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

Penelec Transmission Zone M-3 Process
Hill Valley, PA/Huntingdon, PA/Raystown, PA

Need Number: PN-2025-004

Process Stage: Need Meeting 08/14/2025

Previously Presented: Need Meeting 05/16/2024

Project Driver:

Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

System Performance Global Factors

- Substation/line equipment limits
- System reliability and performance
- Transmission line switches
- Increasing negative trend in maintenance findings and/or costs
- Limited availability of spare parts and/or vendor technical support

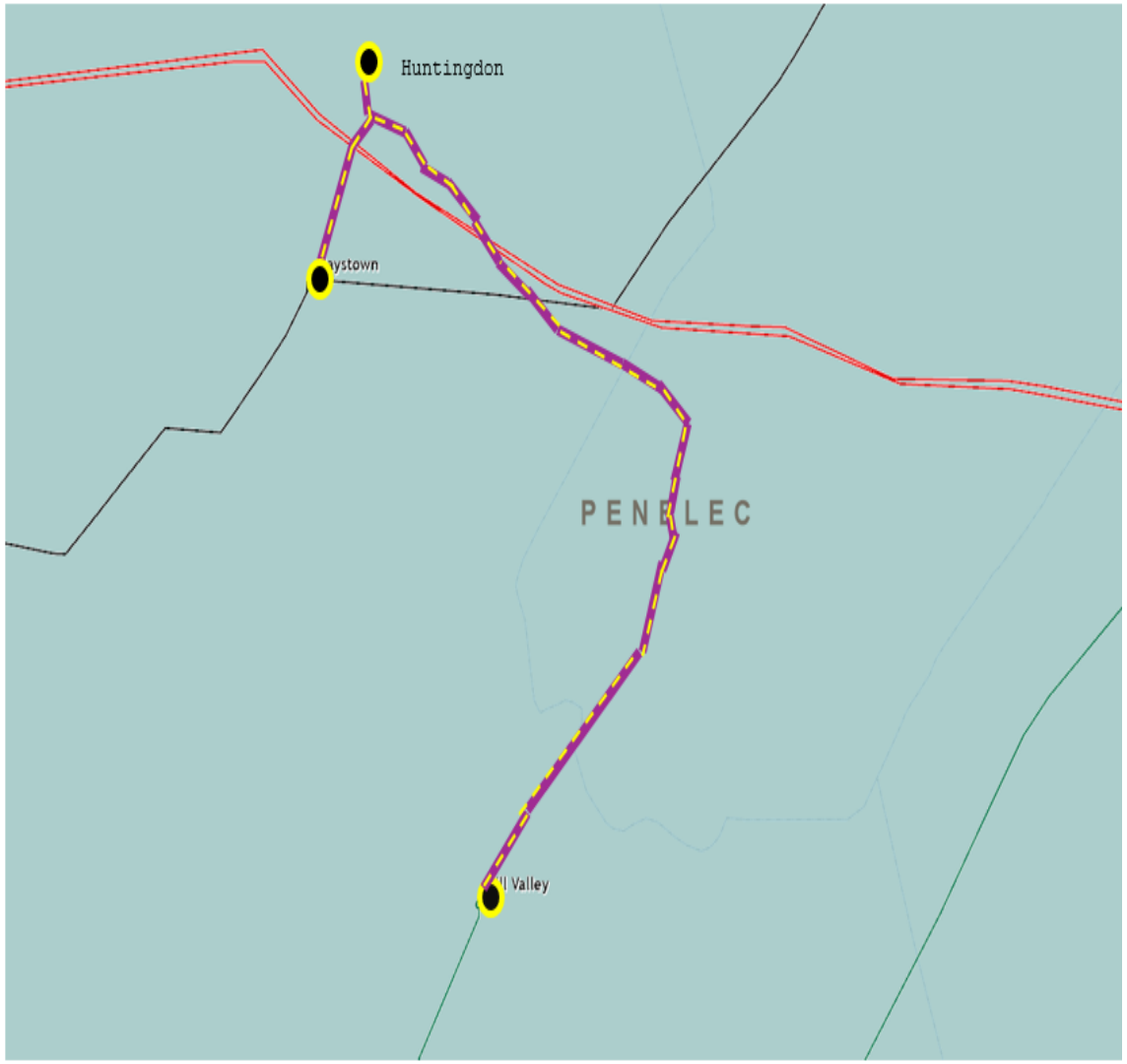
Problem Statement:

On the Hill Valley - Huntingdon - Raystown 46 kV RAC Line, there are three transmission line switches A-126, A-127 and A-128 that are approximately 60 years old. The switches are inoperable and obsolete. The A-126 and A-127 switches are located at the C Tap. Switch A-128 is located at the PA Glass and Sand Tap. Replacement components are difficult to source leading to non-standard repairs. The line is currently limited by the A-127 and A-128 transmission line switches.

C Tap - PA Glass and Sand Tap 46 kV Line:

• Existing Ratings: 55 / 69 / 67 / 83 MVA (SE/SN/WN/WE)

• Conductor Ratings: 59 / 71 / 67 / 85 MVA (SE/SN/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

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

Need Number: PN-2024-017

Process Stage: Solution Meeting 8/14/2025

Previously Presented: Need Meeting 05/16/2024

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 Penelec portion of this line is approximately 7.55 miles long with 71 wood H-frame transmission line structures.

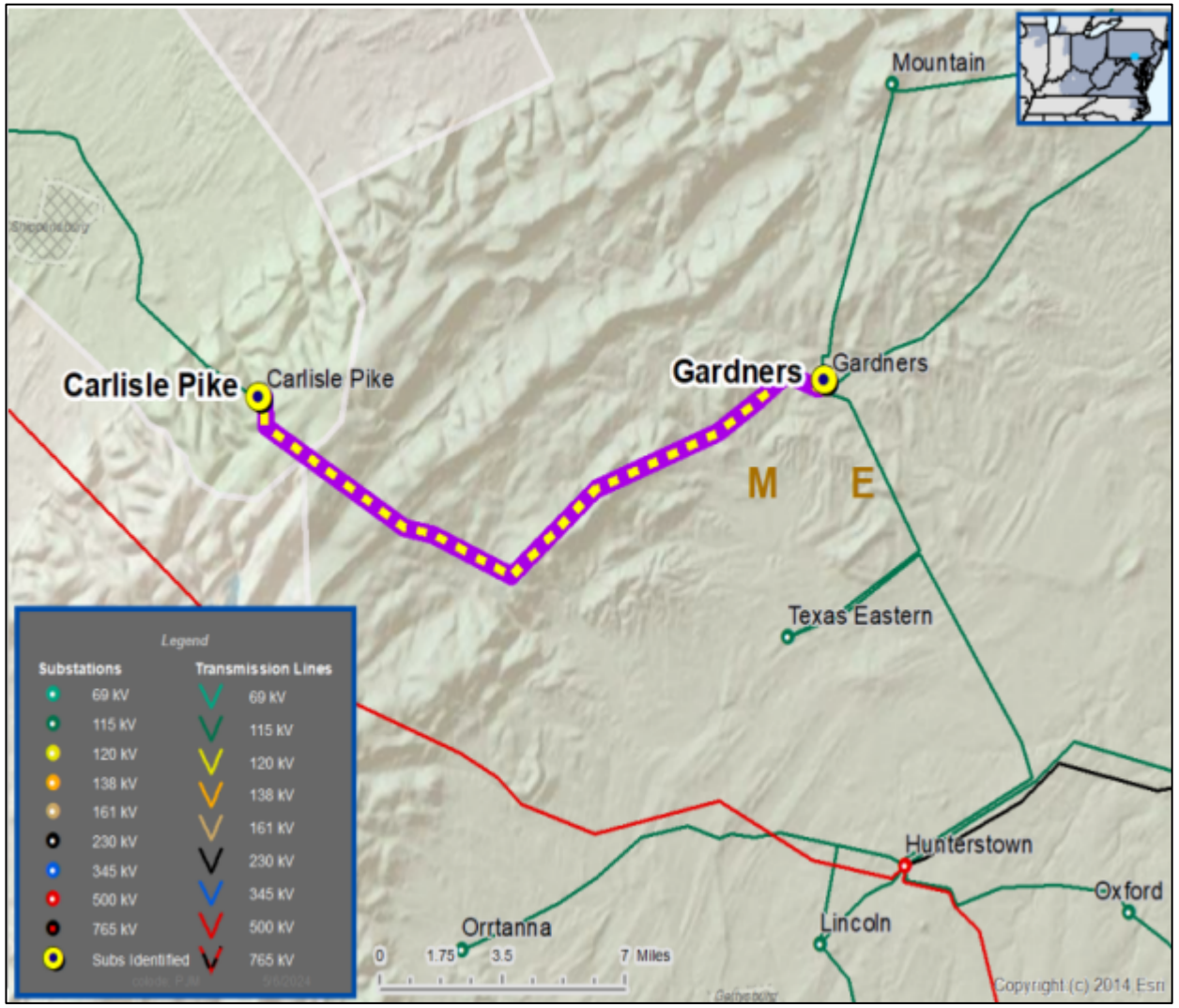
The Penelec portion of this line is exhibiting deterioration. Inspection findings include:

- 16 structures are Phase-Raised.
- 18 structures failed sound test.
- 54 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)



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

Need Number: PN-2024-017

Process Stage: Solution Meeting 08/14/2025

Proposed Solution:

Carlisle Pike-Gardners 115 kV 976 Line Rebuild

- Rebuild 7.55 miles of transmission with new conductor

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 structures.

Estimated Project Cost: $20.5M

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	

Penelec Transmission Zone M-3 Process
Raystown, PA

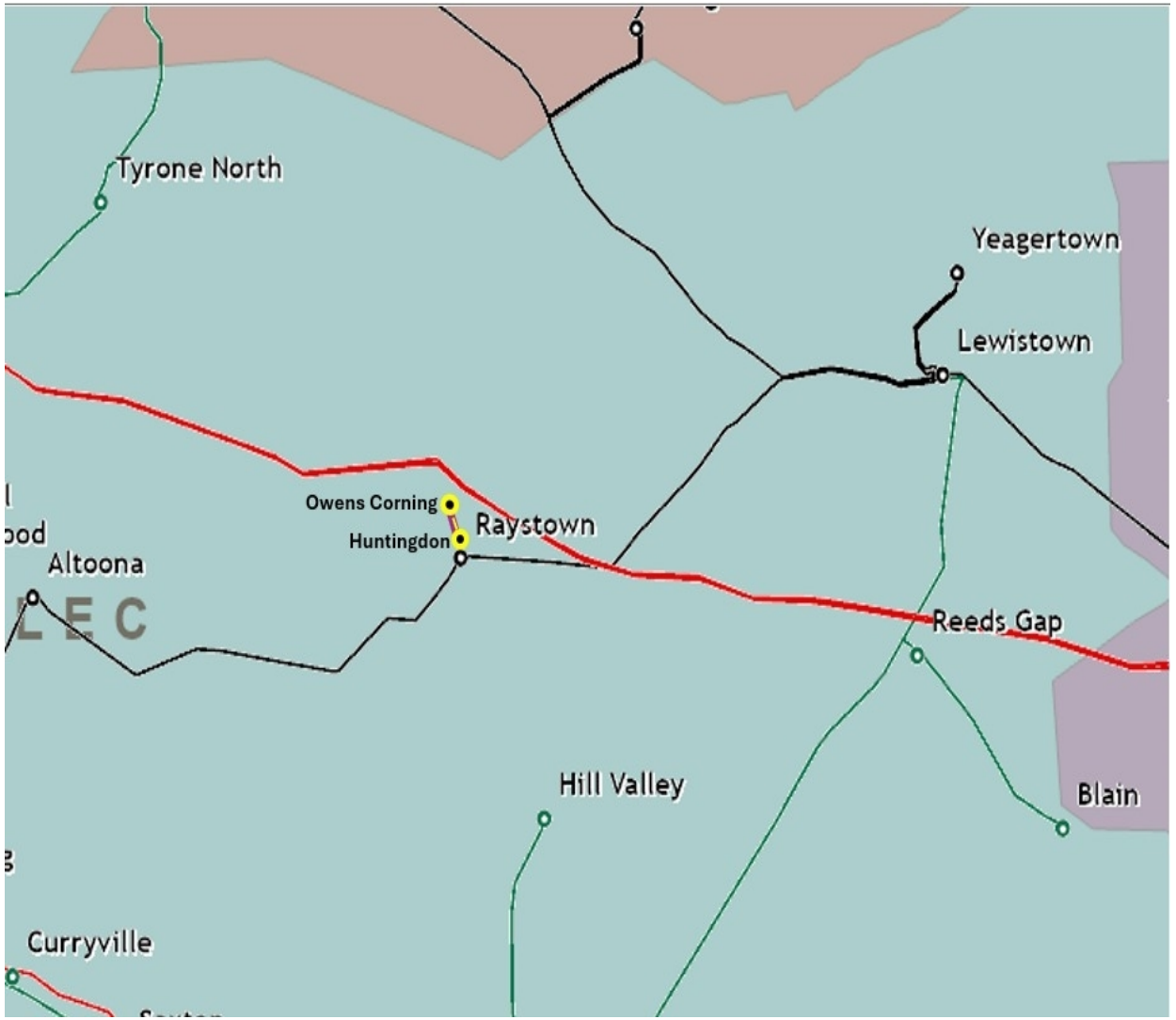
Need Number: PN-2025-003
Process Stage: Solution Meeting: 8/14/2025
Previously Presented: Need Meeting 06/12/2025

Project Driver: Equipment Condition/Performance/Risk
Specific Assumption References:
Line Condition Rebuild/Replacement
Age/condition of wood pole transmission line structures

Problem Statement:
The Owens Corning (Huntingdon) 46 kV OC Line was constructed approximately 70 years ago and is approaching end of life. The radial line is 0.39 miles in length and serves 3 substations.

Per recent inspection, safety concerns were identified in seven spans as this circuit passes above and adjacent to several buildings.

Existing Transmission Line Ratings:
24/24/26/26 MVA (SN/SE/WN/WE)



Penelec Transmission Zone M-3 Process
Raystown, PA

Need Number: PN-2025-003

Process Stage: Solution Meeting: 08/14/2025

Proposed Solution:

- Remove the existing back up feed and tap switches to Owens Corning
- Install four new 46 kV switches
- Rebuild the line from the new tap to Owens Corning No. 1 (~0.09 miles)
- Rebuild the Huntingdon – Owens Corning No. 3 46 kV line (~0.3 miles)
- Build a new line from Owens Corning No. 3 to the Huntingdon-Warrior Ridge 46 kV Line (~0.2 miles) and operate as normally open

Transmission Line Ratings:

Huntingdon – Owen Tap 46 kV Line:

- After Proposed Solution: 50 / 50 / 50 / 50 MVA (SN/SE/WN/WE)

Owen Tap – WRH Tap 46 kV Line:

- After Proposed Solution: 93 / 113 / 105 / 134 MVA (SN/SE/WN/WE)

Huntingdon – Owen Corning No. 1 46 kV Line:

- After Proposed Solution: 93 / 113 / 105 / 134 MVA (SN/SE/WN/WE)

Owen Corning No. 1 – Owen Corning No. 2 and No. 3 46 kV Line:

- After Proposed Solution: 93 / 113 / 105 / 134 MVA (SN/SE/WN/WE)

Owen Corning No. 2 and No. 3 – Warrior Ridge 46 kV Line:

- After Proposed Solution: 93 / 113 / 105 / 134 MVA (SN/SE/WN/WE)

Alternatives Considered:

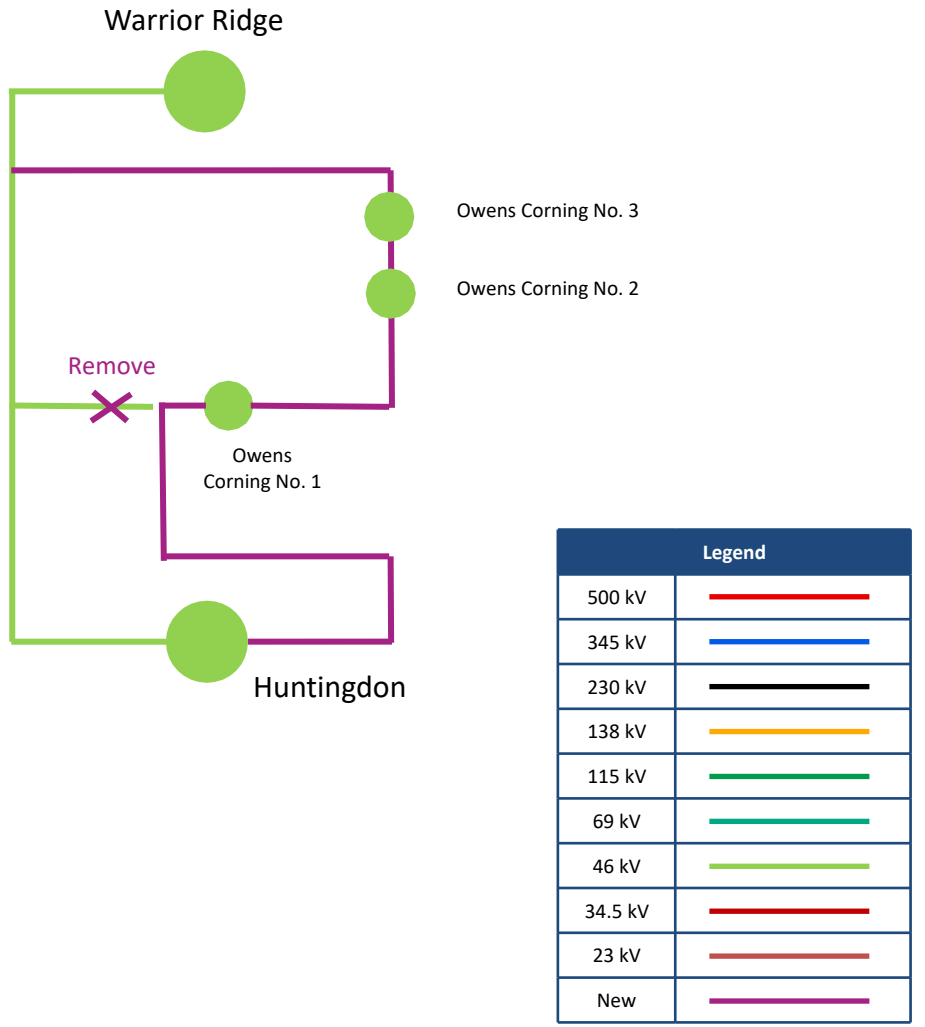
Maintain line in existing condition with elevated risk of failure due to aging equipment.

Estimated Project Cost: $5.1M

Projected In-Service: 3/26/2026

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

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