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2021 FEB 03

February 3, 2021

By Hand

Hon. Bernard J. Logan, Clerk
State Corporation Commission
Document Control Center
Tyler Building - First Floor
1300 East Main Street
Richmond, Virginia 23219-4074

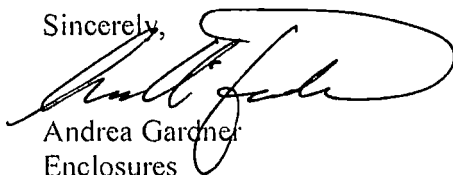
**Re: Application of Central Virginia Electric Cooperative
For Approval and Certification of Electric Facilities
Gladstone to Tower Hill 138kV Transmission Line Rebuild Project
Case No. PUR-2021-00016**

Dear Mr. Logan

Enclosed for filing in the above-captioned proceeding please find an unbound original and fifteen (15) bound copies of the application for approval of electric facilities on behalf of Central Virginia Electric Cooperative (the "Cooperative"). This filing contains the Application, Direct Testimony, Appendix, and DEQ Supplement, including attachments.

As indicated in Section II.A.12.b of the Appendix, three (3) color copies of the map of the Virginia Department of Transportation "General Highway Map" for Appomattox County and Nelson County were hand delivered to the Commission's Division of Energy Regulation today. The Cooperative also will provide the Division of Energy Regulation electronic access to the digital geographic information system map required by § 56-46.1 of the Code of Virginia, which is Exhibit II.A.2 to the Appendix.

Sincerely,



Andrea Gardner
Enclosures

cc: William H. Chambliss, Esq.
C. Meade Browder, Jr., Esq.

COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

APPLICATION OF
CENTRAL VIRGINIA ELECTRIC COOPERATIVE

FOR APPROVAL AND CERTIFICATION
OF ELECTRIC FACILITIES

Gladstone to Tower Hill 138kV Transmission Line Rebuild Project

Case No. PUR-2021-00016

Filed: February 3, 2021

Volume 1 of 2
Application, Testimony, Appendix & Appendix Attachments

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Attachments

210210110
Application

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF)
)
 CENTRAL VIRGINIA)
 ELECTRIC COOPERATIVE)
)
)
 For approval and certification of electric)
 Transmission and Associated Facilities:)
 Gladstone to Tower Hill 138kV)
 Transmission Line Rebuild)

CASE NO. PUR-2021-00016

APPLICATION FOR APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION AND ASSOCIATED FACILITIES

Pursuant to § 56-46.1 of the Code of Virginia (“Code”) and the Utility Facilities Act, Code § 56-265.1 *et seq.*, Central Virginia Electric Cooperative (“CVEC” or the “Cooperative”), by counsel, files with the State Corporation Commission of Virginia (the “Commission”), this application for approval and certification of electric transmission and associated facilities (the “Application”). In support of this Application, CVEC states as follows:

1. CVEC is a member-owned, electric distribution cooperative that provides retail electric service to over 36,000 accounts in its certificated service territory in portions of 14 Virginia counties: Albemarle, Amherst, Appomattox, Augusta, Buckingham, Campbell, Cumberland, Fluvanna, Goochland, Greene, Louisa, Nelson, Orange, and Prince Edward. CVEC’s principle offices are located at 800 Cooperative Way, Arrington, Virginia 22922.
2. CVEC’s existing transmission system in the project area receives service by a 46kV transmission line from Appalachian Power Company (“APCo”), an affiliate of American

Electric Power (“AEP”). As part of PJM’s ongoing Regional Transmission Expansion Plan study process, AEP identified thermal and voltage violations of the AEP transmission reliability criteria on several 46kV sub-transmission facilities. To address the thermal and voltage violations, AEP proposed transmission improvement projects, which include the retiring of the existing 46kV transmission line currently serving CVEC, and construction of a new 138kV transmission line to the Cooperative’s Gladstone substation delivery point. APCo has filed an application for Commission approval of these improvement projects in Case No. PUR-2021-00001. It is necessary, therefore, for CVEC to make certain upgrades to its transmission system to take delivery from AEP’s upgraded 138kV line. In addition, the existing Gladstone to Tower Hill 46kV line is a 55-year-old wood pole transmission line that must be rebuilt as it is at the end of its service life. Accordingly, CVEC will rebuild the Gladstone to Tower Hill transmission line and upgrade it from 46kV to 138kV as well as perform minor upgrades to its Gladstone and Tower Hill substations that are required to take delivery from AEP’s upgraded 138kV line (the “Gladstone Rebuild Project”).

3. CVEC’s in-service date must coincide with AEP’s schedule in order to accept the 138kV delivery when the proposed AEP transmission line upgrade is complete and energized. The proposed in-service date of the Gladstone Rebuild Project is therefore currently anticipated to be no later than December 2025. CVEC anticipates, however, that it could have the Gladstone Rebuild Project constructed and ready to be energized by December 2023. The estimated conceptual cost of the Gladstone Rebuild Project is approximately \$8,790,000, which includes \$5,170,000 for transmission-related work and \$3,620,000 for substation-related work (2021 dollars). The Gladstone Rebuild Project is described in detail in Sections I and II of the Appendix attached to this Application.

4. The existing right-of-way for the Gladstone to Tower Hill transmission line is adequate to construct the Gladstone Rebuild Project. Accordingly, CVEC intends to rebuild the line entirely within that existing right-of-way and did not consider alternative routes. The Gladstone Rebuild Project is located entirely within CVEC's certified service territory with approximately 3.1 miles of the 6.3 Gladstone to Tower Hill transmission line located in Nelson County and approximately 3.2 miles in Appomattox County. Utilizing existing right-of-way will minimize impact to historic places, landmarks, wildlife and recreational lands, and prime or scenic timbered areas. The impact of the Gladstone Rebuild Project on scenic, environmental, and historical features is described in detail in Section III of the Appendix.

5. CVEC's consultant, Booth and Associates LLC ("Booth") has developed a supplement ("DEQ Supplement") to facilitate the review and analysis of the Virginia Department of Environmental Quality ("DEQ") and other relevant agencies of the Gladstone Rebuild Project. The DEQ Supplement is attached to this Application.

6. Section V of the Appendix provides a proposed route description for public notice purposes and a list of federal, state, and local agencies and offices that the Cooperative has or will notify about the Application.


7. In addition to the information provided in the Appendix and the DEQ Supplement, this Application is supported by the pre-filed direct testimony of Cooperative witnesses Bruce Maurhoff, Briana D. Eddy, and Gracyn S. Bancroft.

WHEREFORE, Central Virginia Electric Cooperative respectfully requests that the Commission: (i) direct that notice of this Application be given as required by § 56-46.1 of the Code of Virginia; (ii) approve pursuant to § 56-46.1 of the Code of Virginia the construction of the Gladstone Rebuild Project; and (iii) grant a certificate of public convenience and necessity

for the Gladstone Rebuild Project under the Utility Facilities Act, § 56-265.1 *et seq.* of the Code of Virginia.

Respectfully submitted,

CENTRAL VIRGINIA
ELECTRIC COOPERATIVE

By: 

Counsel

February 3, 2021

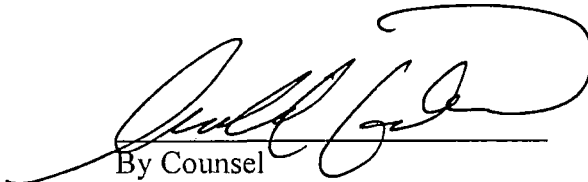
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CERTIFICATE OF SERVICE

I hereby certify that on this 3rd day of February 2021, a true copy of the foregoing Application of Central Virginia Electric Cooperative was delivered by electronic mail to the following:

William H. Chambliss, Esq.
Office of General Counsel
State Corporation Commission
Tyler Building, 10th Floor
1300 E. Main Street
Richmond, Virginia 23219

C. Meade Browder, Jr., Esq.
Division of Consumer Counsel
Office of Attorney General
202 N. 9th Street
Richmond, Virginia 23219


By Counsel

210210116

Direct Testimony

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Bruce Maurhoff

Title: Senior Vice-President and Chief Officer

Summary:

Cooperative witness Bruce Maurhoff is sponsoring Section I and Section V of the Appendix, which provides justification for and detailed descriptions of the Gladstone Rebuild Project. He also sponsors Section V of the Appendix which addresses notice requirements for the Gladstone Rebuild Project.

- Section I.A: this section addresses the primary justification for the Gladstone Rebuild Project.
- Section I.B: this section details the engineering justifications for the Gladstone Rebuild Project.
- Section I.C: this section discusses electrical load demand requirements.
- Section I.D: this section addresses contingency situations.
- Section I.E: this section describes feasible project alternatives.
- Section I.F: this section addresses facilities to be removed or replaced.
- Section I.G: this section includes system maps.
- Section I.H: this section addresses the desired in-service date and estimated construction timeline.
- Section I.I: this section provides estimated costs.
- Section I.J: this section details approvals by the RTO.
- Section I.K: this section addresses outage history.
- Section I.L: this section addresses structure and equipment deterioration.
- Section I.M: this section addresses transmission lines interconnecting a non-utility generator.
- Section I.N: this section addresses generating sources to be served by new ground facilities.
- Section V.A: this section describes the proposed route to be used for public notice purposes.
- Section V.B: this section details where members of the public may inspect the Application.
- Section V.C: this section lists the agencies that may have an interest in the Gladstone Rebuild Project.

210210116

**DIRECT TESTIMONY
OF
BRUCE MAURHOFF
ON BEHALF OF CENTRAL VIRGINIA ELECTRIC COOPERATIVE
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2021-00016**

1 **Q. Please state your name, business address and position with Central Virginia Electric**
2 **Cooperative.**

3 A. My name is Bruce Maurhoff. I am Senior Vice-President and Chief Operating Officer for
4 Central Virginia Electric Cooperative (“CVEC” or the “Cooperative”). My business
5 address is Post Office Box 247, Lovingson, VA 22949

6 **Q. Please describe your areas of responsibility with CVEC.**

7 A. I am responsible for the oversight of the engineering, operations, and information
8 technology departments as well as activities associated with the planning of wholesale
9 power supply resources. I direct the departments in the planning, installation, operation
10 and maintenance of the transmission, distribution, communication, network and control
11 systems. I plan the research, evaluation, and consideration of wholesale power supply
12 resources and the development of practices, procedures, policies, and resources for CEO
13 and board approval to enable the efficient operation of the departments and the
14 procurement of economical power supply resources.

15 **Q. Please describe your professional experience and educational background.**

16 A. I received a Bachelor of Science Degree in Electrical Engineering from Grove City
17 College in 1986. I hold certification as a registered professional engineer in the state of
18 Georgia and the Commonwealth of Virginia. I have more than 30 years of experience in
19 the engineering, planning, and operation functions of a distribution electric cooperative. I

1 have more than 20 years of management experience. From 1987 to 1997, I worked for
2 Mitchell Electric Membership Corporation in Camilla, Georgia where I was responsible
3 for the implementation of communication, load management and control systems, and the
4 supervision of system planning, metering, field engineering, contracting, and apparatus
5 maintenance.

6 In 1997, I was hired as an electrical engineer for CVEC. I performed system
7 planning studies, addressed power quality concerns, and managed projects for the
8 implementation of communications and control systems. In 1999, I was promoted to
9 Planning Engineering Manager. In 2001, I became Engineering Manager of a combined
10 planning engineering and field engineering department, during which time I was
11 responsible for the business functions of metering, mapping, system control, system
12 planning, field engineering, apparatus maintenance, and load management. In 2008, I
13 was promoted to Vice President of Engineering and Operations, and was responsible for
14 providing direction to the Engineering and Operations departments. I became involved in
15 power supply planning and retail rate design. In 2011, my job functions changed as the
16 Vice President of Power Supply and Engineering. In addition to providing direction to
17 the Engineering departments, I have a lead role in the planning of wholesale power
18 supply procurement and providing information and options for CEO and Board
19 consideration. In 2014, I was promoted to Senior Vice President and Chief Operating
20 Officer leading the information technology, engineering, and operation departments in
21 addition to managing power supply.

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

2 A. The purpose of my testimony is to describe the CVEC’s transmission system in the area
3 of the proposed project and the need for, and benefits of, the proposed Gladstone Rebuild
4 Project. I also address the notice requirements for the Gladstone Rebuild Project. I am
5 sponsoring Section I and Section V of the Appendix.

6 Q. **Please explain the Cooperative’s proposed project.**

7 A. The Gladstone Rebuild Project is necessary to rebuild and upgrade the Cooperative’s
8 Gladstone to Tower Hill transmission line from 46kV to 138kV and to make necessary
9 upgrades at the Gladstone and Tower Hill Substations to take delivery from Appalachian
10 Power Company (“APCo”), an affiliate of American Electric Power (“AEP”). This
11 transmission line currently receives transmission service by an AEP 46kV transmission
12 line. AEP is a member of the regional transmission organization PJM Interconnection
13 L.L.C. (“PJM”). As part of PJM’s ongoing Regional Transmission Expansion Plan study
14 process, AEP identified thermal and voltage violations of the AEP transmission reliability
15 criteria on several 46 kV sub-transmission facilities. To address the thermal and voltage
16 violations, AEP proposed transmission improvement projects, which include the retiring
17 of the existing 46kV line serving CVEC, and construction of a new 138kV transmission
18 line to the Gladstone substation delivery point. As a result, CVEC must make
19 appropriate upgrades to its system to take delivery from AEP at 138 kV. Further, the
20 existing Gladstone to Tower Hill 46kV line providing service to the Gladstone and Tower
21 Hill substations is a 55-year-old wood pole transmission line in need of update as the
22 assets are at the end of their service life. CVEC will rebuild the line at 138kV and make

1 necessary upgrades at its Gladstone and Tower Hill Substations to take delivery from
2 AEP at 138kV.

3 **Q. Has the Company complied with Va. Code §15.2-2202 E?**

4 A. Yes. The Cooperative delivered letters to the County Administrators for Appomattox
5 County and Nelson County on January 8, 2021. These letters are included as Attachment
6 V.D to the Appendix.

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

8 A. Yes.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Briana D. Eddy

Title: General Manager Support Services

Summary:

Cooperative witness Briana D. Eddy is sponsoring Section III and Section IV of the Appendix, which details the impact of the Gladstone Rebuild Project on scenic, environmental, and historic features and the health aspects of electromagnetic fields (“EMF”). Ms. Eddy is also sponsoring the DEQ Supplement provided as part of the Cooperative’s Application.

- Section III.A: this section describes the character of the area that will be traversed.
- Section III.B: this section describes any public meetings or outreach efforts with neighborhood associations and/or officials of local, state or federal governments in which the Company has engaged.
- Section III.C: this section details whether any buildings will be demolished or relocated if the Gladstone Rebuild Project is built as proposed.
- Section III.D: this section identifies existing physical facilities that the line will parallel, if any, and describes the characteristics and length of the right-of-way (“ROW”).
- Section III.E: this sections details investigation into land use plans in the areas of the proposed route.
- Section III.F: this section addresses the Gladstone Rebuild Project’s impact on important farmlands, if any.
- Section III.G: this section identifies the historic features that lie within or adjacent to the proposed ROW.
- Section III.H: this section identifies any registered aeronautical facilities that might be affected by the Gladstone Rebuild Project.
- Section III.I: this section identifies any scenic byways that are in proximity to or that will be crossed by the proposed transmission line.
- Section III.J: this section identifies coordination with appropriate municipal, state, and federal agencies.
- Section III.K: this section identifies coordination with any non-governmental organizations or private citizen groups.
- Section III.L: this section identifies any environmental permits or special permissions anticipated to be needed.
- Section IV: this section details the health aspects of electromagnetic fields.

**DIRECT TESTIMONY OF
BRIANA D. EDDY
ON BEHALF OF
CENTRAL VIRGINIA ELECTRIC COOPERATIVE
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2021-00016**

1 **Q. Please state your name, business address and position of employment.**

2 A. My name is Briana D. Eddy, General Manager, Support Services for Booth & Associates,
3 LLC (“Booth”). My business address is 5811 Glenwood Avenue, Suite 109, Raleigh,
4 North Carolina, 27612.

5 **Q. Please describe your areas of responsibility with Booth.**

6 A. As General Manager, I provide direct supervision of the Permitting, Survey and GIS Group
7 at Booth. This includes management of the design group in preparation of various utility
8 encroachments and environmental permits, management of Erosion and Sedimentation
9 Control and Storm Water Plans, and management of the required Army Corps of Engineer
10 documents for all applicable transmission/distribution, renewables and substation projects. I
11 also am responsible for project coordination with regulatory agency personnel and engineering
12 project managers.

13 **Q. Please describe your professional experience and educational background.**

14 A. My professional experience begins after obtaining my Bachelor’s of Science degree in
15 Geoenvironmental Studies at Shippensburg University of Pennsylvania in 1997. I
16 worked as an office manager for a general practice attorney in Harrisburg, Pennsylvania
17 for several years, including while I attended school at Thompson Institute to obtain an
18 Associates in Specialized Technology in Computer-Aided Drafting. While working with

1 the attorney I had the opportunity to work with deeds and legal descriptions while
2 assisting with property closings. In 2003 I obtained the design degree from Thompson
3 Institute and transitioned from working from the attorney to being a designer at Brinjac
4 Engineering in Harrisburg, Pennsylvania.

5 While working for Brinjac Engineering, I handled the drawings and documents needed to
6 permit land-disturbing projects with the PADEQ, PennDOT and Army Corp. I also
7 handled the GIS mapping and drafting for planning and engineering projects. In August
8 of 2008 I transferred to North Carolina and began my work with Booth and Associates
9 LLC. Just before this I had obtained my Penn State University master's degree First Year
10 Certificate in Geographical Information Systems (GIS).

11 During my initial years at Booth I handled the permitting reports, documentation and
12 drafting for all the land-disturbing projects, including for DEQ and DOT projects in
13 Virginia and other states. In 2014, I added staff to the permitting group and began to act
14 as project manager for permitting and civil/site design and now head up a larger group of
15 engineers and technicians. I am familiar with the permitting requirements for this project
16 and have been involved in coordination from the beginning of project planning.

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

18 A. The purpose of my testimony is to provide an overview of the environmental impacts of,
19 and associated permitting and agency outreach for, the Cooperative's proposed Gladstone
20 Rebuild Project. I am sponsoring Section III and Section IV of the Appendix. I am also
21 sponsoring the DEQ Supplement provided as part of the Cooperative's Application.

- 1 Q. Does this conclude your pre-filed direct testimony?
- 2 A. Yes.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Gracyn S. Bancroft, P.E. PMP

Title: Transmission Engineering Project Engineer

Summary:

Cooperative witness Gracyn S. Bancroft is sponsoring Section II.A, Section II.B, and Section II.C of the Appendix, which provides an overview of the design and engineering of the Gladstone Rebuild Project.

- Section II.A.1: this section details the length of the proposed corridor and viable alternatives.
- Section II.A.2: this section includes maps that show the route of the Gladstone Rebuild Project and its relation to other public utilities, transportation features and other facilities.
- Section II.A.3: this section includes a map of the ROW of the Gladstone Rebuild Project.
- Section II.A.4: this section addresses routes outside the existing ROW.
- Section II.A.5: this section details the ROW cross section.
- Section II.A.6: this section addresses portions of the ROW subject to existing easements.
- Section II.A.7: this section details the proposed ROW clearing methods to be used and the ROW restoration and maintenance practices planned.
- Section II.A.8: this section addresses the permitted uses of the proposed ROW.
- Section II.A.9: this section describes the Company's route selection procedures.
- Section II.A.10: this section describes the Company's construction plans for the Gladstone Rebuild Project.
- Section II.A.11: this section details how construction of the Gladstone Rebuild Project follows the provisions discussed in Attachment I of the SCC Guidelines.
- Section II.A.12: this section details the counties and localities through which the Gladstone Rebuild Project will pass and includes general highway maps.
- Section II.B.1: this section details the proposed circuits.
- Section II.B.2: this section details the configuration of the proposed conductors.
- Section II.B.3: this section details the proposed supporting structures over each portion of the ROW.
- Section II.B.4: this section addresses the supporting structures for all feasible alternate routes.
- Section II.B.5: this section provides mapping that shows existing and proposed structure heights for each individual structure within the ROW, as proposed.
- Section II.B.6: this section provides photographs for typical existing and proposed facilities.
- Section II.C: this section describes any substations, switching stations, and other ground facilities associated with the Gladstone Rebuild Project.

210210116

**DIRECT TESTIMONY OF
GRACYN S. BANCROFT, P.E., PMP
ON BEHALF OF
CENTRAL VIRGINIA ELECTRIC COOPERATIVE
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2021-XXXXX**

1 **Q. Please state your name, business address and position of employment.**

2 A. My name is Gracyn S. Bancroft, P.E., PMP. I am a Transmission Engineering Project
3 Engineer for Booth & Associates, LLC (“Booth”). My business address is 5811 Glenwood
4 Avenue, Suite 109, Raleigh, North Carolina, 27612.

5 **Q. Please describe your areas of responsibility with Booth.**

6 A. Sure. As a transmission project engineer specializing in civil engineering activities
7 associated with transmission and distribution line design, I am responsible for the design
8 of new lines, line replacements, and transmission with distribution underbuild for various
9 projects ranging from 34.5kV to 345kV throughout the United States. I also provide
10 overall project management and coordinate scheduling of permitting, design, material
11 deliveries, and construction.

12 **Q. Please describe your professional experience and educational background.**

13 A. I received a Bachelor of Engineering degree from Vanderbilt University in Nashville, TN.
14 I have my Professional Engineer’s license and maintain licensure in the Commonwealth of
15 Virginia, among other states. I have also earned a Project Management Professional license
16 from the Project Management Institute. I have practiced in the transmission line and utility
17 industry for over 8 years, which includes the wide variety of voltages noted, in locations
18 across the United States.

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

2 A. The purpose of my testimony is to provide an overview of the design and engineering of
3 the Cooperative's proposed Gladstone Rebuild Project. Specifically, I am sponsoring
4 Sections II of the Appendix.

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

6 A. Yes.