

Plano - Hanging Valley - Grayslake 765kV & 345kV

General Information

Proposing entity name	Company proprietary information.
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Company proprietary information.
Company proposal ID	Company proprietary information.
PJM Proposal ID	327
Project title	Plano - Hanging Valley - Grayslake 765kV & 345kV
Project description	Expansion of the Chicago-area transmission system through 765kV greenfield facilities along the western side, targeted rebuilds and upgrades of existing 345kV facilities and transmission lines, and development of a new 345kV underground transmission path corridor into northern Chicago.
Email	Company proprietary information.
Project in-service date	11/2032
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Company proprietary information.

Project Components

1. Plano - Hanging Valley 765kV Line
2. Plano 765kV Station upgrade
3. Hanging Valley 765/345kV Station
4. Hanging Valley - Pleasant Valley 345kV tie
5. Pleasant Valley 345kV Station upgrade

6. Hanging Valley - Ferndale 345kV double-circuit
7. Ferndale Underground Transition Station
8. Ferndale - Grayslake 345kV double-circuit
9. Grayslake 345kV Station upgrade
10. Joliet 345kV Station upgrade
11. Joliet - Elwood 345kV Line
12. Elwood 345kV Station upgrade
13. Lee Energy Center Tap - Wayne Station 345kV
14. Dixon - Stillman Valley Tap 138kV
15. Wayne 345kV Station upgrade
16. Lee Energy Center 345kV upgrade
17. Grayslake - Libertyville 345kV

Greenfield Transmission Line Component

Component title	Plano - Hanging Valley 765kV Line	
Project description	Company proprietary information.	
Point A	Plano	
Point B	Hanging Valley	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	6625.000000	6625.000000
Winter (MVA)	6625.000000	6625.000000
Conductor size and type	6 Bundled – 795 kcmil (45/7 Strand) ACSR "Tern" conductor	
Nominal voltage	AC	
Nominal voltage	765	

Line construction type	Overhead
General route description	The Proposing Entity assessed environmental and land use constraints and opportunities within an area that included the existing Plano and Hanging Valley substations as the two endpoints. The evaluation resulted in the Bid Route of approximately 50 miles of greenfield line through four counties (Kendall, Kane, Dekalb and McHenry) in Illinois. The 765kV greenfield line exits the existing Plano substation from the northwest and travels in a predominantly northern direction until it reaches the existing Hanging Valley substation from the east. No habitable structures are present within the proposed ROW. Overall, the Bid Route selected is the most direct route between the two existing substations and has the least overall impact on land use and environmental resources based on the Proposing Entity's qualitative review. The Bid Route significantly reduces the number of new access roads, enhancing overall constructability.
Terrain description	The topography along the Plano - Hanging Valley 765 kV greenfield line is relatively flat with some gently rolling hills. Land use in the area encompasses mostly agricultural lands with some rural residential parcels. The line crosses low density developed areas, a small amount of highly vegetated (wooded) rural land, state/county highways, railroads, streams, and existing utilities.
Right-of-way width by segment	The Plano - Hanging Valley 765 kV greenfield route ROW will be 180 feet in width and will parallel/cross existing rights-of-way to include interstates, roads, railroads, existing transmission lines/utilities, existing pipelines and best minimizes potential impacts to the natural and human environments.
Electrical transmission infrastructure crossings	N/A
Civil infrastructure/major waterway facility crossing plan	The Plano - Hanging Valley 765 kV greenfield line route crosses & runs parallel with multiple railroads, numerous water features, and large underground pipelines. The route does not cross any notable waterways. Bodies of Water Coordinates Big Rock Creek, 41.697821° -88.509472° West Branch Big Rock Creek, 41.774153° -88.605271° Youngs Creek, 41.828216° -88.611042° Youngs Creek, 41.844339° -88.610905° Youngs Creek, 41.850913° -88.610754° Union Ditch 2, 41.926413° -88.616652° Union Ditch 3, 41.933657° -88.616375° Coon Creek, 42.040963° -88.608532° Coon Creek, 42.063624° -88.609111° Coon Creek, 42.101668° -88.607754° Coon Creek, 42.132488° -88.604710° Coon Creek, 42.134755° -88.604470° Harmony or Coon Creek, 42.149608° -88.602955° Union Creek, 42.207221° -88.519561° South Branch Kishwaukee River, 42.207308° -88.481619° Kishwaukee Creek, 42.208631° -88.438121° Kishwaukee River, 42.229761° -88.420345° Railroad Coordinates Burlington Northern Santa Fe Railroad (BNSF), 41.766905° -88.604062° Union Pacific Railroad, 41.910781° -88.617342° Great Western Trail, 41.974423° -88.617392° Canadian National Railway, 42.058373° -88.609306° Canadian Pacific Railway, 42.099148° -88.607849° Illinois Railway Museum Railroad, 42.207316° -88.489264° Union Pacific Railroad, 42.207335° -88.488820°

Environmental impacts	Land use along the Bid Route corridor is a predominantly rural agricultural landscape with pockets of residential development. The route intersects FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. The route also crosses named and unnamed streams in various locations. Based on existing aerial photography, the proposed route likely has unmapped wetland or drainage features. The timing of construction will be executed in accordance with state and federal agency criteria as needed. Desktop studies and record reviews for the station parcel and line route will be conducted for wetlands and streams, hazardous materials, and cultural resources. Following field studies, data will be digitized and provided to engineering so that pole locations and the station is sited to maximize avoidance of sensitive resources. For example, poles will be placed outside of or span wetlands, streams, and floodplains to the greatest extent possible. Existing access and roads will be utilized to access pole locations. If necessary, temporary access roads to pole locations will be identified and field surveyed for environmental and cultural resources and will be adjusted to avoid or minimize impacts.
Tower characteristics	This single circuit 765kV line is proposed to utilize self-supporting steel lattice tower structures with the phases arranged in a delta configuration. All towers are expected to be supported by drilled concrete pier foundations.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$498,458,830.00

Component cost (in-service year)	\$612,305,117.00
Substation Upgrade Component	
Component title	Plano 765kV Station upgrade
Project description	Company proprietary information.
Substation name	Plano
Substation zone	ComEd
Substation upgrade scope	Create a new 765KV line position to interconnect a new 765KV Hanging Valley line by adding two 765KV circuit breakers and associated equipment.
Transformer Information	
None	
New equipment description	Create a new 765KV line position by adding two 765KV, 5000A, 63KA circuit breakers; fifteen 765KV, 5000A single-phase disc. switches; three sets of 765KV CCVTs; one set of 765KV arresters; and associated bus jumpers, bus tubing & dampening cable, insulators, steel structures, foundations, AC cabinet, yard lighting, control cables, conduits, cable trench, ground grid, and equipment grounding. Install associated relay equipment in the existing control house. Site development will include removing grass and adding station stone inside the existing fenced area.
Substation assumptions	It is assumed that all necessary outages will be available, the existing AC, DC, & telecom. systems will accommodate the new equipment, the existing control house has space for the new relay equipment, ground grid resistivity test data are available, ground grid upgrades will not be needed, the existing cable trench has space for the new control cables, and soil boring logs and geotechnical report are available.
Real-estate description	The acquisition of additional fee lands is not required for the Plano Substation located in Kendall County, Illinois.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.

Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$20,399,105.00
Component cost (in-service year)	\$25,058,191.00

Greenfield Substation Component

Component title	Hanging Valley 765/345kV Station
Project description	Company proprietary information.
Substation name	Hanging Valley
Substation description	Construct a 765/345KV greenfield substation having a 765KV ring bus design with one circuit breaker that will interconnect a new 765KV line to Plano; one 765/345KV, 2250MVA transformer (consisting of four 750MVA single-phase units); and a 345KV ring bus design with four circuit breakers that will interconnect a new 345KV Pleasant Valley line and a new double circuit 345kV line to Grayslake.
Nominal voltage	AC
Nominal voltage	765/345

Transformer Information

	Name	Capacity (MVA)
Transformer	T1	2250

	High Side	Low Side	Tertiary
Voltage (kV)	765	345	34.5
Major equipment description	Construct a 765/345KV greenfield substation having a 765KV ring bus design, 1-765/345KV, 2250MVA transformer, and a 345KV ring bus design consisting of 1-765KV, 5000A, 63KA line circuit breaker; 9-765KV, 5000A single-phase disc. switches; 2-sets of 3-765KV CCVTs; 1-set of 3-765KV arresters; 3-765/345KV, 750MVA single-phase transformers with arresters; 4-345KV, 5000A, 63KA line circuit breakers; 2-345KV, 5000A, 63KA reactor circuit breakers; 2-345KV, 150MVAR, 3-phase, shunt reactors with arresters; 14-345KV, 4000A three-phase disc. switches; 3-345KV, 5000A single-phase disc. switches; 2-345KV three-phase line discharge ground switches; 4-sets of 3-345KV CCVTs; 6-sets of 3-345KV arresters; AC power system; 125VDC battery & charger and associated DC power system; and associated bus jumpers, bus tubing & dampening cable, strain bus, insulators, steel structures, foundations, yard lighting, control cables, conduits, cable trench, ground grid, and equipment/fence grounding. Install associated relay equipment in a new 16ft x 60ft control house. The station will be established on property roughly located at GPS coordinates (42.2583806, -88.4356278). Site development will include grading, access road, fencing, gates, and station stone. It is assumed that property will be available for purchase, wetland mitigation will not be needed, and all necessary permits will be available.		
	Normal ratings	Emergency ratings	
Summer (MVA)	2240.000000	2524.000000	
Winter (MVA)	2566.000000	2665.000000	
Environmental assessment	Land use for the substation is a flat rural landscape. The substation will lie adjacent and outside FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. Based on existing aerial photography, the proposed Conesville substation possibly contains unmapped wetland or drainage features. The timing of construction will be executed in accordance with state and federal agencies' criteria as needed. Desktop studies and record reviews for the station will be conducted for wetlands and streams, hazardous materials, and cultural resources prior to onsite investigations. Following field studies, data will be digitized and provided to engineering so that the station is sited to maximize avoidance of sensitive resources.		

Outreach plan	Public outreach is a critical component to the Proposing Entity's siting process, so efforts will include properly informing the public; federal, state, and local agencies; local governments; and other key stakeholders on the need for, and benefits of, this Project. The Proposing Entity's approach to public outreach is to be always candid and transparent, and to offer a variety of tools and means for directly impacted parties to engage with our staff. The Proposing Entity will provide development updates to local government officials, key stakeholders, and impacted parties as the Project progresses. Public outreach also will involve collecting information about landowner properties and communicating with directly affected landowners during the final siting process.
Land acquisition plan	The proposed Hanging Valley substation will be 50 acres in size and located on agricultural land in rural McHenry County, Illinois. The proposed station will be purchased in fee.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$299,587,428.00
Component cost (in-service year)	\$368,012,169.00
Greenfield Transmission Line Component	
Component title	Hanging Valley - Pleasant Valley 345kV tie
Project description	Company proprietary information.

Point A	Hanging Valley	
Point B	Pleasant Valley	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	2639.000000	2639.000000
Winter (MVA)	2781.000000	2781.000000
Conductor size and type	2 Bundled – 954 kcmil (54/7 Strand) ACSS “Cardinal” conductor	
Nominal voltage	AC	
Nominal voltage	345	
Line construction type	Overhead	
General route description	The Proposing Entity assessed environmental and land use constraints and opportunities within an area that included the greenfield Hanging Valley substation and existing Pleasant Valley substation as the two endpoints. The evaluation resulted in the Bid Route of less than a mile of greenfield line through McHenry County in Illinois. The 345kV greenfield line exits the greenfield Hanging Valley from the west and travels in a predominantly western direction until it reaches the existing Pleasant Valley substation from the east. No habitable structures are present within the proposed ROW. Overall, the Bid Route selected is the most direct route between the greenfield and existing substations and has the least overall impact on land use and environmental resources based on the Proposing Entity's qualitative review. The Bid Route significantly reduces the number of new access roads, enhancing overall constructability.	
Terrain description	The topography along the Hanging Valley - Pleasant Valley 345 kV greenfield line is relatively flat. Land use in the area encompasses mostly agricultural lands with some rural residential parcels.	
Right-of-way width by segment	The Pleasant Valley - Hanging Valley 345 kV greenfield route ROW will be 130 feet in width and will route between the proposed Hanging Valley Station and existing Pleasant Valley Station.	
Electrical transmission infrastructure crossings	N/A	
Civil infrastructure/major waterway facility crossing plan	N/A	

Environmental impacts	Land use along the Bid Route corridor is a predominantly rural agricultural landscape with pockets of residential development and forested lands. The route intersects FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. The route also crosses named and unnamed streams in various locations. Based on existing aerial photography, the proposed route likely has unmapped wetland or drainage features. The timing of construction will be executed in accordance with state and federal agency criteria as needed. Desktop studies and record reviews for the line route will be conducted for wetlands and streams and cultural resources prior to onsite investigations. Following field studies, data will be digitized and provided to engineering so that pole locations maximize avoidance of sensitive resources. For example, poles will be placed outside of or span wetlands, streams, and floodplains to the greatest extent possible. Existing access and roads will be utilized to access pole locations. If necessary, temporary access roads to pole locations will be identified and field surveyed for environmental and cultural resources and will be adjusted to avoid or minimize impacts.
Tower characteristics	This single circuit 345kV line is proposed to utilize tubular steel monopole structures. The phases are planned to be in a vertical or alternating configuration. Structures are expected to be direct embedded structures or to be supported by drilled concrete pier foundations.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$5,317,527.00
Component cost (in-service year)	\$6,532,032.00

Substation Upgrade Component

Component title	Pleasant Valley 345kV Station upgrade
Project description	Company proprietary information.
Substation name	Pleasant Valley
Substation zone	ComEd
Substation upgrade scope	Create a four position 345kV ring bus with three 345kV circuit breakers and one new 345kV line position to interconnect a 345kV tie line to Hanging Valley (proposed).

Transformer Information

None	
New equipment description	Create a four position 345KV ring bus and one new 345KV line position to interconnect a new 345KV Hanging Valley line by adding three 345KV, 5000A, 63KA circuit breakers; ten 345KV, 4000A three-phase disc. switches; two sets of 345KV CTVTs; four sets of 345KV arresters; and associated bus jumpers, bus tubing & dampening cable, insulators, steel structures, foundations, AC cabinet, yard lighting, control cables, conduits, ground grid, and equipment/fence grounding. Install associated relay equipment in the existing control house. Site development will include removing grass and adding station stone inside the existing fenced area.
Substation assumptions	It is assumed that all necessary outages will be available, the existing AC, DC, & telecom. systems will accommodate the new equipment, the existing control house has space for the new relay equipment, ground grid resistivity test data are available, ground grid upgrades will not be needed, the existing cable trench has space for the new control cables, and soil boring logs and geotechnical report are available.
Real-estate description	The acquisition of additional fee lands is not required for the Pleasant Valley Substation located in McHenry County, Illinois.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.

ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$9,046,556.00
Component cost (in-service year)	\$11,112,758.00

Greenfield Transmission Line Component

Component title	Hanging Valley - Ferndale 345kV double-circuit
Project description	Company proprietary information.
Point A	Hanging Valley
Point B	Ferndale
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	2639.000000	2639.000000
Winter (MVA)	2781.000000	2781.000000
Conductor size and type	2 Bundled – 954 kcmil (54/7 Strand) ACSS “Cardinal” conductor	
Nominal voltage	AC	
Nominal voltage	345	
Line construction type	Overhead	

General route description	The Proposing Entity assessed environmental and land use constraints and opportunities within an area that included the existing Hanging Valley substation and the greenfield UG Transition Station as the two endpoints. The evaluation resulted in the Bid Route of approximately 13 miles of greenfield line through McHenry County in Illinois. The 345kV greenfield line exits the existing Hanging Valley substation from the east and travels in a predominantly eastern direction until it reaches the Ferndale UG Transition Station. No habitable structures are present within the proposed ROW. Overall, the Bid Route selected is the most direct route between the existing substation and greenfield UG transition station and has the least overall impact on land use and environmental resources based on the Proposing Entity's qualitative review. The Bid Route significantly reduces the number of new access roads, enhancing overall constructability.
Terrain description	The topography along the Hanging Valley - Ferndale Station 345kV greenfield line is relatively flat with some gently rolling hills. Land use in the area encompasses mostly agricultural lands with some rural residential parcels. The line crosses low density developed areas, a small amount of highly vegetated (wooded) rural land, state/county highways, railroads, streams, and existing utilities.
Right-of-way width by segment	The Hanging Valley - Ferndale UG Transition Station greenfield route ROW will be 130 feet in width and will parallel/cross existing rights-of-way to include interstates, roads, railroads, existing transmission lines/utilities, existing pipelines and best minimizes potential impacts to the natural and human environments.
Electrical transmission infrastructure crossings	N/A
Civil infrastructure/major waterway facility crossing plan	The Hanging Valley - UG Transition Station 345kV greenfield line route crosses & runs parallel with multiple railroads, numerous water features, and large underground pipelines. The route crosses Fox River about 0.3 miles southwest of the UG Transition Station. Bodies of Water Coordinates Unnamed, 42.297570°, -88.258340° Fox River, 42.294920°, -88.237142° Railroad, Coordinates 42.288598°, -88.401082° 42.301950°, -88.298974°

Environmental impacts	Land use along the Bid Route corridor is a predominantly rural agricultural landscape with pockets of residential development. The route intersects FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. The route also crosses named and unnamed streams in various locations. Based on existing aerial photography, the proposed route likely has unmapped wetland or drainage features. The timing of construction will be executed in accordance with state and federal agency criteria as needed. Desktop studies and record reviews for the station parcel and line route will be conducted for wetlands and streams, hazardous materials, and cultural resources. Following field studies, data will be digitized and provided to engineering so that pole locations and the station is sited to maximize avoidance of sensitive resources. For example, poles will be placed outside of or span wetlands, streams, and floodplains to the greatest extent possible. Existing access and roads will be utilized to access pole locations. If necessary, temporary access roads to pole locations will be identified and field surveyed for environmental and cultural resources and will be adjusted to avoid or minimize impacts.
Tower characteristics	This double circuit 345kV line is proposed to utilize self-supporting steel lattice tower structures with the phases arranged in AEP's patented BOLD configuration. All towers are expected to be supported by drilled concrete pier foundations.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$140,322,770.00

Component cost (in-service year) \$172,372,009.00

Greenfield Substation Component

Component title Ferndale Underground Transition Station

Project description Company proprietary information.

Substation name Ferndale Station

Substation description Overhead to underground transition station for the Hanging Valley to Grayslake 345kV double circuit line.

Nominal voltage AC

Nominal voltage 345

Transformer Information

None

Major equipment description Create a 345KV overhead to underground transition station for Hanging Valley to Grayslake 345kV double-circuit line consisting of two overhead line positions and two underground line positions (each having two cables per phase) and two 345KV three-phase line discharge ground switches; four sets of 345KV arresters; and associated bus jumpers, bus tubing & dampening cable, insulators, steel structures, foundations, AC cabinet, yard lighting, control cables, conduits, ground grid, and equipment/fence grounding. The station will be established on property roughly located at GPS coordinates (42.2986222, -88.2337389). Site development will include grading, access road, fencing, gates, and station stone. It is assumed that property will be available for purchase, wetland mitigation will not be needed, and all necessary permits will be available.

	Normal ratings	Emergency ratings
Summer (MVA)	1609.000000	1609.000000
Winter (MVA)	1609.000000	1609.000000

Environmental assessment	Land use for the substation is a flat rural landscape. The substation will lie adjacent and outside FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. The timing of construction will be executed in accordance with state and federal agencies' criteria as needed. Desktop studies and record reviews for the station will be conducted for wetlands and streams, hazardous materials, and cultural resources prior to onsite investigations. Following field studies, data will be digitized and provided to engineering so that the station is sited to maximize avoidance of sensitive resources.
Outreach plan	Public outreach is a critical component to the Proposing Entity's siting process, so efforts will include properly informing the public; federal, state, and local agencies; local governments; and other key stakeholders on the need for, and benefits of, this Project. The Proposing Entity's approach to public outreach is to be always candid and transparent, and to offer a variety of tools and means for directly impacted parties to engage with our staff. The Proposing Entity will provide development updates to local government officials, key stakeholders, and impacted parties as the Project progresses. Public outreach also will involve collecting information about landowner properties and communicating with directly affected landowners during the final siting process.
Land acquisition plan	The proposed underground transition substation will be 10 acres in size and located on agricultural land in rural McHenry County, Illinois. The proposed station will be purchased in fee.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$21,024,219.00

Component cost (in-service year) \$25,826,078.00

Greenfield Transmission Line Component

Component title Ferndale - Grayslake 345kV double-circuit

Project description Company proprietary information.

Point A Ferndale

Point B Grayslake

Point C

	Normal ratings	Emergency ratings
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Summer (MVA)	1609.000000	1609.000000
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Winter (MVA)	1609.000000	1609.000000
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Conductor size and type 3000kcmil XLPE cable, 2 cables per phase

Nominal voltage AC

Nominal voltage 345

Line construction type Underground

General route description The proposed Ferndale - Grayslake 345kV underground segment consists of approximately 12 miles of new double-circuit underground transmission line extending east from the proposed Ferndale overhead-to-underground transition station, located east of the Fox River, to the proposed Grayslake 345kV Station. The underground circuits will be installed within concrete-encased duct banks in road ROW, with manholes positioned along the route to facilitate cable installation, splicing, and future maintenance. The alignment generally follows existing roadway corridors through central Lake County and the Grayslake community. Final routing and facility locations will be established during detailed engineering based on survey, geotechnical conditions, existing utilities, roadway constraints, easement requirements, cable-pulling limitations, and overall constructability.

Terrain description The proposed underground route traverses generally flat terrain within a developed urban and suburban environment in central Lake County and the Grayslake community.

Right-of-way width by segment	The Ferndale-Grayslake 345kV double-circuit underground greenfield route will generally be located within existing public road right-of-way. Where the route extends outside public road right-of-way, a 60-foot-wide permanent right-of-way will be required for the underground duct-bank system and manholes. Temporary construction easements, generally averaging 50 feet in additional width, will also be required along portions of the route to accommodate access, excavation, material staging, and installation activities. Final temporary easement limits will be established during detailed engineering based on the final alignment and site-specific construction requirements.
Electrical transmission infrastructure crossings	N/A
Civil infrastructure/major waterway facility crossing plan	N/A
Environmental impacts	Land use along the Bid Route corridor is a mix of rural agricultural landscape and residential development. The route intersects FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. The route also crosses named and unnamed streams in various locations. Based on existing aerial photography, the proposed route likely has unmapped wetland or drainage features. The timing of construction will be executed in accordance with state and federal agency criteria as needed. Desktop studies and record reviews for the line route will be conducted for wetlands and streams and cultural resources prior to onsite investigations. Following field studies, data will be digitized and provided to engineering so that underground infrastructure locations maximize avoidance of sensitive resources. For example, manholes will be placed outside wetlands, streams, and floodplains to the greatest extent possible.
Tower characteristics	The proposed route will be underground.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.

Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$1,390,595,969.00
Component cost (in-service year)	\$1,708,203,317.00
Substation Upgrade Component	
Component title	Grayslake 345kV Station upgrade
Project description	Company proprietary information.
Substation name	Grayslake
Substation zone	ComEd
Substation upgrade scope	Create two 345kV underground line positions (each having two cables per phase) to interconnect two new 345kV underground lines from Hanging Valley. Add two new 345kV circuit breakers and associated equipment to interconnect into the existing substation.
Transformer Information	
None	
New equipment description	Create two 345kV underground line positions (each having two cables per phase) to interconnect two new 345kV underground lines from Hanging Valley. Install: two 345kV, 5000A, 63kA circuit breakers; two 345kV, 4000A three-phase disc. switches; two 345kV three-phase line discharge ground switches; two sets of 345kV CCVTs; 4 sets of 345kV arresters; and associated bus jumpers, bus tubing & dampening cable, insulators, steel structures, foundations, yard lighting, control cables, conduits, ground grid, and equipment/fence grounding. Install associated relay equipment in the existing control house. Site development will include grading, fencing, and station stone.
Substation assumptions	It is assumed that all necessary outages will be available, the existing AC, DC, & telecom. systems will accommodate the new equipment, the existing control house has space for the new relay equipment, ground grid resistivity test data are available, ground grid upgrades will not be needed, the existing cable trench has space for the new control cables, and soil boring logs and geotechnical report are available. For the station expansion, it is assumed that wetland mitigation will not be required and all necessary permits will be available.
Real-estate description	The acquisition of additional fee lands is not required for the Grayslake Substation located in Lake County, Illinois.

Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$8,128,123.00
Component cost (in-service year)	\$9,984,558.00
Substation Upgrade Component	
Component title	Joliet 345kV Station upgrade
Project description	Company proprietary information.
Substation name	Joliet
Substation zone	ComEd
Substation upgrade scope	Create two 345kV line positions to interconnect two new 345kV Elwood lines to the existing 345kV Lockport lines by removing all existing station equipment and buswork and installing new buswork, including associated bus jumpers, bus tubing & dampening cable, strain bus, insulators, steel structures, foundations, yard lighting, control cables, conduits, and structure grounding.
Transformer Information	

None	
New equipment description	Install: Two new 345kV circuit breakers and associated foundations, jumpers, relaying equipment, disconnect switches, control cables, conduits, and structure grounding.
Substation assumptions	It is assumed that all necessary outages will be available, the existing AC system will accommodate the new lighting equipment, ground grid resistivity test data are available, ground grid upgrades will not be needed, the existing cable trench has space for the new control cables, and soil boring logs and geotechnical report are available.
Real-estate description	The acquisition of additional fee lands is not required for the Joliet Substation located in Will County, Illinois.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$3,382,749.00
Component cost (in-service year)	\$4,155,357.00
Greenfield Transmission Line Component	
Component title	Joliet - Elwood 345kV Line
Project description	Company proprietary information.

Point A	Joliet	
Point B	Elwood	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	2639.000000	2639.000000
Winter (MVA)	2781.000000	2781.000000
Conductor size and type	2 Bundled – 954 kcmil (54/7 Strand) ACSS “Cardinal” conductor	
Nominal voltage	AC	
Nominal voltage	345	
Line construction type	Overhead	
General route description	The Proposing Entity assessed environmental and land use constraints and opportunities within an area that included the existing Elwood and Joliet substations as the two endpoints. The evaluation resulted in the Bid Route of approximately 7 miles of greenfield line through Will County in Illinois. The 345kV greenfield line exits the existing Elwood substation from the east and travels in a predominantly northern direction until it reaches the existing Joliet substation from the west. No habitable structures are present within the proposed ROW. Overall, the Bid Route selected is the most direct route between the two existing substations and has the least overall impact on land use and environmental resources based on the Proposing Entity's qualitative review. The Bid Route significantly reduces the number of new access roads, enhancing overall constructability.	
Terrain description	The topography along the Elwood - Joliet 345kV greenfield line is relatively flat. Land use in the area encompasses mostly industrial use with some agricultural lands. The line crosses low density developed areas, a small amount of highly vegetated (wooded) rural land, state/county highways, railroads, streams, and existing utilities.	
Right-of-way width by segment	The Elwood - Joliet 345 kV greenfield route ROW will be 150 feet in width and will parallel/cross existing rights-of-way to include interstates, roads, railroads, existing transmission lines/utilities, existing pipelines and best minimizes potential impacts to the natural and human environments.	
Electrical transmission infrastructure crossings	N/A	

Civil infrastructure/major waterway facility crossing plan

The Elwood - Joliet 345kV greenfield line route crosses & runs parallel with multiple railroads, water features, and large underground pipelines. The route crosses Des Plaines River about 0.7 miles southwest of the Joliet substation. Body of Water, Coordinates Des Plaines River, 41.485140° -88.129956° Railroad, Coordinates Union Pacific, 41.445714° -88.126949° BNSF Railway, 41.482898° -88.129821° BNSF Railway, 41.484019° -88.129889°

Environmental impacts

Land use along the Bid Route corridor is a predominantly industrial landscape with pockets of agricultural land. The route intersects FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. The route also crosses named and unnamed streams in various locations. Based on existing aerial photography, the proposed route likely has unmapped wetland or drainage features. The timing of construction will be executed in accordance with state and federal agency criteria as needed. Desktop studies and record reviews for the station parcel and line route will be conducted for wetlands and streams, hazardous materials, and cultural resources. Following field studies, data will be digitized and provided to engineering so that pole locations and the station is sited to maximize avoidance of sensitive resources. For example, poles will be placed outside of or span wetlands, streams, and floodplains to the greatest extent possible. Existing access and roads will be utilized to access pole locations. If necessary, temporary access roads to pole locations will be identified and field surveyed for environmental and cultural resources and will be adjusted to avoid or minimize impacts.

Tower characteristics

This double circuit 345kV line is proposed to utilize self-supporting steel lattice tower structures with the phases arranged in AEP's patented BOLD configuration. All towers are expected to be supported by drilled concrete pier foundations.

Construction responsibility

Company proprietary information.

Benefits/Comments

Company proprietary information.

Component Cost Details - In Current Year \$

Engineering & design

Company proprietary information.

Permitting / routing / siting

Company proprietary information.

ROW / land acquisition

Company proprietary information.

Materials & equipment

Company proprietary information.

Construction & commissioning

Company proprietary information.

Construction management

Company proprietary information.

Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$88,238,312.00
Component cost (in-service year)	\$108,391,640.00
Substation Upgrade Component	
Component title	Elwood 345kV Station upgrade
Project description	Company proprietary information.
Substation name	Elwood
Substation zone	ComEd
Substation upgrade scope	Create two 345kV line positions to interconnect two 345kV double-circuit line Joliet by adding three 345kV circuit breakers, relocating the take-off tower for the 345kV Jackson IPP line, relocating the connection point for the 345kV Goodings Grove line, and replacing ten 345kV over-dutied circuit breakers.
Transformer Information	
None	
New equipment description	Create two 345kV line positions to interconnect two new 345kV Joliet lines by replacing ten existing 345kV circuit breakers with 5000A, 80kA units and adding three 345kV, 5000A, 80kA circuit breakers; five 345kV, 4000A three-phase disc. switches; 4 sets of 345kV CCVTs; 3 sets of 345kV arresters; and associated bus jumpers, bus tubing & dampening cable, strain bus, insulators, steel structures, foundations, yard lighting, control cables, conduits, and equipment grounding. Install associated relay equipment in the existing control house.
Substation assumptions	It is assumed that all necessary outages will be available, the existing AC, DC, & telecom. systems will accommodate the new equipment, the existing control house has space for the new relay equipment, ground grid resistivity test data are available, ground grid upgrades will not be needed, the existing cable trench has space for the new control cables, and soil boring logs and geotechnical report are available.
Real-estate description	The acquisition of additional fee lands is not required for the Elwood Substation located in Will County, Illinois.

Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$42,784,371.00
Component cost (in-service year)	\$52,556,175.00
Transmission Line Upgrade Component	
Component title	Lee Energy Center Tap - Wayne Station 345kV
Project description	Company proprietary information.
Impacted transmission line	Byron - Wayne Station
Point A	Byron
Point B	Lee Energy Center Tap
Point C	Wayne
Terrain description	Predominantly flat to gently rolling terrain across northern Illinois, traversing largely rural and agricultural areas before transitioning to increasingly developed suburban areas approaching Wayne.

Existing Line Physical Characteristics

Operating voltage	345
Conductor size and type	1602 / 1921 / 1602 / 1921 SN/SE/WN/WE MVA
Hardware plan description	The existing line will require the addition of new insulators and wire hardware.
Tower line characteristics	The existing structures are COMED proprietary, steel monopole structures that appear to be designed for double circuit capacity. The structures will require the addition of steel davit arms for the new shield wire and phase conductors. The age of the structures appear to be 10 years or newer. It is assumed the structures are in good condition because of their age.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	345.000000	345.000000
	Normal ratings	Emergency ratings
Summer (MVA)	2639.000000	2639.000000
Winter (MVA)	2781.000000	2781.000000
Conductor size and type	2 Bundled – 954 kcmil (54/7 Strand) ACSS “Cardinal” conductor	
Shield wire size and type	To be determined. It will likely match what is currently installed overtop of the existing circuit.	
Rebuild line length	48 miles	

Rebuild portion description	The existing structure design characteristics are unknown. It is assumed that the double circuit structure can support the additional davit arm and conductor weight. String vacant side of existing Byron - Wayne 345kV line with new arms and conductor. Approximately 48 miles from ~ (42° 4'12.60"N, 89° 9'38.27"W) to Wayne station. This will also require the towers between Lee Energy Center and Byron 345kV at ~ (41°57'34.48"N, 89°16'54.75"W) to be reconfigured. The Lee E.C circuit will connect to Northeast ROW towards Cherry Valley 345kV, and the Dixon 138kV circuit will connect to the North ROW towards Byron. The towers between Byron and Cherry Valley 345kV / Stillman Valley Tap 138kV at ~ (42° 4'13.95"N, 89°14'16.18"W) also to be reconfigured; the ROW from the southwest will be connected to the new conductor string ultimately terminating at Wayne (R) 345kV String vacant side of existing Byron - Wayne 345kV line with new arms and conductor. Approximately 2.5 miles from Byron 345kV station to towers at (42° 4'13.95"N, 89°14'16.18"W). Connect this new string to the ROW proceeding south to Dixon 138kV. Disconnect tie lines into Byron Station. Disconnect the existing eastern 138kV conductors from towers at (42° 4'21.43"N, 89°17'3.41"W) and connect northern ROW to the new conductor string from Byron. Retire ~4mi 138kV conductor towards ~ (42° 4'13.95"N, 89°14'16.18"W) if required. In order to reconfigure lines and to swap their positions, it is assumed that new deadend structures will be needed and that the adjacent towers will likely also need replaced.
Right of way	It is assumed some new ROW will need to be purchased for the additional circuit.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$105,600,000.00

Component cost (in-service year)	\$129,718,678.00	
Transmission Line Upgrade Component		
Component title	Dixon - Stillman Valley Tap 138kV	
Project description	Company proprietary information.	
Impacted transmission line	Dixon - Stillman Valley Tap 138kV	
Point A	Dixon Station	
Point B	Stillman Valley Tap	
Point C		
Terrain description	Predominantly flat to gently rolling terrain across northern Illinois, traversing largely rural and agricultural areas before transitioning to increasingly developed suburban areas approaching Wayne.	
Existing Line Physical Characteristics		
Operating voltage	138	
Conductor size and type	351 / 449 / 421 / 472 SN/SE/WN/WE MVA	
Hardware plan description	It is intended to reuse the existing hardware on the Dixon - Stillman Valley Tap 138kV line except where structures are reconfigured or replaced. The age is unknown and the condition is assumed to be good.	
Tower line characteristics	The existing ComEd structure designs are steel monopole structures with davit arms that appear to be designed for 345kV double circuit capacity. The age of the structures are unknown and the condition is assumed to be good.	
Proposed Line Characteristics		
	Designed	Operating
Voltage (kV)	345.000000	138.000000
	Normal ratings	Emergency ratings

Summer (MVA)	351.000000	449.000000
Winter (MVA)	421.000000	472.000000
Conductor size and type	It is intended to keep or match the existing conductor.	
Shield wire size and type	It is intended to keep or match the existing shield wire.	
Rebuild line length	2.5 miles	
Rebuild portion description	This will require the towers to be reconfigured between Lee Energy Center and Byron 345kV stations at towers located approximately (41°57'34.48"N, 89°16'54.75"W) and (42° 4'21.43"N, 89°17'3.41"W). It will also require the towers to be reconfigured between Byron and Cherry Valley345kV/Stillman Valley Tap 138kV located approximately (42° 4'13.95"N, 89°14'16.18"W). In order to reconfigure lines and to swap their positions, it is assumed that new deadend structures will be needed and that the adjacent towers will likely also need replaced.	
Right of way	It is assumed additional ROW will need to be purchased for the structure alignments that change.	
Construction responsibility	Company proprietary information.	
Benefits/Comments	Company proprietary information.	
Component Cost Details - In Current Year \$		
Engineering & design	Company proprietary information.	
Permitting / routing / siting	Company proprietary information.	
ROW / land acquisition	Company proprietary information.	
Materials & equipment	Company proprietary information.	
Construction & commissioning	Company proprietary information.	
Construction management	Company proprietary information.	
Overheads & miscellaneous costs	Company proprietary information.	
Contingency	Company proprietary information.	
Total component cost	\$5,000,000.00	

Component cost (in-service year)	\$6,141,983.00
Substation Upgrade Component	
Component title	Wayne 345kV Station upgrade
Project description	Company proprietary information.
Substation name	Wayne Station
Substation zone	ComEd
Substation upgrade scope	Create a new 345kV line position to interconnect a new 345kV Lee Energy Center line by adding two 345kV circuit breakers.
Transformer Information	
None	
New equipment description	Create a new 345kV line position to interconnect a new 345kV Lee Energy Center line by adding two 345kV, 5000A, 63kA line circuit breakers; three 345kV, 4000A three-phase disc. switches; two sets of 345kV CCVTs; one set of 345kV arresters; and associated bus jumpers, bus tubing & dampening cable, insulators, steel structures, foundations, yard lighting, control cables, conduits, cable trench, and equipment grounding. Install associated relay equipment in the existing control house.
Substation assumptions	It is assumed that all necessary outages will be available, the existing AC, DC, & telecom. systems will accommodate the new equipment, the existing control house has space for the new relay equipment, ground grid resistivity test data are available, ground grid upgrades will not be needed, the existing cable trench has space for the new control cables, and soil boring logs and geotechnical report are available.
Real-estate description	The acquisition of additional fee lands is not required for the Wayne Substation located in DuPage County, Illinois.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.

Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$5,595,444.00
Component cost (in-service year)	\$6,873,424.00
Substation Upgrade Component	
Component title	Lee Energy Center 345kV upgrade
Project description	Company proprietary information.
Substation name	Lee Energy Center Tap
Substation zone	ComEd
Substation upgrade scope	Add new primary and back-up relays for termination of 345kV line from Wayne 345kV Station into existing line position.
Transformer Information	
None	
New equipment description	New primary and back-up relays
Substation assumptions	It is assumed the DC system is adequately sized for the new relays, and the existing line relaying CCVTs, circuit breakers, and disconnect switches will not need to be replaced.
Real-estate description	No additional land will be required for this project. All upgrades will occur inside the control house.
Construction responsibility	Company proprietary information.

Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$380,677.00
Component cost (in-service year)	\$467,622.00
Transmission Line Upgrade Component	
Component title	Grayslake - Libertyville 345kV
Project description	Company proprietary information.
Impacted transmission line	Grays Lake to Libertyville 345kV
Point A	Grayslake
Point B	Libertyville
Point C	
Terrain description	Predominantly flat to gently rolling suburban terrain with scattered lakes, open space, and low-lying areas.
Existing Line Physical Characteristics	

Operating voltage	345	
Conductor size and type	1202 / 1479 / 1498 / 1711 SN/SE/WN/WE MVA	
Hardware plan description	Propose to replace insulator and wire hardware as part of reconductor project.	
Tower line characteristics	The existing towers are COMED proprietary, double circuit, self-supporting steel lattice towers. The age of the towers are unknown and the is assumed to be in good condition.	
Proposed Line Characteristics		
	Designed	Operating
Voltage (kV)	345.000000	345.000000
	Normal ratings	Emergency ratings
Summer (MVA)	2639.000000	2639.000000
Winter (MVA)	2781.000000	2781.000000
Conductor size and type	2 Bundled – 954 kcmil (54/7 Strand) ACSS “Cardinal” conductor	
Shield wire size and type	To be determined. May be able to keep shield wire but will need analyzed. It will likely need to be replaced as well.	
Rebuild line length	4 miles	
Rebuild portion description	Approximately 4 miles of reconductor work between Grays Lake and Libertyville stations on the existing Grays Lake - Libertyville 345kV Red/Blue line. The existing tower design characteristics are unknown. It is assumed that the towers can handle new conductor from a strength and clearance perspective but that will need to be verified.	
Right of way	Existing ROW will be utilized.	
Construction responsibility	Company proprietary information.	
Benefits/Comments	Company proprietary information.	
Component Cost Details - In Current Year \$		
Engineering & design	Company proprietary information.	

Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$9,000,000.00
Component cost (in-service year)	\$11,055,569.00

Congestion Drivers

None

Existing Flowgates

None

New Flowgates

Company proprietary information.

Financial Information

Capital spend start date	03/2027
Construction start date	05/2028
Project Duration (In Months)	68

Cost Containment Commitment

Cost cap (in current year)

Company proprietary information.

Cost cap (in-service year)

Company proprietary information.

Components covered by cost containment

1. Plano - Hanging Valley 765kV Line - PROPOSER
2. Hanging Valley 765/345kV Station - PROPOSER
3. Hanging Valley - Pleasant Valley 345kV tie - PROPOSER
4. Hanging Valley - Ferndale 345kV double-circuit - PROPOSER
5. Ferndale Underground Transition Station - PROPOSER
6. Ferndale - Grayslake 345kV double-circuit - PROPOSER
7. Joliet - Elwood 345kV Line - PROPOSER

Cost elements covered by cost containment

Engineering & design	Yes
Permitting / routing / siting	No
ROW / land acquisition	No
Materials & equipment	No
Construction & commissioning	No
Construction management	No
Overheads & miscellaneous costs	No
Taxes	No
AFUDC	No
Escalation	No
Additional Information	Company proprietary information.

Is the proposer offering a binding cap on ROE?	Yes
Would this ROE cap apply to the determination of AFUDC?	Yes
Would the proposer seek to increase the proposed ROE if FERC finds that a higher ROE would not be unreasonable?	No
Is the proposer offering a Debt to Equity Ratio cap?	Company proprietary information.
Additional cost containment measures not covered above	Company proprietary information.

Additional Comments

None