

Charlottesville to Gordonsville 230 kV Greenfield Project

General Information

Proposing entity name	NXTMID
Company proposal ID	NEETMidAtlantic 2020/2021-03-Proposal 2
PJM Proposal ID	238
Project title	Charlottesville to Gordonsville 230 kV Greenfield Project
Project description	Build a new 18.22-mile 230 kV line between Charlottesville and Gordonsville 230 kV stations using 795 ACRS Drake double bundle conductor. Install necessary breakers to accommodate (1) one new 230 kV line at Charlottesville and Gordonsville DP 230 kV stations.
Project in-service date	12/2025
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	See Attachments 1A-1G for Project Analysis, Charlottesville-Gordonsville Project Solution Report, one-line diagram for the proposed solution, and Attachments 2A-2F for Market Efficiency Modeling files. Please note: NEET MidAtlantic has uploaded the following: Attachment 1G-PowerFlow and Attachments 2A-2F to PJM Secured Share server.

Project Components

1. Charlottesville Line Position Addition
2. Gordonsville Line Position Addition
3. Charlottesville to Gordonsville 230 kV Circuit 1

Substation Upgrade Component

Component title	Charlottesville Line Position Addition
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Substation name	Charlottesville 230kV substation
Substation zone	363 GORDONSV
Substation upgrade scope	Terminate proposed greenfield 230 kV line to a new line position using listed equipment below. (1) 230 kV 40 kA circuit breaker with associated bus work, switches, P&C equipment, and deadend structure.

Transformer Information

None	
New equipment description	Expect installation of one (1) 230 kV 40 kA circuit breaker with associated bus work, switches, and P&C equipment. Rating at least 3000 amps. New transformer installation will not be required as part of the proposal.
Substation assumptions	Substation has enough space to accommodate a new 230 kV line position. Circuit breaker, P&C equipment, and dead-end H-frame structure will be installed to support an additional line position. No Control House expansion is expected to be required. All proposed equipment is expected to sit within existing station fence. Existing Line: Re-terminate existing 230 kV line to a new line position using the above listed equipment, resulting in existing termination position to free up for the newly proposed greenfield line. Binding Cost Cap is not applicable as work performed will be by incumbent.
Real-estate description	Desktop analysis indicates that substation appears to have enough space provision to accommodate line position addition. No additional land needed. Scope will utilize existing footprint.
Construction responsibility	Dominion
Additional comments	Not Applicable

Component Cost Details - In Current Year \$

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.

Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	\$1,302,300.00
Component cost (in-service year)	\$1,490,000.00

Substation Upgrade Component

Component title	Gordonsville Line Position Addition
Substation name	Gordonsville 230 kV Substation
Substation zone	363 GORDONSV
Substation upgrade scope	Terminate proposed greenfield 230 kV line to a new line position using listed equipment below. (1) 230 kV 40 kA circuit breaker with associated bus work, switches, P&C equipment, and deadend structure.

Transformer Information

None	
New equipment description	Expect installation of one (1) 230 kV 40 kA circuit breaker with associated bus work, switches, and P&C equipment. Rating at least 3000 amps. New transformer installation will not be required as part of the proposal.
Substation assumptions	Substation has enough space to accommodate a new 230 kV line position. Circuit breaker, P&C equipment, and dead-end H-frame structure will be installed to support an additional line position. No Control House expansion is expected to be required. All proposed equipment is expected to sit within existing station fence. Existing Line: Re-terminate existing 230 kV line to a new line position using the above listed equipment, resulting in existing termination position to free up for the newly proposed greenfield line. Binding Cost Cap is not applicable as work performed will be by incumbent.
Real-estate description	Desktop analysis indicates that substation appears to have enough space provision to accommodate line position addition. No additional land needed. Scope will utilize existing footprint.
Construction responsibility	Dominion
Additional comments	Not Applicable

Component Cost Details - In Current Year \$

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	\$1,302,300.00
Component cost (in-service year)	\$1,490,000.00

Greenfield Transmission Line Component

Component title	Charlottesville to Gordonsville 230 kV Circuit 1
Point A	Charlottesville
Point B	Gordonsville
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	911.000000	1047.000000
Winter (MVA)	1025.000000	1263.000000
Conductor size and type	795 ACSR Drake Two Conductor Bundle per Phase	
Nominal voltage	AC	

Nominal voltage	230
Line construction type	Overhead
General route description	The proposed greenfield 18.22-mile 230 kV line will require 100-foot right of way crossing through Albermarle County (18.04 miles) and City of Charlottesville (0.18 miles). Approximate 3.5 miles section of the transmission line will be located adjacent to the Charlottesville to Hollymead Tap to Proffit 230 kV Transmission Line and approximately 2 miles adjacent to Cashes Corner DP to Gordonsville 230 kV. The NEET MidAtlantic proposed transmission line alignment traverses approximately 18 miles through a largely rural area of north central Virginia and collocates with existing infrastructure to the extent possible. Nestled between the Rivanna River to the west and across Southwest Mountains to the east, the area is characterized by rolling plains associated with the Piedmont Plateau. Small bands of forested wetlands associated with riparian corridors along streams intersect fields and forests throughout the study area. Unique or sensitive terrain is not identified within the NEET MidAtlantic proposed transmission line corridor. See Attachment 3.A for more information.
Terrain description	The transmission line route traverses through rolling hills. See Route Description for additional details.
Right-of-way width by segment	NEET MidAtlantic has identified approximately 127 private landowners and 37 public crossings. Once the project design has been approved, public outreach will occur to acquire option agreements from the private landowners for the 100ft wide ROW. Once the project permits have been approved, NEET MidAtlantic will negotiate easement rights for the transmission line. Temporary access roads for constructability will be identified and acquired at that time. After construction, remediation and construction damages will be paid and processed.
Electrical transmission infrastructure crossings	0.57 mile from Charlottesville, cross over a Charlottesville – Hollymead Tap 230 kV line, 1.16 miles from Gordonsville, cross over a Cashes Corner DP to Gordonsville 230 kV line, 106 feet from Charlottesville, cross over a Charlottesville – Hollymead Tap 230 kV line, 260 feet from Gordonsville, cross over a Louisa Generating to Gordonsville 230 kV line, 6.78 miles from Charlottesville, cross over a Proffit DP to Hollymead Tap 230 kV line
Civil infrastructure/major waterway facility crossing plan	Approximately 38 permits have been identified, 1 of which is the Columbia Gas Transmission Corp. Once NEET MidAtlantic has the preliminary design, NEET MidAtlantic will engage these agencies to start the permitting process. NEET MidAtlantic will work closely the agencies requirements and coordinate with engineering to acquire the appropriate permits.

Environmental impacts

Fatal flaws have not been identified for the NEET MidAtlantic proposed transmission line. Environmental constraints identified are manageable through implementation of NEET MidAtlantic's environmental avoidance, minimization and mitigation strategy incorporated at the beginning of the routing process. Forested wetlands associated with the riparian corridors of streams will require tree clearing to maintain compliance with overhead transmission regulations for fire safety; this activity will be permitted accordingly. Temporary impacts to herbaceous wetlands during construction will be permitted. One river and 22 streams with associated floodplains are crossed by the proposed alignment. Permanent impacts to wetlands will be avoided and minimized to the extent possible through site specific design, engineering and structure placement. Environmental permitting will be required for any unavoidable impacts to wetlands. The designation of each of the streams to be crossed with overhead infrastructure or with temporary construction mats or bridging will be determined and permitted accordingly. Seasonal restrictions for instream work will be adhered to in order to avoid and minimize impacts to aquatic species. The project intends to adhere to tree removal seasonal restriction windows to avoid and minimize impacts to protected birds and bats, such as the Indiana Bat, Northern Long-eared Bat, Bald Eagle and other common raptors. Erosion control best management practices and setbacks will be engineered and utilized to prevent sedimentation in streams for the protection of aquatic species and to avoid water quality impacts. A Cultural Resource Assessment Survey will be performed to determine the presence of archeological or culturally sensitive areas and implementation of NEET MidAtlantic's avoidance strategy. There are no unique or sensitive environmental concerns or impacts with the NEET MidAtlantic proposed transmission line. See Attachment 3.A for more information.

Tower characteristics

Towers for the Charlottesville -Gordonsville 230 kV greenfield transmission line, plan to use weathering steel monopoles, single circuit, 911MVA normal, two conductors per phase using 795 ACSR Drake and Braced Post insulators. A single OPGW will be utilized for a shield conductor and to provide fiber optic communication between the Charlottesville and Gordonsville 230 kV substations. Tower foundations will depend on the tower application and location. Tangent towers are planned to be direct embedded. The 1st segment from Charlottesville 230 kV substation to the intersection with Highway 20 is approximately 0.56 miles. Typically, the towers will be direct embedded using guys to support angle structure requirements. The span length in the first segment is expected to be approximately 900 feet. The conductor configuration is expected to be delta in this segment. The 2nd segment is approximately 6.21 miles adjacent to highway 20. Approximately half of the structures adjacent to Highway 20 are planned for direct embed with guys supporting angle structures. The other half of the structures on Highway 20 are planned with self-supporting foundations. Pole spacing on the second segment, adjacent to Highway 20 has been reduced to approximately 500' span lengths. Vertical construction with conductors on the roadside of the structure to is planned to manage to total right of way width requirement and potential blowout. The 3rd and 4th segments are approximately 11.45 miles. After leaving Highway 20 the line connects to the Gordonsville Substation. Typically, the towers will be direct embedded using guys to support angle structure requirements. As the route shifts away from Highway 20 in the north, the spans lengths are increased to approximately 900'. The conductor configuration is expected to be delta in this segment. A photograph of a weathering steel, braced post, 230 kV single circuit, single conductor line is included in Attachment 3.C. Approximately 80 feet above ground.

Construction responsibility

Proposer

Additional comments

NEET MidAtlantic will be required to obtain a Certificate of Public Convenience and Necessity (CPCN) for the Project from the Virginia State Corporation Commission (VSCC), pursuant to the Utility Facilities Act, Va. Code §§ 56-265.1 – 265.9. As part of its evaluation of the proposed Project, the VSCC will consider several factors, including the effect of the facility on the environment, the effect of the facility on economic development within Virginia, any improvements in service reliability that may result from the facility, the need for the facility, and that the corridor or route will reasonably minimize adverse impact on the scenic assets, historic districts, and environment of the area. Va. Code §§ 56.46.1. In its CPCN application, NEET MidAtlantic will demonstrate its technical and financial fitness to construct, operate, and maintain the facility, its experience in developing transmission line projects, and the financial support for the facility. The CPCN process is expected to take 9 to 18 months, depending on whether parties intervene and contest the application. Once NEET MidAtlantic has obtained a CPCN for the Project and incorporates in the state as a “public service corporation” under the Virginia Corporation Act, NEET MidAtlantic would be entitled to exercise eminent domain authority in the state under Va. Code § 56-49.

Component Cost Details - In Current Year \$

Engineering & design

Detailed cost breakdown is business confidential information.

Permitting / routing / siting

Detailed cost breakdown is business confidential information.

ROW / land acquisition

Detailed cost breakdown is business confidential information.

Materials & equipment

Detailed cost breakdown is business confidential information.

Construction & commissioning

Detailed cost breakdown is business confidential information.

Construction management

Detailed cost breakdown is business confidential information.

Overheads & miscellaneous costs

Detailed cost breakdown is business confidential information.

Contingency

Detailed cost breakdown is business confidential information.

Total component cost

\$39,317,894.00

Component cost (in-service year)

\$42,846,031.00

Congestion Drivers

CD #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type
ME-5	314749	6CHARLVL	314772	6PROFFIT	1	230	345	Market Efficiency

Existing Flowgates

None

New Flowgates

None

Financial Information

Capital spend start date 01/2022

Construction start date 03/2025

Project Duration (In Months) 47

Cost Containment Commitment

Cost cap (in current year) Detailed cost breakdown is business confidential information.

Cost cap (in-service year) Detailed cost breakdown is business confidential information.

Components covered by cost containment

1. Charlottesville to Gordonsville 230 kV Circuit 1 - Proposer

Cost elements covered by cost containment

Engineering & design Yes

Permitting / routing / siting Yes

ROW / land acquisition Yes

Materials & equipment Yes

Construction & commissioning	Yes
Construction management	Yes
Overheads & miscellaneous costs	Yes
Taxes	Yes
AFUDC	Yes
Escalation	Yes
Additional Information	Additional comments contains business confidential information
Is the proposer offering a binding cap on ROE?	Yes
Would this ROE cap apply to the determination of AFUDC?	Yes
Would the proposer seek to increase the proposed ROE if FERC finds that a higher ROE would not be unreasonable?	Yes
Engineering & design	Yes
Permitting / routing / siting	Yes
ROW / land acquisition	Yes
Materials & equipment	Yes
Construction & commissioning	Yes
Construction management	Yes
Overheads & miscellaneous costs	Yes
Taxes	Yes
AFUDC	Yes
Escalation	Yes
Additional Information	Additional comments contains business confidential information.

Is the proposer offering a Debt to Equity Ratio cap?

Yes

Additional cost containment measures not covered above

Additional comments contains business confidential information

Additional comments

NEET MidAtlantic has uploaded the following attachments to PJM Secured Shared Site: Proposal 2-Attachment 1G-Powerflow and Proposal 2-Attachment 2A-2F-Market Efficiency Modeling Files. All attachments contain business confidential information.