Subregional RTEP Committee - Mid-Atlantic
FirstEnergy Supplemental Projects

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

Met-Ed Transmission Zone M-3 Process
Violet Hill, PA

Need Number: ME-2025-002

Process Stage: Need Meeting – 8/14/2025

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
- Substation and line equipment limits

Problem Statement:

A line fault, transformer fault, bus fault or a stuck breaker at Violet Hill Substation results in the loss of the entire substation. Violet Hill Substation serves 5,500 customers and approximately 42 MW.

Transmission line ratings are limited by terminal equipment.

• Violet Hill - Mt Rose 115 kV Line

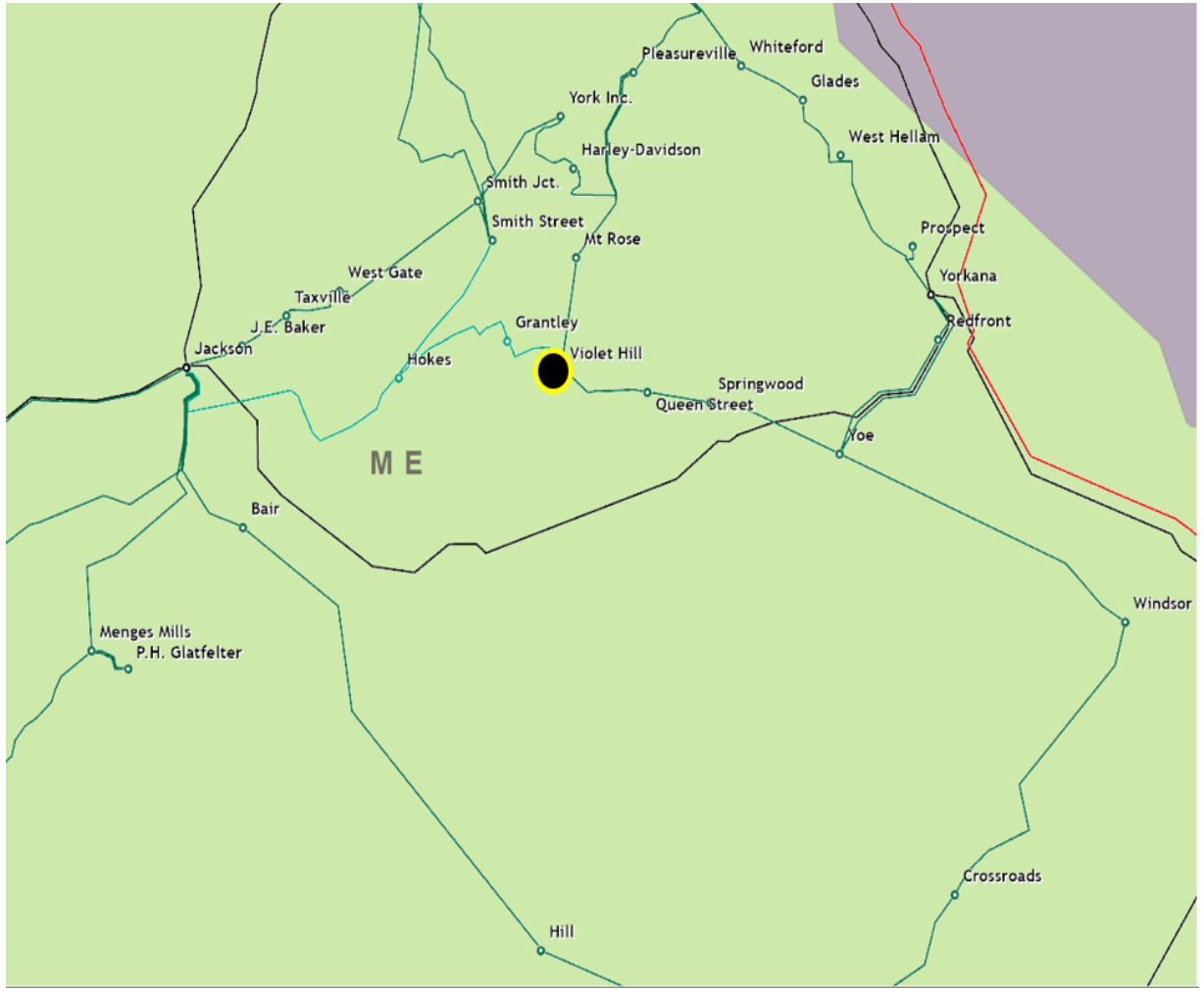
• Existing Line Ratings: 232 / 262 / 263 / 286 MVA (SN/SE/WN/WE)

• Conductor Ratings: 232 / 282 / 263 / 334 MVA (SN/SE/WN/WE)

Violet Hill - Queen Street 115 kV Line

• Existing Line Ratings: 221 / 263 / 263 / 301 MVA (SN/SE/WN/WE)

• Conductor Ratings: 232 / 282 / 263 / 334 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

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

Need Number: ME-2023-020

Process Stage: Solution Meeting – 8/14/2025

Previously Presented: Needs Meeting – 11/16/2023

Project Driver:

Operational Flexibility and Efficiency

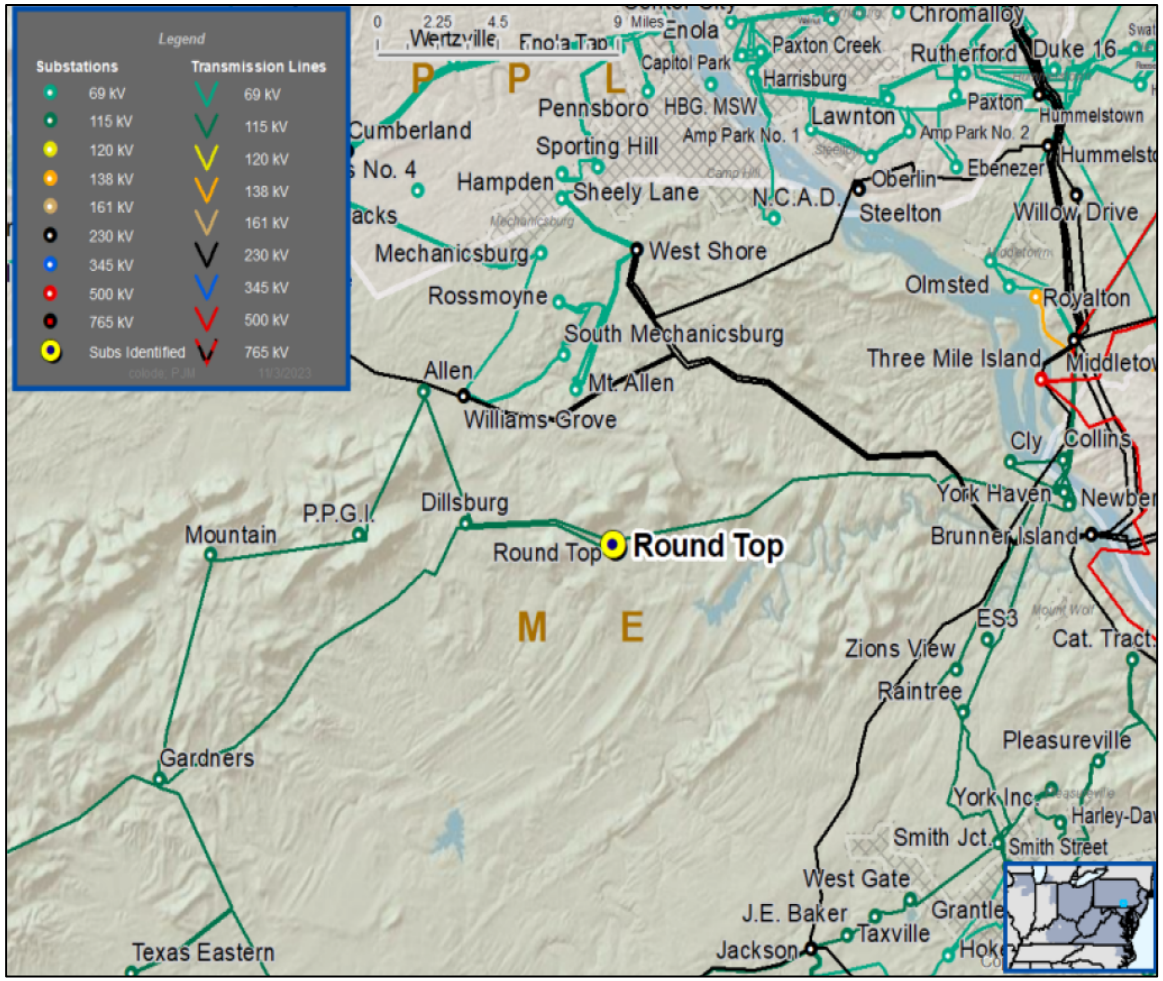
Specific Assumption Reference:

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: Solution Meeting – 8/14/2025

Proposed 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.

Alternatives Considered:

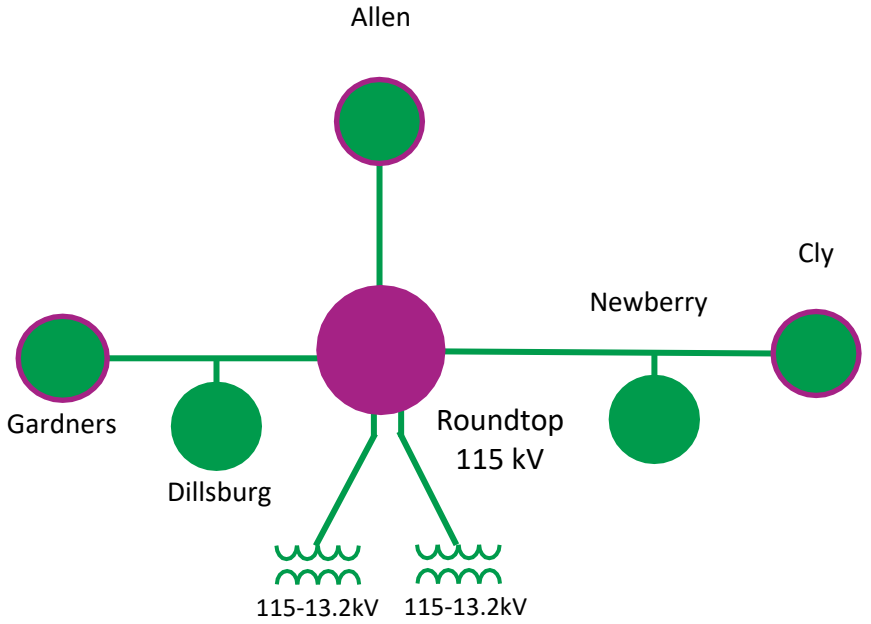
- Maintain existing configuration with risk to customer reliability under contingency scenarios.

Estimated Project Cost: $22.1M

Projected In-Service: 6/2/2028

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	

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

Need Number: ME-2024-008

Process Stage: Solution Meeting - 8/14/2025

Previously Presented: 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.

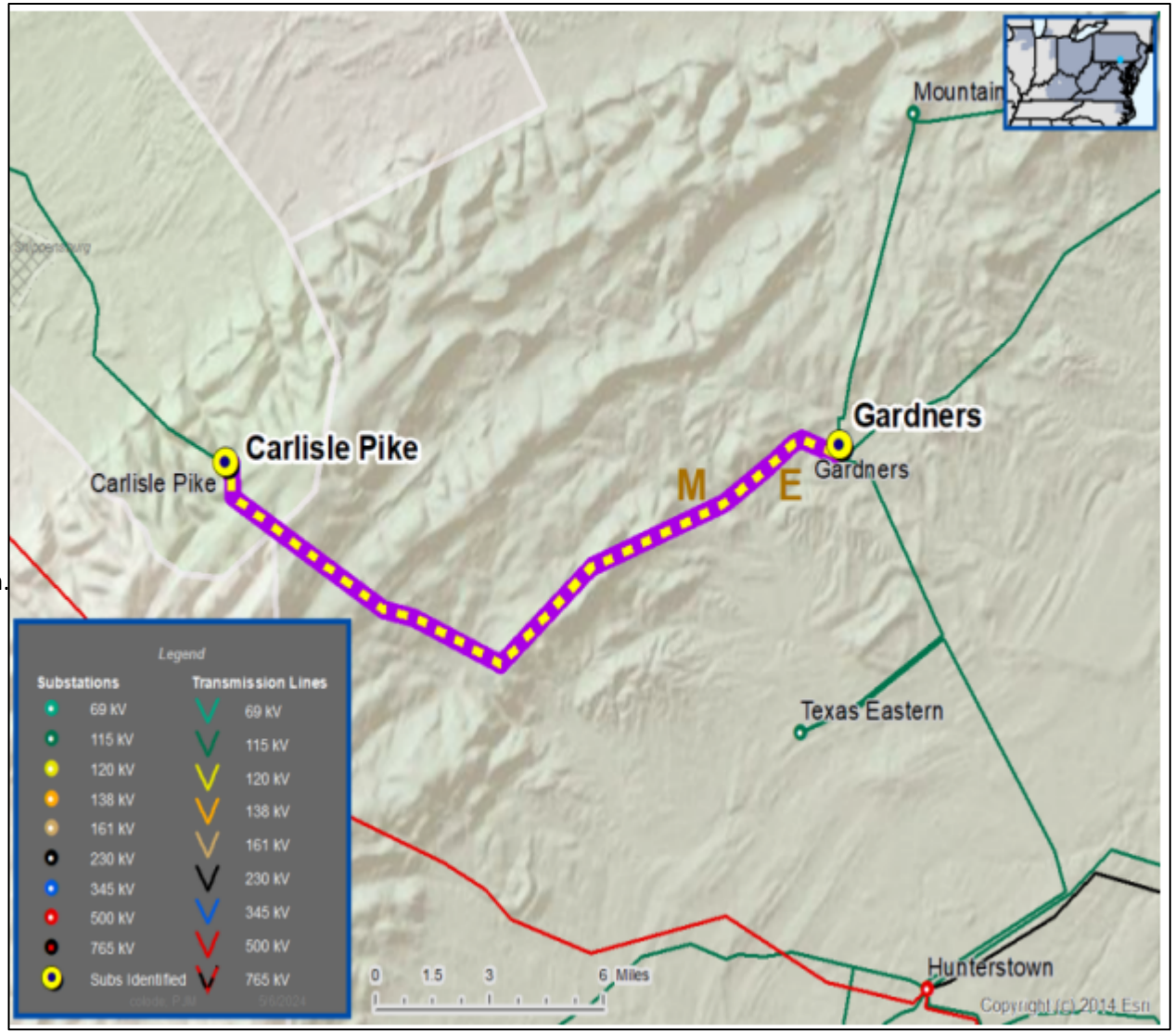
The Met-Ed portion of this line is exhibiting deterioration. Inspection findings include:

- 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: Solution Meeting - 8/14/2025

Previously Presented: Need Meeting - 5/16/2024

Proposed 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)

Alternatives Considered:

- Maintain existing structures with increased risk of failure due to deteriorated condition.

Estimated Project Cost: $32.35M

Projected In-Service: 12/21/2029

Project Status: Conceptual

Model: 2024 Series 2029 RTEP Summer 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

08/04/2024 – V1 – Original version posted to pjm.com