

# Reconductor 345 kV Lines 6607 East Frankfort - Crete and 94507 Crete - St. John

## General Information

Proposing entity name	COMED
Company proposal ID	For internal use only
PJM Proposal ID	573
Project title	Reconductor 345 kV Lines 6607 East Frankfort - Crete and 94507 Crete - St. John
Project description	Reconductor 345 kV Lines 6607 East Frankfort - Crete and 94507 Crete - St. John with twin bundled 1033.5 ACSS Curlew conductor. Upgrade terminal equipment at St. John and East Frankfort. Modify / replace existing towers as necessary to carry the larger conductor. Expected summer ratings for line 94507 are 1679/2011/2107/2280 N/E/STE/LD. Expected winter ratings for line 94507 are 2091/2339/2390/2390 N/E/STE/LD. Expected summer ratings for line 6607 are 1679/2011/2107/2280 N/E/STE/LD. Expected winter ratings for line 6607 are 2091/2339/2445/2648 N/E/STE/LD.
Project in-service date	11/2025
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	Non-public information

## Project Components

1. Reconductor 5 miles in Illinois with twin bundled 1033.5 ACSS conductor
2. Upgrade St. John Terminal Equipment
3. Reconductor 12.7 miles with twin bundled 1033.5 ACSS conductor
4. Reconductor 7 miles in Indiana with twin bundled 1033.5 ACSS conductor
5. Replace East Frankfort 345 kV CB 9-14

### Transmission Line Upgrade Component

Component title Reconductor 5 miles in Illinois with twin bundled 1033.5 ACSS conductor

Impacted transmission line 94507

Point A Crete

Point B St. John

Point C

Terrain description Existing right-of-way on mostly flat terrain through farmland and some residential areas.

#### Existing Line Physical Characteristics

Operating voltage 345

Conductor size and type 1414 ACSR Paper Expanded

Hardware plan description New line hardware will be used.

Tower line characteristics The existing structures were built in 1958. Experience with previous projects on similar towers leads us to believe 3 dead-end towers and 2 regular towers will need to be replaced. Approximately 8 towers will require middle phase cross arm replacement, and approximately 4 towers will need reinforcement of the bottom cross arm.

#### Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	345.000000	345.000000

	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	1679.000000	2011.000000
Winter (MVA)	2091.000000	2339.000000
Conductor size and type	Twin bundled 1033.5 kcmil ACSS Curlew	
Shield wire size and type	TBD	
Rebuild line length	5 Miles	
Rebuild portion description	Experience with previous projects on similar towers leads us to believe 3 dead-end towers and 2 regular towers will need to be replaced. Approximately 8 towers will require middle phase cross arm replacement, and approximately 4 towers will need reinforcement of the bottom cross arm.	
Right of way	Existing ROW will be used.	
Construction responsibility	ComEd	
Additional comments	Contains non-public information	
<b>Component Cost Details - In Current Year \$</b>		
Engineering & design	Proprietary information	
Permitting / routing / siting	Proprietary information	
ROW / land acquisition	Proprietary information	
Materials & equipment	Proprietary information	
Construction & commissioning	Proprietary information	
Construction management	Proprietary information	
Overheads & miscellaneous costs	Proprietary information	
Contingency	Proprietary information	
Total component cost	\$9,292,018.00	
Component cost (in-service year)	\$10,512,989.00	

## Substation Upgrade Component

Component title	Upgrade St. John Terminal Equipment
Substation name	St. John
Substation zone	NIPSCO
Substation upgrade scope	Replace 345 kV line disconnect switch.

## Transformer Information

None	
New equipment description	New disconnect will be rated 4000A, 2390 MVA for all ratings.
Substation assumptions	N/A
Real-estate description	N/A
Construction responsibility	NIPSCO
Additional comments	

## Component Cost Details - In Current Year \$

Engineering & design	Proprietary information
Permitting / routing / siting	Proprietary information
ROW / land acquisition	Proprietary information
Materials & equipment	Proprietary information
Construction & commissioning	Proprietary information
Construction management	Proprietary information
Overheads & miscellaneous costs	Proprietary information
Contingency	Proprietary information
Total component cost	\$485,392.00

Component cost (in-service year) \$546,313.00

### Transmission Line Upgrade Component

Component title Reconductor 12.7 miles with twin bundled 1033.5 ACSS conductor

Impacted transmission line 6607

Point A East Frankfort

Point B Crete

Point C

Terrain description Existing right of way on mostly flat terrain through farmland and some residential and industrial areas.

### Existing Line Physical Characteristics

Operating voltage 345

Conductor size and type 1414 ACSR Paper Expanded

Hardware plan description New line hardware will be used.

Tower line characteristics The existing structures were built in 1958. Experience with previous projects on similar towers leads us to believe 6 dead-end towers and 4 regular towers will need to be replaced. Approximately 20 towers will require middle phase cross arm replacement, and approximately 10 towers will need reinforcement of the bottom cross arm.

### Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	345.000000	345.000000
	Normal ratings	Emergency ratings
Summer (MVA)	1679.000000	2011.000000
Winter (MVA)	2091.000000	2339.000000

Conductor size and type	Twin bundled 1033.5 kcmil ACSS Curlew
Shield wire size and type	TBD
Rebuild line length	12.7 Miles
Rebuild portion description	Experience with previous projects on similar towers leads us to believe 6 dead-end towers and 4 regular towers will need to be replaced. Approximately 20 towers will require middle phase cross arm replacement, and approximately 10 towers will need reinforcement of the bottom cross arm.
Right of way	Existing ROW will be used.
Construction responsibility	ComEd
Additional comments	

**Component Cost Details - In Current Year \$**

Engineering & design	Proprietary information
Permitting / routing / siting	Proprietary information
ROW / land acquisition	Proprietary information
Materials & equipment	Proprietary information
Construction & commissioning	Proprietary information
Construction management	Proprietary information
Overheads & miscellaneous costs	Proprietary information
Contingency	Proprietary information
Total component cost	\$25,465,175.00
Component cost (in-service year)	\$28,811,298.00

**Transmission Line Upgrade Component**

Component title	Reconductor 7 miles in Indiana with twin bundled 1033.5 ACSS conductor
Impacted transmission line	94507

Point A	Illinois/Indiana border
Point B	St. John
Point C	
Terrain description	Existing right-of-way on mostly flat terrain through farmland and some residential areas.
<b>Existing Line Physical Characteristics</b>	
Operating voltage	345
Conductor size and type	1414 ACSR Paper Expanded
Hardware plan description	New line hardware will be used.
Tower line characteristics	The existing structures were built in 1958. Experience with previous projects on similar towers leads us to believe 3 dead-end towers and 2 regular towers will need to be replaced. Approximately 12 towers will require middle phase cross arm replacement, and approximately 6 towers will need reinforcement of the bottom cross arm.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Voltage (kV)	345.000000	345.000000
Summer (MVA)	1679.000000	2011.000000
Winter (MVA)	2091.000000	2339.000000
Conductor size and type	Twin bundled 1033.5 kcmil ACSS Curlew	
Shield wire size and type	TBD	
Rebuild line length	12 Miles	
Rebuild portion description	Experience with previous projects on similar towers leads us to believe 3 dead-end towers and 2 regular towers will need to be replaced. Approximately 12 towers will require middle phase cross arm replacement, and approximately 6 towers will need reinforcement of the bottom cross arm.	

Right of way	Existing ROW will be used.
Construction responsibility	ComEd
Additional comments	Contains non-public information
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Proprietary information
Permitting / routing / siting	Proprietary information
ROW / land acquisition	Proprietary information
Materials & equipment	Proprietary information
Construction & commissioning	Proprietary information
Construction management	Proprietary information
Overheads & miscellaneous costs	Proprietary information
Contingency	Proprietary information
Total component cost	\$13,008,834.00
Component cost (in-service year)	\$14,718,194.00
<b>Substation Upgrade Component</b>	
Component title	Replace East Frankfort 345 kV CB 9-14
Substation name	East Frankfort
Substation zone	ComEd
Substation upgrade scope	Replace 345 kV CB 9-14 with a 3000A CB.
<b>Transformer Information</b>	
None	

New equipment description	345 kV CB 9-14 to be replaced with a 3000A SF6 CB. New equipment ratings: Summer: 1868/2011/2404/2872 MVA N/LTE/STE/LD Winter: 2214/2339/2757/3275 MVA N/LTE/STE/LD
Substation assumptions	N/A
Real-estate description	
Construction responsibility	ComEd
Additional comments	

**Component Cost Details - In Current Year \$**

Engineering & design	Proprietary information
Permitting / routing / siting	Proprietary information
ROW / land acquisition	Proprietary information
Materials & equipment	Proprietary information
Construction & commissioning	Proprietary information
Construction management	Proprietary information
Overheads & miscellaneous costs	Proprietary information
Contingency	Proprietary information
Total component cost	\$2,000,000.00
Component cost (in-service year)	\$2,262,800.00

**Congestion Drivers**

None

**Existing Flowgates**

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type
GD-W3	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Gen Deliv (winter)
GD-W4	274750	CRETE EC ;BP	255112	17STJOHN	1	345	217/222	Gen Deliv (winter)

## New Flowgates

None

## Financial Information

Capital spend start date 01/2023

Construction start date 03/2024

Project Duration (In Months) 34

## Additional comments

None