Transmission Expansion Advisory Committee: AEP Supplemental Projects

June 4, 2024

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
Olive, IN/Sorenson, IN

Need Number: AEP-2024-IM008

Process Stage: Need Meeting TEAC - 06/04/2024

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

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

Problem Statement:

On 05/09/2023 AEP presented phase 1 of the Paper Expanded lines plan along with specific concerns to the paper expanded conductor lines on AEP's footprint. The below line is part of this need.

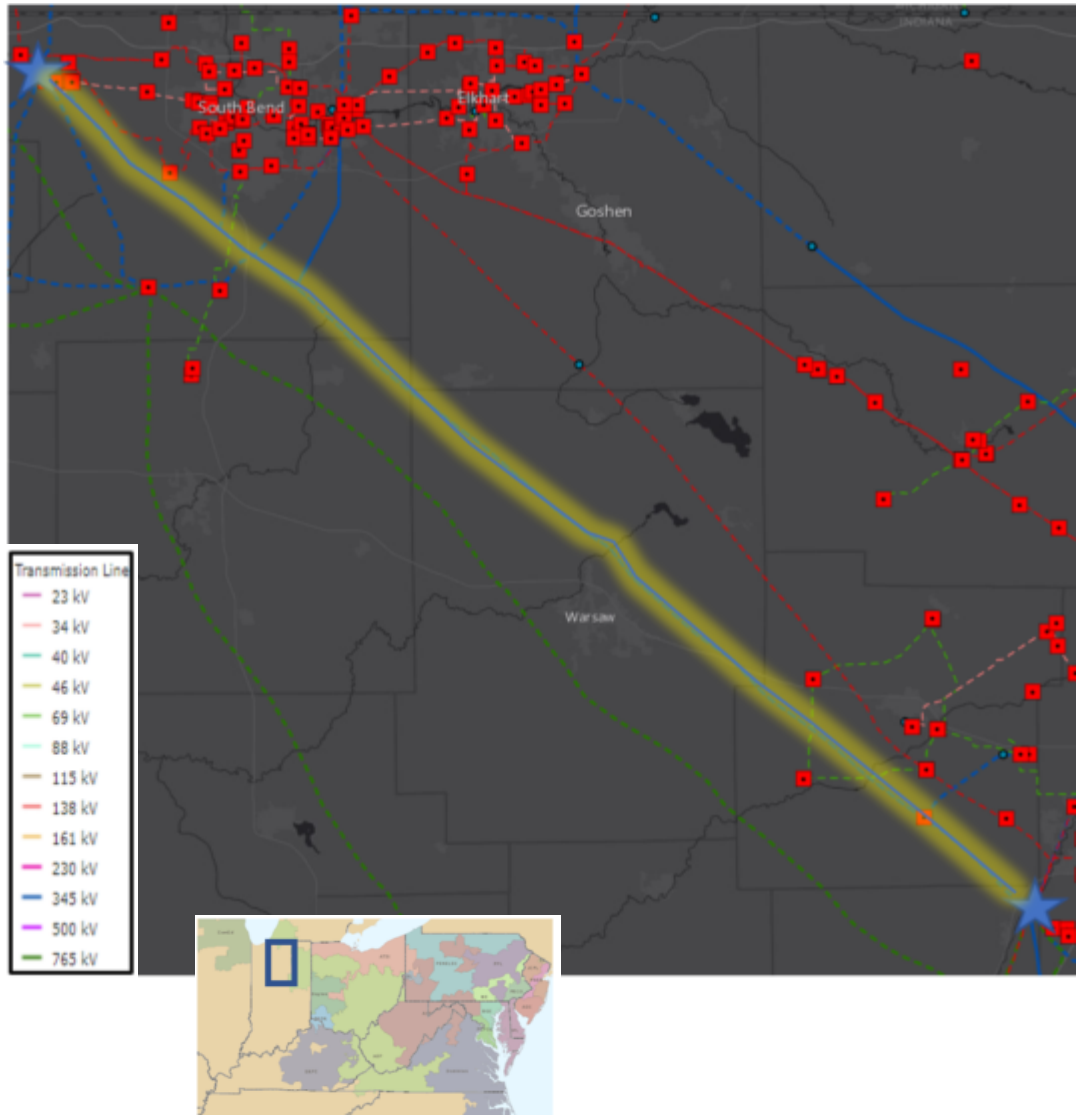
Olive-Sorenson 345kV Line Need

Majority of the 78.1 miles long line (341/357 structures) are constructed from 1956 double circuit steel lattice towers. There are multiple 345kV circuits on this line including Dumont – Sorenson 345kV, Meridian – Sorenson 345kV, Meridian-Twin Branch 345kV, Jackson Road-Twin Branch 345kV, and Cook-Jackson Road 345kV.

On the 345kV line portion between Olive-Sorenson (136 miles of total line conductor):

94.26 miles of line conductor is 1,414,000 CM ACSR/PE Conductor

41.7 miles of line conductor is 1,275,000 CM ACSR/PE Conductor



AEP Transmission Zone M-3 Process
Olive, IN/Sorenson, IN

Problem Statement (Conti.):

At least 39 Structures throughout the line were assessed. Of the structures that were assessed, the following conditions were found:

- Corroded insulator attachment hardware
- Loss of galvanizing
- Worn arm brackets where the C-hook insulator attachment hardware connects
- Approximately 50% of the towers have broken or flashed insulators
- Approximately 75% of dampers are bent or have slid damper weights that results in the weight contacting the phase conductor

Currently, there are 58 structures with at least one open condition. These open conditions include, but are not limited to the following: Conductor hardware with broken or loose conditions on the conductor damper, burnt vertical post insulators, broken suspension insulator, shield wire hardware with broken shield wire dampers

Since 2019 there have been:

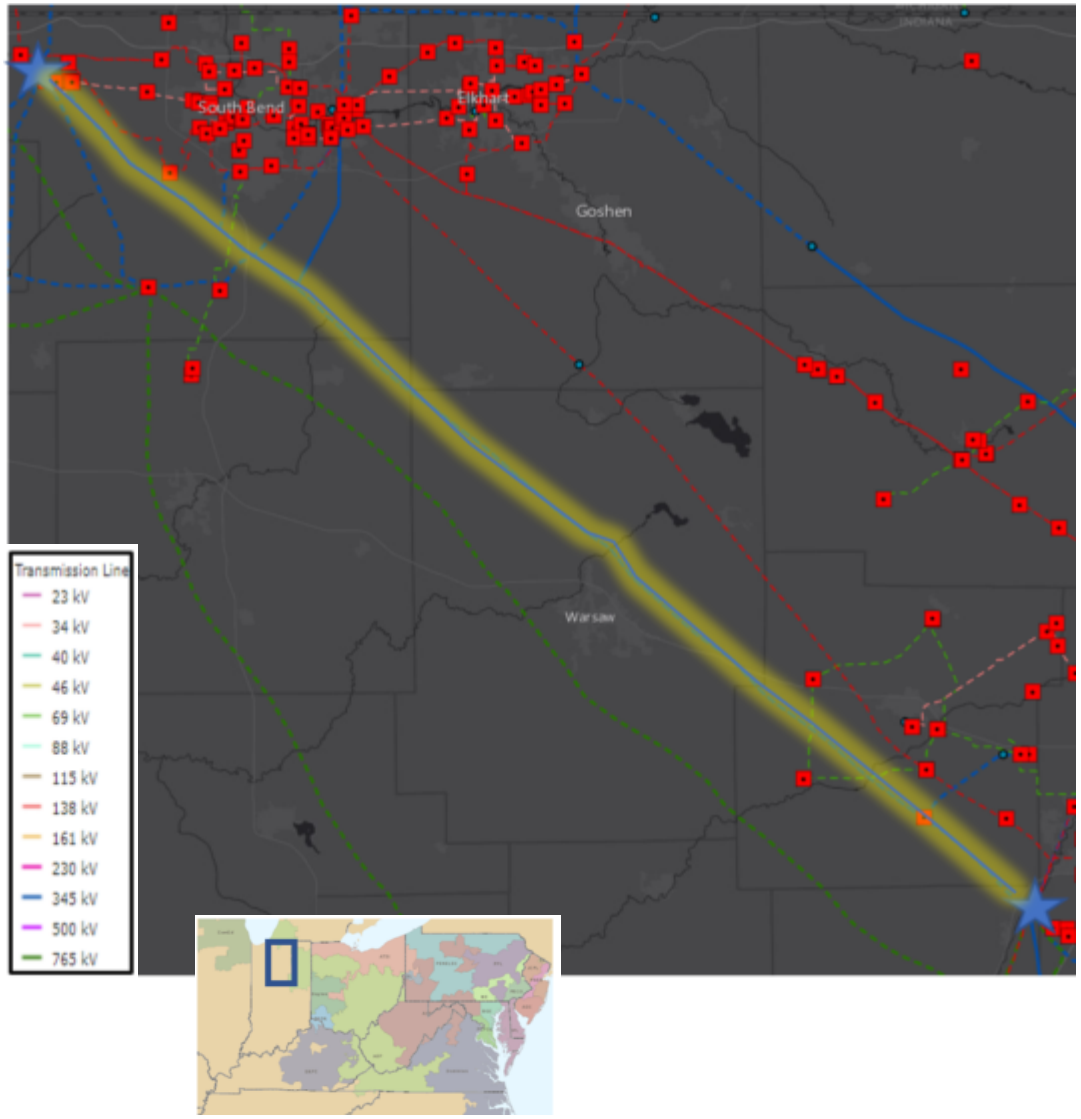
3 momentary and 1 permanent outage on Dumont-Sorenson 345kV circuit.

1 permanent outage on Meridian-Sorenson 345kV circuit.

1 momentary and 1 permanent outages on the Meridian-Twin Branch 345kV circuit.

3 momentary outages on the Jackson Road-Twin Branch 345kV circuit.

1 momentary outage on the Cook-Jackson Road 345kV circuit.



Solutions

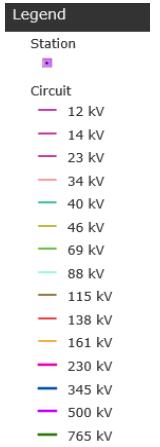
Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

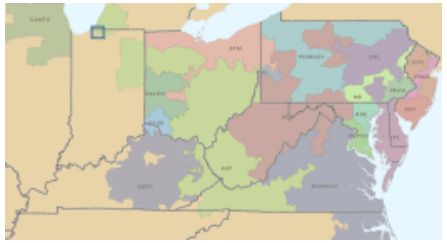
AEP Transmission Zone M-3 Process
Project Amazing Sites 100 and 201

Need Number: AEP-2023-IM023
Process Stage: Solution Meeting 6/4/2024
Previously Presented: Needs Meeting 10/31/2023
Supplemental Project Driver: Customer Service
Specific Assumptions Reference: AEP Interconnection Guidelines (AEP Assumptions Slide 12)

Problem Statement:

- A customer has requested new service for 1100MW of load in New Carlisle, IN area. Initial service is requested by 12/15/2026.





AEP Transmission Zone M-3 Process
Central Ohio

Need number(s): AEP-2023-IM023

Process Stage: Solution Meeting TEAC - 06/04/2024

Proposed Solution:

Larrison Drive 345 kV Station: Construct a new station in a breaker and a half configuration consisting of sixteen (16) 345kV 5000A 63kA breakers, six (6) 345kV meters, and station fiber cable to serve 550MW of new load. Construct six (6) 345kV bus ties from AEP's Larrison Drive 345kV station to the customer station. Cut in the Elderberry-Dumont and Dumont-Olive Bypass 345 kV line into the new station.. Estimated Cost: $70.38 M

New Prairie 345 kV Station: New station to be constructed in a breaker and a half configuration consisting of sixteen (16) 345kV 5000A 63kA breakers, six (6) 345kV meters, and station fiber cable. Construct six (6) bus ties from AEP's New Prairie 345kV station to the customer station. Cut in the Elderberry-Dumont and Dumont-Olive Bypass 345 kV line into the new station. Estimated Cost: $79.53 M

Sorenson Remote End Work: Remote end work at Sorenson station to facilitate the construction of Larrision Drive and New Prairie 345kV st. Estimated Cost: $1.72 M

Elderberry Remote End Work: Remote end settings work at Elderberry station to facilitate the construction of Larrision Drive and New Prairie 345kV stations. Estimated Cost: $1.72 M

Dumont Remote End Work: Remote end work at Dumont station to facilitate the construction of Larrision Drive and New Prairie 345kV stations. Estimated Cost: $1.72 M

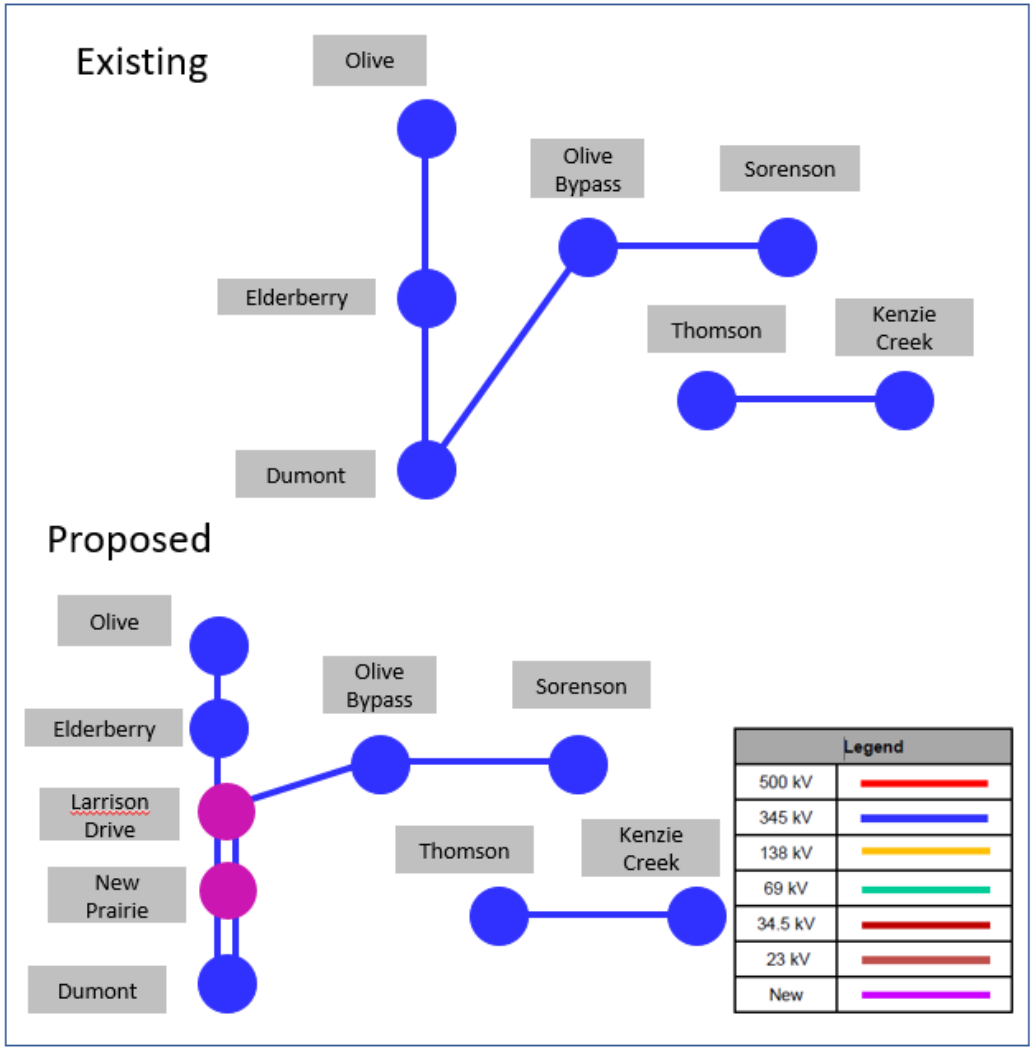
Kenzie Creek-Thomson 345 kV Sag Study: Complete sag study and mitigation on the Kenzie Creek-Thomson 345 kV line. Estimated Cost: $0.62 M

Transmission Cost Estimate: $155.69 M

Alternatives Considered: Considering the location of the requested load and availability of land on the customer sites, no other alternatives were viable.

Projected In-Service: 12/15/2026

Project Status: Scoping



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

5/23/2023– V1 – Original version posted to pjm.com