

Subregional RTEP Committee – Western FirstEnergy Supplemental Projects

May 15, 2026

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

Need Number: APS-2026-017
Process Stage: Need Meeting 05/15/2026
Project Driver: Operational Flexibility and Efficiency

Specific Assumption Reference:

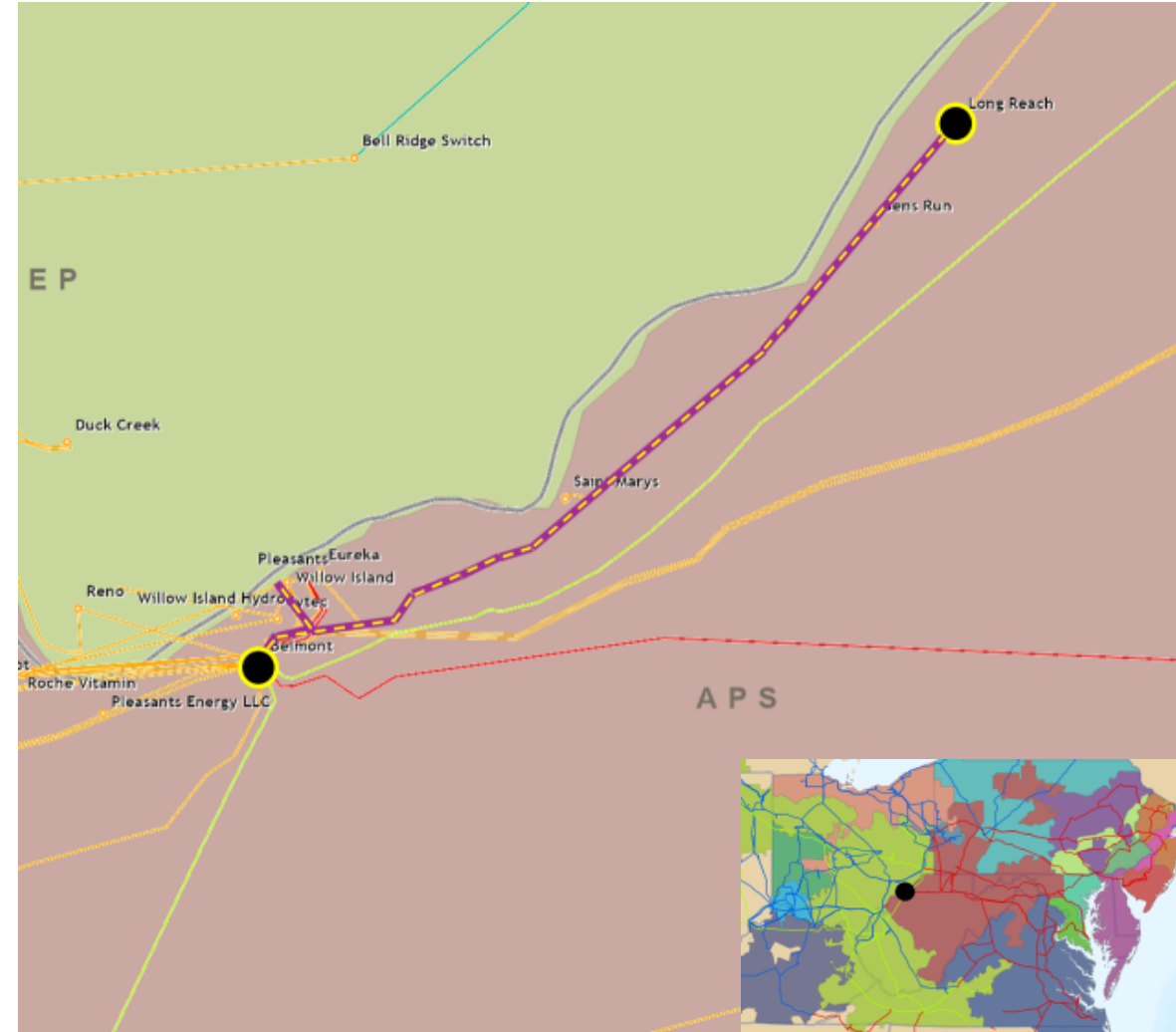
System Performance Projects

- Add/Expand Bus Configuration
- Load at risk in planning and operational scenarios
- Reduce the amount of exposed potential local load loss during contingency conditions
- Eliminate simultaneous outages to multiple networked elements

Problem Statement:

Eureka Substation is tapped off of the Belmont - Long Reach 138 kV Line and serves approximately 1,300 customers and 3 MW of load. It is located adjacent to the 138 kV yard at Pleasants Power Station where the station receives back-up and emergency power from the 138 kV system. A line fault or faulted breaker at Belmont or Long Reach substations results in the loss of power to Eureka Substation and Pleasants Power Station's backup/startup service.

The ratings of the Belmont - Long Reach 138 kV Line are limited by the transmission line conductor.



Need Number: APS-2026-019
Process Stage: Need Meeting 05/15/2026
Project Driver: Customer Service

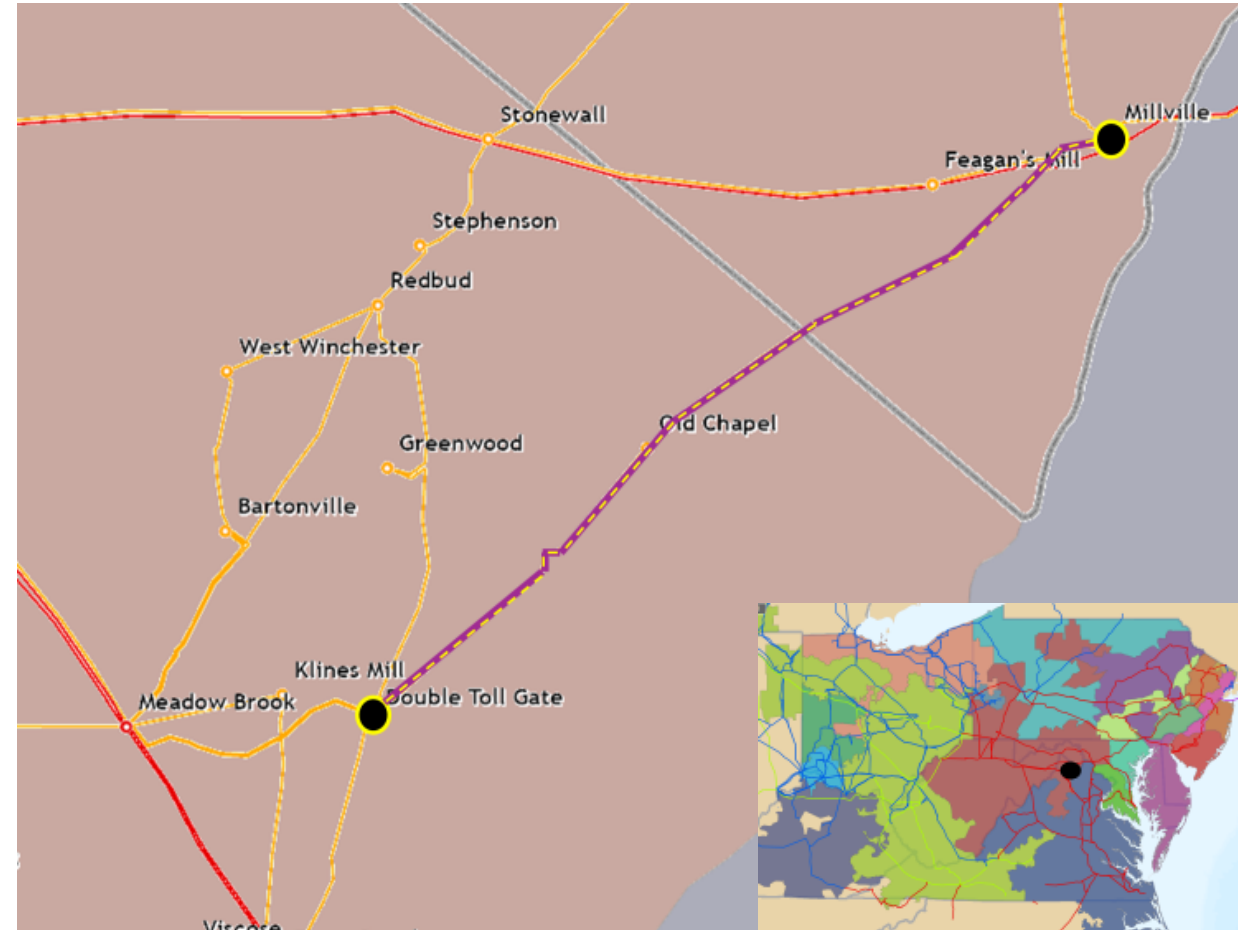
Specific Assumption References:

New customer connection requests will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

Problem Statement:

New Customer Connection - A customer requested 138 kV service for load of approximately 13 MW. The customer's location is in close proximity to the Double Toll Gate - Millville 138 kV Line. The request is approximately nine miles from Millville Substation.

The requested in-service date is 10/03/2027.



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

Need Number: APS-2023-032
Process Stage: Solution Meeting SRRTEP-W - 05/15/2026
Previously Presented: Need Meeting 10/20/2023
Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference:

Line Condition Rebuild/Replacement

- Age/condition of wood pole transmission line structures

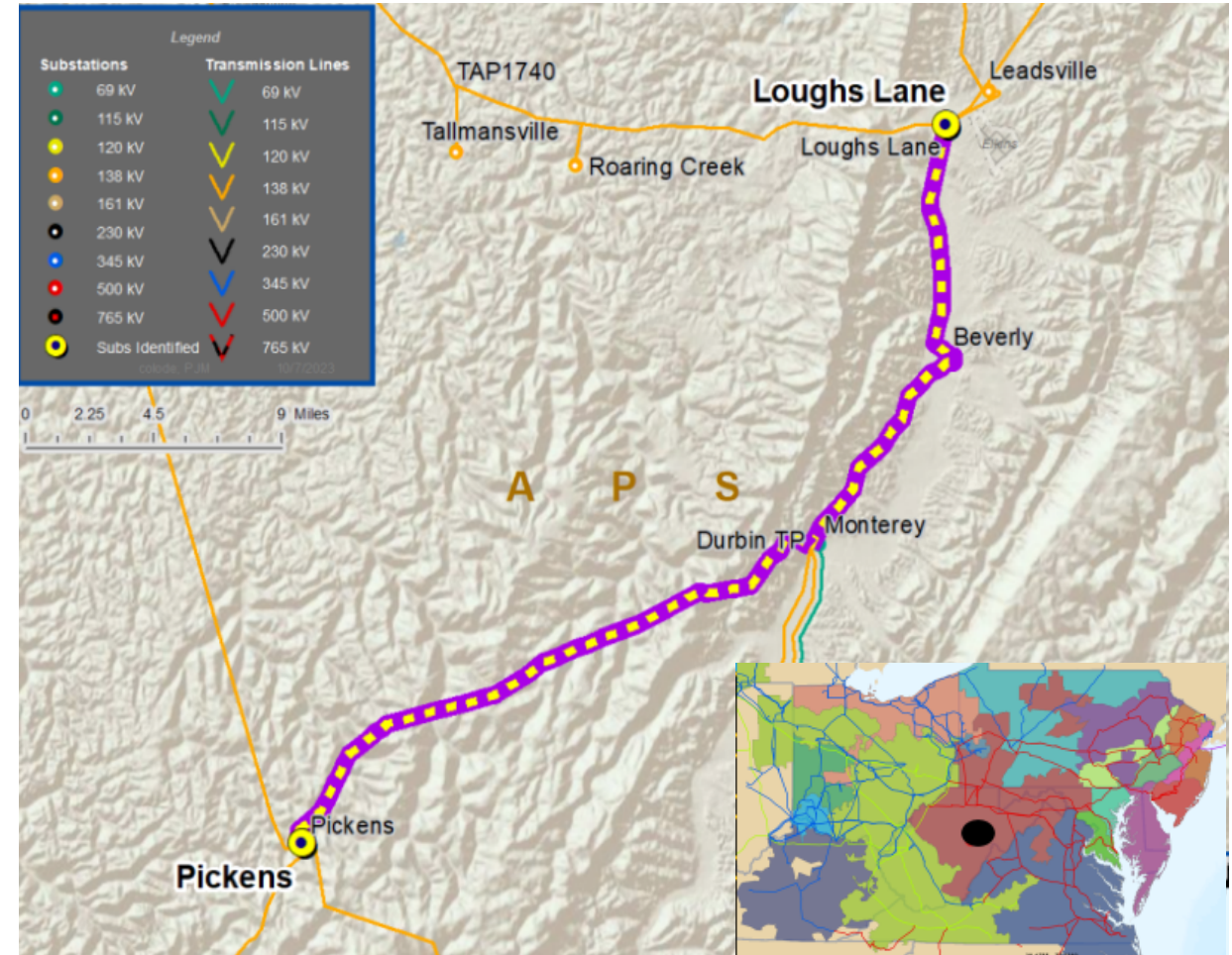
System Performance Projects Global Factors

- Substation/line equipment limits

Problem Statement:

Loughs Lane – Pickens 138 kV Line wood pole structures are nearing end of life. The line has exhibited increase trend in maintenance conditions.

- Total line distance is approximately 47.2 miles.
- 296 of 380 structures failed inspection (78% failure rate).





APS Transmission Zone M-3 Process Loughs Lane – Pickens 138 kV Line

Need Number: APS-2023-032

Process Stage: Solution Meeting SRRTEP-W - 05/15/2026

Proposed Solution:

Rebuild approximately 47.2 miles of the Loughs Lane - Pickens 138 kV Line and install OPGW.

At the Durbin Tap: Replace transmission line disconnect switches.

At Loughs Lane Substation: Remove wave trap, replace disconnect switch, substation conductor, and relaying.

At Durbin Substation: Remove wave trap, replace substation conductor, CVT's, and upgrade relaying.

At Beverly Substation: Remove wave trap, replace disconnect switches, CVT's substation conductor, and relaying.

At Pickens Substation: Remove wave trap, replace substation conductor, and relaying.

Pickens - Durbin Tap 138 kV Line Ratings:

Before Proposed Solution: 169 / 213 / 217 / 280 MVA (SN/SE/WN/WE)

After Proposed Solution: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)

Durbin - Durbin Tap 138 kV Line Ratings:

Before Proposed Solution: 94 / 105 / 105 / 114 MVA (SN/SE/WN/WE)

After Proposed Solution: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)

Beverly Tap - Durbin Tap 138 kV Line Ratings:

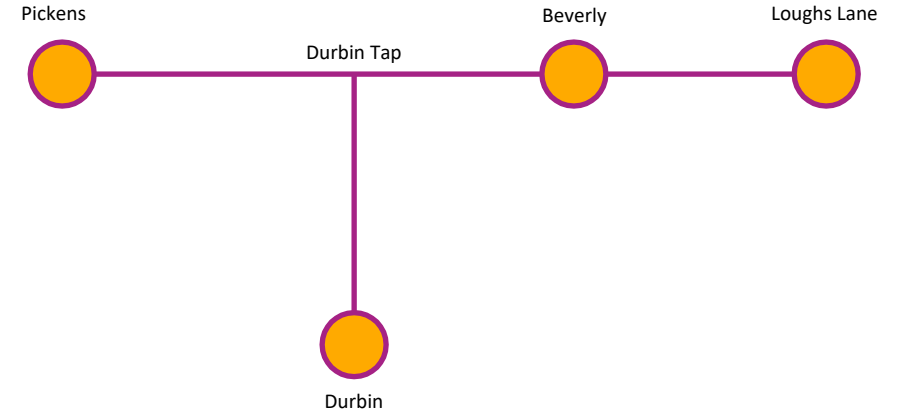
Before Proposed Solution: 164 / 206 / 216 / 248 MVA (SN/SE/WN/WE)

After Proposed Solution: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)

Beverly Tap - Loughs Lane 138 kV Line Ratings:

Before Proposed Solution: 169 / 213 / 217 / 280 MVA (SN/SE/WN/WE)

After Proposed Solution: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	



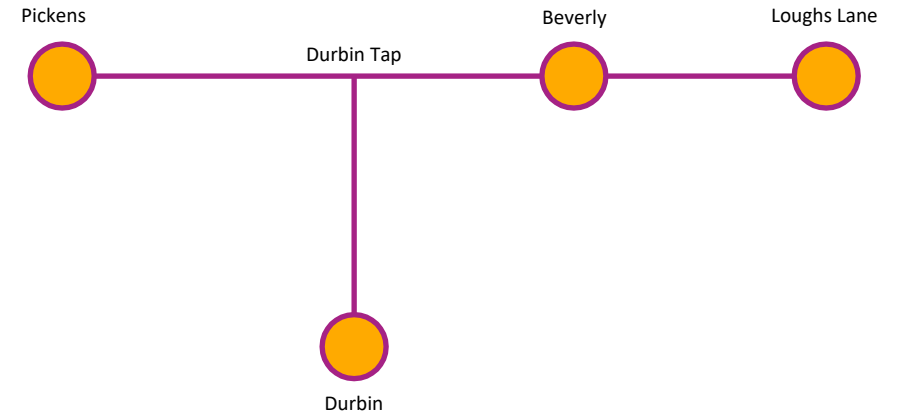
APS Transmission Zone M-3 Process Loughs Lane – Pickens 138 kV Line

Need Number: APS-2023-032
Process Stage: Solution Meeting SRRTEP-W - 05/15/2026

Alternatives Considered:

Maintain the line in existing condition with elevated risk of failure due to equipment deterioration.

Estimated Project Cost: \$182.84M
Projected In-Service: 11/04/2032
Project Status: Conceptual
Model: 2024 RTEP model for 2029 Summer & Winter (50/50)



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	

Need Number: APS-2024-055
Process Stage: Solution Meeting SRRTEP-W - 05/15/2026
Previously Presented: Need Meeting 05/17/2024
Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference:

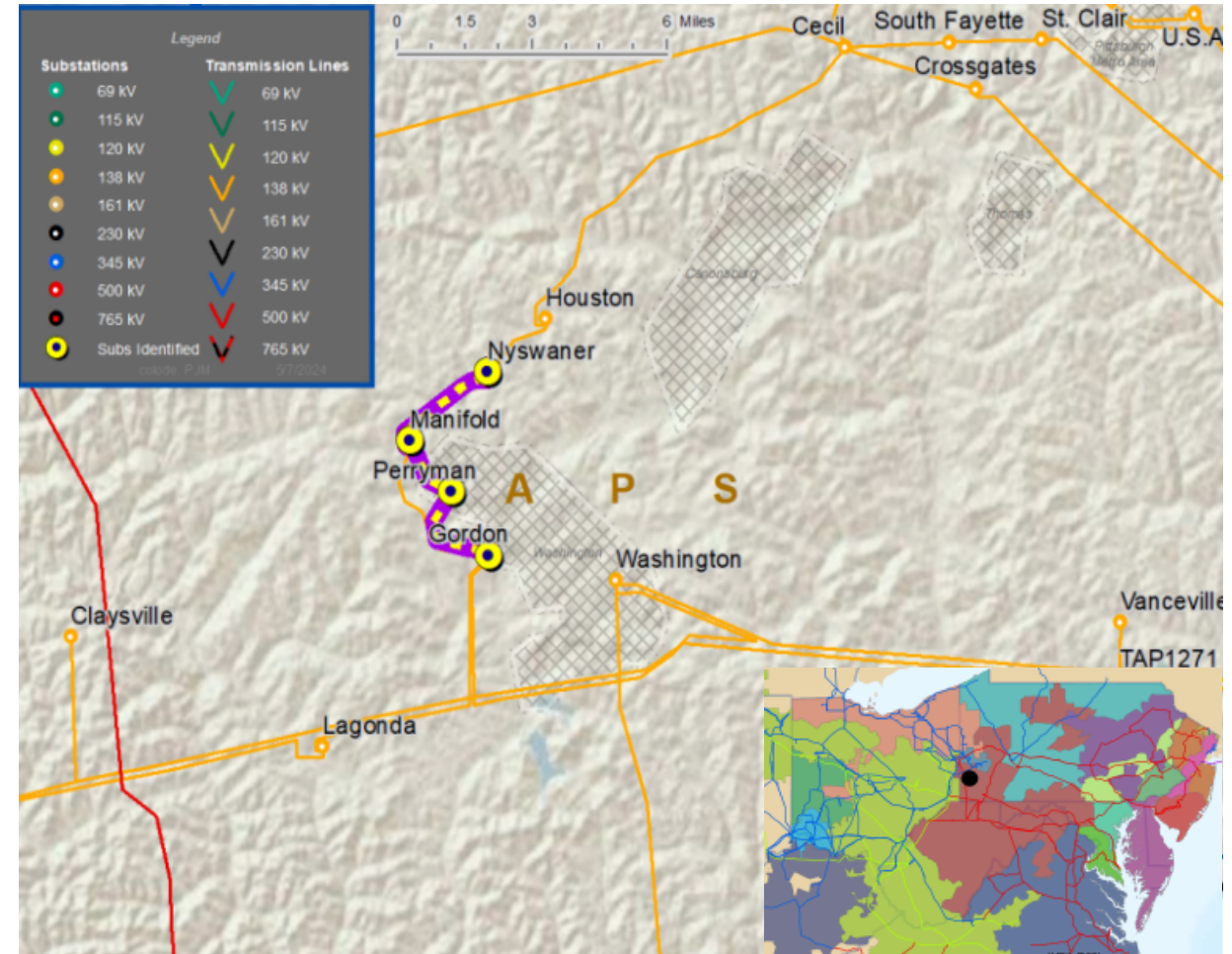
System Performance Global Factors

- System reliability/performance
- Substation/Line equipment limits Line Condition Rebuild/Replacement
- Age/condition of wood transmission line structures

Problem Statement:

The Gordon – Nyswaner 138kV Line was constructed approximately 60 years ago and is approaching end of life. It is approximately 22 miles long with 53 wood and 53 steel transmission line structures.

- Per recent inspections, the line is exhibiting deterioration. Inspection findings include:
 - 34 structure have required repairs due to deterioration since 2019.
 - 38 structures failed inspection due to sound, woodpecker damage, top rot, decay, cracking, and/or delamination of cross-arms requiring replacement.



Need #	Transmission Line / Substation Locations	Existing Line Rating (MVA SN / SE / WN / WE)	Existing Conductor Rating (MVA SN / SE / WN / WE)
APS-2024-055	Gordon – Perryman 138 kV Line	169 / 213 / 217 / 280	169 / 213 / 217 / 280
	Perryman – Manifold 138 kV Line	169 / 213 / 217 / 280	169 / 213 / 217 / 280
	Manifold – Nyswaner 138 kV Line	300 / 358 / 349 / 410	308 / 376 / 349 / 445



APS Transmission Zone M-3 Process Gordon – Nyswaner 138kV Line

Need Number: APS-2024-055

Process Stage: Solution Meeting SRRTEP-W - 05/15/2026

Proposed Solution:

Rebuild the 7.6 miles of the wood section of Gordon - Nyswaner 138 kV Line from Nyswaner Substation south to Gordon Substation. This includes structures 1-48 and excludes the eastern steel pole section of the line. Upgrade terminal equipment and relaying at remote end substations.

Gordon - Perryman 138 kV section ratings:

Before Proposed Solution: 169 / 213 / 217 / 280 MVA (SN/SE/WN/WE)

After Proposed Solution: 211 / 268 / 250 / 317 MVA (SN/SE/WN/WE)

Perryman - Manifold 138 kV section ratings:

Before Proposed Solution: 169 / 213 / 217 / 280 MVA (SN/SE/WN/WE)

After Proposed Solution: 221 / 268 / 250 / 317 MVA (SN/SE/WN/WE)

Manifold - Nyswaner 138 kV section ratings:

Before Proposed Solution: 300 / 358 / 349 / 410 MVA (SN/SE/WN/WE)

After Proposed Solution: 308 / 376 / 349 / 445 MVA (SN/SE/WN/WE)

Alternatives Considered:

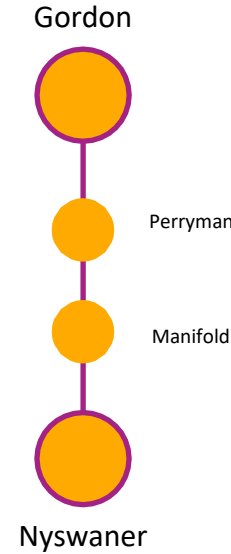
Maintain the line in existing condition with elevated risk of failure due to equipment deterioration.

Estimated Project Cost: \$30.12M

Projected In-Service: 12/29/2028

Project Status: Conceptual

Model: 2024 RTEP model for 2029 Summer & Winter (50/50)



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	

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

05/xx/2026– V1 – Original version posted to pjm.com