

Dominion Supplemental Projects

Transmission Expansion Advisory
Committee
September 09, 2025

Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2025-0026 **Update**

Process Stage: Solution Meeting 09/09/2025

Previously Presented: Solution Meeting 07/08/2025

Project Driver: Equipment Material Condition, Performance Risk

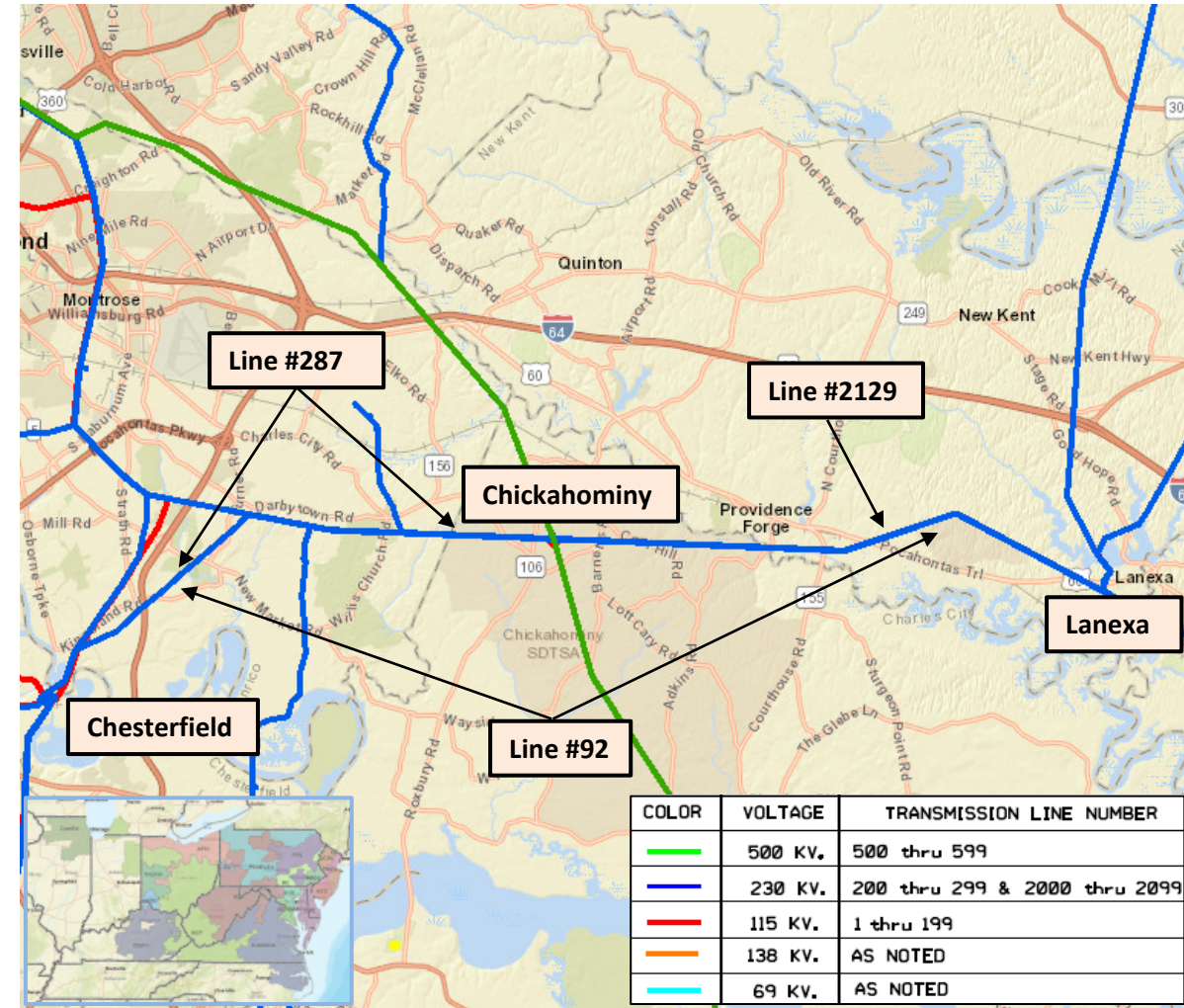
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2024.

Problem Statement:

Dominion Energy has identified a need to replace approximately Line #92 extends 30 miles from Chesterfield to Lanexa; Line #287 extends 14.6 miles from Chesterfield to Chickahominy; and Line #2129 extends 14.2 miles from Chickahominy to Lanexa to new 230kV standards based on the Company's End of Life criteria.

- Lines #92 and #287 lines are constructed on double circuit 3 pole wood H-frame structures in the years 1952 and 1966, respectively. Both lines have ACSR conductor and 3/8" steel static.
- Industry guidelines indicate equipment life for steel structures is 40-60 years, wood structures is 35-55 years, conductor and connectors are 40-60 years, and porcelain insulators are 50 years.
- Removal of line pair #92 and #287 and of line pair #92 and #2129 cause a Generator Deliverability violation on line #539 #568 (Ladysmith to Possum Point) and loses the generation at Providence Forge Substation. Line #92 has direct connected loads at the 115kV tap at Turner substation and at the Providence Forge substation justifying the need to rebuild it. Besides, lines #92 and #287 provide outlets for the generation at Chesterfield.



Dominion Transmission Zone: Supplemental Equipment Material Condition, Performance and Risk

Need Number: DOM-2025-0026 **Update**

Process Stage: Solution Meeting 09/09/2025

Project Driver: Equipment Material Condition, Performance Risk

Proposed Solution:

Rebuild approximately 30 miles of Line 92 from Chesterfield to Lanexa to current 230kV standards but will operate at 115 kV. Rebuild approximately 14.6 miles Line 287 from Chesterfield to Chickahominy and 14.2 miles Line 2129 from Chickahominy to Lanexa to current 230kV standards. The minimum normal summer rating of this line will be 1573 MVA.

Reconductor approximately 1.5 miles of Line 217 from Chesterfield with minimum summer normal rating of 1573 MVA.

Rebuild approximately 0.66 miles Idle Line I-92 to 230kV standard.

Upgrade all terminal equipment to 4000 Amps for 230kV and 2000Amps for 115kV.

Estimated Project Cost: ~~\$54M~~ \$160M

Transmission Line: ~~\$51.3M~~ \$157.3M, Substation: \$2.7M

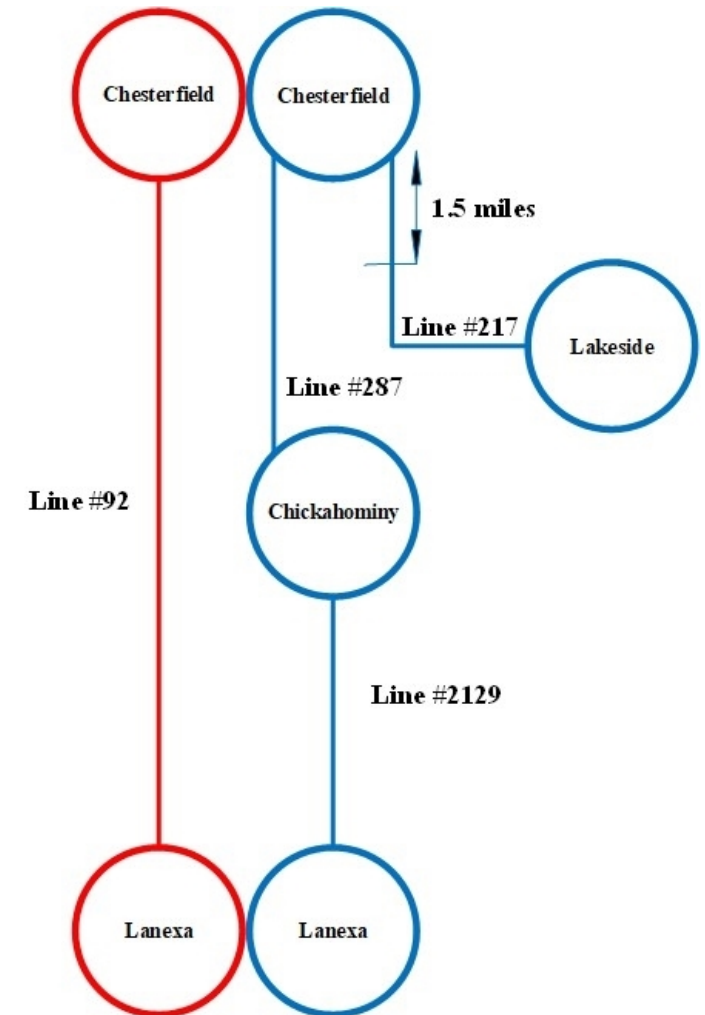
Alternatives Considered:

No feasible alternatives, End-of-Life

Project In-service Date: 12/31/2028

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0023

Process Stage: Solutions Meeting 9/9/2025

Previously Presented: Need Meeting 03/07/2023

Project Driver: Customer Service

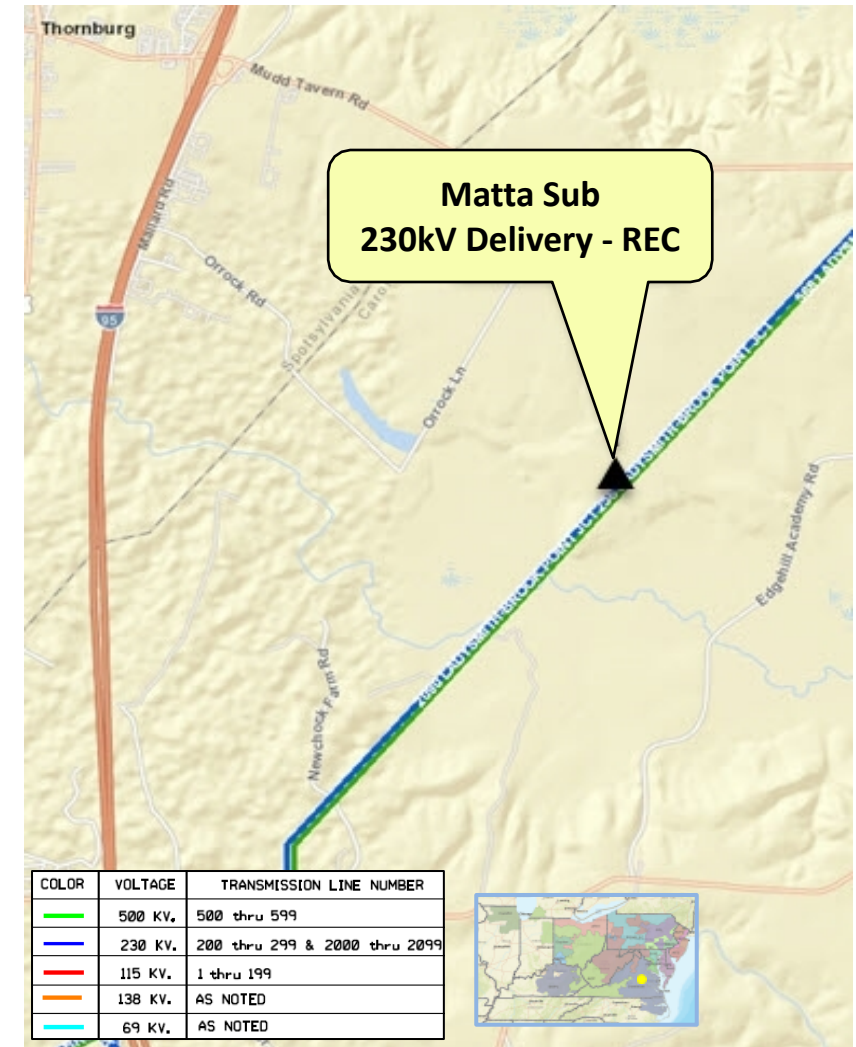
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

Rappahannock Electric Cooperative (REC) has submitted a DP Request for a new substation (Matta) to serve a data center in Caroline County with a total load in excess of 100 MW. The requested in-service date is 12/01/2026.

Initial In-Service Load	Projected 2031 Load
Winter: 10.0 MW	Summer: 300 MW



Dominion Transmission Zone: Supplemental Matta 230kV Delivery - DEV

Need Number: DOM-2023-0023

Process Stage: Solutions Meeting 9/9/2025

Proposed Solution:

Cut Line #256 (Ladysmith CT – Kraken) and Line #2090 (Ladysmith CT – Kraken) and extend four 230kV circuits to Matta Sub.

Estimated Project Cost: \$25.5 M (Total)

Transmission Line \$7.4M

230kV Substation \$18.1M

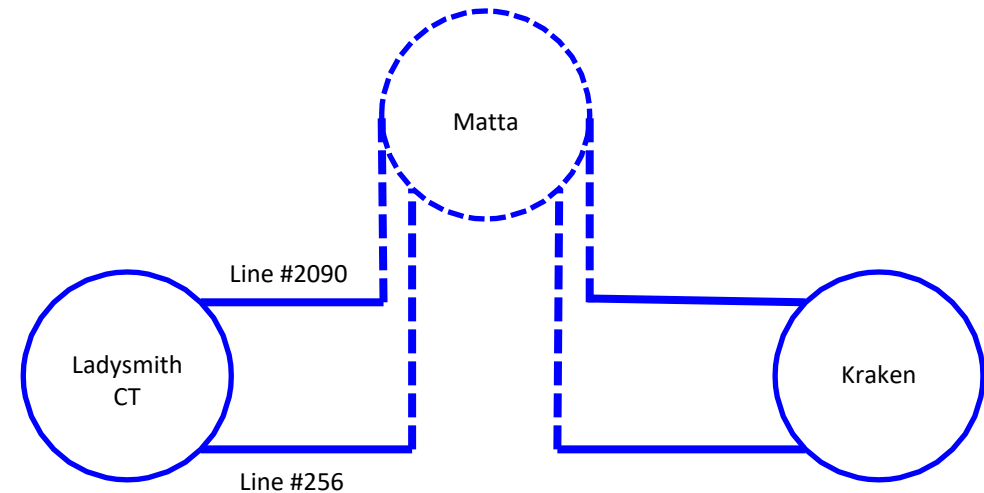
Alternatives Considered:

No feasible alternatives, Matta Substation is right beside the existing transmission line corridor.

Projected In-service Date: 11/15/2026

Project Status: Engineering

Model: 2030 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0003

Process Stage: Solutions Meeting 09/09/2025

Previously Presented: Need Meeting 01/10/2023

Project Driver: Customer Service

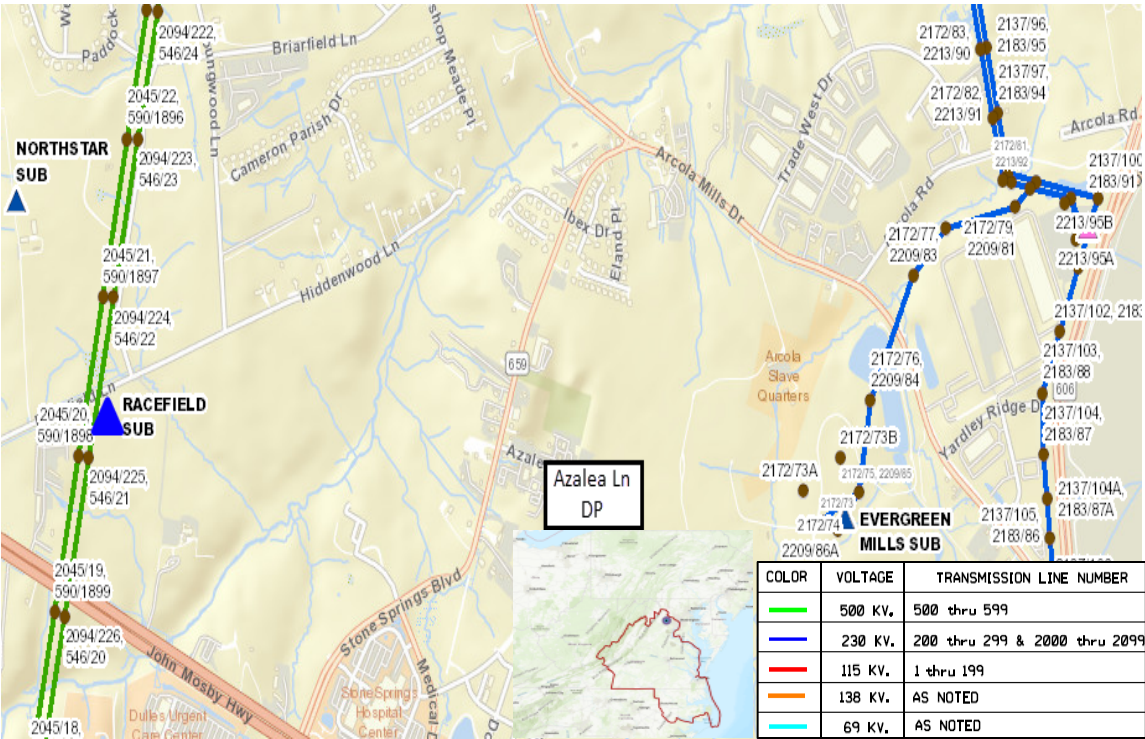
Specific Assumption References:

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

DEV has submitted a DP Request for a new substation (Azalea Lane) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 12/31/2029.

Initial In-Service Load	Projected 2030 Load
Summer: 39 MW	Summer: 67.0 MW
Winter: 21 MW	Winter: 41 MW



Dominion Transmission Zone: Supplemental Azalea Lane 230kV Delivery - NOVEC

Need Number: DOM-2023-0003

Process Stage: Solutions Meeting 09/09/2025

Proposed Solution:

Interconnect the new substation by cutting and extending 230kV line #2210 (Brambleton Sub to Evergreen Mills Sub) approximately 1 mile to the proposed Azalea Lane Substation. Lines to terminate in a 230kV four-breaker ring arrangement with an ultimate arrangement of a six-breaker ring.

Estimated Project Cost: \$56.5 M

Transmission Line: \$22.2 M

230kV Substation: \$34.3 M

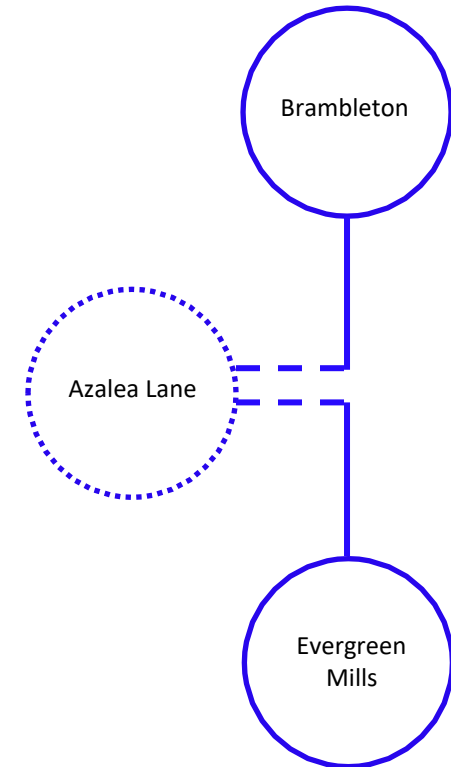
Alternatives Considered:

No feasible alternatives. Line #2210 is the closest source to the proposed site.

Projected In-service Date: 12/31/2029

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2023-0002-DNH

Process Stage: Solutions Meeting 09/09/2025

Project Driver: Do No Harm Analysis

Specific Assumption References:

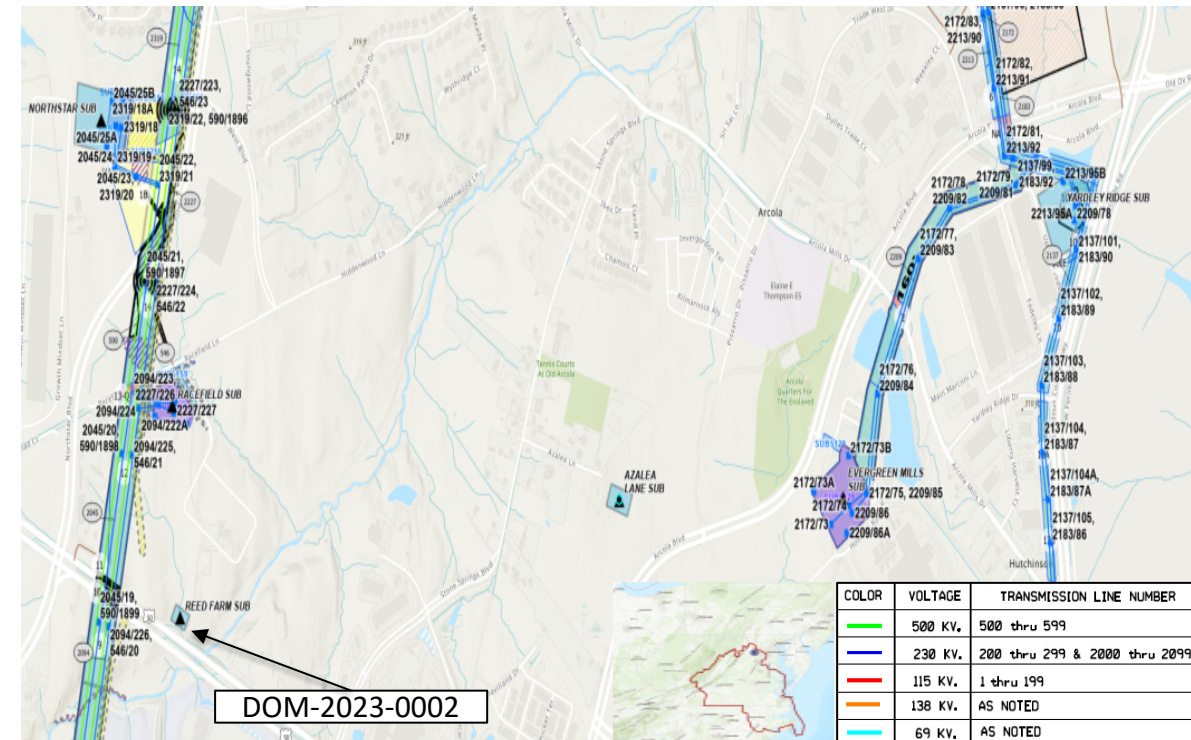
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

PJM identified a 300MW N-1-1 load drop violation as part of the 2025 Do No Harm analysis. Racefield and Reed Farm (South Fork) substations are dropped after loss of

- Line #2227 (Brambleton - Racefield)
- Line #2094 (Reed Farm - Loudoun)

The violation is caused by a previously presented Supplemental Project DOM-2023-0002 in the Dominion Zone.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2023-0002-DNH

Process Stage: Solutions Meeting 09/09/2025

Proposed Solution:

- Install a new double circuit consisting of two 230kV transmission lines. Terminate both lines between Azalea Lane and Reed Farm (South Fork) substations.
- At Azalea Lane substation, install the remaining two (2) breakers and any associated substation equipment required to build out the six-breaker ring ultimate arrangement.
- At Reed Farm (South Fork) substation, install the remaining two (2) breakers and any associated substation equipment required to build out the six-breaker ring ultimate arrangement.

Estimated Project Cost: \$20.0 M

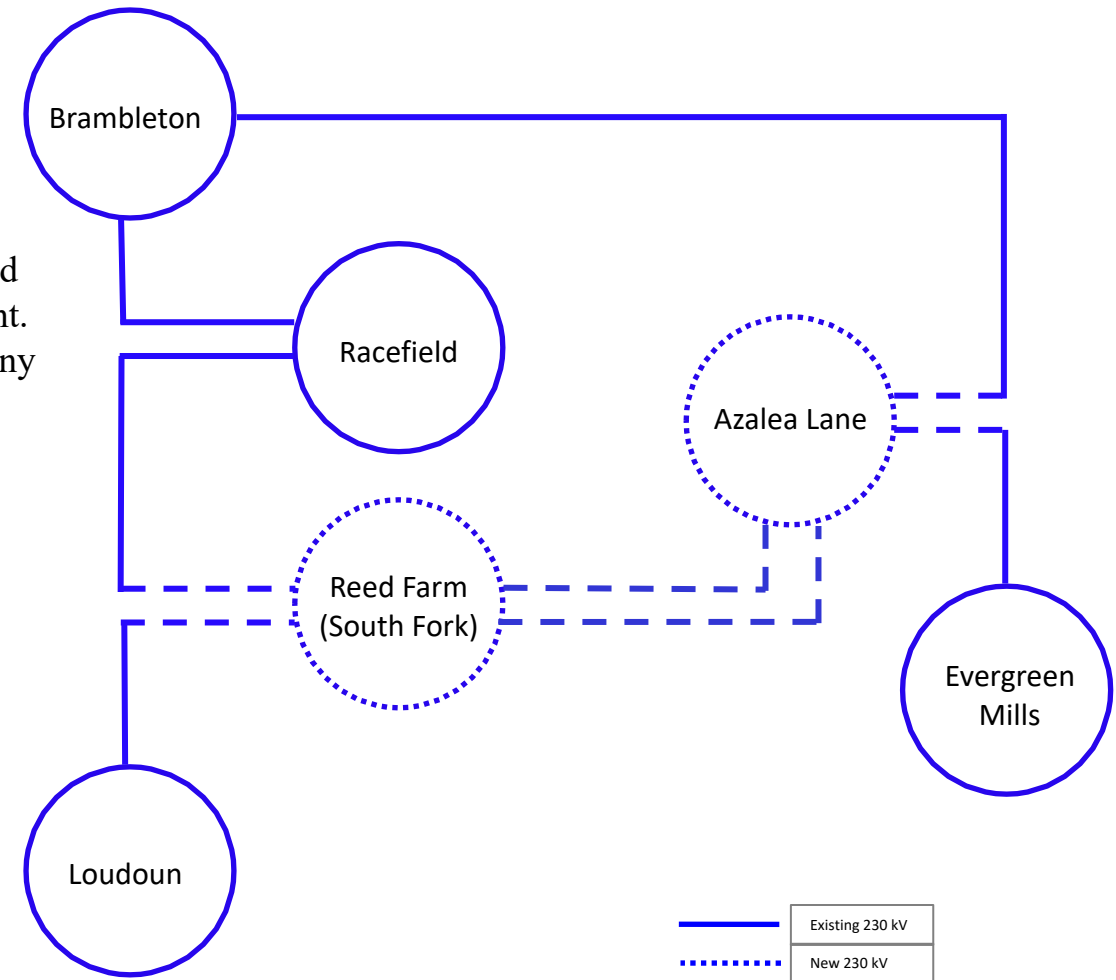
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 12/31/2029

Project Status: Conceptual

Model: 2029 RTEP



Appendix

High level M-3 Meeting Schedule

Assumptions

Activity	Timing
Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
Stakeholder comments	10 days after Assumptions Meeting

Needs

Activity	Timing
TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
Stakeholder comments	10 days after Needs Meeting

Solutions

Activity	Timing
TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
Stakeholder comments	10 days after Solutions Meeting

Submission of Supplemental Projects & Local Plan

Activity	Timing
Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
Post selected solution(s)	Following completion of DNH analysis
Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

08/29/2025 – V1 – Original version posted to pjm.com