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	2018/19 RTEP 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_1-398
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 Project Team proposes to build the “Meadow Lake – Pike Creek 345 kV Project” (or, “the Project”) in Indiana and Illinois. The Project will establish a new 345 kV transmission line from the existing Meadow Lake station to a new 345 kV switching station called “Pike Creek."
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	*Yes*
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)	$225,308,220
Total in-service year project cost estimate including estimates for any required Transmission Owner upgrades.	1.j.	Project cost estimate (in-service year)	$266,437,682

1. Executive Summary

Instructions		Inputs	
Project estimated schedule duration in months.	**1.k.**	**Project schedule duration**	47
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**	*No*
If the project provides any known additional benefits above solving the identified violations or constraints, identify those benefits (e.g. reliability, economic, resilience, etc.).	**1.m.**	**Additional benefits**	The project should be evaluated using the Local benefit metric. This project will also address RPM constraints identified by PJM in the Commonwealth Edison Company zone. Specifically, the Project is designed to address the Thermal and Voltage constraints for transfers into the COMED zone as seen in the previous PJM 2020-2021 BRA and PJM 2021-2022 BRA Planning Parameters and Capacity Market Results as well as the newly released 2021-2022 BRA Planning Parameters. The 2021-2022 Parameters identified the CETL constraint as being a thermal limit of the Dumont - Stillwell 345 kV circuit for the loss of the Dumont - Wilton 765 kV circuit (occurring at approximately 5,574 MW transfer level). This project should be considered as both a standalone project in PJM as well as a potential JOA project with MISO.
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**	*Yes*
	1.q.ii.	**Evaluated in interregional analysis under PJM Tariff or Operating Agreement provisions**	*Yes*
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**	PJM-MISO Joint Operating Agreement - 2018 RTEP and MTEP 2019 Market Efficiency Analysis
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.**	**MTEP 2019 Market Efficiency Analysis** M2M Flowgate: C-G: Bosserman-Trail Creek 138 kV M2M Flowgate: C-J: Munster Transformer 345/138 kV **2018 RTEP Market Efficiency Analysis** M2M Flowgate: ME-7: Bosserman-Trail Creek 138 kV FLO Bosserman-Michigan City 138 kV

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

2.b.

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

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-7	Bosserman to Trail Creek 138kV	MISOE	Line	66	1.47	89	1.69

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)	Meadow Lake - Pike Creek 345kV Transmission Line	Pike Creek 345kV Station	Meadow Lake 345kV 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	$ 190,383,229	$ 25,352,427	$ 3,379,780
3.c.	Component cost (in-service year)	$ 225,137,219	$ 29,980,450	$ 3,996,751
3.d.	Construction responsibility	[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 4	Component 5	Component 6
3.a.	Component description(s)	Davis Creek - Burnham 345 kV Line & Davis Creek - Bloom 345 kV Line & Transmission Line Removal	Remote End Relaying	

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

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	$ 5,742,785	$ 450,000	

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

3.c.	Component cost (in-service year)	$ 6,791,116	$ 532,146	

Identify the entity who will be designated the component.

3.d.	Construction responsibility	[redacted]

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	1
Provide the substation endpoints for the proposed transmission line component.	6.b.	Line terminal points	Meadow Lake 345 kV Station Pike Creek 345 kV Station
Provide the target ratings for the proposed line.	6.c.	Project ratings	1409/1959/1781/2200
Provide the proposed conductor type and size.	6.d.	Conductor type and size	2-Bundle 954 kcm ACSR 54/7 Cardinal
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	Approximately 63.4 miles of two new 345 kV single circuit transmission lines sharing a common tower will be constructed between the proposed Pike Creek 345 kV Substations and the existing Meadow Lake 345 kV Substation. The Meadow Lake – Pike Creek 345 kV lines will be constructed predominately using double circuit steel lattice towers with I-string insulators in Indiana, monopole structures will primarily be used in Illinois. The circuits will be arranged in a vertical configuration. The predominant structure types will use concrete pier foundations.
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] developed a Conceptual Route based on a desktop review of publicly-available data. Based on the physical locations of the terminal points and the constraints identified within the Project Area, the Conceptual Route represents a logical and constructible route. Starting at the proposed Pike Creek Substations in Will County, Illinois the Conceptual Route runs southeast into Indiana to the existing Meadow Lake Substation located in White County, Indiana. The Conceptual Route is approximately 63.4 miles long and is located in mainly agricultural areas with rural residential development. A conceptual route drawing and kmz files are included.
Describe the terrain traversed by the proposed new line.	6.g.	Terrain description	The project corridor area is primarily rural, open with low densities of residential development dominated by large farm-agricultural use. A wind farm is located north of the Meadow Lake Substation and is crossed by the conceptual route.

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**: 1
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**: The Project will be sited in White, Jasper, Newton and Lake Counties, Indiana and Kankakee and Will Counties, Illinois. The tabletop analysis found there were public lands required for this Project. The line will require approximately 63.4 miles of new 150'-wide ROW where land use is predominantly agricultural.
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 Team will use proven land acquisition process and approach that are successfully employed on hundreds of projects every year. The initial land acquisition step is to verify current ownership by an examination of title. The Project Team will also verify current property tax status, as well as document any liens, and/or mortgages. The Project Team will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, The Project Team will negotiate with property owners based on the fair market value of the property needed for the ROW. Market data studies and appraisals, both general and for specific tracts, will be conducted to establish values and a basis for acquisition negotiations. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary agreement between the company and the property owner cannot be reached, and other viable alternatives do not exist, the company may exercise the right of eminent domain to secure required easements through condemnation proceedings. In addition to compensation for the easement, the company will pay for any crop damage and physical damage to property resulting from the construction and maintenance of the transmission line.
Provide the location and plan for any transmission facility crossings.	**6.j.**	**Transmission facility crossings**: The Conceptual Route is approximately 63.4 miles long and is located in mainly agricultural areas with rural residential development. The route will cross I-65, the Kankakee River, the Ernie Niemeyer Creek and Levy, and traverse a wind farm north of Meadow Lake Substation. The Conceptual Route also crosses three transmission lines. The first is near Meadow Lake Station, the second crossing is approximately 9 miles north of Meadow Lake Station, and the third crossing will be just outside the proposed Pike Creek Stations. Multiple road crossings will be also required including a crossing of I-65. The conceptual route for the Project is provided below.

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: 1
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** The Project Team will use [redacted] experienced resources and follow their proven practices for environmental, siting, and permitting activities. They bring extensive experience and knowledge in transmission line siting and environmental permitting, including recent projects in the project area. Proactive communication with stakeholders and protecting human and environmental resources are of utmost importance. The study area is agricultural with isolated forested areas. It includes crossing the Kankakee River, small narrow streams and some wetlands. Federal and state protected species studies will be required and construction activities may be seasonally restricted. Once a preferred route has been identified, The Project Team will work with all the agencies listed to obtain all necessary federal, state, and local permits.
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** The Meadow Lake - Pike Creek 345kV Transmission line is comprised of approximately 63.4 miles of two new 345 kV single circuit transmission lines sharing a common tower will be constructed between the proposed Pike Creek 345 kV Substations and the existing Meadow Lake 345 kV Substation. The Meadow Lake – Pike Creek 345 kV lines will be constructed predominately using double circuit steel lattice towers with I-string insulators in Indiana, monopole structures will primarily be used in Illinois. The circuits will be arranged in a vertical configuration. The predominant structure types will use concrete pier foundations. A sketch of the typical proposed structure type is provided.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	6.m.	**Redacted information** All information on Tab 6 should be redacted including any drawings and attachments due to sensitive business information and CEII.

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**	2
Provide the name for the proposed substation.	**7.b.**	**Proposed substation name**	Pike Creek 345 kV Station
Provide the latitude and longitude (in decimal degrees) of the site(s) evaluated for the substation.	**7.c.**	**Evaluated location(s)**	LATITUDE = 41.320836 LONGITUDE = -87.583516
Provide a general description of the substation. Also, provide a single line diagram and general arrangement drawing.	**7.d.**	**Substation description**	The new 345 kV Pike Creek stations will consist of breakers, switches, coupling capacitor voltage transformers (CCVTs) and bus. The proposed location is near the intersection of the 345 kV Bloom – Davis Creek and the 345 kV Burnham – Davis Creek lines. The 345 kV Bloom – Davis line will be routed in and out of the new Pike Creek; Blue bus, and the 345 kV Burnham – Davis Creek line will be routed in and out of the new Pike Creek; Red bus. The Pike Creek Station will consist of 7 – 345 kV, 3000A, 63kA circuit breakers, 3000A switches, and associated sections of bus. The station will be built as two electrically separate breaker and a half arrangements known as Pike Creek; Red Bus and Pike Creek; Blue Bus. Each side will have three breakers operated as a ring with a normally open bus tie breaker connecting them at 345 kV, resulting in 7 - 3000A, 63kA circuit breakers, 3000A switches, and associated sections of bus. The station will be split to meet the necessary short circuit capabilities on ComEd's system. Bus rating and equipment specifications will be determined during detail system design. The new Pike Creek Station will be developed within an area of 40.00 acres to be located in the vicinity of the following coordinates LATITUDE = 41.320836 and LONGITUDE = -87.583516. Preliminary analysis of the studied area has identified a potential suitable site for this new station. General arrangement and conceptual one-line drawings are provided.

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**: 2
Describe the major substation equipment and provide the equipment ratings.	**7.e.**	**Substation equipment**: The new 345 kV Pike Creek stations will consist of breakers, switches, coupling capacitor voltage transformers (CCVTs) and bus. The proposed location is near the intersection of the 345 kV Bloom – Davis Creek and the 345 kV Burnham – Davis Creek lines. The 345 kV Bloom – Davis line will be routed in and out of the new Pike Creek; Blue bus, and the 345 kV Burnham – Davis Creek line will be routed in and out of the new Pike Creek; Red bus. The Pike Creek Station will consist of 7 – 345 kV, 3000A, 63kA circuit breakers, 3000A switches, and associated sections of bus. The station will be built as two electrically separate breaker and a half arrangements known as Pike Creek; Red Bus and Pike Creek; Blue Bus. Each side will have three breakers operated as a ring with a normally open bus tie breaker connecting them at 345 kV, resulting in 7 - 3000A, 63kA circuit breakers, 3000A switches, and associated sections of bus. The station will be split to meet the necessary short circuit capabilities on ComEd's system. Bus rating and equipment specifications will be determined during detail system design. The new Pike Creek Station will be developed within an area of 40.00 acres to be located in the vicinity of the following coordinates LATITUDE = 41.320836 and LONGITUDE = -87.583516. Preliminary analysis of the studied area has identified a potential suitable site for this new station. General arrangement and conceptual one-line drawings are provided.
Describe the required site size, geography and current land use for the proposed site(s).	**7.f.**	**Geography and land use**: The new Pike Creek Station will be developed within an area of 40.00 acres to be located in the vicinity of the following coordinates LATITUDE = 41.320836 and LONGITUDE = -87.583516. Preliminary analysis of the studied area has identified a potential suitable site for this new station. The area is primarily agricultural and rural.
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 proposed station location area is primarily agricultural land.
Community and landowner outreach plan	**7.h.**	**Outreach plan**: The Project Team will begin outreach efforts early in project planning to clearly convey the need for the Project, as well as collect input from interested parties.

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: 2
Provide the project land acquisition plan and approach for both public and private lands.	7.i.	**Land acquisition plan** The Project Team will use the same [redacted] land acquisition process and approach that is successfully employed on hundreds of projects every year. [redacted] initial land acquisition step is to verify current ownership by an examination of title. [redacted] will also verify current property tax status, as well as documenting any liens, and or mortgages. [redacted] will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, Transource will negotiate with property owners based on the fair market value of the property needed for the ROW. Market data studies and appraisals, both general and for specific tracts, will be conducted to establish values and a basis for acquisition negotiations. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary agreement between the company and the property owner cannot be reached, and other viable alternatives do not exist, the company may exercise the right of eminent domain to secure required easements through condemnation proceedings. In addition to compensation for the easement, the company will pay for any crop damage and/or physical damage to property resulting from the construction and/or maintenance of the transmission line.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	7.j.	**Redacted information** All information on Tab 7 should be redacted including any drawings and attachments due to sensitive business information and CEII.

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	3
Identify the name of the existing substation where the upgrade will take place.	5.b.	Substation	Meadow Lake 345 kV Station
Describe the scope of the upgrade work at the identified substation.	5.c.	Substation upgrade scope	The existing Meadow Lake 345 kV station will require an upgrade to have room for additional 345 kV lines. Based on the latest available satellite imagery, a majority of the required infrastructure to accommodate an additional line is already in place. The upgrade to this station will consist of installing two (2) 345 kV, 3000A, 63kA circuit breakers and associated 345 kV, 3000A breaker disconnect switches. This proposal assumes that new line relaying equipment will be required. New coupling capacitor voltage transformers and wave traps on new structures and foundations will be added to accommodate line protection schemes.
Describe any new substation equipment and provide the equipment ratings.	5.d.	New equipment description	The upgrade to this station will consist of installing two (2) 345 kV, 3000A, 63kA circuit breakers and associated 345 kV, 3000A breaker disconnect switches.
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	Assume the station can be expanded as necessary.
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	No new land required.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	5.h.	Redacted information	[redacted]

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	4
Identify the line terminal points. Add additional spaces if required.	4.b.	Terminal points	Bloom - Pike Creek - Davis Creek 345 kV Burnham - Pike Creek - Davis Creek 345 kV
		Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	4.c.	Existing conductor size and type	Not Sure
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	Agricultural
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	4.g.	Component target ratings	Davis Creek; (Blue Bus) – Pike Creek; Blue 345 kV Summer Normal 1364 MVA Summer Emergency 1528 MVA Davis Creek; (Red Bus) – Pike Creek; Red 345 kV Summer Normal 1201 MVA Summer Emergency 1383 MVA Bloom; Blue – Pike Creek; Blue 345 kV Summer Normal 1364 MVA Summer Emergency 1528 MVA Burnham; Red – Pike Creek; Red 345 kV Summer Normal 1201 MVA Summer Emergency 1383 MVA

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: 4
Provide the type and size of the conductor to be installed.	4.h.	Proposed conductor size and type: Match Existing
If the shield wire is to be replaced, identify the type and size to be used.	4.i.	Proposed shield wire size and type: Match Existing
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: Both the Bloom – Davis Creek 345 kV and Burnham-Davis Creek 345 kV lines will need to be cut into the proposed Pike Creek Substation. The Project Team assumes each of the four cut-ins can be completed by installing two 90 degree dead-end poles, for a total of eight new poles. Each new tie-In will be approximately 0.20 long and will require new 150’ wide rights-of way. The actual scope of the upgrade will need to be determined in consultation with the local TO.
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: Each new tie-In will be approximately 0.20 long and will require new 150’ wide rights-of way.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	4.l.	[redacted]

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	5
Identify the name of the existing substation where the upgrade will take place.	5.b.	Substation	Remote-End Relaying at multiple Stations
Describe the scope of the upgrade work at the identified substation.	5.c.	Substation upgrade scope	Remote-end relaying will be planned to be replaced/added at the Bloom, Burnham and Davis Creek Stations to match any installed protective relays at new stations to maximize the reliability of the line protection systems. Final protection schemes will be coordinated with interconnecting utilities. Circuit breaker control and breaker failure protection will be planned as needed for new circuit breakers added to existing facilities. Existing bus protection will be assumed to be adequate to protect bus expansions.
Describe any new substation equipment and provide the equipment ratings.	5.d.	New equipment description	Replace or reprogram relays at remote end stations Bloom, Burnham and Davis Creek Stations
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 is assumed that control houses will not require expansion to replace/add these relay systems.
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	NA
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	5.h.	Redacted information	[redacted]

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)	Jan-22
Commercial operation date (Mo-Yr)	Dec-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							
Work by others capex							
Total project capex	$ 225,308,220.35	$ 11,265,411.02	$ 11,265,411.02	$ 83,364,041.53	$ 119,413,356.79		

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	$ 15,824,971.84	$ 66,218.05	$ 523,973.58	$ 3,783,772.05	$ 11,451,008.16		

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 access, etc.).	9.d. Assumptions for the capital expenditure estimate	This estimate was completed by conducting an optimum spotting routine on a conceptual line route within the project study area. The material costs for this conceptual route design were developed using existing [redacted] material blankets and associated pricing. Labor pricing was based upon our previous experience on similar projects. Environmental, permitting, and ROW costs were developed based upon [redacted] experience with similar projects in the Indiana area. Construction assumes crews working 5 days per week 10 hours per day.
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	9.e. Redacted information	All information on Tab 9 should be redacted including any drawings and attachments due to sensitive business information and CEII.

10. Cost 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:**
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*

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:
Provide language to be included in the Designated Entity Agreement that expresses the legally binding commitment of the developer to the construction	10.d.	Cost Commitment Legal Language
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
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	10.f.	Redacted information