Subregional RTEP Committee – Western
FirstEnergy Supplemental Projects

ATSI Transmission Zone

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

ATSI Transmission Zone M-3 Process
London - Tangy 138 kV Line

Need Number: ATSI-2025-033

Process Stage: Need Meeting - SRRTEP-W – 11/14/2025

Project Driver:

Customer Service

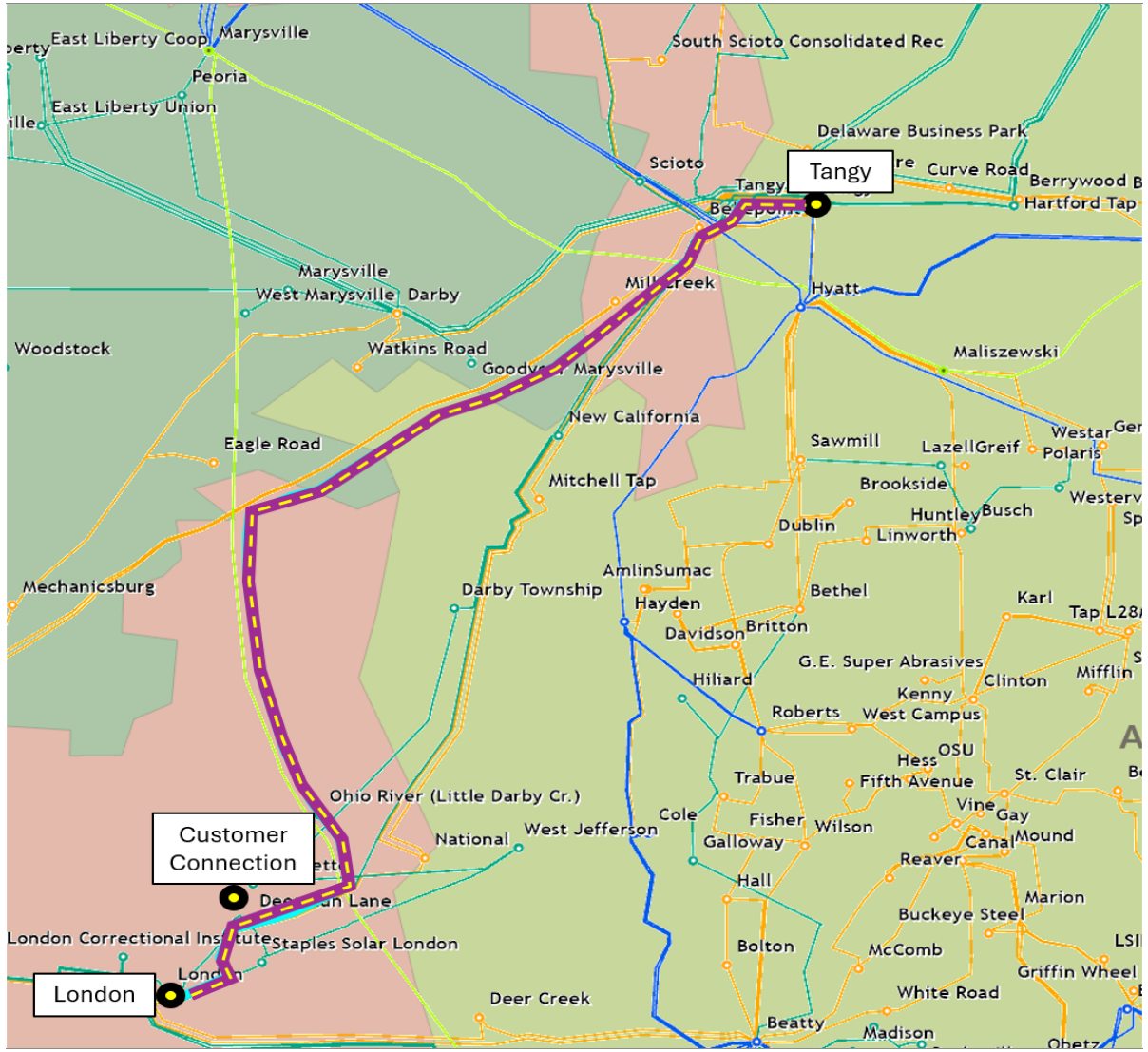
Specific Assumption Reference:

New Customer connection request will be evaluated based on FirstEnergy's "Requirements for Transmission Connected Facilities" document and FirstEnergy's "Transmission Planning Criteria" document

Problem Statement:

New Customer Connection – A customer located near the Londan - Tangy 138 kV Line requested a new 138 kV delivery point. The anticipated load of the new customer connection is 14 MVA. The service location is approximately 2.9 miles from London Substation.

The requested in-service date is 6/1/2027.



ATSI Transmission Zone M-3 Process
Nottingham - Yager No. 1 138 kV Line

Need Number: ATSI-2025-034

Process Stage: Need Meeting - SRRTEP-W – 11/14/2025

Project Driver:

Customer Service

Specific Assumption Reference:

New Customer connection request will be evaluated based on FirstEnergy's "Requirements for Transmission Connected Facilities" document and FirstEnergy's "Transmission Planning Criteria" document

Problem Statement:

New Customer Connection – A customer located near the Nottingham - Yager No. 1 138 kV Line requested a new 138 kV delivery point. The anticipated load of the new customer connection is 3.8 MVA. The service location is approximately 13.6 miles from Yager Substation.

The requested in-service date is 11/1/2027.

ATSI Transmission Zone M-3 Process
Black River - Willow Creek 69 kV Line

Need Number: ATSI-2025-035

Process Stage: Need Meeting - SRRTEP-W – 11/14/2025

Project Driver:

Equipment Condition/Performance/Risk

Specific Assumption Reference:

System Performance Global Factors

- System reliability/performance
- Substation/Line equipment limits
- Transmission line switches
- Limited availability of spare parts and/or vendor technical support

Problem Statement:

Manually operated switches A-66 and A-67 on the Black River - Willow Creek 69 kV Line are 50 years old and approaching end of life. Replacement components are difficult to source leading to non-standard repairs.

The obsolete 2-way design and assembly of these switches is subject to dimensional changes in the supporting structure such as warping or deflection. These concerns may result in mis-operation with the potential for unintended arcing.

The line is currently limited by terminal equipment.

Thirty-Sixth Street Tap - Willow Creek Tap 69 kV Line:

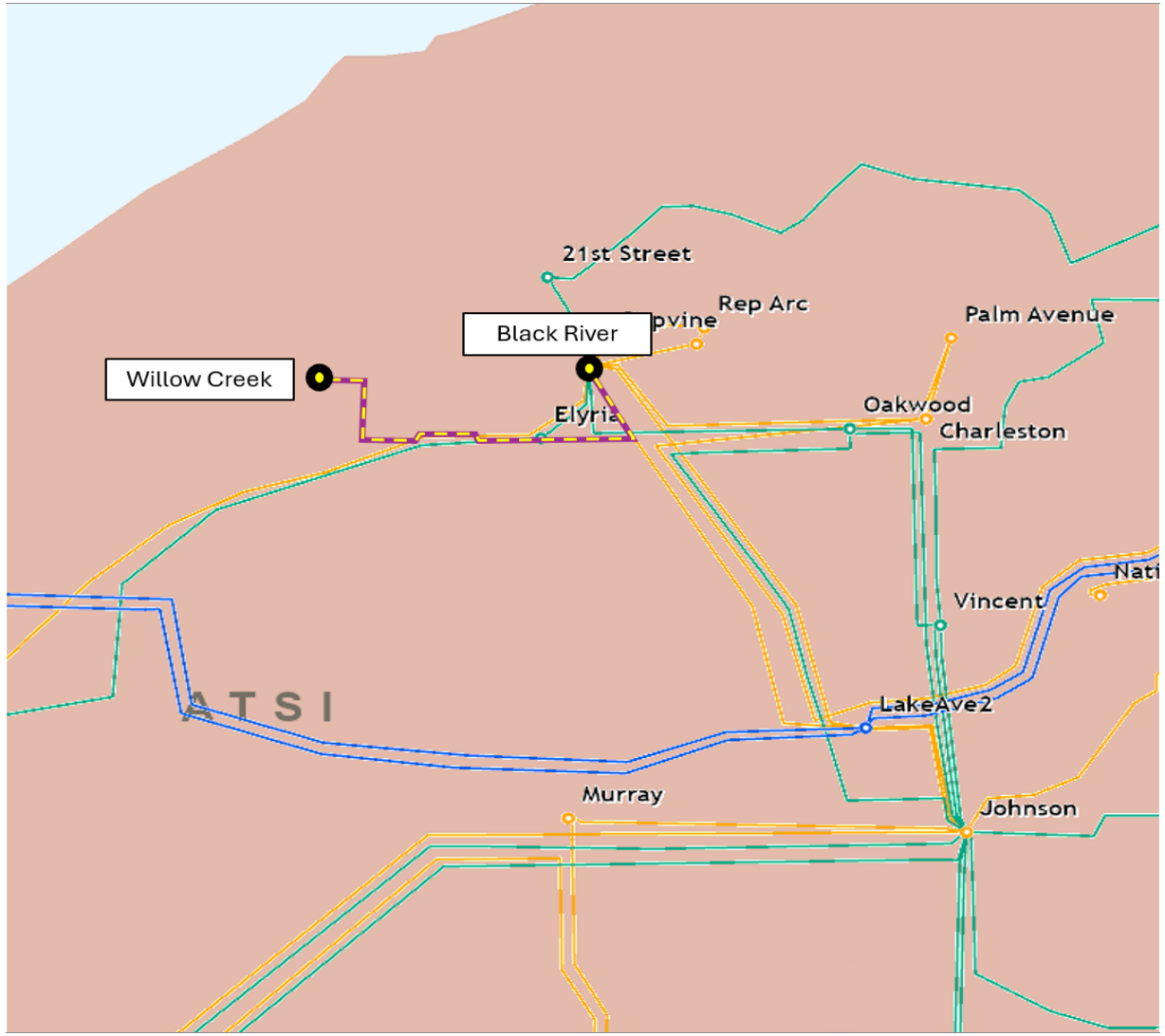
Existing Line Ratings: 82 / 103 / 108 / 124 MVA (SN/SE/WN/WE)

Existing Conductor Ratings: 100 / 121 / 113 / 143 MVA (SN/SE/WN/WE)

Black River Tap - Willow Creek Tap 69 kV Line

Existing Line Ratings: 82 / 103 / 108 / 124 MVA (SN/SE/WN/WE)

Existing Conductor Ratings: 100 / 121 / 113 / 143 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

ATSI Transmission Zone M-3 Process
Ashtabula – Ashtabula East 138 kV

Need Number: ATSI-2024-054

Process Stage: Solution Meeting - SRRTEP-W – 11/14/2025

Previously Presented: Need Meeting - SRRTEP-W – 06/14/2024

Project Driver:

Equipment Condition/Performance/Risk, Infrastructure Resilience, Operational Flexibility and Efficiency

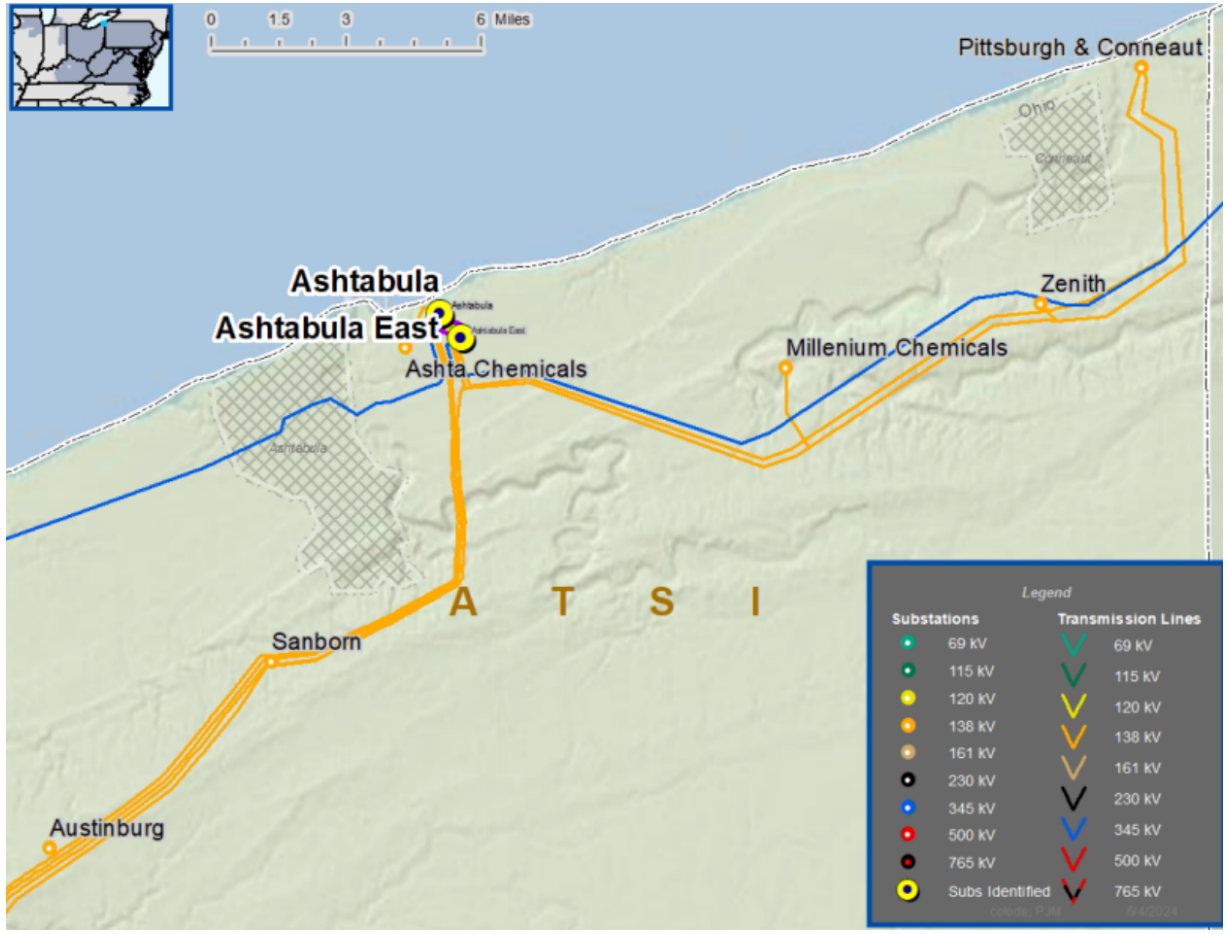
Specific Assumption Reference:

System Performance Projects Global Considerations

- System reliability and performance
- Load at risk in planning and operational scenarios
- Capability to perform system maintenance

Problem Statement:

The Ashtabula – Ashtabula East 138 kV Line is 0.30 miles long and serves one distribution substation. - Maintenance work cannot be preformed on certain sections of the Ashtabula – Ashtabula East 138 kV Line without an outage to the Ashtabula East Substation. - Ashtabula East Substation serves approximately 16 MW of load and 36,000 customers. - Since 2015, the Ashtabula – Ashtabula East 138 kV Line has experienced two unscheduled sustained outages.



ATSI Transmission Zone M-3 Process
Ashtabula – Ashtabula East 138 kV

Need Number: ATSI-2024-054

Process Stage: Solution Meeting - SRRTEP-W – 11/14/2025

Proposed Solution:

- Reconfigure the feeds into the Ashtabula East and the ties to the Ashtabula - Zenith 138 kV line to allow for improved operational flexibility during maintenance.
- Eliminate/Retire the existing tie and switches between the Ashtabula East and Zenith 138 kV lines.
- Eliminate the existing tap located outside of the Ashtabula East Substation.
- Construct approximately 0.1 miles of new 138 kV line.
- Install two 138 kV switches; one switch will be operated normally opened.

Alternatives Considered:

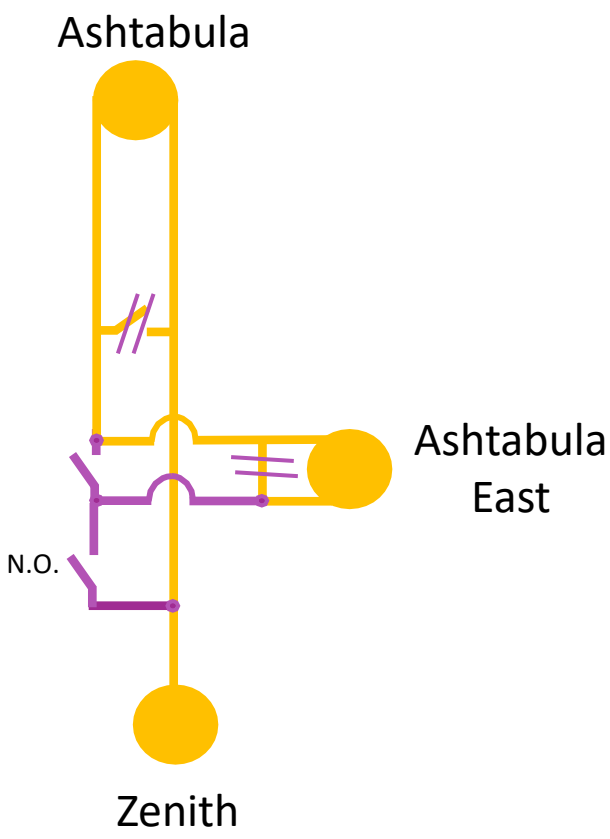
Maintain existing configuration with elevated risk of customer outages at Ashtabula East under maintenance conditions.

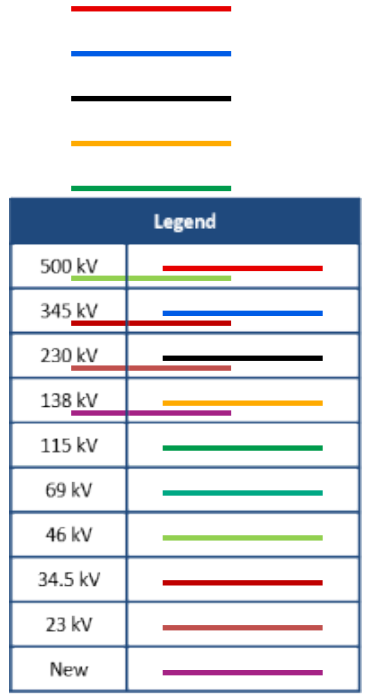
Estimated Project Cost: $4.79M

Projected In-Service: 12/18/2026

Project Status: Conceptual

Model: 2023 RTEP - 2028 Summer 50/50 Case





ATSI Transmission Zone M-3 Process
Maple - Pine 69 kV

Need Number: ATSI-2022-009

Process Stage: Solution Meeting - SRRTEP-W – 11/14/2025

Previously Presented: Need Meeting - SRRTEP-W – 09/19/2022

Project Driver:

Equipment Condition/Performance/Risk, Infrastructure Resilience

Specific Assumption Reference:

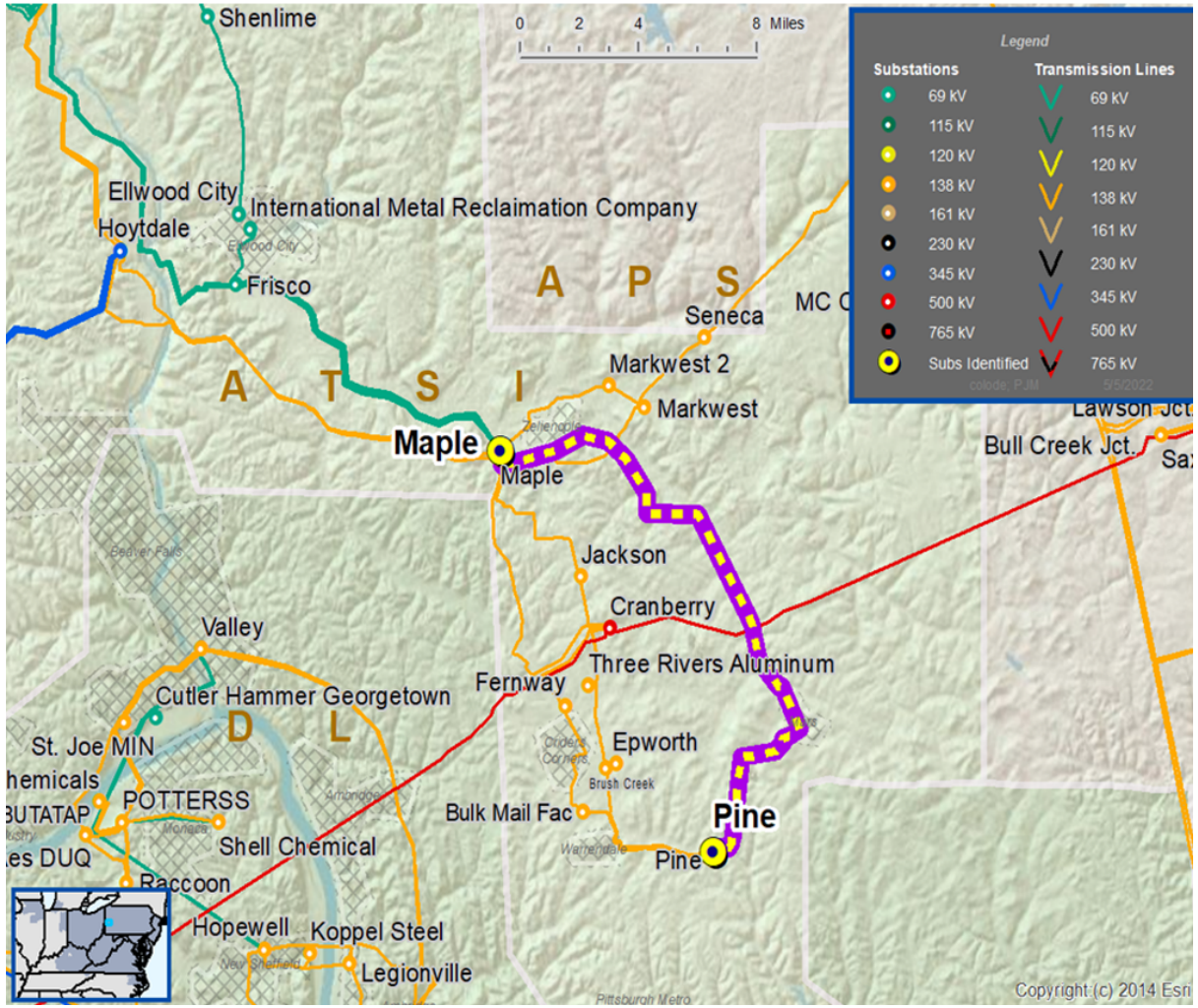
Global Factors

- Aged or deteriorated wood pole transmission line structures
- Negatively impact customer outage frequency and/or durations
- Demonstrate an increasing trend in maintenance findings and/or costs
- Transmission line ratings are limited by terminal equipment
- End of Life

Problem Statement:

The Maple-Pine 69 kV (~19 miles) Transmission Line:

- The 69 kV line section from Maple through structure 110 (~10 miles) including taps and switches (119 structures in total) is over 50 years old.
- A recent aerial CVI found 71 structures (60%) had 136 defects including rotten poles, cracked poles, woodpecker damage and other misc. hardware deficiencies.
- 5 switches along the stretch are aged and obsolete (A-6041, A-6042, A-194, A-195, A-219).
- There have been eight (8) total unscheduled interruptions since 2017: three sustained and five momentary outages.



ATSI Transmission Zone M-3 Process
Maple - Pine 69 kV

Need Number: ATSI-2022-009
Process Stage: Solution Meeting - SRRTEP-W – 11/14/2025

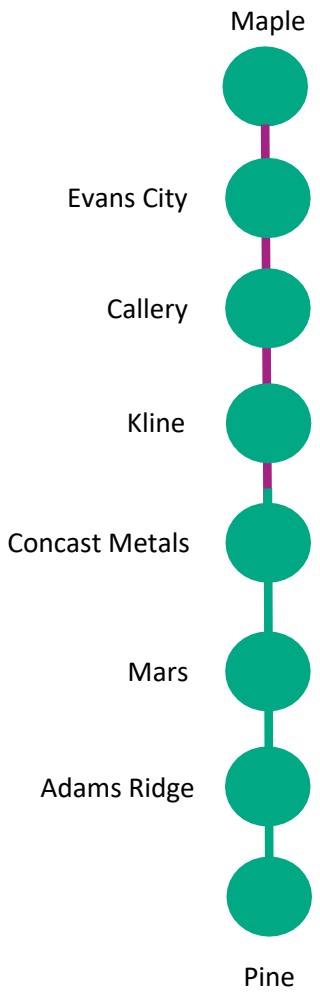
Proposed Solution:

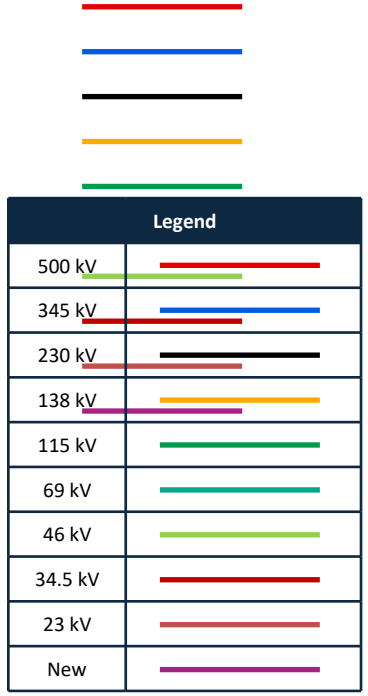
- Rebuild the Maple - Pine 69 kV Line from Maple through structure 110 (~10 miles).
- Replace five disconnect switches (A-6041, A-6042, A-194, A-195, A-219).
- Maple - Evans City 69 kV Line:
  - Before Proposed Solution: 141 / 171 / 160 / 203 MVA (SN/SE/WN/WE)
  - After Proposed Solution: 154 / 188 / 175 / 223 MVA (SN/SE/WN/WE)
- Evans City - Callery 69 kV Line:
  - Before Proposed Solution: 141 / 171 / 160 / 203 MVA (SN/SE/WN/WE)
  - After Proposed Solution: 154 / 188 / 175 / 223 MVA (SN/SE/WN/WE)
- Callery - Kline 69 kV Line:
  - Before Proposed Solution: 141 / 171 / 160 / 203 MVA (SN/SE/WN/WE)
  - After Proposed Solution: 154 / 188 / 175 / 223 MVA (SN/SE/WN/WE)
- Kline - Concast Metals 69 kV Line:
  - Before Proposed Solution: 141 / 171 / 160 / 203 MVA (SN/SE/WN/WE)
  - After Proposed Solution: 154 / 188 / 175 / 223 MVA (SN/SE/WN/WE)

Alternatives Considered:

Maintain existing condition with elevated risk of failure due to equipment deterioration.

Estimated Project Cost: $36.68M
Projected In-Service: 05/19/2028
Project Status: Conceptual
Model: 2023 RTEP - 2028 Summer 50/50 Case





ATSI Transmission Zone M-3 Process
London - Tangy 138 kV Line

Need Number: ATSI-2025-031

Process Stage: Solution Meeting - SRRTEP-W – 11/14/2025

Previously Presented: Need Meeting - SRRTEP-W – 10/17/2025

Project Driver:

Customer Service

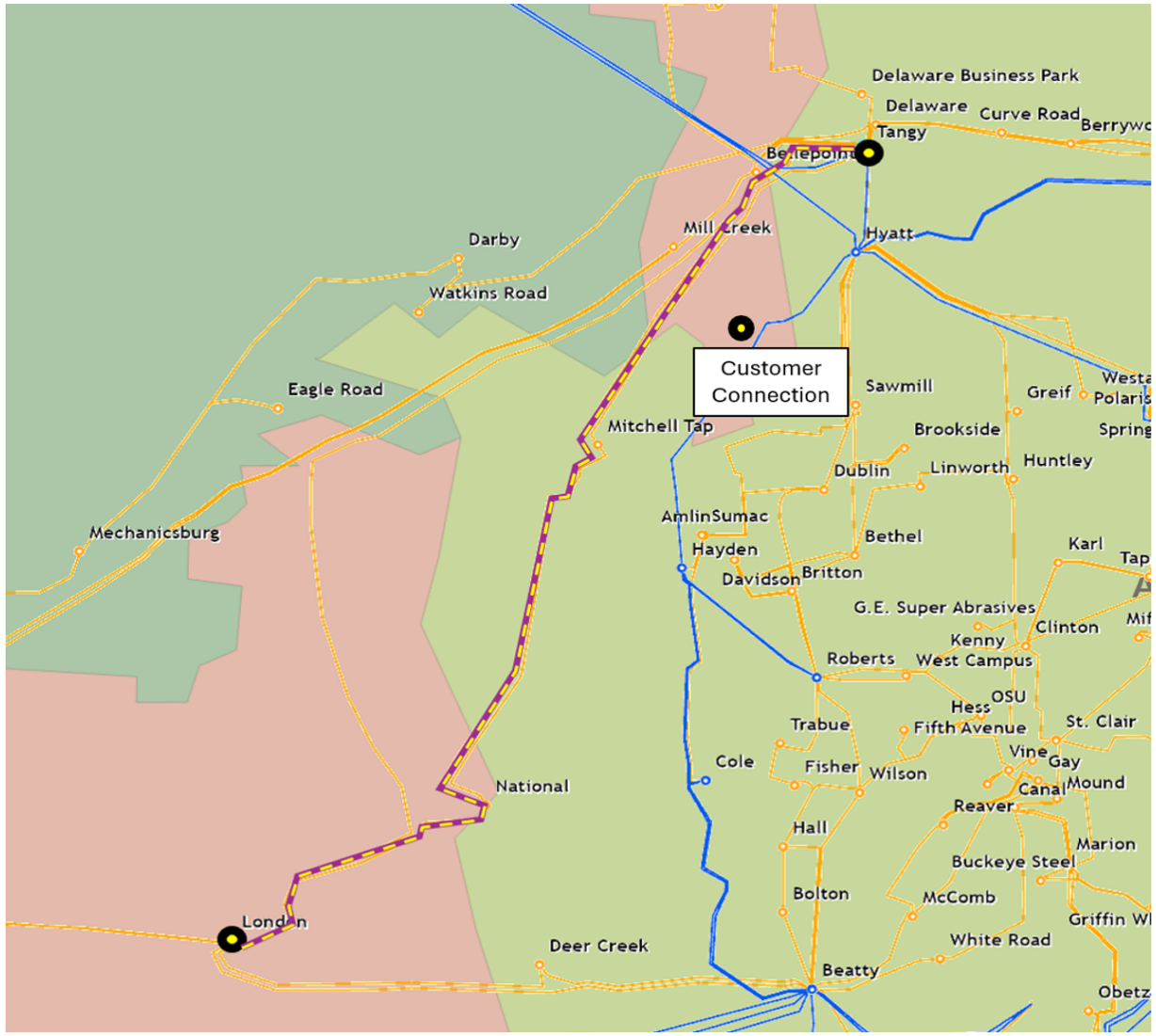
Specific Assumption Reference:

New Customer connection request will be evaluated based on FirstEnergy's "Requirements for Transmission Connected Facilities" document and FirstEnergy's "Transmission Planning Criteria" document

Problem Statement:

New Customer Connection – A Customer has requested a new 138 kV delivery point near the London - Tangy 138 kV Line. The anticipated load of the new customer connection is 12 MVA and the anticipated generation is 7.5 MW. The request is 3.3 miles from the London - Tangy 138 kV Line.

Requested in-service date is 8/16/2027



ATSI Transmission Zone M-3 Process
London - Tangy 138 kV Line

Need Number: ATSI-2025-031

Process Stage: Solution Meeting - SRRTEP-W – 11/14/2025

Proposed Solution:

On the London - Tangy 138 kV Line:

- Install two main-line switches and one tap switch
- Construct approximately 3.3 miles of 138 kV transmission line
- Adjust relay settings at London and Tangy substations
- Install revenue metering

Alternatives Considered:

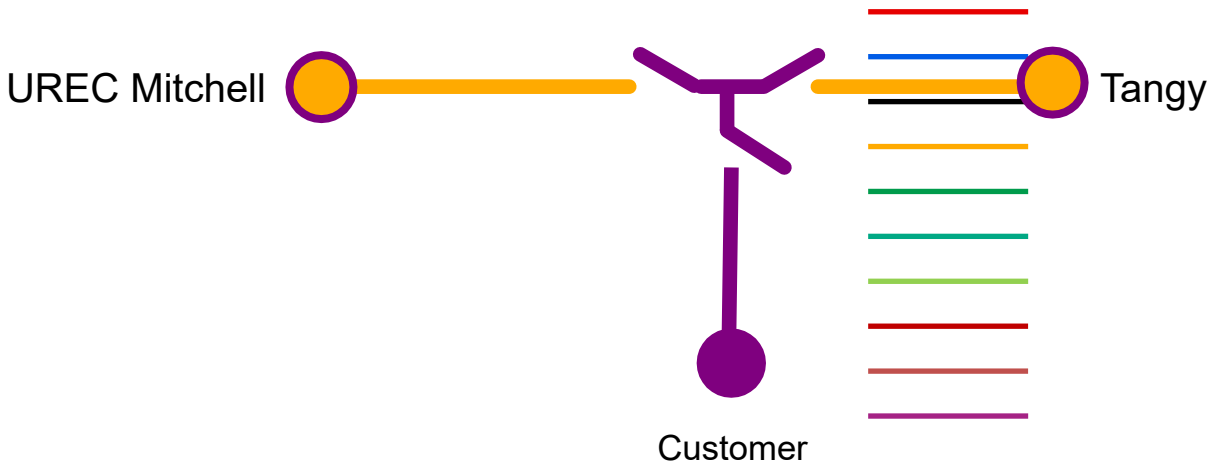
Connecting to the AEP Amlin – Hyatt 138 kV Line was considered. However, connecting to the AEP transmission line will require the AEP 138 kV line to be looped into a ring bus substation, increasing the cost of the solution

Estimated Project Cost: $1.41M

Projected In-Service: 08/16/2027

Project Status: Conceptual

Model: 2023 RTEP - 2028 Summer 50/50 Case



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

Cancellation

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

ATSI Transmission Zone M-3 Process
Cloverdale – Harmon 138 kV Line Customer Connection

Need Number: ATSI-2024-041

Process Stage: s3499.1 Project Cancellation – 11/14/2025

Previously Presented: Need Meeting – 05/17/2024
Solution Meeting – 06/14/2024

Supplemental Project Driver(s):
Customer Service

Specific Assumption Reference(s):

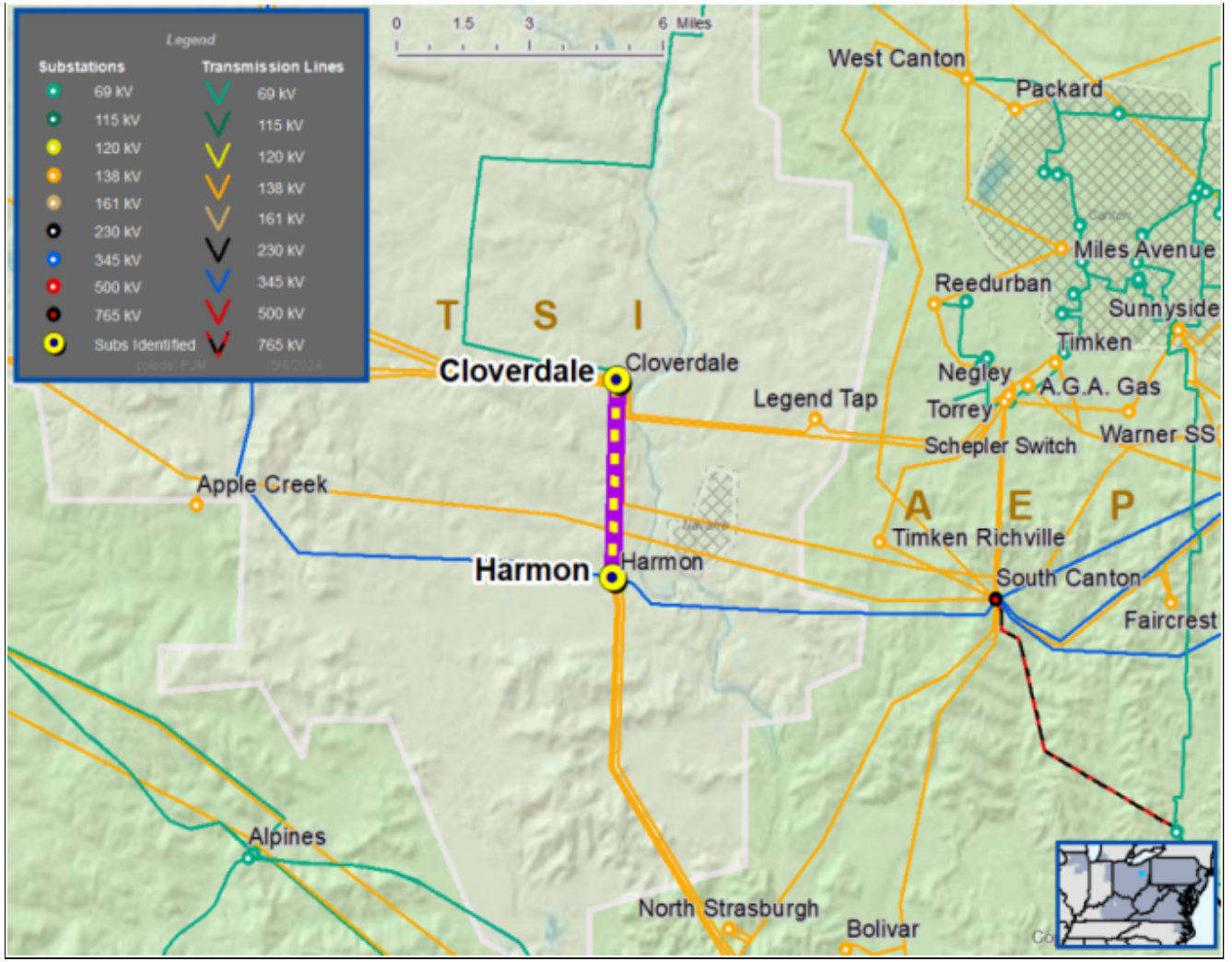
New customer connection request will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

Problem Statement

New Customer Connection – Ohio Edison distribution requested 138 kV service for load of approximately 11 MVA near the Cloverdale - Harmon 138 kV Line. The service request location is approximately 1 mile from Cloverdale Substation.

Requested In-Service Date:

December 31, 2025



ATSI Transmission Zone M-3 Process
Cloverdale – Harmon 138 kV Line Customer Connection

Need Number: ATSI-2024-041

Process Stage: s3499.1 Project Cancellation – 11/14/2025

Justification for Cancellation:

Due to the customer's decision to cancel their project, the associated transmission connection is no longer required.

Proposed Solution:

138 kV Transmission Line Tap

- Install one tap-line SCADA controlled switch
- Install SCADA controlled on existing main-line switch
- Construct 0.6 miles of 336 kcmil 26/7 ASCR transmission line
- Adjust relay settings at Cloverdale and Harmon substations
- Install revenue metering

Alternatives Considered:

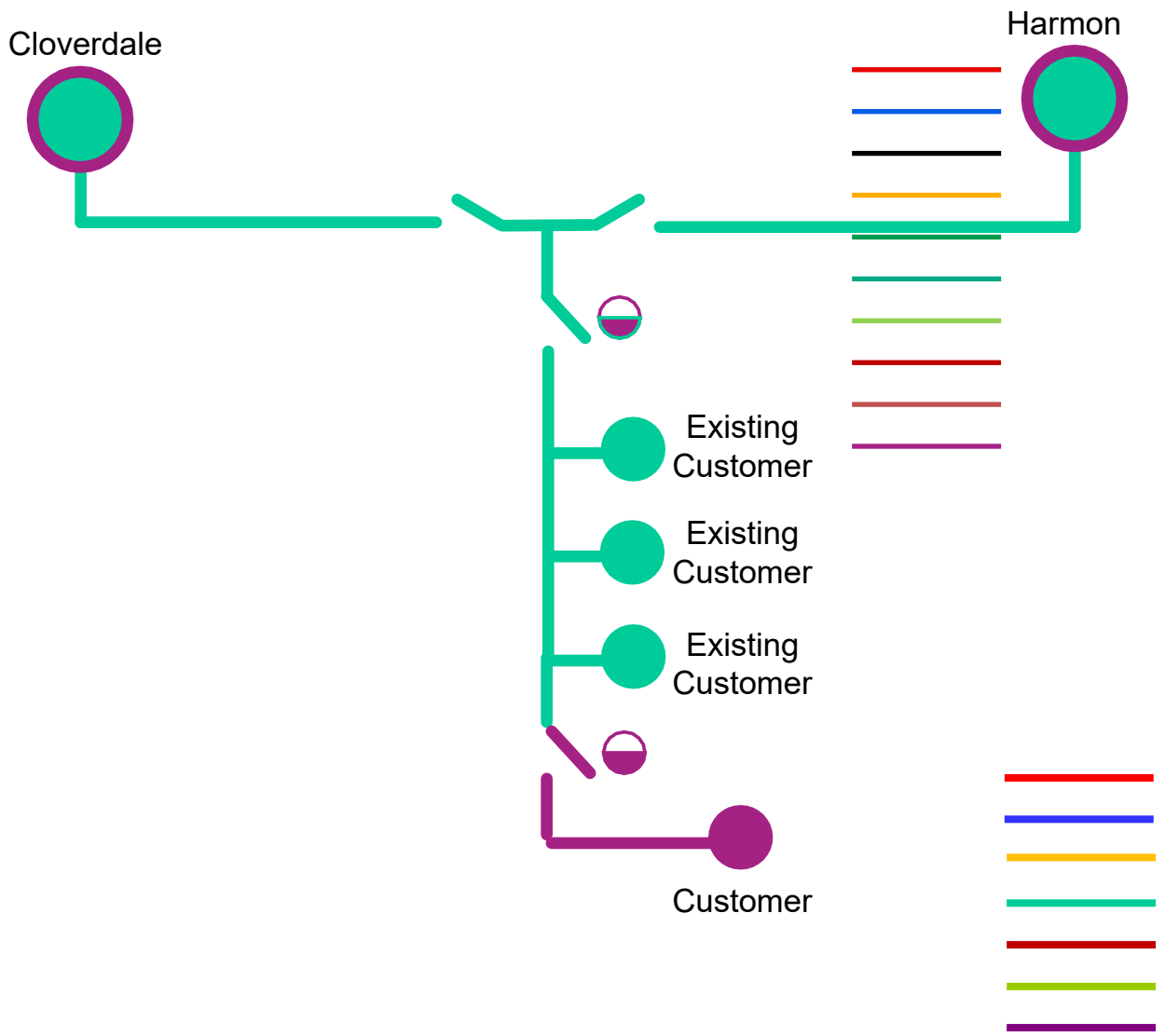
No feasible alternatives to meet customer's request near the Cloverdale - Harmon 138 kV Line.

Estimated Project Cost: $0.8M

Projected In-Service: 12/31/2027

Status: Engineering

Model: 2023 RTEP model for the 2028 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

11/04/2025– V1 – Original version posted to pjm.com
11/14/2025 – V2 – Formatting corrected