

Transmission Expansion Advisory Committee

FirstEnergy Supplemental Projects

ATSI Transmission Zone

October 6, 2026

Need

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 Chamberlain-Harding 345 kV S-21 line

Need Number: ATSI-2026-067
Process Stage: Need Meeting 10/06/2026
Project Driver: Customer Service

Specific Assumption References:

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

Problem Statement:

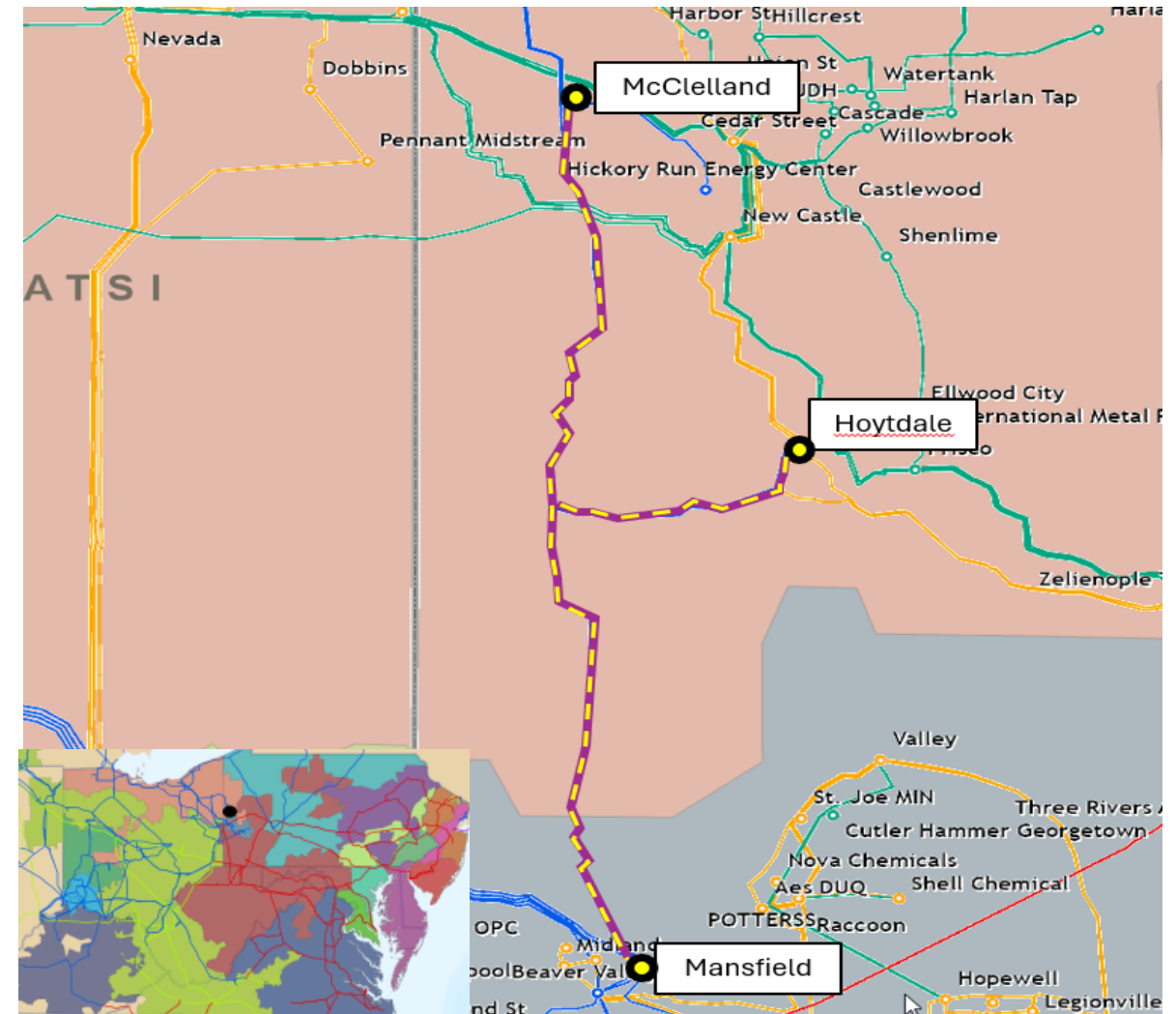
New Customer Connection - A new customer requested 345 kV service for load of approximately 500 MW near the Hoytdale - Mansfield and Hoytdale - McClelland 345 kV lines. The request is 0.75 miles from Hoytdale Substation.

Initial Load (2031): 275 MW

Expected Load (2031): 275 MW

Ultimate Load (2032): 500 MW

Requested in-service date is 11/14/2031.



Solution

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: ATSI-2026-058
Process Stage: Solution Meeting 10/06/2026
Previously Presented: Need Meeting 08/04/2026
Project Driver: Customer Service

Specific Assumption References:

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:

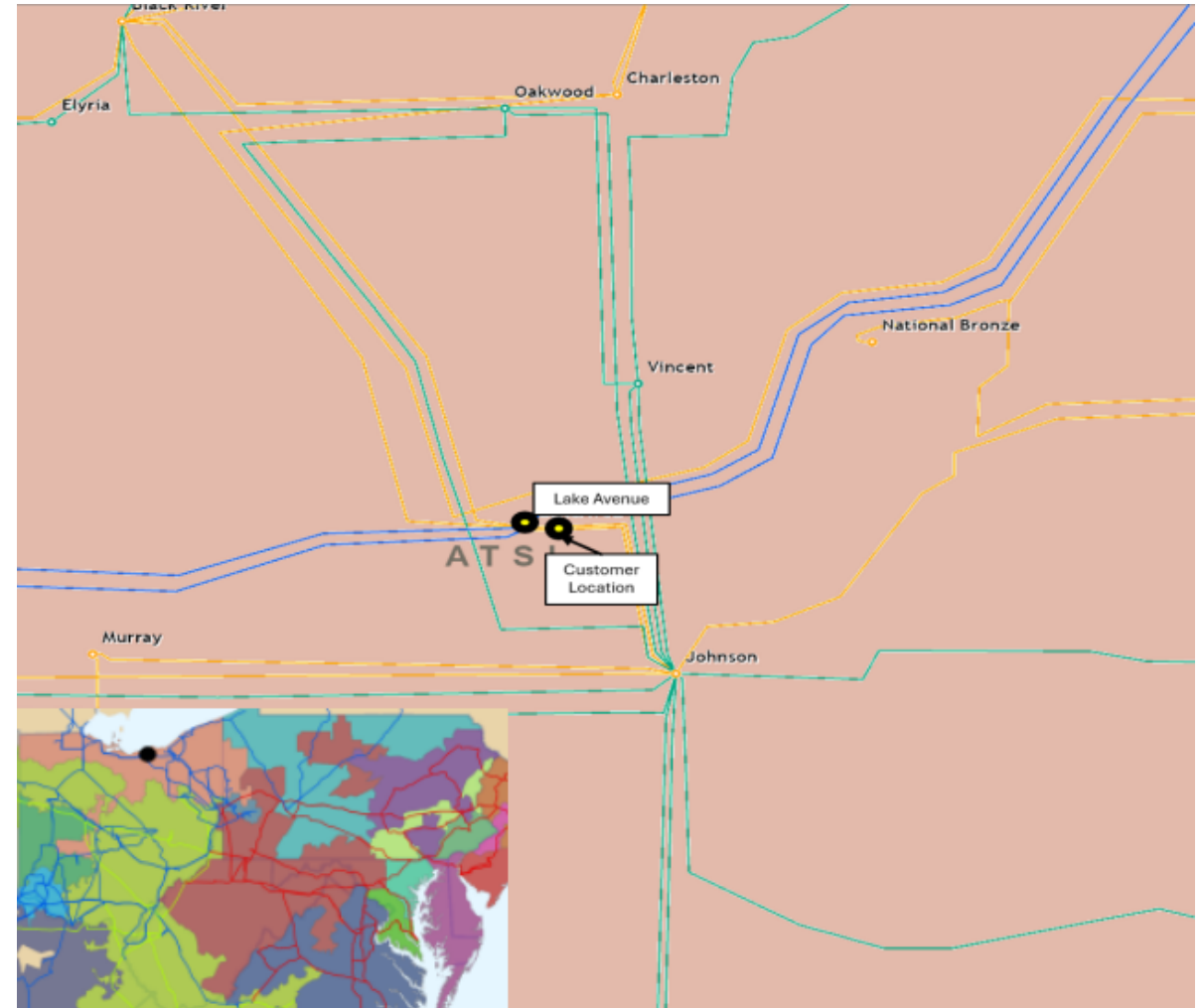
New Customer Connection - A Customer has requested a new 138 kV delivery point near the Lake Avenue Substation. The anticipated load of the new customer connection is 200 MVA. The request is approximately 0.3 miles from Lake Avenue Substation.

Initial Load (2030): 50 MVA

Expected Load (2031): 200 MVA

Ultimate Load (2031) 200 MVA

Customer In-Service Date: 07/15/2030



Need Number: ATSI-2026-058
Process Stage: Solution Meeting 10/06/2026

Proposed Solution:

Lake Avenue Substation:

Install six new 345 kV breakers at Lake Avenue Substation, creating a 12-breaker, four-bay, breaker-and-a-half substation.

Re-terminate the existing 345 kV lines and 345/138 kV transformers into the expanded substation.

Install one 345 kV feed to the POI and install 345 kV revenue meters in customer facilities.

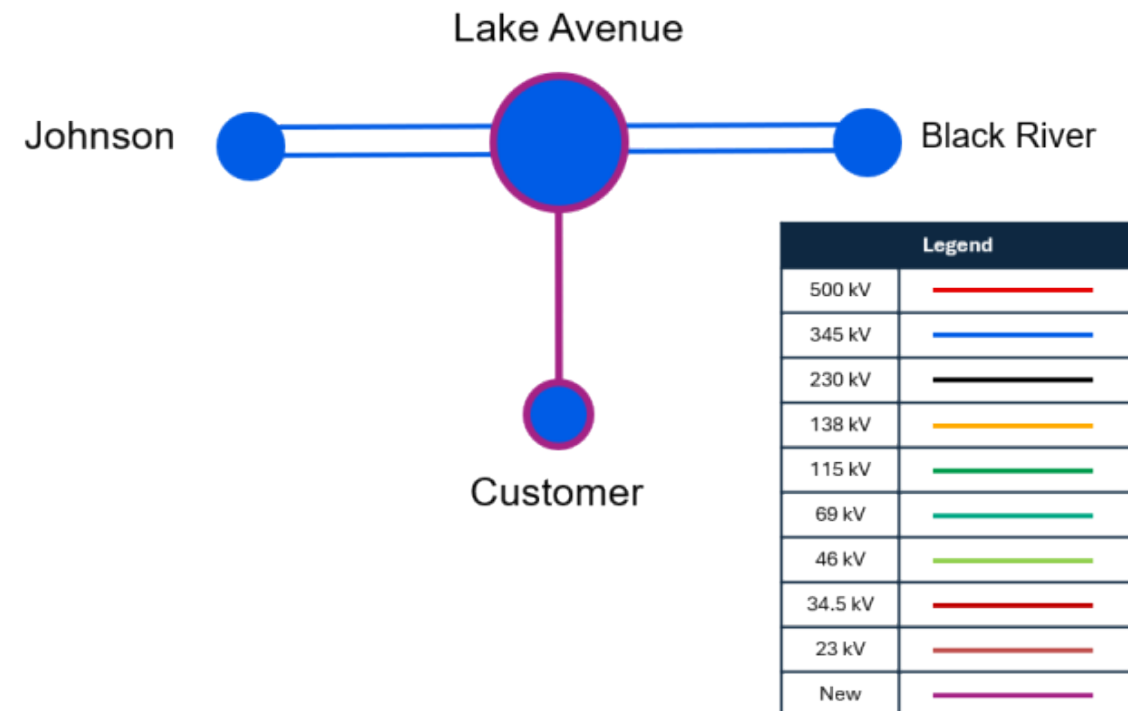
Transmission Line Ratings:

Lake Avenue - New Customer 345 kV Line:

Before Proposed Solution: N/A

After Proposed Solution: 328 / 396 / 353 / 428 MVA (SN/SE/WN/WE)

Transmission Cost Estimate: \$8.23 M
Projected In-Service: 09/11/2030
Project Status: Conceptual
Model: 2025 RTEP for 2030 Summer (50/50)



Need Number: ATSI-2024-033
Process Stage: Solution Meeting 10/06/2026
Previously Presented: Need Meeting 06/04/2024
Project Driver: Equipment Condition/Performance/Risk

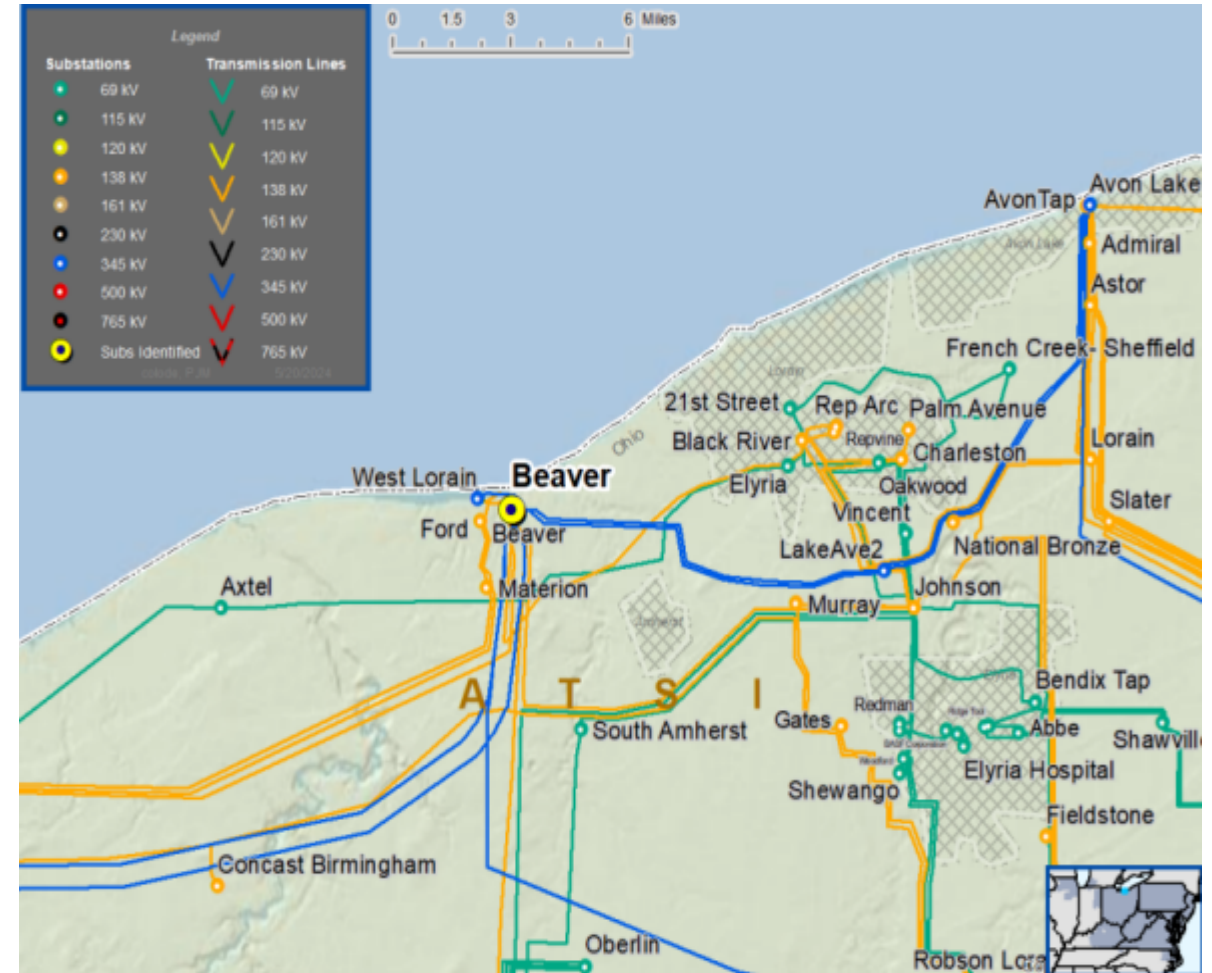
Specific Assumption References:

System Performance Projects Global Factors
 - System reliability and performance
 Add/Replace Transformers
 Past System Reliability/Performance

Problem Statement:

Beaver No. 2 345/138 kV Transformer is approximately 54 years old and approaching end of life.
 The transformer is experiencing oil leaks that have been difficult to repair.
 A fault on Beaver No. 2 345/138 kV Transformer outages eight circuit breakers.
 Existing transformer ratings:

- 497 / 522 MVA (SN/SLTE)
- 605 / 629 MVA (WN/WLTE)



Need Number: ATSI-2024-033

Process Stage: Solution Meeting 10/06/2026

Proposed Solution:

Beaver No. 2 345/138 kV Transformer Replacement and Reconfiguration:

Replace Beaver No. 2 345/138 kV Transformer and reconfigure line and transformer terminal position.

Add one 345 kV circuit breaker and add two 138 kV circuit breakers.

Move Beaver No. 2 345/138 kV Transformer 345 kV termination to the new breaker bay position.

Move Lake Avenue No. 2 345 kV line termination to the new breaker bay.

Move Woodings AMP 138 kV line exit termination to the former No. 1 345/138 kV Transformer 138 kV breaker bay.

Move Beaver No. 2 345/138 kV Transformer 138 kV termination to the former West Lorain 138 kV breaker bay.

Transmission Line Ratings:

Beaver - Lake Avenue No. 1 345 kV Line:

Before Proposed Solution: 1542 / 1878 / 1746 / 2225 MVA (SN/SE/WN/WE)

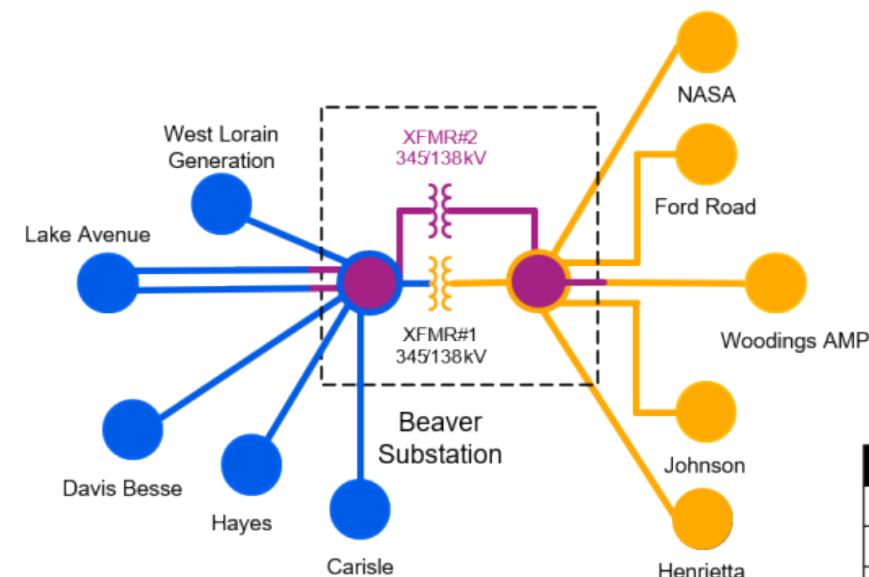
After Proposed Solution: 1560 / 1900 / 1766 / 2251 MVA (SN/SE/WN/WE)

Beaver - Lake Avenue No. 2 345 kV Line:

Before Proposed Solution: 1534 / 1878 / 1746 / 2225 MVA (SN/SE/WN/WE)

After Proposed Solution: 1560 / 1900 / 1766 / 2251 MVA (SN/SE/WN/WE)

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

Need Number: ATSI-2024-033
Process Stage: Solution Meeting 10/06/2026

Proposed Solution (CONT’):

Transformer Ratings:

Beaver No. 2 345/138 kV Transformer:

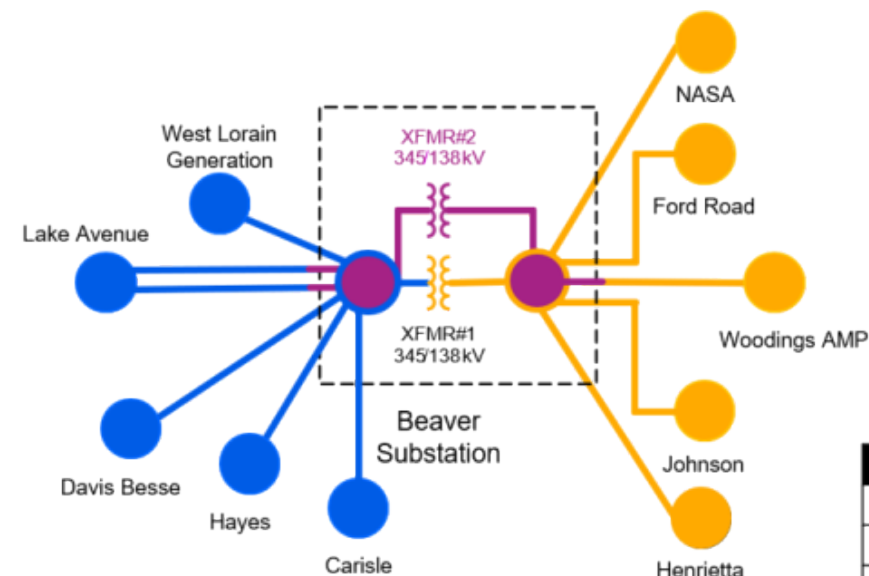
Before Proposed Solution: 497 / 552 / 552 / 552 MVA (SN/SSTE/WN/WSTE)

After Proposed Solution: 583 / 741 / 682 / 777 MVA (SN/SSTE/WN/WSTE)

Alternatives Considered:

Maintain Station in existing configuration with elevated risk of failure.

Transmission Cost Estimate: \$29.56 M
Projected In-Service: 12/14/2029
Project Status: Conceptual
Model: 2025 RTEP for 2030 Summer (50/50)



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

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

09/25/2026– V1 – Original version posted to pjm.com