

MATTHEW P. PRITTS
(540) 983-7619
pritts@woodsrogers.com

January 26, 2021

VIA HAND DELIVERY

Mr. Bernard J. Logan
State Corporation Commission
Document Control Center
Tyler Building
1300 East Main Street
Richmond, VA 23219

SCC CLERK'S OFFICE
DOCUMENT CONTROL CENTER
2021 JAN 26 A 11:10

**Re: Central Virginia Transmission Reliability Project
SCC Case No. PUR-2021-00001**

Dear Mr. Logan:

Appalachian Power Company (the "Company") has prepared a four volume Application for approval and certification of the Central Virginia Transmission Reliability Project, including direct testimony, Response to Guidelines, Siting Studies, VDEQ Supplements, and related tables, exhibits, attachments and maps, including certain confidential exhibits.

I enclose for filing with this letter an original and fifteen copies of Volumes 1, 2 and 3 of the Application. Please note that certain exhibits in the filing are confidential, and therefore slip sheets have been inserted in the filing to show where these confidential exhibits would appear. Under separate cover, we will be filing under seal an original and fifteen copies of Volume 4, which consists only of these confidential exhibits. The Company is also filing today under separate cover a Motion for Protective Ruling.

Under separate cover, we have delivered to the Commission Staff today three copies of the Virginia Department of Transportation county road maps for Albemarle, Amherst, Appomattox, Campbell, and Nelson Counties, in response to Section II.A.12. of the Commission Staff's "Guidelines for Transmission Line Applications Filed under Title 56 of the Code of Virginia" (the "Guidelines"). A reduced copy of the highway maps are included as Exhibit 8 to the Application.

Access to an electronic copy of the non-confidential volumes of the Application, direct testimony, Response to Guidelines, siting studies, VDEQ Supplements, related tables, exhibits, attachments and maps (including the digital geographic information system map required by Virginia Code §56-46.1), is being provided to Commission Staff via the Company's iManage site.

P.O. Box 14125, Roanoke, Virginia 24038-4125
10 S. Jefferson Street, Suite 1800, Roanoke, Virginia 24011
P (540) 983-7600 • F (540) 983-7711

www.woodsrogers.com

Charlottesville • Lynchburg • Richmond • Roanoke

210130210

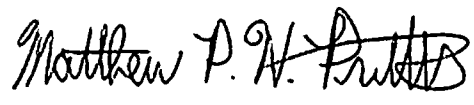
Bernard J. Logan
January 26, 2021
Page 2

Members of the public may inspect a copy of the non-confidential Volumes 1, 2 and 3 of the Application and related materials at the locations listed in the response to Section V.B. of the Guidelines, as well as on the Internet at: www.aeptransmission.com/virginia/CVTRP/.

Please contact me if you have any questions regarding this filing. Thank you for your assistance in this matter.

Very truly yours,

WOODS ROGERS PLC



Matthew P. Pritts

MPP:ed
Enclosures

- c: C. Meade Browder, Esq., Division of Consumer Counsel, Office of the Attorney General (w/encl.)
- William H. Chambliss, Esq., SCC General Counsel (w/encl.)
- Julia Wellman, Envir. Impact Coordinator, VDEQ (submitted via electronic upload)

210130210

APPALACHIAN POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2021-00001

APPLICATION FOR APPROVAL AND CERTIFICATION OF
ELECTRICAL TRANSMISSION LINE

Central Virginia Transmission
Reliability Project

VOLUME 1 OF 4

Application, Testimony, Response to Guidelines &
Exhibits

January 2021

APPALACHIAN POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2021-00001

APPLICATION FOR APPROVAL AND CERTIFICATION OF
ELECTRICAL TRANSMISSION LINE

Central Virginia Transmission
Reliability Project

VOLUME 1 OF 4

Application, Testimony, Response to Guidelines &
Exhibits

January 2021

VOLUME 1 - Application, Testimony, Response to Guidelines & Exhibits

LIST OF EXHIBITS, MAPS & ATTACHMENTS

GLOSSARY OF TERMS & ABBREVIATIONS

EXECUTIVE SUMMARY

APPLICATION

TESTIMONY

Direct Testimony of Nicolas C. Koehler, P.E. (Project Need)

Direct Testimony of Mary Jane L. McMillen, P.E. (Transmission Line Engineering)

Direct Testimony of J. Kelly Bledsoe, P.E. (Substation Engineering)

Direct Testimony of Xin Liu, P.E. (EMF)

Direct Testimony of Emily S. Larson (Environmental Analysis and Route Development)

RESPONSE TO GUIDELINES

Section I: Necessity for the Proposed Project

Section II: Description of the Proposed Project

Section III: Impact of Line on Scenic, Environmental, and Historic Features

Section IV: Health Aspects of Electromagnetic Fields ("EMF")

Section V: Notice

EXHIBITS

VOLUME 2 – Siting Studies

JOSHUA FALLS – RIVERVILLE – GLADSTONE 138 KV TRANSMISSION LINES SITING
STUDY

AMHERST – REUSENS 69 KV TRANSMISSION LINE REBUILD SITING STUDY

VOLUME 3 – VDEQ Supplements

JOSHUA FALLS – RIVERVILLE – GLADSTONE 138 KV VDEQ SUPPLEMENT

JAMES RIVER 138 KV SUBSTATION VDEQ SUPPLEMENT

SOAPSTONE 138 KV SUBSTATION VDEQ SUPPLEMENT

AMHERST – REUSENS 69 KV REBUILD VDEQ SUPPLEMENT

VOLUME 4 – Confidential Appendix

LIST OF FIGURES AND ATTACHMENTS

LIST OF EXHIBITS, MAPS & ATTACHMENTS

VOLUME 1

EXHIBITS

- 1 PROJECT AREA MAP
- 2 LETTERS OF SUPPORT (GREIF AND CVEC)
- 3 GEOGRAPHICAL COMPONENTS MAP
- 4 COMPONENT 1: JOSHUA FALLS - RIVERVILLE - GLADSTONE 138 KV TRANSMISSION LINE GIS CONSTRAINTS MAPS
- 5 COMPONENT 2: JAMES RIVER 138 KV SUBSTATION GIS CONSTRAINTS MAP
- 6 COMPONENT 3: SOAPSTONE 138 KV SUBSTATION GIS CONSTRAINTS MAP
- 7 COMPONENT 4: AMHERST - REUSENS 69 KV TRANSMISSION LINE REBUILD GIS CONSTRAINTS MAPS
- 8 VDOT GENERAL HIGHWAY MAPS AND EXISTING TRANSMISSION FACILITIES
- 9 138 KV SINGLE CIRCUIT H-FRAME
- 10 138 KV SINGLE CIRCUIT THREE POLE STRUCTURE WITH GUY WIRES
- 11 138 KV SINGLE CIRCUIT LATTICE TOWER
- 12 138 KV SINGLE CIRCUIT MONOPOLE DEAD-END (DIRECT EMBED WITH GUY WIRES)
- 13 138 KV SINGLE CIRCUIT MONOPOLE DEAD-END (PIER FOUNDATION)
- 14 138 KV DOUBLE CIRCUIT MONOPOLE WITH DAVIT ARMS
- 15 69 KV SINGLE CIRCUIT H-FRAME (EXISTING ROW AND STRUCTURE)
- 16 69 KV SINGLE CIRCUIT H-FRAME
- 17 69 KV SINGLE CIRCUIT THREE POLE WITH GUY WIRES
- 18 69 KV SINGLE CIRCUIT BRACED MONOPOLE
- 19 69 KV SINGLE CIRCUIT MONOPOLE WITH GUY WIRES
- 20 69 KV SINGLE CIRCUIT MONOPOLE SELF SUPPORTING
- 21 138 KV SINGLE CIRCUIT MONOPOLE WITH BRACED POSTS

LIST OF EXHIBITS, MAPS & ATTACHMENTS

- 22 69KV/138 KV DOUBLE CIRCUIT LATTICE TOWER (JAMES RIVER CROSSING)
- 23 EXISTING AMHERST - REUSENS 69 KV TRANSMISSION LINE STRUCTURE PHOTOGRAPHS (TO BE REMOVED)
- 24 VISUAL SIMULATIONS
- 25 IMPROVEMENTS AT RIVERVILLE 138 KV SUBSTATION
- 26 PROPOSED FIVE FORKS SWITCH
- 27 PROPOSED JAMES RIVER 138 KV SUBSTATION
- 28 PROPOSED SOAPSTONE 138 KV SUBSTATION
- 29 IMPROVEMENTS AT MONROE 69 KV SUBSTATION
- 30 IMPROVEMENTS AT AMHERST 69 KV SUBSTATION
- 31 IMPROVEMENTS AT SCOTTSVILLE 138 KV SUBSTATION
- 32 IMPROVEMENTS AT BOXWOOD 138 KV SUBSTATION
- 33 IMPROVEMENTS AT JOSHUA FALLS 138 KV SUBSTATION
- 34 IMPROVEMENTS AT CLIFFORD 138 KV SUBSTATION
- 35 PUBLIC NOTICE MAP
- 36 OPEN HOUSE PHOTOGRAPHS

VOLUME 2

JOSHUA FALLS – RIVERVILLE – GLADSTONE 138 KV SITING STUDY

ATTACHMENT A: MAPS

- Map 1. Central Virginia Transmission Reliability Project Overview
- Map 2. Study Area
- Map 3. Routing Concepts
- Map 4. Study Segment Network
- Map 5. Refined Study Segment Network

LIST OF EXHIBITS, MAPS & ATTACHMENTS

- Map 6. Joshua Falls – Riverville 138 kV Alternative Routes (Aerial)
- Map 7. Joshua Falls – Riverville 138 kV Alternative Routes (USGS)
- Map 8. Gladstone – Riverville 138 kV Alternative Routes (Aerial)
- Map 9. Gladstone – Riverville 138 kV Alternative Routes (USGS)
- Map 10. Geological, Soil, and Water Resources
- Map 11. Land Use
- Map 12. Cultural Resources
- Map 13. Alternative Route A Viewshed
- Map 14. Alternative Route B Viewshed
- Map 15. Alternative Route C Viewshed
- Map 16. Alternative Route D Viewshed
- Map 17. Alternative Route E Viewshed
- Map 18. Alternative Route F Viewshed
- Map 19. Proposed Route (Aerial)
- Map 20. Proposed Route (USGS)

ATTACHMENT B: GIS DATA SOURCES

ATTACHMENT C: AGENCY CORRESPONDENCE

ATTACHMENT D: USFWS IPAC REPORT

AMHERST – REUSENS 69 KV TRANSMISSION LINE REBUILD SITING STUDY

ATTACHMENT A: MAPS

- Map 1. Central Virginia Transmission Reliability Project Overview Map
- Map 2. Study Area and Focus Areas
- Map 3. Routing Concepts and Study Segments
- Map 4. Rebuild Route and Alternative Routes

LIST OF EXHIBITS, MAPS & ATTACHMENTS

Map 5. Land Use

Map 6. Proposed Route

ATTACHMENT B. GIS DATA SOURCES

ATTACHMENT C. AGENCY CORRESPONDENCE

ATTACHMENT D. IPAC REPORT

VOLUME 3

JOSHUA FALLS – RIVERVILLE – GLADSTONE 138 KV TRANSMISSION LINE VDEQ
SUPPLEMENT

ATTACHMENT 2.E.1: DESKTOP WETLAND AND STREAM DELINEATION REPORT

ATTACHMENT 2.F.1: HAZARDOUS WASTE INFORMATION

ATTACHMENT 2.G.1: VDWR RESOURCES

ATTACHMENT 2.I.1: VDHR PRE-APPLICATION ANALYSIS

JAMES RIVER 138 KV SUBSTATION VDEQ SUPPLEMENT

ATTACHMENT 2.B.1: VDCR AGENCY LETTER RESPONSE

ATTACHMENT 2.E.1: WETLAND AND STREAM DELINEATION REPORT

ATTACHMENT 2.F.1: HAZARDOUS WASTE INFORMATION

ATTACHMENT 2.G.1: USFWS IPAC REPORT

ATTACHMENT 2.G.3: VDWR RESOURCES

ATTACHMENT 2.I.1: VDHR PRE-APPLICATION ANALYSIS

SOAPSTONE 138 KV SUBSTATION VDEQ SUPPLEMENT

ATTACHMENT 2.B.1: VDCR AGENCY LETTER RESPONSE

ATTACHMENT 2.E.1: WETLAND AND STREAM DELINEATION REPORT

ATTACHMENT 2.F.1: HAZARDOUS WASTE INFORMATION

ATTACHMENT 2.G.1: USFWS IPAC REPORT

LIST OF EXHIBITS, MAPS & ATTACHMENTS

ATTACHMENT 2.G.3: VDWR RESOURCES

ATTACHMENT 2.I.1: VDHR PRE-APPLICATION ANALYSIS

AMHERST – REUSENS 69 KV REBUILD VDEQ SUPPLEMENT

ATTACHMENT 2.E.1: DESKTOP WETLAND AND STREAM DELINEATION REPORT

ATTACHMENT 2.F.1: HAZARDOUS WASTE INFORMATION

ATTACHMENT 2.G.1: VDWR RESOURCES

ATTACHMENT 2.I.1: VDHR PRE-APPLICATION ANALYSIS

VOLUME 4

- FIGURE 2a -C ONE-LINE DRAWING OF EXISTING SYSTEM
- FIGURE 2b -C ONE-LINE DRAWING OF PROPOSED SYSTEM
- EXHIBIT 25-C ONE-LINE DRAWING OF RIVERVILLE 138 KV SUBSTATION
- EXHIBIT 26-C ONE-LINE DRAWING OF THE PROPOSED FIVE FORKS SWITCH
- EXHIBIT 27-C ONE-LINE DRAWING OF THE PROPOSED JAMES RIVER 138 KV
SUBSTATION
- EXHIBIT 28-C ONE-LINE DRAWING OF THE PROPOSED SOAPSTONE 138 KV
SUBSTATION
- EXHIBIT 29-C ONE-LINE DRAWING OF THE IMPROVEMENTS AT MONROE 69 KV
SUBSTATION
- EXHIBIT 30-C ONE-LINE DRAWING OF THE IMPROVEMENTS AT AMHERST 69 KV
SUBSTATION
- EXHIBIT 31-C ONE-LINE DRAWING OF THE IMPROVEMENTS AT SCOTTSVILLE 138 KV
SUBSTATION
- EXHIBIT 32-C ONE-LINE DRAWING OF THE IMPROVEMENTS AT BOXWOOD 138 KV
SUBSTATION
- EXHIBIT 33-C ONE-LINE DRAWING OF THE IMPROVEMENTS AT JOSHUA FALLS 138
KV SUBSTATION
- EXHIBIT 34-C ONE-LINE DRAWING OF THE IMPROVEMENTS AT CLIFFORD 138 KV
SUBSTATION

GLOSSARY OF TERMS

Central Virginia Transmission
Reliability Project

138 kV Siting Study	The siting study for the proposed new transmission lines from Joshua Falls to Gladstone.
ACSR	Aluminum Conductor Steel Reinforced
AEP	American Electric Power Company, Inc.(parent company of Appalachian)
AEP Criteria	The transmission reliability criteria defined in AEP's FERC Form 715 filing.
AEPSC	American Electric Power Service Corporation
APCo	Appalachian Power Company (a unit of AEP)
Appalachian	Appalachian Power Company (a unit of AEP)
Application	Collectively refers to the application requesting Commission approval for the proposed Project, together with all of the supporting testimony, Response to Guidelines, Siting Studies, VDEQ Supplements, tables, exhibits, attachments, figures and maps, etc.
BMP	Best Management Practice
CIR	Color Infrared aerial imagery
CMI	Customer Minutes of Interruptions
Company	Appalachian Power Company (a unit of AEP)
CPCN	Certificate of Public Convenience and Necessity
CR	County Road
CVEC	Central Virginia Electric Cooperative
CVTRP	Central Virginia Transmission Reliability Project
DCR	Virginia Department of Conservation and Recreation
DEM	Digital Elevation Model
DICM	Drop-In Control Module
DNH	Virginia Division of Natural Heritage
DOF	Virginia Department of Forestry (VDOF)
EMF	Electric and Magnetic Fields
EMF RAPID	Electric and Magnetic Fields Research and Public Information Dissemination
EPRI	Electric Power Research Institute
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHA	Federal Highway Administration of the United States Department of Transportation
GIS	Geographic Information System
GOAB	Gang Operated Air Brake
Hz	Herz
IARC	International Agency for Research on Cancer
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEEE	Institute of Electrical and Electronics Engineers
kV	Kilovolt (1,000 volts)
kV/m	Kilovolt/Meter (a unit of measurement for electric fields)
LiDAR	Light Detection and Ranging imagery
Line	Transmission Line or Power Line

**Central Virginia Transmission
Reliability Project**

GLOSSARY OF TERMS

Load Area	The load area depicted on Figure 1 in Section I of the Response to Guidelines representing an aggregate load of approximately 40 MW and comprising parts of Amherst, Nelson and Albemarle Counties.
mG	Milligauss (a unit of measurement for magnetic fields)
MOAB	Motor-operated air-breaker (switches)
MVA	mega volt ampere
MVA _r	mega volt amps reactive
MW	Milliwatt
NERC	North American Electric Reliability Corporation
NESC	National Electrical Safety Code
NHD	National Hydrography Dataset
NHP	Natural Heritage Program of the VDCR
NIEHS	National Institute of Environmental Health Services
NLCD	National Land Cover Database
NPL	National Priority List (maintained by USEPA)
NRCS	National Resources Conservation Service of the United States Department of Agriculture
NRHP	National Register of Historic Places
NUG	Non-Utility Generator
NWI	National Wetlands Inventory (maintained by the USFWS)
OPGW	Optical Ground Wire
PJM	PJM Interconnection, L.L.C. - the RTO that coordinates the movement of wholesale electricity in parts of the Northeast, Mid-Atlantic and Midwest.
POWER	POWER Engineers, Inc.
Project	The proposed new transmission lines, new substations, substation improvements, transmission line rebuild, and other proposed work detailed in Section I of the Response to Guidelines.
RCRA	Resource Conservation and Recovery Act Information System (maintained by USEPA)
Response to Guidelines	Response to "Guidelines of Minimum Requirements for Transmission Line Applications Filed under Title 56 of the Code of Virginia."
Rebuild Siting Study	The Siting Study for the proposed rebuild of the Amherst – Reusens 69 kV Transmission Line
ROW	Right-of-Way
ROWs	Rights-of-Way
RTO	Regional Transmission Organization
RTEP	Regional Transmission Expansion Plan
SCC	Virginia State Corporation Commission
SCENIHR	Scientific Committee on Emerging and Newly Identified Health Risks
Siting Team	A multidisciplinary team of experts in transmission line routing, impact assessment for a wide variety of natural resources and the human environment, impact mitigation, engineering, and construction management
Supplemental Work	See page 4, Section I, Response to Guidelines
TRI	Toxics Release Inventory (maintained by USEPA)

GLOSSARY OF TERMS

210130210

USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
USGS	United States Geological Survey
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDEQ Supplement	The analysis included in Volume 3 of this application, which addresses the environmental and historic features associated with the Project.
VDWR	Virginia Department of Wildlife Resources
VDH	Virginia Department of Health
VDHR	Virginia Department of Historic Resources
VDMME	Virginia Department of Mines, Minerals and Energy
VDOA	Virginia Department of Aviation
VDOF	Virginia Department of Forestry
VDOT	Virginia Department of Transportation
VMRC	Virginia Marine Resources Commission
VOF	Virginia Outdoors Foundation
VPDES	Virginia Pollutant Discharge Elimination System
VRP	VDEQ's Voluntary Remediation Program
WHO	World Health Organization

Executive Summary

In order to maintain and improve the reliability of electric service to customers in its service territory, Appalachian Power Company (“Appalachian” or “Company”) is seeking permission to: (a) build a new 11.1 mile long 138 kV transmission line from the Company’s Joshua Falls Substation to its Riverville Substation (the “Joshua Falls–Riverville 138 kV transmission line”); (b) build a new 6.3 mile long 138 kV transmission line from the Company’s Riverville Substation to Central Virginia Electric Cooperative’s (“CVEC”) Gladstone Substation (the “Gladstone–Riverville 138 kV transmission line”); (c) build two new 138 kV substations (the “James River 138 kV Substation” and the “Soapstone 138 kV Substation”) and associated transmission line extensions; (d) expand and/or improve the Company’s Riverville, Monroe, Amherst, Boxwood, Scottsville, Clifford and Joshua Falls Substations; (e) rebuild approximately 12.2 miles of the Amherst–Reusens 69 kV transmission line; and (f) install and/or upgrade other related transmission line, substation, telecommunication, and distribution facilities (collectively, the “Project”). See Exhibit 1 for a general map of the Project components, Exhibits 4 to 7 for detailed maps of the Project components, and Section I of the Response to Guidelines for a detailed description of the Project components.

The Project will address projected winter peak 2022/23 thermal and voltage violations of applicable transmission planning criteria and will provide a reinforced power supply to support electrical demand in the load area served by the Company in Amherst, Nelson and Albemarle Counties. The Project is needed to address reliability criteria violations and asset renewal needs on the existing 46 kV and 69 kV transmission system serving the Project area, and will result in the replacement of much of the existing 46 kV transmission system (built in the 1920’s) with a more robust 138 kV system to provide reliable service to customers in the area.

The proposed in-service date for the Project is December 1, 2025. If the Commission approves the Project, the Company estimates that it will need approximately four years after entry of the Commission’s final approving order for engineering, design, right-of-way acquisition, permitting, material procurement and construction to place the Project in service. Operational contingencies will be used temporarily to address any potential real-time issues between projected violations and estimated in-service date.

The transmission line components of the proposed 138 kV transmission lines will be built within new 100-foot-wide rights-of-way (“ROWS”), primarily using single circuit steel H-frame and 3-pole structures. The anticipated heights of the proposed 138 kV transmission line structures range between 55 and 100 feet, with an average structure height of approximately 70 feet. The anticipated James River crossing structure heights of the proposed 138 kV transmission line range from 80 feet to 120 feet, with an average height of 100 feet. The rebuild of the 69 kV transmission line will generally be placed within an 80-foot ROW, which will follow the centerline of the existing 69 kV line ROW for most of its length. With the exception of certain structures at the James River crossing, the anticipated structure heights for the 69 kV transmission line rebuild range between 50 and 90 feet, with an average structure height of approximately 65 feet. The anticipated James River crossing structure heights range from 140 feet to 160 feet, with an average height of 150 feet. Appalachian has purchased an approximately 11.2-acre parcel for the proposed James River 138 kV Substation and an approximately 111.2-acre parcel for the proposed Soapstone 138 kV Substation.

The Company contracted POWER Engineers, Inc. (“POWER”) to assist with the route development and selection process for the Joshua Falls–Riverville 138 kV transmission line, the Gladstone - Riverville 138 kV transmission line, the proposed James River 138 kV Substation,

the proposed Soapstone 138 kV Substation, and the Amherst–Reusens 69 kV transmission line rebuild. Following extensive outreach, public input and analysis, the Siting Team, consisting of representatives of the Company and POWER, considered 25 possible substation sites for the two new substations, and developed four alternative routes for the proposed Joshua Falls–Riverville 138 kV transmission line, and two alternative routes for the proposed Gladstone–Riverville 138 kV transmission line. For the rebuild of the Amherst–Reusens 69 kV transmission line, the study team developed study segments for a few minor deviations from the centerline of the existing 69 kV line ROW and for the crossing of the James River.

The Company supports the Siting Team's conclusion that the proposed routes (Alternatives D and E) for the new 138 kV transmission lines from Joshua Falls to Riverville and Riverville to Gladstone are preferable to other options, because those routes, as compared to the other alternative routes considered, are the most consistent with the siting guidelines used by the Siting Team, reasonably minimize adverse impacts on area land uses and the environment, minimize special design requirements and unreasonable costs, and can be constructed and operated in a safe, timely, and reliable manner. The Company further supports the Siting Team's conclusion that the proposed route for the rebuild of the Amherst–Reusens 69 kV transmission line, which will largely be within the existing 69 kV line ROW with a few slight deviations and which will follow Alternative Route B at the crossing of the James River, is preferable to other options because it largely uses an existing ROW, avoids the Reusens Hydroelectric Dam and has fewer impacts to residences located north of the dam. The siting studies establish that, of the alternative routes considered, the proposed routes for each of the lines best address landowner input and concerns, minimize proximity to residences and visual impacts, and are the best for construction access. The siting studies, included in Volume 2 of the Application, provide a detailed description and comparison of the alternative routes.

210130210

Application

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION OF

APPALACHIAN POWER COMPANY

CASE NO. PUR-2021-00001

**for Approval and Certification of the
Central Virginia Transmission Reliability Project
under Title 56 of the Code of Virginia**

APPALACHIAN POWER COMPANY (“Appalachian” or the “Company”), a corporation duly organized and existing under the laws of the Commonwealth of Virginia, represents as follows:

1. Appalachian is a Virginia public service corporation providing electric service in Virginia and West Virginia and having an address of 40 Franklin Road SW, Roanoke, Virginia 24011.

2. In order to maintain and improve the reliability of electric service to customers in its service territory Appalachian Power Company (“Appalachian” or “Company”) is seeking permission to: (a) build a new 11.1 mile long 138 kV transmission line from the Company’s Joshua Falls Substation to its Riverville Substation (the “Joshua Falls–Riverville 138 kV transmission line”); (b) build a new 6.3 mile long 138 kV transmission line from the Company’s Riverville Substation to Central Virginia Electric Cooperative’s (“CVEC”) Gladstone Substation (the “Gladstone–Riverville 138 kV transmission line”); (c) build two new 138 kV substations (the “James River 138 kV Substation” and the “Soapstone 138 kV Substation”) and associated transmission line extensions; (d) expand and/or improve the Company’s Riverville, Monroe, Amherst, Boxwood, Scottsville, Clifford and Joshua Falls Substations; (e) rebuild approximately

12.2 miles of the Amherst–Reusens 69 kV transmission line; and (f) install and/or upgrade other related transmission line, substation, telecommunication, and distribution facilities (collectively, the “Project”). See Exhibit 1 for a general map of the Project components, Exhibits 4 to 7 for detailed maps of the Project components, and Section I of the Response to Guidelines for a detailed description of the Project components. The Project is needed to address reliability criteria violations and asset renewal needs on the existing 46 kV and 69 kV transmission system serving the Project area, and will result in the replacement of much of the existing 46 kV transmission system with a more robust 138 kV system to provide reliable service to customers in the area. Because Appalachian’s Project will provide 138 kV service at CVEC’s Gladstone Substation, CVEC is filing a related application with the SCC for approval of its proposed upgrades to its Gladstone Substation and a rebuild of an existing 46 kV transmission line to 138 kV standards.

3. The Project will ensure adequate and reliable electric service and accommodate future growth in Amherst, Nelson and Albemarle Counties by mitigating thermal and voltage reliability criteria violations projected to affect those areas under certain N-1 and N-1-1 outage scenarios during winter 2022-23 peak loading conditions. The Project will also enhance system reliability by replacing certain assets (largely installed in the 1920’s and 1940’s) that are at the end of their useful lives and which have numerous open conditions.

4. The Project will require new right-of-way (“ROW”) easements for the construction of the new 138 kV transmission lines between the Joshua Falls and Riverville Substations, and between the Riverville and Gladstone Substations. The Project will also include the rebuild of an existing 69 kV transmission line mostly along the centerline of the existing 69 kV ROW that has been owned and used by Appalachian for 80 years and since the 1940’s. While

it is largely located in an existing ROW, some updated and supplemental ROW easements will be necessary.

5. In support of this application, the Company is filing the testimony of:

(a) Nicolas C. Koehler, P.E. as to need for the Project;

(b) Mary Jane L. McMillen, P.E., with regard to the engineering

characteristics of the transmission lines associated with the Project;

(c) J. Kelly Bledsoe, P.E., with regard to the engineering characteristics of the substations associated with the Project;

(d) Xin Liu, P.E., regarding electric and magnetic field levels associated with the Project; and

(e) Emily S. Larson as to route development and certain environmental matters associated with the Project.

6. The Company is also filing: (a) a Response to Guidelines, responding to the “Guidelines of Minimum Requirements for Transmission Line Applications Filed Under Title 56 of the Code of Virginia” issued by the Commission’s Division of Public Utility Regulation on August 10, 2017; (b) one siting study, one rebuild siting study, and four VDEQ supplements prepared by the Company’s siting and environmental consultant, POWER Engineers, Inc.; and (c) related tables, exhibits, attachments and maps, including a digital Geographic Information System (“GIS”) constraints map and GIS shapefiles of the Project via electronic filing, through the Company’s iManage site.

7. The Company's testimony, Response to Guidelines, siting studies, VDEQ supplements and related materials filed with this application establish that:

(a) The Project is needed and the public convenience and necessity require the construction of the Project by Appalachian;

(b) The proposed routes for the transmission lines included in the Project reasonably minimize adverse impact on the scenic assets, historic districts and environment of the areas in which the Project will be located; and

(c) The Project is essential to ensure continued reliable electric service to Amherst, Nelson and Albemarle Counties.

8. The proposed in-service date for the Project is December 1, 2025. If the Commission approves the Project, the Company estimates that it will need approximately four years after entry of the Commission's final approving order for engineering, design, right-of-way acquisition, permitting, material procurement and construction to place the Project in service. Accordingly, the Company asks that the Commission expedite its consideration of this application to the extent permitted under applicable law.

The Company therefore requests:

(a) That this application be filed and docketed;

(b) That the Commission cause notice of this application to be given as required by Virginia Code § 56-46.1 and the Utility Facilities Act, Virginia Code §§ 56-265.1 et seq.;

(c) That the Commission Staff undertake an investigation of this application and report its findings to the Commission;

(d) That the Commission determine, as required by Virginia Code §§ 56-46.1 and 265.2, (1) that the Project is needed and the public convenience and necessity require the construction by Appalachian of the Project; and (2) that the proposed routes for the transmission

lines included in the Project reasonably minimize adverse impact on the scenic assets, historic districts and environment of the area concerned;

(e) That the Commission approve the construction of the Project pursuant to Virginia Code § 56-46.1 and any other applicable law; and

(f) That the Commission grant Appalachian a certificate of public convenience and necessity under the Utility Facilities Act and grant such other relief as may be necessary for the construction and operation of the Project.

APPALACHIAN POWER COMPANY

By: Matthew P. Pritts
Of Counsel

Matthew P. Pritts, Esq. (VSB # 34628)
J. Walton Milam, III, Esq. (VSB # 89406)
Charles J. Dickenson, Esq. (VSB # 92889)
WOODS ROGERS PLC
Wells Fargo Tower, Suite 1400
P. O. Box 14125
Roanoke, VA 24038-4125
(540) 983-7600
pritts@woodsrogers.com
wmilam@woodsrogers.com
cdickens@woodsrogers.com

Noelle J. Coates, Esq. (VSB # 73578)
American Electric Power Service Corporation
3 James Center
1051 East Cary Street, Suite 1100
Richmond, VA 23219
(804) 698-5541
njcoates@aep.com
Counsel for Appalachian Power Company

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing was served by electronic mail or by hand on this

26th day of January 2021 to:

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

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