Western Sub Regional RTEP:
AEP Supplemental Projects

Sept 18, 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

AEP Transmission Zone M-3 Process
East Liverpool – North Wellsville

Need Number: AEP-2026-OH035

Process Stage: Need Meeting 09/18/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

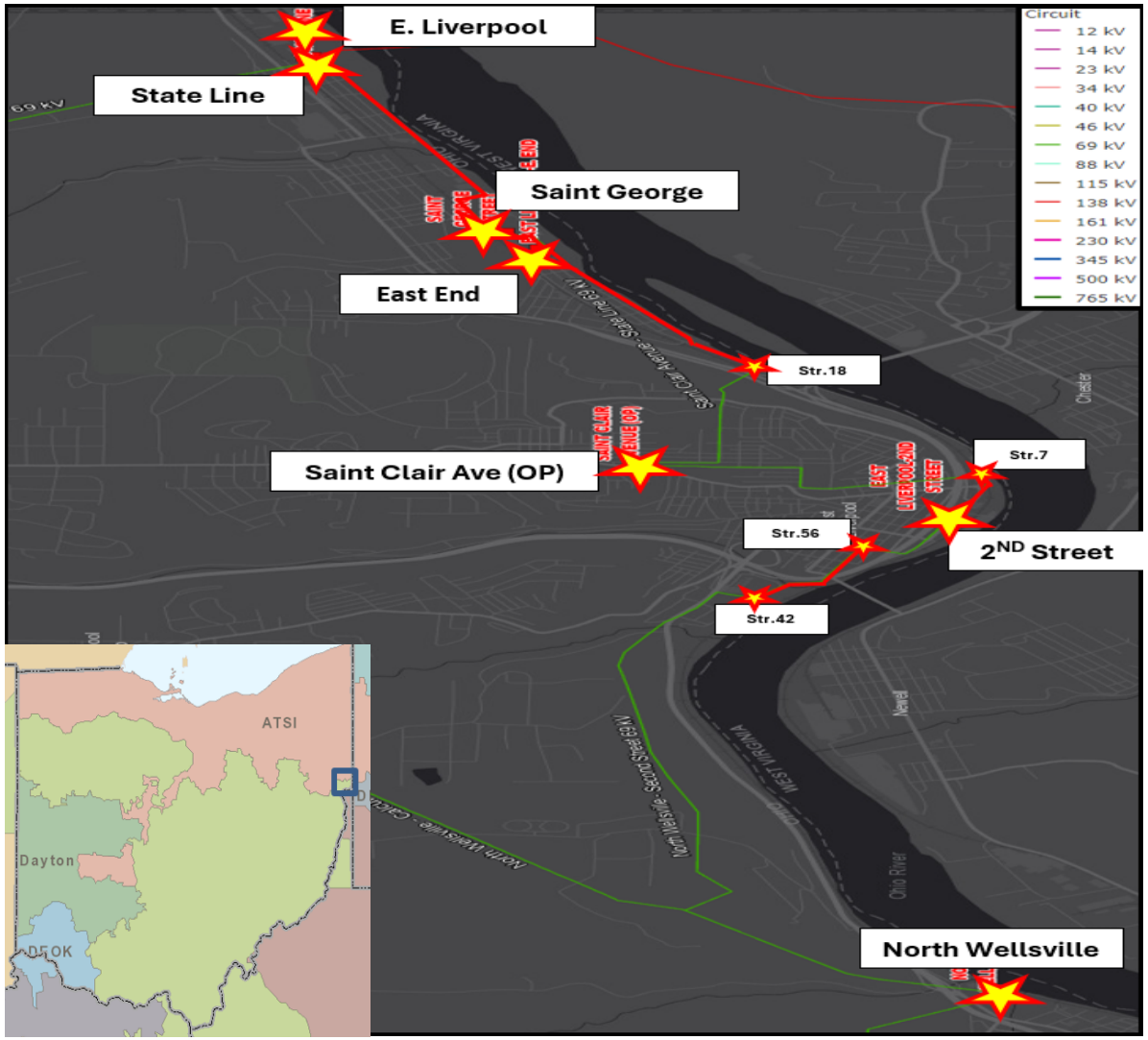
Problem Statement:

North Wellsville - Second Street 69 kV Str. 42 - Str. 56:

- Original Install: 1930
- Length of Line: ~0.44 miles
- Open Conditions: 2 Structure, 1 Conductor, 1 Hardware
- Outage Info: 7 Momentary
- Most structures are wood, installed in the 1930s, with #1 COPPER 3 and #1 COPPER 7 conductor. Components associated with this line section are all showing signs of deterioration.

East Liverpool - Second Street 69 kV:

- Original Install: 1960
- Total Length of Line: ~2.7 miles
- Outage Info: 7 Momentary, 4 Permanent
- Open Conditions: 3 Structure, 2 Grounding, 2 Hardware

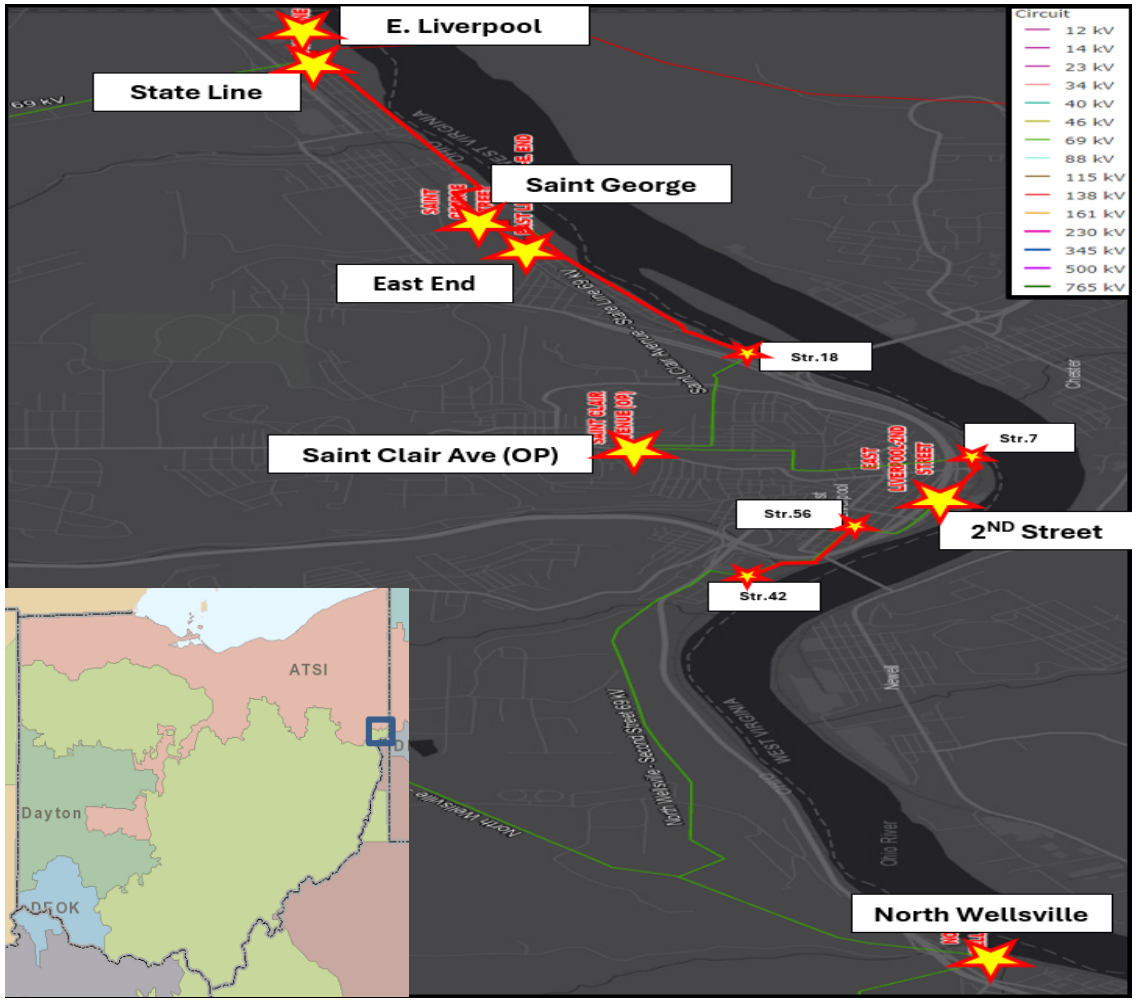


AEP Transmission Zone M-3 Process
East Liverpool – North Wellsville

Need Number: AEP-2026-OH035

Problem Statement: Continued from previous slide...

- Most structures are wood, installed in 1960s, with 4/0 ACSR 6/1 (Penguin) and 3/0 COPPER 7 (30COP) conductor. Components associated with both sections that make up this circuit are showing signs of deterioration.
  - 2nd Street - Str. 7:
  - Length of Line: ~0.28 miles
  - Saint Clair Avenue - State Line Str. 18 - State Line:
  - Length of Line: ~2.42 miles



AEP Transmission Zone M-3 Process
South Cadiz - Robyville 69 kV

Need Number: AEP-2026-OH039

Process Stage: Need Meeting 09/18/2026

Project Driver: Equipment Condition/Performance/Risk

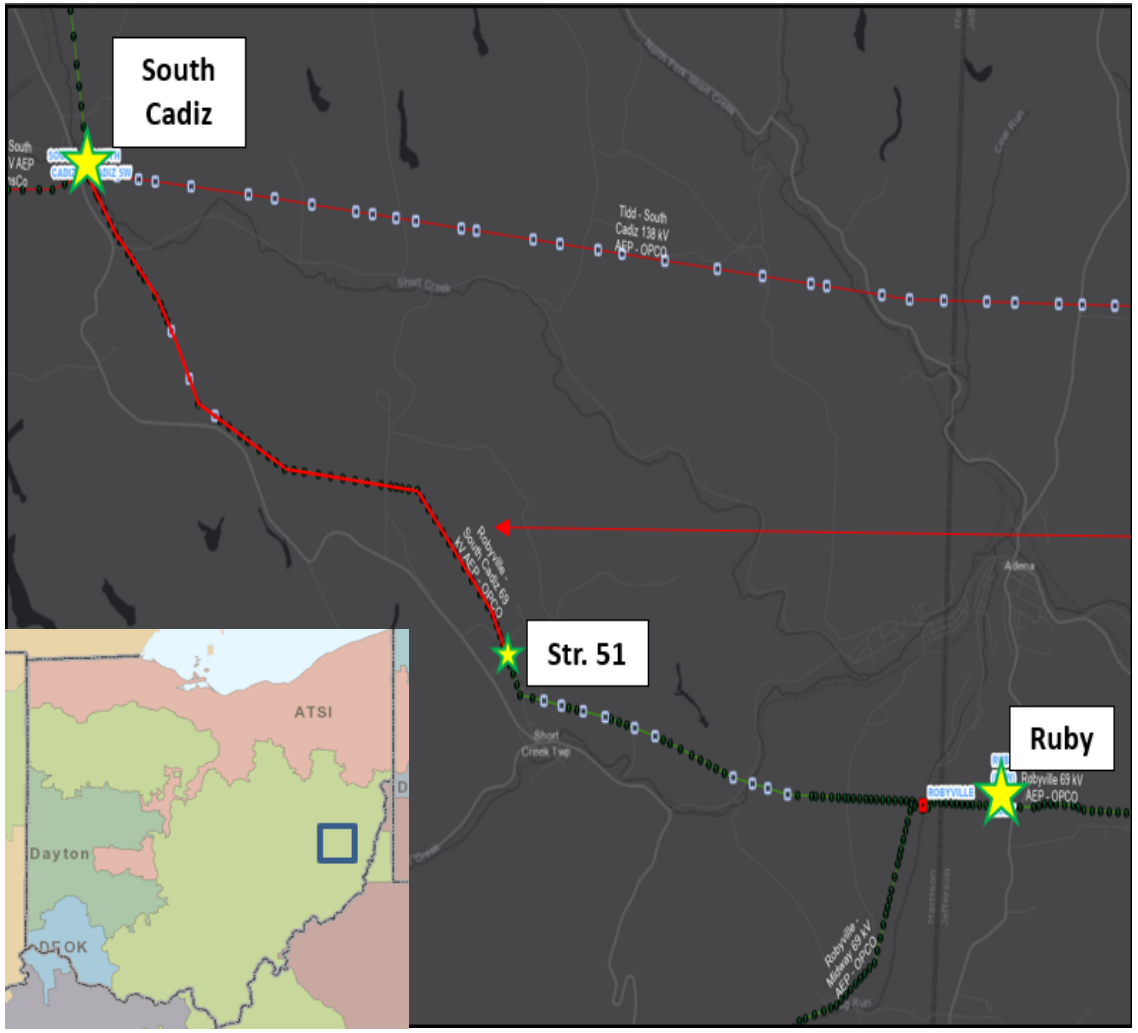
Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

South Cadiz - Robyville 69 kV: South Cadiz - STR. 51

- Original Install: 1966
- Length of Line: ~3.3miles
- Open Conditions: 40 reported conditions which include structural issues with rot and woodpecker damage on the wood poles, hardware conditions associated with broken insulators and corroded hardware and broken shielding/grounding wires.
  - 37 structures of the 55 total structures with at least one condition (67%)
- 55 Wood 1966 Structures, with 4/0 ACSR 6/1 (Penguin) conductor



AEP Transmission Zone M-3 Process
Moundsville - Natrium 69 kV

Need Number: AEP-2026-OH037

Process Stage: Need Meeting 09/18/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

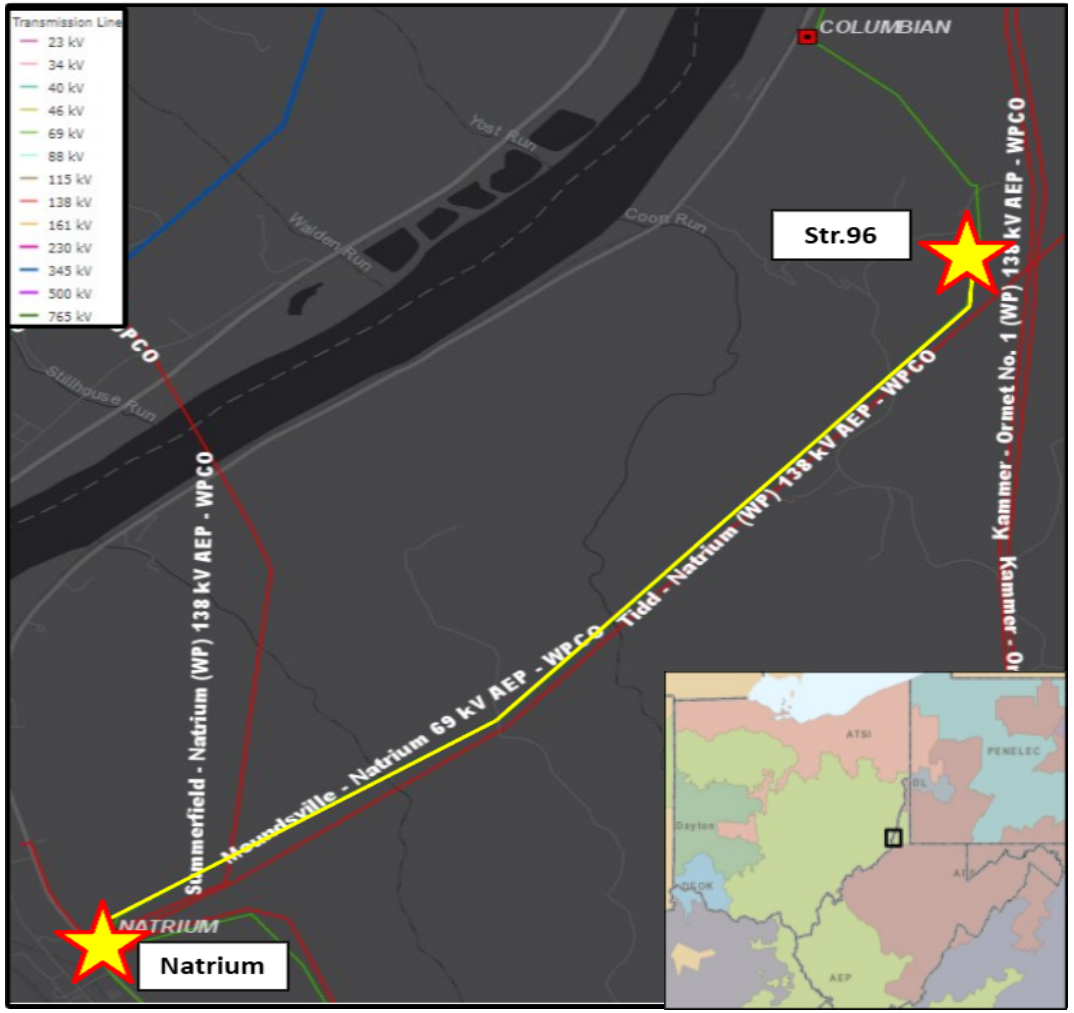
AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)?

Problem Statement:

McElroy - Natrium 69kV circuit:

Moundsville - Natrium 69 kV line asset, Structure 96 - Natrium (1927)

- Length of Line: 3.5 Miles
- Total Structure Count: 18
  - 15 Wooden Structures from 1926
  - 3 Wooden Structures from 2009
- Conductor Types:
  - 3.50 miles of 336,400 CM ACSR 30/7 (Oriole) from 1927
  - 0.01 miles of 336,400 CM ACSR 30/7 (Oriole) from 2009
- Outage Info Past 5 years:
  - 5 Momentary Outages; 2 Permanent
  - 936,624 CMI

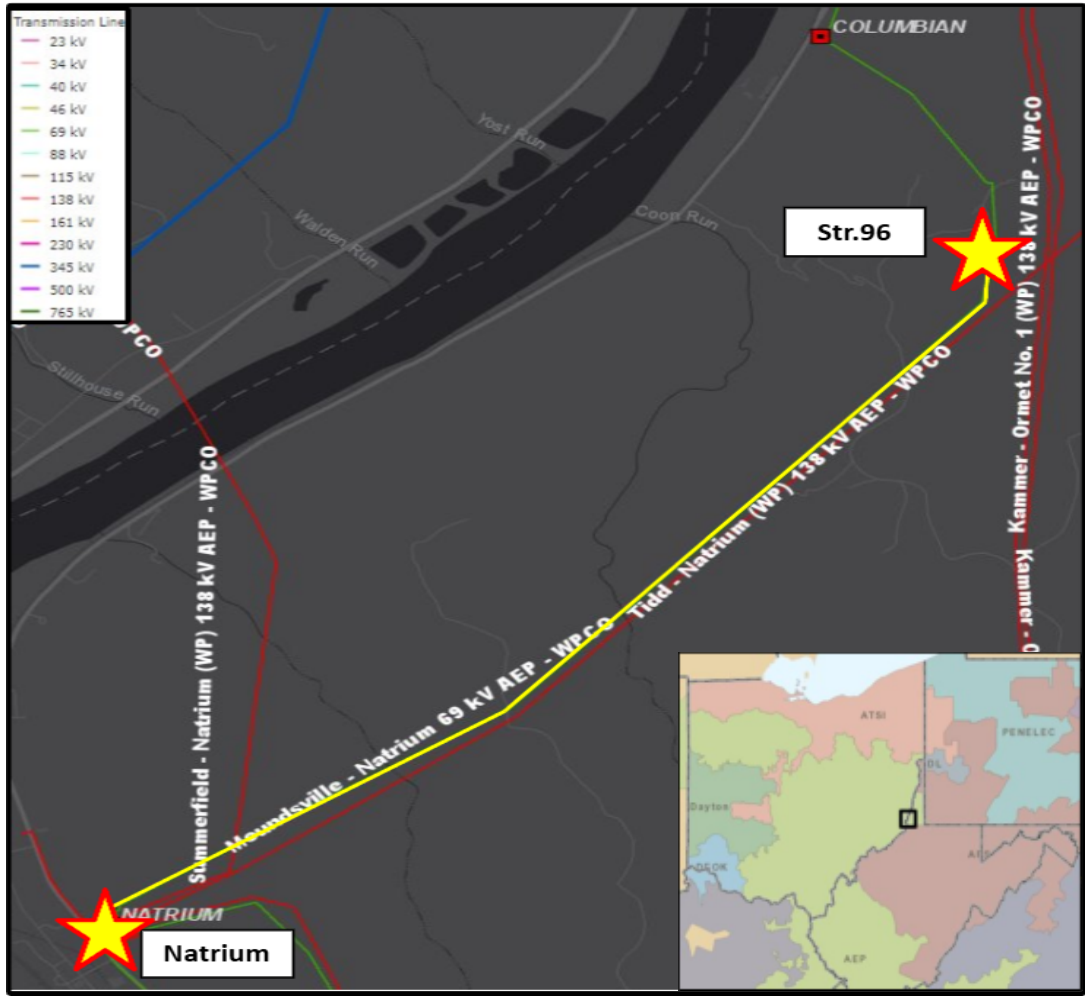


AEP Transmission Zone M-3 Process
Moundsville - Natrium 69 kV

Need Number: AEP-2026-OH037

Problem Statement: Continued from previous slide...

- Open Conditions: there are 9 structures with at least one open condition, which relates to 50% of the structures on this line section. There are 15 total active conditions consisting of 5 Crossarm, 1 Filler Block, 3 Ground Wire, 3 Insulator, & 3 Pole.



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

AEP Transmission Zone M-3 Process
Coleman - Stone 69 kV Line Rebuild

Need Number: AEP-2026-AP003

Process Stage: Solution Meeting 09/18/2026

Previously Presented: Need Meeting 04/15/2026

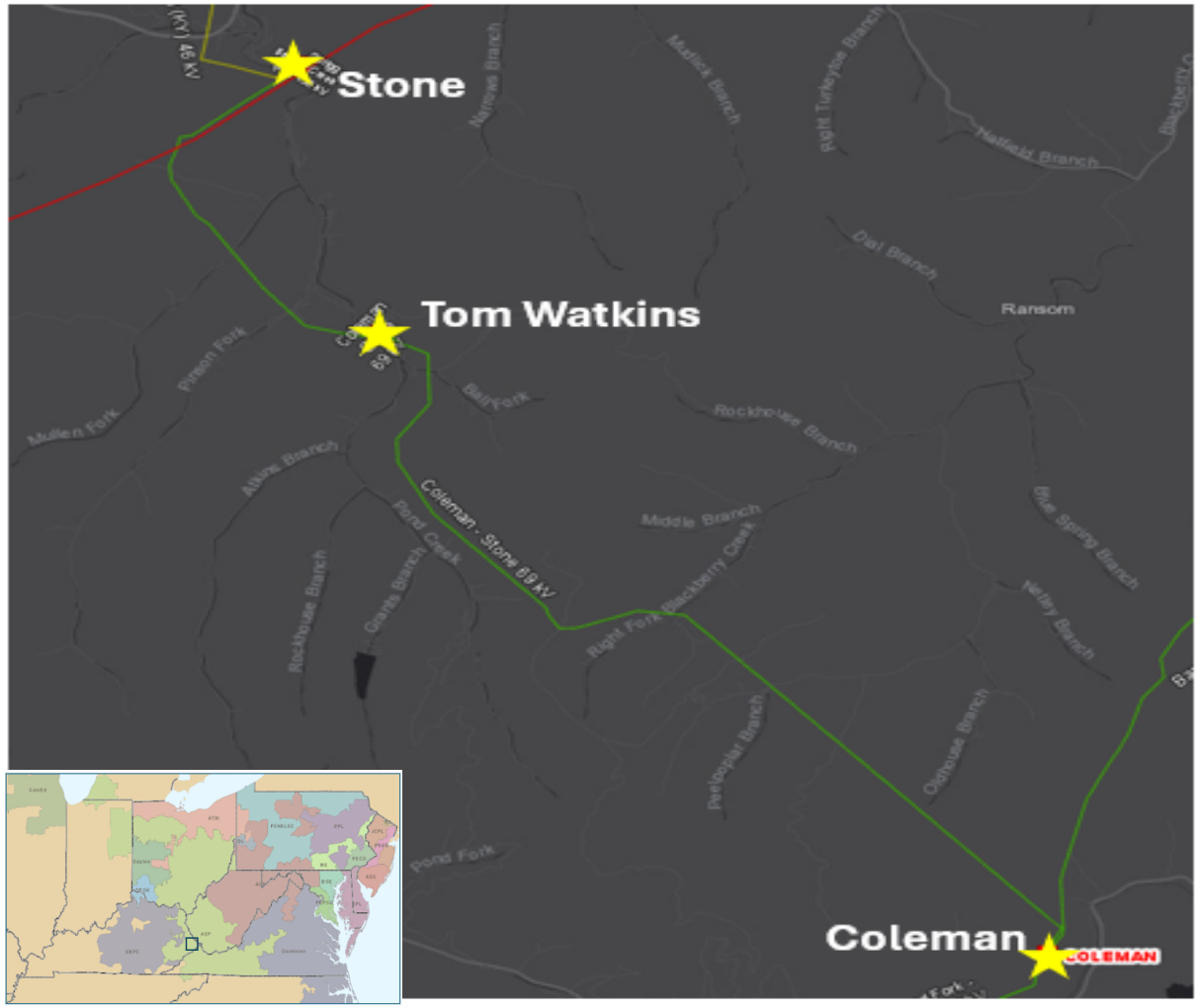
Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

AEP Assumptions Slide 12

Problem Statement:

The Coleman - Stone 69kV Line is 10.1 miles long and was original constructed in 1966. The line primarily (~70%) consists of original vintage wood structures and original vintage 336,400 CM ACSR 30/7 (Oriole), 2/0 Copper, and 3/0 ACSR conductors.

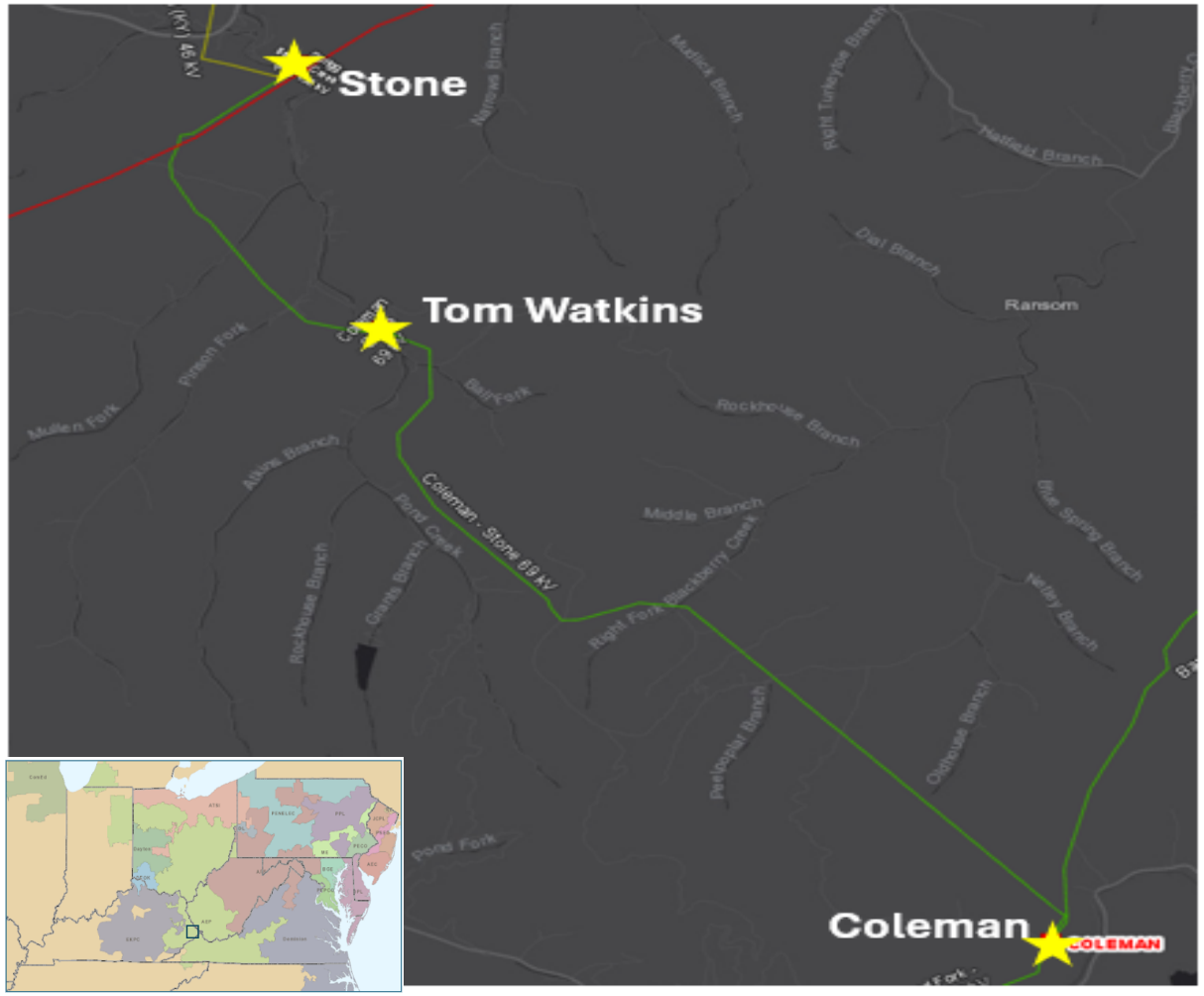


AEP Transmission Zone M-3 Process
Coleman - Stone 69 kV Line Rebuild

Need Number: AEP-2026-AP003

Problem Statement: Continued from previous slide...

From 2019 to 2025, there have been 6 momentary and 5 permanent outages on the Coleman - Stone 69kV Circuit. The permanent outages were attributed to crossarm failure, lightning, guy/anchor failure, and vegetation fall-in from outside of the AEP ROW causes. These permanent outages caused 136k minutes of interruption for customers served from Tom Watkins Substation. The lightning caused outages can be indicative of insufficient shielding, insufficient grounding, or a combination of these. The structures on the Coleman - Stone 69kV Line fail to meet 2017 NESC Grade B loading criteria, fail to meet current AEP structural strength requirements, and fail to meet the current ASCE structural strength requirements, which reduce the structure's ability to withstand storm or high wind damage, potentially resulting in prolonged outages. The ceramic insulators on the line do not meet current AEP standards for CIFO and minimum leakage distance requirements. The butt wrap style grounding is inadequate for current AEP Standards and can contribute to poor lightning performance. Currently, there are 31 structures with at least one open structural condition, which relates to 57% of the structures on the line. There are currently 71 open structural conditions impacting poles, crossarms, and braces including rot, woodpecker damage, broken, bowed, split, and burnt conditions.



AEP Transmission Zone M-3 Process
Coleman - Stone 69 kV Line Rebuild

Need number(s): AEP-2026-AP003

Process Stage: Solution Meeting 09/18/2026

Proposed Solution:

Coleman - Stone 69 kV Line

- Rebuild the roughly 10 mile long Coleman - Stone single circuit 69kV line. Existing ROW will used when possible and supplemented as needed along the 10 mile rebuild. OPGW will be included on this rebuild.
- Estimated Cost: $54 M

Stone Station

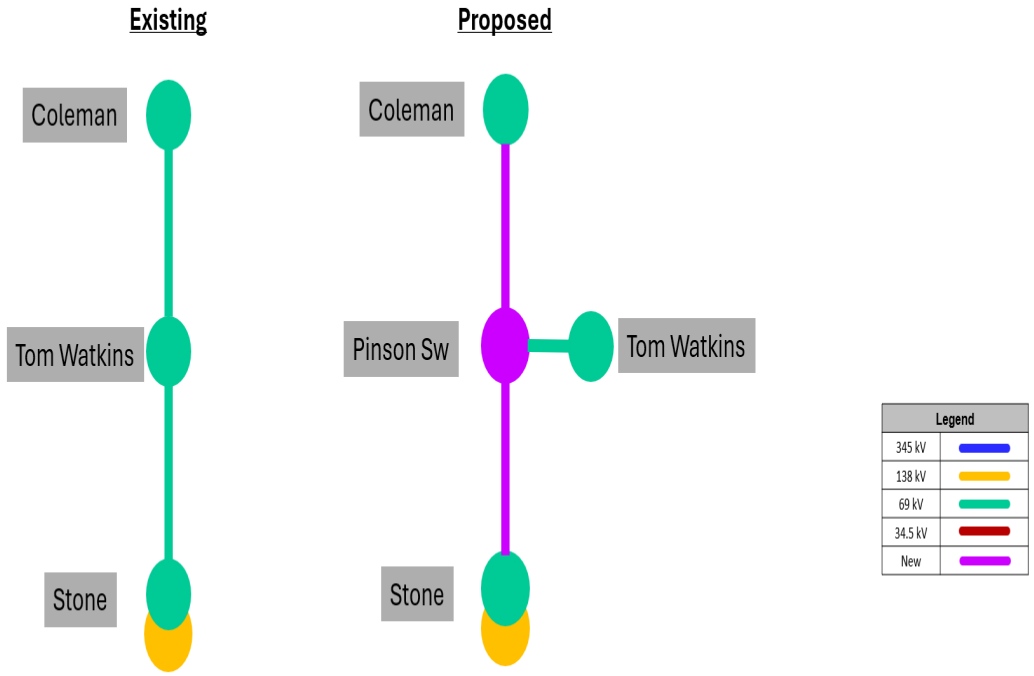
- Install relay upgrades at Stone Station and terminate the rebuilt line into Stone Station
- Estimated Cost: $0.53 M

Pinson Switch

- Replacing the 2 way GOAB phase over phase with a 3 way GOAB phase over phase with full rated interrupting capability. The new 3 way phase over phase switch will be motorized on Stone and Coleman line. The new asset will be name Pinson Switch Station
- Estimated Cost: $0.66 M

Coleman Station

- Terminate the Coleman - Stone 69 kV line into Coleman Station.



AEP Transmission Zone M-3 Process
Coleman - Stone 69 kV Line Rebuild

Need number(s): AEP-2026-AP003

Proposed Solution: Continued from previous slide...

- Estimated Cost: $0.25 M

Ratings MVA (SN/SE/WN/WE):

Coleman - Stone 69 kV Line

- Before Proposed Solution: 40/40/56/56
- After Proposed Solution: 102/142/129/160

Stone Station

Pinson Switch

Coleman Station

Alternatives Considered:

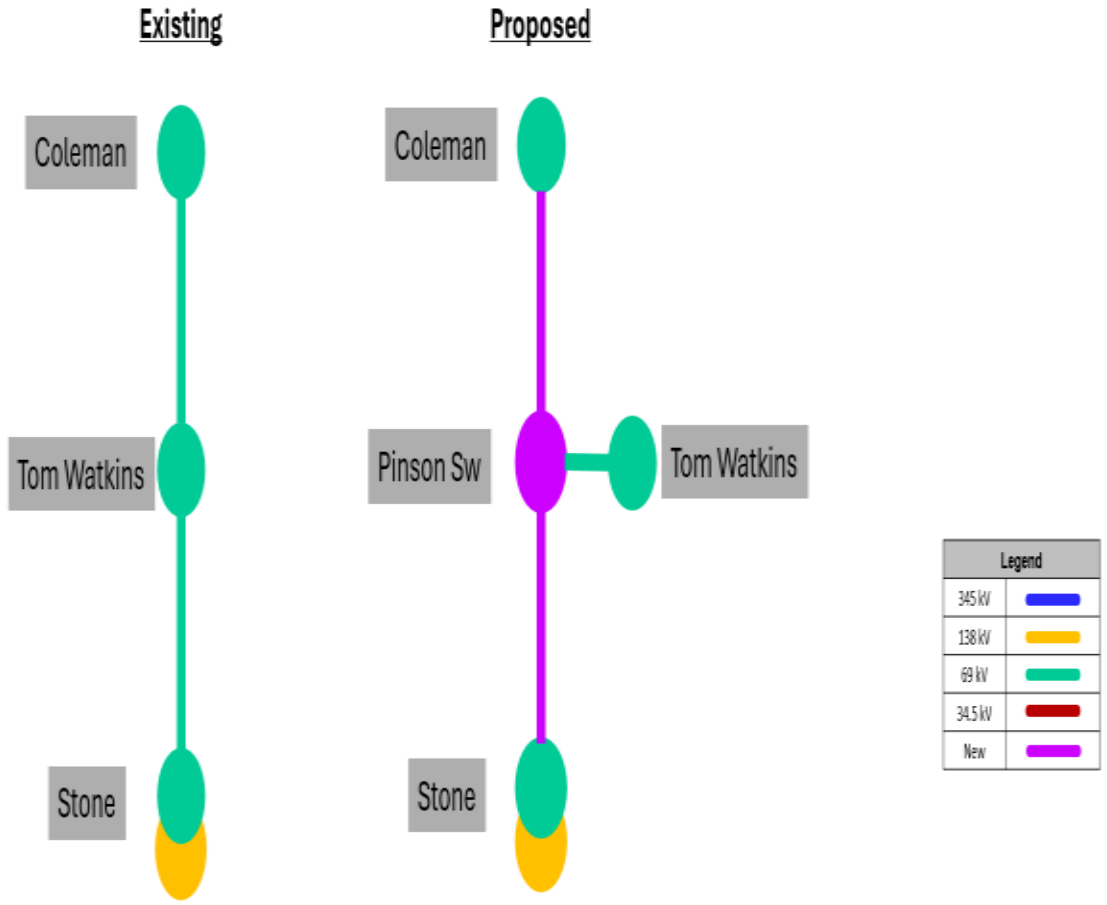
Rebuild approximately 3 miles of 69 kV line from Stone to Tom Watkins stations. Build roughly 7.5 miles of greenfield 69kV line from Tom Watkins station to the future Peter Creek station that is replacing the existing Barrenshe station. Retire the 69kV line between Tom Watkins and Coleman stations. This solution results in similar line miles to be constructed, but isn't the preferred option due to the large amount of greenfield ROW and construction. Estimated cost: $70M

Transmission Cost Estimate: $55.44 M

Projected In-Service: 08/01/2030

Project Status: Scoping

Model: 2030 RTEP



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

09/08/2026– V1 – Original version posted to pjm.com.

09/18/2026– V2 – Updates to slide 5 based on stakeholder question about the 55 Wood structures.