

Executive Summary

utive Summary				
Instructions		In	puts	
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	2018/2019 Long Terr	n Market Efficiency Wind
Provide the Proposing Entity project proposal id. Use "A, B, C,", etc. to differentiate between proposals.	1.c.	Proposal identification		
PJM proposal identification	1.d.	PJM proposal identification	201	819_1-007
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 Install a new 115 kV ring bus at the Orrtanna tap p Lincoln 115 kV 963 line. Add four 115 kV 2000 A b upgrades and/or adjustments as necessary.		
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	
Total current year project cost estimate including estimates for any required Transmission Owner upgrades.	1.i.	Project cost estimate (current year)	\$	7,034,57
Total in-service year project cost estimate including estimates for any required Transmission		Project cost estimate (in-service year)	\$	7,578,23

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Project estimated schedule duration in months.	1.k.	Project schedule duration 27
Indicate if any cost containment commitment is being proposed as part of the project. If ye the "10. Cost Contain" tab within this project proposal template is to be completed	_{S,} 1.I.	Cost containment commitment No
	1.m.	Additional benefits
If the project provides any known additional benefits above solving the identified violations constraints, identify those benefits (e.g. reliability, economic, resilience, etc.).	or	Reduced fault exposure on both source lines to Orrtanna. Reduced fault exposure on main line from Hunterstown to Lincoln.
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

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Executive Summary

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



2.a.

Overloaded Facilities

. 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.

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

FG#	Analysis Type	From Bus #	Facility Name	To Bus #	To Bus Name	СКТ	Voltage	Area



Overloaded Facilities

2. Overloaded Facilities

2.b.

acilities not address structions:	Identify the cr	iteria violation	(s) or system co	onstraint(s) th	at the proposed	l project cause	es or does not	address.
Unique Proposer Generated ID	Analysis Type	Bus #	Facility Name	To Bus #	To Bus Name		Voltage	Area



2.c.

Overloaded Facilities

. Overloaded Facilities

	flowgate(s) addressed by the proposed p						
Instructions:	Identify the Market Efficiency flowga	te(s) the proposed p	roject mitigates.				
FG#	Facility Name	Area	Туре	2023 Frequency (Hours)	2023 Market Congestion (\$ millions)	2026 Frequency (Hours)	2026 Market Congestion (\$ millions)
ME-1	Hunterstown to Lincoln 115 kV	METED	Transmission Line Conductor - Internal Flowgate	1720	20.77	1832	29.62



Major Project Components

Major Project Components					
Instructions			Component 1	Component 2 - PPL Work	Component 2 - METED Work
	3.a.	Component description(s)	Orrtanna Tap 115 kV 4-Breaker Ring	Tap Hunterstown - Lincoln 115 kV (963) line	Tap Hunterstown - Lincoln 115 kV (963
			Bus Switchyard	Tap into existing Hunterstown - Lincoln 115	line
			Install a new 115 kV ring bus at the	kV 963 line at the location of the original tap	Tap into existing Hunterstown - Lincoln
			Orrtanna tap point of the METED	prior to METED's supplemental project that	kV 963 line at the location of the origin
Provide a description for each major project				provides two sources to Orrtanna. Bring the	tap prior to METED's supplemental pro
component. Each project component will require the			kV 963 line. Add four 115 kV 2000 A breakers and eight 2000 A MODs.	Hunterstown and Lincoln lines into the new ring bus with two breakers separation	that provides two sources to Orrtanna. Bring the Hunterstown and Lincoln line
completion of the tab corresponding to the category of the component ("Greenfield Substation Component" tab			Protection upgrades and/or	between them.	into the new ring bus with two breaker
for any proposed new substation, for example).	,		adjustments as necessary.		separation between them.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				PPL to continue tap from new poles installed	
				by METED in METED ROW into new	METED to install poles in METED ROW
					PPL to tap off of and continue tap into
					switchyard.
	3.b.	Component cost (current year)			
		Engineering and design			
		Permitting / routing / siting			
		ROW / land acquisition			
Provide a component project cost breakdown into the		Materials and equipment			
identified categories along with a total component cost.		Construction and commissioning			
Costs should be in current year dollars.		Construction management			
		Overheads and miscellaneous costs			
		Contingency		\$ -	\$
		Total component cost	\$ 5,970,380.09	\$ 688,914.66	\$ 375,2
If this proposal is being submitted as Market Efficiency					
project, provide an in-service year component project	3.c.	Component cost (in-service year)	\$ 6,431,794.97	\$ 742,156.74	\$ 404,2
Identify the entity who will be designated the					

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Greenfield Substation Component

Greenfield Substation Component Instructions		Inputs - 1
Provide the corresponding component number from the "Project Components" tab of the proposal template.	7.a.	Component number
Provide the name for the proposed substation.	7.b.	Proposed substation name Orrtanna Tap 115 kV Switchyard
Provide the latitude and longitude (in decimal degrees) of the site(s) evaluated for the substation.	7.c.	Evaluated location(s)
Provide a general description of the substation. Also, provide a single line diagram and general arrangement drawing	7.d.	Substation description Install a new 115 kV ring bus at the Orrtanna tap point of the METED Hunterstown – Orrtanna – Lincoln 115 kV 963 line (approximately 1.85 miles from Hunterstown 115 kV Station and 1.95 miles from Lincoln 115 kV Substation). Bring the Hunterstown - Orrtanna - Lincoln 115 kV line in and out of the new switchyard and provide two dedicated source feeds to Orrtanna from the new switchyard. Add four 115 kV 2000 A breakers and eight 2000 A MODs. The two dedicated feeds to Orrtanna will be separated by two breakers. Protection upgrades and/or adjustments as necessary.
Describe the major substation equipment and provide the equipment ratings.	7.e.	Substation equipment - All 115kV switchyard conductor will be two (2) 795 ACC conductors (with spacers), per phase, or 4" schedule 80 aluminum bus Install four (4) 115kV, 2000A, 40kA circuit breakers Install eight (8) 115kV, 2000A, motor operated disconnect switches Install six (6) 115kV, 100kVA power voltage transformers Install two (2) 480V fused Square D safety switches Install two (2) 480V-240/120V, 300kVA transformers Install 25'x25" "stick built" or modular control cubicle will be erected and all electrical systems within the cubicle will be installed Break the existing First energy lines near to install 4 steel poles to bring lines into the new switchyard.

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Greenfield Substation 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
Describe the required site size, geography and current land use for the proposed site(s).	7.f.	Geography and land use Fence line = 260 ft by 156 ft. 7.1 acre lot assumed. Land is presently vacant and fairly flat.
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 The site was chosen based on operational and constructability intent. The intent was to minimize earth disturbance and environmental impacts. Upon award throughout development and engineering all civil and permitting activities will be adhered to. It is anticipated that a NPDES permit will be required and the appropraite time will be allotted during project execution.
Community and landowner outreach plan	7.h.	Outreach plan is committed to open communications and transparency throughout the project lifecycle. As such, develops a project-specific Community and Outreach Plan based on the unique conditions associated with each project. To communicate clearly and transparently utilizes a wide variety of strategies including, in-person meetings with local municipalities and regulators, direct mail, project websites, fact sheets, frequently asked questions, and public open houses. For example, during the developed a strategic public outreach program that was the cornerstone of the project's success. The program included soliciting input from and providing timely updates to external stakeholders from the onset of the project through the completion. This was achieved using face to face meetings, direct mailings, multiple rounds if open houses, fact sheets, press releases and an interactive website.



Greenfield Substation 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 project land acquisition plan and approach for both public and private lands.	7.i.	> Ordering of title, Phase 1 environmental study and appraisal > Various disciplines would perform a review to ensure the site meets standards > Meet with the property owner(s) to deliver the 15 Day Packet (PUC Requirement) and begin negotiations > Ongoing property owner negotiations and presentation of formal written offer (Agreement of Sale) once an agreement is reached > Revision (as needed) and execution of Agreement of Sale > to perform due diligence activities (core boring, soil resistivity testing, infiltration testing, all other site testing) during the due diligence period outlined in the Agreement of Sale > Once the site has been approved by all required departments, ROW to coordinate scheduling of closing with OGC and outside counsel
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	7.j.	Redacted information



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 Hunterstown Lincoln 963 line
Provide the size and type conductor that will be removed.	4.c.	Existing Line Physical Characteristics Existing conductor size and type Unknown
	4.d.	Existing hardware plan
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.		Existing hardware is FE owned. New conductor and insulators will be installed between tap point and new 115kV switchyard. Conductor will match or exceed current rating.
Drovide the condition and age of the evicting structures. Describe the findings of any recent inspections or	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.		Existing structures in FE right of way to be replaced with new tap structures.
	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.		New switchyard and tap points located in a farm field, relatively flat.



Reconductor/Rebuild Transmission Line Component

. 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 Match exisitng
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type 795 ACSR 26 / 7
If the shield wire is to be replaced, identify the type and size to be used.	4.i.	Proposed shield wire size and type Would install an equivalent.
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 Not applicable. Not a reconductor, just tapping the 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 Switchyard property to extend to FE exisiting ROW. No additional ROW will be required.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.1.	Redacted information

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

AFUDC cash flow.

9.c.

Project Financial Information Instructions Inputs **Project Schedule** Capital spend start date (Mo-Yr) Jan-19 Provide the planned construction period, include the month and 9.a. year of when capital spend will begin, when construction will begin and when construction will end. The final construction **Construction start date (Mo-Yr)** month should be the month preceding the commercial operation month. Commercial operation date (Mo-Yr) Jan-23 **Project Capital Expenditures** Provide, in present year dollars, capital expenditure estimates 9.b. 2021 2022 2023 2024 Capital expenditure details Total 2019 2020 by year for the Proposing Entity, work to be completed by **Engineering and design** others (e.g. incumbent TO) and total project. Capital expenditure estimates should include all capital expenditure, Permitting / routing / siting including any ongoing expenditures, for which the Proposing **ROW / land acquisition** Entity plans to seek FERC approval for recovery. Materials and equipment **Construction and commissioning** Construction management Overheads and miscellaneous costs \$ \$ Contingency \$ \$ 879,321.56 | \$ 2,110,371.75 | \$ 3,517,286.24 \$ 7,034,572.49 \$ 351,728.62 **Proposer total capex** \$ 175,864.31 Work by others capex Total project capex \$ 7,034,572.49 | \$ 175,864.31 | \$ 351,728.62 | \$ 879,321.56 | \$ 2,110,371.75 | \$ 3,517,286.24

AFUDC

Total

222,763.15 \$

2019

5,569.08

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2020

2021

\$ 11,138.16 \\$ 27,845.39

2022

2023

66,828.95 \$ 111,381.58

2024



Describe any files or information that has been redacted from **9.e.**

this section and provide the basis for the redaction.

Project Financial Information Instructions Inputs Provide any assumptions for the capital expenditure estimate **Assumptions for the capital expenditure** 9.d. (e.g. design assumptions, weather, manpower needed and estimate work schedule, number of hours per day, construction area access, etc.). The estimate assumes competitive unit prices to execute the proposed scope of work. Costs assume favorable weather, schedule, environmental conditions, and outage requirements to execute at a competitive price. The cost assumes that land and land rights for the proposed substation, switchyards and right of way ("ROW") will be acquired in the general vicinity of the locations included within this proposal. Land and ROW will be acquired amicably, and condemnation will not be required. Civil land conditions are suitable for the development of the proposed substations, switchyards, and transmission lines; including but not limited to geotechnical conditions, access rights, stormwater management, and permitting requirements. Potential environmental impacts can reasonably be mitigated or avoided, and appropriate permits and approvals can be readily obtained

Redacted information



Cost Containment Commitment

Containment Commitment			
Instructions		Inputs	
Provide a description of the cost containment mechanism being proposed.	10.a.	Cost containment commitment description	
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	
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 Cost cap in in-service year dollars	
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.	10.b.ii.	Additional Information on cost cap:	
		Cost containment capital expenditure exemptions Capital cost component Engineering and design Permitting / routing / siting ROW / land acquisition	Component covered by cost containment Choose Yes or No Choose Yes or No Choose Yes or No
Indicate which components of capital costs fall under the cost cap.		Materials and equipment Construction and commissioning Construction management Overheads and miscellaneous costs Taxes AFUDC Escalation	Choose Yes or No

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Cost Containment Commitment

Cost Containment Commitment Instructions		Inputs
	10.c.	Describe any other Cost Containment Measures not covered above:
Describe any other cost containment measures not detailed above.		
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
	10.e.	Actuals Exceed Commitment
Explain any plans the proposing entity has in place to address the situation where project actual costs exceed the proposed cost containment commitment.		
Describe any files or information that has been used started from this scatic, and the	10.f.	Redacted information
Describe any files or information that has been redacted from this section and provide the basis for the redaction.		

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