relative operating costs of each individual program including O&M, depreciation, property taxes, and insurance expenses.

My Schedule 1, Page 1 provides a general description of how system-level Common Costs are allocated to each Program. Page 2 provides the allocation of these costs to the Programs for the January 1, 2017, to December 31, 2017, test period ("Test Period") through the EMF for recovery through Rider CE. Page 3 provides the allocation of these costs for the projected February 1, 2019, to January 31, 2020, rate period ("Rate Period") through Rider C.

II. JURISDICTIONAL ALLOCATION OF PROGRAM COSTS

Q. Please describe how the system costs for approved DSM/EE Programs, including allocated Common Costs, will be allocated to the North Carolina jurisdiction according to the Mechanism.

A. System-level costs for the approved DSM/EE Programs, including allocated Common Costs, are allocated or assigned to the North Carolina jurisdiction according to Paragraph 30 of the Mechanism. Paragraph 30 provides for the cost of DSM programs to be allocated on the basis of the Company's coincident peak and for the cost of EE programs to be allocated on the basis of energy. In the case of both the DSM and EE allocation factors, the following retail jurisdictions are included in the development of each factor: (i) the North Carolina retail jurisdiction; (ii) the Virginia retail jurisdiction; and

(iii) Virginia non-jurisdictional customers excluding contract classes that have elected not to participate, customers in participating contract classes that have elected not to participate, and customers in participating contract classes that are exempt or have opted out.

My Schedule 1, Page 1 provides a general description of how DSM/EE costs are allocated or assigned to the North Carolina jurisdiction. My Schedule 1, Page 4 provides the development of jurisdictional allocation factors for DSM and EE Programs. Coincident peak and energy allocation factors are calculated as described above to allocate costs from the system to the North Carolina retail jurisdiction. For the updated EMF Test Period, the allocation factors for determining jurisdictional costs are based on the 12 months ended December 31, 2017, and are shown on Schedule 1, Page 4. For the Rate Period, the allocation factors are also based on the 12 months ended December 31, 2017, and are shown on Schedule 2, Page 2.

III. ASSIGNMENT AND ALLOCATION OF JURISDICTIONAL COSTS TO CUSTOMER CLASSES

Q. Once costs have been determined for the North Carolina jurisdiction, how will the revenue requirements be assigned or allocated to the customer classes according to the Mechanism?

A. Retail jurisdictional costs for the Company's DSM/EE Program portfolio, including allocated Common Costs, shall be assigned or allocated to North Carolina retail customer classes based on the particular classes at which each program is targeted according to Paragraph 33 of the Mechanism. The cost of residential Programs is assigned to the residential class as shown in my Schedule 2, Page 1. The costs of non-residential Programs are allocated to targeted non-residential customer classes using an energy-based allocation factor as shown in my Schedule 2, Page 1.

My Schedule 2, Page 2 provides the development of the coincident peak and energy allocation factors for the non-residential Programs. I have developed class allocation factors for the non-residential programs for both the true-up through the EMF and the projected Rate Period consistent with the time periods used to allocate costs from the system to the jurisdiction. For the updated EMF, the allocation factors for determining customer class responsibility for jurisdictional costs are based on the 12 months ended December 31, 2017, and are shown on Schedule 2, Page 2. I have developed class allocation factors for these same programs. For the projected Rate Period, the allocation factors for determining customer class responsibility for jurisdictional costs are also based on the 12 months ended December 31, 2017, and are shown on Schedule 2, Page 2.

Q. **How will the Test Period and Rate Period revenue requirements to be recovered through the EMF Rider CE and Rider C be assigned or allocated for the residential Programs to the customer classes?**

A. The total amount to be recovered through the DSM/EE EMF Rider CE for the residential Programs will be assigned to the residential class. The total revenue requirement for DSM/EE Programs Rider C for the residential Programs will also be assigned to the residential class for cost recovery purposes. Please refer to my Schedule 2, Page 1 for further explanation of this assignment.

Q. How will the Test Period and Rate Period revenue requirements to be recovered through the EMF Rider CE and Rider C be assigned or allocated for the non-residential Programs to the customer classes?

A. The total amount to be recovered through the DSM/EE EMF Rider CE for the non-residential Programs will be allocated to the non-residential customer classes eligible to participate in such Programs. The total revenue requirement for DSM/EE Programs Rider C for the non-residential Programs will also be allocated to the non-residential customer classes eligible to participate in such Programs.

Regarding the development of allocation factors, these Programs are not limited to commercial customers, since other non-residential customers, including industrial customers, are eligible to participate. The allocation factors used to allocate these revenue requirements will be adjusted for customers who elect to opt out as provided for under N.C.G.S. § 62-133.9(f). In addition, no costs will be allocated to the Street and Outdoor Lighting class or the Traffic Lighting class since such classes will not be targeted by these Programs. Neither class will experience a reduction in energy consumption or demand resulting from these Programs and will, therefore, not experience a benefit due to a change in their production demand allocation factor if all other things remain the same. Other non-residential customer classes that do participate in the Programs will experience reductions in energy consumption and/or demand and may receive a benefit due to a change in their production demand allocation factor. It is appropriate to not allocate any costs to customer classes that will not benefit from participation in a program or programs.

Page 1 of my Schedule 2 summarizes the factor used to allocate the costs of the DSM/EE commercial Programs to the customer classes.

Q. **Do you have a schedule that shows the allocation to the customer classes of the amounts to be recovered through the DSM/EE EMF Rider CE and DSM/EE Programs Rider C?**

A. Yes. My Schedule 3, Pages 1 and 2 provide the allocation to the customer classes of the amount that needs to be collected for the Test Period true-up through the DSM/EE EMF Rider CE. My Schedule 3, Pages 3 and 4 provide the allocation of the revenue requirement to the customer classes for recovery during the Rate Period through DSM/EE Programs Rider C. These total revenue requirements are obtained from Company Witness Alan J. Moore's Schedule 1 and Schedule 2 for Rider CE and Rider C, respectively.

Q. **To summarize, what is the total revenue requirement for DSM/EE Programs by customer class for recovery under the proposed DSM/EE EMF Rider CE and DSM/EE Rider C?**

A. My Schedule 3, Page 2, line 9 provides the amount to be recovered by each customer class under the proposed DSM/EE EMF Rider CE. My Schedule 3, Page 4, line 2 provides the total revenue requirement by customer class under the proposed DSM/EE Rider C.

Q. Please outline what is included in Schedule 4 of your testimony.

A. In accordance with NCUC Rule R8-69(f)(1)(ii)(b), the total cost that the utility does not expect to incur during the Rate Period as a direct result of the DSM/EE measures in the aggregate to the North Carolina jurisdiction are shown on Pages 1 and 2 of my Schedule 4. Expenses not expected to be incurred are provided by Company Witness Deanna R. Kesler. In this Schedule, I provide the North Carolina jurisdictional allocation factors that were produced in the Company's most recent SWP&A year ending December 31, 2017 cost of service study, as filed on June 15, 2018, in Docket No. E-22, Sub 532 that would be used to allocate these costs had they been incurred. As can be seen on Schedule 4, Pages 1 and 2 of my testimony, separate demand and energy weighted factors should be used to allocate the demand-related expenses not expected to be incurred and the energy-related expenses not expected to be incurred, respectively. These factors are Factor 1 (demand-weighted) and Factor 3 (energy).

Also included in Schedule 4 are Pages 3 through 5, which are workpapers filed in accordance with NCUC Rule R8-69(f)(1)(viii). These pages show the development of allocation factors used to allocate system expenses not expected to be incurred during the Rate Period (Pages 4 and 5).

Q. Does this conclude your direct testimony?

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS OF J. CLAYTON CROUCH

J. Clayton Crouch began his career as a field technician for Enviroplan, Inc. while working on his B.S. degree at Point Park University. Mr. Crouch accepted an engineering position with Westinghouse Electric Corp. following graduation. He worked on nuclear power plant control systems at a number of domestic and international locations. Mr. Crouch took an educational leave of absence to finish his M.S. degree as a Graduate Student Researcher at the University of Pittsburgh. He moved to Wilmington, Delaware upon graduation and worked as a System Manager for Public Service Electric and Gas Company supporting the Salem and Hope Creek power stations.

Mr. Crouch began working for Dominion Energy Virginia in 1997 as a Senior Staff Engineer at the Surry Power Station. He transferred to the Fossil and Hydro Engineering Department and obtained a Six Sigma Master Black Belt certification while working on a number of system design improvements and environmental cost savings projects. In 2005, Mr. Crouch became the Energy Asset Advisor for the Dominion Clearinghouse. The following year, he took a promotion to Manager-Regulation and oversaw wholesale account processing, load research, and the PJM Interconnection L.L.C. ("PJM") load serving entity settlements for the Dominion Zone. He now serves as a regulatory consultant on matters pertaining to cost allocation and cost of service in the Customer Rates Department.

Mr. Crouch has previously presented testimony before the State Corporation Commission of Virginia and the North Carolina Utilities Commission.

(WHEREUPON, Company Exhibit DAS-1, Schedules 1 - 16, is marked for identification as prefiled and received into evidence.)

(WHEREUPON, the prefiled direct testimony and Appendix A of DEBRA A. STEPHENS is copied into the record as if given orally from the stand.)

DIRECT TESTIMONY
OF
DEBRA A. STEPHENS
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 556

Q. Please state your name, business address, and your position with Virginia Electric and Power Company ("Dominion Energy North Carolina" or the "Company").

A. My name is Debra A. Stephens, and I am a Regulatory Specialist for Dominion Energy North Carolina. My business address is 701 East Cary Street, Richmond, Virginia 23219.

Q. Please describe your area of responsibility with the Company.

A. I provide support and analysis for base rate schedules and Demand Side Planning Riders for the Company's retail jurisdictions. A statement of my background and qualifications is attached as Appendix A.

Q. What is the purpose of your testimony in this case?

A. My testimony supports the Company's request to recover all reasonable and prudent costs incurred in adopting and implementing the Company's portfolio of North Carolina demand-side management ("DSM") and energy efficiency ("EE") Programs ("DSM/EE programs" or "Programs"), and utility incentives, through its updated Rider C, as well as the Company's experience modification factor ("EMF") rider, Rider CE ("Application"). The purpose of my testimony is to present the calculation of the updated DSM/EE Rider,

Rider C, and the EMF rider, Rider CE. Rider C is designed to recover during the February 1, 2019, through January 31, 2020, period ("Rate Period") the Company's reasonable and prudent costs incurred for the adoption and implementation of the Company's DSM/EE Programs during the Rate Period. Rider CE will true up any over- or under-recovery for the period January 1, 2017, through December 31, 2017 ("Test Period"). The Company is requesting the proposed riders, Rider C and Rider CE, become effective for usage on and after February 1, 2019, and I explain below the Company's proposal regarding the Rider C and Rider CE rates to be in effect for January 2019. Additionally, I provide the calculations for the monthly residential and non-residential non-fuel average base rates that have been used by Company Witness Alan J. Moore in determining gross lost revenues.

Q. **Ms. Stephens, are you sponsoring any exhibits or schedules in connection with your testimony?**

A. Yes. Company Exhibit DAS-1, consisting of Schedules 1 through 16, was prepared under my supervision and is accurate and complete to the best of my knowledge and belief. I also provide my supporting workpapers as required by Commission Rule R8-69(f)(i)(viii).

Q. **Would you please discuss the calculation of Rider C?**

A. Yes. The Company has calculated the Rider C rates in accordance with the following methodology. To develop the Rider C rate applicable to each of the Company's customer classes, we must first determine forecasted kWh sales for each customer class. For the North Carolina jurisdiction, the Company only forecasts kWh sales and customers by "revenue class" (*i.e.*, Residential, Commercial, Industrial, Public Authority, and Outdoor Street Lighting/Traffic Signals), and this revenue class kWh sales forecast is shown on pages 1 through 3 of Schedule 1, as required by Rule R8-69(f)(1)(i). However, these revenue classes are not perfectly aligned with the Company's customer classes. Therefore, the Company must allocate the revenue classes' February 2019 through January 2020 forecasted kWh sales down to the customer class level. This allocation was performed using 2015 through 2017 historical monthly customer and kWh usage for each customer class to capture the recent trends of kWh sales and the numbers of customers within each customer class. This allocation by revenue class (and within revenue class by rate schedule) is shown on pages 4 and 5 of my Schedule 1. The summary on page 6 shows the allocation of the 12 months ended January 31, 2020, forecasted kWh sales for each rate schedule, less the kWh sales for the industrial and large commercial customers who have "opted out" under North Carolina General Statutes § 62-133.9(f), to produce a net forecast. Pages 7 and 8 categorize the net forecasted rate schedule kWh sales into the seven customer classes (*i.e.*, Residential, SGS, NS, LGS, 6VP, Outdoor/Street Lighting, and Traffic Lighting customer classes).

The rates for Rider C have been derived based upon these net forecasted kWh sales by customer class. Pages 9 and 10 of Schedule 1 detail the development of the Rider C rate.

Page 9 of Schedule 1 shows the customer class allocated revenue requirements associated with DSM/EE program costs that were provided by Company Witness J. Clayton Crouch. By dividing these class revenue requirements by their respective customer class forecasted kWh sales, we have calculated customer class rates, which are then adjusted for the North Carolina Regulatory Fee. Page 10 shows the rate schedules within their associated customer class and provides their respective Rider C rate.

Q. **Have you provided projected North Carolina total retail monthly sales for the Rate Period for the commercial and industrial customers who have chosen to opt out of the DSM/EE Rider, as required by Rule R8-69(f)(1)(vii)?**

A. Since the Company generally does not forecast kWh sales for individual customers, we have used actual kWh sales, from January 1, 2017, to December 31, 2017, as a proxy for the projected opt-out kWh sales for the Rate Period for customers that have opted out as of June 30, 2018. Schedule 2 of my pre-filed direct testimony contains the aggregated opt-out customer sales by month.

Q. **Have you included the Company's proposed Rider C in Schedule 3 of your pre-filed direct testimony?**

A. Yes. Schedule 3 is comprised of the tariff sheet showing the proposed Rider C as required by Rule R8-69(f)(1)(vi), which, if approved as proposed, would be applicable for usage on and after February 1, 2019.

Q. Would you please discuss the calculation of Rider CE?

A. Yes. The Company has calculated the Rider CE rates in accordance with the same methodology as previously approved for calculating Rider C. The allocated class Rider CE revenue requirements used in these calculations are provided in Company Witness Crouch's Schedule 3. The forecasted kWh by class and rate schedule for use in developing the Rider CE rates are the same as described in the calculation of the Rider C rates. The results of these calculations are shown in my Schedule 4. The corresponding tariff sheet for the period February 1, 2019, to January 31, 2020, providing the Rider CE rates is shown on page 1 of my Schedule 5.

Q. Are you submitting any proposed revised tariffs to be effective during January 2019?

A. Yes. In order to effectuate the transition to a February 1 – January 31 Rate Period, as further discussed in the direct testimony of Company Witnesses Michael T. Hubbard and Moore, the Company is proposing to maintain Rider C as approved by the Commission in the Company's previous DSM/EE cost recovery proceeding, and to reduce Rider CE for all classes to zero during the period January 1, 2019, to January 31, 2019. While this proposal does not require any revision to the currently effective Rider C tariff sheet, it does require that Rider CE be revised to show a rate of zero. A tariff sheet showing that proposed change for the month of January 2019 is shown at page 2 of my Schedule 5.

Q. Would you explain how the proposed Riders C and CE will impact customers' bills?

A. For this comparison, the Company has used the base rates that went into effect January 1, 2017, in Docket No. E-22 Sub 532, and the fuel rates that went into effect February 1, 2018, in the Company's last fuel case, Docket No. E-22, Sub 546, to calculate the customers' "current bill." For Rate Schedule 1 (residential), based on the proposed February 1, 2019 effective date for Riders C and CE, for a customer using 1,000 kWh per month, the weighted monthly residential bill (4 summer months and 8 base months) would increase from $113.19 to $113.20, or by 0.009%. For Rate Schedule 5 (small general service), based on the proposed February 1, 2019 effective date for Riders C and CE, for a customer using 12,500 kWh per month and 50 kW of demand, the weighted monthly bill (4 summer months and 8 base months) would increase from $1,111.36 to $1,119.87, or by 0.77%. For Rate Schedule 6P (large general service), based on the proposed February 1, 2019 effective date for Riders C and CE, for a customer using 259,200 kWh on-peak and 316,800 kWh off-peak per month and 1,000 kW of demand, the monthly bill would increase from $38,964.65 to $39,627.05, or by 1.70%.

Q. For purposes of truing up lost revenues for the Test Period, would you describe how the non-fuel average base rates were determined?

A. Yes. We have calculated monthly non-fuel average base rates for the Test Period for each DSM program. These monthly non-fuel average base rates are provided to Company Witness Moore, who in turn applies these rates to the measured and verified kWh reductions that occurred during the Test Period, as determined and provided by Company Witness Deanna R. Kesler.

In truing up gross lost revenues for the Residential Heat Pump Tune Up Program, the Residential Heat Pump Upgrade Program, the Residential Duct Testing and Sealing Program, the Residential Home Energy Check-Up Program, and the Residential Income and Age Qualifying Program, we used the actual participants' non-fuel base revenues and their kilowatt-hour consumption for the period of January 1, 2017, to December 31, 2017, to develop monthly average non-fuel base rates. These calculations are shown in my Schedules 6 through 10. To calculate the average rates for the Residential Retail LED Lighting program, we used the average non-fuel base rates for all customers on Rate Schedules 1, 1P, and 1T and the kilowatt-hour consumption for the period of January 1, 2017, to December 31, 2017, shown in Schedule 11.

Q. **Did you use the same methodology for the Non-Residential Programs in truing up lost revenues for the Test Period?**

A. Yes. We used the actual participants' non-fuel base revenues and their kilowatt-hour consumption for the applicable true-up period to develop monthly average non-fuel base rates. This analysis used the kWh consumption for those customers who participated in the Non-Residential Energy Audit, the Non-Residential Duct Testing and Sealing Program, the Non-Residential Heating & Cooling Efficiency Program, the Non-Residential Lighting Systems & Controls Program, and the Commercial Small Business

Improvement Program shown in Schedules 12 through 16 during the period of January 1, 2017, to December 31, 2017. No rates were calculated for the Non-Residential Window Film Program since there were no North Carolina participants in the program during 2017.

Q. Does this conclude your prefiled direct testimony?

A. Yes, it does.

BACKGROUND AND QUALIFICATIONS
OF
DEBRA A. STEPHENS

Debra A. Stephens graduated from the Virginia Polytechnic Institute and State University in 1978 with a B.S. in Marketing. She continued her education, completing a Masters in Business Administration from Virginia Polytechnic Institute and State University in 1979. In 1985, after spending five years as a Research Analyst for the Virginia Department of Planning and Budget, Ms. Stephens joined Virginia Electric and Power Company as a Statistical Analyst in the Insurance and Loss Prevention Department. In that capacity, she conducted statistical analyses related to insurance and claims, and participated in a Company-wide assessment of Corporate Risk.

In 1995, Ms. Stephens moved to the Energy Efficiency Department and became part of the Market Research Group. In that position, she worked primarily analyzing non-residential customer data to create a segmentation strategy for these customers. In January 2001, Ms. Stephens joined the Regulatory and Pricing Department as analyst supporting interval customer data. This function was moved to the Metering Department in 2002, along with the supporting staff.

Ms. Stephens returned to the State Regulation Group in 2007 as a Regulatory Analyst III. In 2015, Ms. Stephens was promoted to her current position as a Regulatory Specialist. Her responsibilities include providing support and analysis for the Company's regulatory filings in Virginia and North Carolina. Ms. Stephens has previously presented testimony before the State Corporation Commission of Virginia and the North Carolina Utilities Commission.

COMMISSIONER BROWN-BLAND: Is there anything else from the Company?

MS. KELLS: No, ma'am. Thank you. That concludes our case.

COMMISSIONER BROWN-BLAND: Thank you.

MS. FENNELL: The Public Staff would ask that the testimony prefiled on October 25th consisting of David Williamson consisting of 12 pages and an Appendix A, and the prefiled testimony of Michael Maness consisting of 16 pages and an Appendix A be copied into the record as if given orally from the stand.

COMMISSIONER BROWN-BLAND: There being no objection, that motion will also be allowed and the prefiled testimony of Witnesses Maness and Williamson both will be received into evidence, treated as if given orally from the witness stand, and their Appendices are also received into evidence.

(WHEREUPON, the prefiled direct testimony and Appendix A of DAVID M. WILLIAMSON is copied into the record as if given orally from the stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-22, SUB 556

In the Matter of Application by Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina, for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider under N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69	)))))))	TESTIMONY OF DAVID M. WILLIAMSON On Behalf of the Public Staff – North Carolina Utilities Commission

October 25, 2018

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is David M. Williamson. My business address is 430 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am a Utilities Engineer with the Electric Division of the Public Staff, North Carolina Utilities Commission.

Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.

A. My qualifications and duties are included in Appendix A.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to offer recommendations concerning: (1) the portfolio of demand side management (DSM) and energy efficiency (EE) programs for which Virginia Electric and Power Company (VEPCO), d/b/a Dominion Energy North Carolina (DENC or the Company) is seeking cost recovery through the DSM/EE rider; (2) the cost effectiveness of each DSM and EE program; and (3) the evaluation, measurement, and verification (EM&V) support data for the approved DSM and EE programs.

Q. WHAT STATUTES, COMMISSION RULES, OR ORDERS HAVE YOU REVIEWED IN YOUR INVESTIGATION OF DENC'S PROPOSED DSM/EE RIDER?

A. In preparing my testimony, I reviewed the application, testimony, and exhibits for approval of cost recovery for DSM and EE measures filed by DENC pursuant to N.C. Gen .Stat. § 62-133.9 and Commission Rule R8-69 on August 21, 2018, the DSM/EE cost recovery mechanism approved by the Commission on May 27, 2015 (2015 Mechanism), the DSM/EE cost recovery mechanism approved by the Commission on May 22, 2017 (2017 Mechanism), and responses to Public Staff data requests. I also reviewed the 2018 EM&V Report[1] and previous Commission orders related to the Company's DSM and EE programs and cost recovery rider proceedings. Additionally, I assisted Public Staff witness Michael C. Maness with his review of the rider calculations and inputs underlying the riders proposed by DENC in this proceeding.

[1] "Evaluation, Measurement, and Verification Report for Dominion Virginia Power," dated April 1, 2018, filed in Docket No. E-22, Sub 545 (EM&V Report). The report provides the participation and program savings related to the DSM/EE programs for Dominion Virginia Power (DVP) and DENC through December 31, 2017. DVP and DENC are both business operating names of VEPCO.

Q. PLEASE IDENTIFY THE DSM AND EE PROGRAMS FOR WHICH DENC IS SEEKING COST RECOVERY THROUGH THE DSM/EE RIDER IN THIS PROCEEDING.

A. The Company is seeking recovery of costs and/or utility incentives incurred for the following DSM and EE programs:

- Residential Air Conditioner (AC) Cycling Program (Sub 465)
- Residential Lighting Program (Sub 468)
- Residential Home Energy Check Up Program (Sub 498)
- Residential Duct Testing and Sealing Program (Sub 497)
- Residential Heat Pump Tune-Up Program (Sub 499)
- Residential Heat Pump Upgrade Program (Sub 500)
- Residential Income and Age Qualifying Program (Sub 523)
- Residential Retail LED Lighting Program (Sub 539)
- Commercial Lighting Program (Sub 469)
- Commercial HVAC Upgrade Program (Sub 467)
- Non-Residential Energy Audit Program (Sub 495)
- Non-Residential Duct Testing and Sealing Program (Sub 496)
- Non-Residential Heating and Cooling Efficiency Program (Sub 507)
- Non-Residential Lighting Systems and Controls Program (Sub 508)
- Non-Residential Window Film Program (Sub 509)
- Small Business Improvement Program (Sub 538)
- Non-Residential Prescriptive Program (Sub 543)

Q. HAVE THERE BEEN ANY NEW OR DISCONTINUED PROGRAMS IN THE DENC PORTFOLIO SINCE THE LAST RIDER FILING?

A. Yes. On June 26, 2018, the Commission approved the Company's request to reopen the Residential Income and Age Qualifying Home Improvement Program, effective July 1, 2018.

On October 16, 2018, the Commission approved the Company's requests to close the Non-Residential Window Film Program and the

Residential Retail LED (light emitting diode) Lighting Program, effective December 31, 2018.

On the same day, the Commission approved the Company's requests to operate the Non-Residential Heating and Cooling Efficiency and the Non-Residential Lighting Systems and Controls Programs on a North Carolina-only basis, effective January 1, 2019.

Q. HAS THE COMPANY WORKED WITH THE PUBLIC STAFF TO EVALUATE THE POSSIBILITY OF OFFERING DSM AND EE PROGRAMS ON A NORTH CAROLINA-ONLY BASIS WHEN IT PLANS TO CANCEL THEM IN VIRGINIA?

A. Yes.

Q. HAS THE COMPANY PROPOSED ANY NEW DSM AND EE PROGRAMS?

A. The Company has not proposed any new programs other than those programs approved by the Commission on October 16, 2018. However, on October 3, 2018, the Company filed in its Virginia service territory its annual application for approval of 11 new DSM/EE programs. If approved in Virginia, the Company has indicated that it would petition for approval of these 11 programs[2] in its North Carolina service territory.[3]

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[2] A portion of the proposed 11 programs are already being offered in the Company's North Carolina service territory.
[3] Case No. PUR-2018-00168 filed with the Virginia State Corporation Commission. http://www.scc.virginia.gov/docketsearch#/caseDetails/139129

Q. PLEASE DISCUSS THE AVOIDED COSTS USED TO DETERMINE COST EFFECTIVENESS OF THE PORTFOLIO OF PROGRAMS.

A. The Company attests that that underlying avoided cost sources for the eligible programs are consistent with the most currently approved cost recovery and incentive mechanism dated May 22, 2017, in Docket No. E-22, Sub 464 (Mechanism). Paragraph 19 of the Mechanism states that:

> "For purposes of program approval (new programs or modifications of existing programs submitted pursuant to Commission Rule R8-68), the per kW avoided capacity costs used to calculate cost effectiveness of programs and/or measures shall be determined at the time of DNCP's files its petition for annual cost recovery pursuant to Rule R8-69 and this Mechanism, using comparable methodologies to those used in the most recently approved biennial avoided cost proceeding. The per kWh avoided energy costs shall be those from the recommended or preferred plan reflected in or underlying the most recently filed integrated resource plan."

Through discovery, I was able to identify that the Company used Plan E – Federal CO_2 from its 2018 Integrated Resource Plan (IRP)[4] and 2016 biennial avoided cost proceeding.[5] The Public Staff agrees with the Company's underlying assumptions used to determine the applicable avoided cost rates for energy and capacity and finds that

[4] Docket No. E-100 Sub 157.
[5] Docket No. E-100 Sub 148.

they are consistent with the language of the Mechanism and are appropriate for use in this proceeding.

Q. PLEASE DISCUSS THE COST EFFECTIVENESS OF THE PORTFOLIO OF PROGRAMS.

A. The testimony and exhibits of DENC witness Deanna Kesler present the Company's analysis of cost effectiveness for each program. Company Exhibit DRK-1, Schedule 2, represents the programs eligible for inclusion in the calculation of the Portfolio Performance Incentive (PPI) in the Vintage 2019 rider, and includes the Company's calculations of the Utility Cost (UC) and the Total Resource Cost (TRC) tests. These data points provide a snapshot of program performance that is expected over the rate period. The data also provide a good comparison of the changes in cost effectiveness from year to year. Schedule 2 also provides the UC test benefits, which are used in the determination of the PPI component of rider rates.

On October 8, 2018, the Company filed revised schedules 1, 2, 4, and 7 to Witness Kesler's testimony to correct an error in its analysis. This correction adjusted the Strategist model runs, which are used to calculate on-going cost-effectiveness, to reflect the accurate reserve margin number filed in the 2018 IRP. The correction also adjusted the expenses used on the Company's Air Condition Cycling Program in its 2018 EM&V Report.

With the exception of the Income and Age-Qualifying Program, each program included in revised Schedule 2 is estimated to be cost effective in 2019 under the TRC and UC tests.

Witness Kesler's revised Exhibit DRK-1, Schedule 4, represents the ongoing cost-effectiveness of DSM and EE programs as modeled in the 2018 IRP over the remaining life of each program. This perspective provides the basis for determining which programs should continue to be approved as a DSM or EE program eligible for cost recovery pursuant to the Company's DSM/EE Mechanism. The Company's revised Exhibit DRK-1, Schedule 4, indicates that all programs except for the Income and Age Qualified Home Improvement Program and the Air Conditioner Cycling Program are projected to be cost effective under both the TRC and UC tests.

My review of witness Kesler's calculations of cost-effectiveness indicate that the calculations for Company's revised Exhibit DRK-1, Schedules 2 and 4, have been performed in accordance with the Mechanism.

Q. WHY IS THE AIR CONDITIONING CYCLING PROGRAM NOT COST-EFFECTIVE?

A. Witness Kesler's revised calculations for cost-effectiveness show that the Air Conditioning cycling program is cost-effective under the TRC test, but not under the UC test. The benefits related to the Air Conditioning Cycling program are primarily capacity-related benefits.

These benefits have been significantly impacted by the decreases in the value (dollar per kW) of avoided capacity costs experienced by the Company and other investor-owned utilities in North Carolina. The Public Staff continues to be concerned with the impact of changes in avoided costs on DSM and EE programs, and continues to discuss ways the Company's programs can be modified to compensate for the reduced benefits.

Q. HAVE YOU REVIEWED THE 2018 EM&V REPORT FILED BY DENC?

A. Yes. The Public Staff contracted the services of GDS Associates, Inc. (GDS), to assist it with review of EM&V. With GDS's assistance, I have reviewed the 2018 EM&V Report. This report evaluated the participation and savings for each DSM and EE program approved in both Virginia and North Carolina through December 31, 2017.

I also reviewed previous Commission orders to determine if DENC complied with provisions regarding EM&V contained in those orders.

Q. DID DENC AND ITS EM&V CONSULTANT ADOPT OR INCORPORATE THE PUBLIC STAFFS PREVIOUS EM&V RECOMMENDATIONS?

A. Yes. In the Sub 545 proceeding, the Commission accepted the Public Staff's EM&V-related recommendations and required the Company to make the appropriate changes and corrections to the

Vintage 2016 savings for several programs. Those actions were related to the input data used by the Company's EM&V evaluator to calculate savings. Once the correct savings are calculated, the Company typically adds those corrected savings to the next Vintage, which in this case is Vintage 2017. My review of the savings for Vintage 2017 in this proceeding confirm that the changes and corrections identified by the Public Staff in the Sub 545 proceeding have been incorporated into the Vintage 2017 savings as identified in the 2018 EM&V Report.

Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING THE COMPANY'S 2018 EM&V REPORT?

A. Yes. Based on our review of the 2018 EM&V Report, I propose two adjustments to the Company's Residential Retail LED Lighting program.

The first adjustment is to be made to the Hours-of-Use (HOU) used in the calculation of the Gross Deemed Savings. The Company and the Public Staff have agreed that since various other data assumptions for this program were applied from the Mid-Atlantic Technical Reference Manual (TRM), then the HOU should also be from the Mid-Atlantic TRM. This adjustment will reduce the applied HOU from 2.92 to 2.52.

The second adjustment is to correct the Net-to-Gross (NTG) percentage used in the report. While we were reviewing the report, we noticed that even though the report designates a NTG of 85%, the calculations of the impacts on the underlying data reflected a NTG of 93%. The Company and Public Staff have agreed that it is appropriate to adjust the NTG to 85%.

Therefore, I recommend that the Company update both the HOU and the NTG percentage for this program and apply the impacts to the Experience Modification Factor (EMF) for Vintages 2017 and 2018.

Q. WHAT ARE THE IMPACTS OF YOUR EM&V RECOMMENDATIONS?

A. The impacts of the two recommendations discussed above will reduce the Net Adjusted Savings for the Residential Retail LED Lighting program for Vintages 2017 and 2018. To the extent the changes impact the Vintage 2017 and 2018 savings for the Residential LED Lighting program, those changes should be addressed by the Company in its next DSM/EE rider proceeding in a manner consistent with the Company's practice of adjusting EM&V Vintage savings.

Q. HAS THE COMPANY MADE CORRECTIONS TO THEIR 2018 EM&V REPORT TO INCORPORATE THESE RECOMMENDATIONS?

A. Yes. On October 25, 2018, the Company filed corrections to their May 1, 2018 EM&V report to incorporate our recommendations. With the assistance of GDS, we believe that the Company has adequately applied our recommendations to the 2018 EM&V report.

Q. **HAVE YOU CONFIRMED THAT THE COMPANY'S CALCULATIONS INCORPORATE THE VERIFIED SAVINGS OF THE 2018 EM&V REPORT?**

A. Yes. As in previous cost recovery proceedings, the 2018 EM&V Report provided gross and net savings from the portfolio of programs for the Virginia and North Carolina jurisdictions separately. However, the methodologies and assumptions used in the evaluations of the programs were consistently applied to both jurisdictions. I was able, through sampling, to confirm that the information in the 2018 EM&V Report flows into the PPI calculations of both Riders C and CE, and the net lost revenue calculations included in Rider CE. Based on this information and my observations I believe DENC is appropriately incorporating the results of its EM&V efforts into the DSM/EE rider calculations.

For purposes of this and previous DSM/EE cost recovery proceedings for DENC, the 2018 EM&V Report data used to true up program savings and participation for Vintage Year 2017 and earlier Vintages are sufficient to consider those Vintage years to be complete for all programs operating in those years.

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

A. Yes.

APPENDIX A

DAVID M. WILLIAMSON

I am a 2014 graduate of North Carolina State University with a Bachelor of Science Degree in Electrical Engineering. I began my employment with the Public Staff's Electric Division in March of 2015. My current responsibilities within the Electric Division include reviewing applications and making recommendations for certificates of public convenience and necessity of small power producers, master meters, and resale of electric service; reviewing applications and making recommendations on transmission proposals for certificates of environmental compatibility and public convenience and necessity; and interpreting and applying utility service rules and regulations.

My primary responsibility within the Public Staff is reviewing and making recommendations on DSM/EE filings for initial program approval, program modifications, EM&V evaluations, and on-going program performance of the portfolio of programs of Duke Energy Carolinas, LLC (DEC), Duke Energy Progress, LLC (DEP), and DENC. I filed an affidavit in DEP's 2016 DSM/EE rider proceeding in Docket No. E-2, Sub 1108, and testimony in DEP's DSM/EE rider proceedings in Docket Nos. E-2, Sub 1145 and E-2, Sub 1174, as well as in DEC's 2018 DSM/EE rider proceeding in Docket No. E-7, Sub 1164.

(WHEREUPON, the prefiled direct testimony and Appendix A of MICHAEL C. MANESS is copied into the record as if given orally from the stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-22, SUB 556

In the Matter of Application by Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina, for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider under N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69	)))))	TESTIMONY OF MICHAEL C. MANESS Public Staff – North Carolina Utilities Commission

October 25, 2018

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is Michael C. Maness. My business address is 430 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am the Director of the Accounting Division of the Public Staff – North Carolina Utilities Commission (Public Staff).

Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.

A. A summary of my qualifications and duties is set forth in Appendix A of this testimony.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present my recommendations regarding (1) the prospective Demand-Side Management / Energy Efficiency rider (DSM/EE rider or Rider C) and (2) the DSM/EE Experience Modification Factor rider (DSM/EE EMF rider or Rider CE) proposed by Virginia Electric and Power Company d/b/a Dominion Energy North Carolina (DENC or the Company) in its Application filed in this docket on August 21, 2018.[1] In addition to my filing of this testimony, Public Staff witness David M. Williamson has filed testimony in this proceeding regarding DENC's DSM/EE portfolio (including certain new program approvals and program

[1] Riders C and CE are each comprised of various class-based billing rates.

terminations), the cost-effectiveness of each program, and the 2018 Evaluation, Measurement, and Verification (EM&V) Report, which reported on the results of DENC's programs through December 31, 2017. The DSM/EE and DSM/EE EMF Riders are authorized by N.C. Gen. Stat. § 62-133.9 and implemented pursuant to Commission Rule R8-69.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony begins with a review of the regulatory framework for DSM/EE cost recovery by electric utilities and the historical background of DENC's Application in this docket. I then discuss the Company's proposed billing rates and other aspects of its filing. Following a summary of my investigation, I present my conclusions and recommendations regarding approval of the proposed billing rates making up Riders C and CE.

THE PROCESS FOR SETTING DENC'S DSM/EE REVENUE REQUIREMENTS

Q. PLEASE DESCRIBE THE BASIS FOR THE COMPANY'S FILING.

A. N.C. Gen. Stat. § 62-133.9(d) allows a utility to petition the Commission for approval of an annual rider to recover (1) the reasonable and prudent costs of new DSM and EE measures and (2) other incentives to the utility (utility incentives) for adopting and implementing new DSM and EE measures. However, N.C. Gen.

Stat. § 62-133.9(f) allows industrial and certain large commercial customers to opt out of participating in the power supplier's DSM/EE programs or paying the DSM/EE rider, if an eligible customer notifies its electric power supplier that it has implemented or will implement, at its own expense, alternative DSM and EE measures. Commission Rule R8-69 sets forth the general parameters and procedures governing approval of the annual rider.

In this proceeding, DENC has calculated its proposed Riders C and CE using the Cost Recovery and Incentive Mechanism for Demand-Side Management and Energy Efficiency Programs approved by the Commission in its *Order Approving Revised Cost Recovery and Incentive Mechanism*, issued in Docket No. E-22, Sub 464, on May 22, 2017 (2017 Mechanism). The 2017 Mechanism became effective as of May 22, 2017, for projected costs and utility incentives beginning January 1, 2018, and for true-ups of costs and utility incentives beginning January 1, 2017.[2] The 2017 Mechanism changed the calculation of the bonus incentive approved for inclusion in its DSM/EE and DSM/EE EMF riders from a Program Performance Incentive to a Portfolio Performance Incentive (PPI), as further explained below.

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[2] For the levelization run-out of the trued-up bonus incentives for measures installed or implemented prior to 2017, the Company carried forward those incentives as calculated pursuant mechanisms approved by the Commission in 2015 and 2011.

Q. **PLEASE DESCRIBE THE 2017 MECHANISM AND ITS MAJOR COMPONENTS.**

A. The overall purpose of the 2017 Mechanism is to (1) allow DENC to recover all reasonable and prudent costs incurred for adopting and implementing new DSM and new EE measures; (2) establish the terms, conditions, and methodology for the recovery of certain utility incentives – Net Lost Revenues (NLR) and the PPI - to reward DENC for adopting and implementing DSM and EE measures and programs; (3) provide for an additional incentive to further encourage kilowatt-hour (kWh) savings achievements; and (4) establish certain requirements and guidelines for requests by DENC for approval, monitoring, and management of DSM and EE programs. The 2017 Mechanism includes many provisions that indirectly influence the ratemaking process for DSM and EE costs and utility incentives, including provisions that address program approval and tests of continuing cost-effectiveness, various procedural matters, reporting requirements, and future review of the 2017 Mechanism itself. Additionally, the provisions of the 2017 Mechanism that most directly address the determination of the annual DSM/EE and DSM/EE EMF riders include the following:

1. Special jurisdictional allocation procedures will be evaluated for programs that operate in only either the Virginia or North Carolina retail jurisdictions, or that are limited in their operation in either jurisdiction.

2. In general, DENC shall be allowed to recover, through the DSM/EE and the DSM/EE EMF riders, all reasonable and prudent costs of Commission-approved DSM/EE programs. However, any of the Stipulating Parties may propose a procedure for the deferral and amortization of all or a portion of DENC's non-capital program costs to the extent those costs are intended to produce future benefits. For program costs not deferred for amortization in future DSM/EE riders, the accrual of a return on any under-recoveries or over-recoveries of cost will follow the requirements of Commission Rule R8-69(b), subparagraphs (3) and (6), unless the Commission determines otherwise.

3. DENC shall be allowed to recover net lost revenues (NLR) as a utility incentive (with the exception of those amounts related to research and development or the promotion of general awareness and education of EE and DSM activities), but shall be limited for each measurement unit installed in a given vintage year to those dollar amounts resulting from kilowatt-hour (kWh) sales reductions experienced during the first 36 months after the installation of the measurement unit. NLR related to pilot programs are subject to additional qualifying criteria. Recoverable NLR shall ultimately be based on kWh sales reductions and kilowatt (kW) savings verified through the evaluation, measurement, and verification (EM&V) process and approved by the Commission.

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

5. NLR will be reduced by net found revenues, as defined in the 2017 Mechanism, that occur in the same 36-month period. Net found revenues will be determined according to the "Decision Tree" process included in the 2017 Mechanism.

6. Subject to certain exceptions, DENC shall be allowed to collect a bonus utility incentive, the Portfolio Performance Incentive, for each DSM or EE program approved and in effect during a given vintage year. The Portfolio Performance Incentive is based on the net savings of each program or measure as calculated using the UCT, and is equal to 9.08% of the present value of net savings for DSM programs and measures and 14.76% of the present value of net savings for

EE programs and measures. The 9.08% and 14.76% factors shall be subject to review in each annual rider proceeding to ensure the continued reasonableness of the Portfolio Performance Incentive as a whole. The Portfolio Performance Incentive shall be converted into a stream of no more than 10 levelized annual payments. In determining the initial estimate of the Portfolio Performance Incentive to be included in the DSM/EE rider, DENC may utilize a reasonable and appropriate estimation accomplished by a simpler and conservative method.

7. The per kilowatt (kW) avoided capacity benefits used to calculate net savings for each Program and Vintage Year shall be determined annually by DENC using comparable methodologies to those used in the most recently approved biennial avoided cost proceeding. The per kWh avoided energy benefits used shall be those reflected in or underlying the most recently filed integrated resource plan (IRP). DENC's assumptions used in these methodologies, as well as the methodologies, are subject to the Public Staff's review and acceptance at the time DENC files its petition for annual cost recovery pursuant to Rule R8-69 and this Mechanism. Unless DENC and the Public Staff agree otherwise, DENC shall not be allowed to update its avoided capacity costs and avoided energy costs after filing its petition for its annual cost recovery proceeding pursuant to Rule R8-69 and this Mechanism and prior to the Commission's order establishing the rider for that rate period for purposes of calculating the PPI.

8. The per kW avoided transmission and avoided distribution (avoided T&D) costs used to calculate net savings for a Vintage Year shall be based on a study updated at least every five years, or as appropriate and agreed to by the Company and the Public Staff.

THE COMPANY'S PROPOSED BILLING RATES

Q. PLEASE DESCRIBE THE BILLING FACTORS, VINTAGE YEARS, RATE PERIOD, AND TEST PERIOD BEING CONSIDERED IN THIS PROCEEDING.

A. The rate period proposed by DENC for this proceeding is the twelve-month period from February 1, 2019, through January 31, 2020.

This is the proposed period over which the DSM/EE and DSM/EE EMF riders set herein will be charged. In his testimony, Company witness Hubbard explains that subsequent to the Company's 2017 DSM/EE Rider proceeding, the Company and the Public Staff engaged in discussions that resulted in the Company proposing that the rate periods for the DSM/EE, fuel, and REPS rider proceedings all be changed from beginning each January 1 to beginning one month later. The reason for this change is to lengthen the time in each case for the Commission to issue its final orders and for the Company to finalize the rates approved in the orders. However, in this proceeding, because of the manner in which the Company models annual projected costs, the proposed period for which the estimated costs supporting the DSM/EE rider are determined will remain calendar year 2019.

In order to span the gap between the end of the rate period approved in the 2017 DSM/EE Rider case (December 31, 2018) and the beginning of the rate period proposed in this proceeding (February 1, 2020), for the month of January 2019 DENC is proposing to keep existing Rider C in place (subject to future true-up) and to reduce Rider CE to zero.

The test period applicable to this proceeding (the presumptive period for which the under- or overrecoveries of DSM/EE costs and NLR are measured) is the twelve months ended December 31, 2017.[3] Vintage Years, used for tracking PPI and NLR related to DSM/EE measures installed in those years, correspond to calendar years. In this proceeding, prospective rates are being set for Vintage Year 2019, while Vintage Year 2017 is being trued up.

In its Application, DENC requested approval of class-specific DSM/EE billing rates (Rider C) based on a North Carolina retail revenue requirement of $2,510,301 (excluding any revenue adder for the North Carolina Regulatory Fee (NCRF)). Likewise, the Company requested approval of class-specific decrement DSM/EE EMF billing rates (Rider CE) based on a North Carolina retail true-up revenue requirement increment of $1,839,922, excluding the NCRF. These revenue requirements are made up of the following components, as set forth in the testimony of the DENC witnesses and their accompanying exhibits:

[3] DENC has not requested in this proceeding to incorporate in its DSM/EE EMF rider calculations the under- or overrecovery of DSM/EE costs experienced up to 30 days prior to the hearing, as would be permitted by Commission Rule R8-69(b)(2).

RIDER C

Program costs (including common costs)	$2,207,366
PPI	302,935
Total Rider C revenue requirement	$2,510,301

RIDER CE

Program costs (including common costs)	$ 2,707,087
NLR	375,822
PPI	257,971
Test period Rider C revenues	(1,611,659)
Net rev. req. before carrying costs and int.	1,729,221
Carrying costs	110,700
Interest on EMF refund	0
Total Rider CE revenue requirement	$ 1,839,921[4]

As in the 2014-2017 proceedings, DENC did not request NLR as part of Rider C. Also, consistent with the 2017 Mechanism, the Company calculated the PPI amount included in Rider C using a simplified approach. As explained in the testimony of Company witness Bates and set forth in his exhibits, the Company calculated the estimated PPI for Vintage Year 2019 by adding (a) the verified levelized amounts related to Vintage Years 2017 and prior that are due to be collected in 2019 to (b) a conservative estimate of the levelized PPI amounts related to Vintage Years 2018 and 2019 (2018 is included because the EM&V process for that year has not yet been completed). The 2018 estimate is based on the amount calculated by the Company in the 2017 proceeding for the 2018 rate year. The

[4] Immaterial rounding difference of $1 on Rider CE from amounts shown in witness Stephens' exhibits are due to internal rounding in Company exhibits.

2019 estimate is based on 1.00% (the ratio used in the 2017 proceeding) of the Company's estimates of 2019 DSM/EE operating expenses, with certain programs excluded altogether.

The components of the Company's proposed Rider C and Rider CE revenue requirements were largely calculated by DENC witnesses Bates and Moore, using jurisdictional allocation factors provided by DENC witness Crouch in accordance with the 2017 Mechanism. Witness Crouch indicated in his testimony that he took the jurisdictional revenue requirements and assigned or allocated them to the various North Carolina retail rate classes consistent with the Mechanism.

In her testimony, DENC witness Stephens indicated that she took the class-specific Rider C and Rider CE revenue requirements developed by witness Crouch and converted them into per-kWh billing rates, using projected rate period kWh sales for each customer class, excluding estimated kWh sales related to opted-out customers. The specific billing rates proposed by the Company in its Application are set forth in witness Stephens' exhibits.

INVESTIGATION AND CONCLUSIONS

Q. PLEASE DESCRIBE YOUR INVESTIGATION OF DENC'S FILING.

A. My investigation of DENC's filing in this proceeding focused on determining whether the proposed DSM/EE and DSM/EE EMF billing rates were (a) calculated in accordance with the 2017 Mechanism, and (b) otherwise adhered to sound ratemaking concepts and principles. The procedures I and other members of the Public Staff's Accounting Division acting under my supervision utilized included a review of the Company's filing, relevant prior Commission proceedings and orders, and workpapers and source documentation used by the Company to develop the proposed billing rates. Performing the investigation required the review of responses to written and verbal data requests, as well as discussions with Company personnel. The investigation also included a review of the actual DSM/EE program costs incurred by DENC during the 12-month period ended December 31, 2017. To accomplish this, the Accounting Division selected and reviewed samples of source documentation for test year costs included by the Company for recovery through the DSM/EE Rider. Review of these samples is intended to test whether the actual costs included by the Company in the DSM and EE billing rates are either valid costs of approved DSM and EE programs or administrative (common) costs supporting those programs.

The investigation, including the sampling of source documentation, concentrated primarily on costs and NLR related to the test period, and verified PPIs related to the 2011-2017 period, all of which are to be included in the true-up DSM/EE EMF billing rates approved in this proceeding. A more general review was conducted of the prospective billing rates proposed to be charged for Vintage Year 2017, which are subject to true-up in future proceedings.

Q. WHAT ARE YOUR FINDINGS AND CONCLUSIONS?

A. Based on my investigation, I am of the opinion that the Company has generally calculated its proposed DSM/EE billing rates (included in Rider C) and DSM/EE EMF billing rates (included in Rider CE) in a manner consistent with N.C. Gen. Stat. § 62-133.9, Commission Rule R8-69, and the 2017 Mechanism. The review of sampled program and common costs resulted in no exceptions.

I would like to note the following regarding the Public Staff's investigation:

(1) <u>EM&V Adjustment to Residential Light-Emitting Diode Program (LED Program)</u> – In his testimony, Public Staff witness Williamson has recommended reductions to the Vintage 2017 and Vintage 2018 kWh savings associated with the LED Program, as a result of the Public Staff's review of the Company's 2018 EM&V Report. The adjustment to the Vintage 2018 PPI related to the Vintage 2018 kWh adjustments will be reflected in the 2019 DSM/EE Rider proceeding, as would normally be expected. With regard to the adjustment to the Vintage 2017 PPI, usually the Public

Staff would have the option of recommending this adjustment in the current proceeding, if necessary and appropriate due to materiality, since the initial true-up of the overall 2017 PPI takes place in this proceeding. However (according to Company personnel), due to the specific characteristics of the LED Program, no initial PPI true-up was proposed for that program in this proceeding, and is instead planned to be included in next year's proceeding. Given the relative immateriality of the annual impact on the DSM/EE rider of the PPI associated with the LED Program and the fact that it would result in a rate increase, the Public Staff does not object to the initial true-up of the Vintage 2017 PPI for the LED Program being included in next year's DSM/EE proceeding (with the Public Staff's recommended adjustments).

(2) Internal Audit of Controls over DSM/EE Activities – During the course of the review of program costs, the Public Staff became aware of and reviewed the report on a 2017 internal audit of controls surrounding DENC's DSM/EE rebate and incentive activities, ordered by the Virginia State Corporation Commission (VSCC). The VSCC has ordered that the same type of audit be performed on a biennial basis in the future. I consider such an audit to be a valuable and informative

exercise, and the Public Staff plans to monitor the future audits.

Q. WHAT IS THE IMPACT OF RECOMMENDATIONS MADE BY PUBLIC STAFF WITNESS WILLIAMSON IN HIS TESTIMONY ON YOUR CONCLUSIONS REGARDING THE DSM/EE REVENUE REQUIREMENTS IN THIS PROCEEDING?

A. Public Staff witness Williamson has filed testimony in this proceeding discussing several topics and issues related to the Company's filing. None of these topics and issues necessitates an adjustment in this particular proceeding to the Company's billing factor calculations, although some of the recommendations made by Mr. Williamson may affect the revenue requirements in future proceedings, including the EM&V adjustment discussed previously in my testimony.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING DENC'S BILLING RATES.

A. In summary, the Public Staff has found no errors or other issues necessitating an adjustment to DENC's proposed billing rates in this proceeding.

RECOMMENDATION

Q. WHAT IS YOUR RECOMMENDATION IN THIS PROCEEDING?

A. Based on the results of the Public Staff's investigation, I recommend approval of the Rider C and CE rates as proposed by DENC in its August 21, 2018 Application. The recommended billing rates should be approved subject to any true-ups in future cost recovery proceedings consistent with the 2017 Mechanism, N.C. Gen. Stat. § 62-133.9, Commission Rule R8-69, and future Commission orders. The Public Staff notes that reviewing the calculation of the DSM/EE and DSM/EE EMF riders is a process that involves reviewing numerous assumptions, inputs, and calculations, and its recommendation with regard to this proposed rider is not intended to indicate that the Public Staff will not raise questions in future proceedings regarding the same or similar assumptions, inputs, and calculations.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

APPENDIX A

MICHAEL C. MANESS

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

As Director of the Accounting Division of the Public Staff, I am responsible for the performance, supervision, and management of the following activities: (1) the examination and analysis of testimony, exhibits, books and records, and other data presented by utilities and other parties under the jurisdiction of the Commission or involved in Commission proceedings; and (2) the preparation and presentation to the Commission of testimony, exhibits, and other documents in those proceedings. I have been employed by the Public Staff since July 12, 1982.

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

I have also been involved in several other matters that have come before this Commission, including the investigation undertaken by the Public Staff into the operations of the Brunswick Nuclear Plant as part of the 1993 Carolina Power & Light Company fuel rate case (Docket No. E-2, Sub 644), the Public Staff's investigation of Duke Power's relationship with its affiliates (Docket No. E-7, Sub 557), and several applications for business combinations involving electric utilities regulated by this Commission. Additionally, I was responsible for performing an examination of Carolina Power & Light Company's accounting for the cost of Harris Unit 1 in conjunction with the prudence audit performed by the Public Staff and its consultants in 1986 and 1987.

I have had supervisory or management responsibility over the Electric Section of the Accounting Division since 1986, and also was assigned management duties over the Water Section of the Accounting Division during the 2009-2012 time frame. I was promoted to Director of the Accounting Division in late December 2016.

COMMISSIONER BROWN-BLAND: Is there anything else?

(No response)

The post-hearing filings/proposed orders, is that good, 30 days from today?

MS. KELLS: Yes.

MR. McDONALD: (Nods head in agreement).

MS. FENNELL: Yes.

MR. BREITSCHWERDT: Yes.

COMMISSIONER BROWN-BLAND: Then so ordered. And, if there's nothing else to come before the Commission this morning, everyone's appearances are looking just fine, and we will be adjourned.

(WHEREUPON, the proceedings were adjourned.)

C E R T I F I C A T E

I, KIM T. MITCHELL, DO HEREBY CERTIFY that the Proceedings in the above-captioned matter were taken before me, that I did report in stenographic shorthand the Proceedings set forth herein, and the foregoing pages are a true and correct transcription to the best of my ability.

Kim T. Mitchell

Kim T. Mitchell
Court Reporter