College Corner - Collinsville 138kV Rebuild

General Information

Proposing entity name	CINSI
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	DEOK-2025-005
PJM Proposal ID	156
Project title	College Corner - Collinsville 138kV Rebuild
Project description	Rebuild the College Corner (AEP) - Collinsville (DEOK) 138kV circuit from the OH/IN State Line to Collinsville Substation (~11.90 miles). The College Corner (AEP) - Collinsville (DEOK) circuit shares a common tower with the College Corner (AEP) - Trenton (DEOK) 138kV circuit, so the College Corner (AEP) - Trenton (DEOK) circuit will be rebuilt from the OH/IN State Line to Collinsville Substation (~11.90 miles). Both circuits will be rebuilt with 954ACSS/TW conductor @ 200C. Relay settings will need to be updated at DEOK's Collinsville & Trenton Substations and at AEP's College Corner Substation.
Email	brett.bettinger@duke-energy.com
Project in-service date	06/2030
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	College Corner - Collinsville is a facility that shows up in almost every Gen Deliv analysis for the RTEP & Interconnection Queue cycles. This line is needed for bringing capacity from Indiana into Ohio. This line is 1940/50s vintage and is in need for replacement. Following the rebuild, AEP's 0.1-mile section will become the limiter and when that section is rebuilt (sometime in the future when the College Corner - Collinsville violation re-appears), the capacity for this facility will be increased by at least 95%.

Project Components

1. College Corner - Collinsville Rebuild
2. College Corner - Trenton Partial Rebuild
3. Collinsville Relay Settings Update
4. Trenton Relay Settings Update
5. College Corner Relay Settings Update

Transmission Line Upgrade Component

Component title	College Corner - Collinsville Rebuild
Project description	Rebuild the College Corner (AEP) - Collinsville (DEOK) 138kV circuit from the OH/IN State Line (Tower 10P-X1-129) to Collinsville Substation. AEP owns approximately 0.1 miles of the line from College Corner Substation to the OH/IN State Line. DEOK owns the remaining 11.90 miles from the state line to Collinsville Substation. The entire 11.90 miles section that DEOK owns will be rebuilt with 954ACSS/TW conductor (@ 200C) and new double circuit structures. The College Corner (AEP) - Trenton (DEOK) line is on the other side of the double circuit structure and will also be rebuilt. DEOK will be doing a route survey to see if easement updates and/or additional structures are required.
Impacted transmission line	College Corner - Collinsville 138kV
Point A	OH/IN State Line (Tower 10P-X1-129)
Point B	Collinsville
Point C	
Terrain description	The majority of this circuit is rural with 8.90 miles of the line located in agricultural lands. Approximately 3.00 miles of the line is located in Hueston Woods State Park which is woodlands and will require coordination with the state park. There are multiple creek crossings and one wetland area/FEMA Floodplain in the existing ROW.
Existing Line Physical Characteristics	
Operating voltage	138
Conductor size and type	397.5 ACSR30x7 1 conductor/phase @100C

Hardware plan description	No existing line hardware will be reused. This will be a total line rebuild. Approximately 75,000 feet of OPGW will be installed.
Tower line characteristics	The existing towers and wire are 1940/50 vintage. The circuit is severely derated. The 0.1-mile section that AEP owns does not need to be rebuilt at the moment but may be needed down the road. The remaining 11.90-mile section goes through farmland and Hueston Woods State Park. There are multiple creek crossings with one structure located in a FEMA floodplain.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings
Summer (MVA)	480.000000	480.000000
Winter (MVA)	520.000000	520.000000

Conductor size and type	954 ACSS/TW 1 conductor/phase @200C
Shield wire size and type	OPGW AC-99/669-27
Rebuild line length	11.90 miles
Rebuild portion description	11.90 miles of the 12.00 miles will be rebuilt. All 11.90 miles is owned by DEOK and DEOK will be doing the construction. DEOK is assuming that there will be no difficulties to rebuild in the existing ROW (this includes Hueston Woods State Park). DEOK is also assuming that some portions of the ROW may need to get expanded. Finally, DEOK is assuming that the new engineered poles outside of Collinsville do not need to be replaced and no temporary line install would be required.
Right of way	DEOK will be doing a route survey to see if any additional easement and/or structures are needed for this circuit. It will be assumed that any additional easement will be obtained with no issues.
Construction responsibility	DEOK
Benefits/Comments	College Corner - Collinsville is a facility that shows up in almost every analysis. This line is 1940/50s vintage and is in need for replacement. Following the rebuild, the new ratings will be 167/245/210/271 (SN/SE/WN/WE). AEP's 0.1-mile section will become the limiter. If and when that rebuild happens, the new ratings for the circuit should be at least 480/480/520/520.

Component Cost Details - In Current Year $	
Engineering & design	Detailed estimate
Permitting / routing / siting	Detailed estimate
ROW / land acquisition	Detailed estimate
Materials & equipment	Detailed estimate
Construction & commissioning	Detailed estimate
Construction management	Detailed estimate
Overheads & miscellaneous costs	Detailed estimate
Contingency	Detailed estimate
Total component cost	$45,112,718.00
Component cost (in-service year)	$12,060,477.00

Transmission Line Upgrade Component

Component title	College Corner - Trenton Partial Rebuild
Project description	Rebuild parts of the College Corner (AEP) - Trenton (DEOK) 138kV circuit that shares a common structure with the College Corner (AEP) - Collinsville (DEOK) circuit from the OH/IN State Line (Tower 10P-X1-129) to Collinsville Substation. AEP owns approximately 0.1 miles of the line from College Corner Substation to the OH/IN State Line. DEOK owns the remaining 24.19 miles from the state line to Trenton Substation. Only the 11.90-mile DEOK section that shares a common structure with College Corner (AEP) - Collinsville (DEOK) will be rebuilt with 954ACSS/TW conductor (@ 200C) and new double circuit structures. The remaining sections from Collinsville - Trenton will be left untouched. DEOK will be doing a route survey to see if easement updates and/or additional structures are required.
Impacted transmission line	College Corner - Trenton 138kV
Point A	OH/IN State Line (Tower 10P-X1-129)
Point B	Trenton
Point C	

Terrain description	The majority of this College Corner (AEP) - Trenton (DEOK) section is rural with 8.90 miles of the line located in agricultural lands. Approximately 3.00 miles of the line is located in Hueston Woods State Park which is woodlands and will require coordination with the state park. There are multiple creek crossings and one wetland area/FEMA Floodplain in the existing ROW.

Existing Line Physical Characteristics

Operating voltage	138
Conductor size and type	477 ACSR26x7 1 conductor/phase @ 100C
Hardware plan description	No existing line hardware in this College Corner (AEP) - Trenton (DEOK) section will be reused. This section will be a total line rebuild. The remaining sections from Collinsville - Trenton will be left untouched. Approximately 75,000 feet of OPGW will be installed.
Tower line characteristics	The existing towers and wire for this College Corner (AEP) - Trenton (DEOK) section are 1940/50 vintage. The circuit is severely derated. The 0.1-mile section that AEP owns does not need to be rebuilt at the moment but may be needed down the road. The remaining 11.90-mile section to Collinsville goes through farmland and Hueston Woods State Park. There are multiple creek crossings with one structure located in a FEMA floodplain.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings
Summer (MVA)	480.000000	480.000000
Winter (MVA)	520.000000	520.000000
Conductor size and type	954 ACSS/TW 1 conductor/phase @200C	
Shield wire size and type	OPGW AC-99/669-27	
Rebuild line length	11.90	

Rebuild portion description	11.90 miles of the 24.19 miles that DEOK owns will be rebuilt. DEOK will be doing the construction. DEOK is assuming that there will be no difficulties to rebuild in the existing ROW (this includes Hueston Woods State Park). DEOK is also assuming that some portions of the ROW may need to get expanded. Finally, DEOK is assuming that the new engineered poles outside of Collinsville do not need to be replaced and no temporary line install would be required.
Right of way	DEOK will be doing a route survey to see if any additional easement and/or structures are needed for this circuit. It will be assumed that any additional easement will be obtained with no issues.
Construction responsibility	DEOK
Benefits/Comments	Since College Corner - Trenton shares a common tower with College Corner - Collinsville, the parts that share will need to be rebuilt as well. College Corner - Collinsville is a facility that shows up in almost every analysis. This line is 1940/50s vintage and is in need for replacement. Following the rebuild, the line ratings will stay the same since the section from Collinsville - Trenton will remain untouched.
Component Cost Details - In Current Year $	
Engineering & design	Detailed estimate
Permitting / routing / siting	Detailed estimate
ROW / land acquisition	Detailed estimate
Materials & equipment	Detailed estimate
Construction & commissioning	Detailed estimate
Construction management	Detailed estimate
Overheads & miscellaneous costs	Detailed estimate
Contingency	Detailed estimate
Total component cost	$13,235,938.00
Component cost (in-service year)	$3,538,461.00

Substation Upgrade Component

Component title	Collinsville Relay Settings Update

Project description	Update Relay Settings for the College Corner - Collinsville line at DEOK's Collinsville Substation.
Substation name	Collinsville
Substation zone	DEOK
Substation upgrade scope	Update Relay Settings for the College Corner - Collinsville line at DEOK's Collinsville Substation.

Transformer Information

None

New equipment description	n/a
Substation assumptions	Relay Settings can be updated with no other additional costs at the substation.
Real-estate description	n/a
Construction responsibility	DEOK
Benefits/Comments	n/a
Component Cost Details - In Current Year $	
Engineering & design	Detailed estimate
Permitting / routing / siting	Detailed estimate
ROW / land acquisition	Detailed estimate
Materials & equipment	Detailed estimate
Construction & commissioning	Detailed estimate
Construction management	Detailed estimate
Overheads & miscellaneous costs	Detailed estimate
Contingency	Detailed estimate
Total component cost	$29,103.00
Component cost (in-service year)	$25,773.00

Substation Upgrade Component

Component title	Trenton Relay Settings Update
Project description	Update Relay Settings for the College Corner - Trenton line at DEOK's Trenton Substation.
Substation name	Trenton
Substation zone	DEOK
Substation upgrade scope	Update Relay Settings for the College Corner - Trenton line at DEOK's Trenton Substation.

Transformer Information

None

New equipment description	n/a
Substation assumptions	Relay Settings can be updated with no other additional costs at the substation.
Real-estate description	n/a
Construction responsibility	DEOK
Benefits/Comments	n/a

Component Cost Details - In Current Year $

Engineering & design	Detailed estimate
Permitting / routing / siting	Detailed estimate
ROW / land acquisition	Detailed estimate
Materials & equipment	Detailed estimate
Construction & commissioning	Detailed estimate
Construction management	Detailed estimate
Overheads & miscellaneous costs	Detailed estimate
Contingency	Detailed estimate

Total component cost	$29,103.00
Component cost (in-service year)	$25,773.00

Substation Upgrade Component

Component title	College Corner Relay Settings Update
Project description	Relay Settings at College Corner station needed due to Duke rebuilding their College Corner - Collinsville 138kV line section.
Substation name	College Corner
Substation zone	AEP
Substation upgrade scope	Relay Settings at College Corner station needed due to Duke rebuilding their College Corner - Collinsville 138kV line section.

Transformer Information

None

New equipment description	n/a
Substation assumptions	Relay Settings can be updated with no other additional costs at the substation. AEP schedule for construction start and finish will be driven and coordinated with Duke's solution to address their line asset. AEP has assumed for a Q2 2030 construction start, but this can be accelerated if/as needed to coordinate with Duke's execution plan.
Real-estate description	n/a
Construction responsibility	AEP
Benefits/Comments	n/a

Component Cost Details - In Current Year $

Engineering & design	Detailed estimate
Permitting / routing / siting	Detailed estimate
ROW / land acquisition	Detailed estimate

Materials & equipment	Detailed estimate
Construction & commissioning	Detailed estimate
Construction management	Detailed estimate
Overheads & miscellaneous costs	Detailed estimate
Contingency	Detailed estimate
Total component cost	$64,132.20
Component cost (in-service year)	$51,172.20

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
2025W1-GD-S208	243262	05COLLEGE C	250001	08COLINV	1	138	205/212	Generation Deliverability	Included
2025W1-GD-S184	243262	05COLLEGE C	250001	08COLINV	1	138	205/212	Generation Deliverability	Included
2025W1-GD-S206	243262	05COLLEGE C	250001	08COLINV	1	138	205/212	Generation Deliverability	Included
2025W1-GD-S472	243262	05COLLEGE C	250001	08COLINV	1	138	205/212	Generation Deliverability	Included

New Flowgates

None

Financial Information

Capital spend start date	01/2026
Construction start date	06/2028
Project Duration (In Months)	53

Additional Comments

None