

# Subregional RTEP Committee – Mid-Atlantic FirstEnergy (Penelec) Supplemental Projects

September 14, 2023

# 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

**Need Number:** PN-2023-010

**Process Stage:** Need Meeting – 09/14/2023

**Project Driver:**

Equipment Material Condition, Performance, and Risk  
Infrastructure Resilience

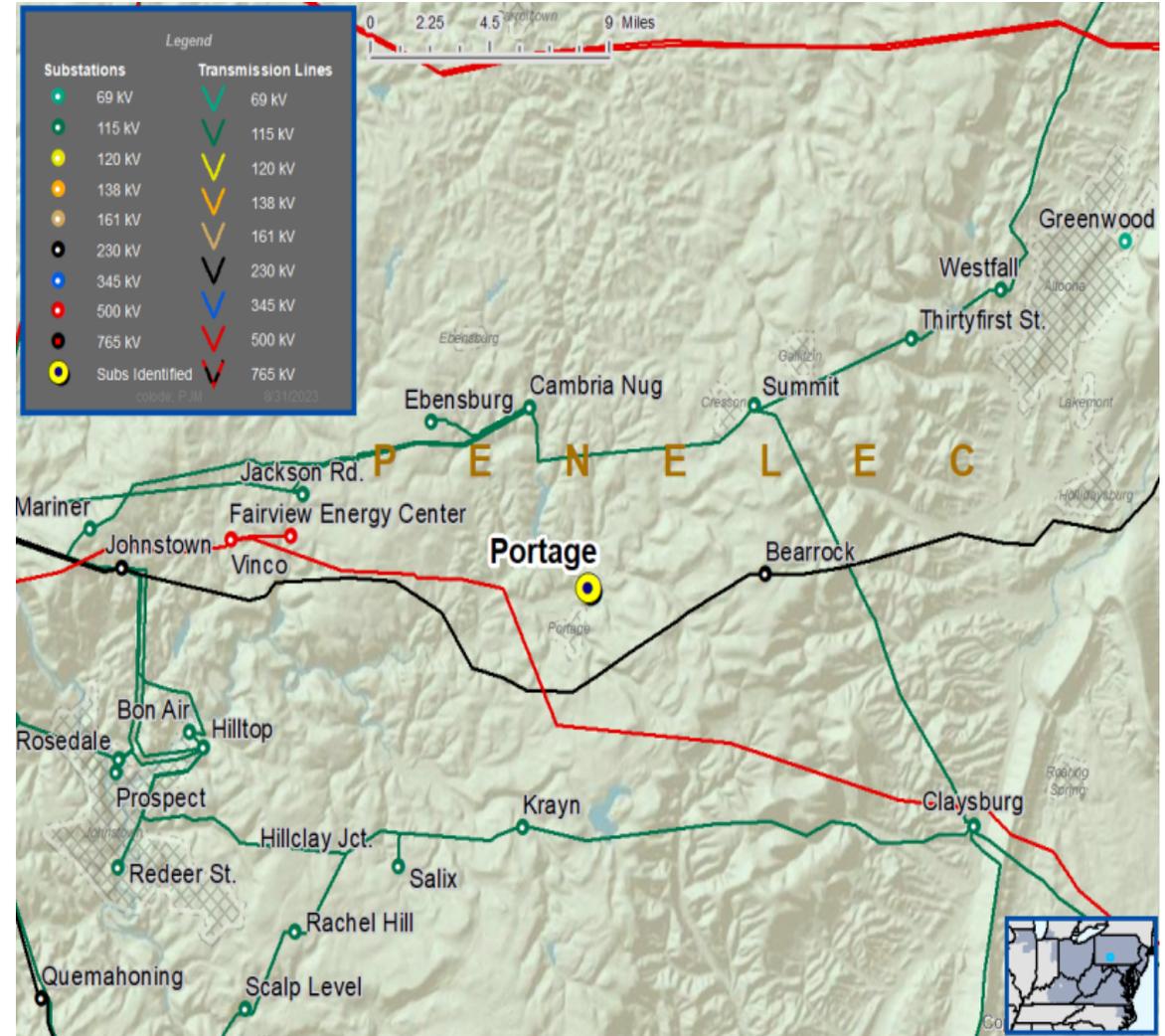
**Specific Assumption Reference:**

Substation Condition Rebuild/Replacement

- Increasing negative trend in maintenance findings and/or costs
- Failure risk, to the extent caused by asset design characteristics, or historical industry/company performance data, or application design error
- Expected service life (at or beyond) or obsolescence

**Problem Statement:**

- The 46 kV bus, insulators, and wood structures at Portage Substation are old and deteriorated.
- The Lilly, Bus Section, and Wilmore Jct. MOABs at Portage Substation have increasing maintenance concerns, deteriorated operating mechanisms, and increasing maintenance trends. The Lilly MOAB is currently inoperable.
  - There are no records of the manufacturer or age of the switches.



**Need Numbers:** PN-2023-014, PN-2023-015

**Process State:** Need Meeting 09/14/2023

**Project Driver:**

*Equipment Material Condition, Performance and Risk*

**Specific Assumption Reference:**

System Performance Projects Global Factors

- System reliability and performance
- Substation/line equipment limits

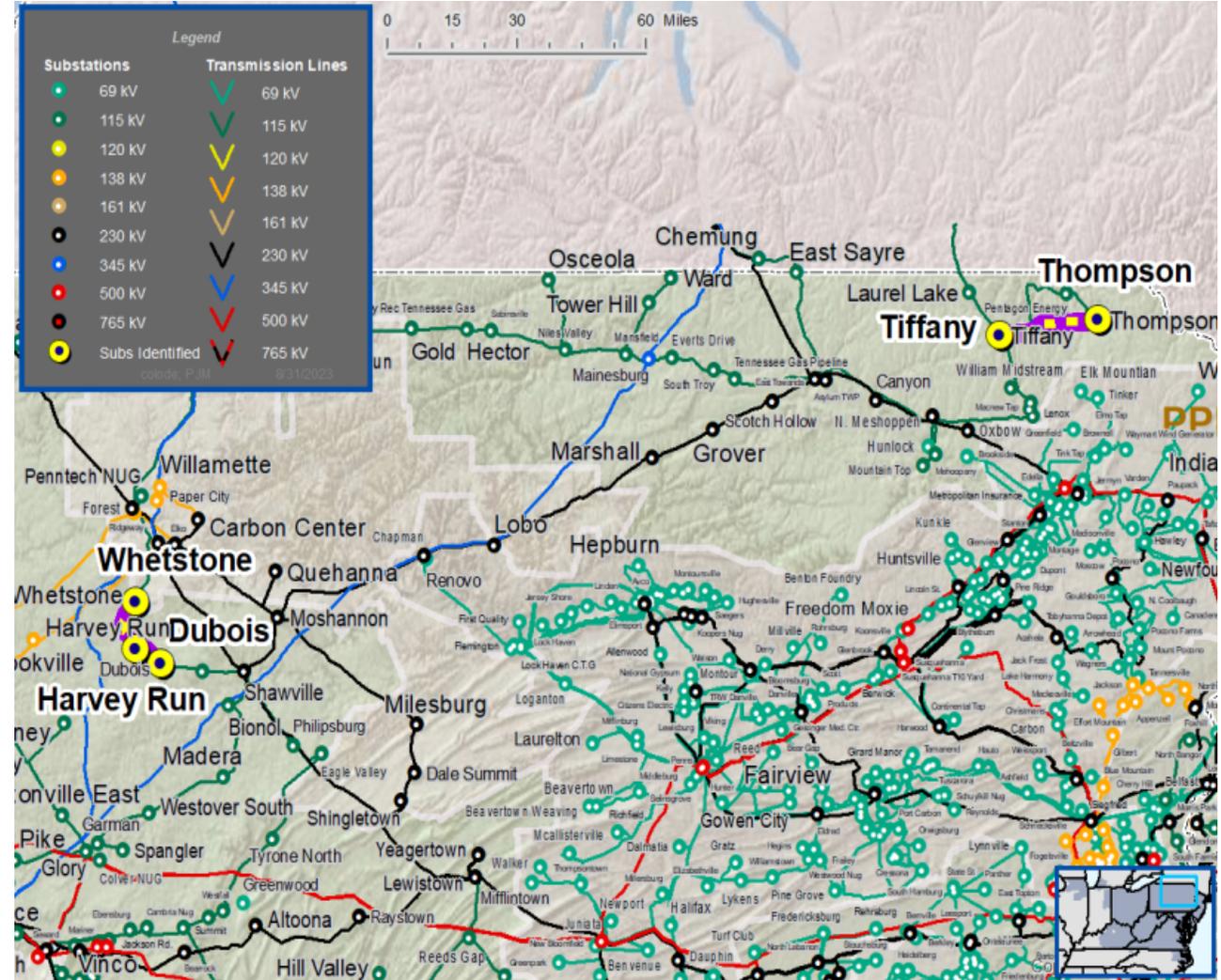
**Upgrade Relay Schemes**

- Obsolete and difficult to repair communication equipment (DTT, Blocking, etc.)
- Communication technology upgrades

**Problem Statement:**

- FirstEnergy has identified protection schemes using a certain vintage of relays and communication equipment that have a history of misoperation.
- Proper operation of the protection scheme requires all the separate components perform adequately during a fault.
- In many cases the protection equipment cannot be repaired due to a lack of replacement parts and available expertise in the outdated technology.
- Transmission line ratings are limited by terminal equipment.

Continued on next slide...





## Penelec Transmission Zone M-3 Process Misoperation Relay Projects

Need #	Transmission Line / Substation Locations	Existing Line Rating (SN / SE)	Existing Conductor Rating (SN / SE)
PN-2023-014	Tiffany – Thompson 115 kV	125 / 145	133 / 160
PN-2023-015	Dubois – Harvey Run 115 kV	147 / 179	202 / 245
	Harvey Run – Whetstone 115 kV	200 / 242	202 / 245

# 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

**Need Number:** PN-2023-003

**Process State:** Solution Meeting – 09/15/2023

**Previously Presented:** Need Meeting – 05/18/2023

**Project Driver:**

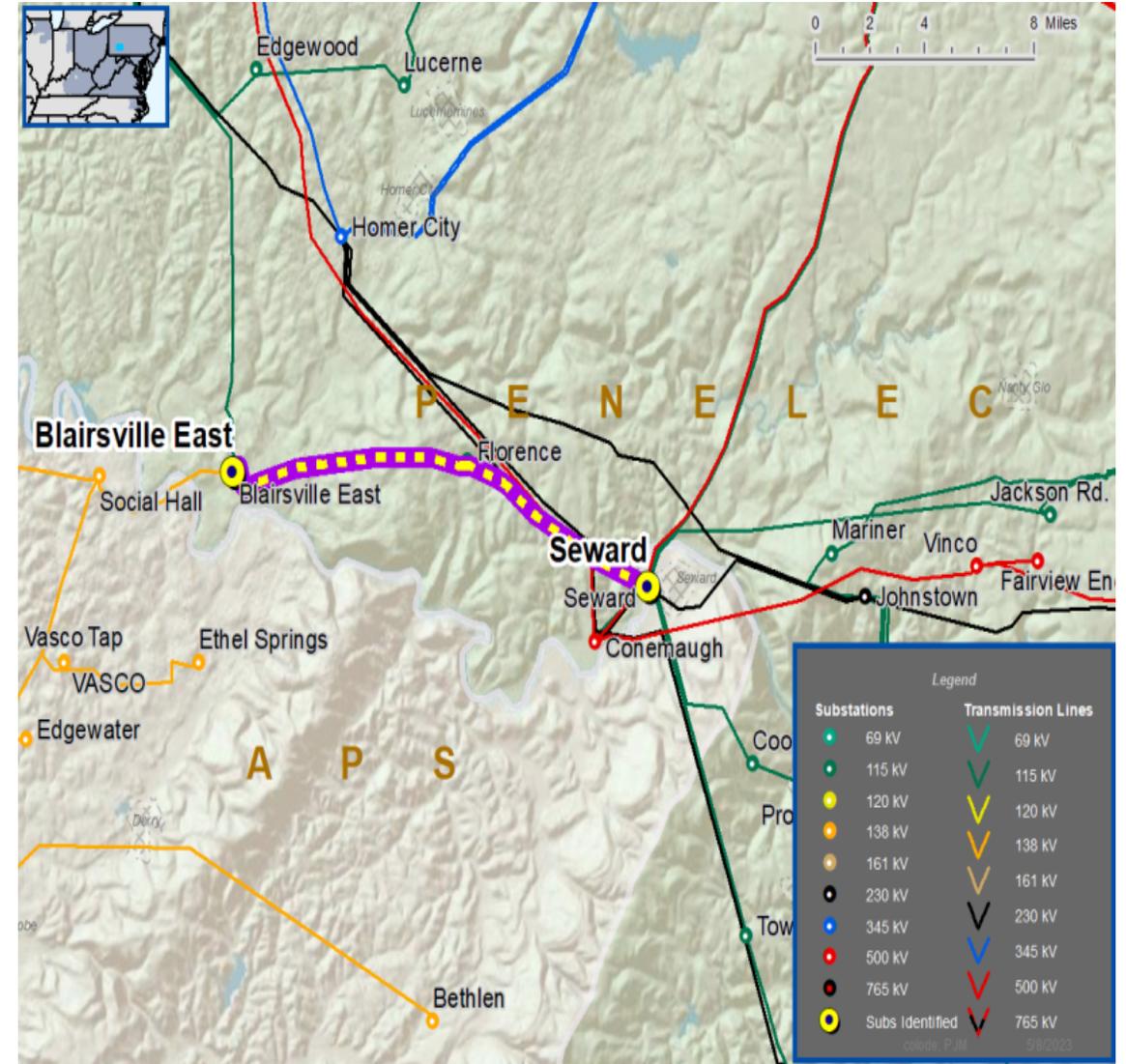
*Customer Service*

**Specific Assumption Reference:**

New customer connection requests will be evaluated per FirstEnergy’s “Requirements for Transmission Connected Facilities” document and “Transmission Planning Criteria” document.

**Problem Statement:**

New Customer Connection - A customer requested 115 kV service for load of approximately 22 MW near the Blairsville East-Seward 115 kV line. Requested in-service date is 09/30/2024.



**Need Number:** PN-2023-003

**Process Stage:** Solution Meeting – 9/15/2023

**Previously Presented:** Need Meeting – 05/18/2023

**Proposed Solution:**

**115 kV Transmission Line Tap**

- Install three SCADA controlled transmission line switches
- Construct approximately 2000 ft of transmission line from tap point to customer substation
- Install one 115 kV revenue metering package at customer substation

**Alternatives Considered:**

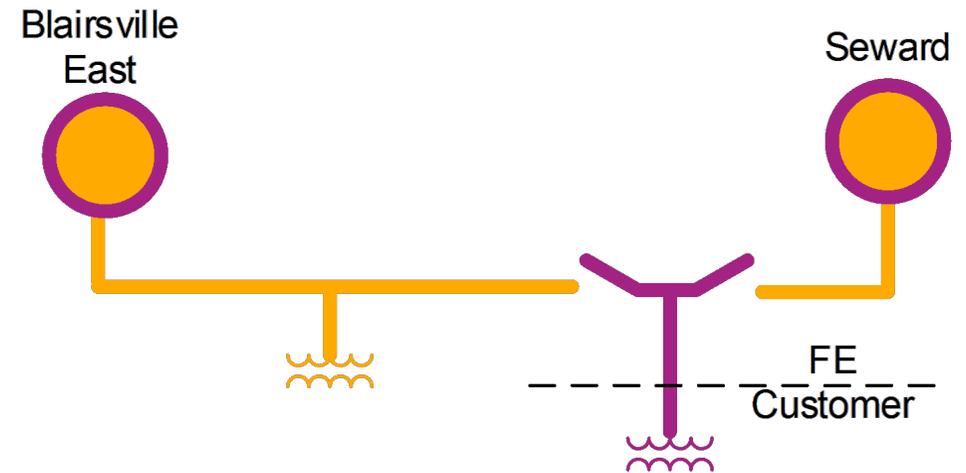
- No other feasible alternatives to serve the customer’s load

**Estimated Project Cost:** \$3.5M

**Projected In-Service:** 03/14/2025

**Status:** Engineering

**Model:** 2022 RTEP model for 2027



Legend	
500 kV	
345 kV	
115 kV	
69 kV	
34.5 kV	
23 kV	
New	

# Questions?



# 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

9/1/2023 – V1 – Original version posted to pjm.com