Add a new 345kV double circuit to reconfigure existing lines

General Information

Proposing entity name	Business confidential information
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	Business confidential information
PJM Proposal ID	401
Project title	Add a new 345kV double circuit to reconfigure existing lines
Project description	1. Reconductor NEETMA IN ~ 6.7 miles of existing line from St John to Green Acres with 2x1033 Curlew ACSS. Upgrade is for reconductor only (Tower replacement will be part of supplemental project # s2509). 2. Construct dead-end structures to loop-in Burnham to Davis 345 kV TL in to NEETMA proposed 345 kV DCT line connecting into St. John Sub 3. Install dead-end towers in St-John to RM Shaffer ROW to reconfigure Burnham to Davis 345 kV line and St John to Rollin Shaffer 345 kV line via NEET proposed 345 kV DCT such that Burnham is connected to Rollin Shaffer and Davis is connected to St John. 4. Upgrade the limiting element at Stillwell or Dumont substation to increase the rating of the Stillwell -Dumont line to match conductor rating (1408/1887/1780/2143 for SN/SE/WN/WE for PJM side) 5. Upgrade the existing terminal equipment (substation conductor) at St. John on the existing Crete to St. John 345 kV line with bundled 2x1590 ACSR Lapwing rated 2239/2390 WN/WE. 6. Upgrade the existing terminal equipment (substation conductor) at Green Acres on the existing St. John to Green Acres 345 kV line with bundled 2x1590 ACSR Lapwing rated 2239/2390 WN/WE. 7. Upgrade 345/138 kV Transformer at St John to 700 MVA Emergency rating. 8. Construct new approx. 9 mi DCT 345 kV Line with 2x 795 kcmil Drake ACSS rated 1546/1772 WN/WE to loop-in Burnham – Davis such that Burnham is connected to St. Johns and Davis is connected to Rollin Schafer via approx. 9 mi DCT line
Email	amanda.gittens@nexteraenergy.com
Project in-service date	11/2027
Tie-line impact	Yes
Interregional project	Yes
Interregional RTO name	MISO

Interregional cost allocation evaluation	No
Evaluated in interregional analysis under PJM Tariff or Operating Agreement provisions	No
Specify analysis and applicable Tariff or Operating Agreement provisions	
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	Project addressing reliability and market efficiency needs documented by PJM. While this project is interregional in that there are transmission components in both MISO and PJM, the need that is being addressed is only a PJM need.

Project Components

1. St. John- Green Acres (St. John Tap) 345 kV Upgrade
2. Loop-in Burnham to Davis 345 kV TL in new 345 kV DCT line
3. Dead-end structures to reconfigure topology to connect Burnham to Davis Creek with St. John to Rollin Schafer
4. Stillwell - Dumont 345 kV TL substation limiting element rating upgrade
5. St. Johns substation terminal equipment upgrade
6. Green Acres substation terminal equipment upgrade
7. Upgrade 345/138 kV Transformer at St John
8. Loop-in Burnham -Davis Creek into St. John and connect Crete to Rollin Shaffer via a DCT 345 kV TL

Transmission Line Upgrade Component

Component title	St. John- Green Acres (St. John Tap) 345 kV Upgrade
Project description	Business confidential information
Impacted transmission line	St Johns Sub to Green Acres Tap 345 kV line
Point A	St Johns Sub
Point B	Green Acres Tap
Point C	Not Applicable

Terrain description	The terrain along the transmission line right-of-way (ROW) is predominantly silt loam and clay loam soils with gentle slopes, and about 94% of the ROW having a ground slope of 4% or less. Elevations along the ROW range from about 670 feet to 721 feet MSL. Minor vegetation clearing anticipated for the project. The existing land use adjacent to the ROW is primarily cultivated crops and residential development.

Existing Line Physical Characteristics

Operating voltage	345
Conductor size and type	Single 1414 kcmil paper expanded ACSR per phase
Hardware plan description	NEET MA IN has received approval for a supplemental project that involves replacing aging infrastructure between of an existing double circuit 345 kV line. This reconductor represents a portion of the supplemental project that is necessary to address the PJM reliability issue, which only involves reconductoring the St. John- Green Acres section of the 345 kV line.
Tower line characteristics	NEET MA IN has received approval for a supplemental project that involves replacing aging infrastructure between of an existing double circuit 345 kV line. This reconductor represents a portion of the supplemental project that is necessary to address the PJM reliability issue, which only involves reconductoring the St. John- Green Acres section of the 345 kV line.

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	345.000000	345.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	2050.000000	2495.000000
Winter (MVA)	2193.000000	2621.000000
Conductor size and type	1033.5 kcmil Curlew ACSS HS: 2C Bundle	
Shield wire size and type	Reuse OPGW from supplemental project	
Rebuild line length	6.7 miles	
Rebuild portion description	Line will be rebuilt as part of the supplemental project utilizing tubular steel monopoles in existing ROW replacing aging lattice towers. Tangent structures will be direct embedded with angles and deadend on drilled piers. New hardware and conductor will be installed as part of the rebuild.	

Right of way	This approximately 6.7 mile stretch to the NE crosses mostly agricultural land and 12 roadways. The project will utilize existing ROW.
Construction responsibility	Business confidential information
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's Generation Deliverability Process.

Component Cost Details - In Current Year $

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$1,957,000.00
Component cost (in-service year)	$2,060,000.00

Transmission Line Upgrade Component

Component title	Loop-in Burnham to Davis 345 kV TL in new 345 kV DCT line
Project description	Business confidential information
Impacted transmission line	Burnham Sub to Davis Creek Sub 345 kV line
Point A	Burnham Sub
Point B	Davis Creek Sub
Point C	Not Applicable

Terrain description	The terrain at the stations is predominantly silt loam and clay loam soils with gentle slopes, with a ground slope of 4% or less. Elevations across the area are approximately 723 feet MSL at Burnham and 706 feet MSL at Davis Creek. No vegetation clearing anticipated for the project. The existing land use is primarily industrial surrounded by agriculture.

Existing Line Physical Characteristics

Operating voltage	345
Conductor size and type	Unknown
Hardware plan description	New dead-end structures will need to be installed in order to loop existing lines into the proposed State Line substation.
Tower line characteristics	Lattice structure towers in 1950’s

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	345.000000	345.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1314.000000	1592.000000
Winter (MVA)	1546.000000	1772.000000
Conductor size and type	2x 795 kcmil Drake ACSS	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	0.1 mile	
Rebuild portion description	Short span (0.1 mi) on new dead-end structures will need to be installed to loop existing lines into the proposed 345 kV double circuit line	
Right of way	Segment 1: This 0.01-mile segment stays in the agricultural area the existing COMED ROW. This loop in, leaves the COMED owned parcel and enter a privately owned parcel.	
Construction responsibility	ComEd	

Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM’s Generation Deliverability Process.

Component Cost Details - In Current Year $

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$2,000,000.00
Component cost (in-service year)	$2,208,161.60

Transmission Line Upgrade Component

Component title	Dead-end structures to reconfigure topology to connect Burnham to Davis Creek with St. John to Rollin Schafer
Project description	Business confidential information
Impacted transmission line	Burnham Sub to Davis Creek Sub 345 kV line
Point A	Burnham Sub
Point B	Davis Creek Sub
Point C	Not Applicable

Terrain description	The terrain at the stations is predominantly silt loam and clay loam soils with gentle slopes, with a ground slope of 4% or less. Elevations across the area are approximately 723 feet MSL at Burnham and 706 feet MSL at Davis Creek. No vegetation clearing anticipated for the project. The existing land use is primarily industrial surrounded by agriculture.

Existing Line Physical Characteristics

Operating voltage	345
Conductor size and type	Unknown
Hardware plan description	New dead end structures will need to be installed in order to loop existing lines with proposed new DCT 345kV line
Tower line characteristics	Unknown

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	345.000000	345.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1314.000000	1592.000000
Winter (MVA)	1546.000000	1772.000000
Conductor size and type	2x 795 kcmil Drake ACSS	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	0.1 mile	
Rebuild portion description	Short span (0.1 mi) on new dead-end structures will need to be installed in order to loop existing lines into the proposed 345 kV double circuit line	
Right of way	Use of existing ROW, no expansion anticipated	
Construction responsibility	NIPSCO	

Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM’s Generation Deliverability Process.

Component Cost Details - In Current Year $

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$2,000,000.00
Component cost (in-service year)	$2,208,161.60

Substation Upgrade Component

Component title	Stillwell - Dumont 345 kV TL substation limiting element rating upgrade
Project description	Business confidential information
Substation name	Existing substation name where the upgrade will take place. Stillwell or Dumont 345 kV TL
Substation zone	NIPS to AEP
Substation upgrade scope	Upgrade the limiting element at Stillwell or Dumont substation to increase the rating of the Stillwell -Dumont line to t match conductor rating (1408/1887/1780/2143 for SN/SE/WN/WE for PJM side)

Transformer Information

None

New equipment description	Upgrade the limiting element at Stillwell or Dumont substation to increase the rating of the Stillwell -Dumont line to match conductor rating (1408/1887/1780/2143 for SN/SE/WN/WE for PJM side)
Substation assumptions	Upgrade of limiting element possible without any substation expansion. Either AEP or NIPSCO' scope of work. In service date should occur in fall 2027 to accommodate overload in summer 2027
Real-estate description	No substation expansion anticipated.
Construction responsibility	AEP
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's process.
Component Cost Details - In Current Year $	
Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$5,000,000.00
Component cost (in-service year)	$5,520,404.02

Substation Upgrade Component

Component title	St. Johns substation terminal equipment upgrade
Project description	Business confidential information
Substation name	St Johns 345 kV
Substation zone	NIPSCO

Substation upgrade scope	Upgrade the existing terminal equipment (substation conductor) at St. John on the existing Crete to St. John 345 kV line with bundled 2x1590 ACSR Lapwing rated 2239/2390 WN/WE.

Transformer Information

None

New equipment description	Upgrade the existing terminal equipment (substation conductor) at St. John on the existing Crete to St. John 345 kV line with bundled 2x1590 ACSR Lapwing rated 2239/2390 WN/WE.
Substation assumptions	Upgrade has been evaluated to be feasible per supplemental project supplemental project # s2509.
Real-estate description	No substation expansion anticipated
Construction responsibility	NIPSCO
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's process.

Component Cost Details - In Current Year $

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$2,000,000.00
Component cost (in-service year)	$2,208,161.61

Substation Upgrade Component

Component title	Green Acres substation terminal equipment upgrade

Project description	Business confidential information
Substation name	Existing substation name where the upgrade will take place. Green Acres
Substation zone	NIPSCO
Substation upgrade scope	Upgrade the existing terminal equipment (substation conductor) at Green Acres on the existing St. John to Green Acres 345 kV line with bundled 2x1590 ACSR Lapwing rated 2239/2390 WN/WE.

Transformer Information

None

New equipment description	Upgrade the existing terminal equipment (substation conductor) at Green Acres on the existing St. John to Green Acres 345 kV line with bundled 2x1590 ACSR Lapwing rated 2239/2390 WN/WE.
Substation assumptions	Upgrade has been evaluated to be feasible per supplemental project supplemental project # s2509.
Real-estate description	No substation expansion anticipated
Construction responsibility	NIPSCO
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's process.

Component Cost Details - In Current Year $

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$2,000,000.00

Component cost (in-service year)	$2,208,161.61

Substation Upgrade Component

Component title	Upgrade 345/138 kV Transformer at St John
Project description	Business confidential information
Substation name	Existing substation name where the upgrade will take place. St John
Substation zone	NIPSCO
Substation upgrade scope	Upgrade 345/138 kV Transformer at St John to 700 MVA Emergency rating

Transformer Information

	Name	**Capacity (MVA)**
Transformer	2	700

	High Side	**Low Side**	**Tertiary**
Voltage (kV)	345	138	Not Applicable

New equipment description	345/138 kV , 560/700 Normal/ Emergency Transformer.
Substation assumptions	Upgrade of transformer ID 2 possible without any substation expansion anticipated. NIPSCO’s scope of work.
Real-estate description	No substation expansion anticipated.
Construction responsibility	NIPSCO
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's process.

Component Cost Details - In Current Year $

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.

Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$10,000,000.00
Component cost (in-service year)	$11,040,808.03

Greenfield Transmission Line Component

Component title	Loop-in Burnham -Davis Creek into St. John and connect Crete to Rollin Shaffer via a DCT 345 kV TL
Project description	Business confidential information
Point A	Burnham Sub
Point B	St Johns Sub
Point C	Not Applicable

	Normal ratings	**Emergency ratings**
Summer (MVA)	1314.000000	1592.000000
Winter (MVA)	1546.000000	1772.000000

Conductor size and type	2x 795 kcmil Drake ACSS
Nominal voltage	AC
Nominal voltage	345
Line construction type	Overhead

General route description	The route is approximately 8.6 miles long. Starting at a new dead end structure in the COMED ROW south of the Plum Valley Reserve it goes eastward for 2.8 miles in IL across farmland crossing 3 roadways. This segment would be in a new ROW. Once in IN it continues 5.8 miles E/NE in a new ROW through mostly farmland until it reaches the existing St John – Rollin Schafer line where it terminates at new dead end structures. This segment crosses 7 roadways and 2 railroads across mostly agricultural land.
Terrain description	The Project is located predominantly within silt loam and clay loam soils with gentle slopes generally less than 2 percent and deposited in depressions on outwash, till, and lake plains, and in drainageways and ground moraines. Aerial imagery suggests the land is used primarily for agriculture.
Right-of-way width by segment	This alignment will be new right of way and is assumed to be 140’ to match the existing double circuit configuration NEETMA owns and operates in the area.
Electrical transmission infrastructure crossings	Not Applicable
Civil infrastructure/major waterway facility crossing plan	The route crosses 1 state highway and one railroad. These will both be crossed aerially utilizing standard installation practices where guard structures are placed and public will be stopped for short periods of times while installation of the wires occurs
Environmental impacts	No fatal flaws have been identified for the NEET MA proposed Loop-in Burnham -Davis Creek into St. John and connect Crete to Rollin Shaffer via a DCT 345 kV TL. Environmental constraints identified are manageable through implementation of NEET MA’s environmental avoidance, minimization and mitigation strategy incorporated early in the routing/siting process. The proposed route crosses seven national wetland inventory (NWI) wetlands and five waterbodies and will require a wetland delineation and permitting with the US Army Corps of Engineers Chicago District under Nationwide Permit 57, which has blanket authorization for Section 401 Water Quality Certification. Five areas mapped by Federal Emergency Management Agency as 100-year floodplain including one floodway are crossed. Ten federally listed species, including one candidate species, were identified in the area, but no critical habitat was identified. If suitable habitat is identified or regulations change, agency coordination and species-specific surveys will occur.. Several historic structures are listed in the DNR historic structures database but do not impact this project. The project intends to adhere to tree removal seasonal restriction windows to avoid and minimize impacts to protected birds and bats, such as the Indiana Bat, Northern Long-eared Bat, Bald Eagle, and other common raptors. Erosion control best management practices and setbacks will be engineered and utilized to prevent sedimentation from leaving the site for the protection of aquatic species and to avoid water quality impacts. A Cultural Resource Assessment Survey will be conducted to determine the presence of archeological or culturally sensitive areas and implementation of NEET MA’s avoidance strategy. There are no unique or sensitive environmental or cultural concerns or impacts with the NEET MA proposed transmission line that cannot be addressed.

Tower characteristics	The route crosses 1 state highway and one railroad. These will both be crossed aerially utilizing standard installation practices where guard structures are placed, and public will be stopped for short periods of times while installation of the wires occurs
Construction responsibility	Business confidential information
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's.

Component Cost Details - In Current Year $

Engineering & design	Detailed cost breakdown is business confidential information.
Permitting / routing / siting	Detailed cost breakdown is business confidential information.
ROW / land acquisition	Detailed cost breakdown is business confidential information.
Materials & equipment	Detailed cost breakdown is business confidential information.
Construction & commissioning	Detailed cost breakdown is business confidential information.
Construction management	Detailed cost breakdown is business confidential information.
Overheads & miscellaneous costs	Detailed cost breakdown is business confidential information.
Contingency	Detailed cost breakdown is business confidential information.
Total component cost	$26,268,913.00
Component cost (in-service year)	$27,379,413.00

Congestion Drivers

None

Existing Flowgates

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
MDW1-GD-S1620	255113	17STILLWELL	243219	05DUMONT	1	345	205/217	Summer Gen Deliv	Included
MDW1-ME-01	255113	17STILLWELL	243219	05DUMONT	1	345	205/217	Market Efficiency	Included
MDW1-GD-W392	274804	UNIV PK N;RP	243229	05OLIVE	1	345	205/222	Winter Gen Deliv	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
MDW1-GD-W393	274804	UNIV PK N;RP	243229	05OLIVE	1	345	205/222	Winter Gen Deliv	Included
MDW1-GD-W309	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-GD-W404	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-GD-W419	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-ME-04	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Market Efficiency	Included
MDW1-GD-W172	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-GD-W171	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-GD-W188	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-GD-W190	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-GD-W185	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Winter Gen Deliv	Included
MDW1-GD-W332	270728	E FRANKFO; B	274750	CRETE EC ;BP	1	345	222	Winter Gen Deliv	Included
MDW1-GD-W331	270728	E FRANKFO; B	274750	CRETE EC ;BP	1	345	222	Winter Gen Deliv	Included
MDW1-ME-03	270728	E FRANKFO; B	274750	CRETE EC ;BP	1	345	222	Winter Gen Deliv	Included

New Flowgates

None

Financial Information

Capital spend start date	01/2023
Construction start date	12/2025
Project Duration (In Months)	58

Additional Comments

None