



Executive Summary

1. Executive Summary		Inputs	
Instructions			
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	Long Term Window RTEP 2018/2019
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_1-453
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.)	1.e.	General project description	The project consists of building a new 25 MW 4-hour battery to be connected to the existing Lincoln 115 kV station.
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)	\$ 25,684,836.00
Total in-service year project cost estimate including estimates for any required Transmission Owner upgrades.	1.j.	Project cost estimate (in-service year)	\$ 26,693,285.00



Executive Summary

1. Executive Summary

Instructions

Inputs

Project estimated schedule duration in months.

1.k.

Project schedule duration

23

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

1.m.

Additional benefits

If the project provides any known additional benefits above solving the identified violations or constraints, identify those benefits (e.g. reliability, economic, resilience, etc.).

This solution provides additional grid resiliency as well as the potential for energy, ancillary and capacity market 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





Executive Summary

1. Executive Summary							
Instructions	Inputs						
	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.	<table border="1"> <tr> <td>1.q.i.</td> <td>Interregional Cost Allocation Evaluation</td> <td>No</td> </tr> <tr> <td>1.q.ii.</td> <td>Evaluated in interregional analysis under PJM Tariff or Operating Agreement provisions</td> <td>No</td> </tr> </table>	1.q.i.	Interregional Cost Allocation Evaluation	No	1.q.ii.	Evaluated in interregional analysis under PJM Tariff or Operating Agreement provisions	No
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.	<table border="1"> <tr> <td></td> <td>If 'yes,' specify analysis and applicable Tariff or Operating Agreement provisions</td> </tr> <tr> <td></td> <td>N/A</td> </tr> </table>		If 'yes,' specify analysis and applicable Tariff or Operating Agreement provisions		N/A		
	If 'yes,' specify analysis and applicable Tariff or Operating Agreement provisions						
	N/A						
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.	<table border="1"> <tr> <td>1.q.iii.</td> <td>Regional and Interregional violations and issues from the Regional and/or Interregional analyses that identified the violations and issues addressed by the proposal.</td> </tr> <tr> <td></td> <td>N/A</td> </tr> </table>	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.		N/A		
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.						
	N/A						



Major Project Components

3. Major Project Components				
Instructions				
<p>3.a.</p> <p>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).</p>	Component description(s)	Component 1	Component 2	Component 3
		Build a new Shealer battery storage facility 115 kV line/25 MW-4 hour battery to connect battery facility to the existing Lincoln 115 kV	Add new breaker and bus work at Lincoln 115 kV	
<p>3.b.</p> <p>Provide a component project cost breakdown into the identified categories along with a total component cost. Costs should be in current year dollars.</p>	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	\$ 24,884,836.00	\$ 800,000.00	\$ -
<p>3.c.</p> <p>If this proposal is being submitted as Market Efficiency project, provide an in-service year component project</p>	Component cost (in-service year)	\$ 25,860,965.00	\$ 832,320.00	
<p>3.d.</p> <p>Identify the entity who will be designated the component.</p>	Construction responsibility			



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 name for the proposed substation.	7.b. Proposed substation name Shealer Battery Energy Storage System (BESS)
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 new 25 MW-4 Hour Shealer BESS will be located on private property just northwest of the existing Lincoln 115 kV switchyard. The BESS will interconnect to the Lincoln 115 kV switchyard. [Redacted]
Describe the major substation equipment and provide the equipment ratings.	7.e. Substation equipment 115/34.5 kV, 28 MVA Transformer
Describe the required site size, geography and current land use for the proposed site(s).	7.f. Geography and land use The proposed battery storage footprint will 4 acres of argicultural use land located in [Redacted]



Greenfield Substation Component

7. Greenfield Substation Component

Instructions

Provide the corresponding component number from the "Project Components" tab of the proposal template.

7.a.

Provide an assessment of the potential environmental impacts (i.e. environmental impact study requirements, environmental permitting, sediment, and erosion control issues).

7.g.

Inputs - 1

Component number

1

Environmental assessment

A NPDES permit for stormwater discharges associated with construction activities would be required for this Project since greater than one acre of earth disturbance is proposed.

Any encroachment or adverse impacts to regulated aquatic resources would be permitted before construction activities can commence. This project is located in the [REDACTED]. In the vicinity of the project area exists Chapter 93 Designated Streams, described as warm water fisheries (WWF); special precautions will be taken in the stormwater and erosion and sediment control designs.

One hundred year floodplains exist in the project vicinity. The project would avoid or minimize impacts to the maximum extent practicable by placing project infrastructure outside of the floodplain/floodway boundaries. [REDACTED] requires floodplain development permit for any proposed development within a FEMA-recognized 100-year floodplain. Chapter 106 issued under Section 302 of the Flood Plain Management Act Authorization is required for construction activities within the regulated floodway boundary.

It appears that this project could be constructed on the selected site with minimal to no impacts to floodplain, streams and wetlands.

The USFWS identified the federally and state endangered Indiana Bat (*Myotis sodalis*), Northern Long Eared Bat (*Myotis septentrionalis*), Bog Turtle (*Clemmys muhlenbergii*), and Northeastern Bulrush (*Scirpus ancistrochaetus*) plant as potentially occurring in the vicinity of the project. The listed species should not present a permitting issue for the project as majority of the site is disturbed with agriculture activities and has no known critical habitat present. Biological field surveys and agency coordination would be conducted to validate this assumption. Tree clearing and vegetation removal activities will be targeted for the agency recommended clearing windows (i.e., winter).



Greenfield Substation Component

7. Greenfield Substation Component

Instructions

Provide the corresponding component number from the "Project Components" tab of the proposal template. 7.a.

Inputs - 1

Component number	1
<p>The study area was reviewed within The Nature Conservancy's Resilient and Connected Landscapes network mapping tool; the project area lies outside of any priority resilience or connected landscapes, therefore no environmental NGO project opposition is expected.</p>	
<p>A review of the Pennsylvania Historical and Museum Commission's Cultural Resource GIS database was completed, and found the site to be in proximity to the [REDACTED] and the historic [REDACTED]. Close coordination with the [REDACTED] and possibly the National Park Service (NPS) is anticipated. [REDACTED] will engage state-approved archeologists and historians on additional studies and recommendations. Note, there may be properties or archaeological sites 50 years of age or older that have not yet been identified or evaluated within the project area of potential affect. During the Land Development process, a more detailed review of the subject parcels may be required by PHMC to determine if archeological or historical features exist. At this time, no known historic or culturally significant resources are anticipated to be directly impacted by the project.</p>	
<p>A few residences and/or institutions are located in the vicinity of the proposed project that may be impacted by construction or operations. Noise and visual impact assessments will be prepared as necessary during the permitting process.</p>	



Greenfield Substation Component

7. Greenfield Substation Component

Instructions

Provide the corresponding component number from the "Project Components" tab of the proposal template. 7.a.

Community and landowner outreach plan

7.h.

Inputs - 1

Component number

1

Outreach plan

██████████ is committed to working with all interested stakeholders through a robust outreach and education (O&E) program to address/respond to community concerns and inform the public about the project to the greatest extent practicable. ██████████ believes a well-designed O&E program can have numerous benefits, including fostering a cooperative relationship with landowners and other stakeholders, expediting the regulatory permitting process, and assisting with project development. In general, the purpose of the community outreach plan is to gain community support for the project, in particular the affected community, to enable ██████████ to expeditiously comply with all relevant regulatory requirements that would permit timely construction and operation of the proposed project. Elements of the community outreach plan will include the following:

- Identify potential issues at an early stage by engagement with key community stakeholders at the outset;
- Broaden the community engagement process to identify potential and relevant community benefits that can facilitate community support for the proposed project;
- Develop a broad base of community support for the proposed project before the regulatory agencies; and
- Develop a comprehensive administrative record documenting the community outreach process that can be presented to the regulatory agency or, in the event of a legal challenge, to the appropriate court.

The plan proposes to dedicate considerable time and resources in engaging the community, and specifically the affected community during the planning process to identify highly sensitive areas that have the least amount of cultural, environmental, and social impacts on the community. The plans will reflect avoidance of impacts rather than mitigation. However, in some cases, if avoidance is not possible, then ██████████ will involve the community in providing appropriate and practical mitigation measures.



Greenfield Substation Component

7. Greenfield Substation Component

Instructions

Provide the corresponding component number from the "Project Components" tab of the proposal template. 7.a.

Provide the project land acquisition plan and approach for both public and private lands. 7.i.

Describe any files or information that has been redacted from this section and provide the basis for the redaction. 7.j.

Inputs - 1

Component number

1

Land acquisition plan

Key elements in [redacted] approach to the landowner negotiation process for this project, and other projects in PJM, include:

- Proactively conducting a market analysis of land values in the project area;
- Producing a fair and comprehensive land acquisition plan and schedule for securing necessary land rights and site control;
- Utilizing local land acquisition teams knowledgeable of the project area; and
- Taking a transparent approach in discussing the project and [redacted] development interests in the subject property.

[redacted] will negotiate agreements with the landowners of the proposed project area. [redacted] philosophy for landowner relations is to work with residents during all phases of a project to address issues as they arise, before and after acquisition of land rights. [redacted] is committed to serving as the point of contact for residents, whether directly or indirectly affected by the project, for the duration of the project. [redacted] uses a collaborative and consultative approach to working with landowners, focusing on regular communication, to understand and address issues on an ongoing basis. [redacted] is also committed to using design and construction techniques that minimize impacts on private lands, and to restoring the construction sites of the projects to be both good stewards of the environment and good neighbors in the communities in which [redacted] live and work.

Redacted information

under PJM review



Substation Upgrade Component

5. Substation Upgrade Component

Instructions	Inputs-1		
Provide the corresponding component number from the "Project Components" tab of the proposal template.	<table border="1"> <tr> <td data-bbox="1485 445 2147 546">5.a. Component number</td> <td data-bbox="2147 445 2983 546">2</td> </tr> </table>	5.a. Component number	2
5.a. Component number	2		
Identify the name of the existing substation where the upgrade will take place.	<table border="1"> <tr> <td data-bbox="1485 546 2147 626">5.b. Substation</td> <td data-bbox="2147 546 2983 626">Lincoln</td> </tr> </table>	5.b. Substation	Lincoln
5.b. Substation	Lincoln		
Describe the scope of the upgrade work at the identified substation.	<table border="1"> <tr> <td data-bbox="1485 626 2147 667">5.c. Substation upgrade scope</td> <td data-bbox="2147 626 2983 828">Add new 115 kV breaker, expand existing 115 kV buswork</td> </tr> </table>	5.c. Substation upgrade scope	Add new 115 kV breaker, expand existing 115 kV buswork
5.c. Substation upgrade scope	Add new 115 kV breaker, expand existing 115 kV buswork		
Describe any new substation equipment and provide the equipment ratings.	<table border="1"> <tr> <td data-bbox="1485 828 2147 868">5.d. New equipment description</td> <td data-bbox="2147 828 2983 1030">New breakers, switches, and terminal equipment will be rated for at least 1000 amps.</td> </tr> </table>	5.d. New equipment description	New breakers, switches, and terminal equipment will be rated for at least 1000 amps.
5.d. New equipment description	New breakers, switches, and terminal equipment will be rated for at least 1000 amps.		
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="1485 1030 2147 1070">5.e. Substation assumptions</td> <td data-bbox="2147 1030 2983 1231">Based on desktop analysis, it appears possible to expand the buswork and add a new breaker within the existing footprint of the existing switchyard. Ultimately, this work will be designed by the owner of the switchyard.</td> </tr> </table>	5.e. Substation assumptions	Based on desktop analysis, it appears possible to expand the buswork and add a new breaker within the existing footprint of the existing switchyard. Ultimately, this work will be designed by the owner of the switchyard.
5.e. Substation assumptions	Based on desktop analysis, it appears possible to expand the buswork and add a new breaker within the existing footprint of the existing switchyard. Ultimately, this work will be designed by the owner of the switchyard.		
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.	<table border="1"> <tr> <td data-bbox="1485 1231 2147 1272">5.f. Substation drawings</td> <td data-bbox="2147 1231 2983 1393"><i>Appendix 9 - System One-line drawings</i></td> </tr> </table>	5.f. Substation drawings	<i>Appendix 9 - System One-line drawings</i>
5.f. Substation drawings	<i>Appendix 9 - System One-line drawings</i>		
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="1485 1393 2147 1433">5.g. Real-estate plan</td> <td data-bbox="2147 1393 2983 1594">Desktop analysis indicates it may be possible to utilize the existing footprint</td> </tr> </table>	5.g. Real-estate plan	Desktop analysis indicates it may be possible to utilize the existing footprint
5.g. Real-estate plan	Desktop analysis indicates it may be possible to utilize the existing footprint		
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="1485 1594 2147 1634">5.h. Redacted information</td> <td data-bbox="2147 1594 2983 1840">5F, Contains CEII Information</td> </tr> </table>	5.h. Redacted information	5F, Contains CEII Information
5.h. Redacted information	5F, Contains CEII Information		



8 Redacted information

Redacted financial information	
Question ID	Redacted response
	under PJM review

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)

Mar-21

Commercial operation date (Mo-Yr)

Dec-21

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	\$ 24,884,836.00	\$ 14,331,232.27	\$ 10,553,603.73				
Work by others capex	\$ 800,000.00	\$ -	\$ 800,000.00				
Total project capex	\$ 25,684,836.00	\$ 14,331,232.27	\$ 11,353,603.73				

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	\$ 2,319,776.19	\$ 627,617.32	\$ 1,692,158.88				

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	<ul style="list-style-type: none"> -Includes sales and property tax -Non-union wages -Construction work schedule assumes standard 5-8 (40 hours per week), no work outside of daylight hours
--	---

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

9.e. Redacted information	<p style="color: red; text-align: center;">under PJM review</p>
----------------------------------	---



Cost Containment Commitment

10. Cost Containment Commitment

Instructions	Inputs																						
<p>10.a.</p> <p>Provide a description of the cost containment mechanism being proposed.</p>	<p>Cost containment commitment description</p> <p>The developer is proposing a firm cost cap on the project components they are responsible for. [REDACTED]</p>																						
<p>10.b.</p> <p>Indicate what project scope is covered by the proposed cost containment commitment. Identify the components covered by number.</p>	<p>Project scope covered by the cost containment commitment</p> <p>Project Component 1</p>																						
<p>10.b.i.</p> <p>Provide, in present year dollars and year of occurrence dollars, the Proposing Entity's proposed binding cap on capital expenditures.</p>	<p>Cost cap in present year dollars \$ [REDACTED]</p> <p>Cost cap in in-service year dollars \$ [REDACTED]</p>																						
<p>10.b.ii.</p> <p>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.</p>	<p>Additional Information on cost cap:</p> <p>With the exception of adjustments for inflation and "excluded costs" as identified in 10.d, all costs prior to commercial operation are included in the proposed cost containment commitment. See proposed cost commitment language in 10.d for more details.</p>																						
<p>10.b.iii</p> <p>Indicate which components of capital costs fall under the cost cap.</p>	<table border="1"> <thead> <tr> <th>Capital cost component</th> <th>Component covered by cost containment</th> </tr> </thead> <tbody> <tr><td>Engineering and design</td><td>Yes</td></tr> <tr><td>Permitting / routing / siting</td><td>Yes</td></tr> <tr><td>ROW / land acquisition</td><td>Yes</td></tr> <tr><td>Materials and equipment</td><td>Yes</td></tr> <tr><td>Construction and commissioning</td><td>Yes</td></tr> <tr><td>Construction management</td><td>Yes</td></tr> <tr><td>Overheads and miscellaneous costs</td><td>Yes</td></tr> <tr><td>Taxes</td><td>Yes</td></tr> <tr><td>AFUDC</td><td>Yes</td></tr> <tr><td>Escalation</td><td>Yes</td></tr> </tbody> </table>	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
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																						



Cost Containment Commitment

10. Cost Containment Commitment

Instructions	Inputs
--------------	--------

Describe any other cost containment measures not detailed above.

10.c. Describe any other Cost Containment Measures not covered above:
Adjustments for inflation and "Excluded costs" as identified in 10.d

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
under PJM review



10. Cost Containment Commitment

Instructions

Inputs

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

agrees that it will not seek recovery through its Annual Transmission Revenue Requirement of any Construction Costs in excess of an amount equal to the lessor of (i) the Construction Cost Cap Amount, as adjusted for inflation, or (ii) the aggregate amount of actual construction costs associated with the Project.

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

10.f. Redacted information