FirstEnergy – MetEd – 2026
Submission of Supplemental Projects for Inclusion in the Local Plan

Met-Ed Transmission Zone M-3 Process
Round Top Substation

Need Number: ME-2023-020

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan

Previously Presented: Solution Meeting – 8/14/2025
Needs Meeting – 11/16/2023

Project Driver:

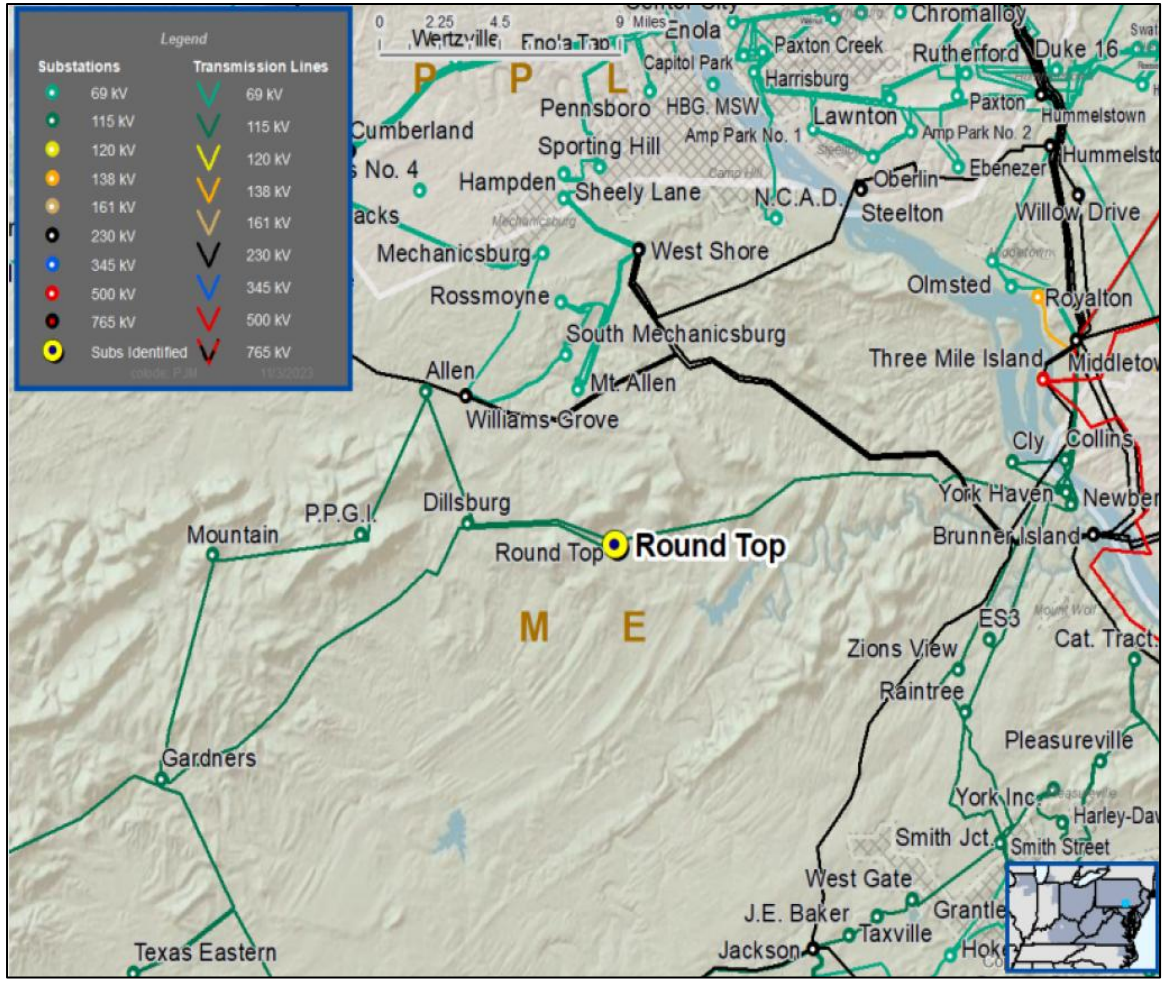
Operational Flexibility and Efficiency

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:
Round Top Substation can be outaged from a fault on the 115 kV bus, a fault on the No. 1 or No. 2 115-13.2 kV transformers, or a stuck breaker on the Allen, Newberry, or Dillsburg 115 kV line exits. Round Top Substation serves 2,540 customers and approximately 18.8 MW.



Met-Ed Transmission Zone M-3 Process
Round Top Substation

Need Number: ME-2023-020

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan

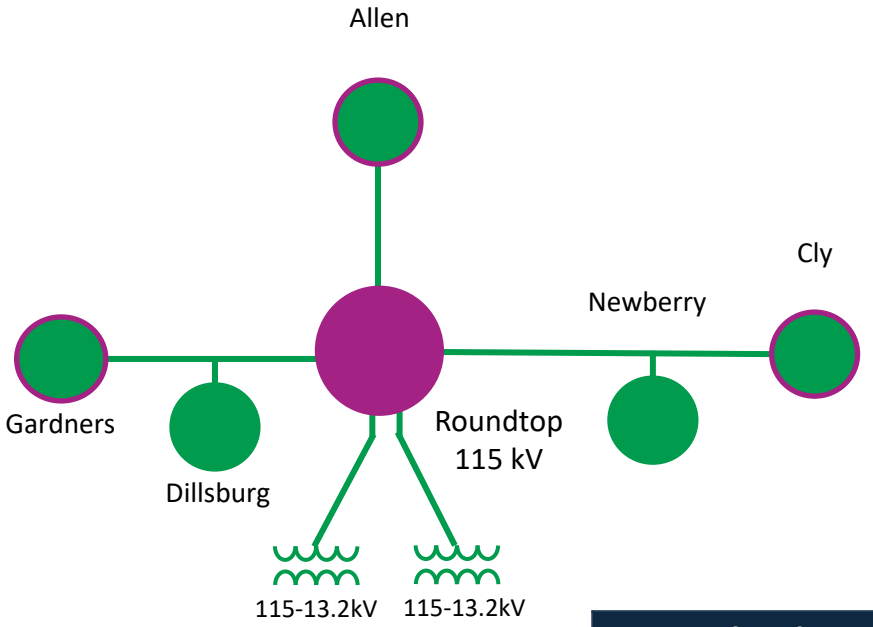
Selected Solution:

- Construct an eight-breaker breaker-and-a-half switchyard for the 115 kV bus at Roundtop Substation.
  - Install new 115 kV circuit breakers, associated disconnect switches and relaying at Roundtop Substation.
  - Replace one 115 kV capacitor bank and associated circuit breaker at Roundtop Substation.
  - Revise relay settings at Gardners, Cly, and Allen substations.

Estimated Project Cost: $22.1M

Projected In-Service: 6/2/2028

Supplemental Project ID: s3733.1



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

Met-Ed Transmission Zone M-3 Process
South Reading Substation

Need Number: ME-2023-025

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan

Previously Presented: Solution Meeting – 08/05/2025
Need Meeting – 12/05/2023

Project Driver:

Operational Flexibility and Efficiency

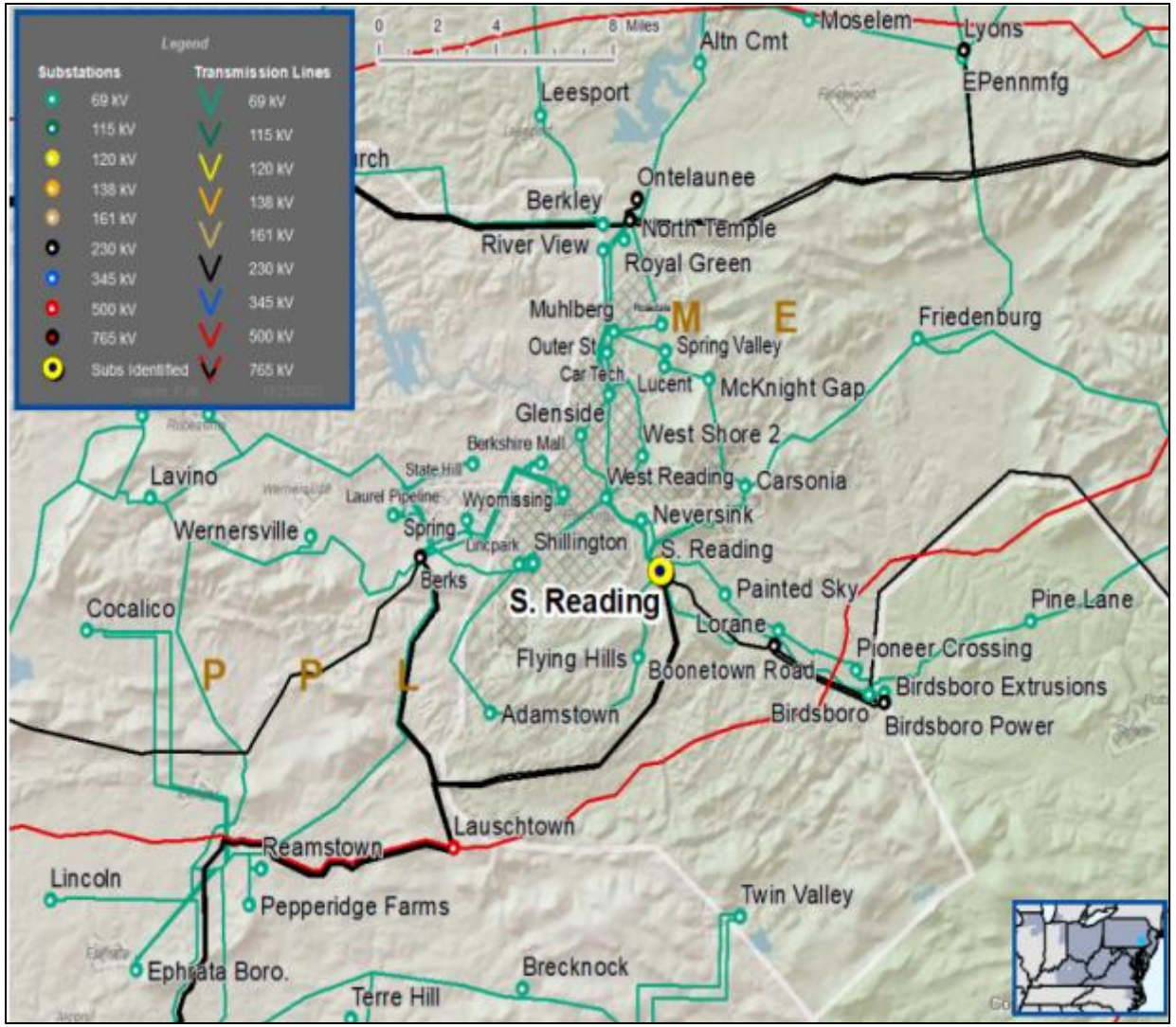
Specific Assumption Reference:

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:

South Reading Substation contains two 230 – 69 kV transformers. Upon the N-1-1 loss of both transformers, there is low voltage seen on the surrounding 69 kV network.



Met-Ed Transmission Zone M-3 Process
South Reading Substation

Need Number: ME-2023-025

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan

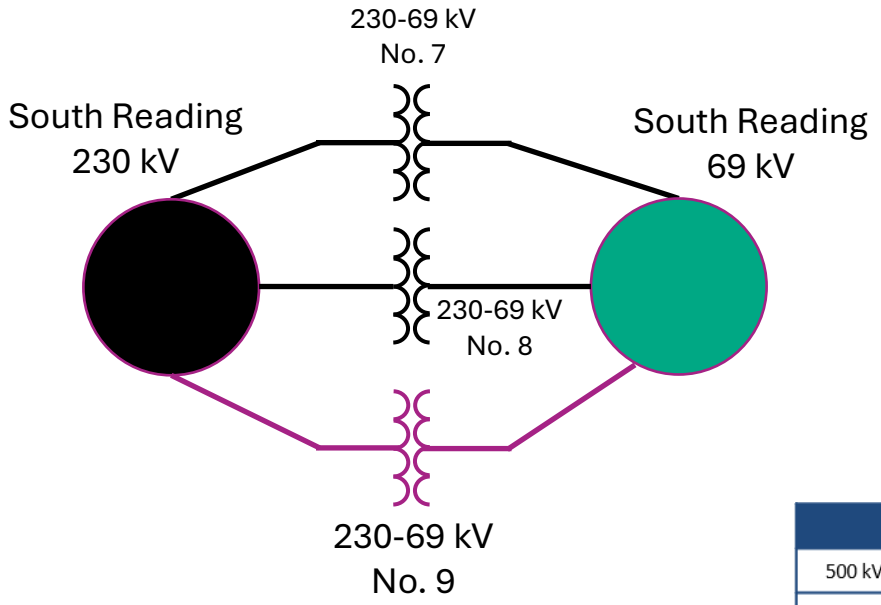
Selected Solution:

At South Reading Substation:

- Install a new No. 9 230-69 kV 224 MVA transformer
- Install a new 69 kV grounding transformer
- Install two new 230 kV circuit breakers and associated switches
- Install one new 69 kV circuit breaker and associated switches
- Install new relaying

Transformer Ratings:

- Before Proposed Solution: N/A
- After Proposed Solution: 328 / 400 / 371 / 474 MVA (SN/SSTE/WN/WSTE)



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

Estimated Project Cost: $20.4M

Projected In-Service: 11/15/2027

Supplemental Project ID: s3742.1

Met-Ed Transmission Zone M-3 Process
Carlisle Pike – Gardners 115 kV 976 Line

Need Number: ME-2024-008

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan

Previously Presented: Solution Meeting - 8/14/2025
Need Meeting - 5/16/2024

Project Driver:

Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

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 Carlisle Pike – Gardners 115 kV 976 Line was constructed approximately 69 years ago. The original poles were replaced in 1970. The conductor is original to the 1955 construction. The Met-Ed portion of this line is approximately 13.03 miles long with 96 wood H-frame transmission line structures.

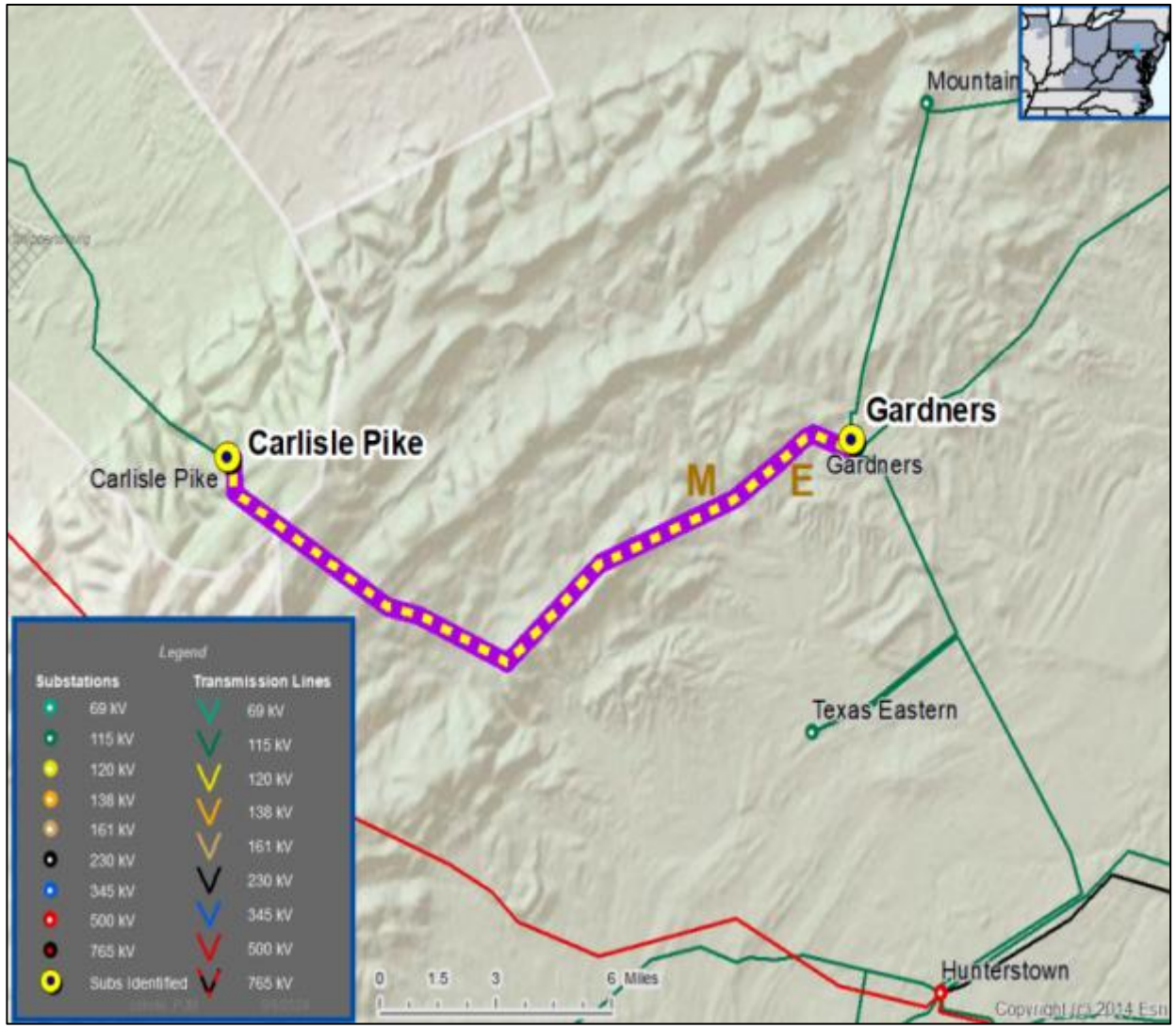
The Met-Ed portion of this line is exhibiting deterioration. Inspection findings include:

- Six structures are Phase-Raised.
- 26 structures failed sound test.
- 39 structures are 54 years old.

There have been three unscheduled sustained outages in the last five years, two attributed to line equipment.

The line is limited by terminal equipment.

- Existing Transmission Line Ratings:
  - 86 / 110 / 122 / 137 MVA (SN/SE/WN/WE)



Met-Ed Transmission Zone M-3 Process
Carlisle Pike – Gardners 115 kV 976 Line

Need Number: ME-2024-008

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan

Selected Solution:

Carlisle Pike-Gardners 115 kV 976 Line Rebuild

- Rebuild 13.0 miles of transmission line with new conductor
- At Gardners Substation, replace circuit breaker, disconnect switches, and wave trap

Transmission Line Ratings:

Carlisle Pike – Gardners 115 kV 976 Line

- Before Proposed Solution: 86 / 110 / 122 / 137 MVA (SN/SE/WN/WE)
- After Proposed Solution: 232 / 282 / 263 / 334 MVA (SN/SE/WN/WE)

Estimated Project Cost: $32.35M

Projected In-Service: 12/21/2029

Supplemental Project ID: s3743.1

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

Revision History

01/05/2026 – V1
s3733 s3742 s3743