

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-22, SUB 556

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

October 25, 2018

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

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

7 Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.

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

9 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

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

18

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

4 A. In preparing my testimony, I reviewed the application, testimony, and
5 exhibits for approval of cost recovery for DSM and EE measures filed
6 by DENC pursuant to N.C. Gen .Stat. § 62-133.9 and Commission
7 Rule R8-69 on August 21, 2018, the DSM/EE cost recovery
8 mechanism approved by the Commission on May 27, 2015 (2015
9 Mechanism), the DSM/EE cost recovery mechanism approved by
10 the Commission on May 22, 2017 (2017 Mechanism), and responses
11 to Public Staff data requests. I also reviewed the 2018 EM&V
12 Report¹ and previous Commission orders related to the Company's
13 DSM and EE programs and cost recovery rider proceedings.
14 Additionally, I assisted Public Staff witness Michael C. Maness with
15 his review of the rider calculations and inputs underlying the riders
16 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.

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

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

- 6 • Residential Air Conditioner (AC) Cycling Program (Sub 465)
- 7 • Residential Lighting Program (Sub 468)
- 8 • Residential Home Energy Check Up Program (Sub 498)
- 9 • Residential Duct Testing and Sealing Program (Sub 497)
- 10 • Residential Heat Pump Tune-Up Program (Sub 499)
- 11 • Residential Heat Pump Upgrade Program (Sub 500)
- 12 • Residential Income and Age Qualifying Program (Sub 523)
- 13 • Residential Retail LED Lighting Program (Sub 539)
- 14 • Commercial Lighting Program (Sub 469)
- 15 • Commercial HVAC Upgrade Program (Sub 467)
- 16 • Non-Residential Energy Audit Program (Sub 495)
- 17 • Non-Residential Duct Testing and Sealing Program (Sub 496)
- 18 • Non-Residential Heating and Cooling Efficiency Program (Sub
- 19 507)
- 20 • Non-Residential Lighting Systems and Controls Program (Sub
- 21 508)
- 22 • Non-Residential Window Film Program (Sub 509)
- 23 • Small Business Improvement Program (Sub 538)
- 24 • Non-Residential Prescriptive Program (Sub 543)

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

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

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

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

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

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

11 A. Yes.

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

14 A. The Company has not proposed any new programs other than those
15 programs approved by the Commission on October 16, 2018.
16 However, on October 3, 2018, the Company filed in its Virginia
17 service territory its annual application for approval of 11 new
18 DSM/EE programs. If approved in Virginia, the Company has
19 indicated that it would petition for approval of these 11 programs² in
20 its North Carolina service territory.³

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>

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

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

8 “For purposes of program approval (new programs or
9 modifications of existing programs submitted pursuant
10 to Commission Rule R8-68), the per kW avoided
11 capacity costs used to calculate cost effectiveness of
12 programs and/or measures shall be determined at the
13 time of DNCP’s files its petition for annual cost recovery
14 pursuant to Rule R8-69 and this Mechanism, using
15 comparable methodologies to those used in the most
16 recently approved biennial avoided cost proceeding.
17 The per kWh avoided energy costs shall be those from
18 the recommended or preferred plan reflected in or
19 underlying the most recently filed integrated resource
20 plan.”

21 Through discovery, I was able to identify that the Company used Plan
22 E – Federal CO₂ from its 2018 Integrated Resource Plan (IRP)⁴ and
23 2016 biennial avoided cost proceeding.⁵ The Public Staff agrees
24 with the Company’s underlying assumptions used to determine the
25 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.

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

3 **Q. PLEASE DISCUSS THE COST EFFECTIVENESS OF THE**
4 **PORTFOLIO OF PROGRAMS.**

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

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

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

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

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

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

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

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

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

10 A. Yes. The Public Staff contracted the services of GDS Associates,
11 Inc. (GDS), to assist it with review of EM&V. With GDS's assistance,
12 I have reviewed the 2018 EM&V Report. This report evaluated the
13 participation and savings for each DSM and EE program approved
14 in both Virginia and North Carolina through December 31, 2017.
15 I also reviewed previous Commission orders to determine if DENC
16 complied with provisions regarding EM&V contained in those orders.

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

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

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

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

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

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

22 The second adjustment is to correct the Net-to-Gross (NTG)
23 percentage used in the report. While we were reviewing the report,

1 we noticed that even though the report designates a NTG of 85%,
2 the calculations of the impacts on the underlying data reflected a
3 NTG of 93%. The Company and Public Staff have agreed that it is
4 appropriate to adjust the NTG to 85%.

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

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

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

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

21 A. Yes. On October 25, 2018, the Company filed corrections to their
22 May 1, 2018 EM&V report to incorporate our recommendations. With

1 the assistance of GDS, we believe that the Company has adequately
2 applied our recommendations to the 2018 EM&V report.

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

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

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

Q2 DOES THIS CONCLUDE YOUR TESTIMONY?

A23 Yes.

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.