



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.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.a. Proposing Entity name</td> <td style="background-color: black;"></td> </tr> </table>	1.a. Proposing Entity name	
1.a. Proposing Entity name			
Provide the RTEP Proposal Window in which this proposal is being submitted.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.b. Proposal window</td> <td style="background-color: #c6c8ca;">2019 Window 1</td> </tr> </table>	1.b. Proposal window	2019 Window 1
1.b. Proposal window	2019 Window 1		
Provide the Proposing Entity project proposal id. Use "A, B, C, ...", etc. to differentiate between proposals.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.c. Proposal identification</td> <td style="background-color: black;"></td> </tr> </table>	1.c. Proposal identification	
1.c. Proposal identification			
PJM proposal identification	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.d. PJM proposal identification</td> <td style="background-color: #ffc107;">2019_1-620</td> </tr> </table>	1.d. PJM proposal identification	2019_1-620
1.d. PJM proposal identification	2019_1-620		
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 accommodations for the new line.)	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.e. General project description</td> <td style="background-color: #c6c8ca;">Reconfigure Hampshire 138 kV switching station from its current configuration to a 138 kV networked ring bus station. Installing a 34.6 MVAR capacitor at Inwood 138 kV substation.</td> </tr> </table>	1.e. General project description	Reconfigure Hampshire 138 kV switching station from its current configuration to a 138 kV networked ring bus station. Installing a 34.6 MVAR capacitor at Inwood 138 kV substation.
1.e. General project description	Reconfigure Hampshire 138 kV switching station from its current configuration to a 138 kV networked ring bus station. Installing a 34.6 MVAR capacitor at Inwood 138 kV substation.		
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).	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.f. Tie line impact</td> <td style="background-color: #c6c8ca;">No</td> </tr> </table>	1.f. Tie line impact	No
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.)	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.g. Interregional project</td> <td style="background-color: #c6c8ca;">No</td> </tr> </table>	1.g. Interregional project	No
1.g. Interregional project	No		
Indicate if the Proposing Entity intends to construct, own, operate, and maintain the infrastructure built under this proposal.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.h. Construct, own, operate and maintain</td> <td style="background-color: #c6c8ca;">Yes</td> </tr> </table>	1.h. Construct, own, operate and maintain	Yes
1.h. Construct, own, operate and maintain	Yes		
Total current year project cost estimate including estimates for any required Transmission Owner upgrades.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.i. Project cost estimate (current year)</td> <td style="background-color: #c6c8ca;">\$ 15,110,900.00</td> </tr> </table>	1.i. Project cost estimate (current year)	\$ 15,110,900.00
1.i. Project cost estimate (current year)	\$ 15,110,900.00		
Total in-service year project cost estimate including estimates for any required Transmission Owner upgrades.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.j. Project cost estimate (in-service year)</td> <td style="background-color: #c6c8ca;">\$ 15,110,900.00</td> </tr> </table>	1.j. Project cost estimate (in-service year)	\$ 15,110,900.00
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Project estimated schedule duration in months.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.k. Project schedule duration</td> <td style="background-color: #c6c8ca;">28 months</td> </tr> </table>	1.k. Project schedule duration	28 months
1.k. Project schedule duration	28 months		
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	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.l. Cost containment commitment</td> <td style="background-color: #c6c8ca;">No</td> </tr> </table>	1.l. Cost containment commitment	No
1.l. 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.).	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.m. Additional benefits</td> <td style="background-color: #c6c8ca;">Ring bus configuration at Hampshire provides better reliability by providing better sectionalizing capability than the circuit switchers and will keep the network path intact to provide better reliability and support network flow. Capacitor at Inwood will provide better voltage support to the transmission system as well as the underlying 34.5 kV system for normal and contingent conditions.</td> </tr> </table>	1.m. Additional benefits	Ring bus configuration at Hampshire provides better reliability by providing better sectionalizing capability than the circuit switchers and will keep the network path intact to provide better reliability and support network flow. Capacitor at Inwood will provide better voltage support to the transmission system as well as the underlying 34.5 kV system for normal and contingent conditions.
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Confirm that all technical analysis files have been provided for this proposal.	<table border="1"> <tr> <td style="background-color: #4a5558; color: white;">1.n. Technical analysis files provided</td> <td style="background-color: #c6c8ca;"><input checked="" type="checkbox"/></td> </tr> </table>	1.n. Technical analysis files provided	<input checked="" type="checkbox"/>
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Confirm that all necessary project diagrams have been provided for this proposal.	1.o. Project diagram files provided <input checked="" type="checkbox"/>
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 <input type="checkbox"/>
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 No
	1.q.ii. Evaluated in interregional analysis under PJM Tariff or Operating Agreement provisions 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.	



Major Project Components

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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 corresponding (yellow) component tab. For example, complete a component on the "Greenfield Sub Comp" tab for each proposed new substation.	3.a.	Component description(s)	Hampshire 138 kV Substation Reconfiguration - Reconfigure Hampshire 138 kV switching station from its current configuration to a ring bus.	Inwood 138 kV 34.6 MVAR Capacitor - Install a 34.6 MVAR capacitor at Inwood 138 kV Substation protected by a capacitor switcher.	
	3.b.	Component cost (current year)			
Provide a project cost breakdown by the indicated categories for each component. State costs in current year dollars.		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	\$ 13,769,900.00	\$ 1,341,000.00	\$ -
For Market Efficiency projects, provide an in-service year component project total cost.	3.c.	Component cost (in-service year)	\$ 13,769,900.00	\$ 1,341,000.00	
Identify the entity who will be designated to build the component.	3.d.	Construction responsibility	FirstEnergy	FirstEnergy	



Substation Upgrade Component

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5. Substation Upgrade Component

Instructions	Inputs-1		
Provide the corresponding component number from the "Project Components" tab.	<table border="1"> <tr> <td data-bbox="1460 413 2175 493">5.a. Component number</td> <td data-bbox="2175 413 3052 493">1</td> </tr> </table>	5.a. Component number	1
5.a. Component number	1		
Identify the name of the existing substation where the upgrade will take place.	<table border="1"> <tr> <td data-bbox="1460 493 2175 574">5.b. Substation</td> <td data-bbox="2175 493 3052 574">Hampshire 138 kV</td> </tr> </table>	5.b. Substation	Hampshire 138 kV
5.b. Substation	Hampshire 138 kV		
Describe the scope of the upgrade work at the identified substation.	<table border="1"> <tr> <td data-bbox="1460 574 2175 715">5.c. Substation upgrade scope</td> <td data-bbox="2175 574 3052 715">Reconfigure Hampshire 138 kV substation from its current configuration to a four-breaker ring bus station. Upgrade relays, line trap, and substation conductor at Hampshire substation.</td> </tr> </table>	5.c. Substation upgrade scope	Reconfigure Hampshire 138 kV substation from its current configuration to a four-breaker ring bus station. Upgrade relays, line trap, and substation conductor at Hampshire substation.
5.c. Substation upgrade scope	Reconfigure Hampshire 138 kV substation from its current configuration to a four-breaker ring bus station. Upgrade relays, line trap, and substation conductor at Hampshire substation.		
Describe any new substation equipment and provide the equipment ratings.	<table border="1"> <tr> <td data-bbox="1460 715 2175 997">5.d. New equipment description</td> <td data-bbox="2175 715 3052 997"> <ul style="list-style-type: none"> - The new ring bus will require four 3000 A circuit breakers and relay panels. - Electromechanical relaying to be replaced with new standard line relay panel. - 1200 A Line Trap. - Substation conductor to be replaced will be rated higher than line conductor. </td> </tr> </table>	5.d. New equipment description	<ul style="list-style-type: none"> - The new ring bus will require four 3000 A circuit breakers and relay panels. - Electromechanical relaying to be replaced with new standard line relay panel. - 1200 A Line Trap. - Substation conductor to be replaced will be rated higher than line conductor.
5.d. New equipment description	<ul style="list-style-type: none"> - The new ring bus will require four 3000 A circuit breakers and relay panels. - Electromechanical relaying to be replaced with new standard line relay panel. - 1200 A Line Trap. - Substation conductor to be replaced will be rated higher than line conductor. 		
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.	<table border="1"> <tr> <td data-bbox="1460 997 2175 1280">5.e. Substation assumptions</td> <td data-bbox="2175 997 3052 1280"> All work will be performed within the existing substation property. Estimate assumes existing line tuner is adequate. Estimate assumes existing CT stand and line trap stand is adequate. Estimate assumes modifications will be needed to existing SCADA points </td> </tr> </table>	5.e. Substation assumptions	All work will be performed within the existing substation property. Estimate assumes existing line tuner is adequate. Estimate assumes existing CT stand and line trap stand is adequate. Estimate assumes modifications will be needed to existing SCADA points
5.e. Substation assumptions	All work will be performed within the existing substation property. Estimate assumes existing line tuner is adequate. Estimate assumes existing CT stand and line trap stand is adequate. Estimate assumes modifications will be needed to existing SCADA points		
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.	<table border="1"> <tr> <td data-bbox="1460 1280 2175 1421">5.f. Substation drawings</td> <td data-bbox="2175 1280 3052 1421">see preliminary plan view</td> </tr> </table>	5.f. Substation drawings	see preliminary plan view
5.f. Substation drawings	see preliminary plan view		
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.	<table border="1"> <tr> <td data-bbox="1460 1421 2175 1582">5.g. Real-estate plan</td> <td data-bbox="2175 1421 3052 1582">No additional real estate is anticipated.</td> </tr> </table>	5.g. Real-estate plan	No additional real estate is anticipated.
5.g. Real-estate plan	No additional real estate is anticipated.		
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	<table border="1"> <tr> <td data-bbox="1460 1582 2175 1764">5.h. Redacted information</td> <td data-bbox="2175 1582 3052 1764">Substation layout redacted. This information is confidential.</td> </tr> </table>	5.h. Redacted information	Substation layout redacted. This information is confidential.
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Substation Upgrade Component

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5. Substation Upgrade Component		Inputs-1	
Instructions			
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	Inwood 138 kV
Describe the scope of the upgrade work at the identified substation.	5.c.	Substation upgrade scope	Install a 34.6 MVAR rated (31.7 MVAR effective), 138 kV capacitor, protected by a 138 kV capacitor switcher and associated facilities.
Describe any new substation equipment and provide the equipment ratings.	5.d.	New equipment description	- New 138 kV terminal will include equipment such as a 138 kV 34.6 MVAR capacitor, capacitor switcher, relay panel, and disconnects.
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	All work will be performed within the existing substation property. Estimate assumes existing line tuner is adequate. Estimate assumes existing CT stand and line trap stand is adequate. Estimate assumes modifications will be needed to existing SCADA points
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	see preliminary plan view
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	Substation layout redacted. This information is confidential.



Project Financial Information

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9. Project Financial Information

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 the end of construction.

9.a.	Capital spend start date (Mo-Yr)	Dec-21
	Construction start date (Mo-Yr)	Apr-22
	Commercial operation date (Mo-Yr)	Jun-24

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 details	Total	2019	2020	2021	2022	2023	2024
	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							
	Work by others capex							
	Total project capex	\$ 15,110,900	\$ -	\$ -	\$ -	\$ 163,100	\$ 6,614,900	\$ 8,332,900

Provide a yearly AFUDC cash flow, even if AFUDC is not going to be employed.

9.c.		Total	2019	2020	2021	2022	2023	2024
	AFUDC							

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

9.d.	Assumptions for the capital expenditure estimate
	FirstEnergy considers the requested cost detail confidential and proprietary

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

9.e.	Redacted information
	FirstEnergy considers the requested cost detail confidential and proprietary