Sandy Run - Kelayres 500 kV line project

General Information

Proposing entity name	Proprietary Information.
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Proprietary Information.
Company proposal ID	Proprietary Information.
PJM Proposal ID	434
Project title	Sandy Run - Kelayres 500 kV line project
Project description	Build a new Sandy Run 500 kV switching station at a location that is approximately 26.5 miles from Susquehanna along the Susquehanna - Wescosville 500 kV line (Near 41° 1'26.51"N, 75°47'14.84"W). Construct a 500 kV double-bus double-breaker switchyard with 3 initial bays, six 500 kV 4,000 amp circuit breakers, and twelve 500 kV 4,000 amp MODs (space for a total of 5 bays in the future). Bifurcate the Susquehanna - Wescosville 500 kV line approximately 26.5 miles from Susquehanna and construct short taps (less than 1 mile) in and out of the new Sandy Run 500 kV Switching Station using double-bundle 2493 ACAR 54/37 conductor. Construct a new Sandy Run - Kelayres 500 kV line (18 miles) with triple-bundle 1113 54/19 ACSS conductor. Expand the Kelayres 500 kV yard introduced in either proposal 2025-W1-855, or 2025-W1-317. Add one additional 500 kV breaker and a half bay with two 500 kV 4,000 amp circuit breakers, and four 500 kV 4,000 amp MODs.
Email	Proprietary Information.
Project in-service date	05/2030
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Proprietary Information.

Project Components

1. Sandy Run 500 kV Switching Station
2. Sandy Run - Kelayres 500 kV line
3. Kelayres 500 kV yard expansion
4. Susquehanna - Wescosville 500 kV line taps into new Sandy Run 500 kV yard

Greenfield Substation Component

Component title	Sandy Run 500 kV Switching Station
Project description	Proprietary Information.
Substation name	Sandy Run 500 kV Switching Station
Substation description	Build a new Sandy Run 500 kV switching station at a location that is approximately 26.5 miles from Susquehanna along the Susquehanna - Wescosville 500 kV line (Near 41° 1'26.51"N, 75°47'14.84"W). Construct a 500 kV double-bus double-breaker switchyard with 3 initial bays, six 500 kV 4,000 amp circuit breakers, and twelve 500 kV 4,000 amp MODs (space for a total of 5 bays in the future).
Nominal voltage	AC
Nominal voltage	500

Transformer Information

None

Major equipment description	Three 500 kV double-bus double-breaker bays Six 500 kV 4,000 amp circuit breakers Twelve 500 kV 4,000 amp MODs

	Normal ratings	Emergency ratings
Summer (MVA)	3610.000000	4150.000000
Winter (MVA)	4276.000000	4755.000000

Environmental assessment	An extensive review of the proposed project alignment found that this proposed scope will require a suite of permits and agency consultations that are common for transmission development in this region of Pennsylvania. Developer anticipates needing to apply for an Individual Permit in compliance with the National Pollutant Discharge Elimination System as administered by the Pennsylvania Department of Environmental Protection PA DEP. We anticipate 1-2 stream and wetland crossings that will necessitate permitting under the PADEP, along with impacts to federally protected tree roosting bat species due to vegetation clearing activities that will be mitigated by time-of-year tree clearing restrictions. Based on our extensive work experience in the area, we anticipate 3-4 rounds of consultations with the PA Historical & Museum Commission regarding project impacts to prehistoric and historic resources, along with associated field surveys due to the presence of greenfield soils. The project may require a PennDOT minimum use driveway to accommodate a permanent access to the site.
Outreach plan	Developer will provide comprehensive Siting and Right of Way (ROW) support starting with project development through construction and site restoration/project close out, to construct new 5-Bay 500 kV yard at Sandy Run. A Letter of Notification (LON) is not required to be filed with the Pennsylvania Public Utility Commission (PUC) to build a substation. A separate LON will be filed with the PUC for the transmission line installations. Potential siting and ROW risks include potential interveners in the Siting approval process (impact to schedule) and land purchase. The Developer Siting and ROW Teams will engage proactively with landowners in the local community and serve as project liaisons to address landowner questions and maintain positive relationships throughout the project lifecycle. These efforts will include communicating the project and construction details, as well as calculating and issuing compensation for any crop damages resulting from the project.
Land acquisition plan	Developer will provide comprehensive Siting and Right of Way (ROW) support starting with project development through construction and site restoration/project close out, to construct new 5-Bay 500 kV yard at Sandy Run. A Letter of Notification (LON) is not required to be filed with the Pennsylvania Public Utility Commission (PUC) to build a substation. A separate LON will be filed with the PUC for the transmission line installations. Potential siting and ROW risks include potential interveners in the Siting approval process (impact to schedule) and land purchase. The Developer Siting and ROW Teams will engage proactively with landowners in the local community and serve as project liaisons to address landowner questions and maintain positive relationships throughout the project lifecycle. These efforts will include communicating the project and construction details, as well as calculating and issuing compensation for any crop damages resulting from the project.
Construction responsibility	Proprietary Information.
Benefits/Comments	Proprietary Information.
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	$55,950,116.50
Component cost (in-service year)	$67,723,116.15

Greenfield Transmission Line Component

Component title	Sandy Run - Kelayres 500 kV line
Project description	Proprietary Information.
Point A	Sandy Run
Point B	Kelayres
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	3610.000000	4150.000000
Winter (MVA)	4276.000000	4755.000000

Conductor size and type	Triple-bundle 1113 54/19 ACSS conductor
Nominal voltage	AC
Nominal voltage	500
Line construction type	Overhead

General route description	The line will be 18 miles long and constructed adjacent to the White Haven Tap 69 kV line corridor starting in the vicinity of White Haven and traversing southwest towards Kelayres.
Terrain description	Follows existing transmission corridor for route to Kelayres. The line traverses mountainous terrain, dormant strip mining operations, and commercial warehousing near Kelayres Station.
Right-of-way width by segment	Developer proposes a ROW expansion of existing corridor by 150 feet.
Electrical transmission infrastructure crossings	Two to three 69 kV transmission lines will be crossed
Civil infrastructure/major waterway facility crossing plan	One Interstate 81 crossing near Hazelton.
Environmental impacts	An extensive review of the proposed project alignment found that this proposed scope will require a suite of permits and agency consultations that are common for transmission development in this region of Pennsylvania. Developer anticipates needing to apply for an Individual Permit in compliance with the National Pollutant Discharge Elimination System as administered by the Pennsylvania Department of Environmental Protection PA DEP. We anticipate 10-14 stream and wetland crossings that will necessitate permitting under the PADEP. Impacts to threatened and endangered species will center around federally and state protected tree roosting bat species due to vegetation clearing activities that will be mitigated by time-of-year tree clearing restrictions. Based on our extensive work experience in the area, we anticipate field work for cultural resources to review new ground disturbing activities and anticipate 3-5 rounds of consultations with the PA Historical & Museum Commission regarding project impacts to prehistoric and historic resources. The proposed transmission corridor traverses PA State Game Lands parcels which will require invasive species reporting and post construction monitoring. Depending on the location of our final off-ROW temporary construction accesses the project may require 4-5 PennDOT temporary driveway accesses and at least 1 highway occupancy permit. PPL will also conduct a review of municipal ordinances to determine if any will apply to the project.
Tower characteristics	Developer proposes single circuit 500 kV steel pole structures on concrete foundations.
Construction responsibility	Proprietary Information.
Benefits/Comments	Proprietary Information.
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	$107,285,743.80
Component cost (in-service year)	$129,860,764.24

Substation Upgrade Component

Component title	Kelayres 500 kV yard expansion
Project description	Proprietary Information.
Substation name	Kelayres 500/230 kV Substation
Substation zone	PPL EU
Substation upgrade scope	Expand the Kelayres 500 kV yard introduced in either proposal 2025-W1-855, or 2025-W1-317. Add one 500 kV 4,000 amp circuit breakers and two 500 kV 4,000 amp MODs.

Transformer Information

None

New equipment description	One 500 kV 4,000 amp circuit breaker Two 500 kV 4,000 amp MODs
Substation assumptions	Site secured under Supplemental Project s3549.2. Space available for expansion on existing site.
Real-estate description	No new real estate required to accommodate this project.
Construction responsibility	Proprietary Information.
Benefits/Comments	Proprietary Information.

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	$5,541,957.00
Component cost (in-service year)	$6,708,093.23

Transmission Line Upgrade Component

Component title	Susquehanna - Wescosville 500 kV line taps into new Sandy Run 500 kV yard
Project description	Proprietary Information.
Impacted transmission line	Susquehanna - Wescosville 500 kV line
Point A	Susquehanna
Point B	Wescosville
Point C	
Terrain description	Line is immediately adjacent to the proposed Sandy Run location.
Existing Line Physical Characteristics	
Operating voltage	500
Conductor size and type	Double Bundle 2493 ACAR 54/37 conductor

Hardware plan description	All hardware associated with the taps will be new and composed of 500 kV assemblies with glass insulators.
Tower line characteristics	Existing line is composed of steel H frame 500 kV structures. Proposed bifurcation line will be composed of 500 kV steel monopole structures.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	500.000000	500.000000
	Normal ratings	Emergency ratings
Summer (MVA)	2707.000000	3112.000000
Winter (MVA)	3207.000000	3566.000000

Conductor size and type	Double Bundle 2493 ACAR 54/37 conductor
Shield wire size and type	19n9 OHGW
Rebuild line length	Less than 1 mile
Rebuild portion description	No rebuild of existing line. Bifurcation only. Proposed bifurcation line will be composed of 500 kV steel monopole structures.
Right of way	Existing ROW in not altered.
Construction responsibility	Proprietary Information.
Benefits/Comments	Proprietary Information.

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	$15,954,432.31
Component cost (in-service year)	$19,311,557.15

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-N1-LLVD3	207967	LOFT	207967	LOFT	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD4	207966	BWAY	207966	BWAY	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N11-WVM207967	207967	LOFT	207967	LOFT	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-WVM207969	207969	TRES	207969	TRES	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-WVM208072	208072	SIEG	208072	SIEG	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-WVM207960	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-WVM207963	207963	SLYK	207963	SLYK	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-WVM207966	207966	BWAY	207966	BWAY	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N1-SVD71	211376	BELT 1	211376	BELT 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD70	211377	BELT 2	211377	BELT 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD69	211379	BELT	211379	BELT	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD5	207963	SLYK	207963	SLYK	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD6	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-SVD74	211347	WHCE	211347	WHCE	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD73	211366	ASHF TP2	211366	ASHF TP2	N/A	69	229	N-1 Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N1-LLVD7	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD13	211161	SIEG	211161	SIEG	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD14	211007	NOEN TP2	211007	NOEN TP2	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD15	211006	NOEN TP1	211006	NOEN TP1	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-SVD78	211336	WGAT 1	211336	WGAT 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD77	211337	WGAT 2	211337	WGAT 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD76	211345	WHCE 1	211345	WHCE 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD75	211346	WHCE 2	211346	WHCE 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD20	210996	NHAM TP1	210996	NHAM TP1	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N11-SVD207963	207963	SLYK	207963	SLYK	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-SVD82	211268	TREI TP1	211268	TREI TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD21	210616	EGYP 2	210616	EGYP 2	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N11-SVD207960	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-SVD81	211270	TREI	211270	TREI	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD22	210615	EGYP 1	210615	EGYP 1	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N11-SVD207959	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-SVD80	211272	TREI TP2	211272	TREI TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD79	211273	TREI DC	211273	TREI DC	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD16	211005	NOEN	211005	NOEN	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N11-SVD208072	208072	SIEG	208072	SIEG	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-LLVD17	210999	NHAM 2	210999	NHAM 2	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N11-SVD207969	207969	TRES	207969	TRES	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N11-SVD207967	207967	LOFT	207967	LOFT	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-LLVD18	210998	NHAM 1	210998	NHAM 1	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-SVD84	211160	SIEG	211160	SIEG	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N11-SVD207966	207966	BWAY	207966	BWAY	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-LLVD19	210997	NHAM TP2	210997	NHAM TP2	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-SVD83	211193	SSLA 2	211193	SSLA 2	N/A	69	229	N-1 Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N1-WVD63	210570	DRAG 2	210570	DRAG 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N11-SVM208072	208072	SIEG	208072	SIEG	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N1-WVD64	210569	DRAG 1	210569	DRAG 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD65	210568	DRAG	210568	DRAG	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD66	210405	EPHA TI2	210405	EPHA TI2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD59	210829	LIGA 1	210829	LIGA 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N11-SVM207963	207963	SLYK	207963	SLYK	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-SVM207966	207966	BWAY	207966	BWAY	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N1-WVD60	210828	LIGA 2	210828	LIGA 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD61	210827	LIGA TAP	210827	LIGA TAP	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N11-SVM207967	207967	LOFT	207967	LOFT	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N1-WVD62	210601	EPAL	210601	EPAL	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N11-SVM207969	207969	TRES	207969	TRES	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-SVM207959	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N11-SVM207960	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N1-LLVM6	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-LLVM7	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-SVD49	211611	HIRU	211611	HIRU	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVM2	207969	TRES	207969	TRES	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-LLVM3	207967	LOFT	207967	LOFT	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-LLVM4	207966	BWAY	207966	BWAY	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-SVD47	211696	LEHI	211696	LEHI	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD46	211697	LEHI TP	211697	LEHI TP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVM5	207963	SLYK	207963	SLYK	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-LLVM1	208072	SIEG	208072	SIEG	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N11-WVM207959	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1-1 Voltage Magnitude	Included
2025W1-N1-LLVD2	207969	TRES	207969	TRES	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-SVM4	207966	BWAY	207966	BWAY	N/A	230	229	N-1 Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N11-WVD208072	208072	SIEG	208072	SIEG	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-SVM3	207967	LOFT	207967	LOFT	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-SVM2	207969	TRES	207969	TRES	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-SVM1	208072	SIEG	208072	SIEG	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-LLVD1	208072	SIEG	208072	SIEG	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-SVD64	211427	CARB	211427	CARB	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N11-WVD207966	207966	BWAY	207966	BWAY	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-SVM7	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N1-SVM6	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N11-WVD207967	207967	LOFT	207967	LOFT	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-SVD61	211446	CHRI TP	211446	CHRI TP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVM5	207963	SLYK	207963	SLYK	N/A	230	229	N-1 Voltage Magnitude	Included
2025W1-N11-WVD207969	207969	TRES	207969	TRES	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-WVD41	211062	PSPA TP2	211062	PSPA TP2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD42	211057	PONO 1	211057	PONO 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD43	211056	PNWG TP2	211056	PNWG TP2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD44	211055	PNWG TP1	211055	PNWG TP1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD39	211193	SSLA 2	211193	SSLA 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD40	211160	SIEG	211160	SIEG	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD90	210405	EPHA TI2	210405	EPHA TI2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD91	210404	EPHA TI1	210404	EPHA TI1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD86	210601	EPAL	210601	EPAL	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD87	210570	DRAG 2	210570	DRAG 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD88	210569	DRAG 1	210569	DRAG 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD89	210568	DRAG	210568	DRAG	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD45	211054	PONO 2	211054	PONO 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-SVD31	211949	WEIS	211949	WEIS	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD46	211052	APRF TP	211052	APRF TP	N/A	69	229	Baseline Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N1-LLVD83	210757	KECE2TP1	210757	KECE2TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD30	211950	WEIS TP2	211950	WEIS TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD47	211051	APRF	211051	APRF	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD84	210756	KECE1TP2	210756	KECE1TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD29	211951	WEIS TP1	211951	WEIS TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD85	210755	KECE1TP1	210755	KECE1TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD48	211031	PAZI	211031	PAZI	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD52	211021	PALM 1	211021	PALM 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD53	210972	NBET 2	210972	NBET 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD54	210971	NBET 1	210971	NBET 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD55	210914	MICK TP2	210914	MICK TP2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD49	211030	PAZI 2	211030	PAZI 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD50	211029	PAZI 1	211029	PAZI 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD51	211022	PALM 2	211022	PALM 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD56	210913	MICK 2	210913	MICK 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD57	210912	MICK 1	210912	MICK 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD58	210911	MICK TP1	210911	MICK TP1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N11-WVD207959	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N11-WVD207960	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-LLVD72	210913	MICK 2	210913	MICK 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD68	211021	PALM 1	211021	PALM 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD69	210972	NBET 2	210972	NBET 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD70	210971	NBET 1	210971	NBET 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD71	210914	MICK TP2	210914	MICK TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD64	211031	PAZI	211031	PAZI	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD65	211030	PAZI 2	211030	PAZI 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD66	211029	PAZI 1	211029	PAZI 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD67	211022	PALM 2	211022	PALM 2	N/A	69	229	N-1 Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N11-WVD207963	207963	SLYK	207963	SLYK	N/A	230	229	N-1-1 Voltage Drop	Included
2025W1-N1-LLVD63	211051	APRF	211051	APRF	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD30	211347	WHCE	211347	WHCE	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD31	211346	WHCE 2	211346	WHCE 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD32	211345	WHCE 1	211345	WHCE 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD33	211337	WGAT 2	211337	WGAT 2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD29	211366	ASHF TP2	211366	ASHF TP2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD79	210761	KECE 1-1	210761	KECE 1-1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD80	210760	KECE 2-2	210760	KECE 2-2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD81	210759	KECE 2-1	210759	KECE 2-1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD82	210758	KECE2TP2	210758	KECE2TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD75	210829	LIGA 1	210829	LIGA 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD38	211268	TREI TP1	211268	TREI TP1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD76	210828	LIGA 2	210828	LIGA 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD77	210827	LIGA TAP	210827	LIGA TAP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD78	210762	KECE 1-2	210762	KECE 1-2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD34	211336	WGAT 1	211336	WGAT 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD35	211273	TREI DC	211273	TREI DC	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD73	210912	MICK 1	210912	MICK 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD36	211272	TREI TP2	211272	TREI TP2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD74	210911	MICK TP1	210911	MICK TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD37	211270	TREI	211270	TREI	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-SVD8	207963	SLYK	207963	SLYK	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-SVD7	207966	BWAY	207966	BWAY	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-SVD6	207967	LOFT	207967	LOFT	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-SVD5	207969	TRES	207969	TRES	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-WVD26	211379	BELT	211379	BELT	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD27	211377	BELT 2	211377	BELT 2	N/A	69	229	Baseline Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N1-WVD28	211376	BELT 1	211376	BELT 1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-SVD10	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-SVD9	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-WVD22	211696	LEHI	211696	LEHI	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD23	211611	HIRU	211611	HIRU	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD24	211446	CHRI TP	211446	CHRI TP	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD25	211427	CARB	211427	CARB	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD19	211950	WEIS TP2	211950	WEIS TP2	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD20	211949	WEIS	211949	WEIS	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD21	211697	LEHI TP	211697	LEHI TP	N/A	69	229	Baseline Voltage Drop	Included
2025W1-GD-S478	207973	FRAC	208072	SIEG	1	230	229	Generation Deliverability	Included
2025W1-N1-SVD107	210601	EPAL	210601	EPAL	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD3	207967	LOFT	207967	LOFT	N/A	230	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD45	211337	WGAT 2	211337	WGAT 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD106	210827	LIGA TAP	210827	LIGA TAP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD46	211336	WGAT 1	211336	WGAT 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD105	210828	LIGA 2	210828	LIGA 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD47	211273	TREI DC	211273	TREI DC	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD48	211272	TREI TP2	211272	TREI TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD111	210405	EPHA TI2	210405	EPHA TI2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD110	210568	DRAG	210568	DRAG	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD109	210569	DRAG 1	210569	DRAG 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD1	208072	SIEG	208072	SIEG	N/A	230	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD43	211346	WHCE 2	211346	WHCE 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD2	207969	TRES	207969	TRES	N/A	230	229	Baseline Voltage Drop	Included
2025W1-N1-LLVD44	211345	WHCE 1	211345	WHCE 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD49	211270	TREI	211270	TREI	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD50	211268	TREI TP1	211268	TREI TP1	N/A	69	229	N-1 Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N1-LLVD51	211193	SSLA 2	211193	SSLA 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD52	211190	SSLA 1	211190	SSLA 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD56	211062	PSPA TP2	211062	PSPA TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD57	211061	PSPA TP1	211061	PSPA TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD58	211057	PONO 1	211057	PONO 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD59	211056	PNWG TP2	211056	PNWG TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD53	211160	SIEG	211160	SIEG	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD54	211064	PSPA COL	211064	PSPA COL	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD55	211063	PSPA	211063	PSPA	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVD18	211951	WEIS TP1	211951	WEIS TP1	N/A	69	229	Baseline Voltage Drop	Included
2025W1-N1-WVD6	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	Baseline Voltage Drop	Included
2025W1-N1-WVD7	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	Baseline Voltage Drop	Included
2025W1-N1-WVD4	207966	BWAY	207966	BWAY	N/A	230	229	Baseline Voltage Drop	Included
2025W1-N1-WVD5	207963	SLYK	207963	SLYK	N/A	230	229	Baseline Voltage Drop	Included
2025W1-N1-SVD4	208072	SIEG	208072	SIEG	N/A	230	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD60	211055	PNWG TP1	211055	PNWG TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD61	211054	PONO 2	211054	PONO 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD62	211052	APRF TP	211052	APRF TP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD85	211062	PSPA TP2	211062	PSPA TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD23	210504	WIBR 2	210504	WIBR 2	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD24	210503	WIBR 1	210503	WIBR 1	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD25	210502	WIBR TP2	210502	WIBR TP2	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD26	210501	WIBR TP1	210501	WIBR TP1	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-SVD89	211054	PONO 2	211054	PONO 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD88	211055	PNWG TP1	211055	PNWG TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD87	211056	PNWG TP2	211056	PNWG TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD86	211057	PONO 1	211057	PONO 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD31	211698	LNFD	211698	LNFD	N/A	69	229	N-1 Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N1-SVD93	211030	PAZI 2	211030	PAZI 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD32	211697	LEHI TP	211697	LEHI TP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD92	211031	PAZI	211031	PAZI	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD91	211051	APRF	211051	APRF	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD90	211052	APRF TP	211052	APRF TP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD27	210437	BLMO	210437	BLMO	N/A	138	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD28	211951	WEIS TP1	211951	WEIS TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD29	211950	WEIS TP2	211950	WEIS TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD94	211029	PAZI 1	211029	PAZI 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD30	211949	WEIS	211949	WEIS	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD34	211611	HIRU	211611	HIRU	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD96	211021	PALM 1	211021	PALM 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD35	211446	CHRI TP	211446	CHRI TP	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD95	211022	PALM 2	211022	PALM 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD36	211427	CARB	211427	CARB	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD37	211379	BELT	211379	BELT	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVM4	207966	BWAY	207966	BWAY	N/A	230	229	Baseline Voltage Magnitude	Included
2025W1-N1-SVD100	210914	MICK TP2	210914	MICK TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVM5	207963	SLYK	207963	SLYK	N/A	230	229	Baseline Voltage Magnitude	Included
2025W1-N1-WVM6	207960	EPAL TR2	207960	EPAL TR2	N/A	230	229	Baseline Voltage Magnitude	Included
2025W1-N1-SVD98	210971	NBET 1	210971	NBET 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVM7	207959	EPAL TR1	207959	EPAL TR1	N/A	230	229	Baseline Voltage Magnitude	Included
2025W1-N1-LLVD33	211696	LEHI	211696	LEHI	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD97	210972	NBET 2	210972	NBET 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-WVM1	208072	SIEG	208072	SIEG	N/A	230	229	Baseline Voltage Magnitude	Included
2025W1-N1-WVM2	207969	TRES	207969	TRES	N/A	230	229	Baseline Voltage Magnitude	Included
2025W1-N1-WVM3	207967	LOFT	207967	LOFT	N/A	230	229	Baseline Voltage Magnitude	Included
2025W1-N1-SVD104	210829	LIGA 1	210829	LIGA 1	N/A	69	229	N-1 Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-N1-LLVD42	211347	WHCE	211347	WHCE	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD103	210911	MICK TP1	210911	MICK TP1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD102	210912	MICK 1	210912	MICK 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-SVD101	210913	MICK 2	210913	MICK 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD38	211377	BELT 2	211377	BELT 2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD39	211376	BELT 1	211376	BELT 1	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD40	211366	ASHF TP2	211366	ASHF TP2	N/A	69	229	N-1 Voltage Drop	Included
2025W1-N1-LLVD41	211365	ASHF TP1	211365	ASHF TP1	N/A	69	229	N-1 Voltage Drop	Included

New Flowgates

Proprietary Information.

Financial Information

Capital spend start date	02/2026
Construction start date	05/2028
Project Duration (In Months)	51

Cost Containment Commitment

Cost cap (in current year)	Proprietary Information.
Cost cap (in-service year)	Proprietary Information.

Components covered by cost containment

1. Sandy Run 500 kV Switching Station - PPL
2. Sandy Run - Kelayres 500 kV line - PPL
3. Kelayres 500 kV yard expansion - PPL
4. Susquehanna - Wescosville 500 kV line taps into new Sandy Run 500 kV yard - PPL

Cost elements covered by cost containment

Engineering & design	Yes
Permitting / routing / siting	Yes
ROW / land acquisition	Yes
Materials & equipment	Yes
Construction & commissioning	Yes
Construction management	Yes
Overheads & miscellaneous costs	Yes
Taxes	No
AFUDC	No
Escalation	Yes
Additional Information	Proprietary Information.
Is the proposer offering a binding cap on ROE?	No
Is the proposer offering a Debt to Equity Ratio cap?	Proprietary Information.

Additional Comments

None