Red Lion - Keeney Facility Upgrades

General Information

Proposing entity name	DPL
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	
PJM Proposal ID	823
Project title	Red Lion - Keeney Facility Upgrades
Project description	Rebuild the 23011 Red Lion-Keeney 230kV line to 500kV standards and upgrade disconnect switches at Keeney substation. The line will be operated at 230kV with future capability to energize at 500kV.
Email	Proprietary Information
Project in-service date	05/2032
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	This project helps alleviate overloads identified in 2032 Scenario 4 generation deliverability studies with the addition of the PPL load idvs to the cases. Allows for future parallel 500kV path between the Red Lion and Keeney substations. Perspective load growth in this corridor would require additional 500kV path.

Project Components

1. Keeney Substation Upgrades
2. Red Lion-Keeney Line Rebuild

Substation Upgrade Component

Component title	Keeney Substation Upgrades
Project description	Upgrade disconnects at Keeney on the 23011 facility with 3000A rated units.
Substation name	Keeney
Substation zone	DPL
Substation upgrade scope	Replace (4) 2000A disconnect switches at the Keeney substation with 3000A disconnects.

Transformer Information

None

New equipment description	Replace (4) 2000A disconnect switches with disconnect switches rated for 3000A.
Substation assumptions	It is assumed that no civil/structural replacement work is required for this work.
Real-estate description	
Construction responsibility	DPL
Benefits/Comments	Refer to attached whitepaper.
Component Cost Details - In Current Year $	
Engineering & design	detailed cost
Permitting / routing / siting	detailed cost
ROW / land acquisition	detailed cost
Materials & equipment	detailed cost
Construction & commissioning	detailed cost
Construction management	detailed cost
Overheads & miscellaneous costs	detailed cost
Contingency	detailed cost

Total component cost	$570,454.00
Component cost (in-service year)	$621,097.33

Transmission Line Upgrade Component

Component title	Red Lion-Keeney Line Rebuild
Project description	Rebuild the 23011 Red Lion-Keeney line. The line will be rebuilt utilizing Triple Bundled 1590 ACSR "Lapwing", will be built to 500kV standards and energized at 230kV.
Impacted transmission line	23011 Red Lion-Keeney
Point A	Red Lion
Point B	Keeney
Point C	
Terrain description	Varies from flat to mildly sloping.
Existing Line Physical Characteristics	
Operating voltage	230
Conductor size and type	Double Bundled 1590 ACSR "Lapwing"
Hardware plan description	New OPGW will be installed along the entire 8.04 miles of the line.
Tower line characteristics	Existing structures are double circuit steel lattice towers.
Proposed Line Characteristics	

	Designed	Operating
Voltage (kV)	500.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	1961.000000	2426.000000
Winter (MVA)	2258.000000	2732.000000

Conductor size and type	Triple Bundled 1590 ACSR "Lapwing"
Shield wire size and type	0.638" 96-Count OPGW
Rebuild line length	8.04 Miles
Rebuild portion description	The existing structures are Double Circuited with 23020 Red Lion – Hay Rd for approximately 7.14 miles and separates roughly 0.90 miles from Keeney substation. After the separation, the lattice towers are still double circuits with only 23011 and the conductor is utilizing both sides of the tower. The rebuild is assuming only 1 side of the tower will have the 3-bundle conductor while the other side will be abandoned once transferred over. Both circuits exist with bundled 1590 ACSR Lapwing and the 23011 circuit is being rebuilt to 500kV standards while 23020 is staying at 230kV standards.
Right of way	No additional ROW required.
Construction responsibility	DPL
Benefits/Comments	Refer to attached whitepaper.
Component Cost Details - In Current Year $	
Engineering & design	detailed cost
Permitting / routing / siting	detailed cost
ROW / land acquisition	detailed cost
Materials & equipment	detailed cost
Construction & commissioning	detailed cost
Construction management	detailed cost
Overheads & miscellaneous costs	detailed cost
Contingency	detailed cost
Total component cost	$90,133,318.00
Component cost (in-service year)	$104,392,020.39

Congestion Drivers

None

Existing Flowgates

None

New Flowgates

None

Financial Information

Capital spend start date	01/2026
Construction start date	04/2028
Project Duration (In Months)	76

Additional Comments

None