Executive Summary

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	[redacted]
Provide the RTEP Proposal Window in which this proposal is being submitted.	1.b.	Proposal window	2018-2019 Long Term Window
Provide the Proposing Entity project proposal id. Use "A, B, C, …", etc. to differentiate between proposals.	1.c.	Proposal identification	[redacted]
PJM proposal identification	1.d.	PJM proposal identification	201819_1-357
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	The Robinson Run - Graceton A Project will include a new 3-position 500/230kV substation interconnecting the Delta - Peach Bottom 500kV transmission line. The proposed project will include a 500/230kV transformer stepping down to a new 230kV transmission line that will connect the new 500/230kV Robinson Run substation to the existing Graceton 230kV substation. The proposed project will use existing right-of-way and rebuild the existing Cooper – Graceton 230 kV in a double circuit configuration to also carry the new Robinson Run - Graceton 230kV transmisison line. Additonally the project will include a new Hunterstown - Green Valley 230kV transmission line between the existing Hunterstown 230kV substation and the new Green Valley 230kV switching station. The new Green Valley 230kV switching station will interconnect the existing Carroll to Mt. Airy 230kV transmission line.
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	*Yes*
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*

1. Executive Summary

Instructions		Inputs	
Total current year project cost estimate including estimates for any required Transmission Owner upgrades.	1.i.	Project cost estimate (current year)	$85,452,593
Total in-service year project cost estimate including estimates for any required Transmission Owner upgrades.	1.j.	Project cost estimate (in-service year)	$91,346,470
Project estimated schedule duration in months.	1.k.	Project schedule duration	42
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.l.	Cost containment commitment	*Yes*
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	
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	☑

1. Executive Summary

Instructions		Inputs	
		If the answer to the cross-border question above at 1.g. was yes, complete the questions	
Indicate if an evaluation for interregional cost allocation is desired.	**1.q.i.**	**Interregional Cost Allocation Evaluation**	*No*
	1.q.ii.	**Evaluated in interregional analysis under PJM Tariff or Operating Agreement provisions**	*No*
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.		**If 'yes,' specify 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.			

Overloaded Facilities

2. Overloaded Facilities

Facilities addressed by the proposed project

Instructions: Identify the criteria violation(s) or system constraint(s) that the proposed project solves or mitigates.

2.a.

FG #	Analysis Type	Bus #	Facility Name	To Bus #	To Bus Name	CKT	Voltage	Area

2. Overloaded Facilities

Facilities not addressed/caused by the proposed project

Instructions: Identify the criteria violation(s) or system constraint(s) that the proposed project causes or does not address.

2.b.

Unique Proposer Generated ID	Analysis Type	Bus #	Facility Name	To Bus #	To Bus Name	CKT	Voltage	Area

Overloaded Facilities

2. Overloaded Facilities

Market Efficiency flowgate(s) addressed by the proposed project

Instructions: Identify the Market Efficiency flowgate(s) the proposed project mitigates.

2.c.

FG#	Facility Name	Area	Type	Frequency (Hours)	Market Congestion ($ millions)	Frequency (Hours)	Market Congestion ($ millions)
ME-1	Hunterstown to Lincoln 115 kV	METED		1756	20.976	1732	24.03

3. Major Project Components

Instructions

Provide a description for each major project component. Each project component will require the completion of the tab corresponding to the category of the component ("Greenfield Substation Component" tab for any proposed new substation, for example).

Provide a component project cost breakdown into the identified categories along with a total component cost. Costs should be in current year dollars.

If this proposal is being submitted as Market Efficiency project, provide an in-service year component project

Identify the entity who will be designated the component.

		Component 1	Component 2	Component 3
3.a.	Component description(s)	Robinson Run 500/230kV Substation	Robinson Run - Graceton 230kV Transmission Line	Green Valley 230kV Switching Station
3.b.	Component cost (current year)			
	Engineering and design	[redacted]		
	Permitting / routing / siting			
	ROW / land acquisition			
	Materials and equipment			
	Construction and commissioning			
	Construction management			
	Overheads and miscellaneous costs			
	Contingency			
	Total component cost	$27,418,762	$11,260,787	$5,414,932
3.c.	Component cost (in-service year)	$29,311,483	$12,038,121	$5,788,725
3.d.	Construction responsibility	[redacted]	[redacted]	[redacted]

3. Major Project Components

Instructions

Provide a description for each major project component. Each project component will require the completion of the tab corresponding to the category of the component ("Greenfield Substation Component" tab for any proposed new substation, for example).

Provide a component project cost breakdown into the identified categories along with a total component cost. Costs should be in current year dollars.

If this proposal is being submitted as Market Efficiency project, provide an in-service year component project

Identify the entity who will be designated the component.

		Component 4	Component 5	Component 6
3.a.	Component description(s)	Hunterstown to Green Valley 230k Transmission Line	Mt. Airy to Green Valley 230kV Transmission Line	Hunterstown - Green Valley 230kV Transmission Line Interconnections
3.b.	Component cost (current year)			
	Engineering and design	[redacted]		
	Permitting / routing / siting			
	ROW / land acquisition			
	Materials and equipment			
	Construction and commissioning			
	Construction management			
	Overheads and miscellaneous costs			
	Contingency			
	Total component cost	$32,371,075	$230,000	$900,000
3.c.	Component cost (in-service year)	$34,605,655	$245,877	$962,127
3.d.	Construction responsibility	[redacted]	[redacted]	[redacted]

3. Major Project Components

Instructions

Provide a description for each major project component. Each project component will require the completion of the tab corresponding to the category of the component ("Greenfield Substation Component" tab for any proposed new substation, for example).

Provide a component project cost breakdown into the identified categories along with a total component cost. Costs should be in current year dollars.

If this proposal is being submitted as Market Efficiency project, provide an in-service year component project

Identify the entity who will be designated the component.

		Component 7	Component 8	Component 9
3.a.	Component description(s)	Hunterstown 230kV Substation Interconnection	Robinson Run 500kV Transmission Line Interconnections	Graceton Substation Interconnection
3.b.	Component cost (current year)			
	Engineering and design	[redacted]		
	Permitting / routing / siting			
	ROW / land acquisition			
	Materials and equipment			
	Construction and commissioning			
	Construction management			
	Overheads and miscellaneous costs			
	Contingency			
	Total component cost	$1,307,037	$1,500,000	$850,000
3.c.	Component cost (in-service year)	$1,397,261	$1,603,545	$908,676
3.d.	Construction responsibility	[redacted]	[redacted]	[redacted]

Major Project Components

3. Major Project Components

Instructions

Provide a description for each major project component. Each project component will require the completion of the tab corresponding to the category of the component ("Greenfield Substation Component" tab for any proposed new substation, for example).

		Component 10	Component 10	Component 11
3.a.	Component description(s)	Peach Bottom - Robinson Run 500 kV Transmision Line		
3.b.	Component cost (current year)			
	Engineering and design	[redacted]		
	Permitting / routing / siting			
	ROW / land acquisition			
	Materials and equipment			
	Construction and commissioning			
	Construction management			
	Overheads and miscellaneous costs			
	Contingency			
	Total component cost	$4,200,000		$ -
3.c.	Component cost (in-service year)	$4,485,000		
3.d.	Construction responsibility	[redacted]		

Provide a component project cost breakdown into the identified categories along with a total component cost. Costs should be in current year dollars.

If this proposal is being submitted as Market Efficiency project, provide an in-service year component project

Identify the entity who will be designated the component.

7. Greenfield Substation Component

Instructions		Inputs - 1	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	7.a.	Component number	1
Provide the name for the proposed substation.	7.b.	Proposed substation name	Robinson Run 500/230kV Substation
Provide the latitude and longitude (in decimal degrees) of the site(s) evaluated for the substation.	7.c.	Evaluated location(s)	[redacted]
Provide a general description of the substation. Also, provide a single line diagram and general arrangement drawing.	7.d.	Substation description	The proposed new 500/230kV Robinson Run Substation will interconnect the exisitng Delta - Peach Bottom 500kV transmission line with a new 500kV three-position ring bus substation. The 500kV substation will step the voltage down to 230kV via a new 500/230kV 1479/1839 MVA transformer. A 230kV circuit breaker will be located between the low side of the transformer and the new 230kV Robinson Run - Graceton transmission line.
Describe the major substation equipment and provide the equipment ratings.	7.e.	Substation equipment	500kV breakers (3) - 4000A. 500/230kV transformer (1) - 1479/1839 MVA rating. 230kV breaker (1) - 5000A.
Describe the required site size, geography and current land use for the proposed site(s).	7.f.	Geography and land use	The Robinson Run 500/230kV substation will require approximately 6 acres and is currently used for agriculture.
Provide an assessment of the potential environmental impacts (i.e. environmental impact study requirements, environmental permitting, sediment, and erosion control issues).	7.g.	Environmental assessment	under PJM review

7. Greenfield Substation Component

Instructions		Inputs - 1
Provide the corresponding component number from the "Project Components" tab of the proposal template.	7.a.	Component number: 1
Community and landowner outreach plan	7.h.	**Outreach plan** [redacted] will identify and engage stakeholders, such as community officials and landowners within the Project area, early in the process and maintain an active dialogue throughout. Public meetings may be held to offer a venue for landowners and other interested community members to learn about the Project and for [redacted] to learn more about specific landowner and community preferences. [redacted] plans to make information available on its website and provide notification of public meetings to landowners within the Project area as required in the siting approval process.
Provide the project land acquisition plan and approach for both public and private lands.	7.i.	**Land acquisition plan** The Project will be located primarily on new right-of-way to be purchased by [redacted]. In addition, [redacted] will procure any necessary easements required to access the site. [redacted] will assign a Right-of-Way Manager to oversee all real estate related activities for the Project including appraisals, title work, surveying, land acquisition and restoration. A right-of-way agent will contact the property owner(s) in person to explain the Project and, as necessary, secure permission to conduct surveys, archaeological studies, etc. The right-of-way agent will be the primary point of contact to negotiate with the property owner to acquire the substation site and any required easements on a mutually agreeable basis. To the extent that negotiations reach an impasse, [redacted] will be able to pursue eminent domain. The right-of-way agents will continue to act as a liaison with the property owners during construction and through the restoration process.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	7.j.	**Redacted information** 7.c,d,g

Reconductor/Rebuild Transmission Line Component

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 1	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	2
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points	Robinson Run 230kV Graceton 230kV & Cooper 230kV
		Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	4.d.	Existing hardware plan	Not Applicable.
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	Not Applicable.
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	N/A

Reconductor/Rebuild Transmission Line Component

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 1	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	2
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	4.g.	Component target ratings	1479/1839 MVA
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	2-1590 ACSS
If the shield wire is to be replaced, identify the type and size to be used.	4.i.	Proposed shield wire size and type	Not Applicable.
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.	4.j.	Rebuild portion	The Project will rebuild 5.75 miles of the existing Cooper - Graceton transmission line as a double-circuit transmission line utilizing tubular steel monopole structures with double circuit, double-bundle 1590 kcmil ACSS conductor in a delta configuration and a single optical groundwire. The transmission line will operate at 230kV AC and will be routed overhead for the entire route. The second circuit of the double-circuit towers will hold the new Robinson Run - Graceton 230kV transmission line.
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	The Project will utilize the existing right-of-way for the entire rebuilt portion.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.l.	Redacted information	

7. Greenfield Substation Component

Instructions		Inputs - 2	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	7.a.	Component number	3
Provide the name for the proposed substation.	7.b.	Proposed substation name	Green Valley 230kV Switching Station
Provide the latitude and longitude (in decimal degrees) of the site(s) evaluated for the substation.	7.c.	Evaluated location(s)	[redacted]
Provide a general description of the substation. Also, provide a single line diagram and general arrangement drawing.	7.d.	Substation description	The proposed new Green Valley 230kV substation will be a three-position ring bus that will interconnect the existing Carroll to Mt. Airy 230kV transmission line. The third position will connect to the new Hunterstown - Green Valley 230kV transmission line.
Describe the major substation equipment and provide the equipment ratings.	7.e.	Substation equipment	230kV circuit breakers (3) - 4000A.
Describe the required site size, geography and current land use for the proposed site(s).	7.f.	Geography and land use	The Green Valley substation will require approximately 3 acres and is currently used for agriculture.
Provide an assessment of the potential environmental impacts (i.e. environmental impact study requirements, environmental permitting, sediment, and erosion control issues).	7.g.	Environmental assessment	under PJM review

7. Greenfield Substation Component

Instructions		Inputs - 2
Provide the corresponding component number from the "Project Components" tab of the proposal template.	7.a.	Component number: 3
Community and landowner outreach plan	7.h.	**Outreach plan** [redacted] will identify and engage stakeholders, such as community officials and landowners within the Project area, early in the process and maintain an active dialogue throughout. Public meetings may be held to offer a venue for landowners and other interested community members to learn about the Project and for [redacted] to learn more about specific landowner and community preferences. [redacted] plans to make information available on its website and provide notification of public meetings to landowners within the Project area as required in the siting approval process.
Provide the project land acquisition plan and approach for both public and private lands.	7.i.	**Land acquisition plan** The Project will be located primarily on new right-of-way to be purchased by [redacted]. In addition, [redacted] will procure any necessary easements required to access the site. [redacted] will assign a Right-of-Way Manager to oversee all real estate related activities for the Project including appraisals, title work, surveying, land acquisition and restoration. A right-of-way agent will contact the property owner(s) in person to explain the Project and, as necessary, secure permission to conduct surveys, archaeological studies, etc. The right-of-way agent will be the primary point of contact to negotiate with the property owner to acquire the substation site and any required easements on a mutually agreeable basis. To the extent that negotiations reach an impasse, [redacted] will be able to pursue eminent domain. The right-of-way agents will continue to act as a liaison with the property owners during construction and through the restoration process.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	7.j.	**Redacted information** 7.c,d,g

6. Transmission Line Component

Instructions		Inputs - 1	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	6.a.	Component Number	4
Provide the substation endpoints for the proposed transmission line component.	6.b.	Line terminal points	Hunterstown 230kV Green Valley 230kV
Provide the target ratings for the proposed line.	6.c.	Project ratings	774/971 MVA
Provide the proposed conductor type and size.	6.d.	Conductor type and size	1-1590 ACSS
Provide a general description of the line, including nominal voltage, whether the facility will be AC or DC and if the construction will be overhead, underground, submarine or some combination.	6.e.	General line description	The preliminary design for the transmission line utilizes tubular steel monopole structures with single-circuit 1590 kcmil ACSS conductor in a delta configuration and a single optical groundwire. The transmission line will operate at 230kV AC and will be routed overhead for the entire route.
Provide a general description of the evaluated routes or routing study area. Provide a Google Earth .KMZ file with the evaluated routes or study plan.	6.f.	General route description	[redacted]
Describe the terrain traversed by the proposed new line.	6.g.	Terrain description	The terrain traversed by the project features gently rolling hills and crosses a combination of agricultural and forested areas.
Route description by segment that includes lengths and widths and classified by whether the segment will be new right of way, an expansion of an existing right of way or use an existing right of way. This information may be included with the Google Earth .KMZ.	6.h.	Right of way plan by segment	

6. Transmission Line Component

Instructions		Inputs - 1
Provide the corresponding component number from the "Project Components" tab of the proposal template.	6.a.	Component Number: 4
Provide the project right of way and land acquisition plan and approach for both public and private lands.	6.i.	**ROW and land acquisition plan** The Project will be located primarily on new right-of-way to be acquired by [redacted] predominately in the form of easements. [redacted] will assign a Right-of-Way Manager to oversee all real estate related activities for the Project including appraisals, title work, surveying, land acquisition and restoration. A land valuation study will be prepared to establish acreage values for the Project area to serve as the basis for consistent offers for securing easements. Title work will be prepared for each parcel and provided to the survey team for use in preparing legal descriptions for each easement. A right-of-way agent will contact each property owner in person to explain the Project and, as necessary, secure permission to conduct surveys, archaeological studies, etc. Right-of-way agents will be the primary point of contact and negotiate with property owners to acquire the easements on a mutually agreeable basis. To the extent that negotiations reach an impasse, [redacted] will be able to pursue eminent domain. The right-of-way agents will continue to act as a liaison with the property owners during construction and through the restoration process.
Provide the location and plan for any transmission facility crossings.	6.j.	**Transmission facility crossings** The Hunterstown to Green Valley 230kV transmission line will be designed to pass under 500kV transmission lines and over both 230kV and 115kV transmission lines along the route. The transmission line crossings along the route are: Jackson to Hunterstown 230 kV, Hunterstown to Oxford 115 kV, Conastone to Hunterstown 500 kV, Taneytown to Carroll 138 kV, Germantown to Taneytown 138 kV
Provide an assessment of the potential environmental impacts (i.e. environmental impact study requirements, environmental permitting, sediment, and erosion control issues).	6.k.	**Environmental impacts** under PJM review
Proposed tower characteristics such as monopole, lattice, wood h-frame design, double or single circuit, and horizontal, vertical or delta conductor configurations. Note, preliminary drawings for proposed structure types are acceptable in place of a written description.	6.l.	**Tower characteristics** See response in Section 6.e.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	6.m.	**Redacted information** 6.f,k

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 2	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	5
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points	Mt. Airy Green Valley
		Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	Not Applicable.
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	4.d.	Existing hardware plan	Not Applicable.
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	Not Applicable.
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	Not Applicable.

Reconductor/Rebuild Transmission Line Component

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 2	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	5
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	4.g.	Component target ratings	548/688/688 MVA
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	Not Applicable.
If the shield wire is to be replaced, identify the type and size to be used.	4.i.	Proposed shield wire size and type	Not Applicable.
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.	4.j.	Rebuild portion	The fifth component of the Project consists of increasing the rating on the Mt. Airy to Green Valley 230 kV transmission line to its conductor limited rating. The current Mt. Airy to Carroll 230 kV transmission line is radial to Carroll and rated equivalent to the Carroll 230/138 kV transformer. With the new Green Valley 230 kV switching station, and new 230 kV transmission line to Hunterstown, the rating on the remaining Green Valley to Mt. Airy 230 kV transmission line can be increased.
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	Not Applicable.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.l.	Redacted information	

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 3	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	6
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points	Green Valley - Carrol 230kV Dead-End Green Valley - Mt. Airy 230kV Dead-End
		Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	Not Applicable.
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	4.d.	Existing hardware plan	Not Applicable.
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	Not Applicable.
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	Not Applicable.

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 3	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	6
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	4.g.	Component target ratings	Not Applicable.
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	Not Applicable.
If the shield wire is to be replaced, identify the type and size to be used.	4.i.	Proposed shield wire size and type	Not Applicable.
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.	4.j.	Rebuild portion	The sixth component of the Project will require (2) new 230kV dead-end towers at the Green Valley substation to loop-in the the Green Valley - Mt. Airy and Green Valley - Carrol 230kV lines.
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	Any new ROW for the interconnections to be provided by [redacted] as part of its securing the Green Valley substation site. [redacted]
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.l.	Redacted information	

Substation Upgrade Component

5. Substation Upgrade Component

Instructions		Inputs-1	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	5.a.	Component number	7
Identify the name of the existing substation where the upgrade will take place.	5.b.	Substation	Hunterstown
Describe the scope of the upgrade work at the identified substation.	5.c.	Substation upgrade scope	The proposed project will add a new circuit breaker in the southwest most position of the Hunterstown 230kV substation . The Hunterstown - Green Valley 230kV transmission line will terminate at the new line position created by adding the new circuit breaker.
Describe any new substation equipment and provide the equipment ratings.	5.d.	New equipment description	230kV breakers (1) - 4000A.
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	It appears that the southwest most position within the existing Hunterstown 230kV substation has an empty position that is available for a new transmission line connection.
If the upgrade changes or expands upon the substation configuration provide a single line diagram and a station general arrangement drawing. These documents should be provided 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	N/A
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	5.h.	Redacted information	[redacted]

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 4	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	8
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points	Robinson Run - Peach Bottom 500kV Dead-End Robinson Run - Delta 500kV Dead-End
		Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	Not Applicable.
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	4.d.	Existing hardware plan	Not Applicable.
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	Not Applicable.
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	Not Applicable.

Reconductor/Rebuild Transmission Line Component

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 4	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	8
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	4.g.	Component target ratings	Not Applicable.
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	Not Applicable.
If the shield wire is to be replaced, identify the type and size to be used.	4.i.	Proposed shield wire size and type	Not Applicable.
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.	4.j.	Rebuild portion	The eighth component of the Project will require new 500kV dead-end towers the new Robinson Run 500kV substation to loop-in the the Robinson Run - Delta and Robinson Run - Peach Bottom 500kV lines.
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	Any new ROW for the interconnections to be provided by [redacted] as part of its securing the Robinson Run substation site. [redacted]
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.l.	Redacted information	

5. Substation Upgrade Component

Instructions		Inputs-1	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	5.a.	Component number	9
Identify the name of the existing substation where the upgrade will take place.	5.b.	Substation	Graceton
Describe the scope of the upgrade work at the identified substation.	5.c.	Substation upgrade scope	The proposed project will add a new breaker and a half bay in the north end of the existing Graceton substation that will terminates the new Robinson Run - Graceton 230kV transmission line. The new substation configuration will be arranged such that the new Robinson Run - Graceton 230kV transmission line will share a dedicated bay position arranged in a double breaker configuration.
Describe any new substation equipment and provide the equipment ratings.	5.d.	New equipment description	230kV breakers (2) - 5000A.
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	It appears that the existing Graceton substation can be expanded to the north for a new breaker and a half bay for a new 230kV transmission line connection.
If the upgrade changes or expands upon the substation configuration provide a single line diagram and a station general arrangement drawing. These documents should be provided 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	N/A
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	5.h.	Redacted information	[redacted]

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 5	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	10
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points	Peach Bottom 500kV Robinson Run 500kV
		Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	Not Applicable.
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	4.d.	Existing hardware plan	Not Applicable.
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	Not Applicable.
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	Not Applicable.

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 5	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	4.a.	Component number	10
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	4.g.	Component target ratings	Not Applicable.
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type	Not Applicable.
If the shield wire is to be replaced, identify the type and size to be used.	4.i.	Proposed shield wire size and type	Not Applicable.
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.	4.j.	Rebuild portion	Delta to Peach Bottom 500kV is currently a radial line. With the interconnection of the Robinson Run Substation the Robinson Run to Peach Bottom transmission line will become a network faciltiy. [redacted] will work to purchase the facilities from the current owner to put the cost associated with that transaction into [redacted] rates.
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	N/A
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.l.	Redacted information	

Project Financial Information

9. Project Financial Information

Instructions		Inputs

Project Schedule

Provide the planned construction period, include the month and year of when capital spend will begin, when construction will begin and when construction will end. The final construction month should be the month preceding the commercial operation month.

9.a.

Capital spend start date (Mo-Yr)	Jan-20
Construction start date (Mo-Yr)	Jun-21
Commercial operation date (Mo-Yr)	Jun-23

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. Capital expenditure estimates should include all capital expenditure, including any ongoing expenditures, for which the Proposing Entity plans to seek FERC approval for recovery.

9.b.

Capital expenditure details	Total	2020	2021	2022	2023	2024	2025
Engineering and design							
Permitting / routing / siting							
ROW / land acquisition							
Materials and equipment							
Construction and commissioning							
Construction management							
Overheads and miscellaneous costs							
Contingency							
Proposer total capex	$ 69,900,531.41	$ 4,703,348.97	$ 19,450,967.47	$ 28,115,538.66	$ 17,630,676.31		$ -
Work by others capex	$ 15,552,061.75	$ -	$ 5,184,020.58	$ 5,184,020.58	$ 5,184,020.58	$ -	$ -
Total project capex	$ 85,452,593.16	$ 4,703,348.97	$ 24,634,988.05	$ 33,299,559.25	$ 22,814,696.90	$ -	$ -

Even if AFUDC is not going to be employed, provide a yearly AFUDC cash flow.

9.c.

	Total	2020	2021	2022	2023	2024	2025
AFUDC	$ 7,055,713	$ -	$ 243,379	$ 2,219,011	$ 4,593,323		

9. Project Financial Information

Instructions		Inputs
Provide any assumptions for the capital expenditure estimate (e.g. design assumptions, weather, manpower needed and work schedule, number of hours per day, construction area	**9.d.**	**Assumptions for the capital expenditure estimate** The cost and schedule estimates are based off a standard 5 day – 10 hour a day work week.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	**9.e.**	**Redacted information** 9.b,c,d

10. Cost Containment Commitment

Instructions		Inputs
Provide a description of the cost containment mechanism being proposed.	10.a. Cost containment commitment description	All facilities constructed by the Proposing entity will be subject to cost containment.
Indicate what project scope is covered by the proposed cost containment commitment. Identify the components covered by number.	10.b. Project scope covered by the cost containment commitment	All facilities constructed by the Proposing entity will be subject to cost containment. This includes components 1, 3, 4, 8, and 10. All of which will be subject to cost containment.

10. Cost Containment Commitment

Instructions		Inputs
Provide, in present year dollars and year of occurrence dollars, the Proposing Entity's proposed binding cap on capital expenditures.	10.b.i. Cost cap in present year dollars	under PJM review
	Cost cap in in-service year dollars	
	10.b.ii. Additional Information on cost cap:	The intent is to apply the Total Rate Base Cap to cover all of the costs necessary to develop, construct and place the Project in-service including costs related to escalation, taxes, and AFUDC/CWIP.
Provide any additional information related to the cap on capital expenditures, including but not limited to: if AFUDC is included in the cap, if all costs prior to commercial operation date are included in the cap, if the cap includes a variable or fixed inflation rate, etc.		under PJM review

10. Cost Containment Commitment

Instructions		Inputs

Indicate which components of capital costs fall under the cost cap.

10.b.iii Cost containment capital expenditure exemptions

Capital cost component	Component covered by cost containment
Engineering and design	*Yes*
Permitting / routing / siting	*Yes*
ROW / land acquisition	*Yes*
Materials and equipment	*Yes*
Construction and commissioning	*Yes*
Construction management	*Yes*
Overheads and miscellaneous costs	*Yes*
Taxes	*Yes*
AFUDC	*Yes*
Escalation	*Yes*

Describe any other cost containment measures not detailed above.

10.c. Describe any other Cost Containment Measures not covered above:

N/A

Provide language to be included in the Designated Entity Agreement that expresses the legally binding commitment of the developer to the construction cost cap.

10.d. Cost Commitment Legal Language

[redacted] under PJM review

Explain any plans the proposing entity has in place to address the situation where project actual costs exceed the proposed cost containment commitment.

10.e. Actuals Exceed Commitment

[redacted] under PJM review

Describe any files or information that has been redacted from this section and provide the basis for the redaction.

10.f. Redacted information

10.b.i, b.ii,b.iii,,c,d,e