

Executive Summary

To be publically posted by PJM

Blue indicates input cells for the Proposing Entity to complete Orange indicates input cells for PJM to complete

1. Executive Summary Instructions Inputs **Proposing Entity name** 1.a. Provide the name of the Proposing Entity. If there are multiple entities, please identify each party. 2019 Proposal Window 1 Provide the RTEP Proposal Window in which this proposal is being submitted. **Proposal window** 1.b. Provide the Proposing Entity project proposal id. Use "A, B, C, ...", etc. to differentiate between proposals. Proposal identification 1.c. PJM proposal identification PJM proposal identification 2019 1-800 1.d. 1.e. General project description Proposal B increases the ampacity on Line 227 between Pleasant View Junction and Beaumeade by replacing the Provide a general description of the scope of this project (e.g. Project is a new line between X and Y substations utilizing AAA structures. A new bay will be created within the existing substation X footprint. Substation Y will be reconfigured to a 1192.5 ACSS 45/7 conductor and the 1590 ACSR 45/7 conductor at Ashburn with 2-768.2 ACSS/TW/HS breaker and a half with accomodations for the new line.) conductor. Identify if the proposal or a proposal component span two PJM Transmission Owner zones, I.e. The proposal topology 1.f. Tie line impact No connects equipment owned by more than one Transmission Owner. This group includes transmission that spans two or more affiliated companies (e.g. Meted and Allegheny Power). Interregional project No 1.g. Indicate if the project is being proposed as a solution to a cross-border (e.g. PJM to MISO, PJM to NYISO) issue. (Note: The Proposing Entity is responsible for initiating and satisfying all regional and interregional requirements.) Indicate if the Proposing Entity intends to construct, own, operate, and maintain the infrastructure built under this proposal. Yes 1.h. Construct, own, operate and maintain \$ 11.001.457.00 Total current year project cost estimate including estimates for any required Transmission Owner upgrades. 1.i. Project cost estimate (current year) 12.869.967.00 Total in-service year project cost estimate including estimates for any required Transmission Owner upgrades. 1.j. **Project cost estimate (in-service year)** Project schedule duration 20 Project estimated schedule duration in months. 1.k. Indicate if any cost containment commitment is being proposed as part of the project. If yes, the "10. Cost Contain" tab 1.I. No Cost containment commitment within this project proposal template is to be completed Additional benefits 1.m. is providing three viable alternatives (A, B, C) to resolve the violations No new ROW required. caused by the flowgates listed under Tab 2. Proposal C, with the highest conductor capacity, meets the current If the project provides any known additional benefits above solving the identified violations or constraints, identify those standard for 230kV construction in northern Virginia and believes that this is the benefits (e.g. reliability, economic, resilience, etc.). best long term solution for these violations. Proposal B, although the less expensive than Proposal C, provides less capacity on Line 227 and does not provide adequate support for the future load growth of the area.

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Executive Summary		
Instructions		Inputs
Confirm that all technical analysis files have been provided for this proposal.	1.n.	Technical analysis files provided ✓
Confirm that all necessary project diagrams have been provided for this proposal.	1.o.	Project diagram files provided
Indicate if company evaluation and operations and maintenance information has been provided for this proposal.	1.p.	Company evaluation and operations and maintenance information provided
		If the answer to the cross-border question above at 1.g. was yes, complete the questions below.
Indicate if an evaluation for interregional cost allocation is desired.	1.q.i.	Interregional Cost Allocation Evaluation Choose Yes or No
	1.q.ii.	Evaluated in interregional analysis under PJM Tariff or Operating Agreement provisions Choose Yes or No
		If 'yes,' specify analysis and applicable Tariff or Operating Agreement provisions
Indicate if the proposal has been evaluated in a coordinated interregional analysis under the PJM Tariff or Operating Agreement provisions. Specify the analysis and applicable Tariff or Operating Agreement provisions.		
	1.q.iii.	Regional and Interregional violations and issues from the Regional and/or Interregional analyses that identified the violations and issues addressed by the proposal.
List the specific regional and interregional violations and issues from the regional and/or interregional analyses that identified the violations and issues addressed by the proposal.		

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2.a.

Overloaded Facilities

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Facilities addressed by the proposed project Instructions: List the criteria violation(s) or system constraint(s) solved or mitigated by the proposed project. To Bus **Facility Name** FG# Analysis Type Bus# To Bus # CKT Voltage Area Name Sum Basecase Analysis Thermal N1-ST46 314170 6COHMIL 314006 6ASHBURA 230/230 345/345 6ASHBURA 6COHMIL GD-S5 Sum Gen Deliv 314170 314006 230/230 345/345 6ASHBURA GD-S7 Sum Gen Deliv 314006 314010 6BEAMEAD 230/230 345/345 314006 6ASHBURA N2-ST69 Sum N-1-1 Thermal 314170 6COHMIL 230/230 345/345 1 N2-ST70 Sum N-1-1 Thermal 314170 6COHMIL 314006 6ASHBURA 230/230 345/345 314006 6ASHBURA 345/345 N2-ST71 Sum N-1-1 Thermal 314170 6COHMIL 230/230

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Major Project Components To be publically posted by PJM

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3. Major Project Components Instructions	_		Component 1	Component 2	Component 3
Describe the scope of work for each major project component. Provide additional detail for each component on the cooresponding (yellow) component tab. For example, complete a component on the "Greenfield Sub Comp" tab for each proposed new substation.	3.a.	Component description(s)	At Beaumeade Substation, replace terminal equipment	At Ashburn Substation, replace terminal equipment	Uprate line segment from Beaumeade to Ashburn by reconductoring with 2-768.2 ACSS/TW/HS conductor
Provide a project cost breakdown by the inticated categories for each component. State costs in current year dollars.	3.b.	Component cost (current year) Engineering and design Permitting / routing / siting ROW / land acquisition Materials and equipment Construction and commissioning Construction management Overheads and miscellaneous costs Contingency Total component cost			
For Market Efficiency projects, provide an in-service year component project total cost.	3.c.	Component cost (in-service year)			
Identify the entity who will be designated to build the component.	3.d.	Construction responsibility	Dominion Energy Virginia	Dominion Energy Virginia	Dominion Energy Virginia

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Major Project Components To be publically posted by PJM

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Major Project Components					
Instructions			Component 4	Component 5	Component 6
Describe the scope of work for each major project component. Provide additional detail for each component on the cooresponding (yellow) component tab. For example, complete a component on the "Greenfield Sub Comp" tab for each proposed new substation.	3.a.	Component description(s)	Uprate line segment from Ashburn to Cochran Mill DP by reconductoring between Ashburn and Pleasant View Junction with 2-768.2 ACSS/TW/HS conductor		
Provide a project cost breakdown by the inticated categories for each component. State costs in current year dollars.	3.b.	Component cost (current year) Engineering and design Permitting / routing / siting ROW / land acquisition Materials and equipment Construction and commissioning Construction management Overheads and miscellaneous costs Contingency Total component cost			
For Market Efficiency projects, provide an in-service year component project total cost.	3.c.	Component cost (in-service year)			
Identify the entity who will be designated to build the component.	3.d.	Construction responsibility	Dominion Energy Virginia		

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Substation Upgrade Component
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. Substation Upgrade Component		
Instructions		Inputs-1
Provide the corresponding component number from the "Project Components" tab.	5.a.	Component number 1
Identify the name of the existing substation where the upgrade will take place.	5.b.	Substation Beaumeade
Describe the scope of the upgrade work at the identified substation.	5.c.	Substation upgrade scope Replace two (2) 230kV breakers, wave trap, line switch, bus conductor, and breaker disconnects.
Describe any new substation equipment and provide the equipment ratings.	5.d.	New equipment description N/A
Describe the assumptions that were made about the substation that were used in developing the scope and cost for the upgrade. For example, the use of a bay that appears to be available, the proposed use of an open area within the substation or the relocation of existing equipment.	5.e.	Substation assumptions N/A
Provide a single line diagram and a station general arrangement drawing for upgraded which change or expand the substation configuration List these documents on the 'Redacted Information' tab under the appropriate project component.	5.f.	Substation drawings
If the substation fence needs to be expanded, indicate the real-estate plan for acquiring the needed land. Also, provide a Google Earth .KMZ file detailing the expansion.	5.g.	Real-estate plan NA
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	5.h.	Redacted information 5f

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Substation Upgrade Component
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5. Substation Upgrade Component		
Instructions		Inputs-1
Provide the corresponding component number from the "Project Components" tab.	5.a.	Component number 2
Identify the name of the existing substation where the upgrade will take place.	5.b.	Substation Ashburn
	5.c.	Substation upgrade scope
Describe the scope of the upgrade work at the identified substation.		Replace line lead and two (2) line switches.
	5.d.	New equipment description
Describe any new substation equipment and provide the equipment ratings.		N/A
	5.e.	Substation assumptions
Describe the assumptions that were made about the substation that were used in developing the scope and cost for the upgrade. For example, the use of a bay that appears to be available, the proposed use of an open area within the substation or the relocation of existing equipment.		N/A
Provide a single line diagram and a station general arrangement drawing for upgraded which change or expand the substation configuration List these documents on the 'Redacted Information' tab under the appropriate project component.	5.f.	Substation drawings
	5.g.	Real-estate plan
If the substation fence needs to be expanded, indicate the real-estate plan for acquiring the needed land. Also, provide a Google Earth .KMZ file detailing the expansion.		NA
	5.h.	Redacted information
Describe any files or information that has been redacted from this section and provide the basis for the redaction.		5f

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4. Transmission Line Reconductor/Rebuild Component				
Instructions			Inputs - 1	
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number	3	
	4.b.	Terminal points		Beaumeade
Identify the line terminal points. Add additional spaces if required.				Ashburn
		Existing Line Physical Characteristics		
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	1590 ACSR 45/7 145	5°C and 1192.5 ACSS 45/7 145°C
	4.d.	Existing hardware plan		
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.		All conductor and related line hardware will be	e replaced.	
	4.e.	Existing tower line characteristics		
Provide the condition and age of the existing structures. Describe the findings of any recent inspections or of analysis that has indicated a need for structural repair or reinforcement to reconductor the line.				
	4.f.	Terrain description		
Describe the terrain that the existing line traverses. Additionally, provide a Google Earth .KMZ file with the existing line path as an included document with the project proposal package.		terrain with more dense scrub shrub and woo existing line parallels a large quarry and cross Belmont Ridge Road (Route 659) the existing	oded vegetation. The su ses Goose Creek, a trit g line is surrounded mo to the Potomac River. I	outary to the Potomac River. After crossing stly by residential homes on flat terrain. This final From Pleasant View Substation to Beaumeade
		Reconductor/Rebuild Component Plan		
Provide the target ratings for the line.	4.g.	Component target ratings		1572 MVA
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	2-76	8.2 ACSS/TW/HS
For shield wire replacements, identify the type and size to be used.	4.i.	Proposed shield wire size and type	AC-77/5	56 OPGW shield wire

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Transmission Line Reconductor/Rebuild Component			
Instructions		Inputs - 1	
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number 3	
	4.j.	Rebuild portion	
Describe the amount of the line that is anticipated to be rebuilt versus reconductored. Provide any assumptions that were used in arriving at this determination. If specific line sections have been identified for rebuild, provide route maps for (or specify in a Google Earth .KMZ file) those segments and identify the areas.		Approximately 2.88 miles of line will be reconductored.	
	4.k.	Right of way	
Describe the segments of the existing right-of-way that will need to be expanded or any newly required rights-of-way that will be required. If new or expanded right-of-way is required, provide route maps for (or specify in a Google Earth .KMZ file) those segments and identify the areas.		N/A	
	4 .I.	Redacted information	
Describe any files or information that has been redacted from this section and provide the basis for the redaction.		4e	

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. Transmission Line Reconductor/Rebuild Component				
Instructions			Inputs - 2	
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number	4	
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points		Ashburn Cochran Mill DP
		Existing Line Physical Characteristics		
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	1590 ACSR 45/7 14	45°C and 1192.5 ACSS 45/7 145°C
	4.d.	Existing hardware plan		
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.		All conductor and related line hardware will be	e replaced.	
	4.e.	Existing tower line characteristics		
Provide the condition and age of the existing structures. Describe the findings of any recent inspections or of analysis that has indicated a need for structural repair or reinforcement to reconductor the line.				
	4.f.	Terrain description		
Describe the terrain that the existing line traverses. Additionally, provide a Google Earth .KMZ file with the existing line path as an included document with the project proposal package.		terrain with more dense scrub shrub and woo line parallels a large quarry and crosses Goos	ded vegetation. The su se Creek, a tributary to ded mostly by residenti ver. From Pleasant Vie	on, the line traverses through still, relatively flat surrounding area is industrial in nature as the existing the Potomac River. After crossing Belmont Ridge al homes on flat terrain. This final segment crosses we Substation to Beaumeade Substation, the
		Reconductor/Rebuild Component Plan		
Provide the target ratings for the line.	4.g.	Component target ratings		1057 MVA
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	2-70	68.2 ACSS/TW/HS
For shield wire replacements, identify the type and size to be used.	4.i.	Proposed shield wire size and type	AC-77/	556 OPGW shield wire

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4. Transmission Line Reconductor/Rebuild Component		lmmuta 2
Instructions		Inputs - 2
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number 4
	4.j.	Rebuild portion
Describe the amount of the line that is anticipated to be rebuilt versus reconductored. Provide any assumptions that were used in arriving at this determination. If specific line sections have been identified for rebuild, provide route maps for (or specify in a Google Earth .KMZ file) those segments and identify the areas.		Approximately 2.49 miles of line will be reconductored.
	4.k.	Right of way
Describe the segments of the existing right-of-way that will need to be expanded or any newly required rights-of-way that will be required. If new or expanded right-of-way is required, provide route maps for (or specify in a Google Earth .KMZ file) those segments and identify the areas.		N/A
	4. I.	Redacted information
Describe any files or information that has been redacted from this section and provide the basis for the redaction.		4e

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Project Financial Information

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9. Project Financial Information									
Instructions				Inputs					
		Project Schedule							
Provide the planned construction period. Include start and	9.a.	Capital spend start date (Mo-Yr)	May-21]					
end dates (month and year) of capital spend as well as the start and end dates (month and year) of construction.		Construction start date (Mo-Yr)	Mar-22]					
Commercial operation typically begins in the month following the end of construction.		Commercial operation date (Mo-Yr)	Dec-22]					
		Project Capital Expenditures							
	9.b.	Capital expenditure details Engineering and design	Total	2019	2020	2021	2022	2023	2024
Provide, in present year dollars, capital expenditure estimates by year for the Proposing Entity, work to be		Permitting / routing / siting ROW / land acquisition Materials and equipment							
completed by others (e.g. incumbent TO) and total project. Include all capital expenditure, such as ongoing		Construction and commissioning Construction management Overheads and miscellaneous costs							
expenditures, for which the Proposing Entity plans to seek FERC approval for recovery.		Contingency Proposer total capex							
		Work by others capex Total project capex							
Provide a yearly AFUDC cash flow, even if AFUDC is not	9.c.		Total	2019	2020	2021	2022	2023	2024
going to be employed.		AFUDC							
	9.d.	Assumptions for the capital expenditure estimate				_			
Describe any files or information that has been redacted from this section and provide the basis for the redaction.									
	9.e.	Redacted information				Ī			
Describe any files or information that has been redacted from this section and provide the basis for the redaction.		9b,c,d							

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