

Sub-Regional RTEP Committee – Mid-Atlantic FirstEnergy Supplemental Projects Cancellations

November 17, 2022

Penelec Transmission Zone M-3 Process

Tiffany - Thompson 115 kV line: Pentagon 115 kV Tap - Cancellation

Supplement Number: s1351

- Need presented 4/25/2017
- Solution presented 6/9/2017

Cancellation Reason:

- The customer is not progressing with the intended load addition.
- No facilities have been constructed to date.

Further Explanation:

- The creation of Warriner Pond substation (b3245, ISD: 6/1/2025) replaces the termination of the Thompson line at Tiffany.

Transmission Line Ratings:

▪ **As Modeled Currently (2027 RTEP)**

Warriner Pond – Pentagon 115 kV

- 133 / 160 MVA (SN / SE)

Pentagon - Thompson 115 kV

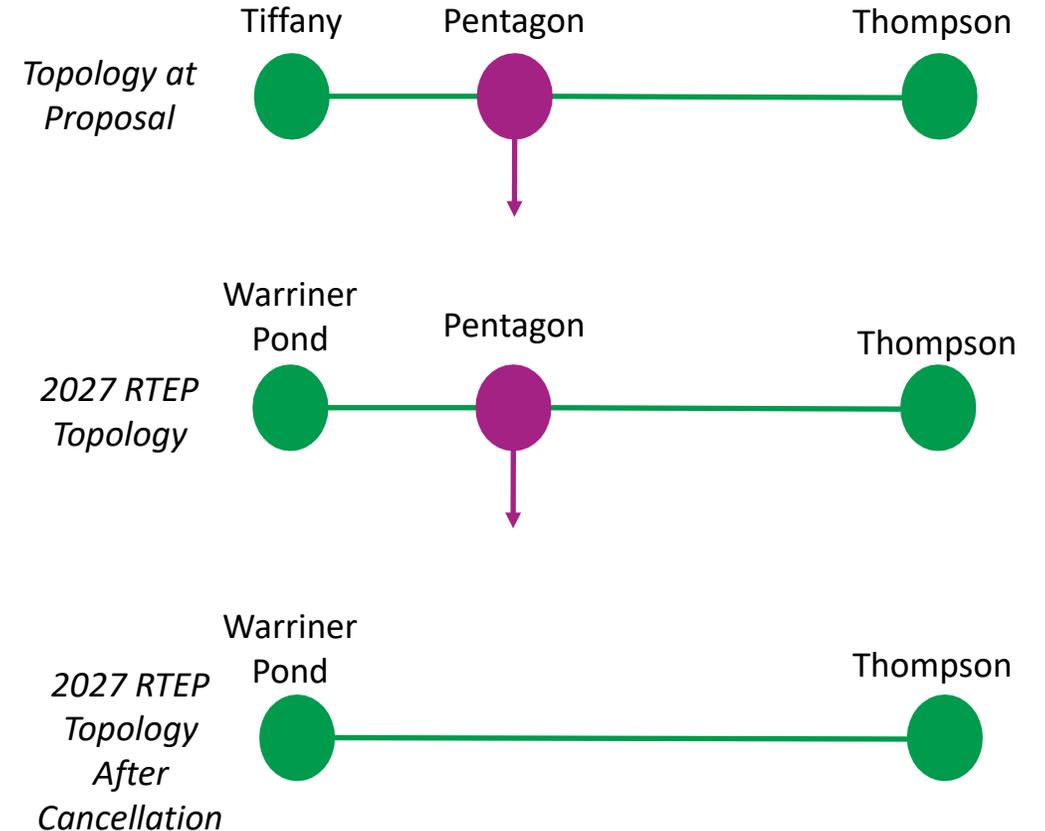
- 125 / 147 MVA (SN / SE)

▪ **After Cancellation**

Warriner Pond – Thompson 115 kV

- 133 / 160 MVA (SN / SE)

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



FOR REFERENCE

- Solution Presented on 6/9/2017

Supplemental Upgrade:

Tiffany - Thompson 115 kV line: Pentagon 115 kV Tap

Previously presented: 4/25/2017

Problem Statement:

Provide 115 kV service to new customer. Anticipated load is 13 MVA (0.97 pf) in New Milford, PA.

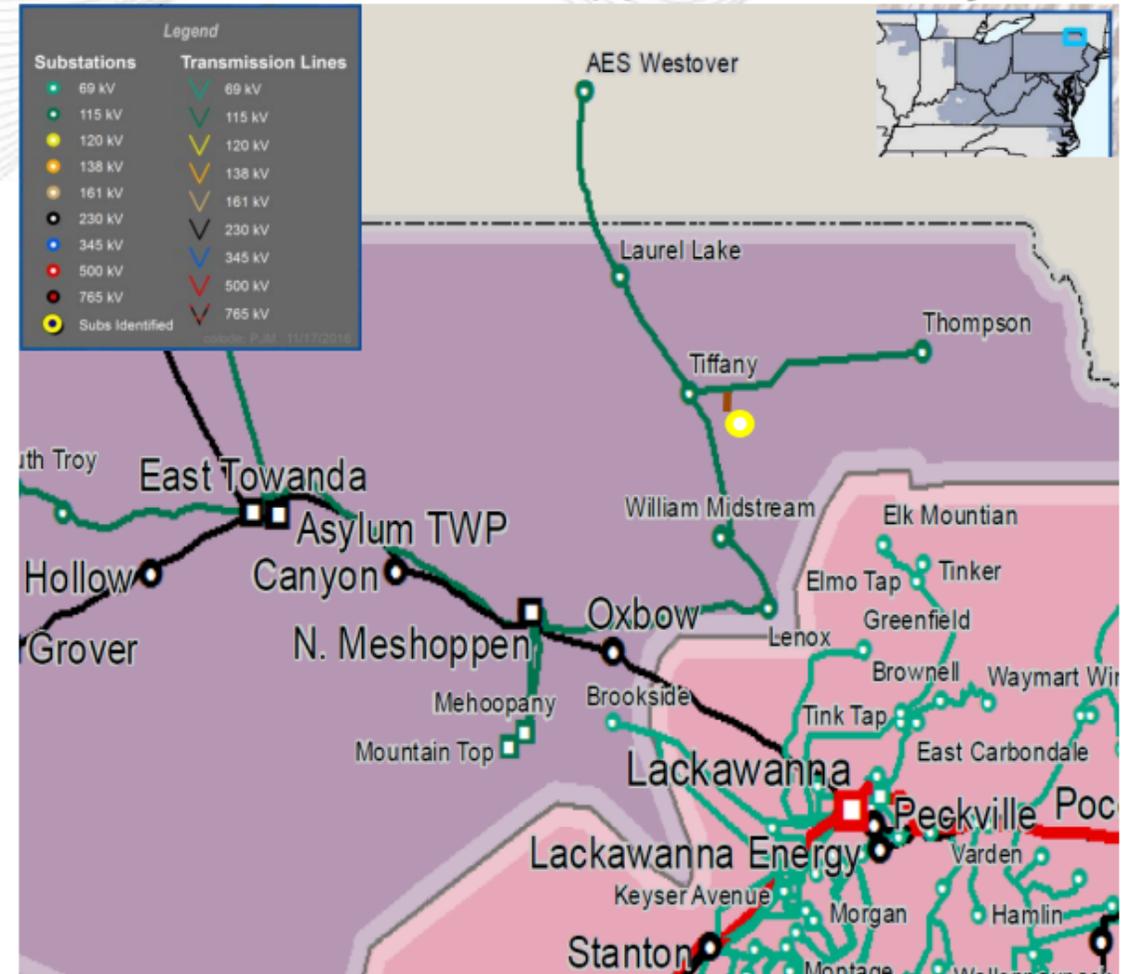
Recommended Solution :

- Tap the Tiffany - Thompson 115 kV line.
- Install (2) 115kV disconnects with SCADA.
- Install (1) revenue meter.
- Install (1) span (length~200ft) to the interconnection point.

Estimated Project Cost: \$0.8 M

Projected IS Date: 12/31/2017

Project Status: Engineering



Supplement Number: s1770

- Need presented 9/21/2018
- Solution presented 10/29/2018

Cancellation Reason:

- A subsequent inspection of the line yielded a lower priority in relation to other facilities that are now inspected.
- No upgrades have been constructed to date.

Transmission Line Ratings:

▪ **As Modeled Currently (2027 RTEP)**

Penn Mar – High Point 115 kV

- 273 / 333 MVA (SN / SE)

High Point - Rockwood 115 kV

- 260 / 311 MVA (SN / SE)

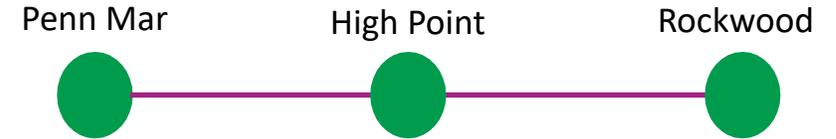
▪ **After Cancellation (Existing)**

Penn Mar – High Point 115 kV

- 148 / 179 MVA (SN / SE) – Line Limited

High Point - Rockwood 115 kV

- 148 / 179 MVA (SN / SE) – Line Limited



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

FOR REFERENCE

- Need Presented on 9/21/2018

Need Number: PN-2018-002

Process Stage: Solutions Meeting

Need Presented: 9/21/2018

Project Driver(s):

Equipment Material Condition, Performance and Risk

Specific Assumption Reference(s)

Line Condition Rebuild/Replacement

- Equipment characteristics are near or beyond existing service life or contain components that are obsolete.

Substation/Line Equipment Limits

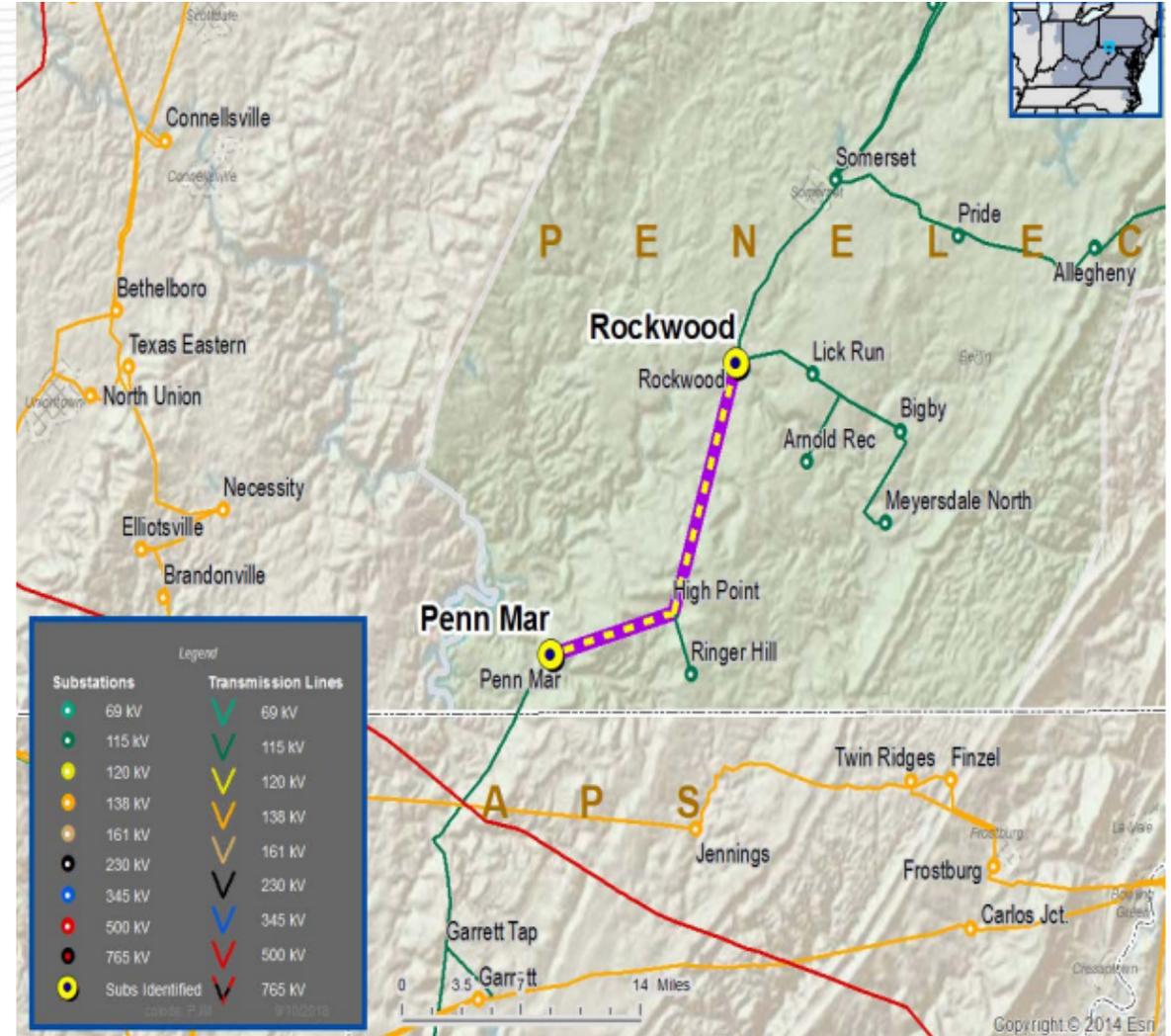
- Consider upgrading transmission line equipment (switches, conductor, splices, etc.) as well as terminal and protection equipment to meet or exceed the transmission line conductor rating.

Reconductor/Rebuild Transmission Lines

- Transmission lines with high loading while factoring in its overall condition assessment.

Problem Statement

- Entire Penn Mar-Rockwood 115 kV line is at or beyond service life. Transmission line loading exceeds 90% under N-1 contingency.
- Transmission line rating limited by terminal equipment.
- Penn Mar – High Point 115 kV line: Existing emergency line rating is 174 MVA. Existing conductor emergency rating is 179 MVA.
- High Point – Rockwood 115 kV line: Existing emergency line rating is the existing conductor emergency rating.



FOR REFERENCE

- Solution Presented on 10/29/2018

Need Number: PN-2018-002

Proposed Solution:

Penn Mar – High Point – Rockwood 115 kV Line Rebuild

- Rebuild/reconductor approximately 14.8 miles of wood pole construction
- Rockwood 115 kV Substation*
 - Adjust CT ratios and replace substation conductor and breaker disconnect
- Penn Mar 115 kV Substation*
 - Adjust relaying and replace CTs, substation conductor, line drops, circuit breaker and disconnect switches

Transmission Line Ratings:

- Penn Mar – High Point 115 kV Line
 - Before Proposed Solution: 137 MVA SN / 174 MVA SE
 - After Proposed Solution: 273 MVA SN / 333 MVA SE
- High Point – Rockwood 115 kV Line
 - Before Proposed Solution: 148 MVA SN / 179 MVA SE
 - After Proposed Solution: 260 MVA SN / 311 MVA SE

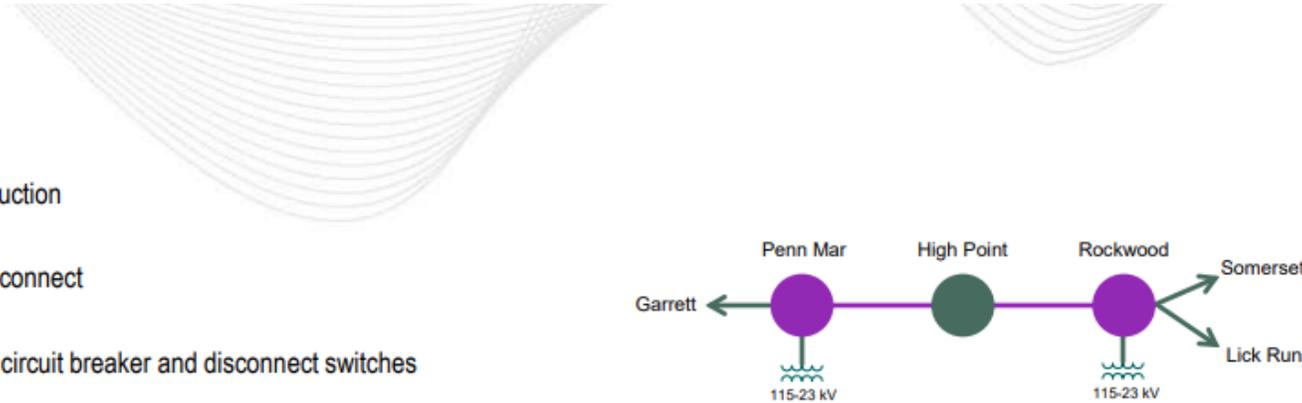
Alternatives Considered:

- Maintain existing condition and elevated risk of failure

Estimated Project Cost: \$29.3M

Projected IS Date: 6/1/2020

Status: Conceptual



Legend	
500 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
New	

Revision History

11/7/2022 – V1 – Original version posted to pjm.com