

Submission of Supplemental Projects for Inclusion in the Local Plan

Need Number: ME-2019-044

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Previously Presented: Need Meeting: 07/31/2019

Solution Meeting: 04/20/2023

Project Driver:

Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

Line Condition Rebuild/Replacement

- Age/condition of wood pole transmission line structures
- Age/condition of steel tower or steel pole transmission line structures
- Age/condition of transmission line conductors

System Performance Projects

- Substation/line equipment limits

Problem Statement:

North Boyertown – West Boyertown 69 kV line is exhibiting deterioration.

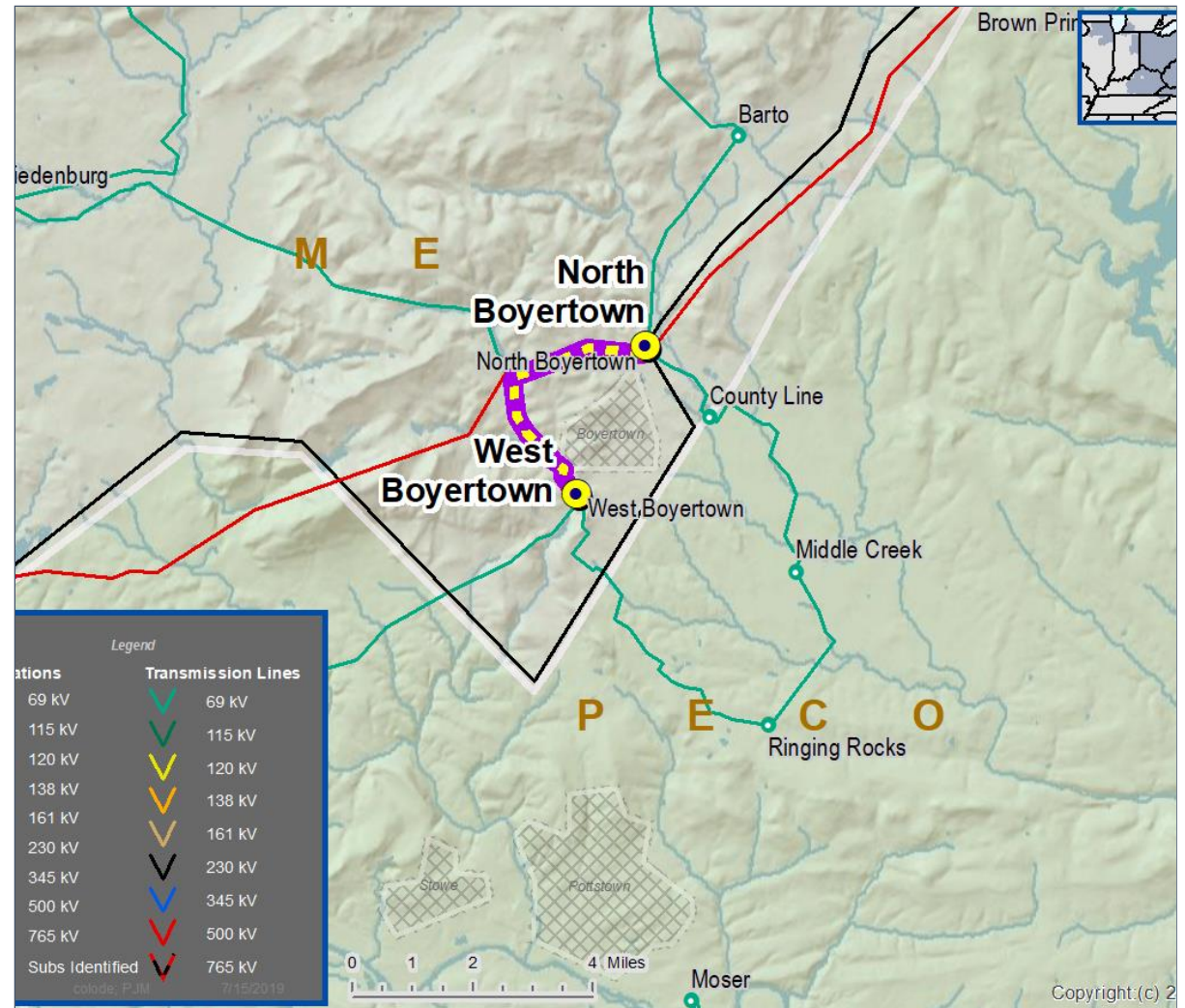
- Total line distance is approximately 3.6 miles.
- 42 out of 71 structures failed inspection (59% failure rate).
- Failure reasons include age, sound, and bayonet pole.

Thermal loading on the North Boyertown – West Boyertown 69 kV line is ~88% of the SE rating for loss of the North Boyertown – Cabot 69 kV line section (bus 204606 to bus 204834).

(2018 RTEP Model – 2023 Summer)

Transmission line ratings are limited by terminal equipment: (substation conductor, line relaying)

- Existing line rating: 71/72 MVA (SN/SE)
- Existing conductor rating: 80/96 MVA (SN/SE)





Met-Ed Transmission Zone M-3 Process North Boyertown – West Boyertown 69 kV Line

Need Number: ME-2019-044

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Selected Solution:

Rebuild and reconductor North Boyertown – West Boyertown 69 kV Line

North Boyertown 69 kV Substation

Replace substation conductor

West Boyertown 69 kV Substation

Replace substation conductor

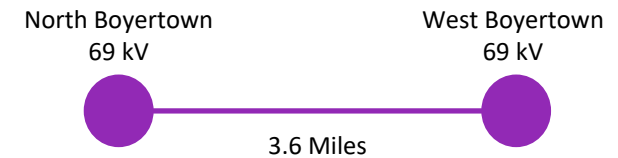
Transmission Line Rating:

- North Boyertown – West Boyertown 69 kV line:
 - Before Proposed Solution: 80/96 MVA (SN/SE) 90/114 MVA (WN/WE)
 - After Proposed Solution: 139/169 MVA (SN/SE) 158/201 MVA (WN/WE)

Estimated Project Cost: \$10.3M

Projected In-Service: 12/31/2027

Supplemental Project ID: s2946.1, s2946.2, s2946.3



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

Need Number: ME-2022-003

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Previously Presented: Need Meeting: 04/19/2022

Solution Meeting: 04/20/2023

Project Driver:

Customer Service

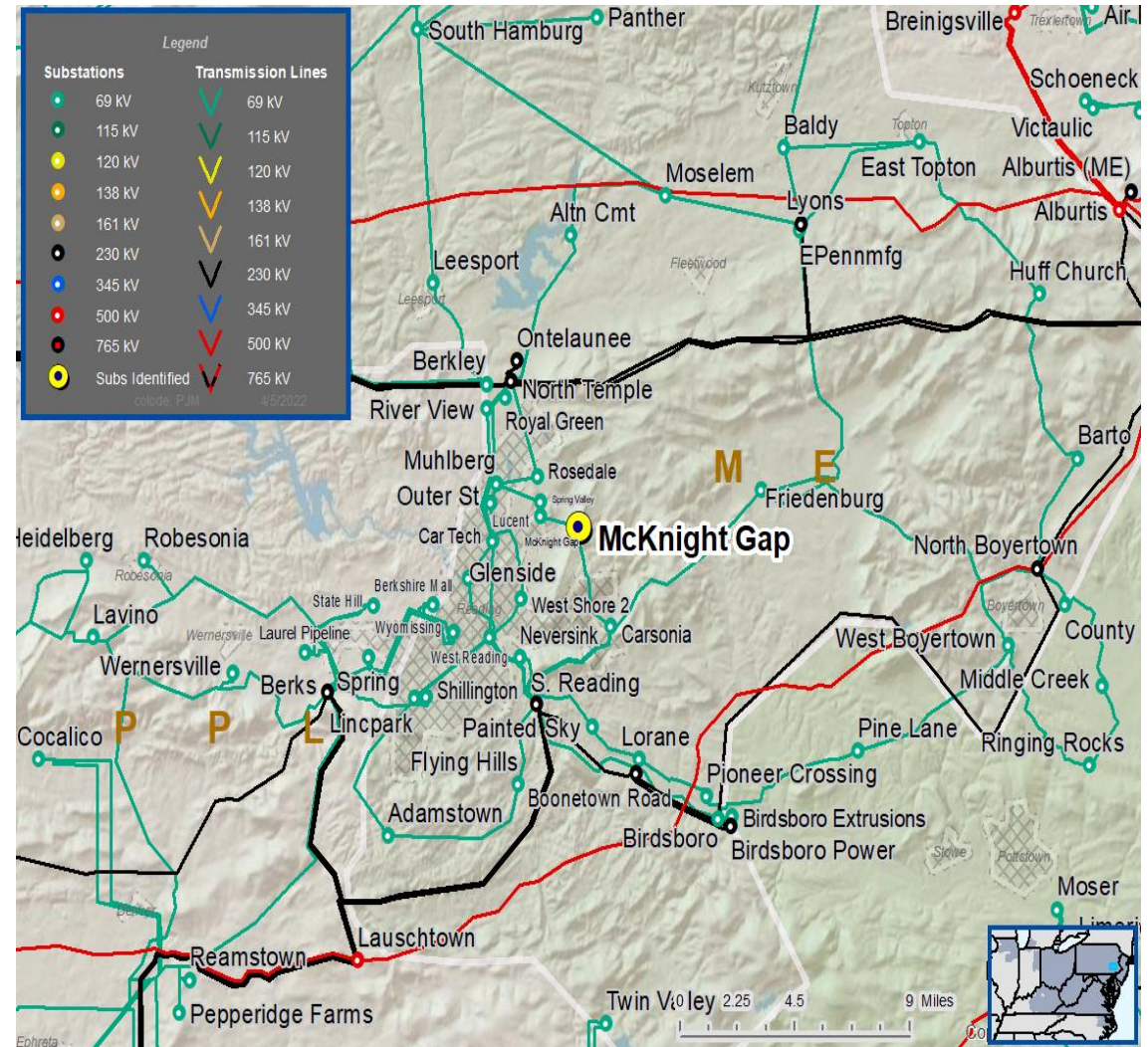
Specific Assumption Reference:

Customer request will be evaluated per FirstEnergy’s “Requirements for Transmission Connected Facilities” document and “Transmission Planning Criteria” document.

Problem Statement:

Customer Connection – Met-Ed’s existing McKnights Gap 69-13.2 kV substation transformer experienced a failure. The customer has requested to re-build the substation as a mod sub.

Requested in-service date is 12/29/2023



Need Number: ME-2022-003

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Selected Solution:

Rebuild McKnights Gap 69-13.2 kV Substation

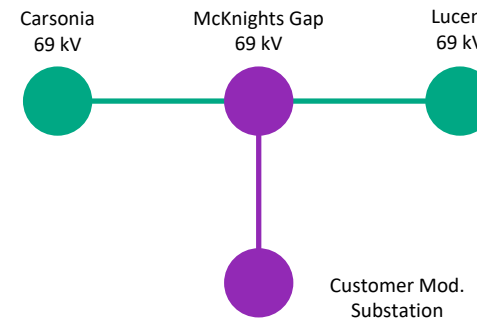
McKnights Gap 69 kV Substation

Install new 69 kV switches

Estimated Project Cost: \$0.8M

Projected In-Service: 12/29/2023

Supplemental Project ID: s2948



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

Need Number: ME-2023-001

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Previously Presented: Need Meeting: 02/16/2023

Solution Meeting: 06/15/2023

Project Driver:

Customer Service

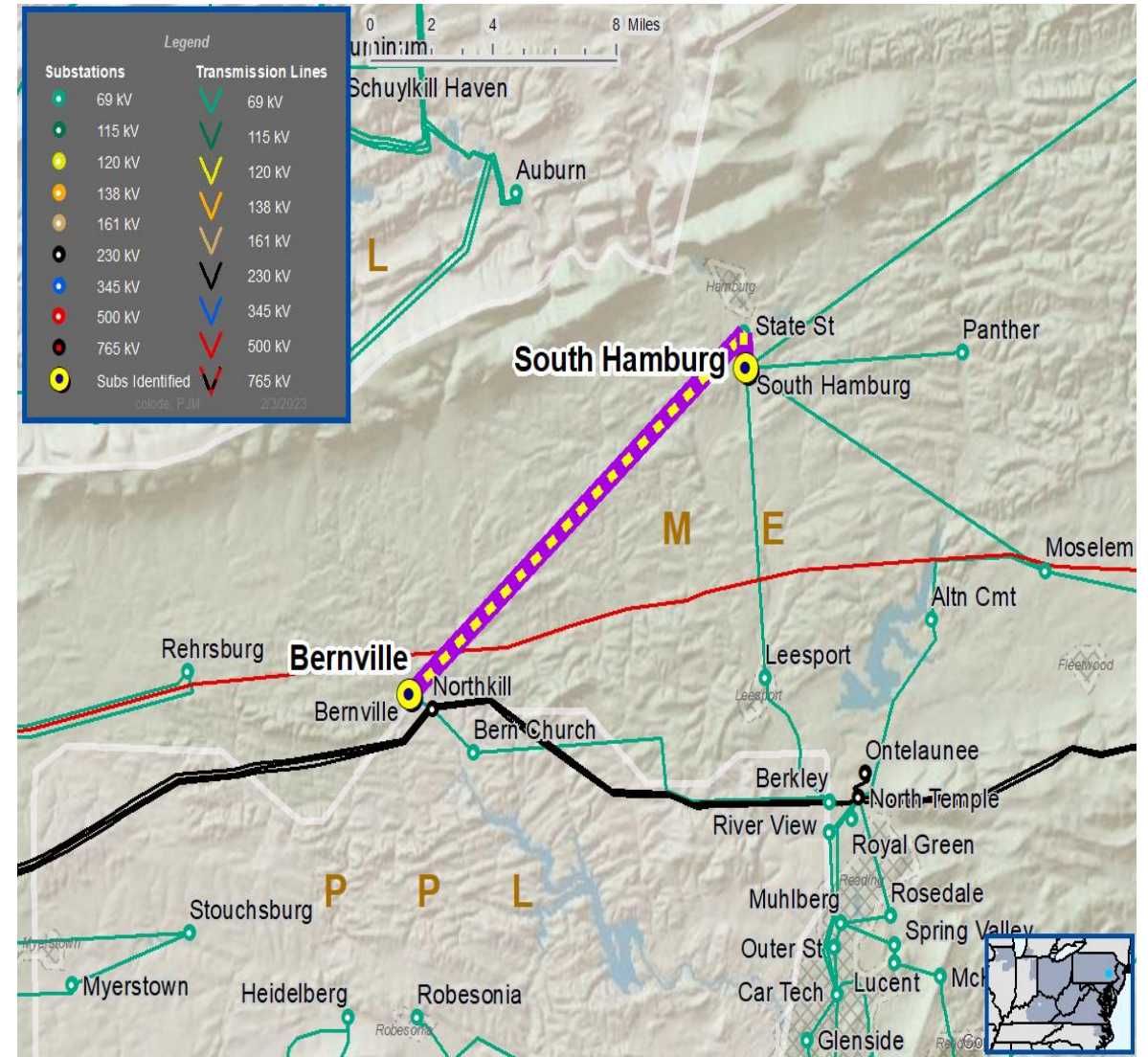
Specific Assumption Reference:

Customer 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 69 kV service; anticipated load is 13.4 MVA; location is near the Bernville – South Hamburg 69kV line.

Requested in-service date is 12/31/2024





Met-ED Transmission Zone M-3 Process Bernville-South Hamburg 69 kV New Customer- Solution

Need Number: ME-2023-001

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Selected Solution:

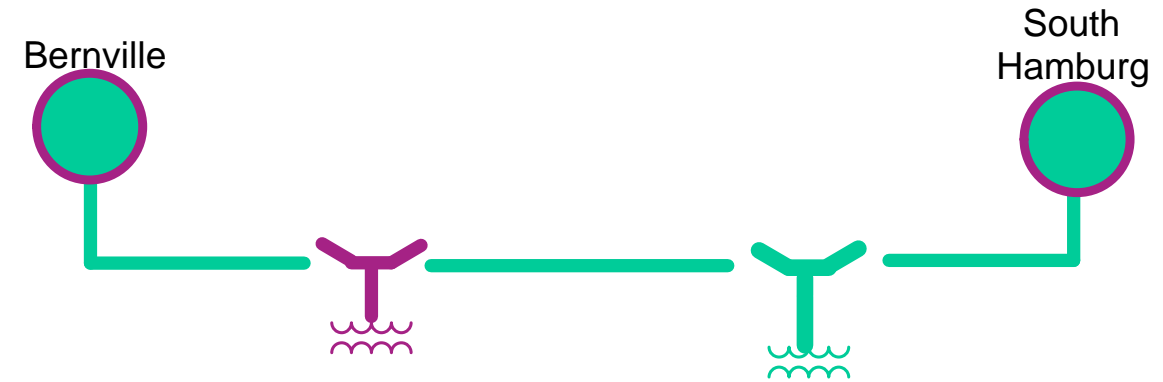
69 kV Transmission Line Tap

- Install three SCADA controlled transmission line switches
- Construct approximately 0.1 miles of transmission line using 556 ACSR 26/7 from tap point to customer substation
- Install one 69 kV revenue metering package at customer substation
- Modify relay settings at Bernville and South Hamburg substations

Estimated Project Cost: \$1.6M

Projected In-Service: 12/31/2024

Supplemental Project ID: s2968



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

Need Number: ME-2023-006

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Previously Presented: Need Meeting: 05/18/2023

Solution Meeting: 06/15/2023

Project Driver(s):

Customer Service

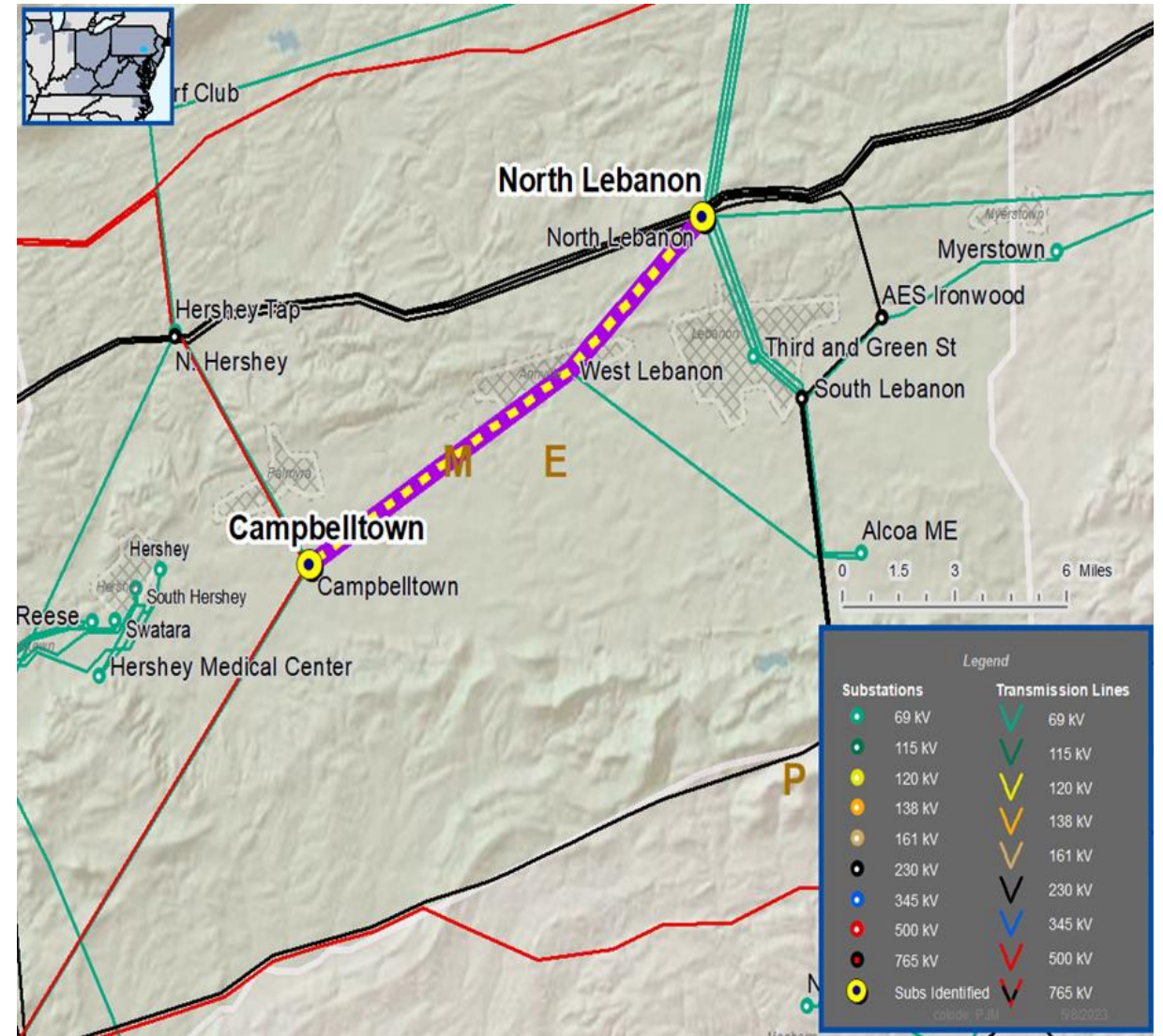
Specific Assumption Reference(s)

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 - has requested a new 69 kV delivery point near the Campbelltown-North Lebanon 69 kV line. The anticipated load of the new customer connection is 5 MVA.

Requested in-service date is 06/28/2024





Met-ED Transmission Zone M-3 Process Campbelltown-North Lebanon 69 kV New Customer- Solution

Need Number: ME-2023-006

Process Stage: Submission of Supplemental Projects for Inclusion in the Local Plan 9/27/2023

Selected Solution:

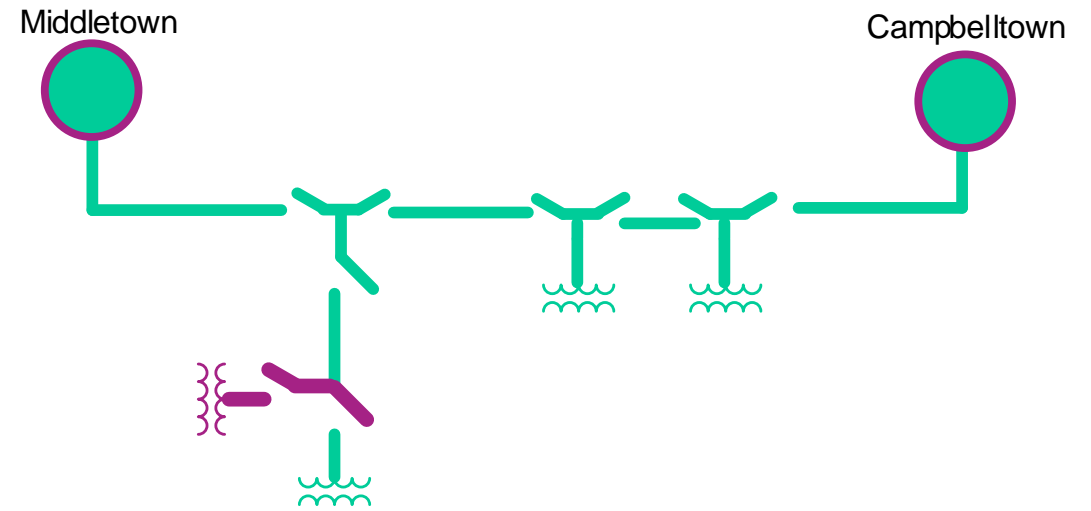
69 kV Transmission Line Tap

- Install two SCADA controlled transmission line switches
- Construct approximately 0.5 miles of transmission line using 556 ACSR 26/7 from tap point to customer substation
- Install one 69 kV revenue metering package at customer substation
- Modify relay settings at Campbelltown and North Lebanon substations

Estimated Project Cost: \$2.9M

Projected In-Service: 1/15/2024

Supplemental Project ID: s2969



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

9/27/2023 – V1 – s2946.1-.3,s2948,s2968,s2969 added to Local Plan