

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-22, SUB 676

November 7, 2023

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**
) **TOMMY WILLIAMSON, JR.**
) **PUBLIC STAFF –**
) **NORTH CAROLINA**
) **UTILITIES COMMISSION**
)

1 **Q. Please state your name, business address, and present**
2 **position.**

3 A. My name is Tommy Williamson, Jr. My business address is 430
4 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am
5 a Utilities Engineer with the Energy Division of the Public Staff –
6 North Carolina Utilities Commission (Public Staff).

7 **Q. Briefly state your qualifications and duties.**

8 A. My qualifications and duties are attached as 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) and
12 energy efficiency (EE) programs for which Virginia Electric and
13 Power Company, d/b/a Dominion Energy North Carolina (DENC or
14 the Company), is seeking cost recovery through its annual DSM/EE
15 rider in this proceeding; (2) the cost-effectiveness of the Company's
16 DSM and EE programs; and (3) the evaluation, measurement, and
17 verification (EM&V) support data for the approved DSM and EE
18 programs.

19 **Q. What did you review in your investigation of DENC's proposed**
20 **DSM/EE rider?**

21 A. During my investigation, I reviewed (1) the application, testimony,
22 and exhibits for approval of cost recovery for DSM and EE measures

1 filed by DENC on August 15, 2023, pursuant to N.C. Gen. Stat. § 62-
2 133.9 and Commission Rule R8-69; (2) the Company's DSM/EE cost
3 recovery mechanism approved by the Commission in Docket No. E-
4 22, Sub 464 on March 22, 2022 (2022 Mechanism); (3) responses to
5 Public Staff data requests and follow-up conference calls with
6 Company personnel; (4) DENC's 2022 EM&V Report filed on June
7 15, 2023, in Docket No. E-22, Sub 645 (2023 EM&V Report), which
8 provides the participation and program savings related to the
9 Company's DSM/EE programs through December 31, 2022; and (5)
10 previous Commission orders related to the Company's DSM/EE
11 programs and cost recovery rider proceedings.

12 **Q. Please identify the DSM and EE programs for which DENC is**
13 **seeking cost recovery through the DSM/EE rider in this**
14 **proceeding.**

15 A. The Company is seeking recovery of costs incurred and utility
16 incentives for the DSM and EE programs shown in Table 1, below.
17 Table 1 includes both active and retired programs. Retired programs
18 remain eligible for cost recovery of amortized costs that were
19 generated while the programs were offered to North Carolina
20 customers.

Table 1 – DSM and EE Programs Seeking Recovery

Prgm. Sub	Focus	DSM Phase	Program Name
465	Res	1	Residential Air Conditioner Cycling
523	Res	4	Income and Age Qualifying Home Improvement
538	Non-Res	5	Non-Residential Small Business Improvement
543	Non-Res	6	Non-Residential Prescriptive
567	Res	7	Residential Home Energy Assessment
568	Res	7	Residential Efficient Products Marketplace
569	Res	7	Residential Appliance Recycling
570	Non-Res	7	Non-Residential Window Film
571	Non-Res	7	Non-Residential Small Manufacturing
572	Non-Res	7	Non-Residential Office
574	Non-Res	7	Non-Residential Heating and Cooling Efficiency
591	Non-Res	8	Non-Residential New Construction
592	Res	8	Residential EE Kits
593	Res	8	Residential Home Retrofit
594	Res	8	Residential Smart Thermostat (DR)
595	Res	8	Residential Smart Thermostat (EE)
596	Non-Res	8	Non-Residential Small Business Improvement Enhanced
608	Res	9	Residential Income and Age Qualifying
614	Non-Res	9	Non-Residential Building Automation
615	Non-Res	9	Non-Residential Building Optimization
616	Non-Res	9	Non-Residential Engagement
617	Non-Res	9	Non-Residential Enhanced Prescriptive
618	Res	9	Residential Smart Home
619	Res	9	Residential Virtual Audit
620	Res	9	Residential Water Savings (DR)
621	Res	9	Residential Water Savings (EE)
666	Non-Res	10	Non-Residential Lighting Systems and Controls

1 **Q. Have any new programs been added to the DENC portfolio since**
2 **the last rider proceeding?**

3 A. Yes. The most recent addition to the Company's EE portfolio as
4 identified in Table 1, above, is the Non-Residential Lighting Systems
5 and Controls program (Phase X).

6 Additionally, the Company, in its Virginia service territory, has been
7 given recent approval by the Virginia State Corporation Commission
8 (VSCC) for its Phase XI programs.¹ These Phase XI programs are
9 not included in this year's North Carolina rider application; however,
10 if these programs are filed with, and receive approval from, the North
11 Carolina Utilities Commission (Commission), the programs will be
12 included in the Company's future North Carolina DSM/EE rider
13 applications.²

14 **Q. Has DENC discontinued any programs in its DSM/EE portfolio**
15 **since the last rider proceeding?**

16 A. Yes. The Commission approved the Company's request to close the
17 Residential Air Conditioning Cycling Program on March 3, 2023, in
18 Docket No. E-22, Sub 465.

¹ See the VSCC's Final Order entered on August 4, 2023, in Docket No. PUR-2022-00210.

² The Public Staff has confirmed with DENC that page 14, lines 3-4 of witness Hubbard's direct testimony contains typos. The year 2022 should be replaced with 2023 and the year 2023 should be replaced with 2024. As corrected, the Company intends to file for approval of Phase XI programs in the fourth quarter of 2023 or first quarter of 2024, with programs open for participation by Summer 2024.

1 **Q. Does the Company intend to close any programs in its portfolio**
2 **in the near future?**

3 A. Yes. In an effort to streamline the portfolio, the Company proposed
4 to bundle several programs together in its Phase XI proceeding in
5 Virginia. A proposal to close the following programs and combine
6 them with similarly aligned measures in an appropriate program
7 bundle was approved in Virginia: Phase VII Residential Home
8 Energy Assessment, Residential Efficient Products Marketplace,
9 Non-Residential Window Film, Non-Residential Heating and Cooling
10 Efficiency, Small Manufacturing, and the Phase IX Residential
11 Income and Age Qualifying program. In a discussion with the
12 Company, the Public Staff learned that DENC intends to make a
13 similar proposal in North Carolina in the fourth quarter of 2023.

14 The Company also proposed, and received approval in Virginia, to
15 close (1) the Phase VII Appliance Recycling program, as the program
16 is no longer cost-effective; and (2) the Phase VII Small Office
17 program, as its measures will be included in the Phase IX
18 Optimization program. The Company has indicated to the Public
19 Staff that it intends, in the near future, to request Commission
20 approval for closure of these two programs in North Carolina,
21 effective in the fourth quarter of 2023 or first quarter of 2024.

1 **Q. Please discuss the avoided costs used to determine cost-**
2 **effectiveness of the Company's portfolio of programs.**

3 A. The Company attests that the underlying avoided cost sources for
4 the eligible programs are consistent with the 2022 Mechanism.
5 Paragraph 19 of the 2022 Mechanism states that:

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

19 Through discovery, the Company stated that its assumptions
20 associated with resource and supply costs are consistent with the
21 assumptions used in its 2022 IRP filed on September 1, 2022, in
22 Docket No. E-100, Sub 182, and approved by the Commission on
23 October 18, 2023, for the calculations of its avoided capacity and
24 energy costs. The Public Staff verified this consistency as part of its
25 investigation in this proceeding.

1 **Q. Please discuss the cost-effectiveness of the portfolio of**
2 **programs.**

3 A. The testimony and exhibits of witness Hall present the Company's
4 analysis of cost-effectiveness for each program. Company Exhibit
5 EJV-1, Schedule 2, represents the programs eligible for inclusion in
6 the calculation of the Portfolio Performance Incentive (PPI) in the
7 Vintage 2024 rider, and includes the Company's calculations of the
8 Utility Cost Test (UCT) and the Total Resource Cost (TRC) test.
9 These data points provide a snapshot of program performance
10 expected over the rate period, as well as a comparison of the
11 changes in cost-effectiveness from year to year. Schedule 2 also
12 provides the UCT benefits, which are used in the determination of
13 the PPI component of rider rates.

14 Company Exhibit EJV-1, Schedule 2, shows that six of the individual
15 Vintage 2024 programs³ are projected not to be cost-effective under
16 the UCT. However, the Vintage 2024 Portfolio demonstrates cost-
17 effectiveness under the UCT and TRC.

18 Witness Hall's Exhibit EJV-1, Schedule 4, in accordance with
19 Ordering Paragraph 41 of the 2022 Mechanism, represents the
20 prospective cost-effectiveness results of DSM and EE programs as

³ Non-Residential Small Business Improvement Enhanced, Residential Income and Age Qualifying, Residential Water Savings (DR), Residential EE Kits, Residential Smart Thermostat (EE), and Residential Smart Home.

1 modeled by the Company's 2022 IRP over the remaining life of each
2 program. This perspective provides the basis for determining which
3 programs should continue to be offered as DSM or EE programs
4 eligible for cost recovery pursuant to the 2022 Mechanism.

5 **Q. Do you have any observations based on this recent history of**
6 **the cost-effectiveness tests?**

7 A. Yes. My review of witness Hall's calculations of cost-effectiveness
8 indicates that the calculations for the Company's Exhibit EJM-1,
9 Schedules 2 and 4, have been performed in accordance with the
10 2022 Mechanism. Schedule 2 provides UCT and TRC results for the
11 vintage year inclusive of the stated future life of the program.
12 Schedule 4 provides UTC and TRC results that use the same future
13 life of each program and adds the historical costs and benefits if the
14 program has been implemented for at least 12 months. Exhibits 1
15 and 2 of my testimony show the Program and Portfolio UCT results
16 from Schedules 2 and 4, respectively, beginning with the Company's
17 2018 DSM/EE Rider proceeding (Docket No. E-22, Sub 545) through
18 the current proceeding. Williamson Exhibits 1 and 2 demonstrate
19 that, with the exception of Vintage 2021, the Company's Portfolio
20 UCT results have been cost-effective since Vintage 2018.

21 With regard to the six individual Vintage 2024 programs mentioned
22 above that are not cost-effective, the Public Staff notes that three

1 were not cost-effective for the first time (Residential Smart
2 Thermostat - EE, Residential Smart Home, and Residential Water
3 Savings - DR). These programs were impacted by higher commodity
4 prices and the lower value of capacity in PJM Interconnection LLC,
5 the regional transmission operator of which DENC is a member.
6 DENC is currently planning to replace the Residential Smart
7 Thermostat – EE program in Virginia. If a cost-effective replacement
8 program is found and approved in Virginia, then a cost-effective
9 program will be filed for approval in North Carolina as well. The
10 Residential Water Savings – DR program has been impacted by a
11 slower than expected rollout of technical enhancements for pool
12 pump equipment. The Residential Smart Home Program has
13 recently seen more participants as awareness has increased, which
14 will hopefully improve cost-effectiveness.

15 Two programs were not cost-effective for the second year in a row
16 (Residential EE Kits and Non-Residential Small Business
17 Improvement Enhanced). The Public Staff discussed with DENC the
18 Company’s analysis concerning why these programs are not cost-
19 effective and the Company’s efforts to make the programs cost-
20 effective going forward. Concerning the Residential EE Kits
21 Program, DENC experienced a slower enrollment start than
22 expected. Recently, the Company added flexibility to allow
23 customers to select particular measures that are more applicable to

1 their individual circumstances. According to DENC, this has led to an
2 increase in enrollments in recent months, which the Company
3 anticipates will make the program more cost-effective. The Company
4 will continue to monitor measure selection flexibility to achieve a
5 higher level of enrollments.

6 The Company stated that the Non-Residential Small Business
7 Improvement Enhanced program has experienced higher annual
8 savings than modeled (approximately 8700 kWh per year versus
9 8200 kWh per year). However, those savings have been impacted
10 by higher-than-expected commodity prices that are outside of the
11 Company's control and higher free ridership than modeled (26%
12 experienced versus 7% estimated).⁴ The Company will continue to
13 monitor the program.

14 The remaining program that is not currently cost-effective is a low-
15 income program and, thus, is not necessarily expected to be cost-
16 effective pursuant to Paragraph 52 of the 2022 Mechanism.⁵

⁴ Free Ridership is a component in the calculation of the net-to-gross ratio (NTG). As free ridership percentage increases, the NTG ratio decreases.

⁵ Paragraph 52 of the 2022 Mechanism states that "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."

1 **Q. Have you reviewed the 2023 EM&V report filed by DENC?**

2 A. Yes. The Public Staff contracted the services of GDS Associates,
3 Inc. (GDS) to assist with its review of EM&V. With GDS's assistance,
4 I have reviewed the 2023 EM&V Report. This report evaluated the
5 participation and savings for each DENC DSM/EE program
6 approved in both Virginia and North Carolina through December 31,
7 2022. However, for the purposes of this proceeding, GDS focused
8 exclusively on the North Carolina programs.

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

11 **Q. Do you recommend any adjustments to the Company's 2022**
12 **EM&V report?**

13 A. No. Based on the Public Staff's review, I do not propose any
14 adjustments to the Company's 2023 EM&V Report.

15 **Q. Have you confirmed that the Company's calculations**
16 **incorporate the verified savings of the 2023 EM&V report?**

17 A. Yes. As in previous cost recovery proceedings, the 2023 EM&V
18 Report provided gross and net savings from the portfolio of programs
19 for the Virginia and North Carolina jurisdictions, separately. The
20 methodologies and assumptions used in the evaluations of the
21 programs were consistently applied to both jurisdictions. Through a
22 meeting with the Company and additional sampling, I was able to

1 confirm that the information contained in the Company's 2023 EM&V
2 Report flows into the PPI calculations of both Riders C and CE, and
3 into the Net Lost Revenue calculations included in Rider CE. Based
4 on this information and my observations, I believe DENC is
5 appropriately incorporating the results of its EM&V efforts into the
6 DSM/EE rider calculations.

7 For purposes of this and previous DSM/EE cost recovery
8 proceedings for DENC, the 2023 EM&V Report data used to true up
9 program savings and participation for Vintage 2020 and earlier
10 Vintages are sufficient to consider those Vintage years to be
11 complete for all programs operating in those years.

12 **Q. Does this conclude your testimony?**

13 **A.** Yes.

TOMMY WILLIAMSON, JR.

I am an Engineer with the Public Staff's Energy Division. I graduated from North Carolina State University with a Bachelor of Science Degree in Electrical Engineering. I have approximately three years of electrical distribution design and construction experience with Florida Power & Light Company. During that time, I designed distribution circuits for overhead and underground services from the substation through to end users. This design work was inclusive of, but not limited to: customer load analysis; feeder line loading analysis; facilities construction; and installation. I then served for 11 years as an Engineer with General Electric Company. In this role, I represented General Electric with electrical design engineers, industrial and commercial end customers, and installation contractors to develop technical specifications for the procurement and use of electrical distribution equipment.

Since joining the Public Staff in 2016, I have reviewed electric customer complaints including, but not limited to: quality of service; new service line extensions and vegetation management; electric and gas utility transmission and distribution construction projects; vegetation management procedures; and small generator interconnection applications. I have also filed testimony in electric utility general rate cases, North Carolina Interconnection Procedures, and DSM/EE Rider proceedings.

Company Exhibit EJH-1, Schedule 2 - Vintage Year UCT													
Prgm. Sub	Focus	DSM Phase	Program Name	Prgm. Life	Docket	545	556	577	589	604	645	676	
					Vintage Year	2018	2019	2020	2021	2022	2023	2024	
465	Res	1	Residential Air Conditioner Cycling	15		0.73	0.59	0.49					
523	Res	4	Income and Age Qualifying Home Improvement	15		0.19	0.19	0.16	0.16				
538	Non-Res	5	Non-Residential Small Business Improvement	14		0.80	0.96	1.42	1.04	1.05			
543	Non-Res	6	Non-Residential Prescriptive	6		1.97	1.98	2.00	0.09	0.31			
567	Res	7	Residential Home Energy Assessment	12				1.45	1.98	0.83	3.46		
568	Res	7	Residential Efficient Products Marketplace	16				4.65	0.00	3.61	4.00		
569	Res	7	Residential Appliance Recycling	8				0.99	0.71	0.60	0.66		
570	Non-Res	7	Non-Residential Window Film	10				2.00	1.28	0.26	0.43		
571	Non-Res	7	Non-Residential Small Manufacturing	12				1.44	0.99	1.08	2.07		
572	Non-Res	7	Non-Residential Office	7				1.12	1.50	0.17	0.18		
574	Non-Res	7	Non-Residential Heating and Cooling Efficiency	15			2.26	3.11	6.24	5.03	10.23		
591	Non-Res	8	Non-Residential New Construction	20						0.84	1.27	1.48	
592	Res	8	Residential EE Kits	15						1.35	0.46	0.26	
593	Res	8	Residential Home Retrofit	24						0.89	2.12	2.58	
594	Res	8	Residential Smart Thermostat (DR)	10						3.77	2.55	1.50	
595	Res	8	Residential Smart Thermostat (EE)	10						0.95	2.69	0.69	
596	Non-Res	8	Non-Residential Small Business Improvement Enhanced	11						1.03	0.53	0.57	
608	Res	9	Residential Income and Age Qualifying	11							0.05	0.64	
614	Non-Res	9	Non-Residential Building Automation	20							3.29	3.42	
615	Non-Res	9	Non-Residential Building Optimization	7							1.49	6.32	
616	Non-Res	9	Non-Residential Engagement	7							0.88	1.04	
617	Non-Res	9	Non-Residential Enhanced Prescriptive	6							0.93	1.83	
618	Res	9	Residential Smart Home	11							1.43	0.55	
619	Res	9	Residential Virtual Audit	17							2.71	3.91	
620	Res	9	Residential Water Savings (DR)	12							1.26	0.27	
621	Res	9	Residential Water Savings (EE)	12							2.17	1.17	
666	Non-Res	10	Non-Residential Lighting Systems and Controls	11			4.11	2.18	1.08	2.72		3.01	
			PORTFOLIO	20		3.96	1.19	2.42	0.33	2.05	2.01	1.61	

Company Exhibit EJH-1, Schedule 4 - Prospective UCT												
Prgm. Sub	Focus	DSM Phase	Program Name	Prgm. Life	Docket	545	556	577	589	604	645	
					Vintage Year	2018	2019	2020	2021	2022	2023	
465	Res	1	Residential Air Conditioner Cycling	15		0.72	0.60	0.70	0.01			
523	Res	4	Income and Age Qualifying Home Improvement	15		0.21	0.22	0.19	0.58	1.36		
538	Non-Res	5	Non-Residential Small Business Improvement	14			1.05	1.43	2.08	1.62		
543	Non-Res	6	Non-Residential Prescriptive	6				2.33	0.20	1.19		
567	Res	7	Residential Home Energy Assessment	12						0.70	3.48	
568	Res	7	Residential Efficient Products Marketplace	16						4.43	5.02	
569	Res	7	Residential Appliance Recycling	8							0.70	
570	Non-Res	7	Non-Residential Window Film	10						0.22	0.38	
571	Non-Res	7	Non-Residential Small Manufacturing	12							1.89	
572	Non-Res	7	Non-Residential Office	7							0.22	
574	Non-Res	7	Non-Residential Heating and Cooling Efficiency	15		27.37	2.12				9.76	
591	Non-Res	8	Non-Residential New Construction	20							1.06	
592	Res	8	Residential EE Kits	15							0.51	
593	Res	8	Residential Home Retrofit	24							1.87	
594	Res	8	Residential Smart Thermostat (DR)	10							1.48	
595	Res	8	Residential Smart Thermostat (EE)	10								
596	Non-Res	8	Non-Residential Small Business Improvement Enhanced	11							0.54	
608	Res	9	Residential Income and Age Qualifying	11							0.04	
614	Non-Res	9	Non-Residential Building Automation	20							2.57	
615	Non-Res	9	Non-Residential Building Optimization	7							1.49	
616	Non-Res	9	Non-Residential Engagement	7							0.89	
617	Non-Res	9	Non-Residential Enhanced Prescriptive	6							0.96	
618	Res	9	Residential Smart Home	11							1.67	
619	Res	9	Residential Virtual Audit	17							2.48	
620	Res	9	Residential Water Savings (DR)	12							2.37	
621	Res	9	Residential Water Savings (EE)	12							2.60	
573	Non-Res	10	Non-Residential Lighting Systems and Controls	11		3.12	4.03			2.78		
			PORTFOLIO	20		2.86	1.15	1.16	0.98	2.47	1.63	

CERTIFICATE OF SERVICE

I certify that I have served a copy of the foregoing on all parties of record or to the attorney of record of such party in accordance with Commission Rule R1-39, by United States mail, postage prepaid, first class; by hand delivery; or by means of facsimile or electronic delivery upon agreement of the receiving party.

This the 7th day of November, 2023.

Electronically submitted
/s/Nadia L. Luhr