

# Add a new 345 kV double circuit to tap existing lines and connect to an existing sub, and reconfigure existing lines at the sub

## 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	82
Project title	Add a new 345 kV double circuit to tap existing lines and connect to an existing sub, and reconfigure existing lines at the sub
Project description	<p>1. Outside of the Green Acres substation, swap the NIPSCO Green Acre Tap towers from the St. John - Green Acres - Olive line to the University Park - Olive line to create a University Park - Green Acres - Olive line and St. John - Olive line. 2. Reconductor NEETMA IN 6.95 miles of existing Crete to St John line. NEETMA portion goes from IL/IN State Line to St. John substation owned by NIPSCO. The line will be reconducted using 2x1033 Curlew ACSS HS. Upgrade is for reconductor only (Tower replacement will be part of supplemental project # s2509). 3. Install 3 new poles to disconnect Crete-St John line from St. John sub and connect it the existing St. John-Rollin Shaffer Line near St John substation, thus creating a Crete – Rollin Shaffer 345 kV line and two spare terminals at St. John substation. 4. Reconductor ComEd's section of existing line from IN State Line to Crete with 2x1277 ACSR. 5. Construct dead-end structures to loop-in Bloom to Davis 345 kV TL in to NEET proposed 345 kV DCT line connecting into St. John Sub. 6. Install dead-end towers and conductor span at St- John substation to land the new approx. 12 mi DCT 345 kV line from the existing Bloom – Davis Creek 345 kV line to the St. John substation. 7. Install dead-end towers in St- John to RM Shaffer ROW to connect Crete St John line from St. John line to St John to Rollin Shaffer near St John substation. 8. Reconductor ~ 2 miles of existing line from CC Hill To Matteson 138 kV line. 9. 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). 10. Construct new approx. 11 mi DCT 345 kV line from the existing Bloom – Davis Creek 345 kV line to the St. John substation, with 2x 795 kcmil Drake ACSS rated 1546/1772 WN/WE, to connect St John sub utilizing the two spare terminals created by the Crete and Rollin Schafer line reconfigurations.</p>
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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. Green Acres Substation transmission lines swap upgrades
2. Reconductor Crete - St. John-NEETMA 345 kV TL upgrade
3. Reconfigure topology to connect Crete - St. John to Rollin Schafer
4. Crete - St. John-ComEd 345 kV TL upgrade
5. Loop-in Bloom to Davis 345 kV TL in new 345 kV DCT line
6. Dead-end structures to connect new DCT 345 kV line to St John Substation
7. Dead-end structures to reconfigure topology to connect Crete - St. John to Rollin Schafer
8. Reconductor CC Hill To Matteson 138 kV line
9. Stillwell - Dumont 345 kV TL substation limiting element rating upgrade
10. Bloom -Davis Creek reconfiguration with St. John via a DCT 345 kV TL

## Transmission Line Upgrade Component

Component title	Green Acres Substation transmission lines swap upgrades
Project description	Business confidential information
Impacted transmission line	Crete – St John – Green Acres – Olive, University Park – Olive
Point A	Green Acres
Point B	Olive
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 is anticipated to be required for the project. The existing land use adjacent to the ROW is primarily cultivated crops.

**Existing Line Physical Characteristics**

Operating voltage	345
Conductor size and type	Single 1414 kcmil paper expanded ACSR per phase
Hardware plan description	Four new structures will be installed to accommodate the southern University Park – Olive line being cut into the Green Acres substation. Tubular steel structures of similar design to the approved supplemental project will be used and bundled 1033 kcmil ACSS conductor installed. 345kV hardware, with the same design as the supplemental project will be installed on the new section of line.
Tower line characteristics	This section of line will have recently replaced with tubular steel double circuit monopoles due to the supplemental project.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	345.000000	345.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
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	0 mile	
Rebuild portion description	Outside of the Green Acres substation, swap the NEETMA IN circuits. Two (2) 3-pole tubular steel structures will be used to cut the southern circuit into Green Acres, and two (2) new intermediate structures will be installed between the line and station. The proposed swap will result in the North Circuit going from Crete to St John to Olive and the South Circuit going from University Park to Green Acres to Olive.	
Right of way	Existing ROW will be used to support the circuit swap at Green Acres.	
Construction responsibility	Business confidential information	
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's.	
<b>Component Cost Details - In Current Year \$</b>		
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	\$1,976,000.00	
Component cost (in-service year)	\$2,080,000.00	

## Transmission Line Upgrade Component

Component title	Reconductor Crete - St. John-NEETMA 345 kV TL upgrade
Project description	Business confidential information
Impacted transmission line	Crete Bus to St John Bus 345 kV line
Point A	Crete Bus
Point B	St John Bus
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 developed lands.

### 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 Crete-St. John 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 Crete-St. John section of the 345 kV line.

### Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	345.000000	345.000000

	<b>Normal ratings</b>	<b>Emergency ratings</b>
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	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	Segment 1: This approximately 7 mile segment, starting from the Illinois/Indiana state line heading East crosses mostly agricultural and developing residential area to St. John Substation. The right of way varies in width between 100 and 150 feet and crosses 14 roadways (public and community) and two railroads.	
Construction responsibility	Business confidential information	
Benefits/Comments	Resolves market efficiency and reliability issues identified per PJM's Generation Deliverability Process.	
<b>Component Cost Details - In Current Year \$</b>		
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	\$1,990,250.00
Component cost (in-service year)	\$2,095,000.00

### Transmission Line Upgrade Component

Component title	Reconfigure topology to connect Crete - St. John to Rollin Schafer
Project description	Detailed cost breakdown is business confidential information.
Impacted transmission line	Crete Bus to St John Bus 345 kV line
Point A	Crete Bus
Point B	St John Bus
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 727 feet MSL at Crete and 709 feet MSL at St John. 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	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 reconfiguration will utilize the same hardware has identified in the supplemental project.
Tower line characteristics	Existing structures are aging double circuit lattice towers (NEETMA) on spread footings and double circuit tubular steel monopole (NIPSCO) on drilled pier foundations.

### Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	345.000000	345.000000

	<b>Normal ratings</b>	<b>Emergency ratings</b>
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	Utilize existing shield wire to extent practicable	
Rebuild line length	0.1 miles	
Rebuild portion description	NEETMA proposes 3 structures to reconfigure the existing circuits. These 2 of the 3 will be 3pole deadends in existing ROW, while the third will be a single circuit delta configuration tangent. Pole designs and configuration will be similar to that of the supplemental project approved by PJM.	
Right of way	A new section of right-of-way of less than 1,000 feet will be required to route the new section of line between Crete-St. John and St.John Rolling Shaffer.	
Construction responsibility	Detailed cost breakdown is business confidential information.	
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's Generation Deliverability Process.	
<b>Component Cost Details - In Current Year \$</b>		
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	\$2,341,750.00	



Component cost (in-service year) \$2,465,000.00

### Transmission Line Upgrade Component

Component title Crete - St. John-ComEd 345 kV TL upgrade

Project description Business confidential information

Impacted transmission line Crete Bus to St John Bus 345 kV line

Point A Crete Bus

Point B St John Bus

Point C Not Applicable

Terrain description The terrain along the transmission line right-of-way (ROW) is relatively flat with about 94% of the ROW having a ground slope of 4% or less. Elevations along the ROW range from about 670 feet to 725 feet MSL. Minor vegetation clearing anticipated for the project. The existing land use adjacent to the ROW is primarily cultivated crops and developed lands.

### Existing Line Physical Characteristics

Operating voltage 345

Conductor size and type Single 1414 kcmil paper expanded ACSR per phase

Hardware plan description Unknown

Tower line characteristics Lattice structure towers built in 1950's

### Proposed Line Characteristics

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	345.000000	345.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	1679.000000	2058.000000
Winter (MVA)	2091.000000	2381.000000

Conductor size and type	1277 kcmil ACSR: 2C Bundle
Shield wire size and type	Utilize existing shield wire to extent practicable
Rebuild line length	4.97 miles
Rebuild portion description	4.97 miles going from Crete Substation to IL/IN State line
Right of way	This approximately 5 mile segment from the IL/IN state line that runs west to the Crete substation crosses mostly agricultural land and crosses 7 roadways and utilizes existing ROW.
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	\$6,454,500.00
Component cost (in-service year)	\$7,121,321.20

**Transmission Line Upgrade Component**

Component title	Loop-in Bloom to Davis 345 kV TL in new 345 kV DCT line
Project description	Business confirmation information

Impacted transmission line	Bloom Sub to Davis Creek Sub 345 kV line
Point A	Bloom 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 662 feet MSL at Bloom 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 to loop existing lines into the proposed new DCT 345 kV line.
Tower line characteristics	Lattice structure towers built in 1950's.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	345.000000	345.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
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 miles	

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 0.03-mile segment stays in the agricultural area the existing COMED ROW . This loop in will cross the Davis Creek to Burnham 345kV transmission line, leave 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 connect new DCT 345 kV line to St John Substation
Project description	Business confidential information
Impacted transmission line	Crete Sub to St Johns Sub 345 kV line
Point A	Crete Sub

Point B	St Johns 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 727 feet MSL at Crete and 709 feet MSL at St John. 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 St John substation.
Tower line characteristics	Unknown

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	345.000000	345.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
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 miles	
Rebuild portion description	Install dead-end towers and conductor span at St- John substation to land the new approx. 11 mi DCT 345 kV line from the existing Bloom – Davis Creek 345 kV line to the St. John substation.	
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

**Transmission Line Upgrade Component**

Component title	Dead-end structures to reconfigure topology to connect Crete - St. John to Rollin Schafer
Project description	Business confidential information
Impacted transmission line	Bloom Sub to Davis Creek Sub 345 kV line
Point A	Bloom 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 706 feet MSL at Davis Creek and 662 feet MSL at Bloom. 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 -in Crete St John line with to St John to Rollin Shaffer 345kV line.

Tower line characteristics Unknown

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	345.000000	345.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
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 miles	
Rebuild portion description	New dead end structures will need to be installed in order to loop -in Crete St John line with to St John to Rollin Shaffer 345kV 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

**Transmission Line Upgrade Component**

Component title

Reconductor CC Hill To Matteson 138 kV line

Project description

Business confidential information

Impacted transmission line

CC Hill Sub to Matteson Sub 138 kV line

Point A

CC Hill Sub

Point B

Matteson Sub

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 developed lands.

### Existing Line Physical Characteristics

Operating voltage

138

Conductor size and type

Unknown

Hardware plan description

Unknown

Tower line characteristics

Unknown

### Proposed Line Characteristics

#### Designed

#### Operating

Voltage (kV)

138.000000

138.000000

#### Normal ratings

#### Emergency ratings

Summer (MVA)

326.000000

437.000000

Winter (MVA)

367.000000

485.000000

Conductor size and type

1x 1033 kcmil Curlew ACSR

Shield wire size and type

Utilize existing shield wire to extent practicable

Rebuild line length

2 miles

Rebuild portion description

Reconductor ~ 2 miles of existing line from CC Hill To Matteson 138 kV line

Right of way

Use of existing ROW, no expansion anticipated

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

### 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

**Greenfield Transmission Line Component**

Component title	Bloom -Davis Creek reconfiguration with St. John via a DCT 345 kV TL
Project description	Business confidential information
Point A	Bloom Sub
Point B	St Johns Sub
Point C	Not Applicable

	<b>Normal ratings</b>	<b>Emergency ratings</b>
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	<p>The route is approximately 11.9 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. It then turns N for .75 miles adjacent to the existing ROW, jogs east to avoid a new housing development before proceeding north another .75 miles and then heading NE for 1.5 miles in the existing ROW to the St. John substation. This segment crosses 9 roadways and 2 railroads across mostly agricultural land.</p>	
Terrain description	<p>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.</p>	
Right-of-way width by segment	<p>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.</p>	
Electrical transmission infrastructure crossings	<p>1 TL crossing 345 kV. Existing RS line, but will become Crete-RS as a part of this solution.</p>	
Civil infrastructure/major waterway facility crossing plan	<p>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.</p>	

Environmental impacts	<p>No fatal flaws have been identified for the NEET MA proposed Bloom -Davis Creek reconfiguration with St. John - 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 at the beginning of the routing/siting process. The proposed route crosses three national wetland inventory (NWI) wetlands and nine 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. Six areas mapped by Federal Emergency Management Agency as 100-year floodplain including two floodways 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 in the future, agency coordination and species-specific surveys will be conducted. Several historic structures are listed in the DNR historic structures database near the proposed line, but will not be impacted by the 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 concerns or impacts with the NEET MA proposed transmission line that cannot be addressed.</p>
Tower characteristics	<p>Structures will be double circuit 345kV monopole structures in a vertical circuit configuration with davit arms and v-string type insulators. These structures will be similar in framing to the supplemental project approved by PJM.</p>
Construction responsibility	Business confidential information
Benefits/Comments	Resolves reliability and market efficiency issues identified per PJM's.
<b>Component Cost Details - In Current Year \$</b>	
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

\$35,760,826.00

Component cost (in-service year)

\$37,393,826.00

## 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-ME-02	274804	UNIV PK N;RP	243229	05OLIVE	1	345	205/222	Market Efficiency	Included
MDW1-GD-W392	274804	UNIV PK N;RP	243229	05OLIVE	1	345	205/222	Winter Gen Deliv	Included
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