

Dominion Supplemental Projects

Transmission Expansion Advisory
Committee
April 2, 2024

Needs

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

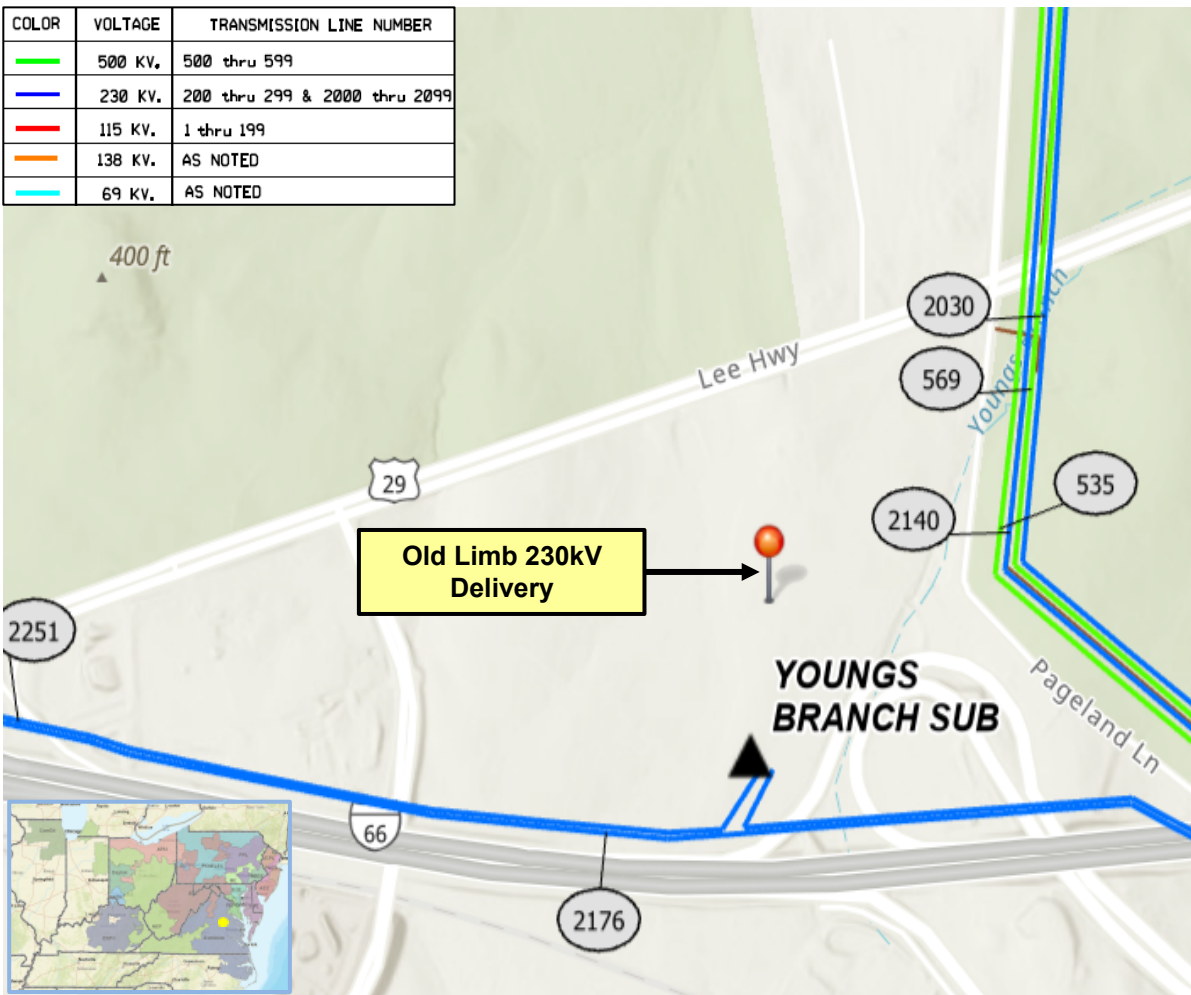
Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0015
Process Stage: Need Meeting 04/02/2024
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 230 kV delivery point (Old Limb Sub) to serve a data center customer in Prince William County with a total load in excess of 100 MW. Requested in-service date is 08/01/2027.

COLOR	VOLTAGE	TRANSMISSION LINE NUMBER
Green	500 KV.	500 thru 599
Blue	230 KV.	200 thru 299 & 2000 thru 2099
Red	115 KV.	1 thru 199
Orange	138 KV.	AS NOTED
Cyan	69 KV.	AS NOTED



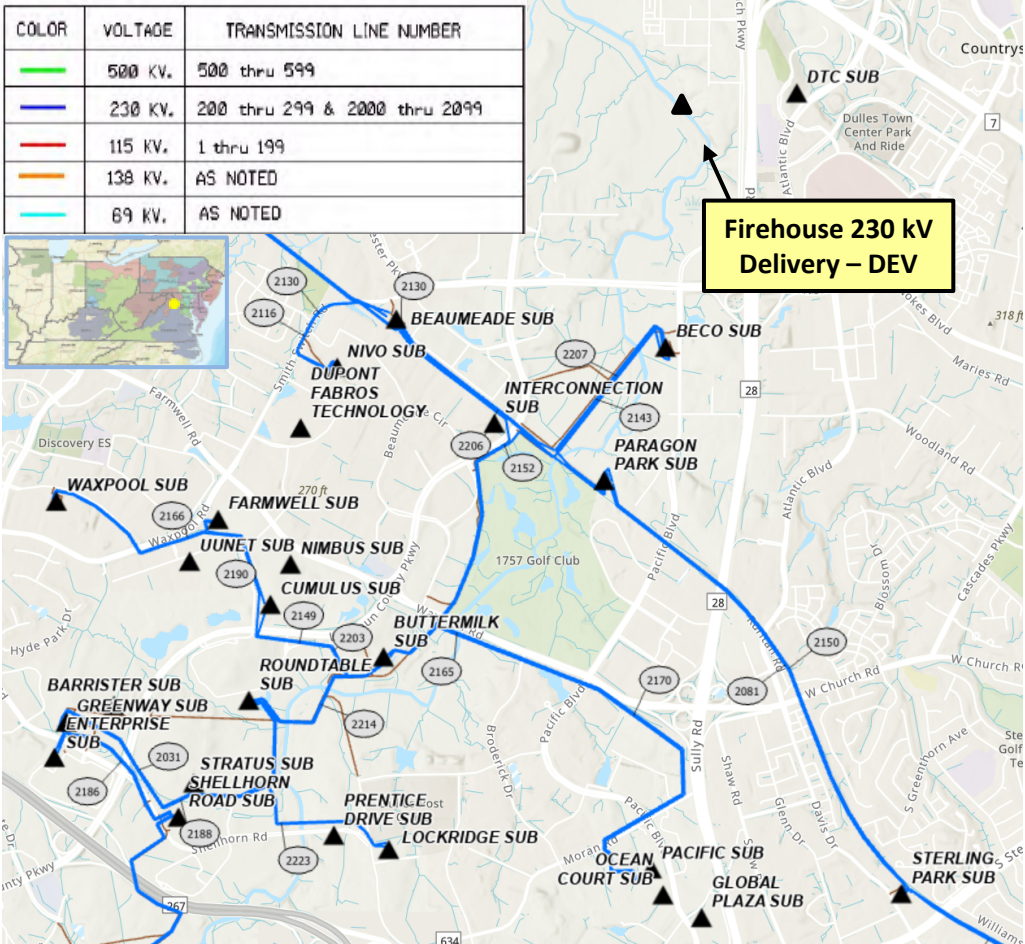
Initial In-Service Load	Projected 2028 Load
Summer: 37 MW Winter: 0 MW	Summer: 148 MW Winter: 148 MW

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0016
Process Stage: Need Meeting 04/02/2024
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 Distribution has submitted a DP request for a new substation (Firehouse) to serve a data center complex in Loudoun County with a total load in excess of 100 MW. Requested in-service date is 01/31/2028.



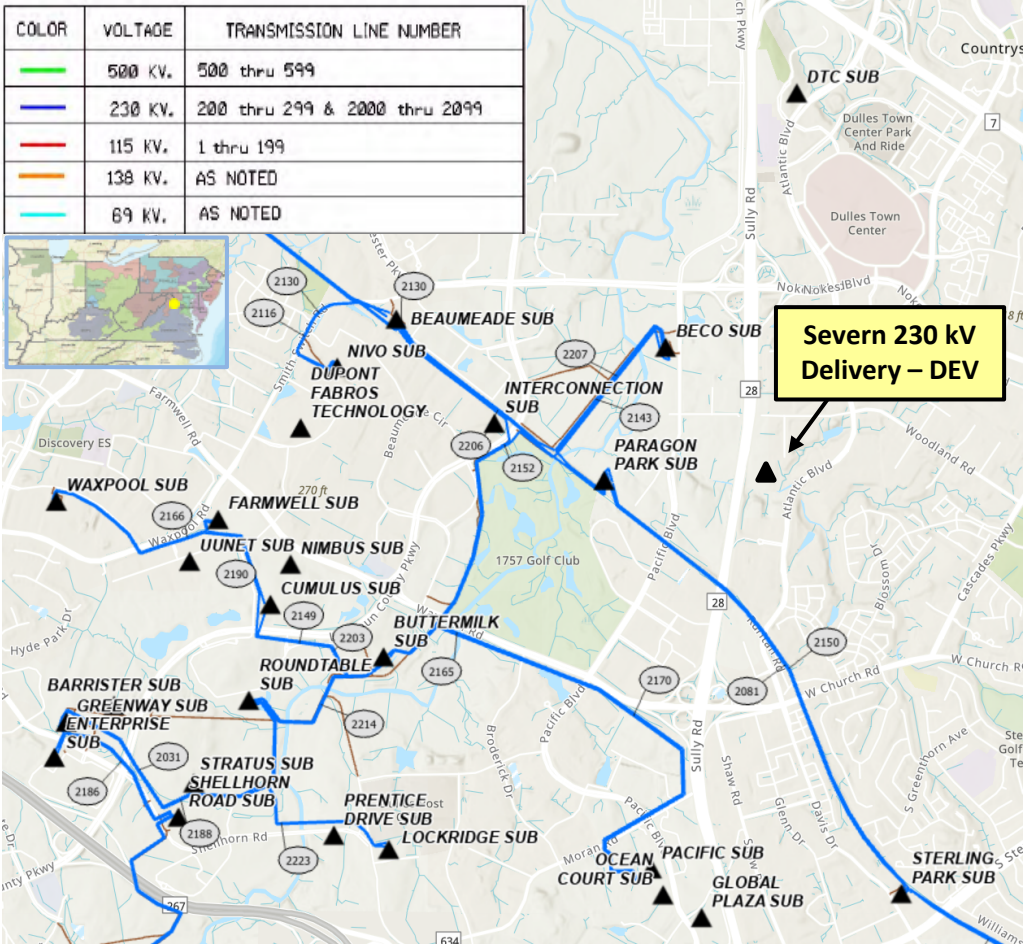
Initial In-Service Load	Projected 2028 Load
Summer: 209 MW Winter: 160 MW	Summer: 209 MW Winter: 160 MW

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0017
Process Stage: Need Meeting 04/02/2024
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 Distribution has submitted a DP request for a new substation (Severn) to serve a data center complex in Loudoun County with a total load in excess of 100 MW. Requested in-service date is 10/01/2027.



Initial In-Service Load	Projected 2028 Load
Summer: 45 MW Winter: 0 MW	Summer: 90 MW Winter: 90 MW

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-2022-0059
Process Stage: Solution Meeting 04/02/2024
Previously Presented: Need Meeting 12/06/2022
Project Driver: Customer Service

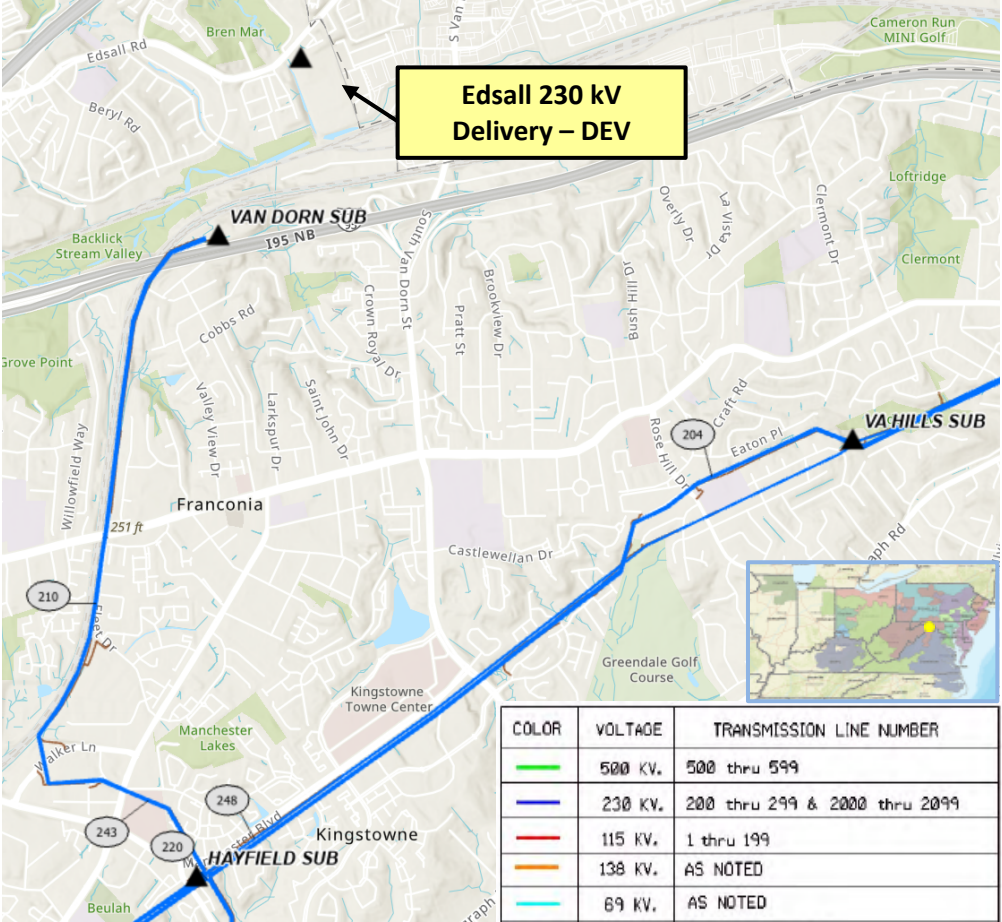
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP request for a new substation (Edsall) to serve a data center complex in Fairfax County with a total load in excess of 100 MW. Requested in-service date is 10/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 32 MW Winter: 12 MW	Summer: 84 MW Winter: 54 MW



Dominion Transmission Zone: Supplemental Edsall 230kV Delivery - DEV

Need Number: DOM-2022-0059

Process Stage: Solution Meeting 04/02/2024

Proposed Solution:

At Van Dorn substation, remove breaker 210T243. Extend both the 243 Line (Ox –Van Dorn) and the 210 Line (Hayfield – Van Dorn) to the proposed Edsall substation. Lines to terminate in a 230kV four-breaker ring arrangement with an ultimate arrangement of a six-breaker ring.

Estimated Project Cost: \$23 M

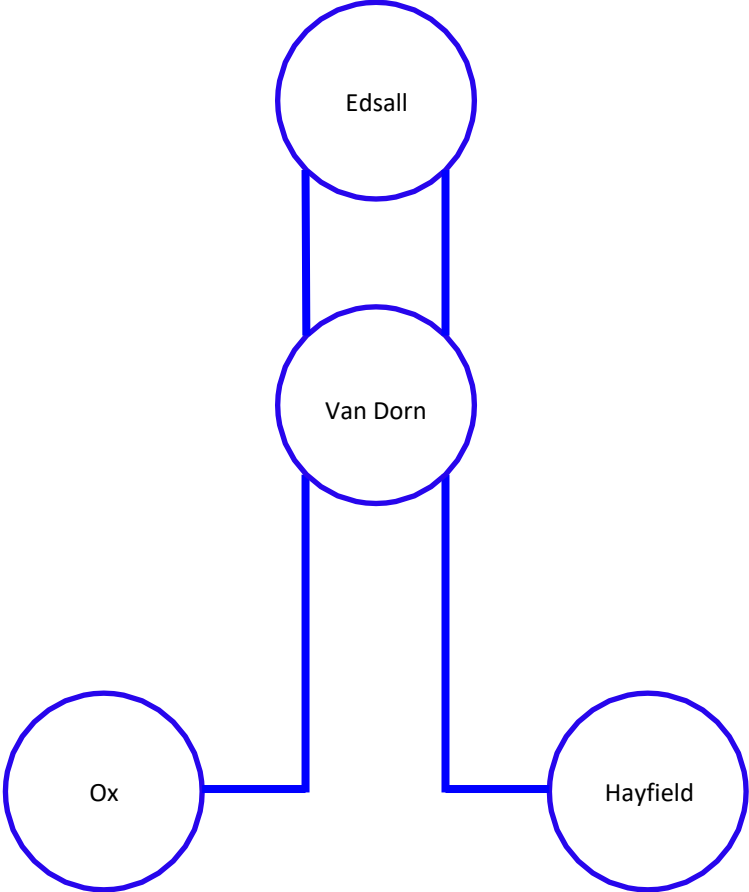
Alternatives Considered:

- 1) Cut either the 243 Line (Ox – Van Dorn) OR the 210 Line (Hayfield – Van Dorn) and extend to Edsall. Both alternatives were eliminated from consideration because we could not find a viable route originating from the existing line corridors.
- 2) Expand Van Dorn substation and extend two 230kV circuits to Edsall. At Edsall terminate the two 230kV circuits and feed the 230-34.5kV distribution transformers directly (no transmission ring bus). This alternative was eliminated from consideration because the expansion of Van Dorn substation was significantly more complex and costly.

Projected In-service Date: 10/01/2027

Project Status: Engineering

Model: 2028 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

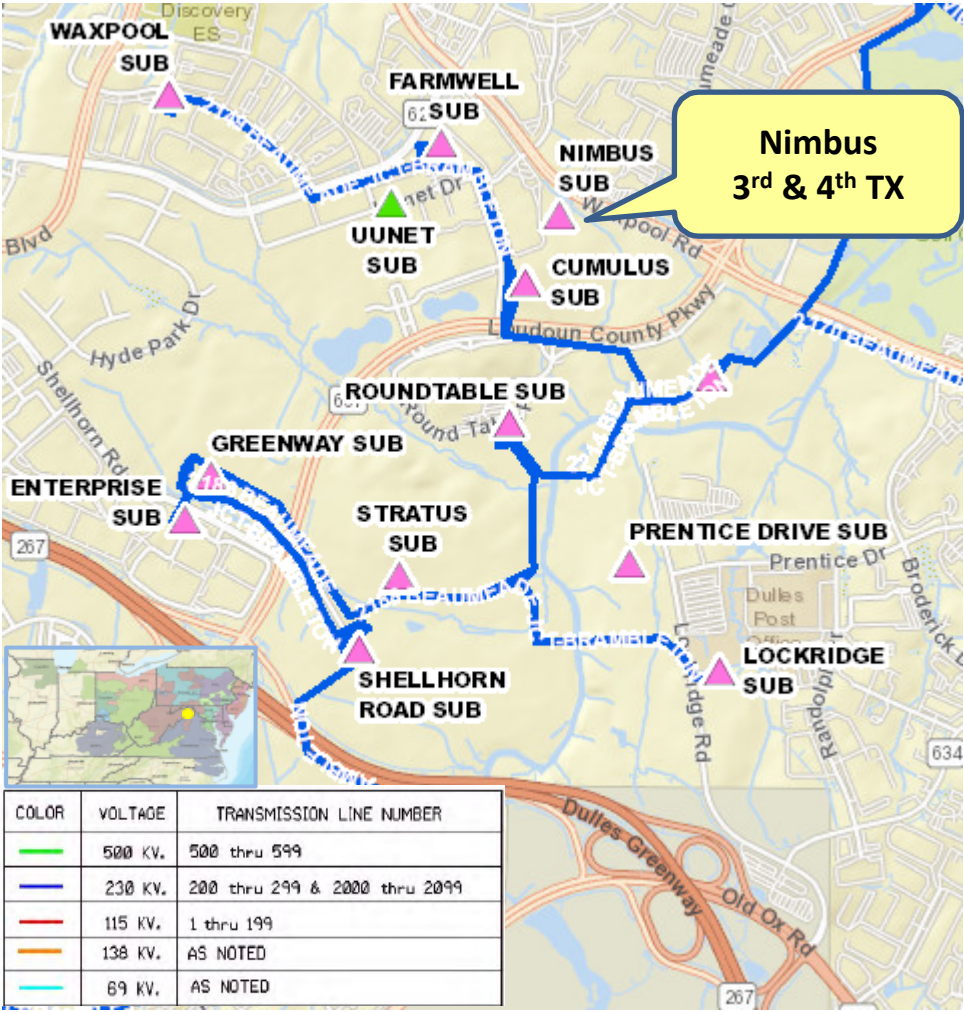
Need Number: DOM-2024-0002
Process Stage: Solutions Meeting 04/02/2024
Previously Presented: Need Meeting 02/06/2024
Project Driver: Customer Service

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 Distribution has submitted a DP Request to add the 3rd and 4th distribution transformers at Nimbus Substation in Loudoun County. The new transformers are being driven by continued load growth in the area. Requested in-service date is 10/31/2028.



Initial In-Service Load	Projected 2029 Load
Summer: 188.0 MW Winter: 188.0 MW	Summer: 280.5 MW Winter: 280.5 MW

Dominion Transmission Zone: Supplemental Nimbus - Add 3rd and 4th TX - DEV

Need Number: DOM-2024-0002

Process Stage: Solutions Meeting 04/02/2024

Proposed Solution:

Install (2) 1200 Amp, 50kAIC circuit switchers and associated equipment (bus, relaying, etc.) to feed the new transformers at Nimbus.

Estimated Project Cost: \$1.4 M

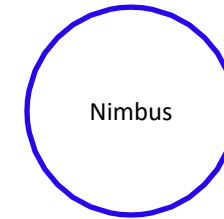
Alternatives Considered:

No feasible alternatives. This is an existing substation.

Projected In-service Date: 10/31/2028

Project Status: Engineering

Model: 2028 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

03/21/2024– V1 – Original version posted to pjm.com

03/28/2024– V2 – Updated cost information on slide 8 (\$40M → \$23M).

04/01/2024– V3 – Updated requested in-service date on slide 7 from 09/01/25 to 10/01/27. Updated initial and projected 2029 loads:

Initial: 52MW/24MW SUM/WIN → 32MW/12MW SUM/WIN

2029: 112MW/94MW SUM/WIN → 84MW/54MW SUM/WIN

04/02/2024– V4 – Updated projected in-service date on slide 8 from 09/01/25 to 10/01/27.