

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
Provide the name of the Proposing Entity. If there are multiple entities, please identify each party.	1.a.	Proposing Entity name
Provide the RTEP Proposal Window in which this proposal is being submitted.	1.b.	Proposal window 2019 Proposal Window 1
Provide the Proposing Entity project proposal id. Use "A, B, C,", etc. to differentiate between proposals.	1.c.	Proposal identification C
PJM proposal identification	1.d.	PJM proposal identification 2019_1-418
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 breaker and a half with accomodations for the new line.)	1.e.	General project description Proposal C increases the ampacity on Line 227 by rebuilding the line between Cochran Mill DP - Pleasant View Junction and reconductoring between Pleasant View Junction – Beaumeade and Cochran Mill DP - Belmont.
Identify if the proposal or a proposal component span two PJM Transmission Owner zones. I.e. The proposal topology 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).	1.f.	Tie line impact No
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.)	1.g.	Interregional project No
Indicate if the Proposing Entity intends to construct, own, operate, and maintain the infrastructure built under this proposal.	1.h.	Construct, own, operate and maintain Yes
Total current year project cost estimate including estimates for any required Transmission Owner upgrades.	1.i.	Project cost estimate (current year)\$13,994,013.00
Total in-service year project cost estimate including estimates for any required Transmission Owner upgrades.	1.j.	Project cost estimate (in-service year) \$ 16,255,296.00
Project estimated schedule duration in months.	1.k.	Project schedule duration 22
Indicate if any cost containment commitment is being proposed as part of the project. If yes, the "10. Cost Contain" tab within this project proposal template is to be completed	1.I.	Cost containment commitment No
If the project provides any known additional benefits above solving the identified violations or constraints, identify those benefits (e.g. reliability, economic, resilience, etc.).	1.m.	Additional benefits Proposal C reduces the Line 227 loading to less than 70%. No new ROW required. It is providing three viable alternatives (A, B, C) to resolve the violations caused by the flowgates listed under Tab 2. Proposal C, with the highest conductor capacity, meets the current standard for 230kV construction in northern Virginia and standard believes that this is the best long term solution for these violations. In addition, the rebuild section from Pleasant View Junction to Cochran Mill DP provides end of life benefit in the long term planning horizon.



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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
		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.		

FG # N1-ST46 GD-S5 GD-S7 N2-ST69	List the criteria violation(s) or system Analysis Type	m constraint(s) solv Bus #	ved or mitigated by th	ne proposed pro	ject.			
FG # N1-ST46 GD-S5 GD-S7 N2-ST69	Analysis Type	Bus #						
N1-ST46 GD-S5 GD-S7 N2-ST69	Sum Reseases Analysis Thermal		Facility Name	To Bus #	To Bus Name	скт	Voltage	Are
GD-S5 GD-S7 N2-ST69	Sum Dasecase Analysis mermai	314170	6COHMIL	314006	6ASHBURA	1	230/230	345/345
GD-S7 N2-ST69	Sum Gen Deliv	314170	6COHMIL	314006	6ASHBURA	1	230/230	345/345
N2-ST69	Sum Gen Deliv	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345
	Sum N-1-1 Thermal	314170	6COHMIL	314006	6ASHBURA	1	230/230	345/345
N2-ST70	Sum N-1-1 Thermal	314170	6COHMIL	314006	6ASHBURA	1	230/230	345/345
N2-ST71	Sum N-1-1 Thermal	314170	6COHMIL	314006	6ASHBURA	1	230/230	345/345

2.a.



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Major Project Components To be publically posted by PJM

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 designPermitting / routing / sitingROW / land acquisitionMaterials and equipmentConstruction and commissioningConstruction managementOverheads and miscellaneous costsContingencyTotal 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



Major Project Components

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3.	Major Project Components			
	Instructions			Compon
	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)	 (a) Uprate line segment from Ashburn to between Ashburn and Pleasant View Jaconductor and rebuilding between Pleas DP with 2-768.2 ACSS/TW/HS conductor structures. Also replace two (2) line switt the lin (b) Uprate line segment from Cochran M with 2-768.2 ACSS/TW/HS. This inclue eliminates the need for a structure
	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 Ener

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o Cochran Mill DP by reconductoring lunction with 2-768.2 ACSS/TW/HS sant View Junction and Cochran Mill ctor and double circuit monopole itches outside of Cochran Mill DP on ne.

Aill DP to Belmont by reconductoring udes 2 spans of reconductor that replacement and reduces cost.

rgy Virginia



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 1
Identify the name of the existing substation where the upgrade will take place.	5.b.	Substation Beaumeade
	5.c.	Substation upgrade scope
Describe the scope of the upgrade work at the identified substation.		Replace two (2) 230kV breakers, wave trap, line switch, bus conductor, and breaker disconnects.
	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.		N/A
	5.h.	Redacted information
Describe any files or information that has been redacted from this section and provide the basis for the redaction.		5f



 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.		N/A
	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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. Transmission Line Reconductor/Rebuild Component			
Instructions			Inputs - 1
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number	3
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points	Beaumeade 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°C and 1192.5 ACSS 45/7 145°C
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	4.d.	Existing hardware plan All conductor and related line hardware will be	e replaced.
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 re-conductor the line.	4.e.	Existing tower line characteristics	
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.	4.f.	Terrain description From Pleasant View Substation, southeast to flat terrain with more dense scrub shrub and y the existing line parallels a large quarry and o crossing Belmont Ridge Road (Route 659) th terrain. This final segment crosses another un Substation to Beaumeade Substation, the exist	b Beaumeade Substation, the line traverses through still, relatively wooded vegetation. The surrounding area is industrial in nature as crosses Goose Creek, a tributary to the Potomac River. After he existing line is surrounded mostly by residential homes on flat nnamed tributary to the Potomac River. From Pleasant View isting line also parallels a paved and flat Pedestrian/Bike Trail.
		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	2-768.2 ACSS/TW/HS 20/7 250°C
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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. Transmission Line Reconductor/Rebuild Component			
Instructions			Input
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number	
Describe the amount of the line that is anticipated to be rebuilt versus reconductored. Provide any	4.j.	Rebuild portion	
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 recond	uctored.
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.	4.k.	Right of way	
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.1.	Redacted information 4e	

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3	



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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	4a]	
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 14 145°C and 1233.6	5°C and 1192.5 ACSS 45/7 ACSS/TW/HS 54/7 250°C	
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	4.d.	Existing hardware plan All conductor and related line hardware will be	e replaced.		
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 re-conductor the line.	4.e.	Existing tower line characteristics			
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.	4.f.	Terrain description From Pleasant View Substation, southeast to flat terrain with more dense scrub shrub and y the existing line parallels a large quarry and o crossing Belmont Ridge Road (Route 659) th terrain. This final segment crosses another un Substation to Beaumeade Substation, the exist	Beaumeade Substatio wooded vegetation. The crosses Goose Creek, a e existing line is surrou nnamed tributary to the sting line also parallels	on, the line traverses through still, e surrounding area is industrial ir a tributary to the Potomac River. Inded mostly by residential home Potomac River. From Pleasant V a paved and flat Pedestrian/Bike	, relatively n nature as After es on flat View e Trail.
		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	2-768.2 ACSS	S/TW/HS 20/7 250°C	
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		
Instructions		Inputs - 2
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number 4a
	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 and approximately 1.00 miles of line will be rebuilt.
	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
	41	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 - 3		
Provide the corresponding component number from the "Project Components" tab.	4.a.	Component number	4b		
	4 h	Terminal points		Cochran Mill DP	
Identify the line terminal points. Add additional spaces if required.	4.0.	Torrininal points		Belmont	
		Existing Line Physical Characteristics			_
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	1233.6 ACS	SS/TW/HS 54/7 250°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 re-conductor 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.		From Pleasant View Substation, southeast to relatively flat terrain with more dense scrub sh in nature as the existing line parallels a large River. After crossing Belmont Ridge Road (Ro homes on flat terrain. This final segment cros Pleasant View Substation to Beaumeade Sub Pedestrian/Bike Trail.	Beaumeade Substation nrub and wooded vege quarry and crosses G oute 659) the existing ses another unnamed ostation, the existing lin	on, the line traverses through stil etation. The surrounding area is i oose Creek, a tributary to the Po line is surrounded mostly by resi tributary to the Potomac River. I he also parallels a paved and flat	ll, industrial otomac idential From t
		Reconductor/Rebuild Component Plan			_
Provide the target ratings for the line.	4.g.	Component target ratings		1141 MVA	
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	2-768.2 ACS	SS/TW/HS 20/7 250°C	
For shield wire replacements, identify the type and size to be used.	4.i.	Proposed shield wire size and type	AC-77/55	6 OPGW shield wire	



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4.	Transmission Line Reconductor/Rebuild Component			
	Instructions			Inputs
	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 0.31 miles of line will be recond	ductored.
		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	
		4.1.	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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Instructions				Inputs	
		Project Schedule			
Provide the planned construction period. Include start and end dates (month and year) of capital spend as well as the start and end dates (month and year) of construction. Commercial operation typically begins in the month following	9.a.	Capital spend start date (Mo-Yr)	Mar-21]	
		Construction start date (Mo-Yr) Commercial operation date (Mo-Yr)	Mar-22 Dec-22]	
		Project Capital Expenditures			
Provide, in present year dollars, capital expenditure estimates by year for the Proposing Entity, work to be completed by others (e.g. incumbent TO) and total project. Include all capital expenditure, such as ongoing expenditures, for which the Proposing Entity plans to seek FERC approval for recovery.	9.b.	Capital expenditure detailsEngineering and designPermitting / routing / sitingROW / land acquisitionMaterials and equipmentConstruction and commissioningConstruction managementOverheads and miscellaneous costsContingencyProposer total capexWork by others capexTotal project capex	Total	2019	2020
Provide a yearly AFUDC cash flow, even if AFUDC is not going to be employed.	9.c.	AFUDC	Total	2019	2020
	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			
Describe any files or information that has been redacted from this section and provide the basis for the redaction.		9b,c,d			

2021	2022	2023	2024

2023

2024

2022

2021

