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	■■■■■■
Provide the RTEP Proposal Window in which this proposal is being submitted.	**1.b.**	Proposal window	2018/19 RTEP Long-Term Proposal Window
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	201819_1-481
	1.e.	General project description	
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.)			Reconductor Michigan City to Trail Creek to Bosserman 138 kV (6.7 mile and 4.0 mile) circuits. Reconductor Maple – LNG 138 kV (7.8 mile) circuit.
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)	$ 12,800,000
Total in-service year project cost estimate including estimates for any required Transmission Owner upgrades.	**1.j.**	Project cost estimate (in-service year)	$14,100,000

Executive Summary

1. Executive Summary

Instructions		Inputs	
Project estimated schedule duration in months.	**1.k.**	**Project schedule duration**	30 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	**1.l.**	**Cost containment commitment**	*No*
	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.).			
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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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** | *No*

Indicate if the proposal has been evaluated in a coordinated interregional analysis under the PJM Tariff or Operating Agreement provisions. Specify the analysis and applicable Tariff or Operating Agreement provisions.

If 'yes,' specify analysis and applicable Tariff or Operating Agreement provisions

1.q.iii. | **Regional and Interregional violations and issues from the Regional and/or Interregional analyses that identified the violations and issues addressed by the proposal.**

List the specific regional and interregional violations and issues from the regional and/or interregional analyses that identified the violations and issues addressed by the proposal.

Bosserman (AEP)-Trail Creek (NIPS) 138 kV line congestion

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
ME-7	Market Efficiency	255184	Bosserman to Trail Creek 138 kV	247489	05BOSSERMAN	1	138 kV	AEP/NIPSCO

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 138 kV	AEP/NIPSCO	M2M	145	4	198	5.1

3. Major Project Components

	Instructions			Component 1	Component 2	Component 3
		3.a.	**Component description(s)**	Reconductor Bosserman - Trail Creek 138 kV line	Michigan City Substation Upgrades	Trail Creek Substation Upgrades

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).

		3.b.	**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	2,526,480	114,840	574,200

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

		3.c.	**Component cost (in-service year)**	2,788,761	126,762	633,809

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.

		3.d.	**Construction responsibility**	NIPSCO	NIPSCO	NIPSCO

![pjm logo] **Major Project Components**

3.	**Major Project Components**				

Instructions			**Component 4**	**Component 5**	**Component 6**
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).	**3.a.**	**Component description(s)**	Reconductor Michigan City - Trail Creek 138 kV line	Recondcutor Maple-LNG	Maple Substation Upgrades
	3.b.	**Component cost (current year)**			
Provide a component project cost breakdown into the identified categories along with a total component cost. Costs should be 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	4,338,400	4,976,400	114,840
If this proposal is being submitted as Market Efficiency project, provide an in-service year component project	**3.c.**	**Component cost (in-service year)**	4,788,782	5,493,014	126,762
Identify the entity who will be designated the component.	**3.d.**	**Construction responsibility**	NIPSCO	NIPSCO	NIPSCO

3. Major Project Components

		Component 7	Component 8	Component 9
3.a.	**Component description(s)**			
		LNG Substation Upgrades		
3.b.	**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	114,840	$ -	$ -
3.c.	**Component cost (in-service year)**	126,762		
3.d.	**Construction responsibility**	NIPSCO		

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.

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**	1
Identify the line terminal points. Add additional spaces if required.	**4.b.** **Terminal points**	Bosserman
		Trail Creek
	Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	**4.c.** **Existing conductor size and type**	397 ACSR
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	**4.d.** **Existing hardware plan** Reconductor 4.0 miles	
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** Double circuit steel lattice	
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** Half the line is in a relatively urban area near a national park. The other half is more rural with wetlands.	

pjm® **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**	1
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	**4.g.**	**Component target ratings**	at least 2000 Amps
Provide the type and size of the conductor to be installed.	**4.h.**	**Proposed conductor size and type**	1590 ACSR
If the shield wire is to be replaced, identify the type and size to be used.	**4.i.**	**Proposed shield wire size and type**	OPGW
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**	
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**	Use existing ROW
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	**4.l.**	**Redacted information**	Existing structures are 80 years old and will be rebuilt as part of a different NIPSCO project. This project has not been made public yet.

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	2

Identify the name of the existing substation where the upgrade will take place. **5.b.**

	Substation	Michigan City

5.c. **Substation upgrade scope**

Describe the scope of the upgrade work at the identified substation.

Upgrade Michigan City to Trail Creek terminal at Michigan City to 2000 Amps capable

5.d. **New equipment description**

Describe any new substation equipment and provide the equipment ratings.

Replace drops and leads with 1590 ACSR

5.e. **Substation assumptions**

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.f. **Substation drawings**

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.g. **Real-estate plan**

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.h. **Redacted information**

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

Straight bus will be converted to double bus double breaker as part of a different NIPSCO project. This project has not been made public yet.

5. Substation Upgrade Component

Instructions	Inputs-2	

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** | Trail Creek |

5.c. Substation upgrade scope

Describe the scope of the upgrade work at the identified substation.

Upgrade Michigan City to Trail Creek terminal at Trail Creek to 2000 Amps capable
Upgrade Trail Creek to Bosserman terminal at Trail Creek to 2000 Amps capable

5.d. New equipment description

Describe any new substation equipment and provide the equipment ratings.

Replace drops and leads with 1590 ACSR

5.e. Substation assumptions

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.

Retain straight bus configuration

5.f. Substation drawings

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.g. Real-estate plan

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.h. Redacted information

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

Reconductor/Rebuild Transmission Line Component

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 2	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	**4.a.**	**Component number**	4
Identify the line terminal points. Add additional spaces if required.	**4.b.**	**Terminal points**	Michigan City
			Trail Creek
		Existing Line Physical Characteristics	
Provide the size and type conductor that will be removed.	**4.c.**	**Existing conductor size and type**	397 ACSR
Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.	**4.d.**	**Existing hardware plan**	Reconductor 6.7 miles
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**	Double circuit steel lattice
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**	Relatively urban near national park.

pjm **Reconductor/Rebuild Transmission Line Component**

4. Transmission Line Reconductor/Rebuild Component

Instructions		Inputs - 2	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	**4.a.**	**Component number**	4
		Reconductor/Rebuild Component Plan	
Provide the target ratings for the line.	**4.g.**	**Component target ratings**	at least 2000 Amps
Provide the type and size of the conductor to be installed.	**4.h.**	**Proposed conductor size and type**	1590 ACSR
If the shield wire is to be replaced, identify the type and size to be used.	**4.i.**	**Proposed shield wire size and type**	OPGW
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**	
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**	Use existing NIPSCO ROW
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	**4.l.**	**Redacted information**	Existing structures are 80 years old and will be rebuilt as part of a different NIPSCO project. This project has not been made public yet.

Reconductor/Rebuild Transmission Line Component

4. Transmission Line Reconductor/Rebuild Component

Instructions	Inputs - 3

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

4.a. Component number: 5

Identify the line terminal points. Add additional spaces if required.

4.b. Terminal points: Maple / LNG

Existing Line Physical Characteristics

Provide the size and type conductor that will be removed.

4.c. Existing conductor size and type: 336 ACSR

4.d. Existing hardware plan

Indicate whether the existing line hardware will be reused. If so, provide the age and condition of the hardware.

Recondcutor 7.8 miles

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.

Double circuit steel lattice

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.

Rural/wetlands

Reconductor/Rebuild Transmission Line Component

4. Transmission Line Reconductor/Rebuild Component	
Instructions	**Inputs - 3**

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

4.a. | **Component number** | 5

Reconductor/Rebuild Component Plan

Provide the target ratings for the line.

4.g. | **Component target ratings** | at least 2000 Amps

Provide the type and size of the conductor to be installed.

4.h. | **Proposed conductor size and type** | 1590 ACSR

If the shield wire is to be replaced, identify the type and size to be used.

4.i. | **Proposed shield wire size and type** | OPGW

4.j. | **Rebuild portion**

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.k. | **Right of way**

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.

Reuse existing.

4.l. | **Redacted information**

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

Existing structures are 80 years old and will be rebuilt as part of a different NIPSCO project. This project has not been made public yet.

Substation Upgrade Component

5. Substation Upgrade Component

Instructions		Inputs-3	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	5.a.	**Component number**	6
Identify the name of the existing substation where the upgrade will take place.	5.b.	**Substation**	Maple
Describe the scope of the upgrade work at the identified substation.	5.c.	**Substation upgrade scope**	Upgrade Maple terminal to 2000 Amps capable
Describe any new substation equipment and provide the equipment ratings.	5.d.	**New equipment description**	Replace drops and leads with 1590 ACSR
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**	Retain Straight Bus
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**	
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	5.h.	**Redacted information**	

Substation Upgrade Component

5. Substation Upgrade Component

Instructions	Inputs-4	
Provide the corresponding component number from the "Project Components" tab of the proposal template.	**5.a.**	**Component number** — 7
Identify the name of the existing substation where the upgrade will take place.	**5.b.**	**Substation** — LNG
Describe the scope of the upgrade work at the identified substation.	**5.c.**	**Substation upgrade scope** — Upgrade LNG terminal to 2000 Amps capable
Describe any new substation equipment and provide the equipment ratings.	**5.d.**	**New equipment description** — Replace drops and leads with 1590 ACSR
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** — Retain Straight Bus
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**
Describe any files or information that has been redacted from this section and provide the basis for the redaction.	**5.h.**	**Redacted information**

9. **Project Financial Information**

Instructions	Inputs

Project Schedule

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

9.a.

Capital spend start date (Mo-Yr)	Jan-19

Construction start date (Mo-Yr)	Jan-20

Commercial operation date (Mo-Yr)	Jan-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	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	$ 12,760,000.00		$ 1,754,500.00	$ 8,932,000.00	$ 2,073,500.00		

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

9.c.

	Total	2019	2020	2021	2022	2023	2024
AFUDC	$ 660,000.00		$ 90,750.00	$ 462,000.00	$ 107,250.00		

pjm **Project Financial Information**

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**

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

9.e. **Redacted information**

10. Cost Containment Commitment

Instructions	Inputs

10.a. **Cost containment commitment description**

Provide a description of the cost containment mechanism being proposed.

10.b. **Project scope covered by the cost containment commitment**

Indicate what project scope is covered by the proposed cost containment commitment. Identify the components covered by number.

10.b.i. **Cost cap in present year dollars**

Provide, in present year dollars and year of occurrence dollars, the Proposing Entity's proposed binding cap on capital expenditures.

Cost cap in in-service year dollars

10.b.ii. **Additional Information on cost cap:**

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.iii. **Cost containment capital expenditure exemptions**

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

Capital cost component	Component covered by cost containment
Engineering and design	Choose Yes or No
Permitting / routing / siting	Choose Yes or No
ROW / land acquisition	Choose Yes or No
Materials and equipment	Choose Yes or No
Construction and commissioning	Choose Yes or No
Construction management	Choose Yes or No
Overheads and miscellaneous costs	Choose Yes or No
Taxes	Choose Yes or No
AFUDC	Choose Yes or No
Escalation	Choose Yes or No

pjm®   **Cost Containment Commitment**

10.   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.

10.d.   **Cost Commitment Legal Language**

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.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.

10.f.   **Redacted information**

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