Subregional RTEP Committee – Western
FirstEnergy Supplemental Projects

February 13, 2026

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
Avery - Carriage 69 kV Line

Need Number: ATSI-2026-015
Process Stage: Need Meeting 02/13/2026
Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference:
System Performance Projects Global Factors
- System reliability/performance
- Line Condition Rebuild/Replacement
- Age/condition of wood pole transmission line structures

Problem Statement:
The Avery - Carriage 69 kV Line was constructed approximately 58 years ago and is approaching end of life. It is approximately ten miles long with 166 wood pole transmission line structures. Per recent inspections, the line is exhibiting deterioration. Inspection findings include:
- 5 structures need reinforcement
- 69 structures have measurable shell rot
- 11 structures have failed sound tests

Since 2020, the line has had seven unscheduled, sustained outages. Two of the outages were due to failed line equipment including a failed crossarm and failed brace.

Avery - Pike Tap 69 kV Line
- Existing Transmission Line Ratings: 74 / 76 / 83 / 83 MVA (SN/SE/WN/WE)
- Existing Conductor Ratings: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)

Pike Tap - Certain Teed Products Tap 69 kV Line
- Existing Transmission Line and Conductor Ratings: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)

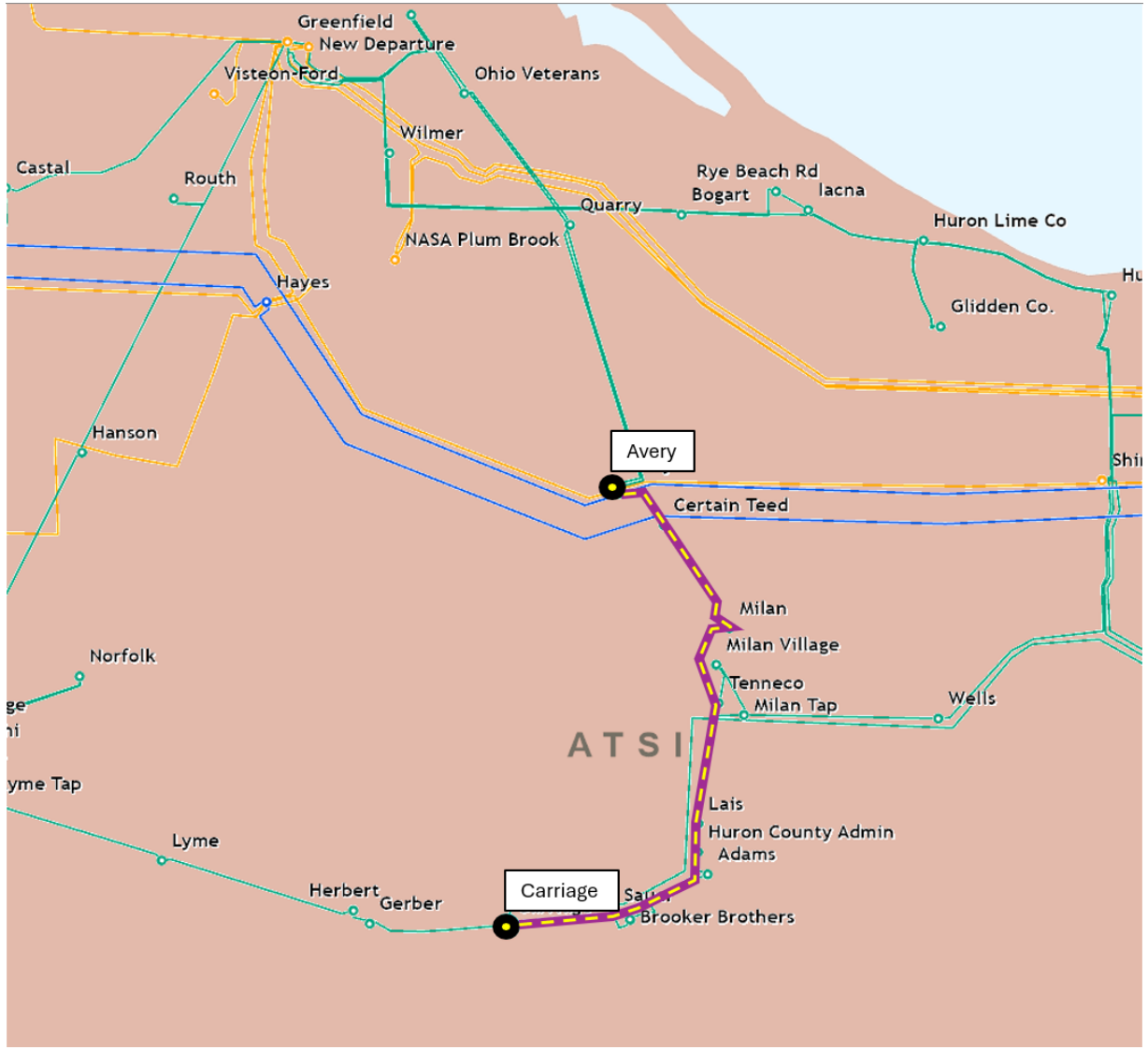
Certain Teed Products Tap - Milan Muni Tap 69 kV Line
- Existing Transmission Line and Conductor Ratings: 76 / 92 / 87 / 111 MVA (SN/SE/WN/WE)

Milan Muni Tap - Milan Teneco Tap 69 kV Line
- Existing Transmission Line and Conductor Ratings: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)

Milan Teneco Tap - Carriage 69 kV Line
- Existing Transmission Line and Conductor Ratings: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)

Milan Teneco Tap - Teneco Tap 69 kV Line
- Existing Transmission Line and Conductor Ratings: 76 / 92 / 87 / 111 MVA (SN/SE/WN/WE)

Teneco Tap - Village of Milan 69 kV Line
- Existing Transmission Line and Conductor Ratings: 76 / 92 / 87 / 111 MVA (SN/SE/WN/WE)



ATSI Transmission Zone M-3 Process
Chrysler – Dowling 138kV Line

Need Number: ATSI-2026-016

Process Stage: Need Meeting 02/13/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference:

System Performance Projects Global Factors

- System reliability/performance
- Substation/Line equipment limits
- Line Condition Rebuild/Replacement
- Age/condition of wood pole transmission line structures

Problem Statement:

The Chrysler - Dowling 138 kV Line was constructed approximately 59 years ago and is approaching end of life. It is approximately ten miles long with 156 wood pole transmission line structures.

Per recent inspections, the section from structure 24 to structure 123 (approximately six miles) is exhibiting deterioration. Inspection findings include:

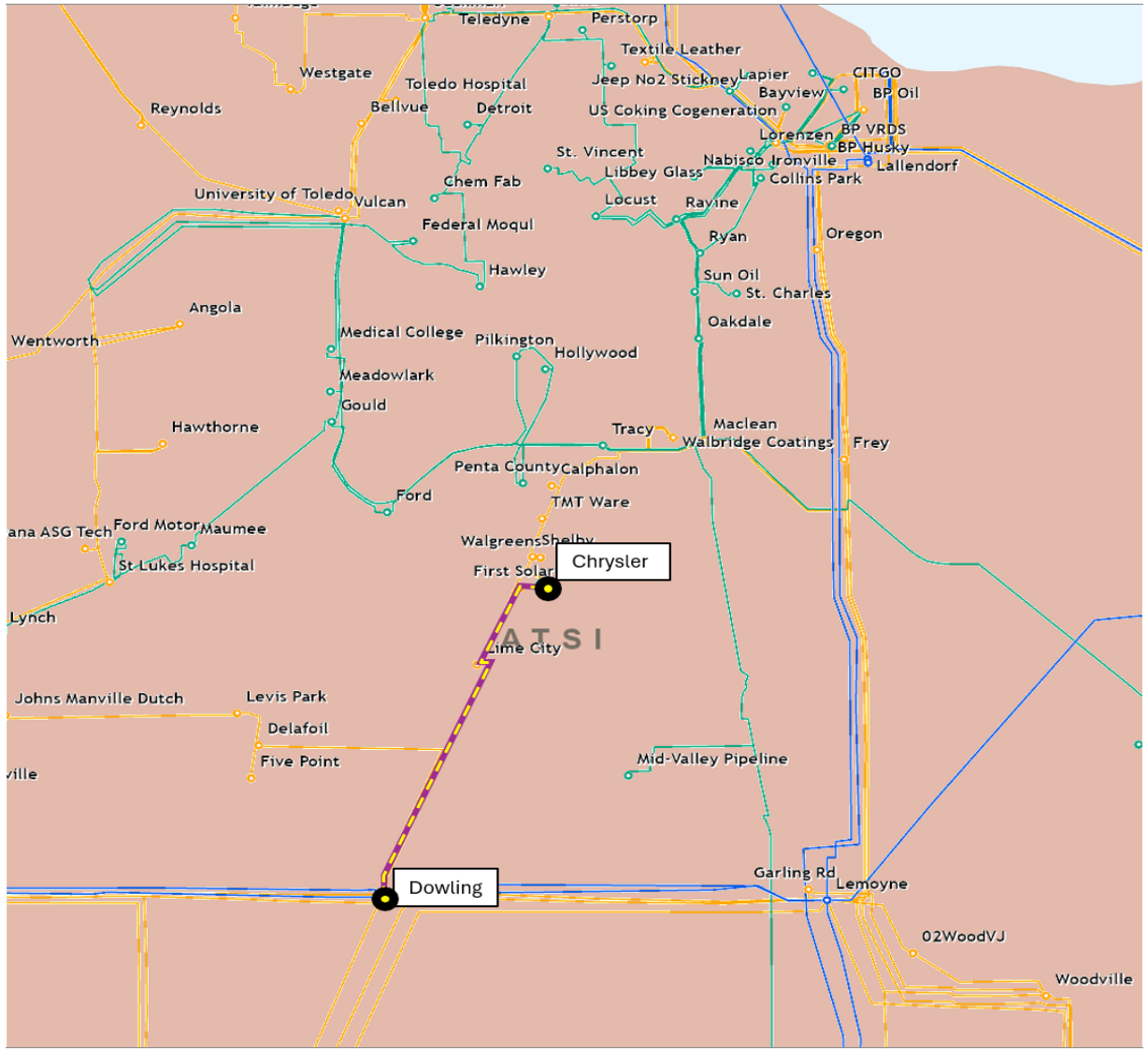
- 79 priority conditions identified; 26 of which are currently active
- 38 structures have rotten or cracked wood poles

Chrysler - First Solar Tap 138 kV Line

- Existing Transmission Line Ratings: 288 / 346 / 333 / 396 MVA (SN/SE/WN/WE)
- Existing Conductor Ratings: 288 / 353 / 333 / 427 MVA (SN/SE/WN/WE)

First Solar Tap - Lime City Tap 138 kV Line

- Existing Transmission Line and Conductor Ratings: 288 / 353 / 333 / 427 MVA (SN/SE/WN/WE)
- Lime City Tap - Dowling 138 kV Line
- Existing Transmission Line and Conductor Ratings: 288 / 353 / 333 / 427 MVA (SN/SE/WN/WE)



ATSI Transmission Zone M-3 Process
Cranberry - Pine No.1 138kV Line

Need Number: ATSI-2026-017

Process Stage: Need Meeting 02/13/2026

Project Driver: Operational Flexibility and Efficiency

Specific Assumption Reference:

System Performance Global Factors

- 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:

A line fault on the Cranberry - Pine No. 1 138 kV Line results in the loss of Epworth Substation. Epworth Substation serves 3,200 customers and approximately 28 MW of load.

Transmission line ratings are limited by terminal equipment

Cranberry - Three Rivers Aluminum 138 kV Line:

- Existing Transmission Line and Conductor Ratings: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)

Three Rivers Aluminum - Epworth 138 kV Line:

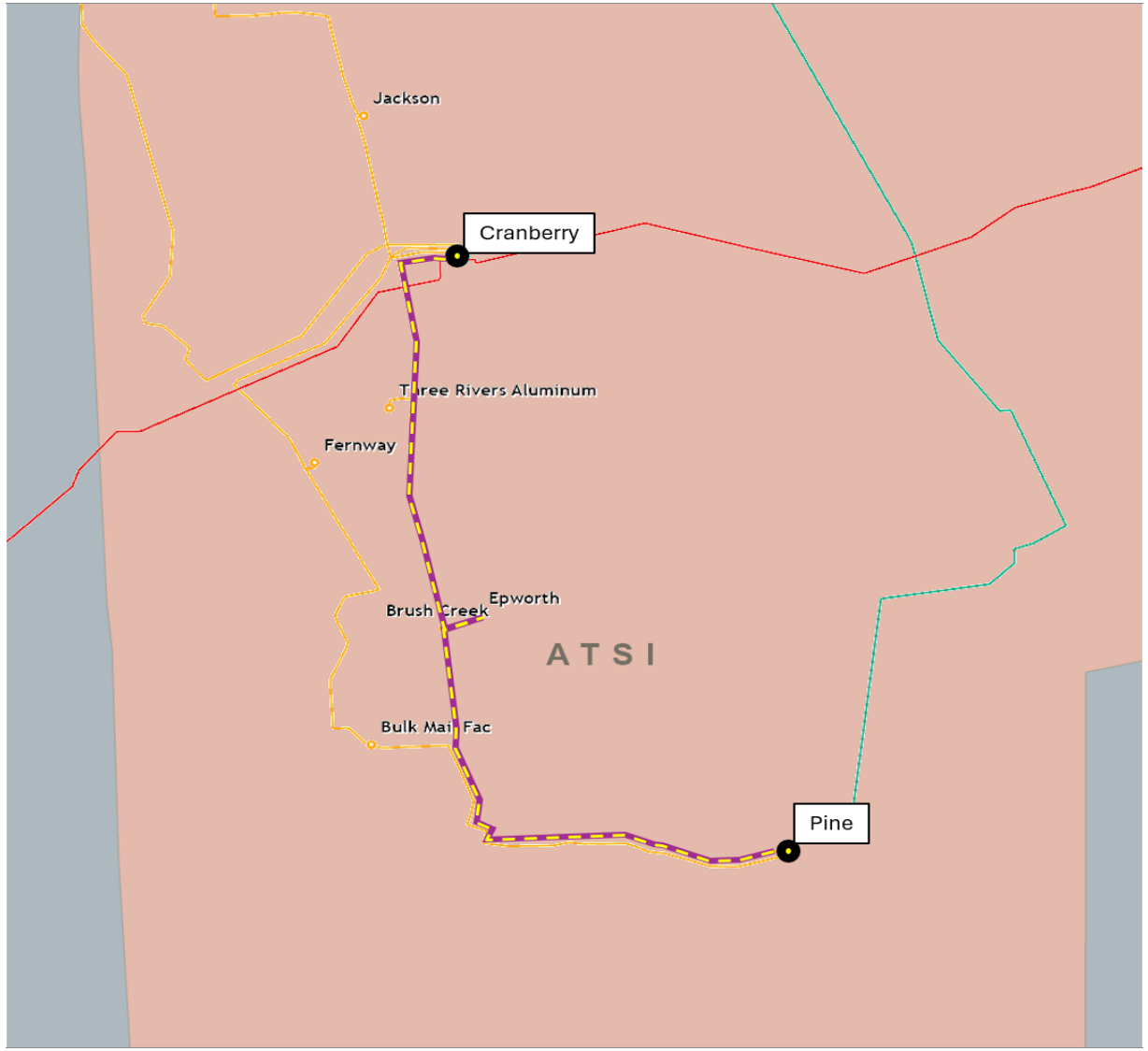
- Existing Transmission Line and Conductor Ratings: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)

Epworth - Brush Creek 138 kV Line:

- Existing Transmission Line and Conductor Ratings: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)

Brush Creek - Pine 138 kV Line:

- Existing Transmission Line Ratings: 265 / 314 / 315 / 343 MVA (SN/SE/WN/WE)
- Existing Conductor Ratings: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)
- Future Transmission Line Ratings: 278 / 339 / 315 / 401 MVA (SN/SE/WN/WE)
- Note: Future project, s1713, will replace terminal equipment at Pine 138 kV resulting in ratings increase (ISD: 12/15/2028)



ATSI Transmission Zone M-3 Process
Mantua – Garrettsville 69kV Line

Need Number: ATSI-2026-018
Process Stage: Need Meeting 02/13/2026
Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference:
System Performance Projects Global Factors
- System reliability/performance
- Substation/Line equipment limits
- Line Condition Rebuild/Replacement
- Age/condition of wood pole transmission line structures

Problem Statement:
The Mantua - Garrettsville 69 kV Line was constructed approximately 67 years ago and is approaching end of life. It is approximately 12 miles long with 150 wood poles transmission line structures.

Per recent inspections, the line is exhibiting deterioration. Inspection findings include:
- 135 structures have measurable shell rot
- 150 structures show early stages of decay
- 18 structures have pockets of decay

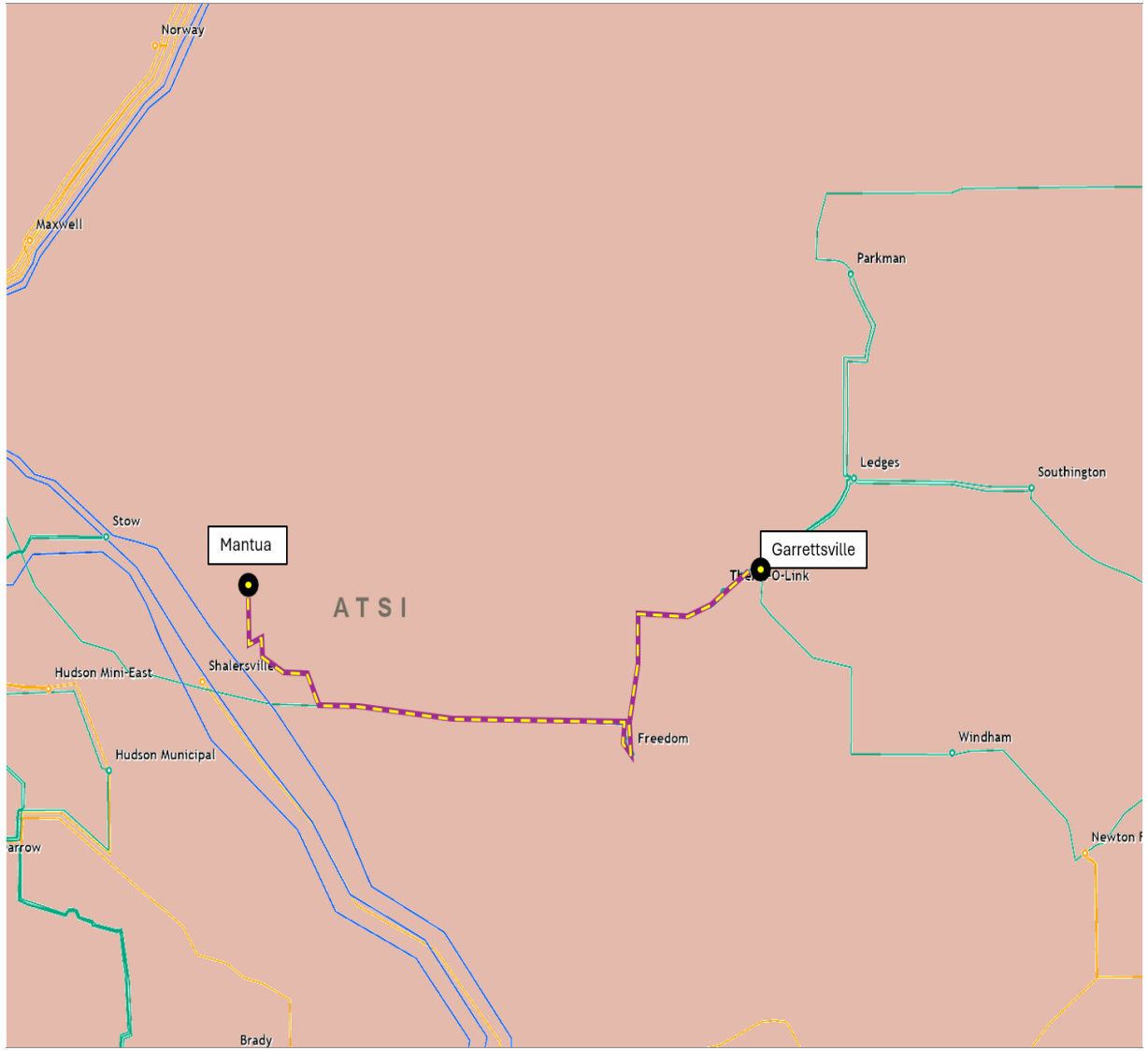
Since 2020, the line has experienced two unscheduled, sustained outages due to failed line equipment.

Mantua - Eaton 69 kV Line
- Existing Transmission Line Ratings: 82 / 103 / 108 / 124 MVA (SN/SE/WN/WE)
- Existing Conductor Ratings: 95 / 115 / 109 / 139 MVA (SN/SE/WN/WE)

Eaton - Freedom 69 kV Line
- Existing Transmission Line and Conductor Ratings: 95 / 115 / 109 / 139 MVA (SN/SE/WN/WE)

Freedom - Thermolk Tap 69 kV Line
- Existing Transmission Line and Conductor Ratings: 95 / 115 / 109 / 139 MVA (SN/SE/WN/WE)

Thermolk Tap - Garretsville 69 kV Line
- Existing Transmission Line and Conductor Ratings: 64 / 65 / 71 / 71 MVA (SN/SE/WN/WE)



ATSI Transmission Zone M-3 Process
Frisco – Maple 69 kV Line

Need Number: ATSI-2026-019

Process Stage: Need Meeting 02/13/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference:

System Performance Projects

- System reliability/performance
- Line Condition Rebuild/Replacement
- Age/condition of wood-pole transmission line structures

Problem Statement:

The Frisco - Maple 69 kV Line was constructed approximately 102 years ago and is approaching end of life. It is approximately ten miles long with 131 wood pole transmission line structures.

Per recent inspections, the line is exhibiting deterioration. Inspection findings include:

- 6 structures need to be reinforced
- 111 structures have measurable shell rot
- 35 priority repair conditions identified

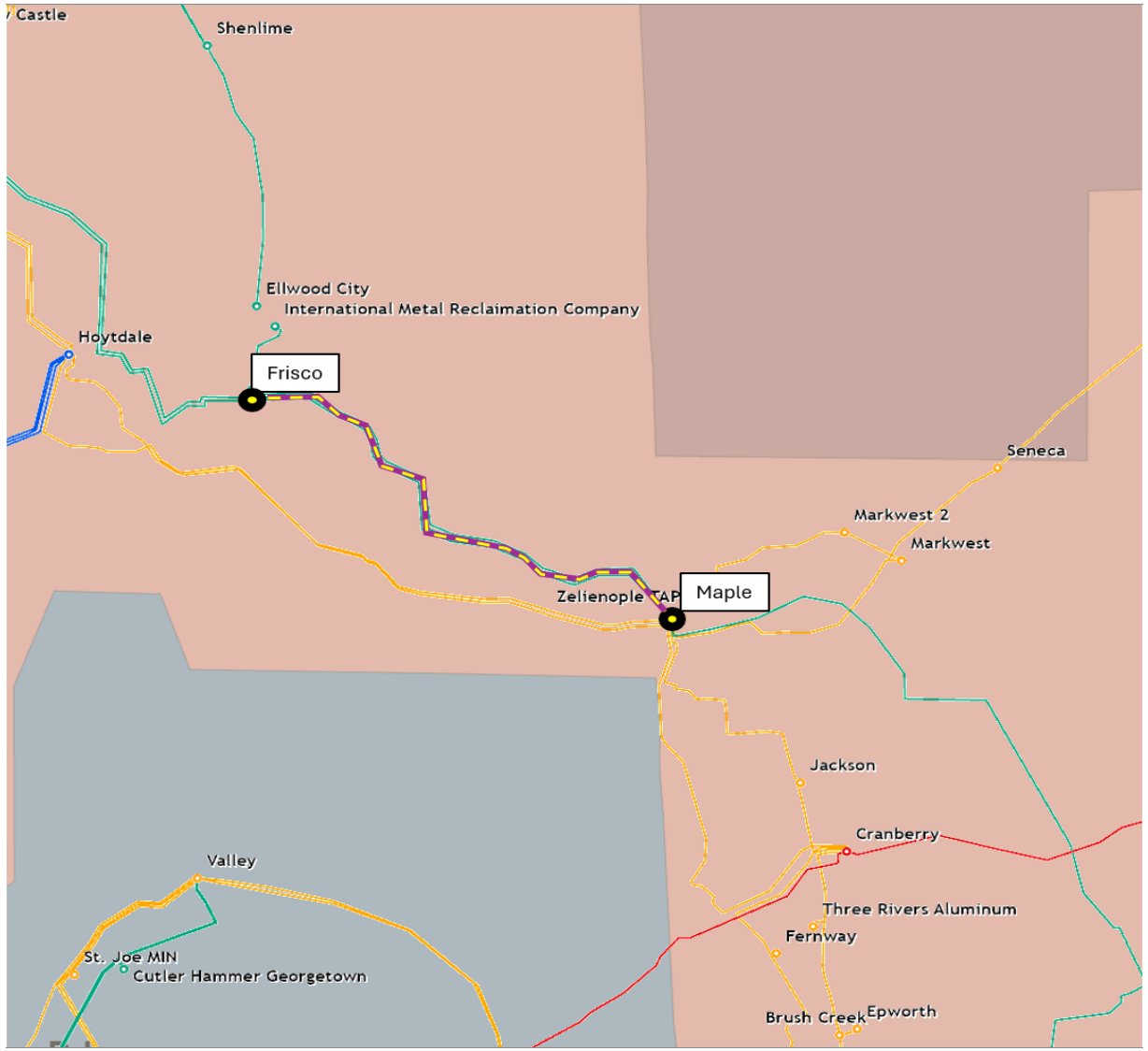
Since 2021, the line has had two unscheduled, sustained outages due to failed line equipment.

Frisco - Thompson Run 69 kV Line

- Existing Transmission Line and Conductor Ratings: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)

Thompson Run - Maple 69 kV Line

- Existing Transmission Line and Conductor Ratings: 80 / 96 / 90 / 114 MVA (SN/SE/WN/WE)



ATSI Transmission Zone M-3 Process
Peterburg Substation

Need Number: ATSI-2026-020

Process Stage: Need Meeting 02/13/2026

Project Driver: Operational Flexibility and Efficiency

Specific Assumption Reference:

System Performance Global Factors

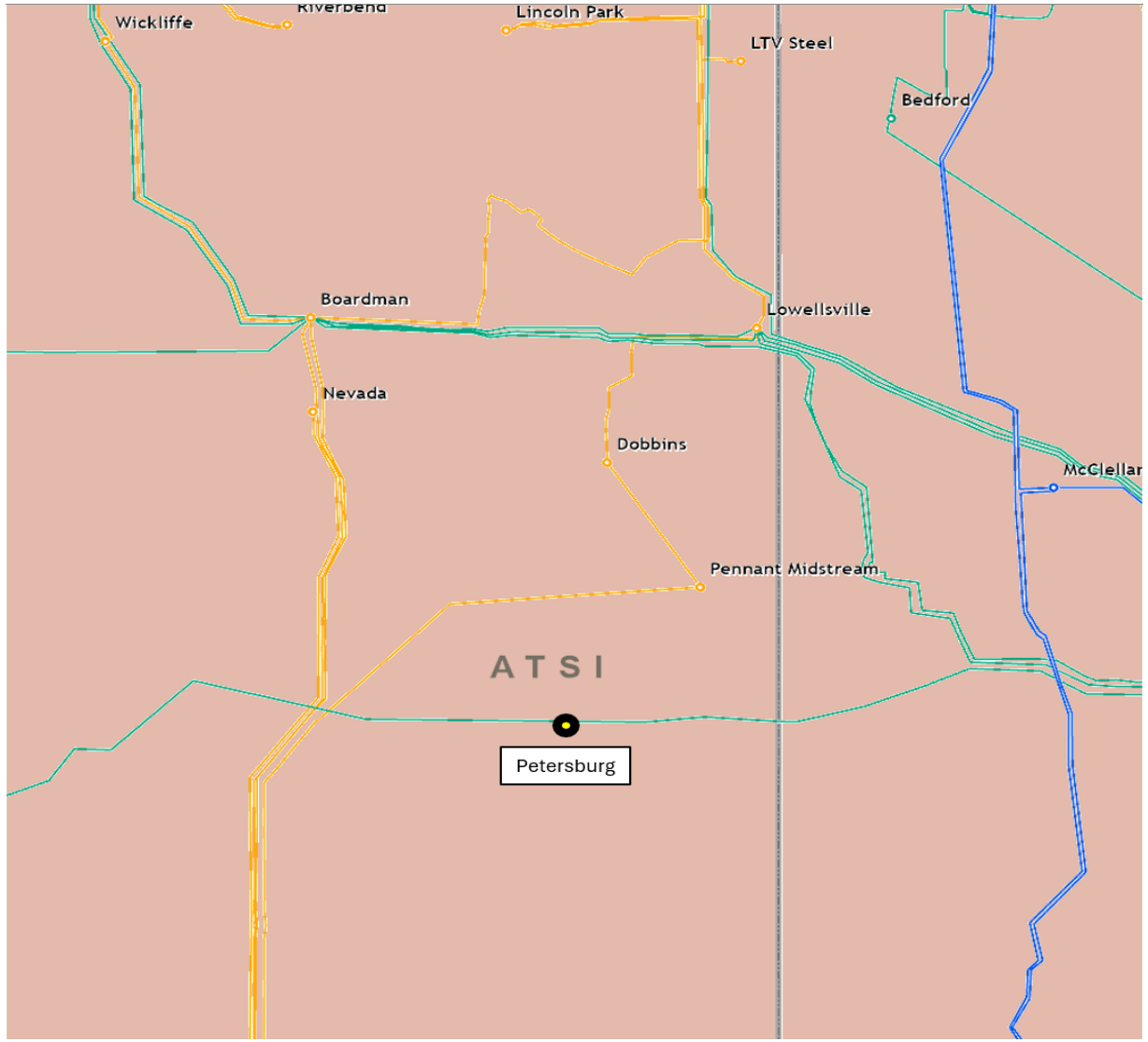
- Add/Expand Bus Configuration
- Load at risk in planning and operational scenarios
- Reduce the amount of exposed potential local load loss during contingency conditions
- Eliminate simultaneous outages to multiple networked elements
- Network Radial Lines

Problem Statement:

The Petersburg Substation is fed from the Boardman - Columbiana 69 kV Line. The substation serves approximately 10 MW of load and 2,500 customers from a radial line (5.5 miles). There is only one 69 kV transmission source to the Petersburg Substation.

Mahoning landfill is tapped on the radial line which uses a fiber relaying scheme and limits options to loop or reconfigure the line.

Since 2020, the Boardman - Columbiana 69 kV Line has experienced fifteen (15) unscheduled outages.



ATSI Transmission Zone M-3 Process
Shawville and Mill Substations

Need Number: ATSI-2026-021

Process Stage: Need Meeting 02/13/2026

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
- Network Radial Lines

Problem Statement:

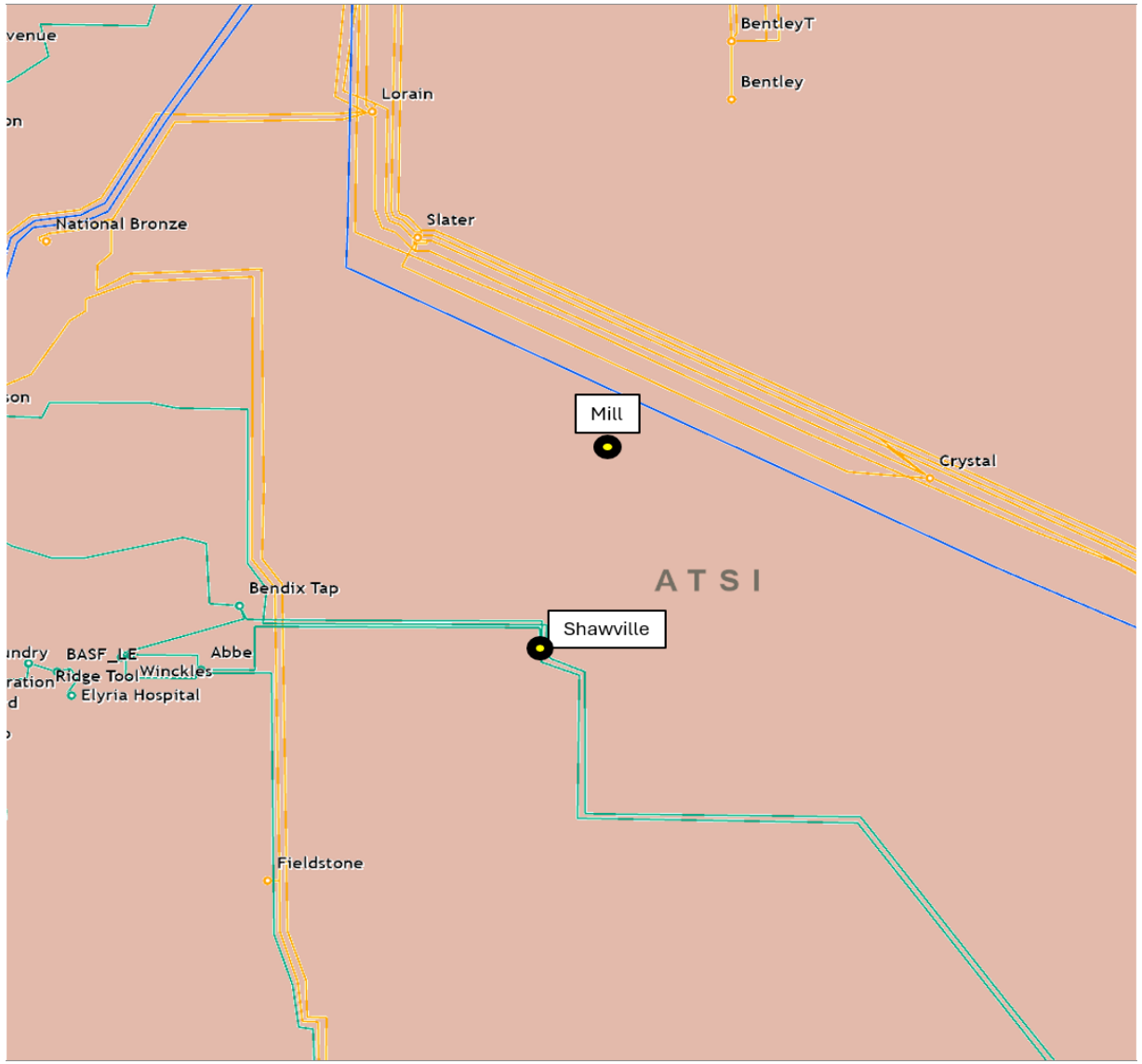
The Abbe - Johnson No. 1 69 kV Line is approximately 15 miles long and serves eight delivery points with approximately 17,100 customers and 62 MW of load.

Both the Shawville Substation and Mill Substation are fed radially from taps on the Abbe - Johnson No. 1 69 kV Line. The tap to Shawville Substation is 2.5 miles long and the tap to Mill Substation is 6.3 miles long.

Shawville Substation serves approximately 8,000 customers and 27 MW of load. Mill Substation serves approximately 5,400 customers and 15 MW of load.

A fault on the line will interrupt electric service to the customers served from Shawville Substation, Mill Substation, and other customers served from the delivery points on the line.

Since 2020, the Abbe - Johnson No. 1 69 kV Line has experienced eight unscheduled outages.



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

02/xx/2026– V1 – Original version posted to pjm.com