

Subregional RTEP Committee – Mid-Atlantic FirstEnergy Supplemental Projects

August 15, 2024

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: ME-2024-020

Process Stage: Needs Meeting – 08/15/2024

Project Driver:

Operational Flexibility and Efficiency

Specific Assumption Reference:

System Performance Projects

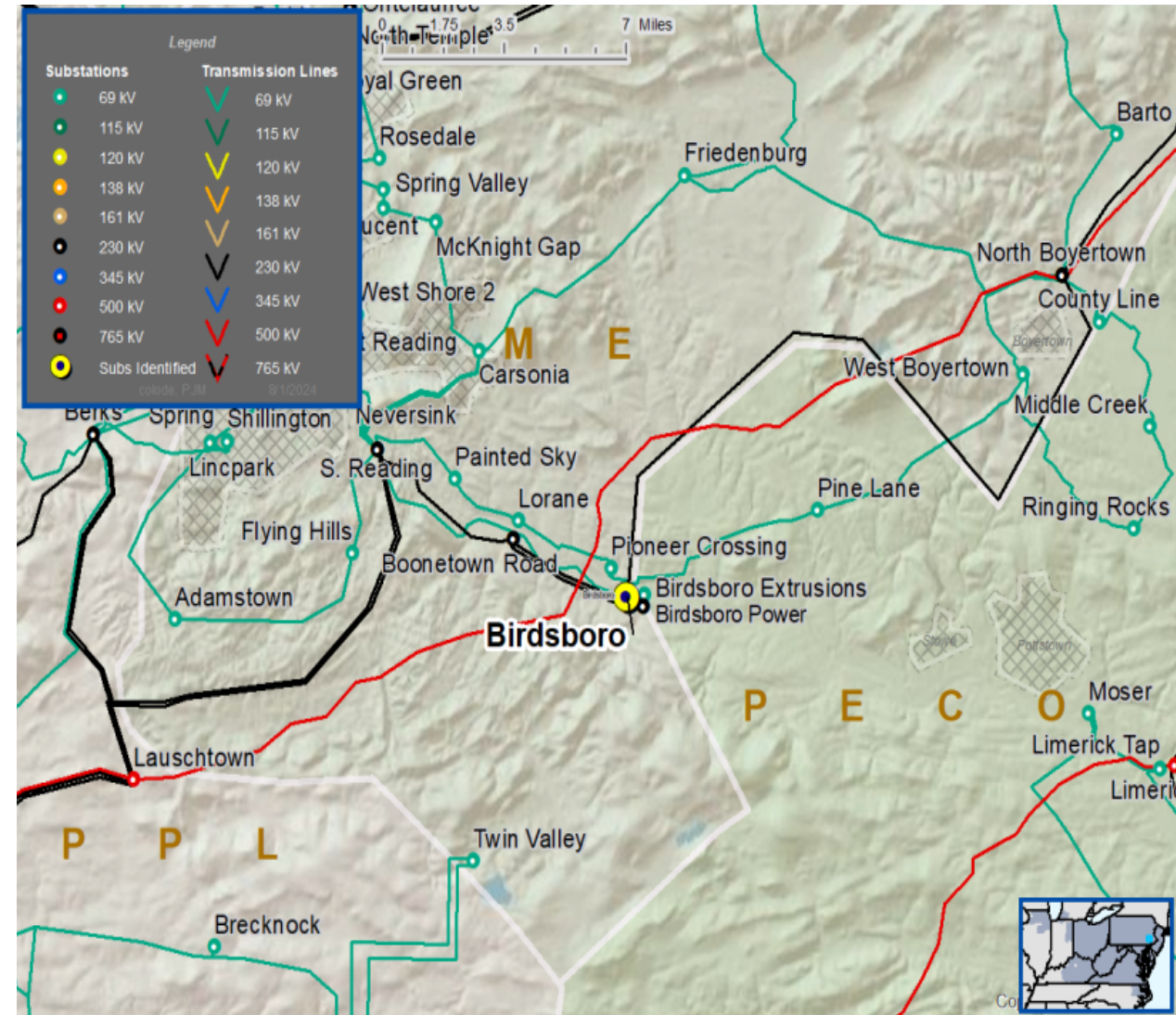
- Add/Expand Bus Configuration
- Load at risk in planning and operational scenarios
- Reduce the amount of exposed potential local load loss during contingency conditions
- Eliminate simultaneous outages to multiple networked elements
- Substation and line equipment limits

Problem Statement:

A stuck breaker, transformer fault, or bus fault at Birdsboro Substation results in the loss of the substation. Birdsboro Substation serves approximately 34 MW and 7,200 customers.

Transmission line ratings are limited by terminal equipment:

- Birdsboro – Pine Lane 69 kV Line
 - Existing line rating: 71 / 90 / 90 / 103 MVA (SN/SE/WN/WE)
 - Existing conductor rating: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)
- Birdsboro – Birdsboro Extrusions 69 kV Line
 - Existing line rating: 71 / 90 / 85 / 103 MVA (SN/SE/WN/WE)
 - Existing conductor rating: 74 / 90 / 85 / 109 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

Need Number: ME-2023-017

Process Stage: Solution Meeting – 08/15/2024

Previously Presented: Needs Meeting – 11/16/2023

Project Driver:

Operational Flexibility and Efficiency

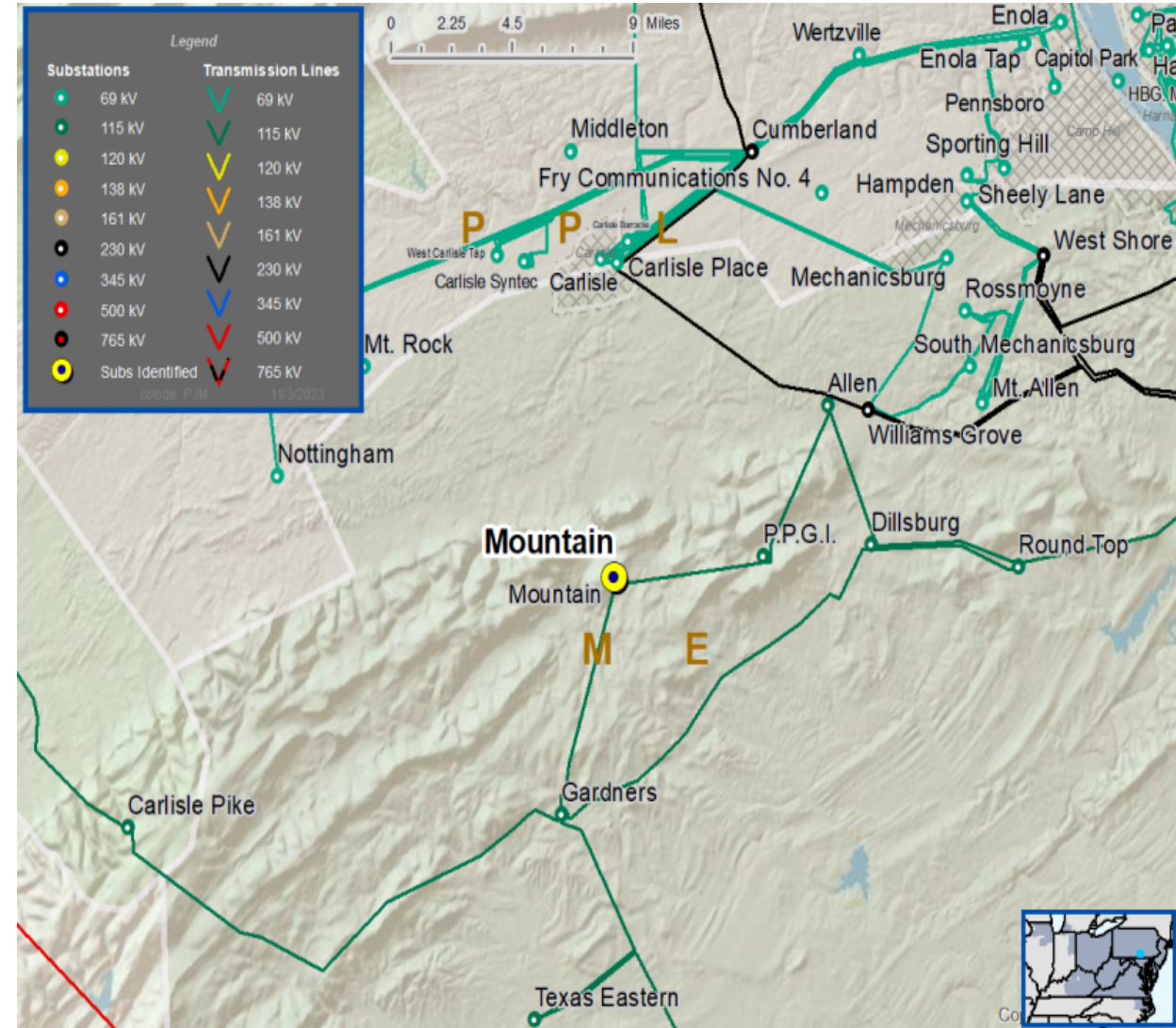
Specific Assumption Reference:

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:

Mountain 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, a fault on the Mountain CT transformer, or a stuck breaker on the PPGI or Gardners 115 kV line exits. Mountain Substation serves 7,320 customers and approximately 31.8 MW.



Need Number: ME-2023-017

Process Stage: Solution Meeting – 08/15/2024

Proposed Solution:

- Convert Mountain 115 kV into a six-breaker ring bus
- At PPGI, replace one 115 kV circuit breaker

Alternatives Considered:

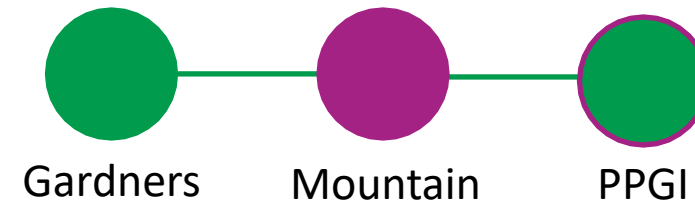
Maintain existing condition with reliability risk to customers.

Estimated Project Cost: \$11.4M

Projected In-Service: 12/31/2026

Status: Conceptual

Model: 2023 RTEP model for 2028 Summer (50/50)



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

Need Number: ME-2024-018

Process Stage: Need Meeting – 07/18/2024

Project Driver(s):

Customer Service

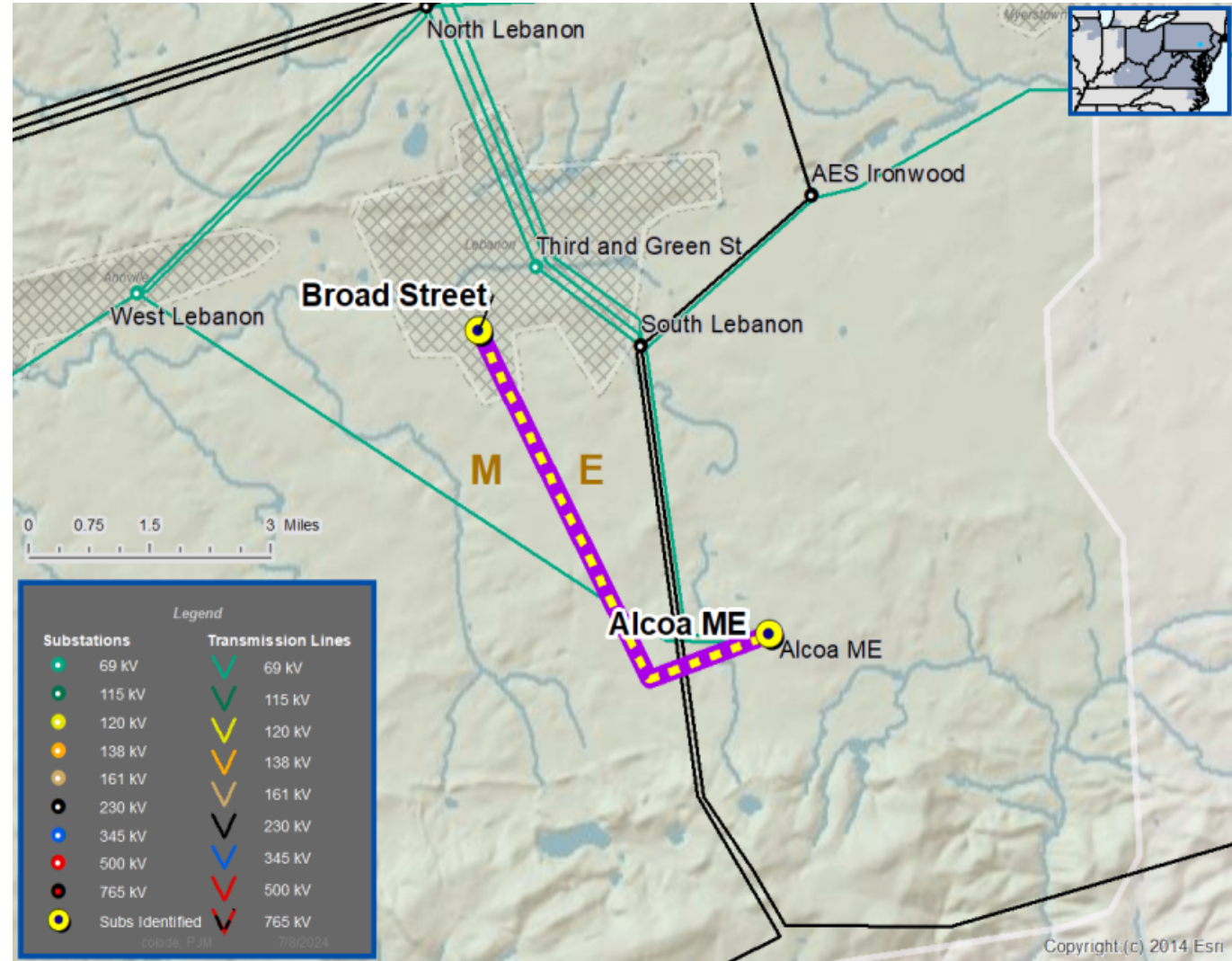
Specific Assumption Reference(s)

New customer connection request 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 a new 69 kV delivery point near the Alcoa – Broad Street 69 kV Line . The anticipated load of the new customer connection is 39 MVA. The requested delivery point location is near the North Cornwall Substation.

Requested in-service date is 4/01/2026





Met-Ed Transmission Zone M-3 Process Alcoa – Broad Street 69 kV Line Customer Connection

Need Number: ME-2024-018
Process Stage: Solution Meeting – 08/15/2024

Proposed Solution:

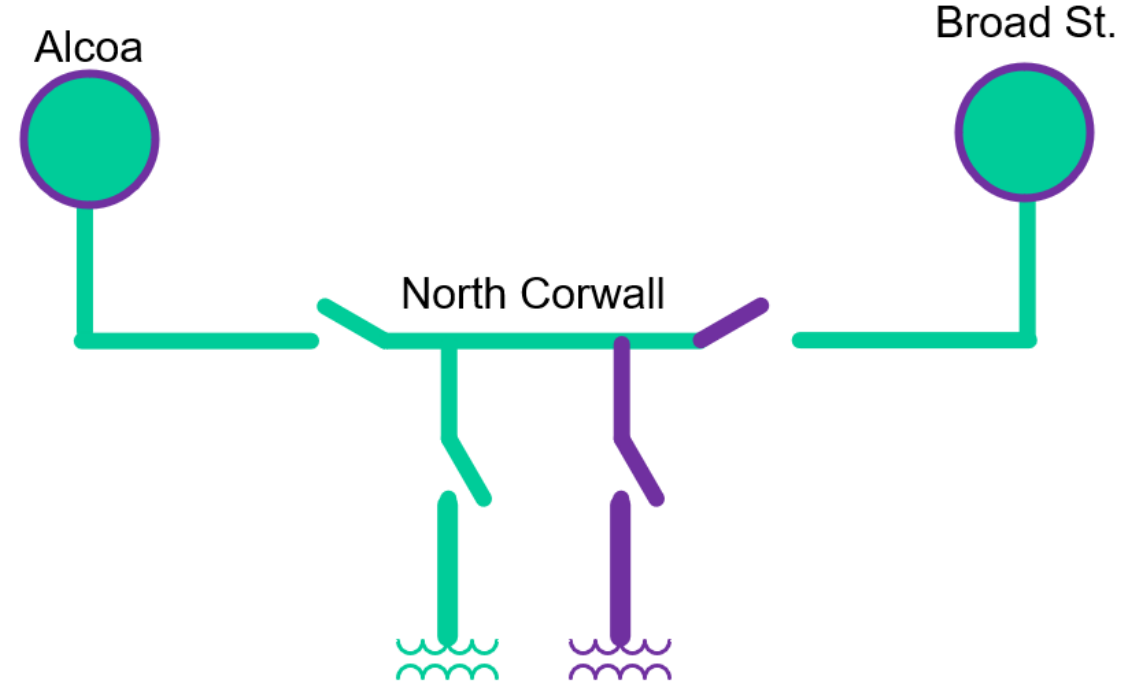
69 kV Transmission Line Tap

- Install one SCADA controlled transmission line switch
- Relocate SW 9206 at/near STR. 92-81
- Construct approximately 1-2 spans of transmission line using from tap to customer
- Install one 69 kV revenue metering package at customer substation
- Modify relay settings at Alcoa and Broad St. substations

Alternatives Considered:

- No other reasonable alternatives considered due to the proximity of the Alcoa – Broad Street 69 kV Line to the requested service location.

Estimated Project Cost: \$1.19 M
Projected In-Service: 11/24/2025
Status: Engineering





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

08/05/2024 – V1 – Original version posted to pjm.com