Subregional RTEP Committee – Mid-Atlantic
FirstEnergy Supplemental Projects

MetEd Transmission Zone

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

MetEd Transmission Zone M-3 Process
South Lebanon - Third and Green 69 kV Line

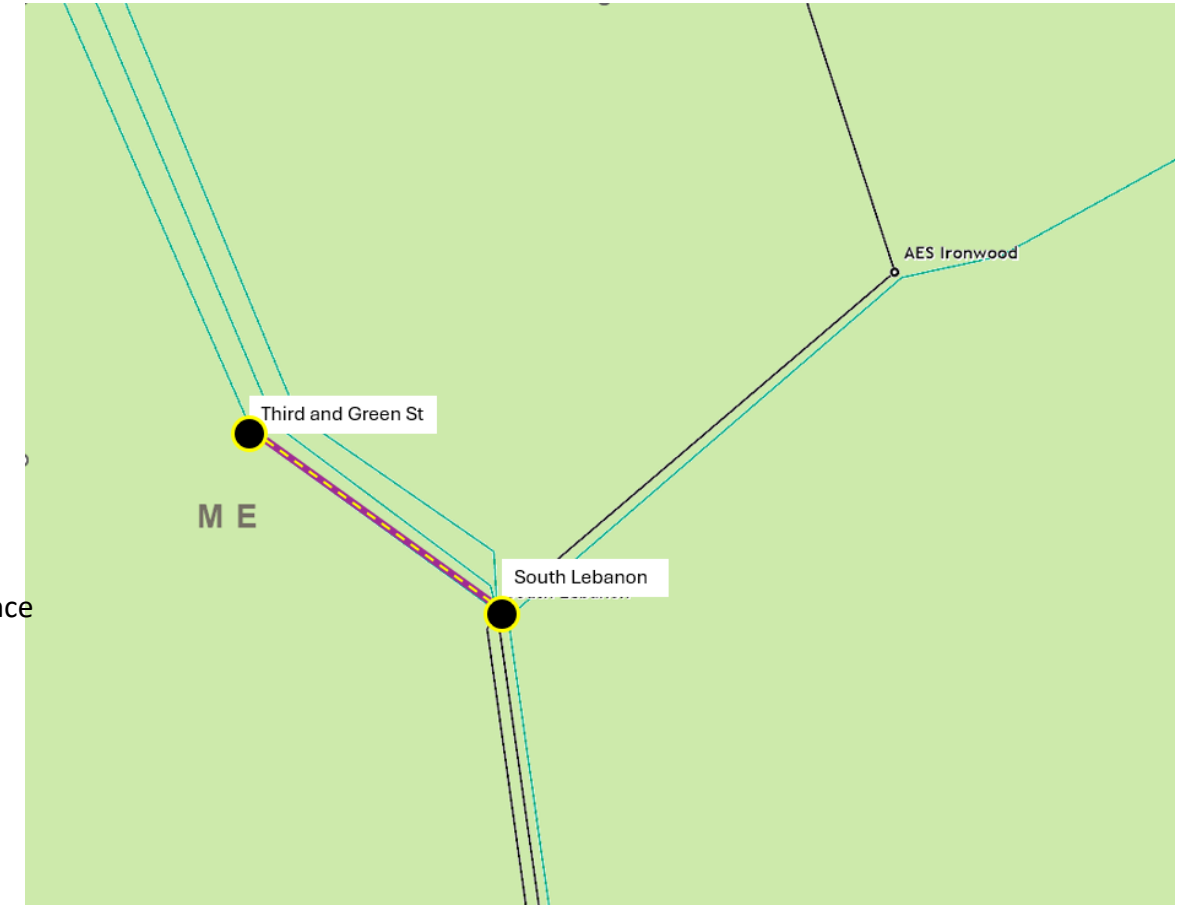
Need Number: ME-2026-005
Process Stage: Need Meeting SRRTEP-MA - 11/12/2026
Project Driver:
- *Equipment Condition/Performance/Risk*

Specific Assumption References:
System Performance Global Factors
- System reliability/performance
- Substation/Line equipment limits

Line Condition Rebuild/Replacement
- Age/condition of wood pole transmission line structures

Problem Statement:
The South Lebanon - Third and Green 69 kV 76 Line was constructed 71 years ago and is approaching end of life. It is 1.5 miles long with 43 wood pole transmission line structures. Per recent inspections, the line is exhibiting deterioration resulting in increased maintenance costs. Inspection findings include:
- 41 structures require repairs due to deterioration.
- 2 structures require replacement due to deterioration.
- 41 structures failed inspection due to sound, woodpecker damage, top rot, decay, cracking, and/or delamination of cross-arms.

Existing Transmission Line Ratings:
South Lebanon - Fifth and Green 69 kV Line: 137 / 172 / 179 / 203 MVA (SN/SE/WN/WE)
Fifth and Green - Third and Green 69 kV Line: 102 / 124 / 118 / 150 MVA (SN/SE/WN/WE)



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

MetEd Transmission Zone M-3 Process
North Boyertown Substation

Need Number: ME-2024-024

Process Stage: Solution Meeting SRRTEP-MA - 11/12/2026

Previously Presented: Need Meeting SRRTEP-MA - 12/12/2024

Project Driver:

- *Operational Flexibility and Efficiency*

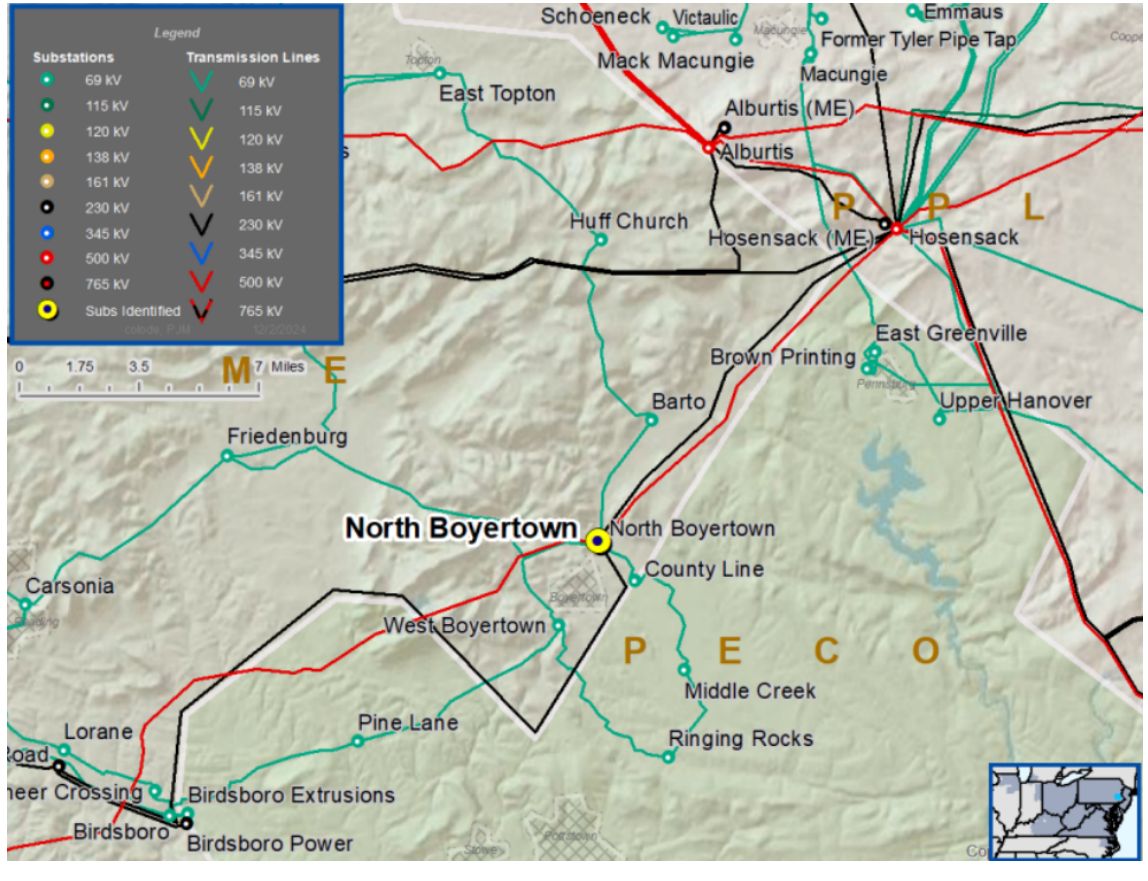
Specific Assumption References:

System Performance Projects Global Factors

- 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:

A faulted 69 kV bus tie breaker at North Boyertown Substation can lead to a potential voltage collapse and severe overloads on the 69 kV transmission network resulting in a loss of service to approximately 107 MW of load and 23,000 customers.



MetEd Transmission Zone M-3 Process
North Boyertown Substation

Need Number: ME-2024-024

Process Stage: Solution Meeting SRRTEP-MA - 11/12/2026

Proposed Solution:

- Convert 69 kV bus at North Boyertown Substation to a breaker-and-a-half configuration.
- Update relay settings at Carsonia, West Boyertown, East Topton, Ringing Rocks, and Lyons substations.
- Reterminate the following existing 69 kV lines into North Boyertown Substation:
    - Carsonia-Lyons-North Boyertown (75) 69 kV Line
    - North Boyertown-Ringing Rock (826) 69 kV Line
    - East Topton-North Boyertown (873) 69 kV Line
    - North Boyertown-West Boyertown (875) 69 kV Line

Transmission Line Ratings:

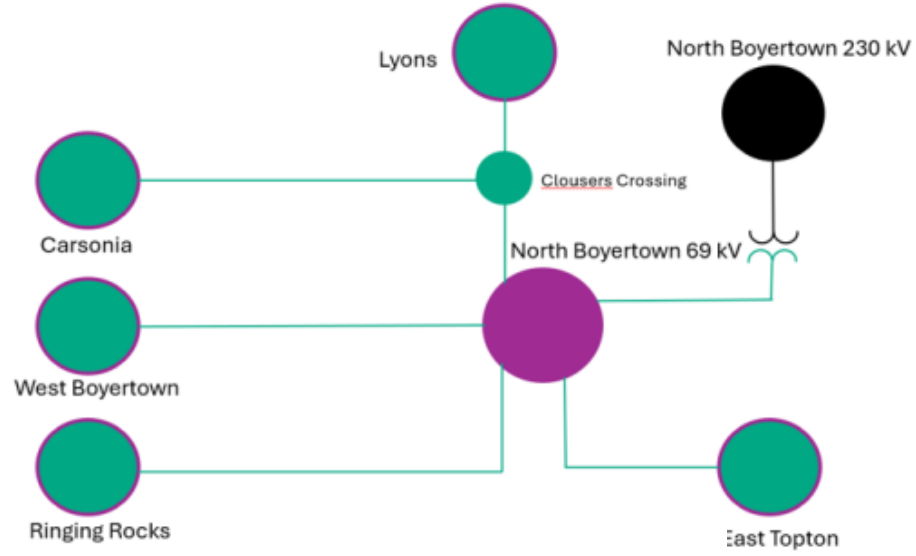
East Topton - North Boyerton 69 kV Line

- Before Proposed Solution: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)
- After Proposed Solution: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)

North Boyertown - Ringing Rocks 69 kV Line

- Before Proposed Solution: 139 / 169 / 158 / 201 MVA (SN/SE/WN/WE)
- After Proposed Solution: 139 / 169 / 158 / 201 MVA (SN/SE/WN/WE)

Cont'd on next slide.



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

MetEd Transmission Zone M-3 Process
North Boyertown Substation

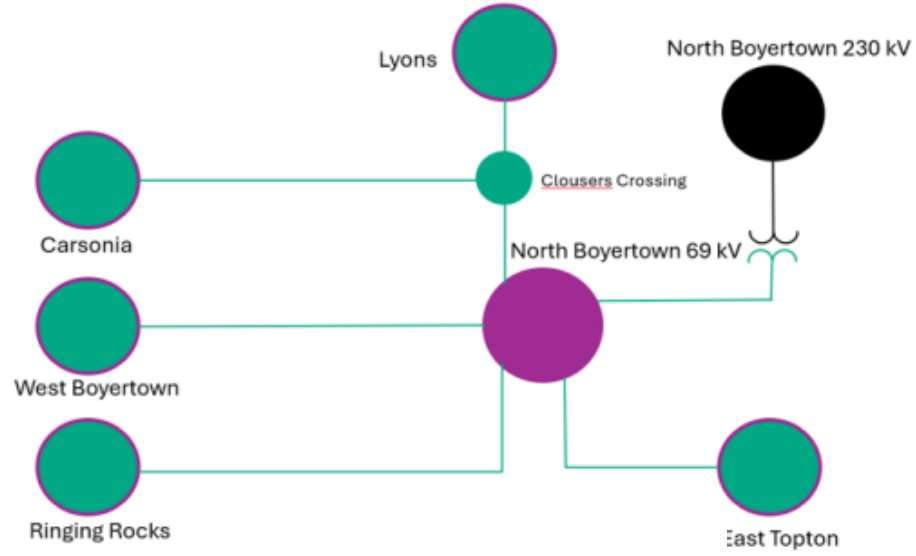
Need Number: ME-2024-024
Process Stage: Solution Meeting SRRTEP-MA - 11/12/2026

Proposed Solution *(continued)*
Transmission Line Ratings:
North Boyertown - West Boyertown 69 kV Line
- Before Proposed Solution: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)
- After Proposed Solution: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)

Carsonia - Lyons - North Boyertown 69 kV Line
- Before Proposed Solution: 55 / 56 / 62 / 62 MVA (SN/SE/WN/WE)
- After Proposed Solution: 55 / 56 / 62 / 62 MVA (SN/SE/WN/WE)

Alternatives Considered:
Maintain existing condition and elevated risk of failure.

Transmission Cost Estimate: $32.26 M
Projected In-Service: 05/25/2028
Project Status: Conceptual
Model: 2025 RTEP Model for 2030 Summer



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

MetEd Transmission Zone M-3 Process
Carsonia - Lyons - North Boyertown 69 kV Line - Customer Connection

Need Number: ME-2026-008

Process Stage: Solution Meeting SRRTEP-MA - 11/12/2026

Previously Presented: Need Meeting SRRTEP-MA - 08/13/2026

Project Driver:

- *Customer Service*

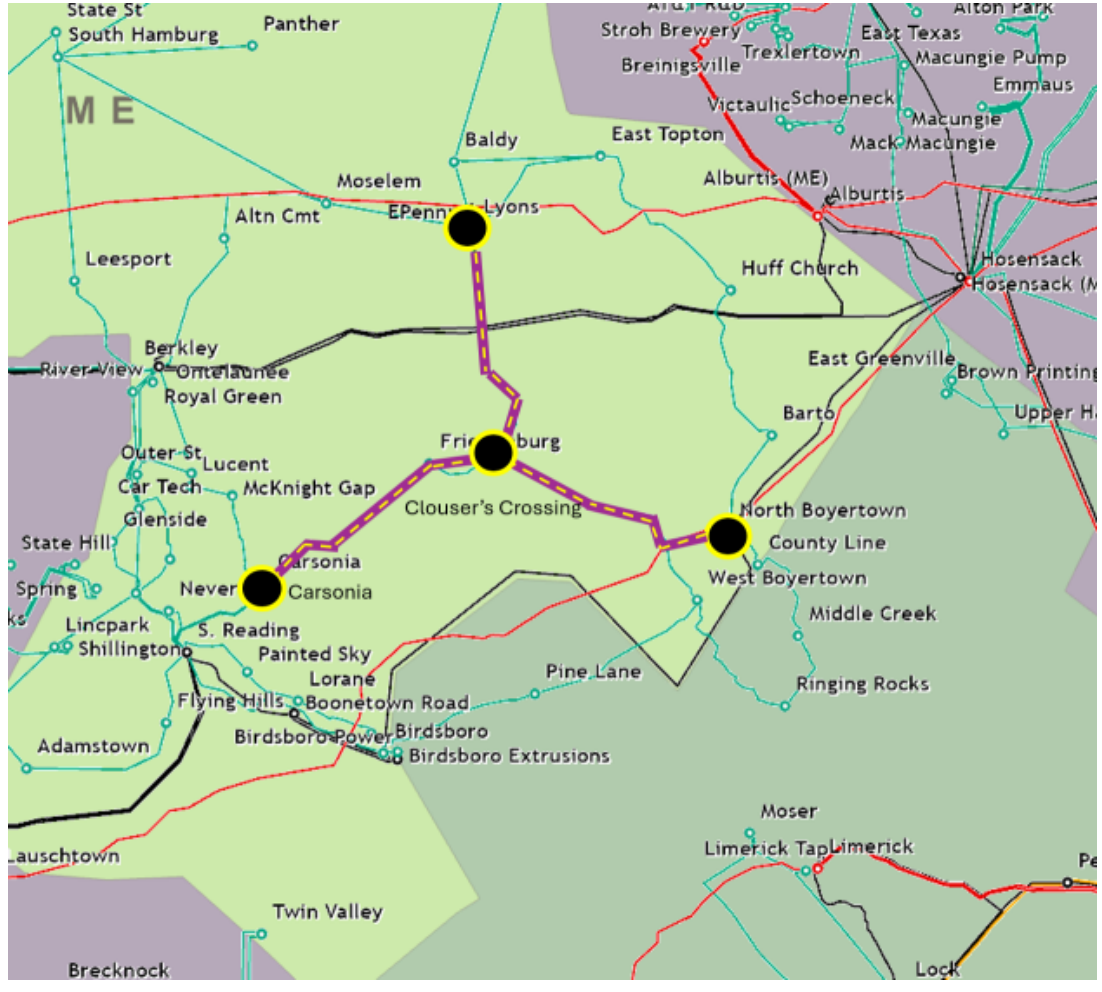
Specific Assumption References:

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 69 kV service for load of approximately 13 MW near the Carsonia - Lyons - North Boyertown 69 kV 75 Line. The request is approximately 4.1 miles from Clouser's Crossing and 2.4 miles from Lyons Tap.

Requested in-service date is 10/31/2028.



MetEd Transmission Zone M-3 Process
Carsonia - Lyons - North Boyertown 69 kV Line - Customer Connection

Need Number: ME-2026-008

Process Stage: Solution Meeting SRRTEP-MA - 11/12/2026

Proposed Solution:

- Tap the Carsonia - Lyons - North Boyertown 69 kV 75 Line.
- Install two 1200 A SCADA controlled switches at tap location.
- Construct two spans from tap location to POI.
- Install one 1200 A SCADA controlled switch on the tap. Install 69 kV revenue metering.
- Adjust relay settings at Carsonia, Lyons and North Boyertown substations as required.

Alternatives Considered:

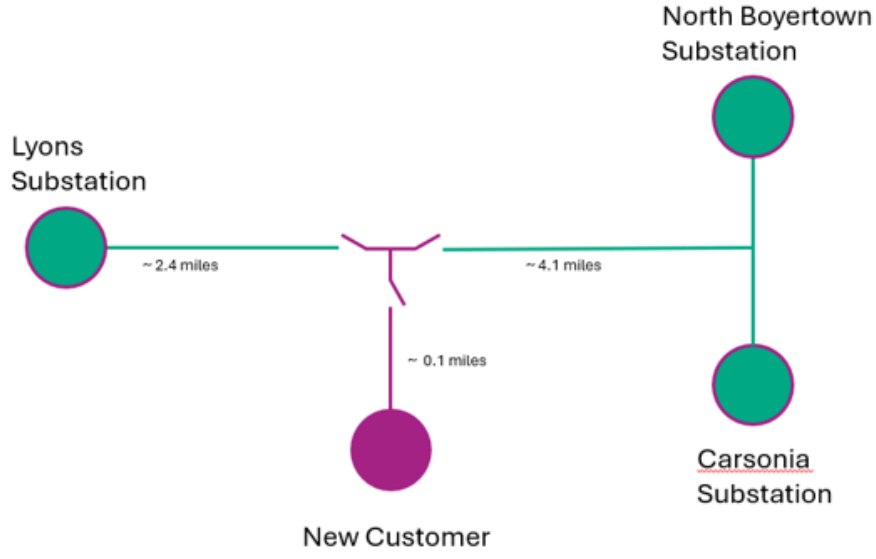
No reasonable alternatives due to the customer's proximity to the Carsonia - Lyons - North Boyertown 69 kV 75 Line.

Transmission Cost Estimate: $0.73 M

Projected In-Service: 11/01/2028

Project Status: Conceptual

Model: 2025 RTEP Model for 2030 Summer



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

Revision History

11/02/2026 – V1 – Original version posted to pjm.com