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
Yoe 115 kV Substation, PA

Need Number: ME-2026-001

Process Stage: Need Meeting – SRRTEP-MA – 03/18/2026

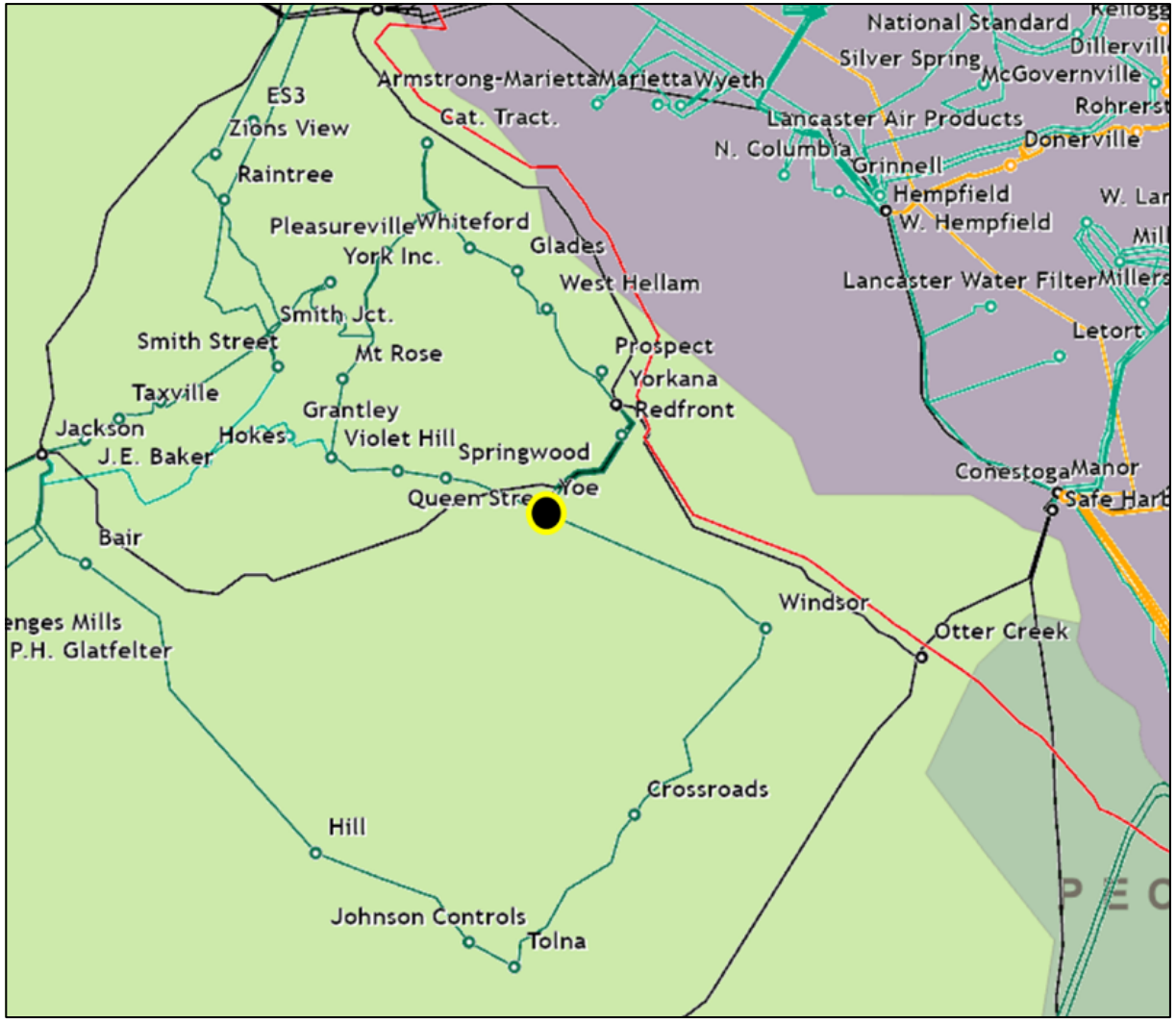
Project Driver:
Operational Flexibility and Efficiency

Specific Assumption References:

- 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:

A line fault/transformer fault/stuck breaker or bus fault at Yoe Substation results in the loss of the entire Yoe Substation. Yoe Substation serves 5870 customers and approximately 23 MW. There are currently no breakers installed at Yoe Substation with substantial amounts of loading and load growth in the area. In the last five years, there has been one unscheduled sustained outage at Yoe Substation.



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
South Reading - West Reading 69 kV Line, PA

Need Number: ME-2024-002

Process Stage: Solution Meeting – SRRTEP-MA – 03/18/2026

Previously Presented: Need Meeting – SRRTEP-MA – 03/14/2024

Project Driver:

Equipment Material Condition, Performance, and Risk

Operational Flexibility and Efficiency

Specific Assumption Reference:

System Performance Global Factors

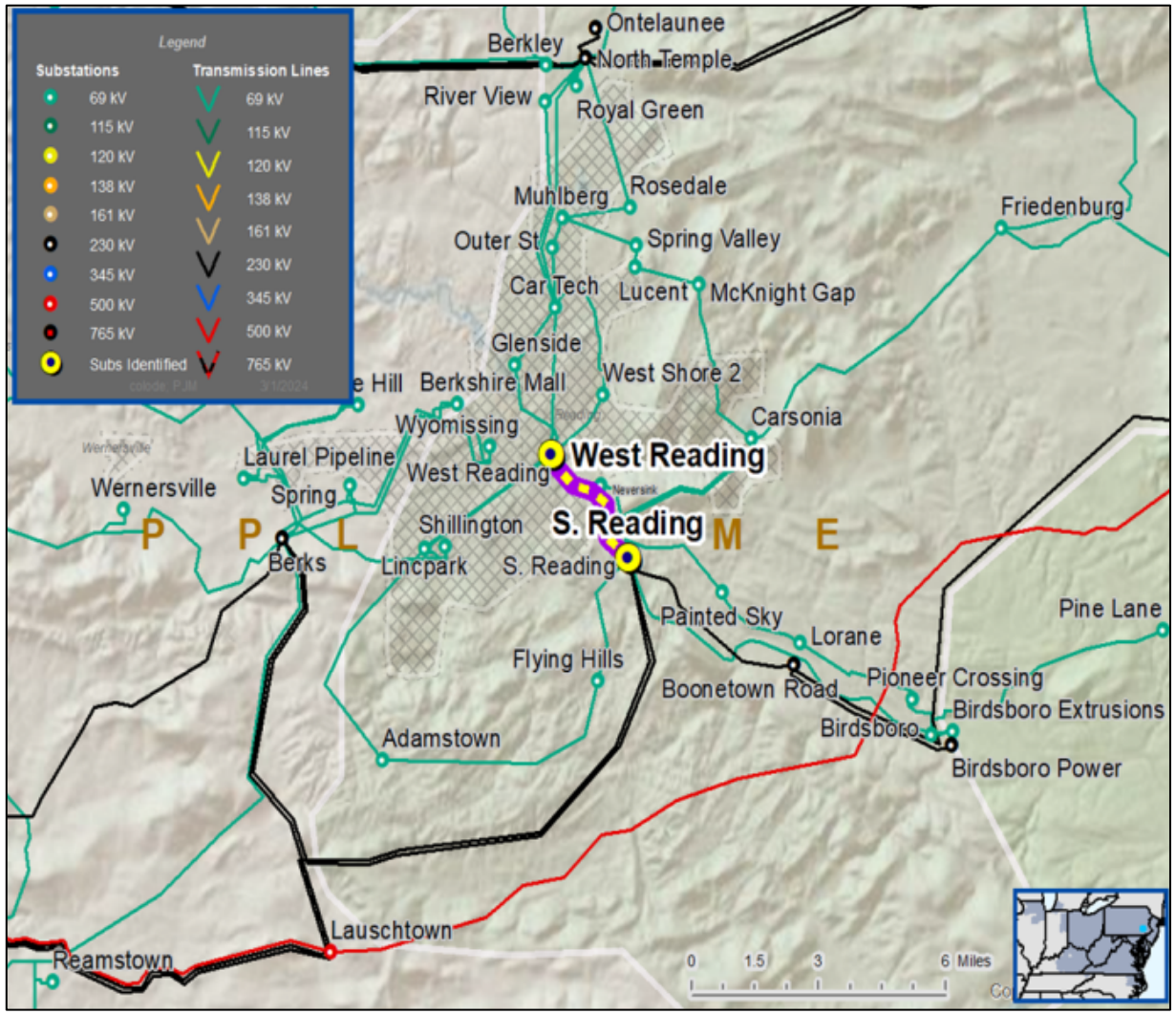
- Past system reliability/performance
- Substation/Line equipment limits

Line Condition Rebuild/Replacement

- Age/condition of wood pole transmission line structures

Problem Statement:

- The South Reading – West Reading 69 kV Line was constructed 65 years ago. The line is approximately 2.8 miles long with 55 wooden H-frame structures.
- Recent inspections have indicated that the line is exhibiting deterioration. Inspection findings include woodpecker damage, top rot, groundline decay and cracking. These finding have resulted in increased maintenance costs.
- There have been five unscheduled outages due to broken crossarms and braces in the last ten years, two of the outages occurred in 2023.
- The South Reading and West Reading 69 kV breaker relays are vintage electromechanical equipment.
- The line is currently limited by terminal equipment.
- Existing Transmission Line Ratings:
  - 132 / 158 / 158 / 180 MVA (SN/SE/WN/WE)



MetEd Transmission Zone M-3 Process
South Reading - West Reading 69 kV Line, PA

Need number: ME-2024-002

Process Stage: Solution Meeting –SRRTEP-MA – 03/18/2026

Proposed Solution:

- South Reading - West Reading 69 kV Line: Rebuild approximately 2.75 line miles of wood pole construction.
- South Reading: Replace relaying for 69 kV Circuit Breaker 2642.
- West Reading: Replace 69 kV Circuit Breaker 2602, Switches 2604 & 2605, and Relaying.

Ratings:

South Reading - West Reading 69 kV Line:

- Existing Line ratings: 132 /158 / 158 / 180 MVA (SN/SE/WN/WE)
- New Line Ratings: 139 / 189 / 158 / 201 MVA (SN/SE/WN/WE)

Alternatives Considered:

Continue to operate the line as is with elevated risk of failure and customer outages.

Estimated Project Cost:	$17.10M
Projected In-Service:	12/29/2028
Project Status:	Conceptual
Model:	2024 RTEP model for 2029 Summer (50/50)

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
Muhlenberg 69 kV Substation, PA

Need Number: ME-2024-005

Process Stage: Solution Meeting – SRRTEP-MA – 03/18/2026

Previously Presented: Need Meeting – SRRTEP-MA – 03/14/2024

Project Driver:

Operational Flexibility and Efficiency

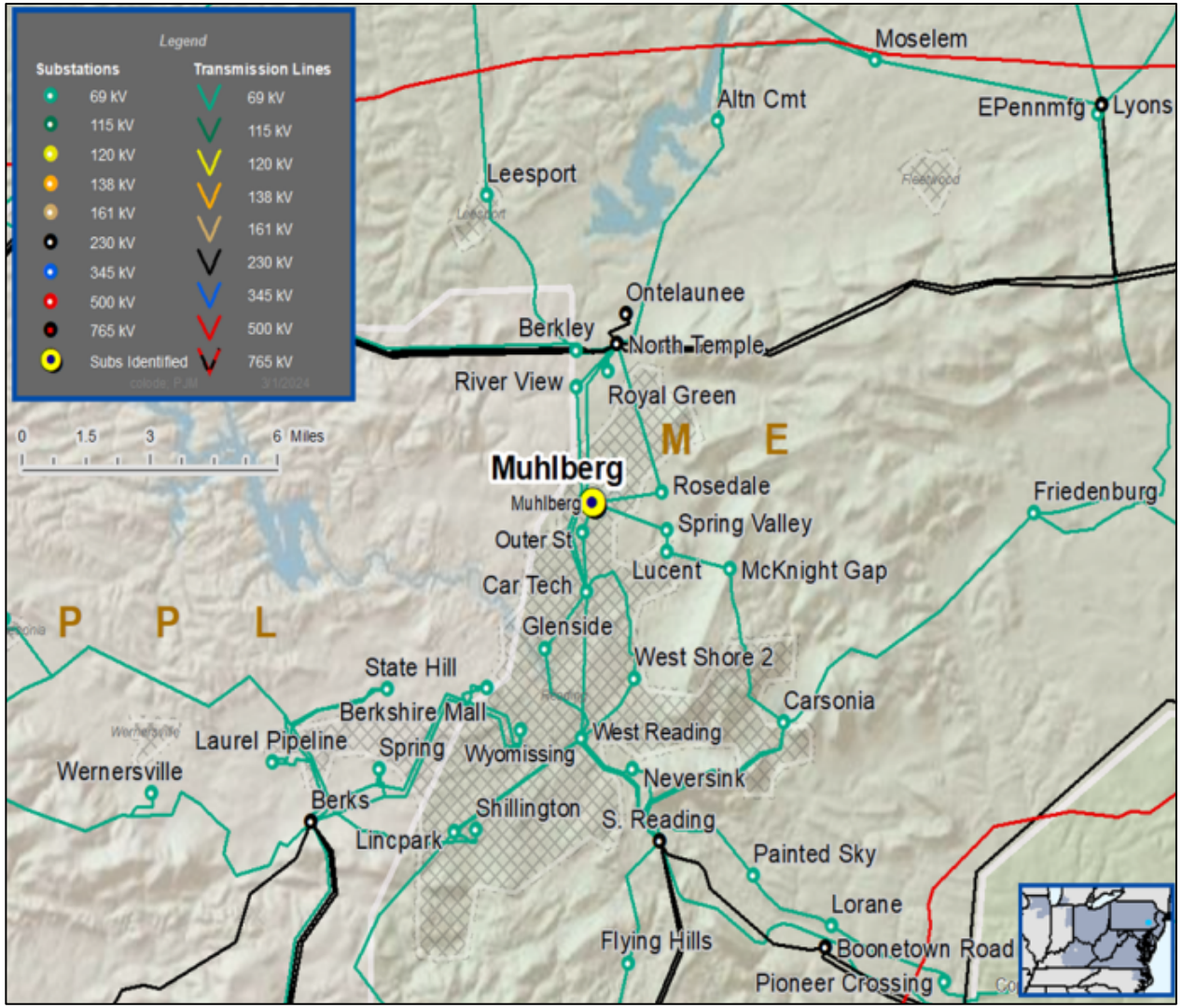
Specific Assumption Reference:

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:

- The loss of the Muhlenberg Substation interrupts service to approximately 3,000 customers with an estimated load of 33 MW. A stuck bus tie breaker can result in a total loss of supply at the Muhlenberg Substation.
- Muhlenberg Substation consists of:
  - Three networked 69 kV transmission lines
  - Three distribution transformers connected to the bus with switches
  - Bus tie breaker



MetEd Transmission Zone M-3 Process
Muhlenberg 69 kV Substation, PA

Need number: ME-2024-005

Process Stage: Solution Meeting –SRRTEP-MA – 03/18/2026

Proposed Solution:

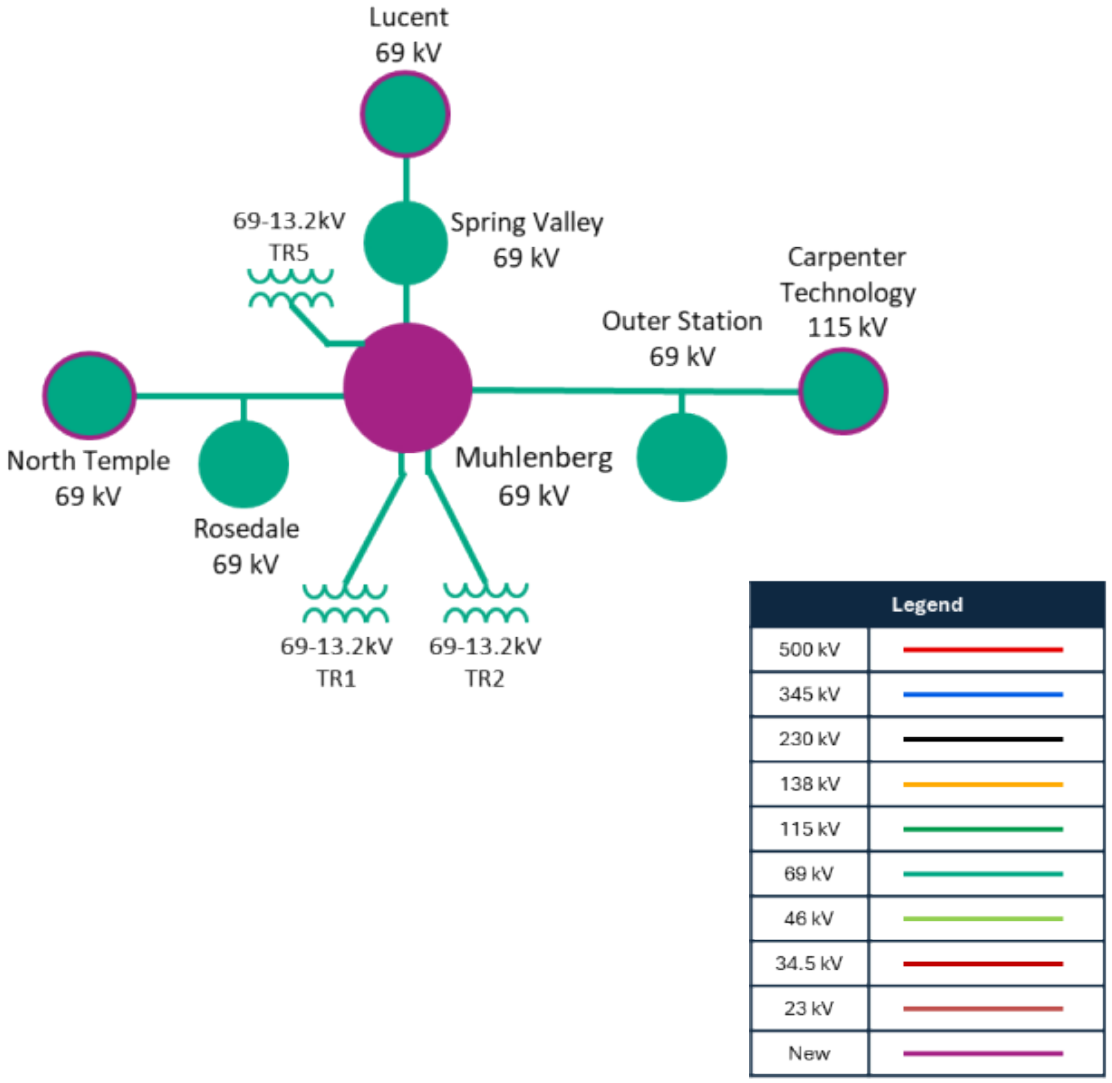
Convert Muhlenberg Substation into a nine-breaker 69 kV Breaker-and-a-Half substation.

- Install nine (9) new 69 kV circuit breakers, associated disconnect switches and relaying at Muhlenberg Substation.
- Replace three (3) existing transformer high-side breakers with new 69 kV circuit breakers
- Install one (1) new package control enclosure (PCE) within the new substation fence.
- Revise relay settings at North Temple, Carpenter Technology, and Lucent substations.
- Re-terminate the existing Carpenter Technology - Muhlenberg, Lucent - Muhlenberg, and Muhlenberg - North Temple 69 kV Lines into substation.

Alternatives Considered:

Maintain existing configuration with risk to customer reliability under contingency scenarios.

Estimated Project Cost:	$29.29M
Projected In-Service:	10/22/2027
Project Status:	Conceptual
Model:	2024 RTEP model for 2029 Summer (50/50)



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

03/06/2026 – V1 – Original version posted to pjm.com