

Submission of Supplemental Projects for Inclusion in the Local Plan

AEP Local Plan - 2026

AEP Transmission Zone M-3 Process New Haven, Indiana

Need Number: AEP-2023-IM026

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 01/09/2026

Previously Presented: Need Meeting 09/20/2024, 12/15/2023; Solution Meeting 11/06/2024

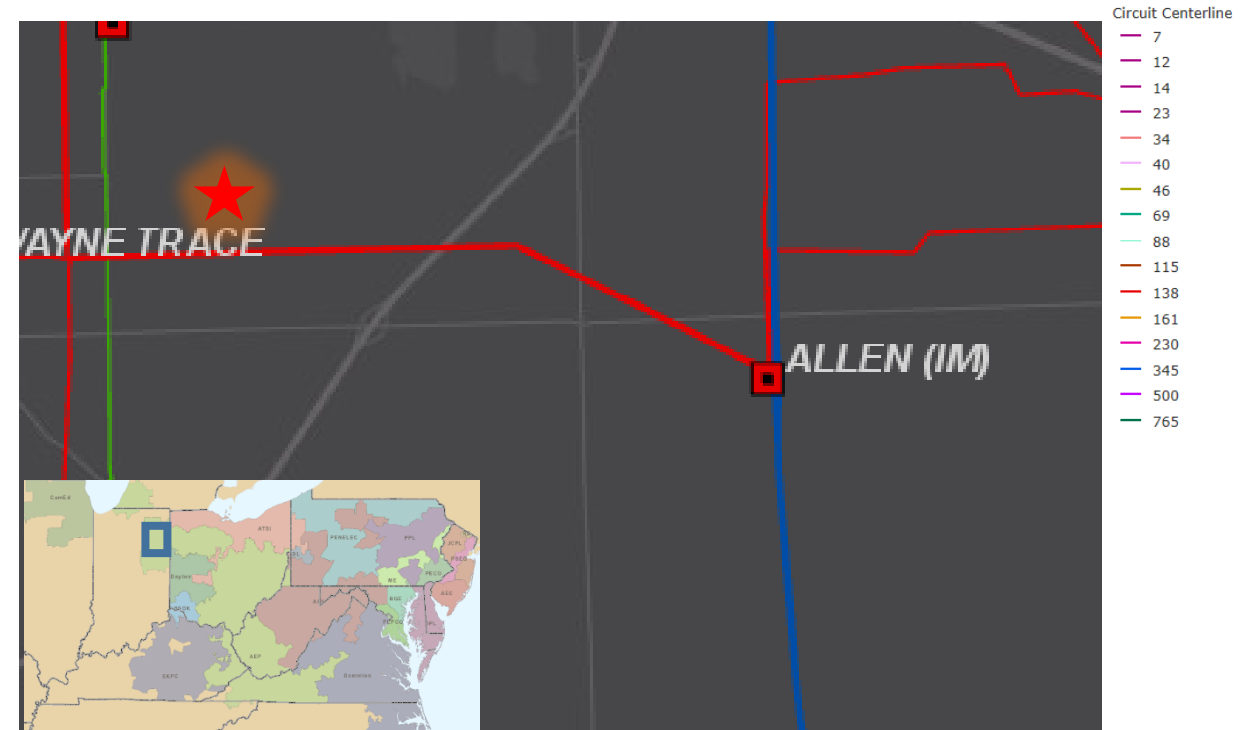
Project Driver: Customer Service

Specific Assumption References:

AEP Interconnection Guidelines (AEP Assumptions Slide 12)

Problem Statement:

A customer has requested a new delivery point in New Haven Indiana for up to 480 MW by November 2026. This customer will begin to increase this load from 480MW to 1200MW by July 2029.



AEP Transmission Zone M-3 Process New Haven, Indiana

Need number(s): AEP-2023-IM026

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 01/09/2026

Proposed Solution:

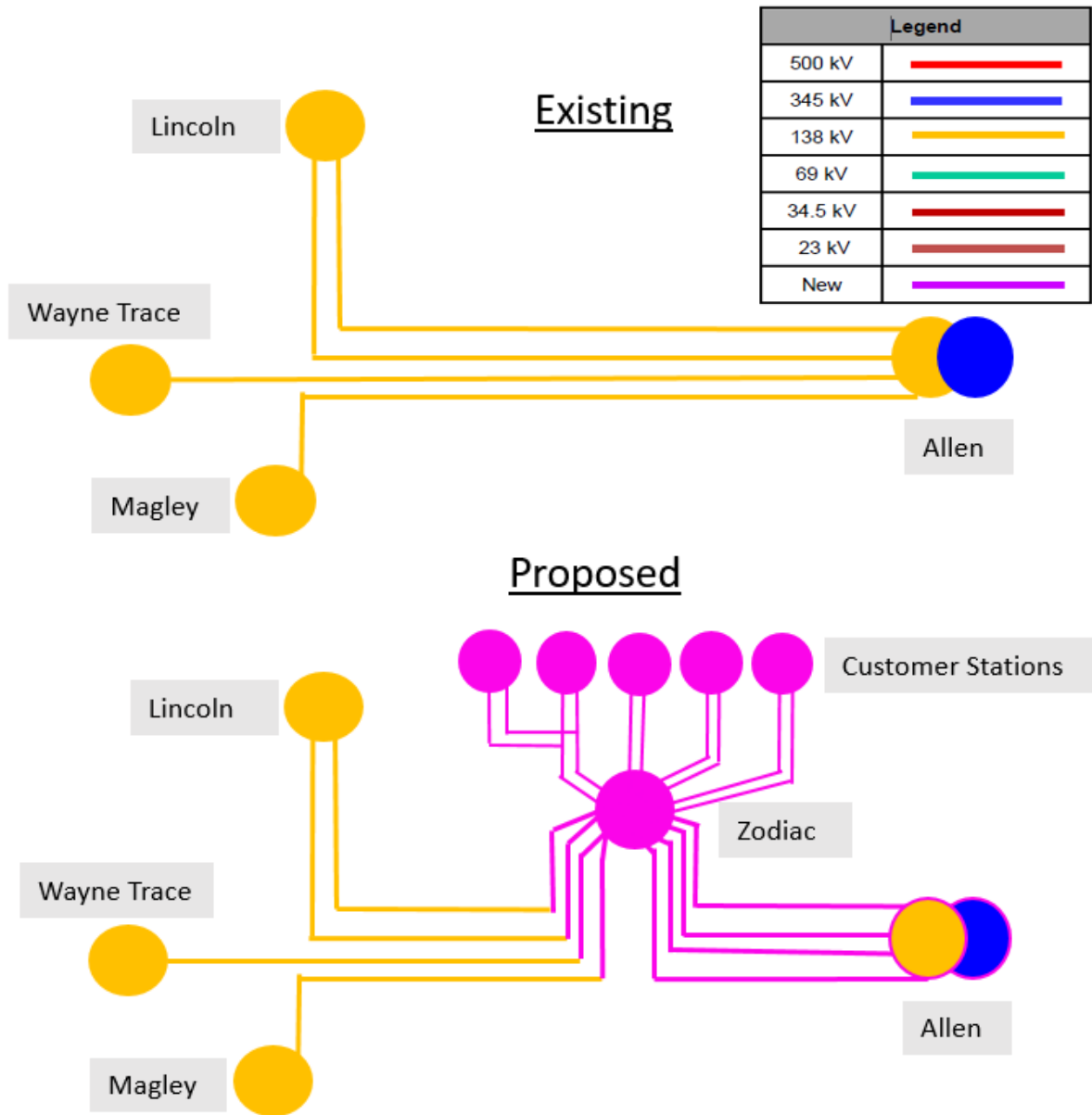
Allen Station: Expand Allen station with 2x additional 345/138kV transformers. Install 3x 345kV breaker and 3x 138kV breaker for transformer protection. Land purchase for station expansion is included. The transformers are added for overloads identified under N-1-1 analysis for loss of Robison Park Transformer #5 and Allen Transformer #2, or N-1-1 loss of both existing transformers at Allen station.. Estimated Cost: \$58.5 M (s3750.1)

Zodiac Station: Install greenfield 138kv breaker and a half station. Zodiac 138kV station will include 8-138kV AEP circuit exits and customer terminations to 5 customer buildings. . Estimated Cost: \$38.1 M (s3750.2)

Allen-Zodiac 138kV Lines: Cut into 2x existing double circuit 138kV lines, (4x circuits total) and install 4x double circuit 0.2 mile extension to new Zodiac 138kV station. Rebuild both ~3.7 mile 138kV double circuit lines from Allen-Zodiac Station (~7.4 mile double circuit total).. Estimated Cost: \$44 M (s3750.3)

Customer Radials: Install 5x double circuit 138kV ~0.75 mile radials to customer owned stations from Zodiac station with fiber. . Estimated Cost: \$28.5 M (s3750.4)

Transmission Cost Estimate: \$169.1 M



AEP Transmission Zone M-3 Process New Haven, Indiana

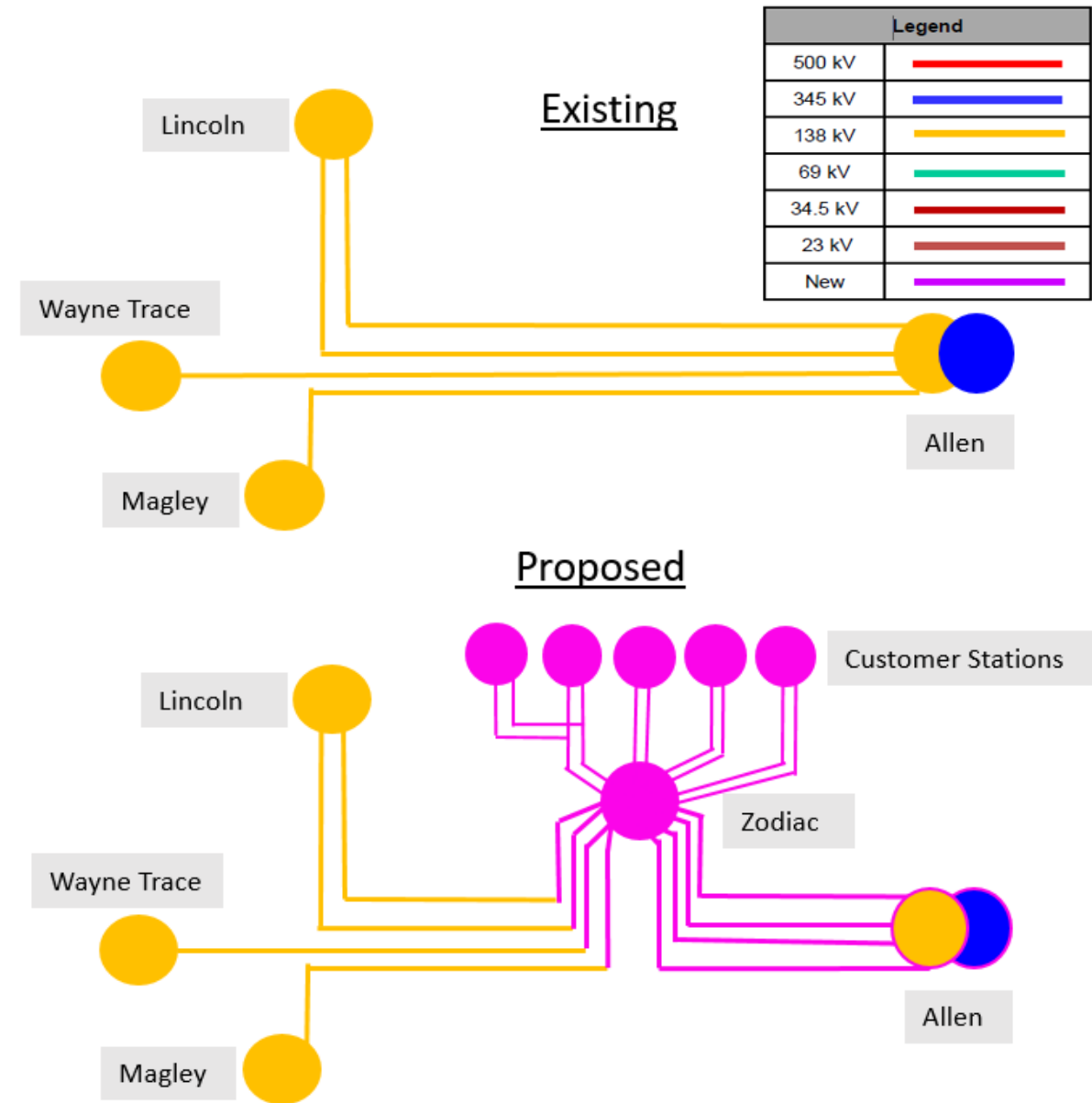
Need number(s): AEP-2023-IM026
Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 01/09/2026

Alternatives Considered:

A project alternate would be to serve the customer off 345kV at Allen station instead of the 138kV. This would ultimately include an Allen station expansion with 3x 345kV breakers, ~3.7 miles of greenfield double circuit 345kV from Allen station to Zodiac station. The greenfield Zodiac station would be comprised of a high side 8x 345kV breaker and a half, 4x 345/138kV step down transformers and 18x 138kV low side breaker and a half. Customer radials from Zodiac would still be required. Due to the time required for 345kV greenfield, the higher loadings on the 345k with this alternate, and the customer’s site location being adjacent to existing 138kV this alternate was not chosen.

Project Alternate Cost: \$214M

Supplemental Project ID: s3750.1-4
Projected In-Service: 07/01/2029
Project Status: Scoping



AEP Transmission Zone M-3 Process Greentown, IN

Need Number: AEP-2024-IM018

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 1/22/2026

Previously Presented: Need Meeting – 12/03/2024; Solutions Meeting: 03/04/2025

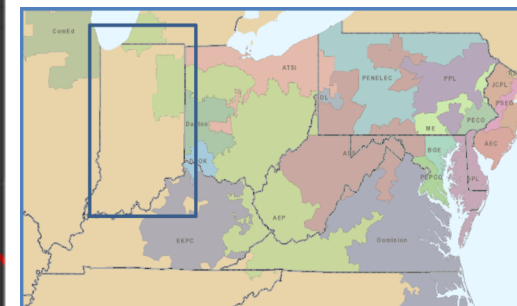
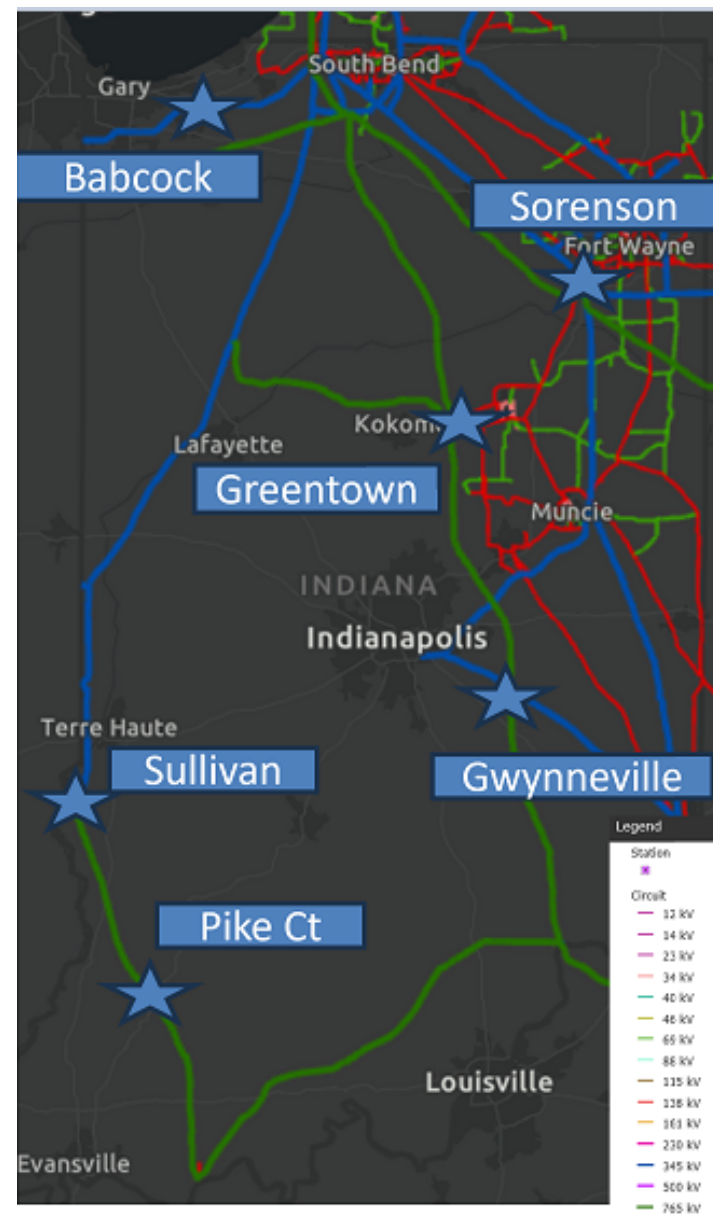
Supplemental Project Driver: Other

Specific Assumption Reference: Other Requests - AEP Assumptions Slide 16

Problem Statement:

The following needs are the result of MISO's request to connect certain portions of their Tranche 2 projects to the PJM transmission system via several AEP locations. Because these MISO requests may result in potential PJM system impacts, AEP is bringing these through the M-3 process to allow PJM to conduct do-no-harm analysis and identify potential planning criteria violations caused by the MISO requests. AEP at this point has not identified any large-scale issues resulting from the MISO proposals.

- MISO has requested two new 345kV line interconnections into AEP's Sullivan station from Fairbanks 345kV and Dresser 345kV. To facilitate this, work will be needed at the PJM Sullivan 765/345kV station.
- MISO has requested two new 765kV line interconnections into AEP's Sorenson station from Greentown 765kV and Lulu 765kV. To facilitate this, work will be needed at the PJM Sorenson 765/345/138kV station.
- MISO has requested a new 765KV substation on the Rockport – Sullivan 765kV line. To facilitate this station, work will be needed on the Rockport – Sullivan 765kV PJM asset.
- MISO has requested a new station to be constructed to tie the Jefferson – Greentown 765 and the Hanna – Tanners Creek 345kV lines together into a new "Gwynneville" 345kV substation. To facilitate this, work will be needed on the Jefferson – Greentown 765kV PJM asset and the Hanna – Tanners Creek 345kV PJM asset.
- MISO has requested cutting the Olive – University Park 345kV and Olive – Green Acres 345 kV lines into the existing Babcock 345kV substation. To facilitate this, work will be needed on the Olive – University Park/Green Acres double circuit 345kV line.
- MISO requested an in-service date of 06/01/2032.



Need Number: AEP-2024-IM018
Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 1/22/2026

Proposed Solution:

Sorenson Station

At Sorenson 765kV Station, modify Sorenson station to interconnect new 765kV lines Sorenson-Greentown 765kV and Sorenson-Lulu 765kV.(s3608.5)

Sullivan Station

At Sullivan 345kV station, modify Sullivan 345kV to interconnect new 345kV lines Sullivan-Fairbanks 345kV #1, Sullivan-Fairbanks #2, Sullivan-Dresser 345kV #1, Sullivan-Dresser 345kV #2. (s3608.6)

Sullivan – Rockport 765kV Line

Modify the existing Sullivan-Rockport 765kV line for greenfield Pike County station to cut in. (s3608.1)

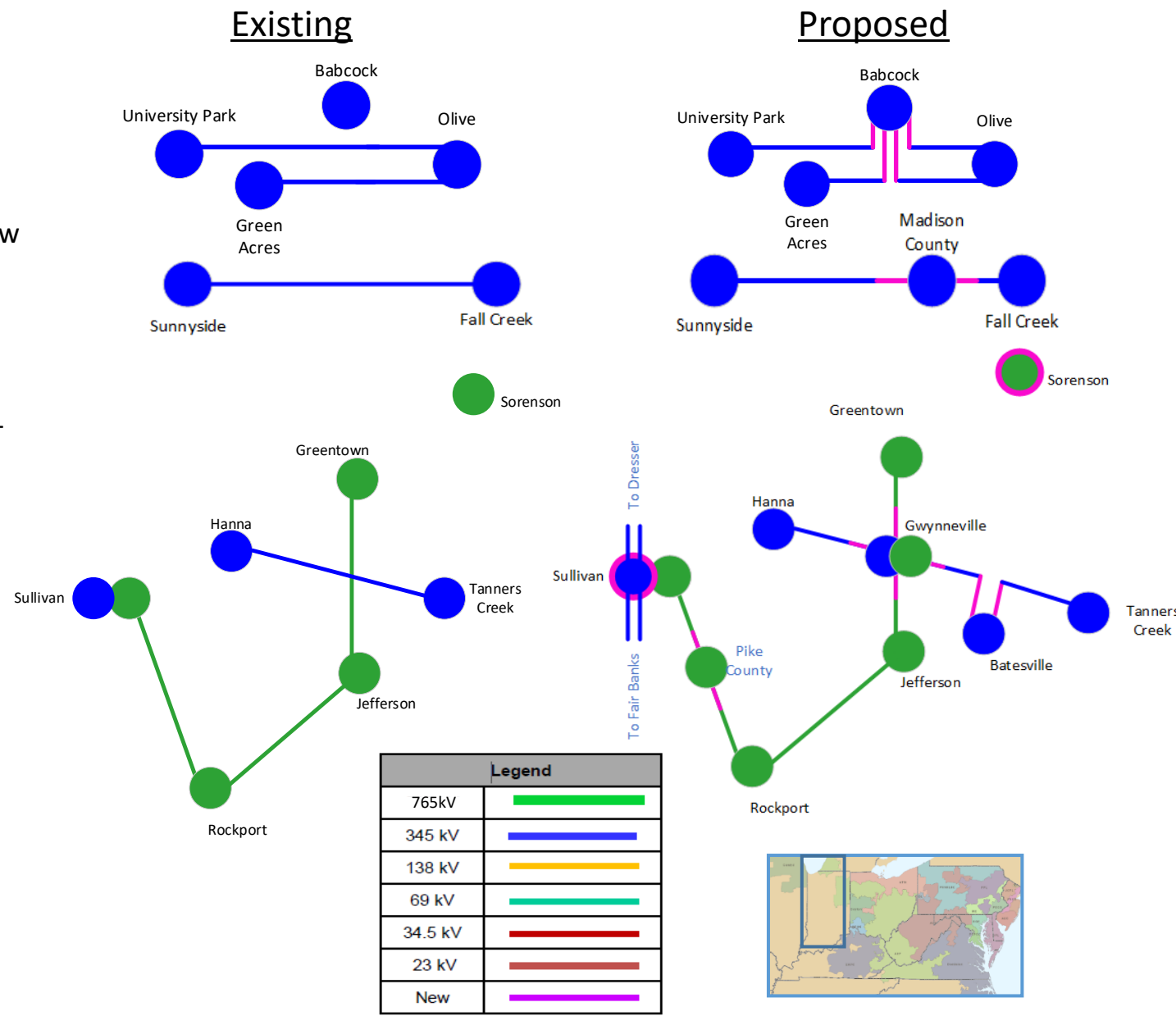
Jefferson – Greentown 765kV Line

Modify the existing Jefferson-Greentown 765kV line for Gwynneville station to cut in. (s3608.2)

Tanners Creek – Hanna 345kV Line

Modify the existing Tanners Creek - Hanna 345kV line for Gwynneville station to cut in.

Modify the future Gwynneville-Tanners Creek 345kV line for existing station Batesville to cut in. (s3608.3)



Need Number: AEP-2024-IM018

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 1/22/2026

Proposed Solution Continued:

Fall Creek – Sunnyside 345kV Line

Modify the existing Fall Creek- Sunnyside 345kV line for greenfield Madison County station to cut in. (s3608.7)

Olive – University Park, Olive –Green Acres 345kV Line

Modify the existing double circuit 345kV line Olive-University Park and Olive-Green Acres 345kV to cut into Babcock 345kV station. (s3608.4)

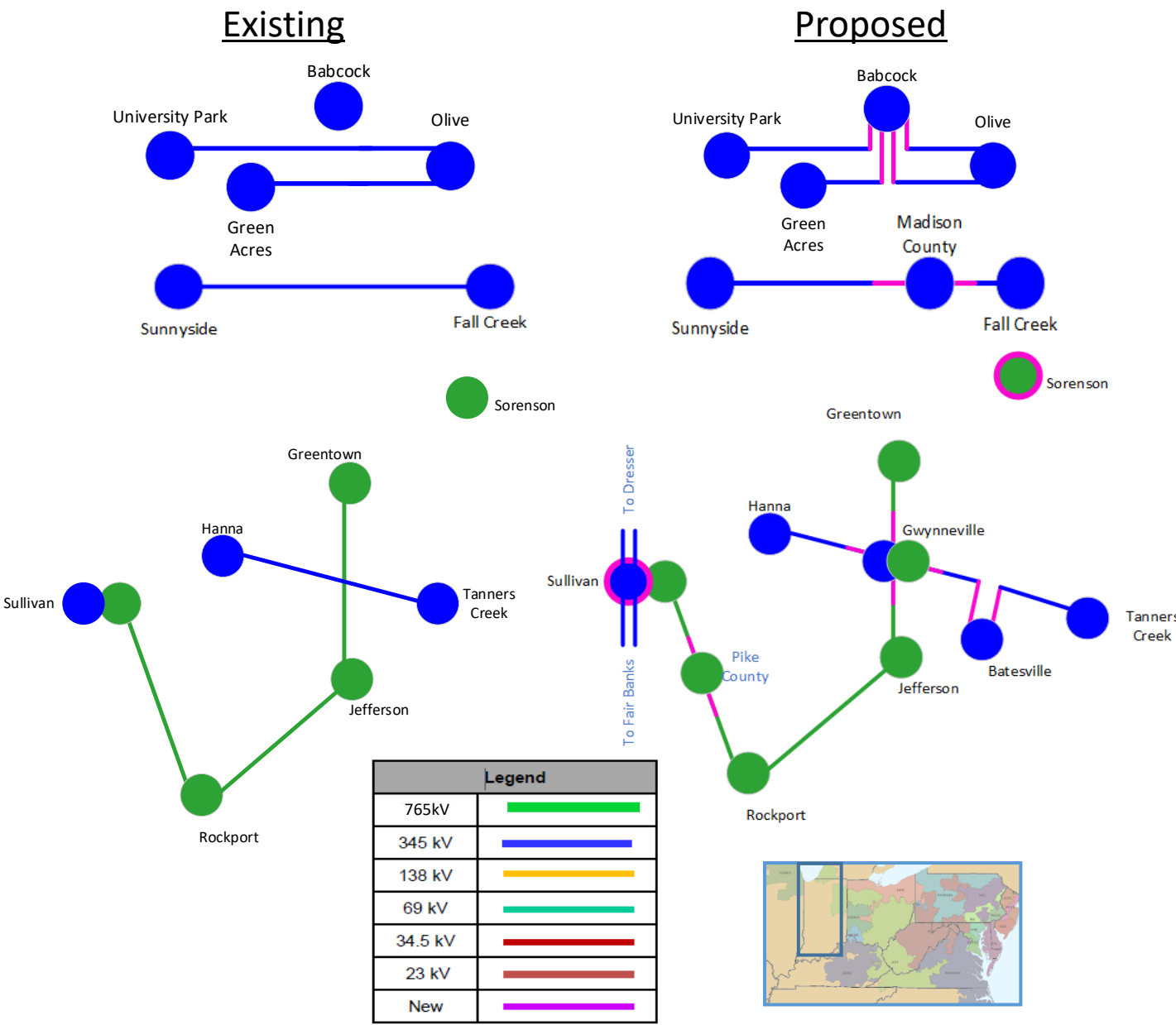
Total Cost: \$173M (MISO), \$0M (PJM)

Alternatives Considered: Alternatives considered as part of MISO LRTP process: [MTEP24 Chapter 2 - Regional Long Range Transmission Planning658124.pdf](#)

Supplemental Project ID: s3608.1-7

Projected In-Service: 2032-2034

Project Status: Scoping



AEP Transmission Zone M-3 Process New Carlisle, IN

Need Number: AEP-2024-IM016

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026

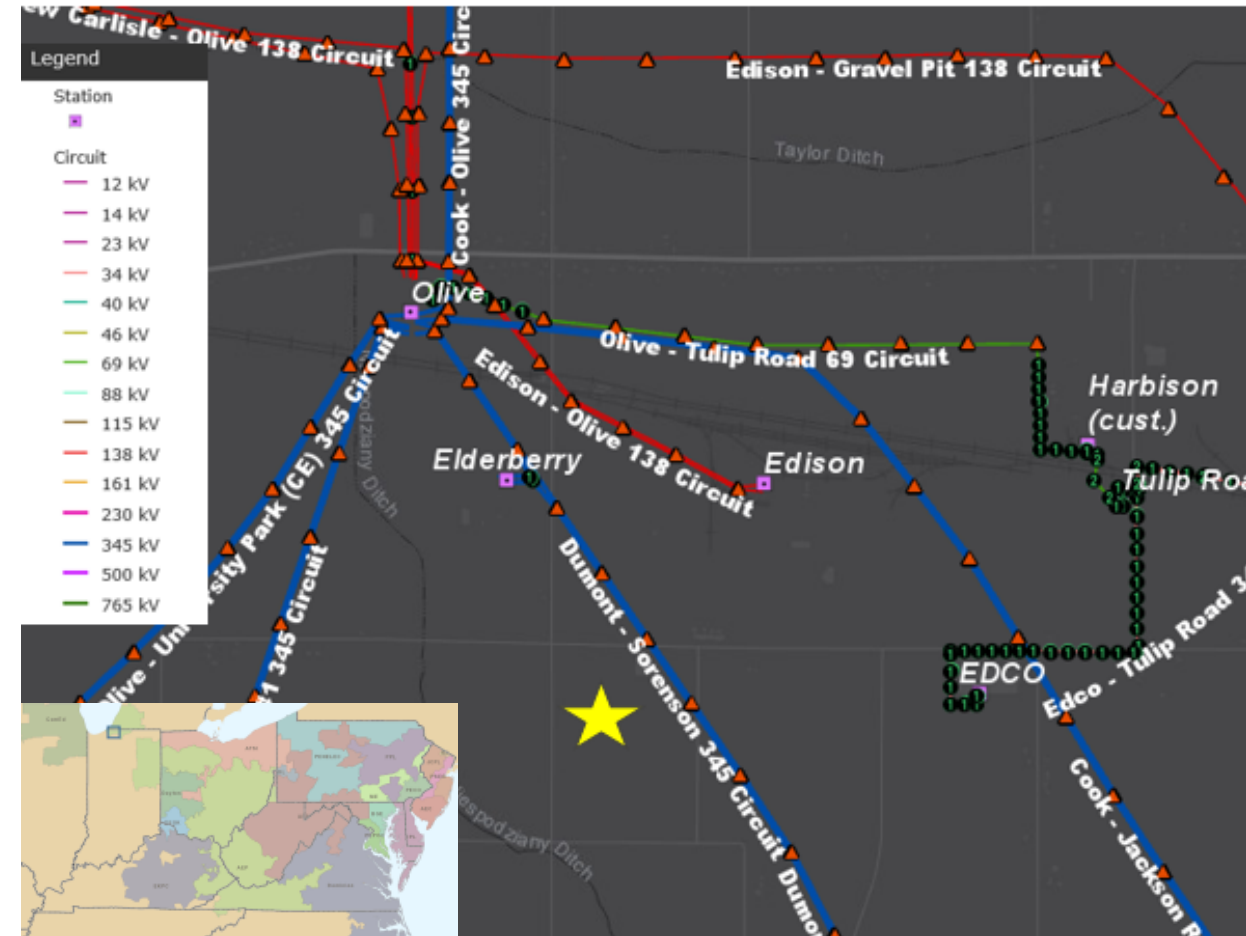
Previously Presented: Need Meeting 11/06/2024, Solution Meeting TEAC - 04/01/2025

Project Driver: Customer Service

Specific Assumption Reference: AEP Interconnection Guidelines (AEP Assumptions Slide 12)

Problem Statement:

A customer has requested new service for 437MW of load in the New Carlisle, IN area. Initial service is requested by 3/15/2027.



Need number(s): AEP-2024-IM016

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026

Proposed Solution:

Navistar 345kV Station: Construct a new station in a breaker and a half configuration consisting of eleven (11) 345kV 5000A 63kA breakers, two (2) 345kV meters, and station fiber cable to serve 437MW of new load. Construct two (2) 345kV bus ties from AEP's Navistar 345kV station to the customer station. Cut in the Dumont - New Prairie #1 and #2 345kV circuits into the new station.. Estimated Cost: \$50.364 M (s3763.1)

Transmission Cost Estimate: \$50.364 M

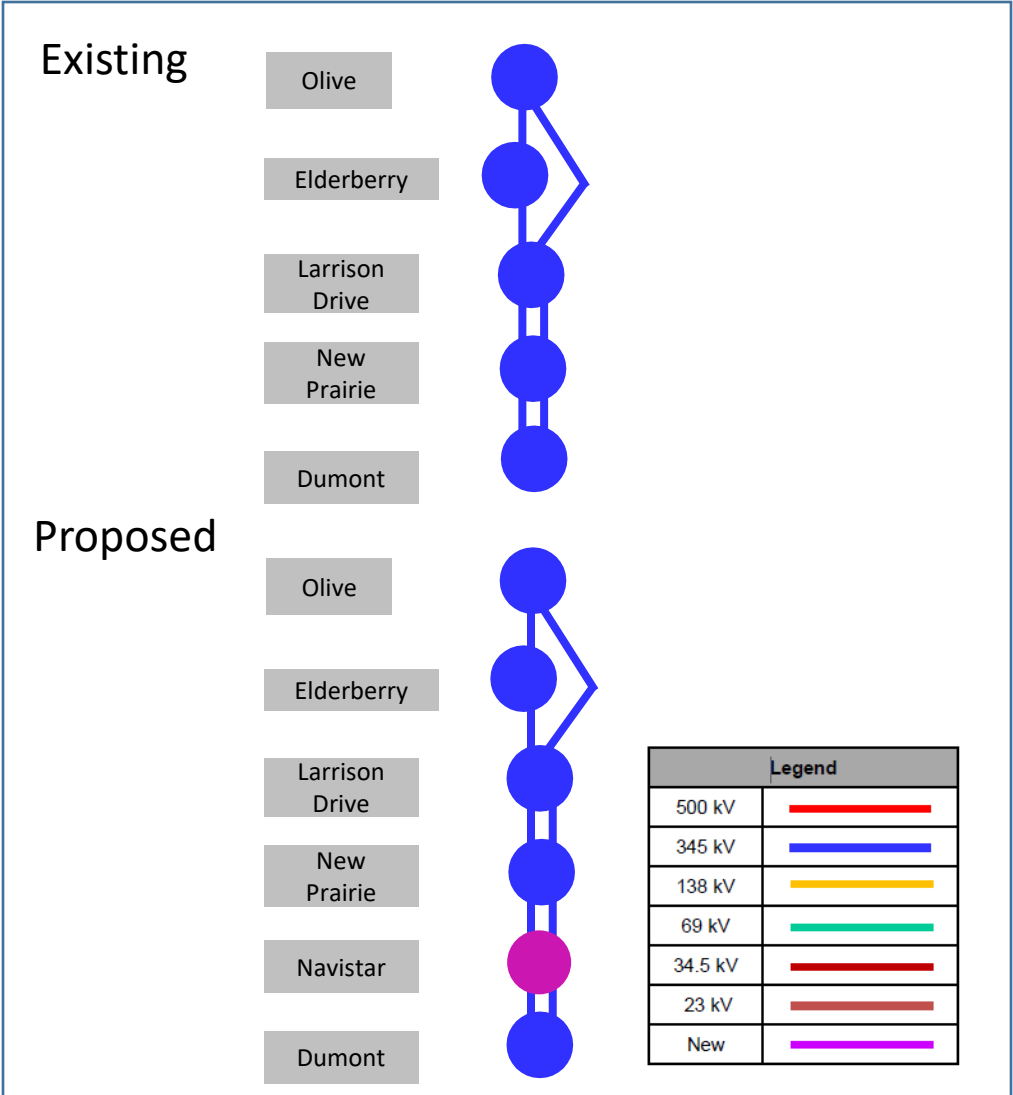
Alternatives Considered:

Considering the location of the requested load and availability of land on the customer site, no other alternates were viable. Expanding other stations in the area to accommodate the additional load was not viable due to customer plans for the space around the other stations.

Supplemental Project ID: s3763.1

Projected In-Service: 03/15/2027

Project Status: Scoping



Need Number: AEP-2023-IM020

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026

Previously Presented: Need Meeting 10/20/2023, Solution Meeting SRRTEP-W - 04/11/2025

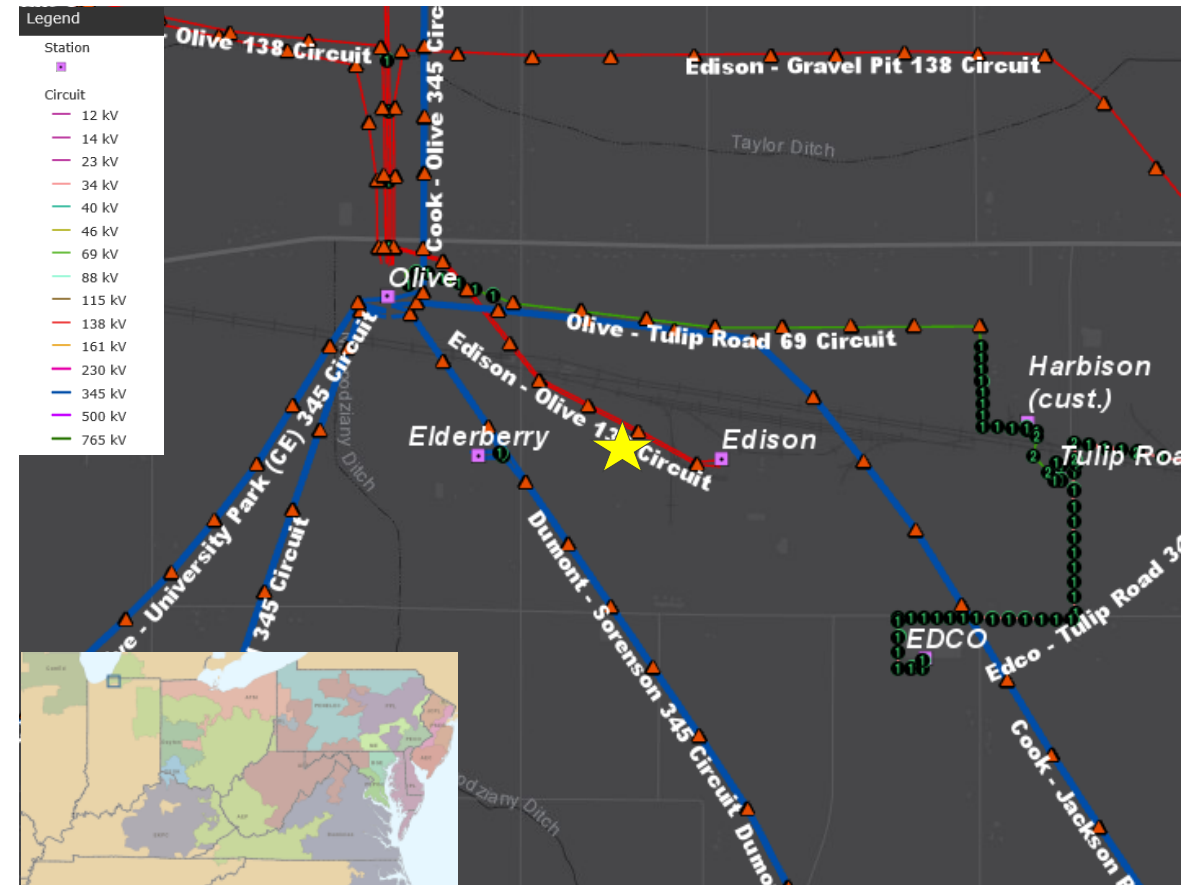
Supplemental Project Driver: Customer Service

Specific Assumptions Reference: AEP Interconnection Guidelines (AEP Assumptions Slide 7)

Problem Statement:

- A customer has requested new service for a 90 MW manufacturing facility in New Carlisle, IN area.

Requested In Service Date: 5/9/2028.



Need number(s): AEP-2023-IM020

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026

Proposed Solution:

Fillmore Road 138kV Station: Construct a new station in a ring bus configuration consisting of six (6) 138kV 3000A 40kA breakers, three (3) 138/13.8kV 50 MVA LTC transformers, three (3) 13.8kV meters and other associated distribution equipment, and station fiber cable to serve 90MW of new load. Cut into the Olive - Edison 138kV line and construct 2.8 miles of new double circuit 138kV line to the new station.. Estimated Cost: \$11.355 M. (s3764.1)

Olive 138kV Station: Bring the Edison - Creek Walker 138kV line into Olive station and install three (3) new 138kV 3000A 63kA breakers to complete the "K" string and create a new line exit position.. Estimated Cost: \$19.108 M. (s3764.2)

Transmission Cost Estimate: \$30.463 M

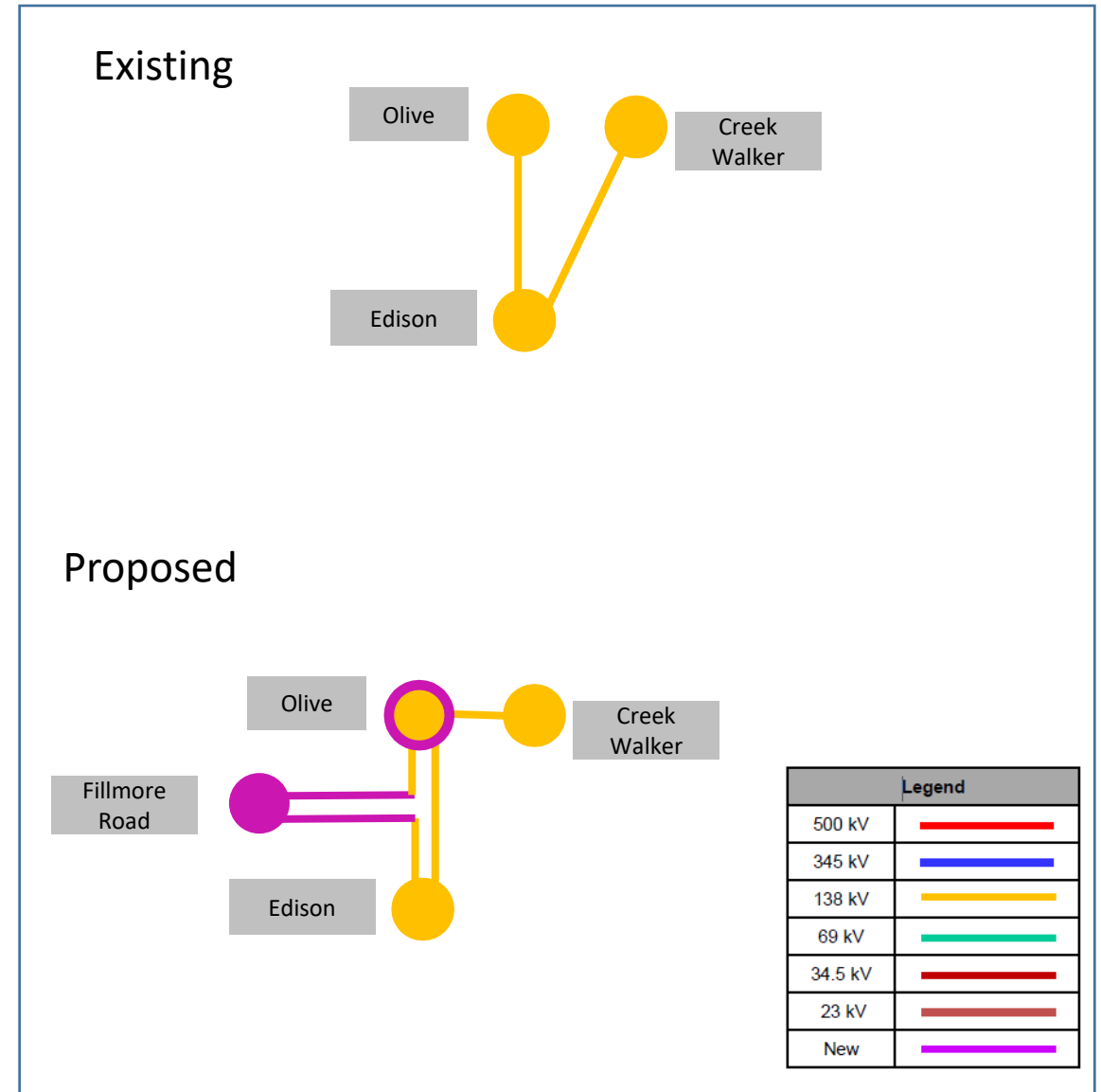
Alternatives Considered:

Considering the location of the requested load and availability of land on the customer site, no other alternates were viable.

Supplemental Project ID: s3764.1-2

Projected In-Service: 05/09/2028

Project Status: Scoping



Need Number: AEP-2024-IM011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026

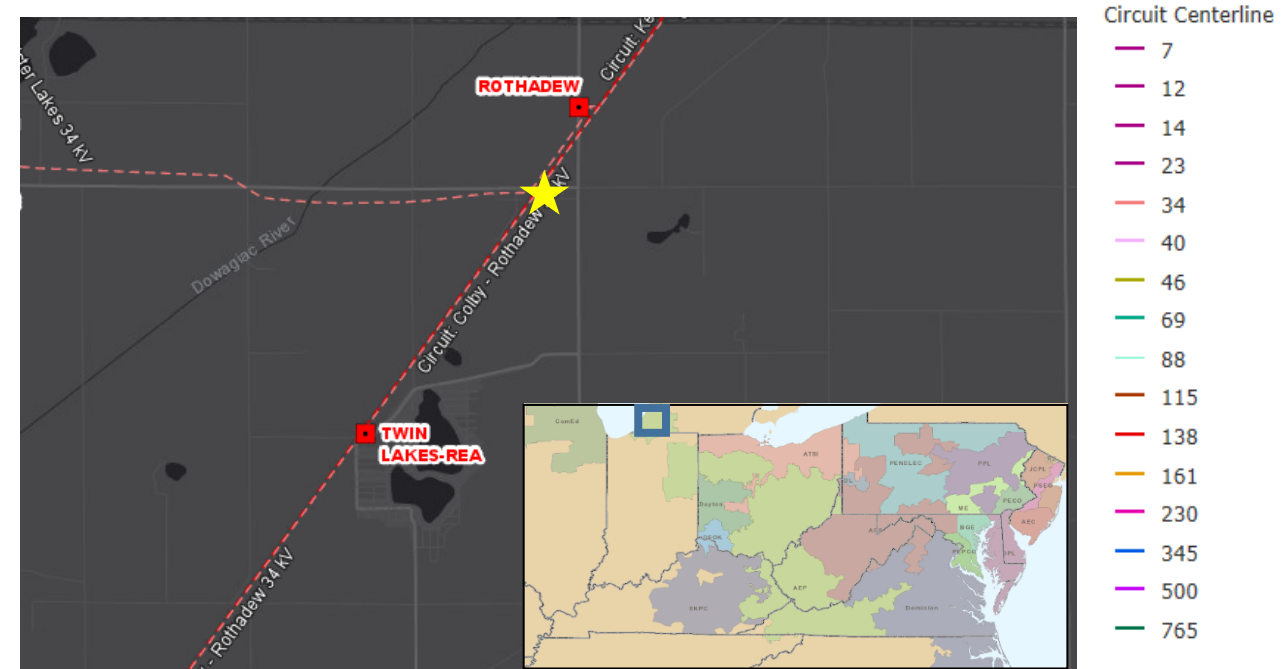
Previously Presented: Need Meeting 04/19/2024, Solution Meeting SRRTEP-W - 07/18/2025

Project Driver: Customer Service

Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

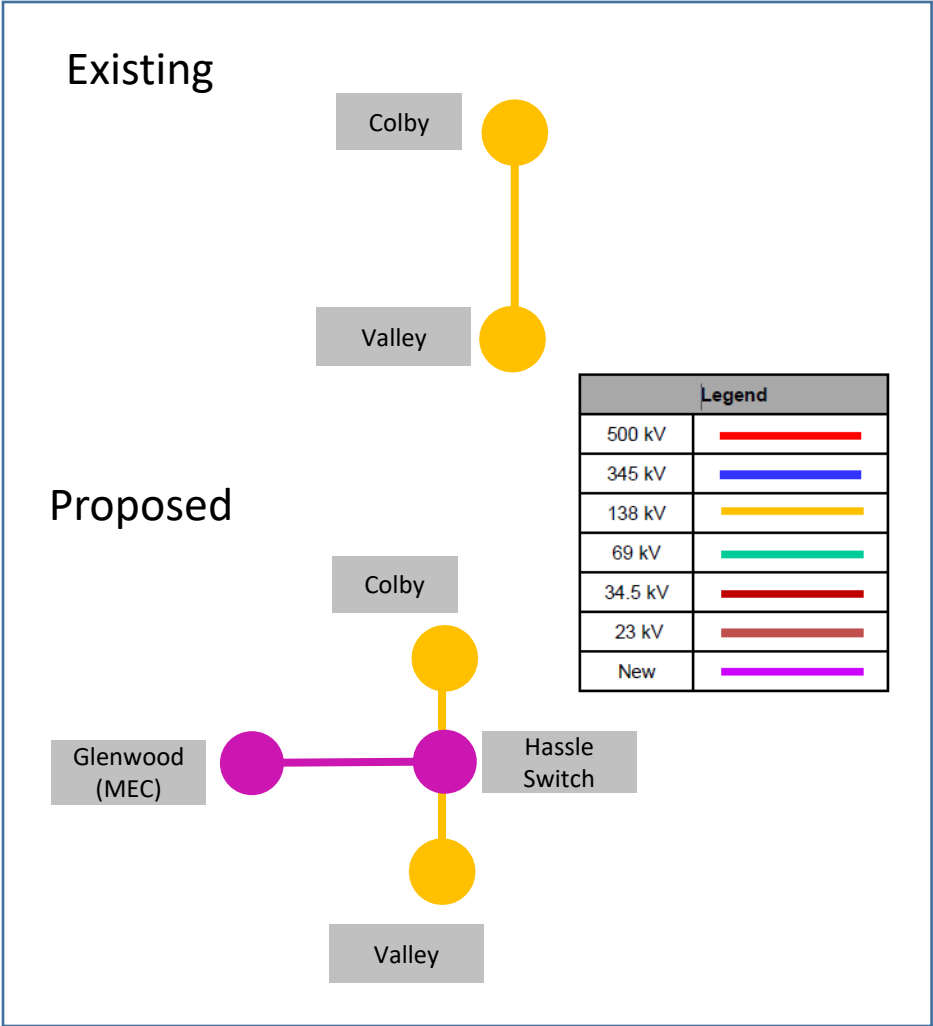
Wolverine Power Supply Cooperative, Inc. has requested a new 138kV delivery point in Dowagiac, Michigan by December 1st, 2025. Anticipated load is approximately 5.14 MVA.



Need number(s): AEP-2024-IM011
Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026

Proposed Solution:
Hassle Switch 138kV: Cut into the Kenzie Creek - Valley 138kV line and install a new 138kV phase over phase switch to serve approximately 5.14 MVA of new load. AEP will own the first span to the structure inside the customer's station. Fiber will be installed on the new line and metering will be installed on the low side of the transformer.. Estimated Cost: \$3.719 M. (s3765.1)
Transmission Cost Estimate: \$3.719 M
Alternatives Considered:
 Considering the location of the customer request and availability of land for the switch, no other viable alternatives were identified.

Supplemental Project ID: s3765.1
Projected In-Service: 12/01/2025
Project Status: Engineering



Need Number: AEP-2025-AP004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Previously Presented: Solution Meeting SRRTEP-W - 08/15/2025, Need Meeting 02/14/2025

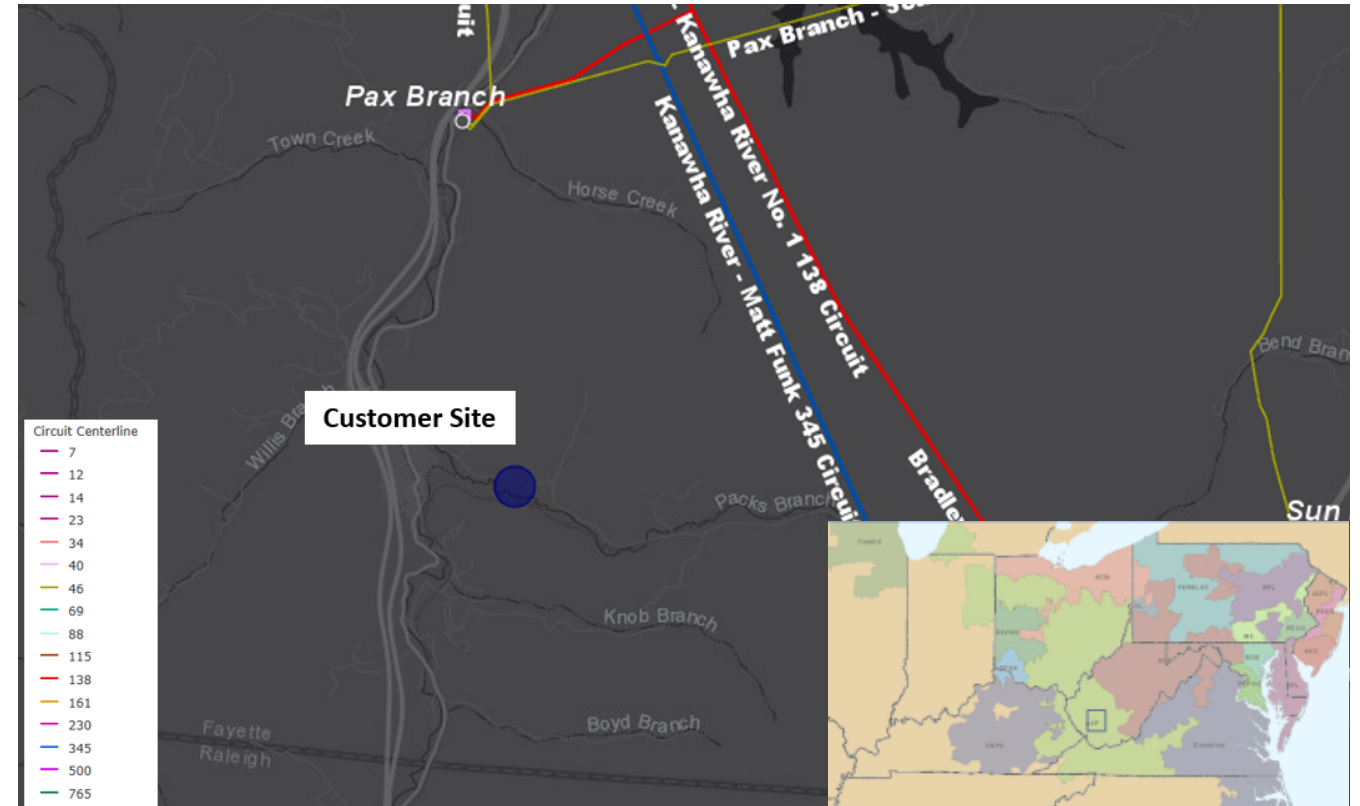
Supplemental Project Driver: Customer Service

Specific Assumption Reference: AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 12)

Problem Statement:

A new customer requested a new transmission delivery point in 2025 near Pax, WV.

Projected Peak Load: 7.5 MW



Need number(s): AEP-2025-AP004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Proposed Solution:

Sand Branch: Install a new tap point on the existing Bradley - Kanawha 138 kV line with a single switch facing the customer. Low-side metering to be installed at the customer site. Install a new 138 kV delineation pole for the customer to connect to. Estimated Cost: 0. (s3825.1)

Transmission Cost Estimate:

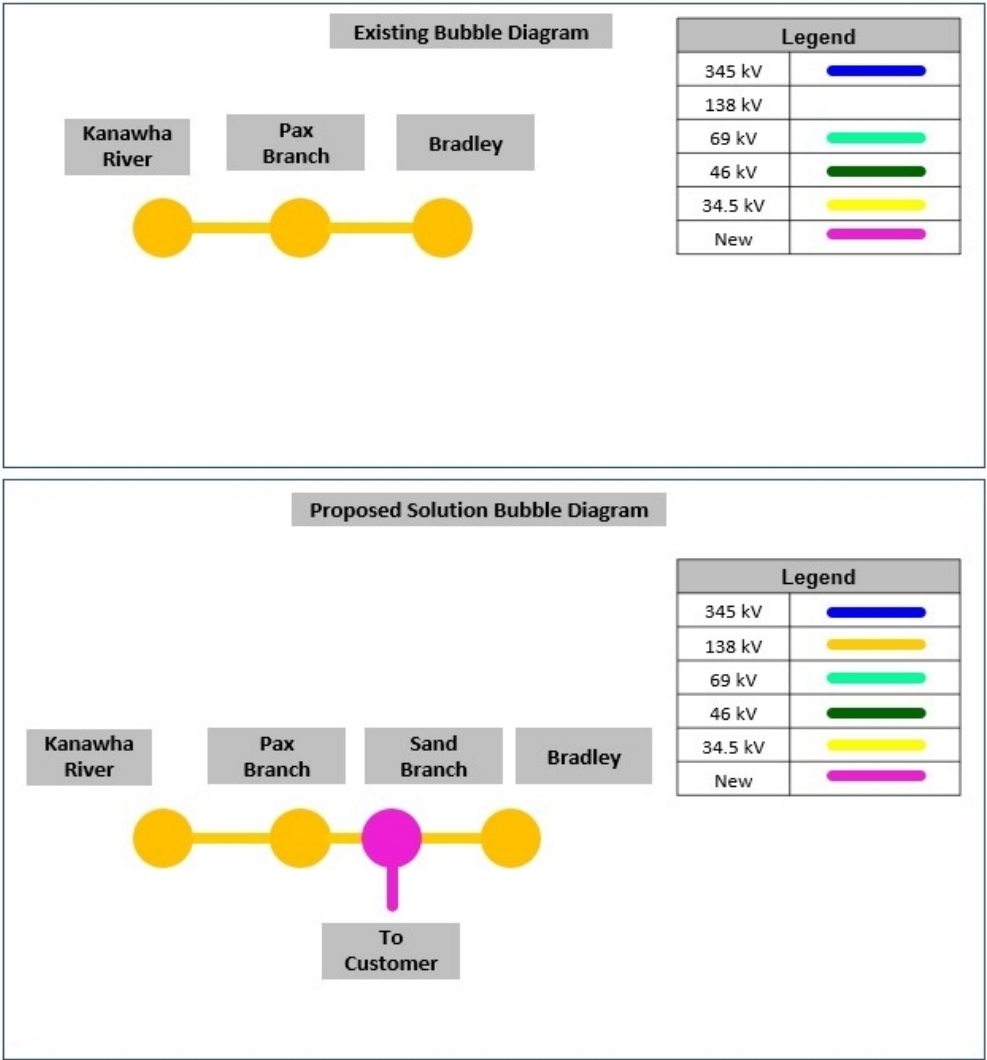
Alternatives Considered:

Customer initially requested service directly out of Pax Branch Station but ultimately decided to take service from a different location. This project is 100% reimbursable.

Supplemental Project ID: s3825.1

Projected In-Service: 11/14/2025

Project Status: Engineering



Need Number: AEP-2023-AP006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Previously Presented: Solution Meeting SRRTEP-W - 09/19/2025, Need Meeting 02/17/2023

Project Driver:

Customer Service

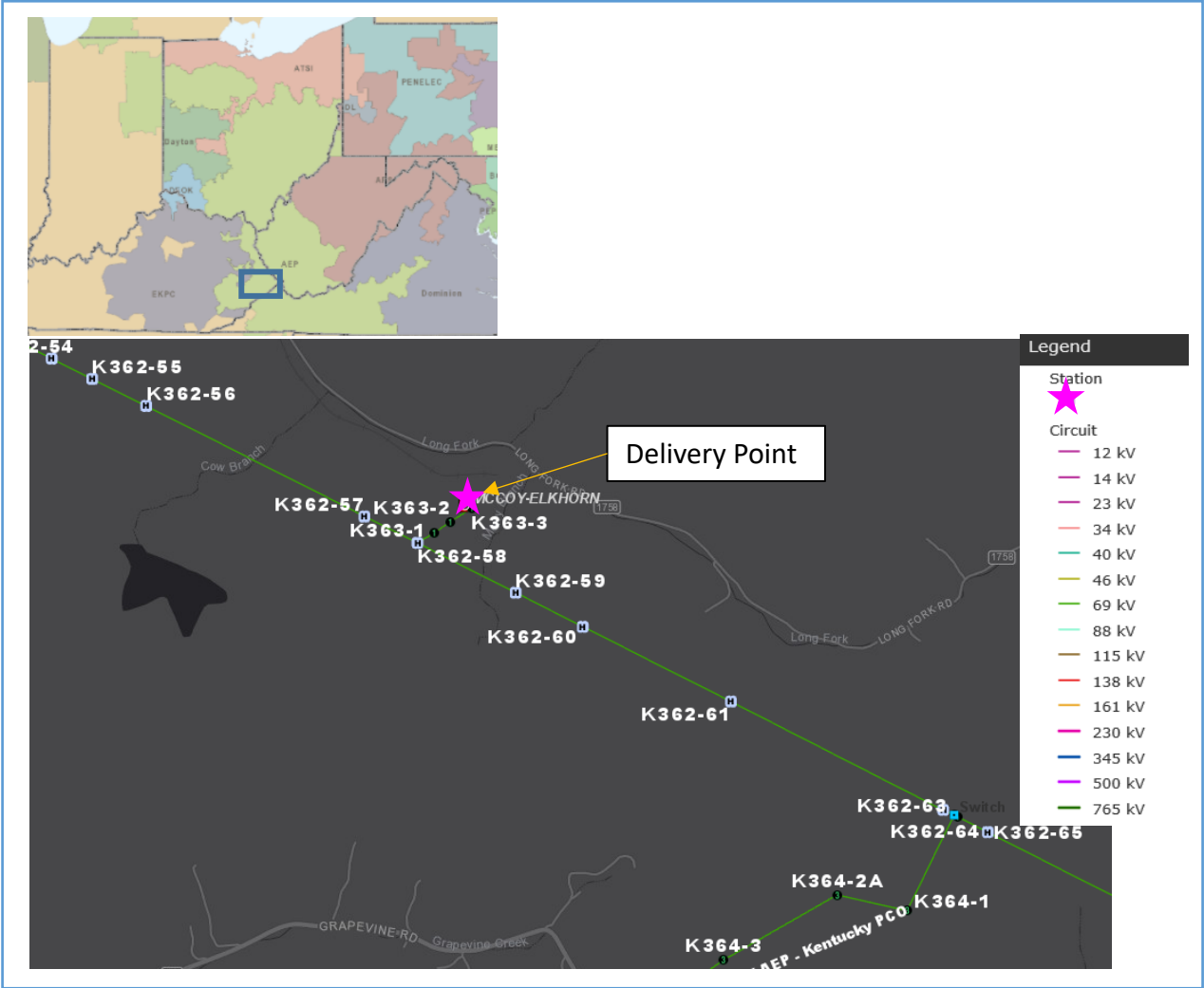
Specific Assumption Reference:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

Customer Service:

- A customer has requested transmission service at McCoy – Elkhorn delivery point in Pike County, KY.
- This existing delivery point is served via a Hard Tap on Johns Creek - Second Fork 69kV line.
- The customer has indicated that their initial peak demand will be 15 MW at the site.
- The customer has requested an ISD of 12/15/2023



Need number(s): AEP-2023-AP006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Proposed Solution:

Johns Creek - Second Fork 69kV line: Install roughly 0.8 miles of new 69kV structures but reuse existing conductor to get the line to the new phase over phase switch location.. Estimated Cost: \$2.44 M (s3826.1)

McCoy – Elkhorn 69kV Install: Install roughly 0.2 miles of new 69kV line to connect the delivery point to the new phase over phase switch.. Estimated Cost: \$0.97 M. (s3826.2)

Simers 69kV Phase over Phase Switch Install: Install a new phase over phase switch to replace the existing hard tap.. Estimated Cost: \$0.58 M. (s3826.3)

Transmission Cost Estimate: \$3.99 M

Alternatives Considered:

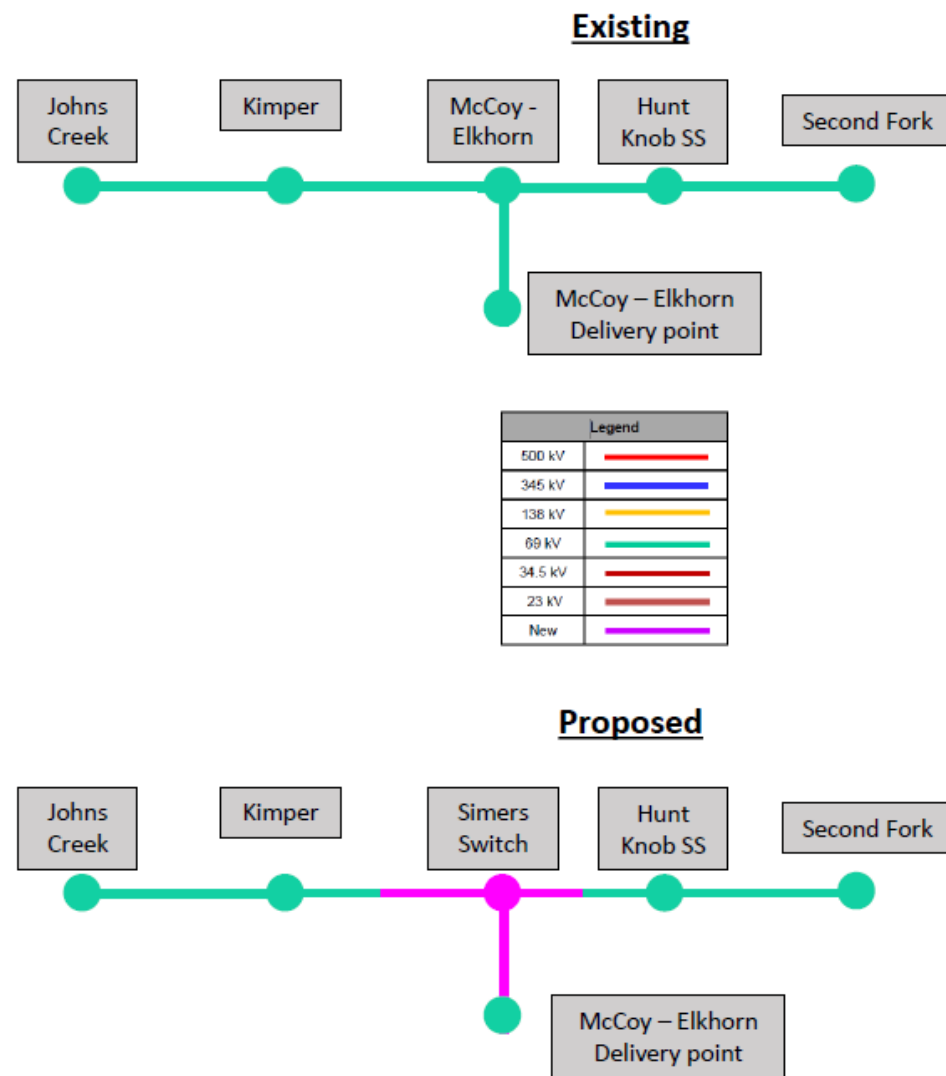
A new delivery point could be established, but it would be more costly and the customer's preference was to use the established delivery point. The area has very steep terrain and creating a new tap point would require more access roads and a longer line to get to the customer delivery point.

Supplemental Project ID: s3826.1-3

Projected In-Service: 11/01/2025

Project Status: Engineering

AEP Transmission Zone M-3 Process Pike County, KY



AEP Transmission Zone M-3 Process Trail Fork, WV

Need Number: AEP-2025-AP003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

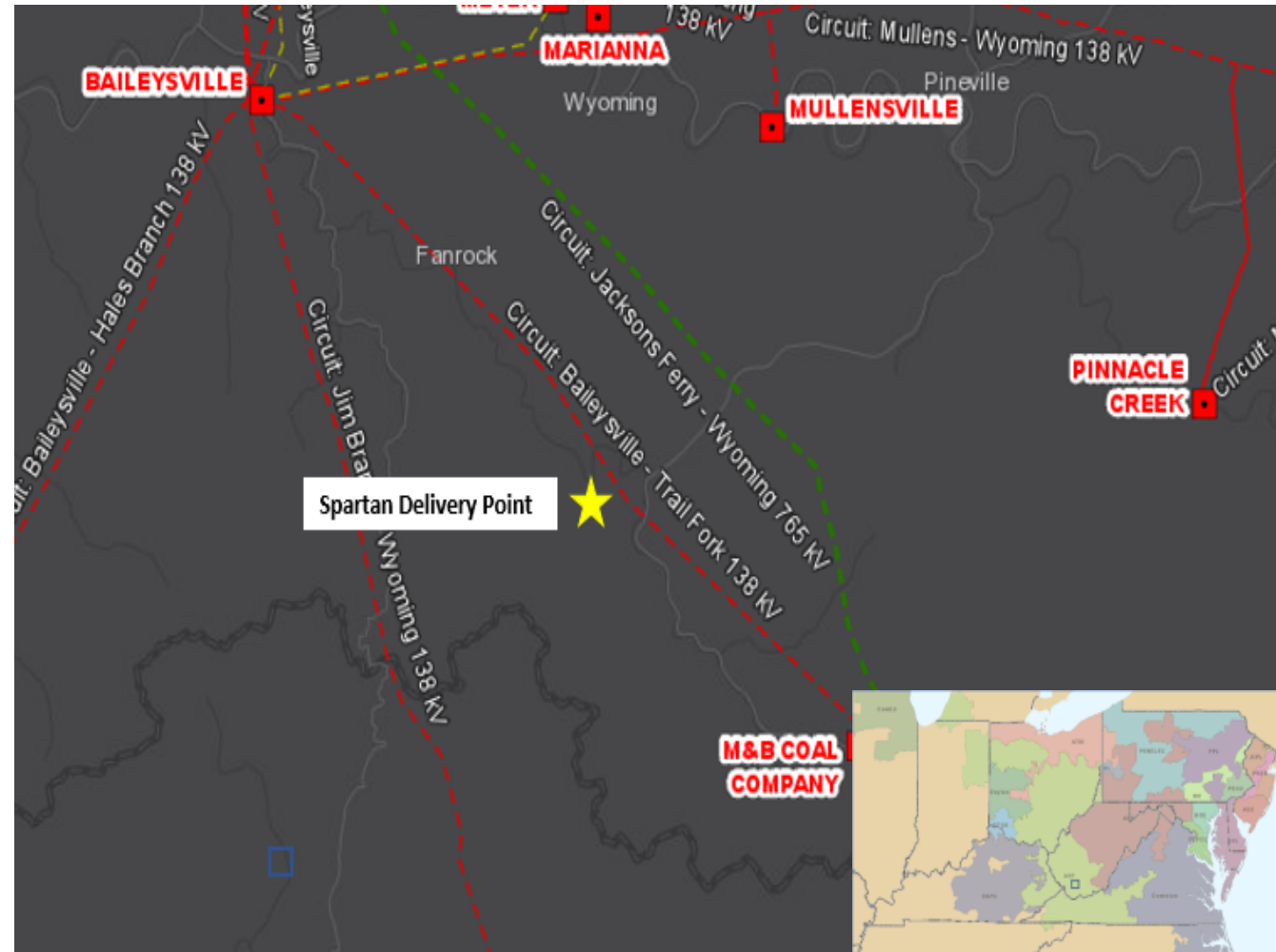
Previously Presented: Solution Meeting SRRTEP-W - 09/19/2025, Need Meeting 03/14/2025

Supplemental Project Driver: Customer Service

Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12).

Problem Statement:

A customer has requested new 138 kV service in Wolf Pen, WV. The requested in-service date is March 2026.
Projected Peak Demand: 7MW.



Need number(s): AEP-2025-AP003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Proposed Solution:

Aloe Vera SW: Install a new tap point on the existing Logan - Switchback 138 kV line between Baileysville and Trail Fork Stations with a single switch facing the customer. Install a new 138 kV delineation pole to connect the customer to the tap and add low side metering at the customer site.. Estimated Cost: 0. (s3827.1)

Transmission Cost Estimate:

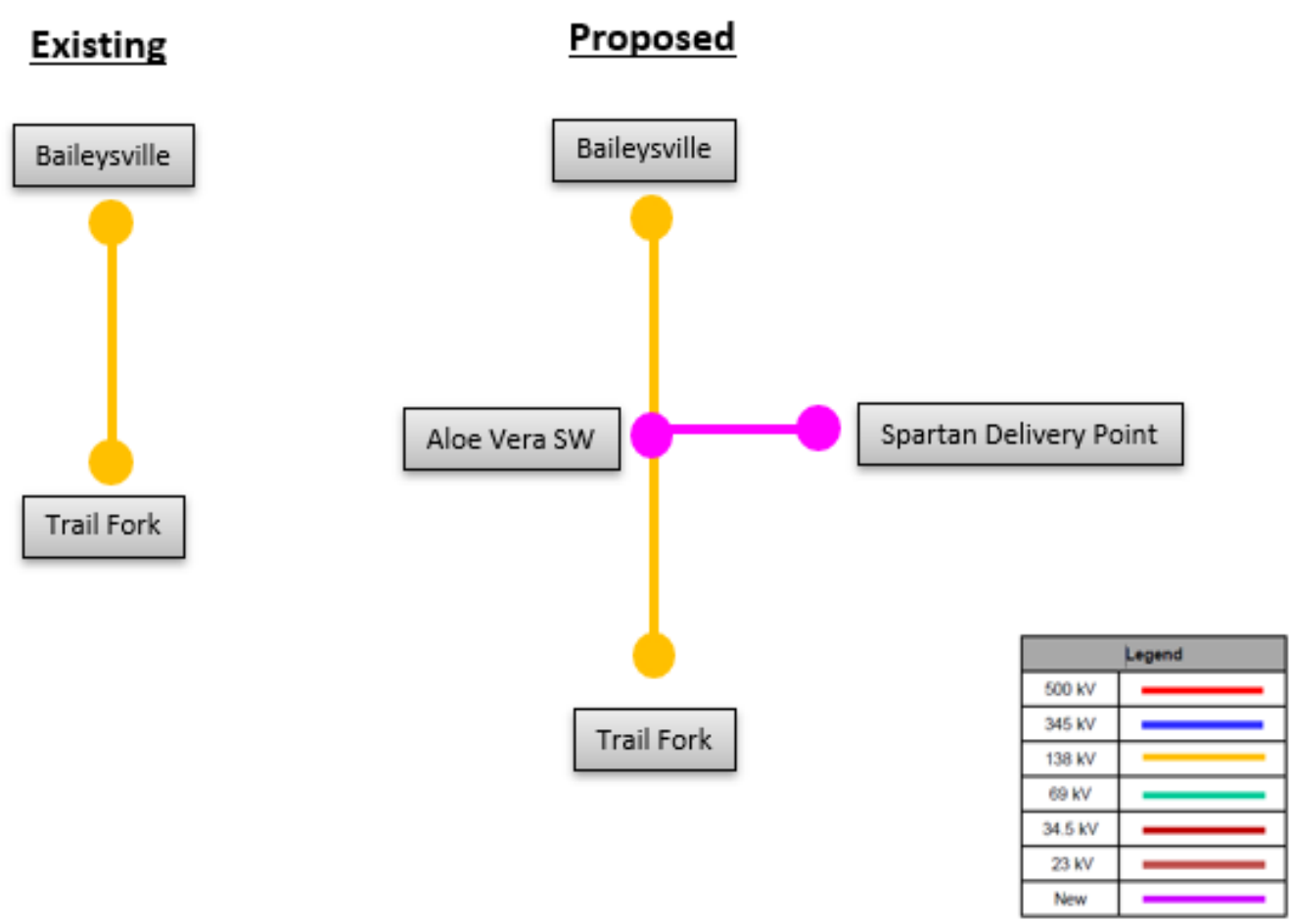
Alternatives Considered:

Neighboring 138 kV lines were considered but they are at least 2.5 Miles farther away from the delivery point. This project is 100% reimbursable.

Supplemental Project ID: s3827.1

Projected In-Service: 03/05/2026

Project Status: Engineering



Need Number: AEP-2025-IM003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Previously Presented: Solution Meeting SRRTEP-W - 09/19/2025, Need Meeting 02/14/2025

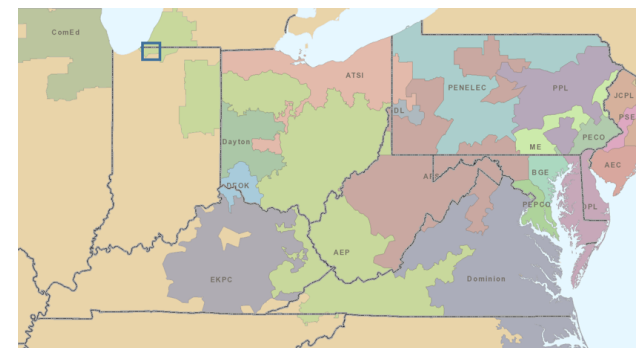
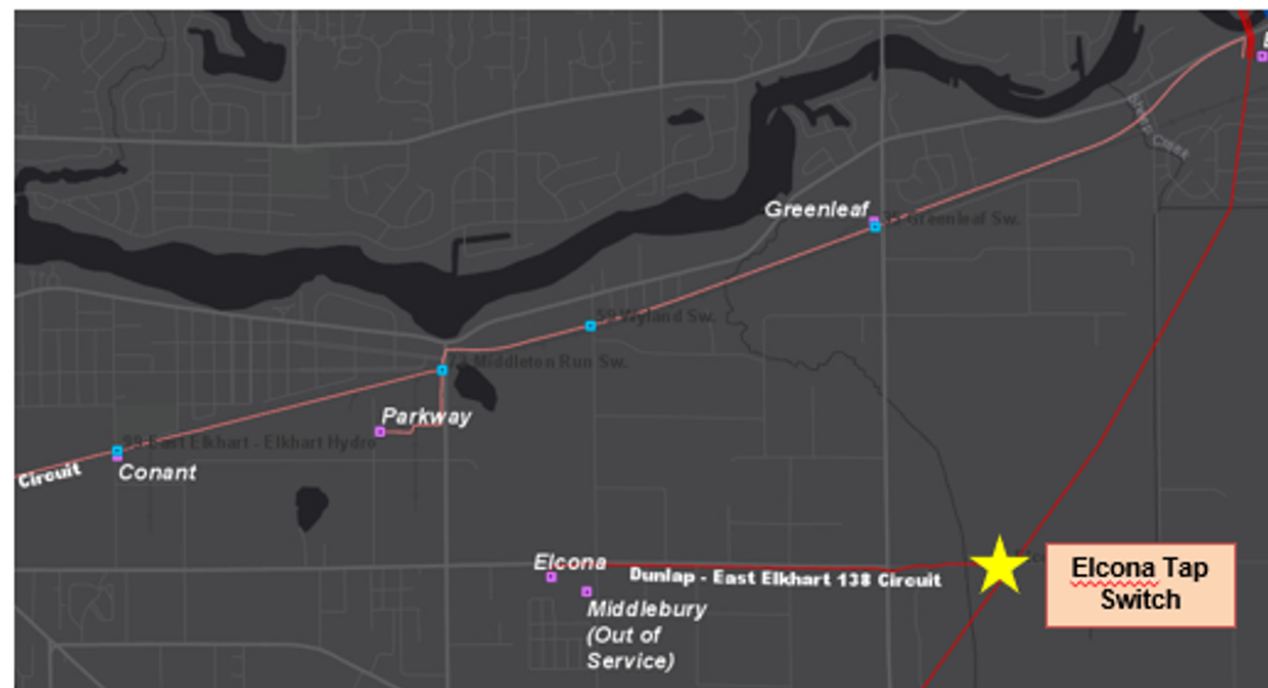
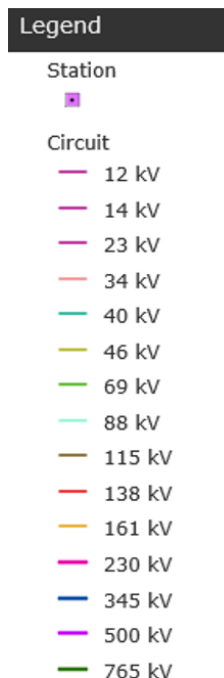
Supplemental Project Driver: Operational Flexibility and Efficiency

Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

I&M Distribution is requesting configuration changes at Elcona station, which is served via a radial line. Elcona station has no load transfer capability to adjacent stations. Performing any sort of maintenance on the Elcona Tap 138kV line or Elcona Tap 138kV Switch requires any loads served out of Elcona to be dropped. This leaves 12 MVA of load at risk unable to be recovered.

Critical loads served by Elcona include The Center for Hospice and City Elkhart Wastewater Lift Station.



AEP Transmission Zone M-3 Process Elcona Tap, IN

Need number(s): AEP-2025-IM003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Proposed Solution:

Elcona Extension 138kV: Install 2.15 miles of single circuit 138kV line from near Elcona Tap to Elcona, creating the East Elkhart - Elcona 138kV circuit. Estimated Cost: \$13.562 M. (s3828.1)

Dunlap - Elcona 138kV Line: Reconnect the existing Elcona Tap - Elcona and Elcona Tap - Dunlap branches to bypass the old switch point due to the switch retirement.. Estimated Cost: \$2.068 M. (s3828.2)

Retire Elcona Tap Switch 138kV: Retire the existing Elcona Tap Switch 138kV. Estimated Cost: \$0.195 M. (s3828.3)

Elcona Station 138kV: Install 138kV in-and-out bus with line MOABs. Work on the distribution side includes installing a new 138/12kV transformer.. Estimated Cost: \$2.303 M. (s3828.4)

Transmission Cost Estimate: \$18.128 M

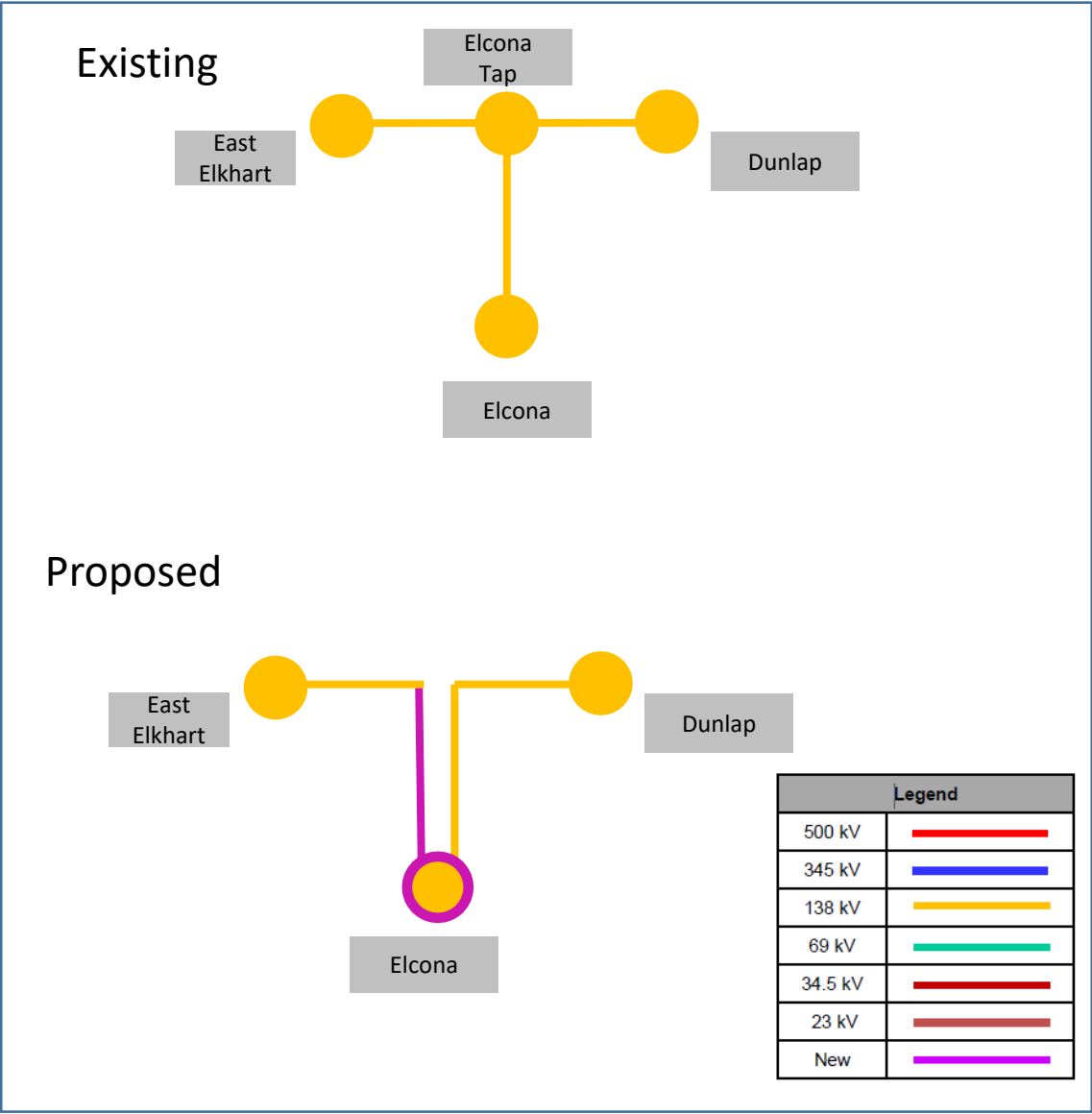
Alternatives Considered:

Purchase property and construct a new looped D-Station with new D-Circuits tied to Elcona Circuits. The proposed solution is able to be executed on property already owned by AEP and would not benefit from a location change for the Distribution station. Rebuilding the existing radial as double circuit was also considered to provide the second line, but outages are not able to be taken on the existing line without dropping load at Elcona as it is not recoverable from other sources.

Supplemental Project ID: s3828.1-4

Projected In-Service: 05/02/2029

Project Status: Scoping



Need Number: AEP-2025-OH001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

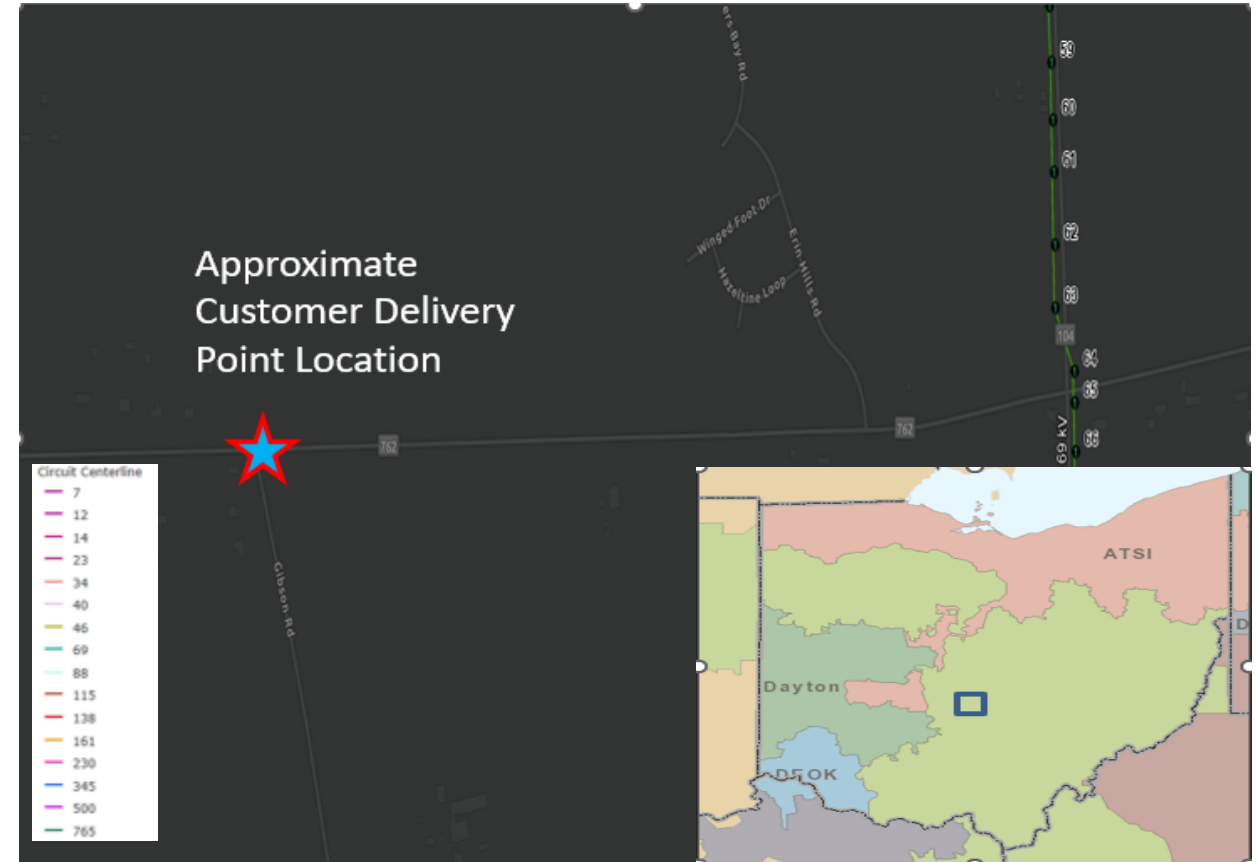
Previously Presented: Solution Meeting SRRTEP-W - 09/19/2025, Need Meeting 02/14/2025

Supplemental Project Driver: Customer Service

Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

Buckeye Power has requested a new 69kV delivery point in Pickaway County Ohio on behalf of South-Central Power Company, Inc. The projected demand at the delivery point at initial in-service is 10.0 MW with an ultimate capacity of up to 17.5 MW. The requested in-service date is 12/2026.



Need number(s): AEP-2025-OH001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Proposed Solution:

Erin Hills Switch 69kV: Install a 69 kV, 1200A 3-way phase-over-phase switch with MOAB switches. Estimated Cost: \$1.73 M. (s3829.1)

Harrison Capbank 69 kV: Install 1 – 69kV cap bank (10.8 MVAR) with a 420A 18kA cap switcher at Harrison station.. Estimated Cost: \$1.348 M. (s3829.2)

Harrison - Madison 69 kV Modification: Cut-in to the Harrison - Madison 69 kV circuit and connect it to Erin Hills Switch. Estimated Cost: \$2.226 M. (s3829.3)

Erin Hills Switch Extension 69kV: Construct ~1.5 miles of greenfield single circuit 69kV transmission line from Erin Hills Switch to the customer’s station. Estimated Cost: \$5.711 M. (s3829.4)

Transmission Cost Estimate: \$11.015 M

Alternatives Considered:

Considering the location of the customer facilities and timing of the request, no other viable transmission alternates were identified.

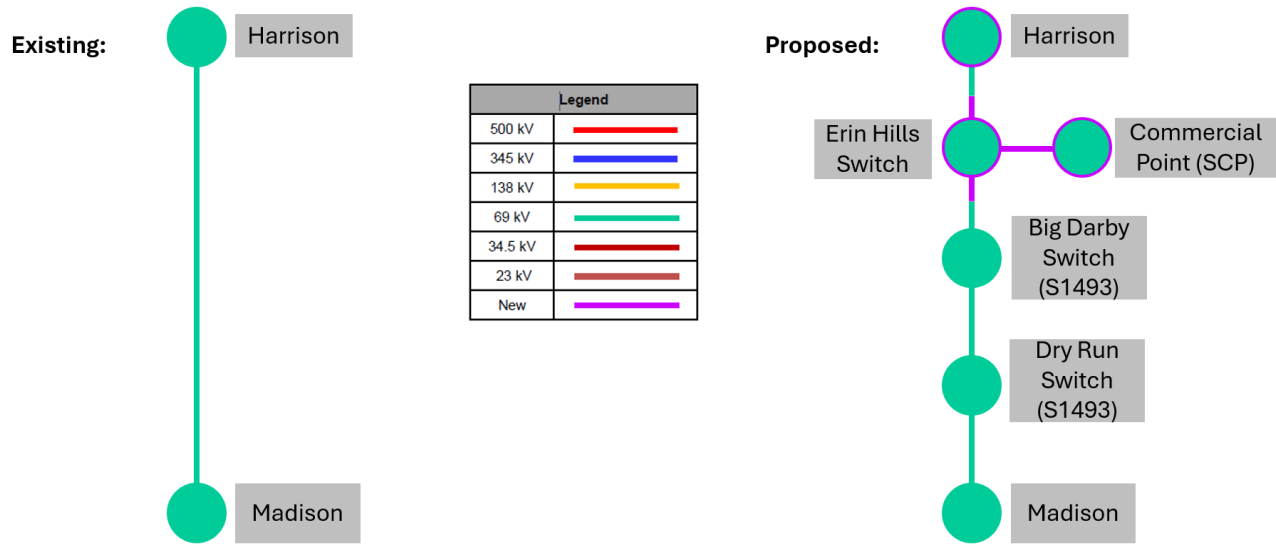
Supplemental Project ID: s3829.1-4

Projected In-Service: 06/08/2029

Project Status: Engineering

AEP Transmission Zone M-3 Process
Harrison, OH/Madison, OH

Bubble Diagram



AEP Transmission Zone M-3 Process Greif, OH/Huntley, OH/Busch, OH/Lazelle, OH

Need Number: AEP-2025-OH003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Previously Presented: Solution Meeting SRRTEP-W - 09/19/2025, Need Meeting 02/14/2025

Supplemental Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference: AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

Huntley Extension 138kV:

The existing Huntley Extension 138 kV line was originally installed in 1977 and is approximately 2.57 miles long (~1.18 mi is single circuit 138 kV line and ~1.38 mi is double circuit 69 & 138 kV). The line utilizes a mixture of wood poles (41) and steel pole (9) structures with 636,000 CM ACSR 26/7 (Grosbeak) (138kV) & 336,400 CM ACSR 18/1 (Merlin) (69kV) conductor.

Circuit Historical Performance: Greif - Huntley (CSP) 138kV

From June 1, 2019 to June 30, 2024, there have been 5 momentary outages and 1 permanent outage on the Greif - Huntley (CSP) 138kV Circuit.

Circuit Historical Performance: Busch - Lazelle 69kV

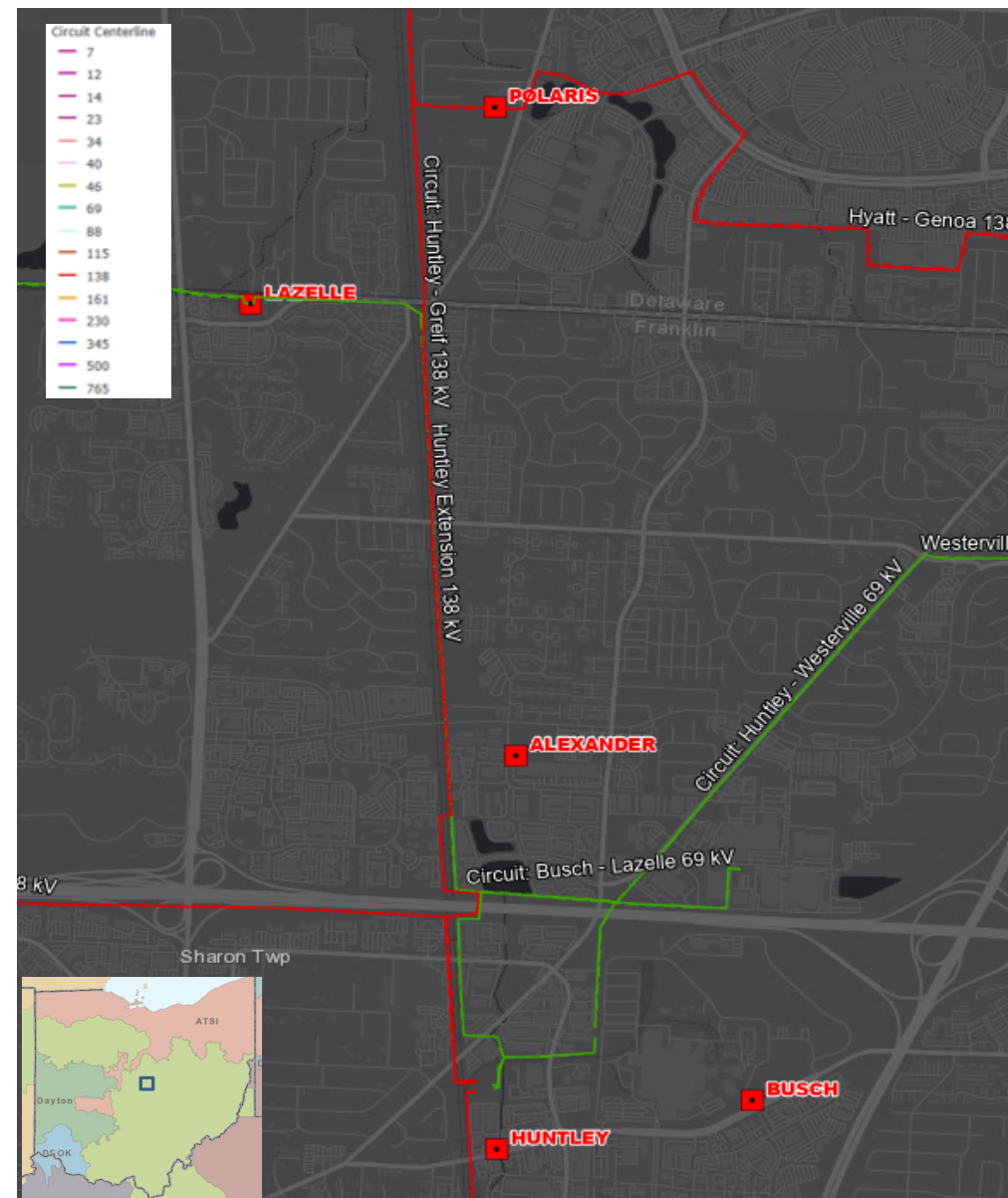
From June 1, 2019 to June 30, 2024, there have been 2 momentary outages, 5 permanent outages on the Busch - Lazelle 69kV Circuit.

Open Conditions:

As of September 16, 2024, there are 5 structures with at least one open structural condition, which relates to 10% of the structures on the line. There are currently 5 open structural conditions related specifically affecting the poles and crossarms including Rot Pocket (1), Rot Top (2), and Split (2) conditions. There are currently 11 hardware related open condition specifically affecting guys, insulator, and molding including Damaged (1), Loose (1), and Missing (9) conditions.

Additional Information:

A recent engineering analysis identified 49% of the line structures are overloaded under the NESC heavy loading conditions. The overloaded structures parallel a railroad right of way.



AEP Transmission Zone M-3 Process
Greif, OH/Huntley, OH/Busch, OH/Lazelle, OH

Need number(s): AEP-2025-OH003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Proposed Solution:

Huntley Extension Rebuild: Rebuild ~2.56 miles of line between the Busch - Lazelle 69 kV and Huntley - Greif 138 kV circuits, utilizing 1033.5 (54/7) ACSR conductor SE 69 kV (206 MVA) 138 kV (411 MVA); this rebuild consist of both single and double circuit sections (~1.18 miles of single circuit and ~1.38 miles of double circuit)..
Estimated Cost: \$15.7 M. (s3830.1)

Transmission Cost Estimate: \$15.7 M

Alternatives Considered:

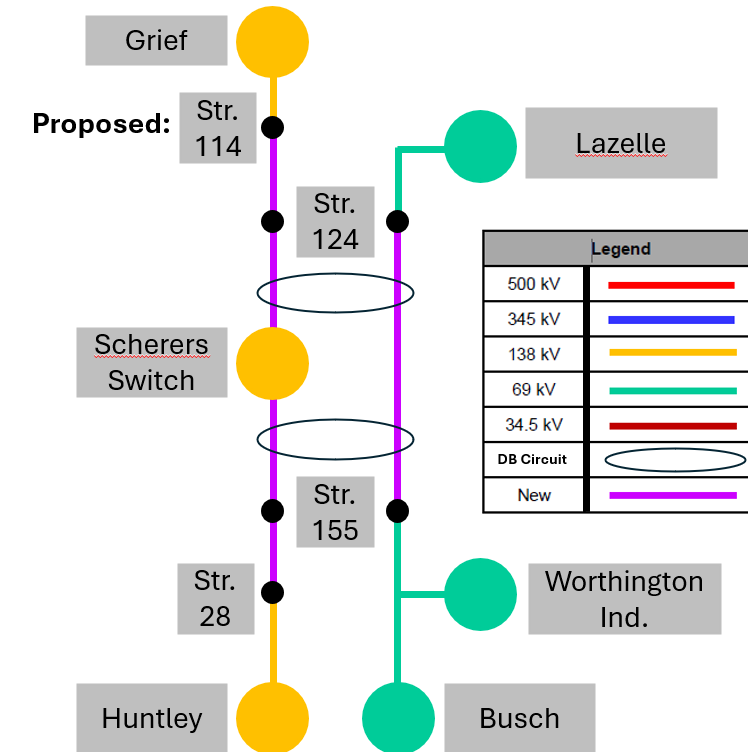
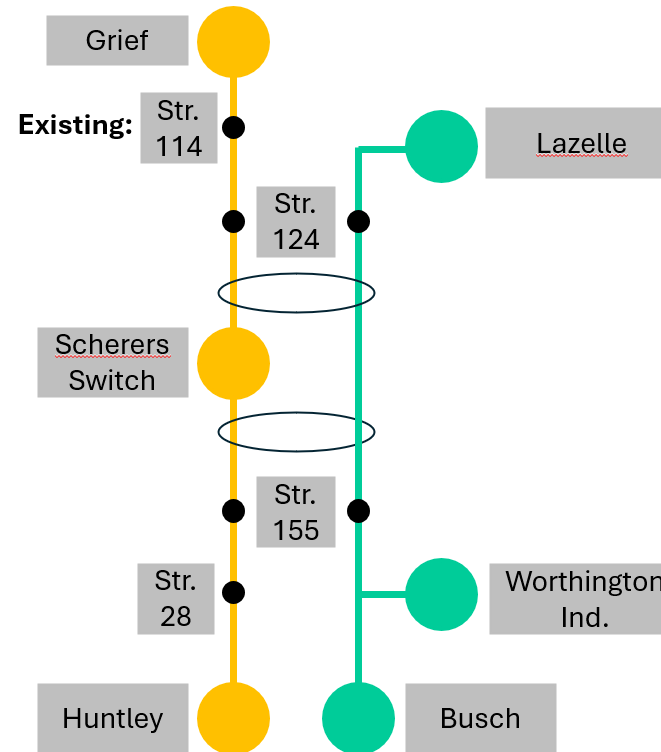
Considering the location of the line and number of stations served from it, retirement is not an option.

Supplemental Project ID: s3830.1

Projected In-Service: 03/03/2028

Project Status: Engineering

Bubble Diagram



AEP Transmission Zone M-3 Process Windsor, OH

Need Number: AEP-2025-OH004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Previously Presented: Solution Meeting SRRTEP-W - 09/19/2025, Need Meeting 07/18/2025

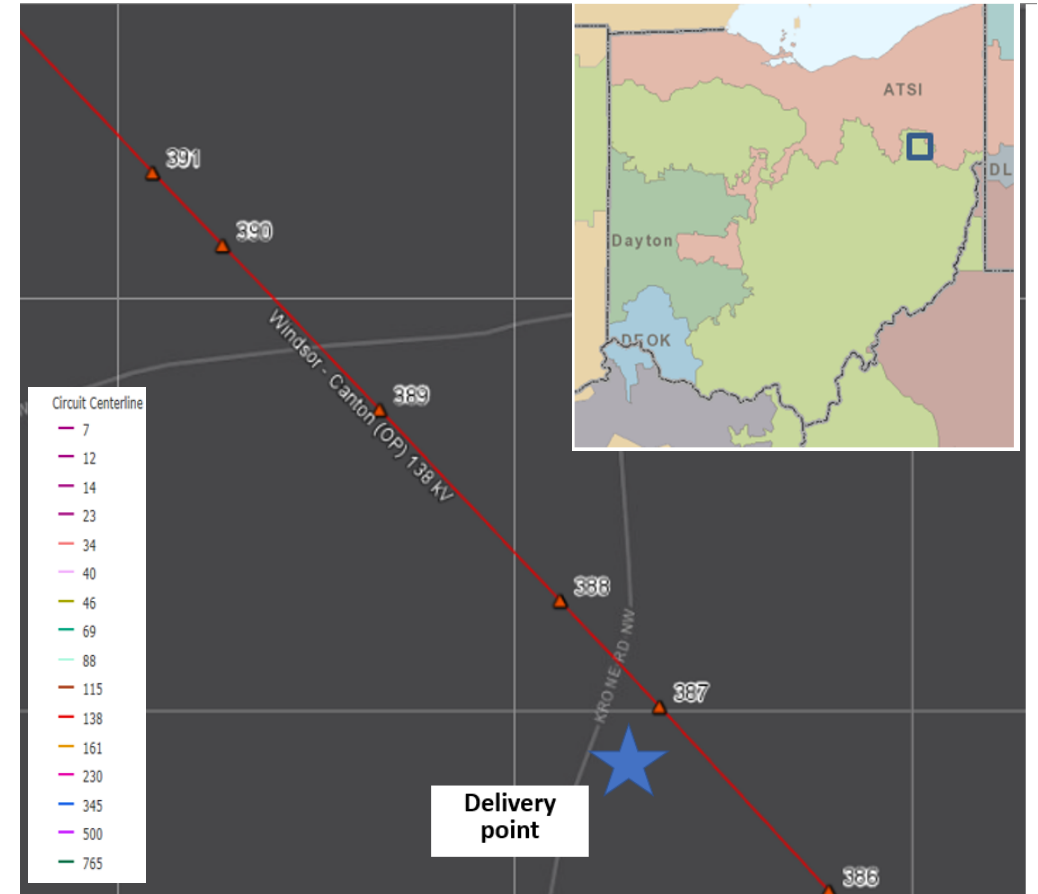
Project Driver: Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12).

Problem Statement:

A customer has requested a new 138 kV delivery point in Malvern, Ohio. The anticipated load is 20 MW and delivery is requested by 02/18/2027.



Need number(s): AEP-2025-OH004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/14/2026

Proposed Solution:

Sunnyside - Carrollton 138 kV cut-in: Cut into the Sunnyside - Carrollton 138 kV circuit to install new phase over phase switch to the customer substation. Estimated Cost: \$0.908 M. (s3831.1)

Customer Extension: Build ~0.1-mile extension from the switch structure to the customer substation. Estimated Cost: \$0.446 M. (s3831.2)

Krone Switch Install: Install phase over phase switch cut into the Sunnyside - Carrollton 138 kV circuit. Estimated Cost: \$1.101 M. (s3831.3)

Transmission Cost Estimate: \$2.455 M

Alternatives Considered:

Serve customer from the 69kV line approximately 0.75 miles away. This option would require significant 69 kV upgrades to accommodate load.

Supplemental Project ID: s3831.1-3

Projected In-Service: 02/18/2027

Project Status: Scoping

AEP Transmission Zone M-3 Process Windsor, OH



AEP Transmission Zone M-3 Process Don Marquis, OH

Need Number: AEP-2026-OH004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/10/2026

Previously Presented: Solution Meeting TEAC - 04/07/2026, Need Meeting 02/03/2026

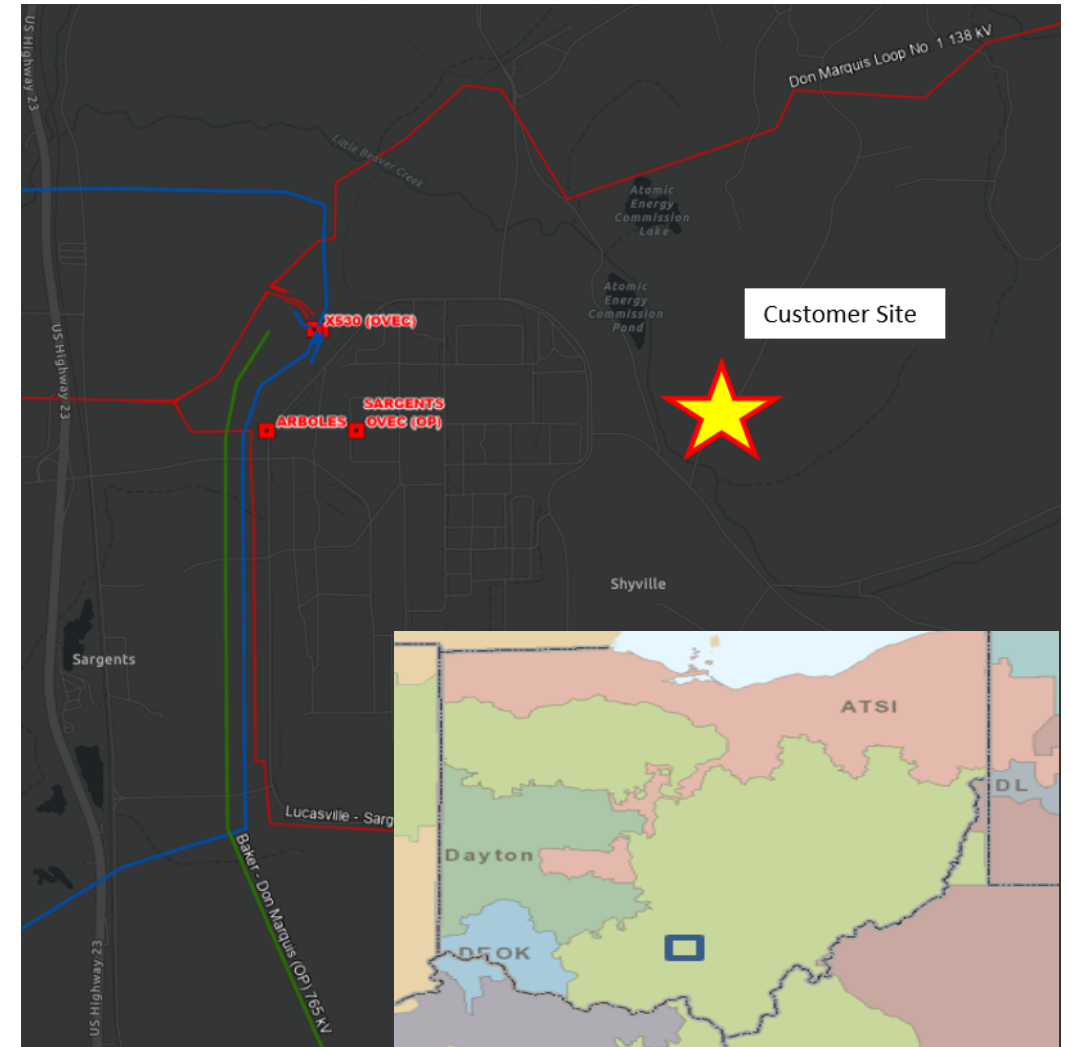
Project Driver: Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

A customer has requested service for 800 MW of new demand near Piketon, OH. The requested in-service date is 12/2027.



AEP Transmission Zone M-3 Process Don Marquis, OH/Monza, OH/Customer, OH

Need number(s): AEP-2026-OH004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/10/2026

Proposed Solution:

Don Marquis - Monza 345kV #1: Construct 1.8-mile 345kV single circuit transmission line from Don Marquis to the new Monza Station. Estimated Cost: \$7.5 M. (s3864.1)

Monza 345kV Station: Construct greenfield 345kV ring bus switching station, comprising of six (6) 345kV 63kA 5000A breakers and a 150 MVAR STATCOM. Estimated Cost: \$131.5 M. (s3864.2)

Monza 345kV Customer Feed Ckt 1: Greenfield 345kV 0.2-mile transmission feed from Monza Station to customer site. Estimated Cost: \$0.5 M. (s3864.3)

Monza 345kV Customer Feed Ckt 2: Greenfield 0.2-mile 345kV transmission feed from Monza Station to customer site. Estimated Cost: \$0.5 M. (s3864.4)

Don Marquis 345kV: Install four (4) 63kA 5000A breakers for two (2) additional feeds to a new switching station Monza. Estimated Cost: \$9.1 M. (s3864.5)

Don Marquis - Monza 345kV #2: Construct a second 1.8-mile 345kV single circuit transmission line from Don Marquis to the new Monza Station. Estimated Cost: \$7.5 M. (s3864.6)

Transmission Cost Estimate: \$156.6 M

Alternatives Considered:

Considering the final location of the request and availability for new connections out of Marquis station, no other viable transmission alternates were identified.

Supplemental Project ID: s3864.1-6

Projected In-Service: 12/31/2027

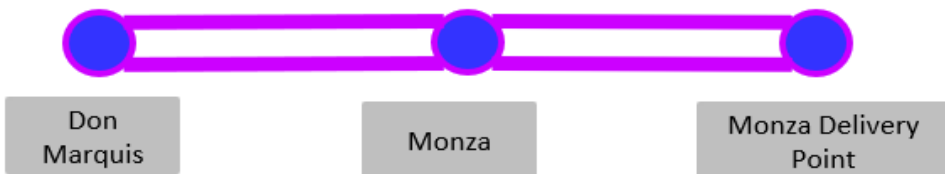
Project Status: Scoping

Existing:



Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	

Proposed:



Need Number: AEP-2025-OH011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 10/17/2025, Need Meeting 07/18/2025

Project Driver: Equipment Condition/Performance/Risk, Operational Flexibility and Efficiency

Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13 and 14)

Problem Statement:

Station: East Leipsic 138kV

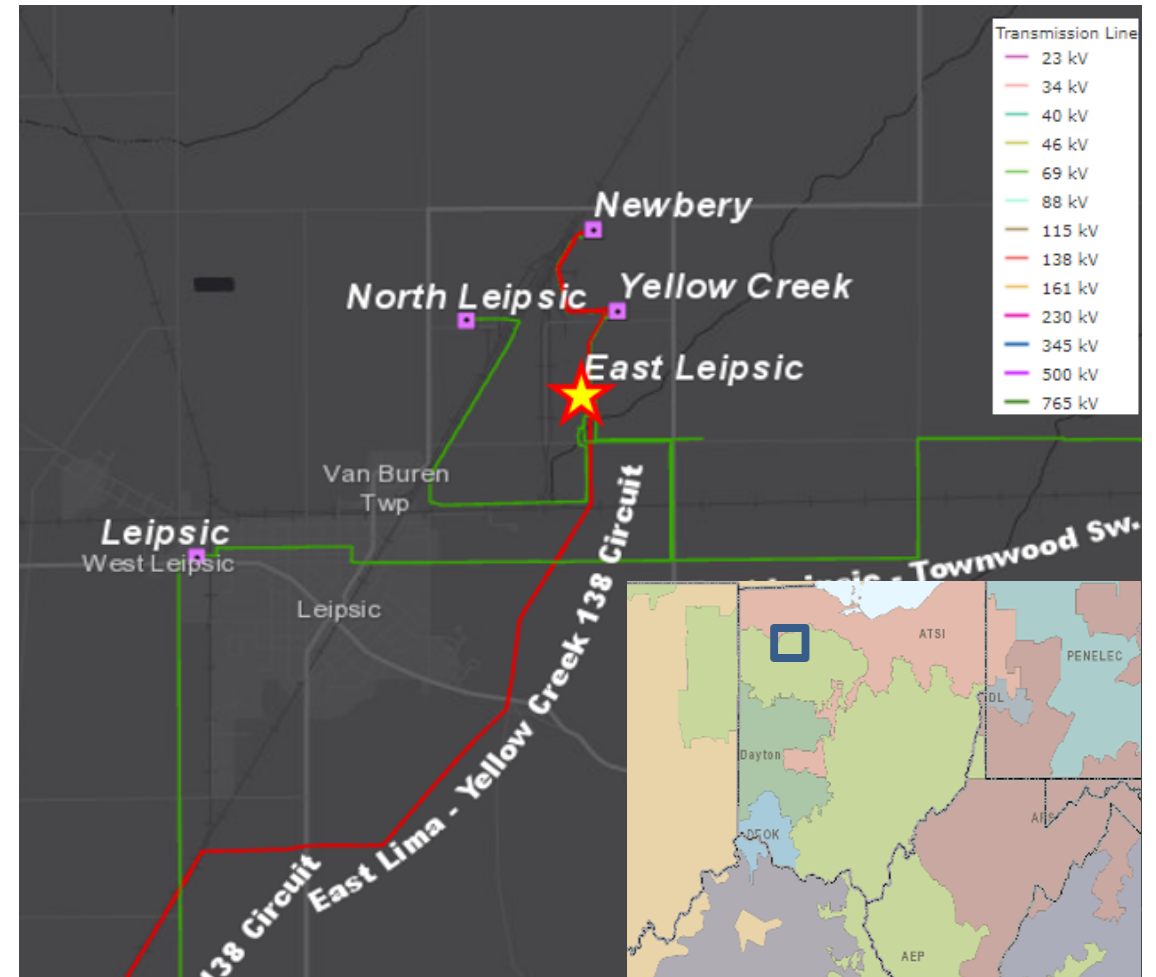
Transformer: Transformer 3 is a 1959 vintage 138/69kV unit. The transformer has elevated levels of carbon monoxide, carbon dioxide, methane and ethane indicating excessive decomposition of the paper insulating material which impacts the unit's ability to withstand future short circuit or through fault events.

Circuit Switcher AA: Circuit switcher AA is a Mark V SF6 type switcher. These switchers have had numerous documented malfunctions across the AEP fleet and spare/replacement parts are not readily available.

Relays: Currently, 40 of the 47 relays (85% of all station relays) are in need of replacement. 27 of these are of the electromechanical type and 4 of these are of the static type which have significant limitations with regards to spare part availability and fault data collection and retention. 9 relays are microprocessor type outside of their life expectancy.

Operational Flexibility:

Due to lack of appropriate sectionalizing, transformers 3, 4, and the 69kV bus are in the same zone of protection. Overlapping and combined zones of protection present challenges in coordinating relay settings correctly and can lead to over-tripping or misoperations.



Need number(s): AEP-2025-OH011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

East Leipsic 138/69/34.5kV Station Work: Replace transformer #3 with 138/69/34.5kV three winding 90MVA unit and install associated low side 69kV circuit breaker. Additionally, install high side 69kV circuit breaker on Transformer #4 and replace 138kV capacitor bank circuit switcher AA with circuit breaker, remove 138kV bus tie switch X3 and replace obsolete electro-mechanical, solid state and legacy microprocessor relays with IEDs and relocate to the control building. Retire older control house and add backup station service.. Estimated Cost: \$10.624 M. (s3837.1)

Transmission Cost Estimate: \$10.624 M

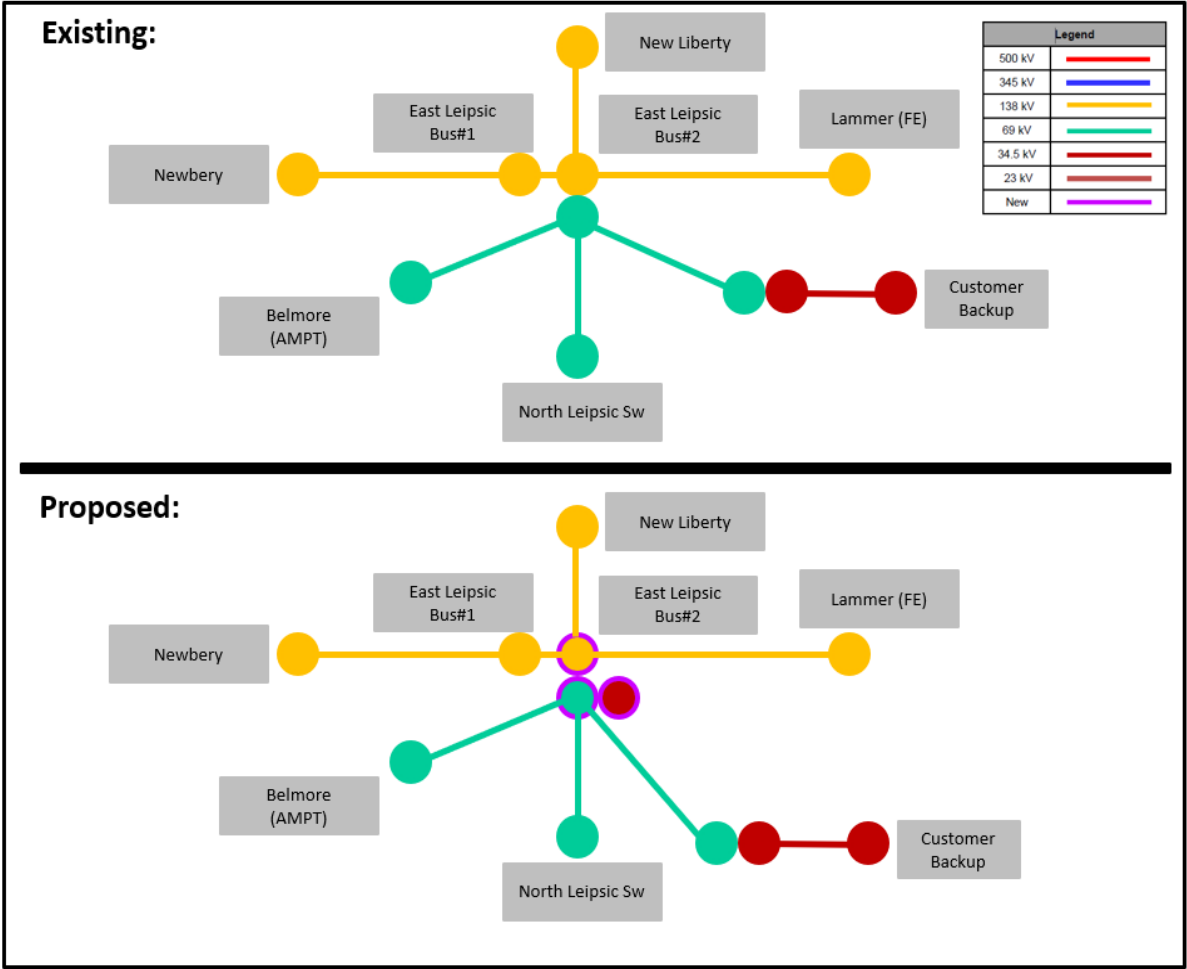
Alternatives Considered:

Build a greenfield station to replace East Leipsic. Considering the space and outage availability within the existing station, this alternative was eliminated. Estimated cost: \$30M

Supplemental Project ID: s3837.1.

Projected In-Service: 11/01/2027

Project Status: Engineering



AEP Transmission Zone M-3 Process Hicksville, OH

Need Number: AEP-2022-OH028

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 10/17/2025, Need Meeting 06/15/2022

Project Driver:

Equipment Material/Condition/Performance/Risk

Specific Assumption Reference:

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

Problem Statement:

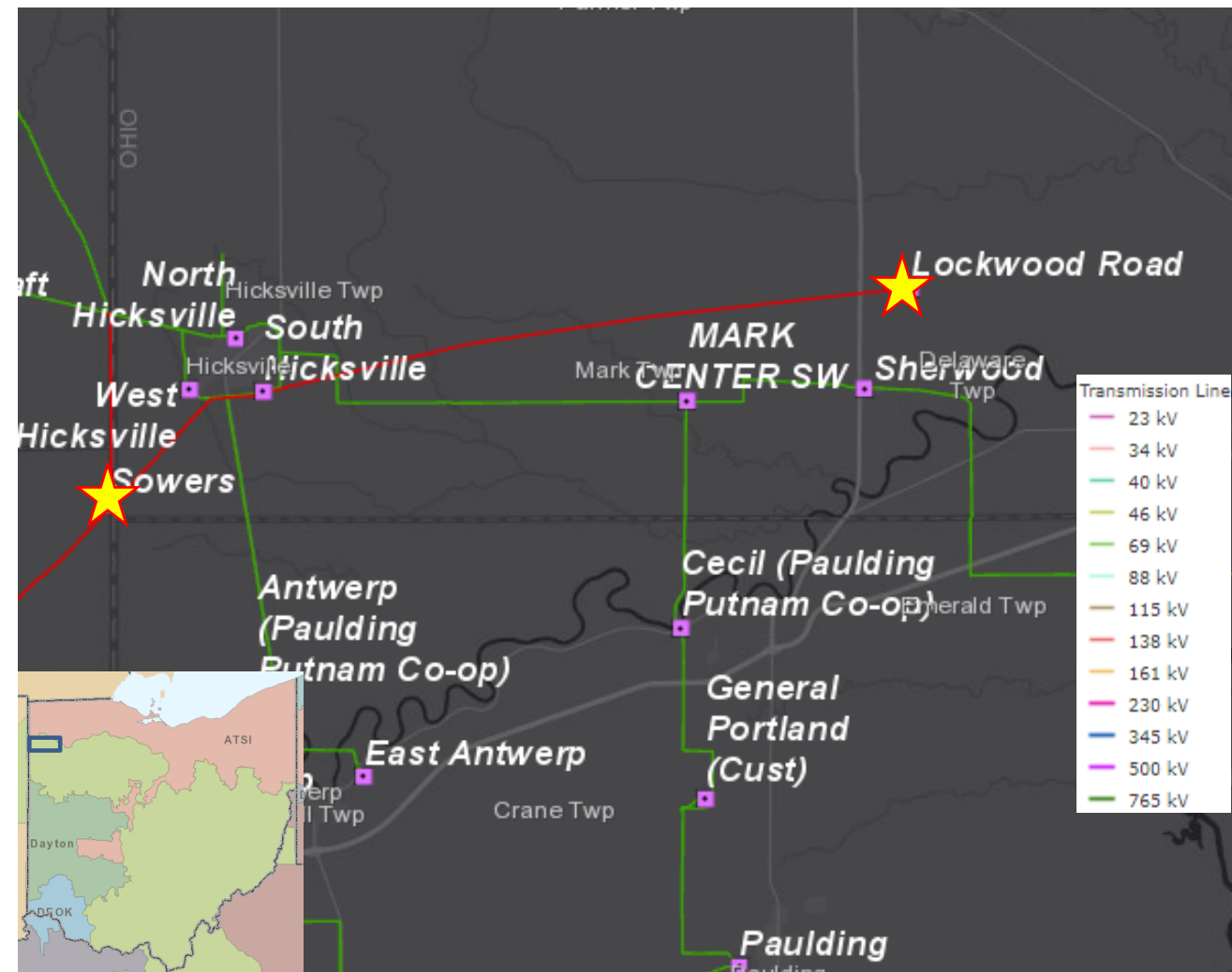
Sowers – Lockwood Road 138kV Line:

- Original Install Date: 1966
- Length of Line: 14.93 Miles
- Total Structure Count: 103
 - Wooden H frame structures, Steel H frame structures
 - Vertical ceramic insulators
- Conductor Type: 636 ACSR 26/7 (Grossbeak)
- Outage History: 5 Momentary and 3 Permanent outages – average duration of 10.4 hours, 46k CMI

The Sowers – Lockwood Road line does not meet 2017 NESC Grade B loading criteria. The line is grounded with butt wraps which does not meet current AEP standards. There are emerging issues due to the age of this line being at a point where the rate of the wood pole decay to heart rot is going to accelerate. The life expectancy of crossarms vs. the life expectancy of the poles is mismatched as well as knee and vee braces. Ground based inspections may fail to detect crossarm decay on the top side of the arms, which typically occurs prior to visible decay on the sides and bottom. Crossarm failure is often the first indication that decay was ever present.

Eight sample structures were further assessed by a ground crew. 87.5% of those structures had reported conditions, which included the following: four structures had bowing poles/crossarms, five structures had moderate deterioration of poles and crossarms, and one structure had significant deterioration of pole toppers.

AEP Local Plan 2026



AEP Transmission Zone M-3 Process Lockwood Rd., OH/Sowers, IN/South Hicksville, OH/Sowers, IN/Lockwood Rd., OH

Need number(s): AEP-2022-OH028

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

Sowers - Lockwood Road 138kV transmission line rebuild: Rebuild ~14.4 miles of Rob Park-Richland 138kV line asset from the Ohio border near Sowers station to Lockwood Road station. The rebuild will only include Structure 1 – 23 (3.0 miles) and structures 25-103 (11.4 miles). Telecom infrastructure (ADSS) will be installed in the area to support relaying and communication.. Estimated Cost: \$35.808 M. (s3836.1)

Sowers Relay Settings: Update the relay settings on Sowers - Lockwood Rd circuit at Sowers station.. Estimated Cost: \$0.1 M. (s3836.2)

Lockwood Road Relay Settings: Update the relay settings on Sowers - Lockwood Rd circuit at Lockwood Road station.. Estimated Cost: \$0.1 M. (s3836.3)

Transmission Cost Estimate: \$36.008 M

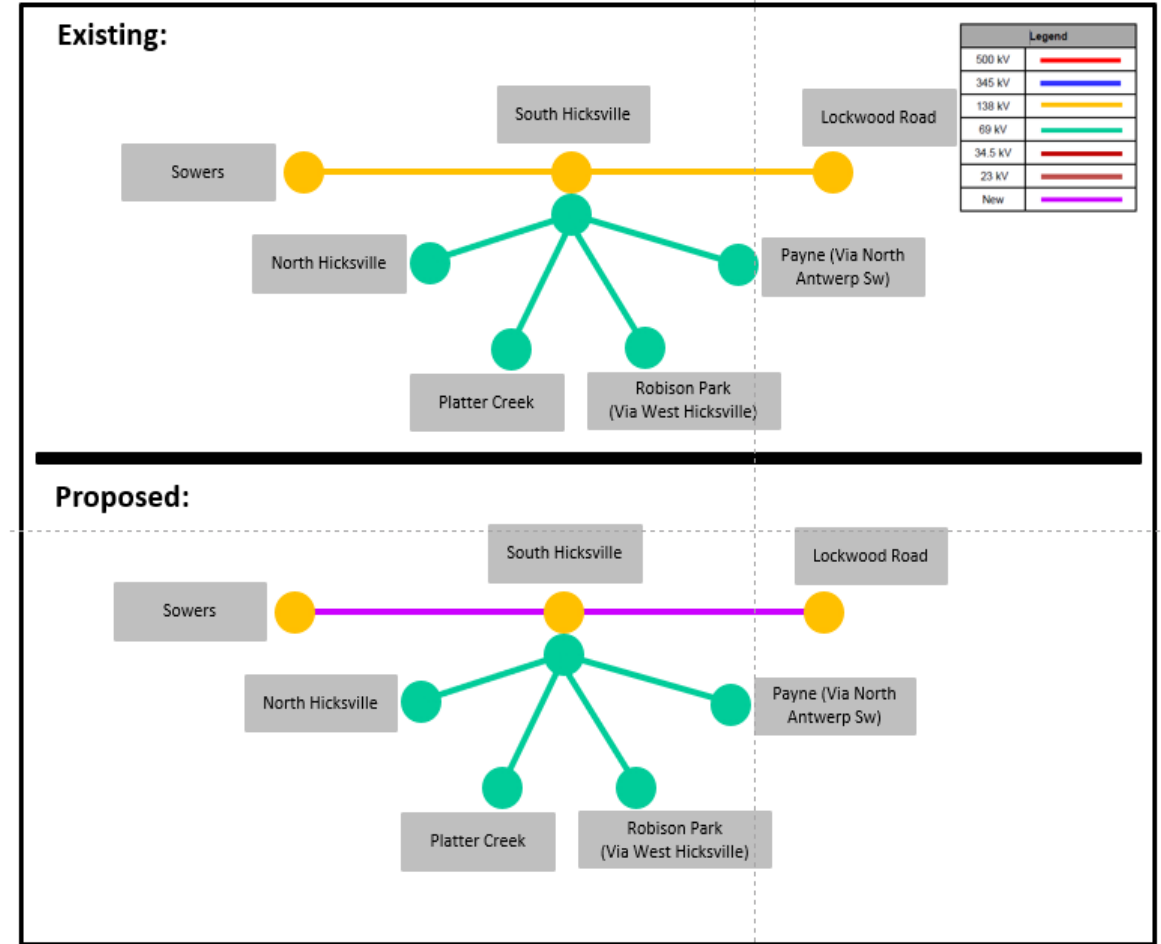
Alternatives Considered:

Retire the Sowers - Lockwood Road 138kV transmission line asset; this is not a viable solution since the line serves the South Hicksville area and would affect the 69kV reliability. This line also serves as a major path between Indiana and Ohio to serve customers for both Ohio and I&M.

Supplemental Project ID: s3836.1-3.

Projected In-Service: 04/26/2029

Project Status: Engineering



Need Number: AEP-2025-IM002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

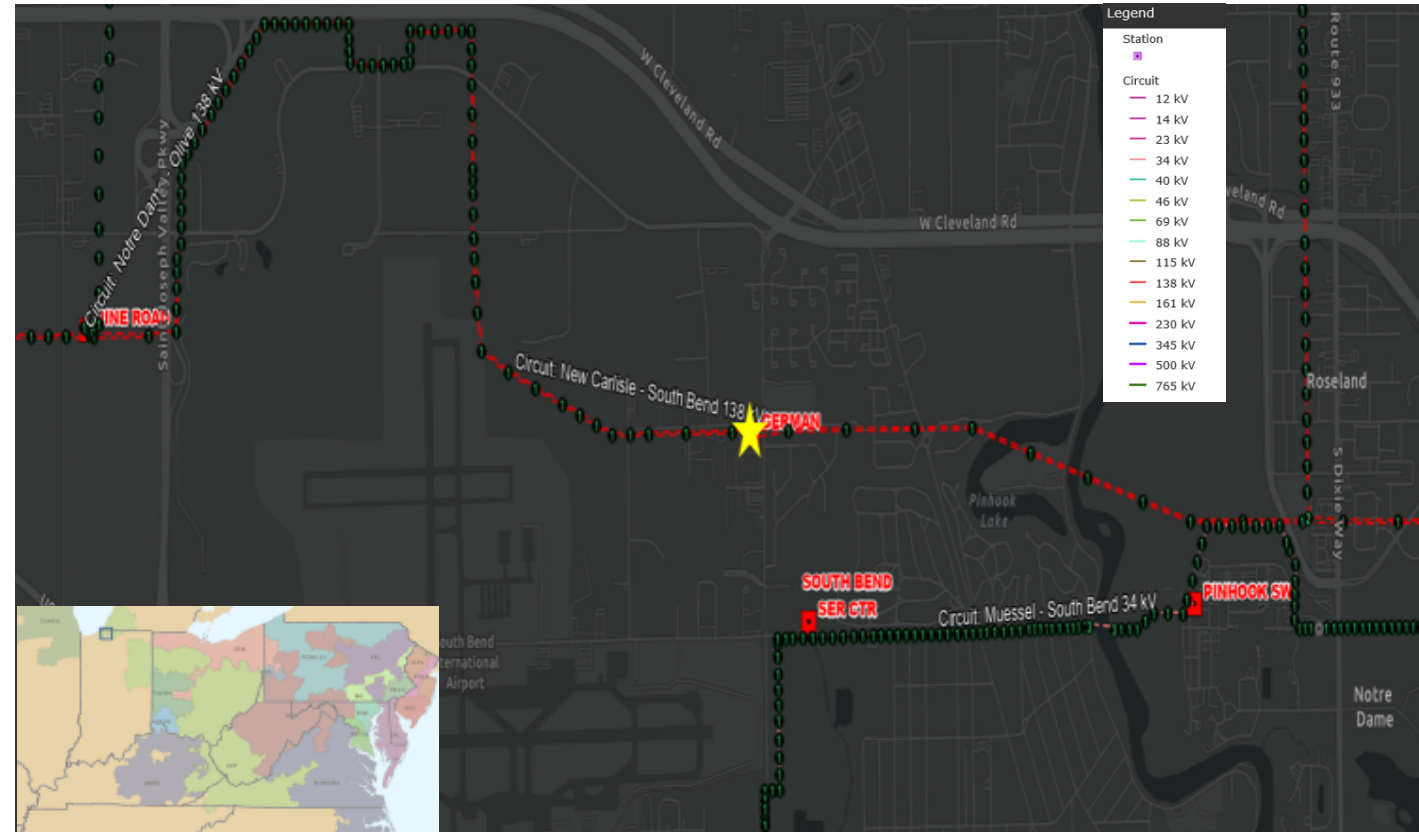
Previously Presented: Solution Meeting SRRTEP-W - 11/14/2025, Need Meeting 02/14/2025

Supplemental Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

I&M Distribution is requesting upgrades to T1 at German station due to its condition, performance, and risk. Transformer T1 at German station is a 1970s vintage transformer and has developed oil leaks at the low side bushing and radiators. Elevated levels of CO2 and Ethylene indicate excessive decomposition of the paper insulating materials, which impairs the unit's ability to withstand through fault events.



Need number(s): AEP-2025-IM002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

German Station: Install 138kV bus tie, replace 138kV MOAB Y facing Notre Dame, and replace distribution bank T1..
Estimated Cost: \$2.406 M. (s3838.1)

Olive Remote End: Protection and controls settings updates at Olive station.. Estimated Cost: \$0.122 M. (s3838.2)

Notre Dame Remote End: Protection and controls settings updates at Notre Dame station. Estimated Cost: \$0.143 M. (s3838.3)

Transmission Cost Estimate: \$2.672 M

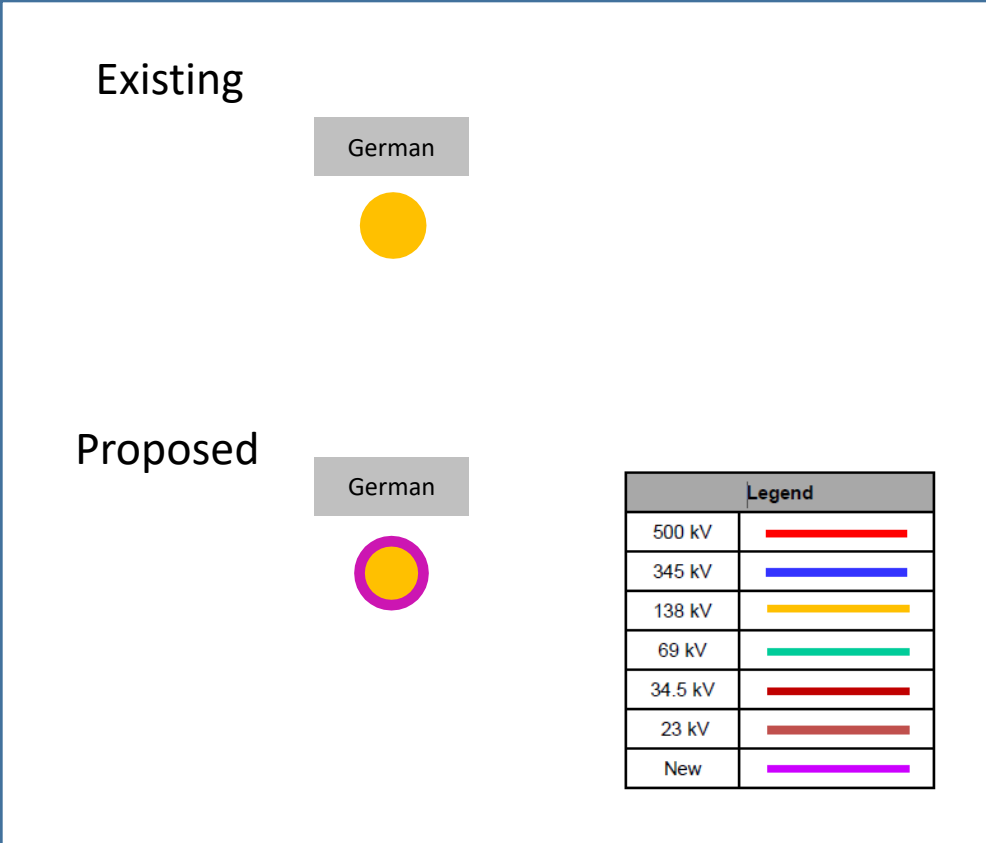
Alternatives Considered:

Construct a greenfield breaker and a half station, incorporating the 138kV Darden Tap and add distribution facilities. Avoided as cost prohibitive. Estimated cost: \$20M

Supplemental Project ID: s3838.1-3.

Projected In-Service: 09/29/2028

Project Status: Scoping



AEP Transmission Zone M-3 Process Forest3, OH/Upper Sandusky, OH

Need Number: AEP-2025-OH009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 11/14/2025, Need Meeting 07/18/2025

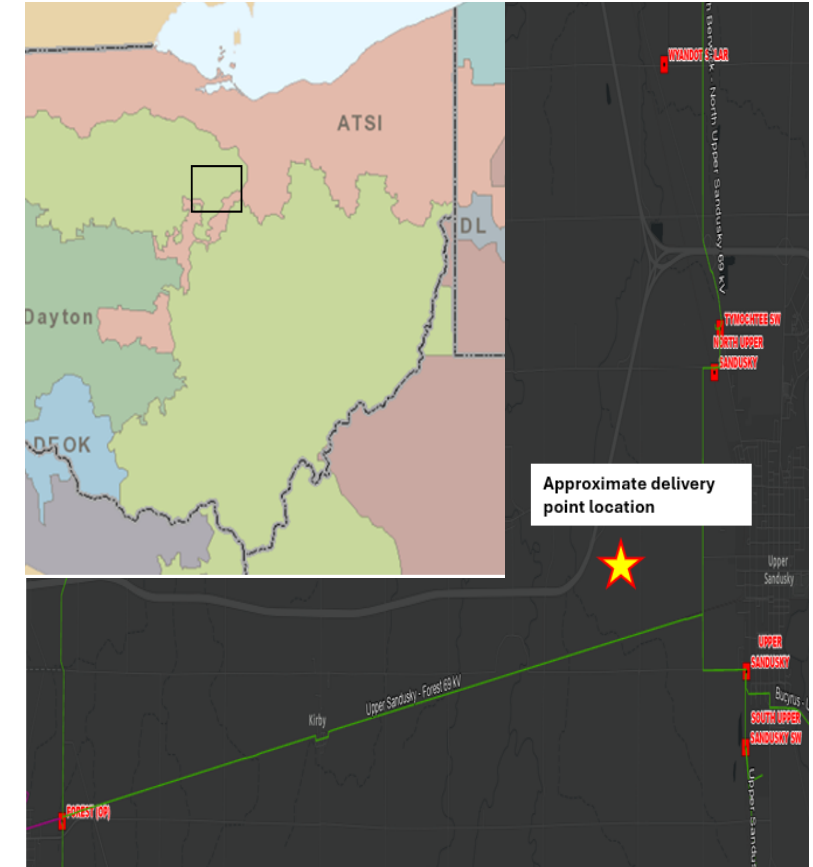
Project Driver: Customer Service

Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (slide 13).

Problem Statement:

A customer has requested a new delivery point near the Forest-Upper Sandusky 69kV line near Upper Sandusky, OH. The projected demand at the delivery point is 13.5MW and the requested in-service date is July 2026.



AEP Transmission Zone M-3 Process Helium Switch, OH/Forest3, OH/Upper Sandusky, OH

Need number(s): AEP-2025-OH009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

Helium Switch: Build a 3-way Auto-sectionalizing POP switch on the Upper Sandusky – Forest 69kV circuit and upgrade remote end relay settings at Forest and Upper Sandusky stations. install metering equipment for the customer.. Estimated Cost: \$1.54 M. (s3840.1)

Upper Sandusky - Forest (OP) 69kV Cut In: Cut-in to Upper-Sandusky - Forest (OP) 69kV line to install Helium Switch to serve the customer. Estimated Cost: \$1.325 M. (s3840.2)

Helium Switch Extension 69kV line: Install ~1.0 mile of greenfield 69kV transmission line and fiber to serve the customer facility.. Estimated Cost: \$2.036 M. (s3840.3)

Transmission Cost Estimate: \$4.901 M

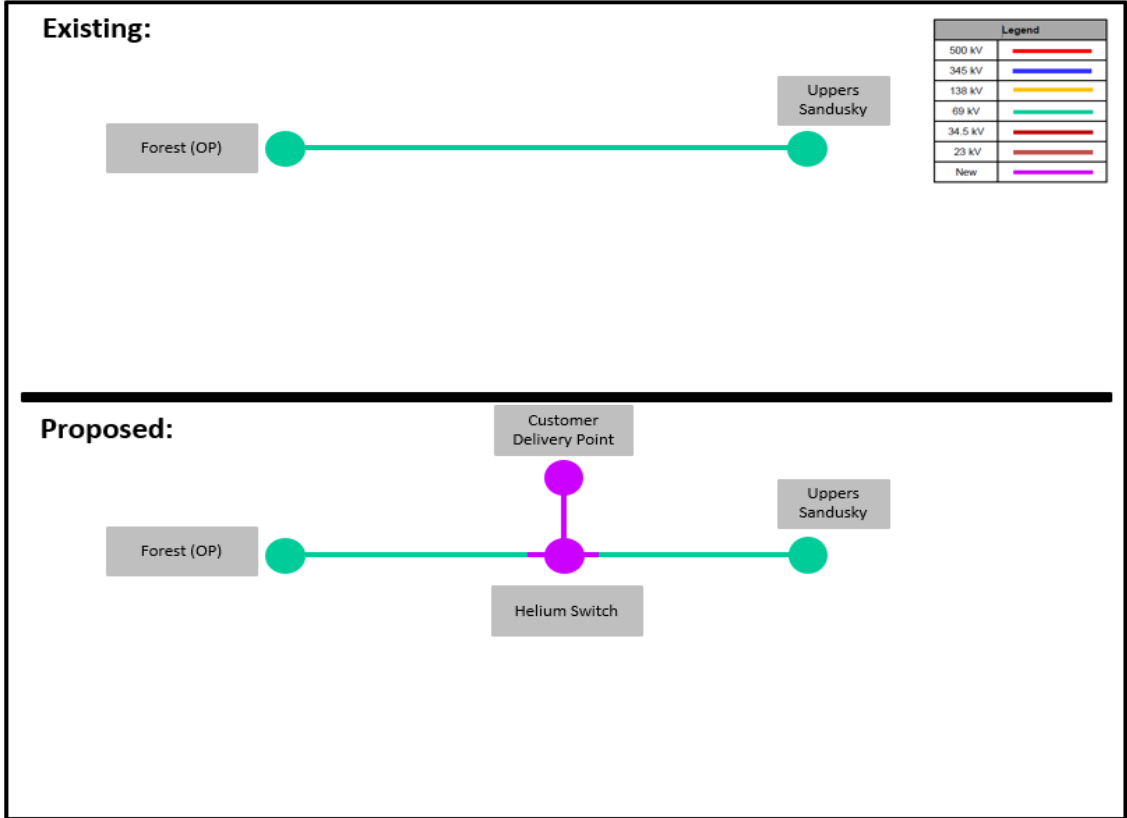
Alternatives Considered:

Rebuild Upper Sandusky station in in the clear as a breaker and a half with 4 strings with 12 circuit breakers to accommodate all lines with the new customer feed and AEP distribution. From the new Upper Sandusky station to the customer ~0.5 miles of greenfield 69kV line will be built. Does not meet the customer's ISD requirement and is more expensive than the proposed solution. Estimated cost: \$30M

Supplemental Project ID: s3840.1-3.

Projected In-Service: 07/01/2026

Project Status: Engineering



AEP Transmission Zone M-3 Process East Tiffin, OH/Mousey Switch, OH

Need Number: AEP-2025-OH024

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 11/14/2025,
Need Meeting 10/17/2025

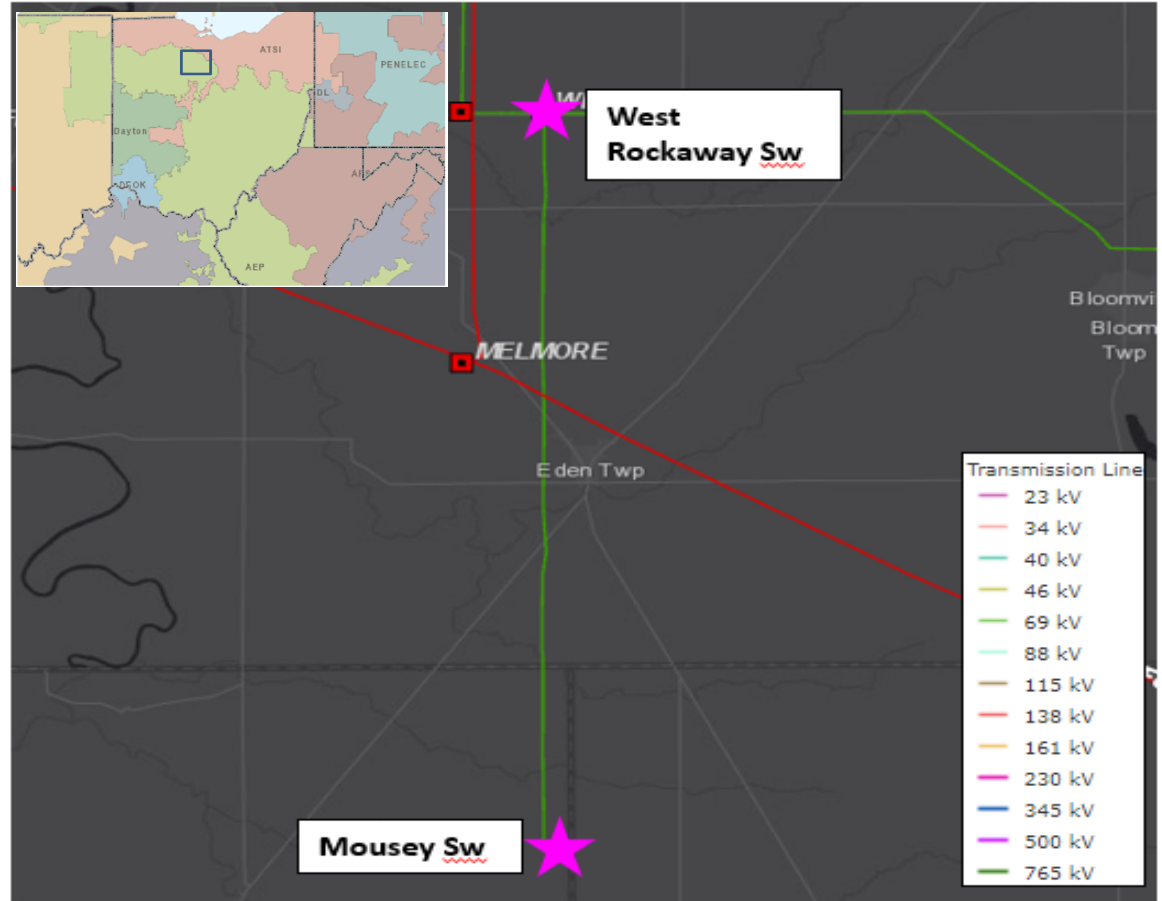
Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

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

Problem Statement:

The West Rockaway - North Central Co-op 69kV line is 8 miles long and primarily consists of wood pole structures with vertical insulators, originally installed in 1960 with 1/0 ACSR 6/1 conductor. Currently, there are 13 structures with at least one open condition, which relates to 12.5% of the structures on the circuit. Of these structures, there are 14 structure based open conditions, and 9 ground lead wire related open conditions. There have also been 13 momentary and 9 permanent outages since 2017 which has resulted in an average outage duration of 57.38 hours.



Need number(s): AEP-2025-OH024

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

East Tiffin (Structure 1) - Mousey Switch 69 kV Install: Rebuild the ~8-mile 69 kV single circuit line utilizing 556 ACSR conductor between Structure 1 and Mousey Switch. Component includes Install / Removal and ROW expansion of existing easements. Estimated Cost: \$19.174 M. (s3842.1)

Transmission Cost Estimate: \$19.174 M

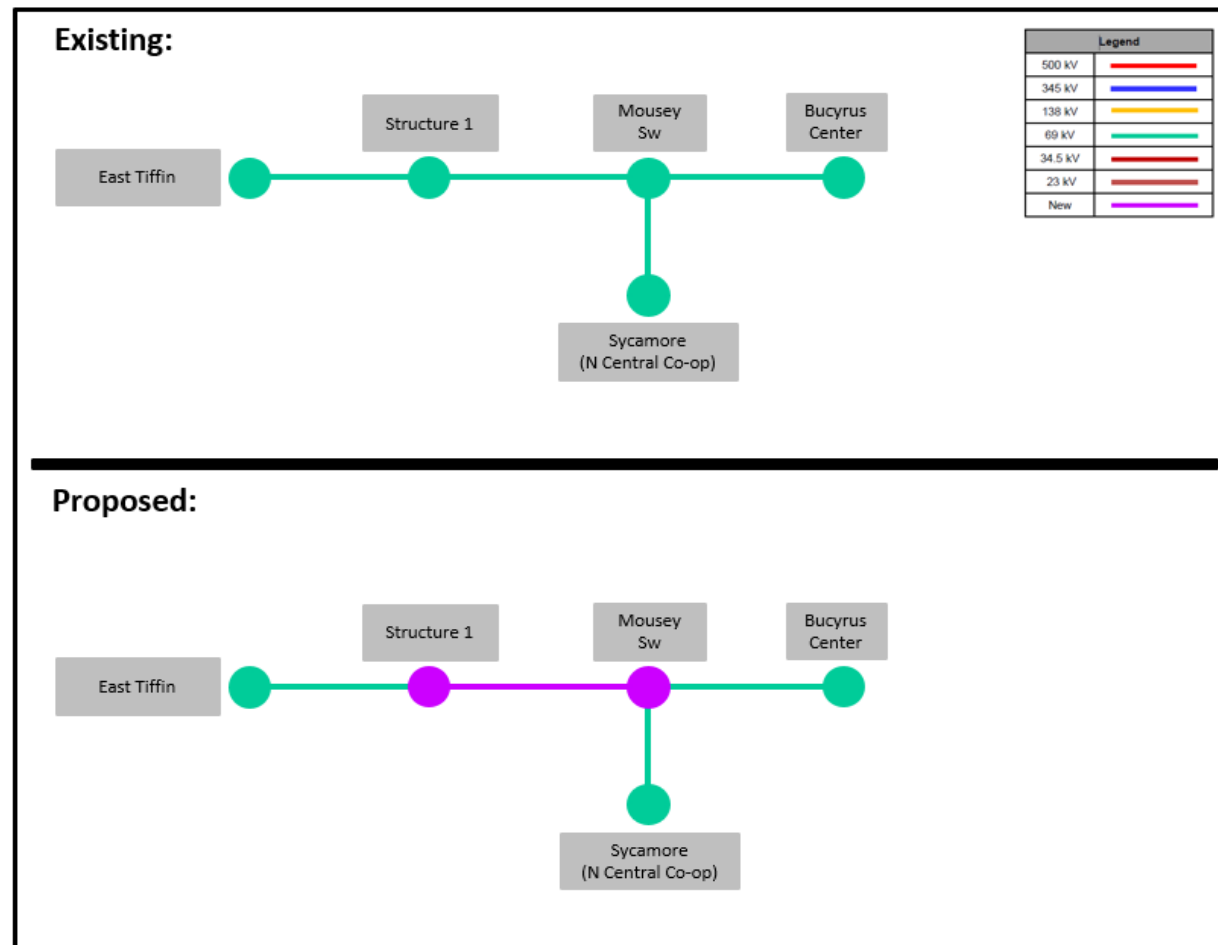
Alternatives Considered:

Retire the line asset, this would continue to leave the N. Central Co-op on a radial circuit, and the radial circuit would have more exposure because it is a ~13.0-mile 69kV line.

Supplemental Project ID: s3842.1.

Projected In-Service: 05/01/2027

Project Status: Engineering



Need Number: AEP-2025-IM006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 11/14/2025, Need Meeting 07/18/2025

Project Driver: Customer Service

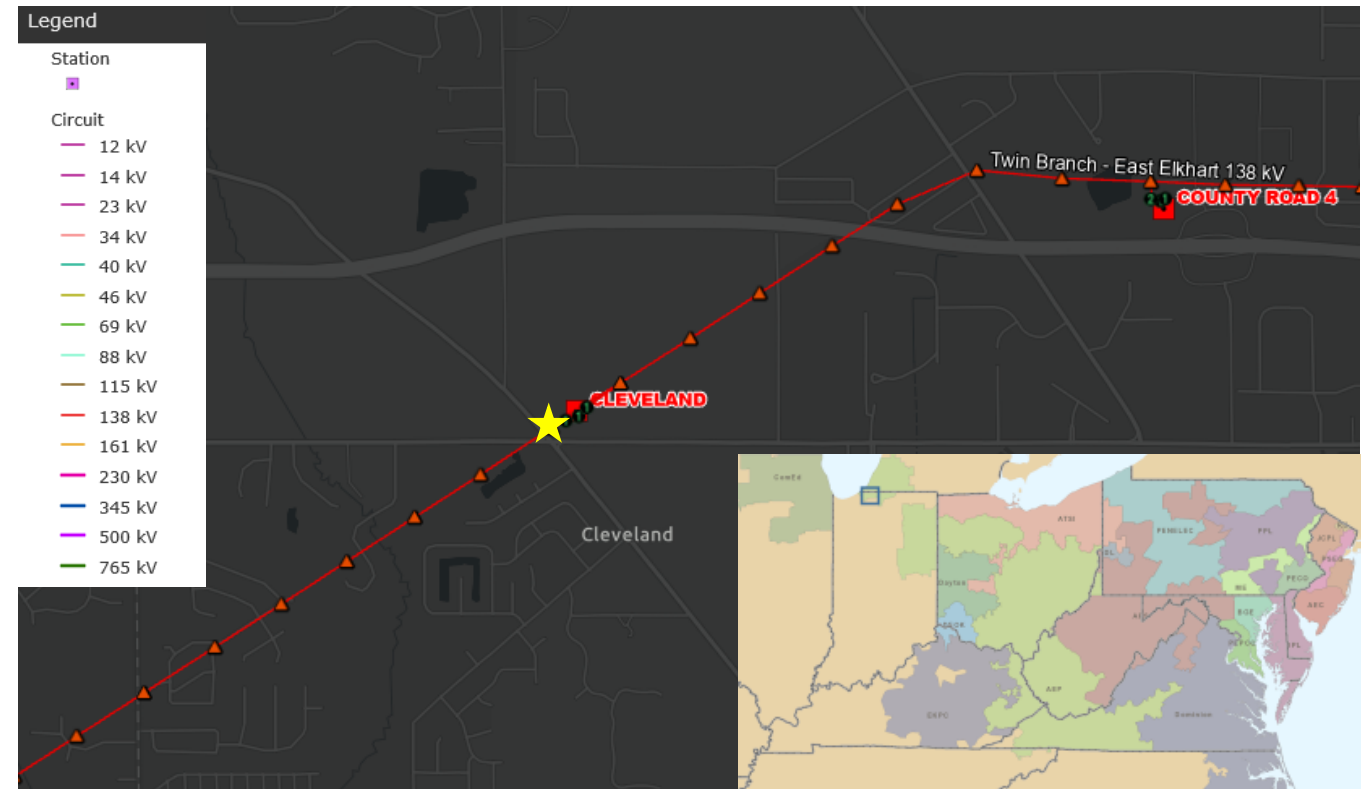
Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

I&M Distribution is requesting an additional feed and equipment upgrades to be installed at I&M's Cleveland 138kV station to help address asset performance/material/risk and customer reliability. These upgrades will drive changes on the Transmission through path to address overlapping zones of protection with the added transformer.

Since 2020, Cleveland 138kV station has experienced 2.18 million customer minutes of interruption caused by station equipment. The load served from Cleveland station is non-transferable and cannot be picked up from other sources in the event of an outage.



AEP Transmission Zone M-3 Process Cleveland, IN/Capital Ave, IN/East Elkhart, IN

Need number(s): AEP-2025-IM006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

Cleveland Station: Rebuild the existing Cleveland station with a 138kV bus tie breaker and MOABS on the line exits out of the station. Install two 138/13.09 30MVA distribution banks and associated distribution equipment.. Estimated Cost: \$3.809 M. (s3839.1)

Cleveland Station 138kV Entrance Spans: Install 0.2 miles of 138kV line into the new Cleveland station structure location. Estimated Cost: \$2.309 M. (s3839.2)

Capital Avenue Remote End: Protection and controls upgrades at Capital Avenue station. Estimated Cost: \$0.404 M. (s3839.3)

East Elkhart Remote End: Protection and controls upgrades at East Elkhart station.. Estimated Cost: \$0.544 M. (s3839.4)

Transmission Cost Estimate: \$7.067 M

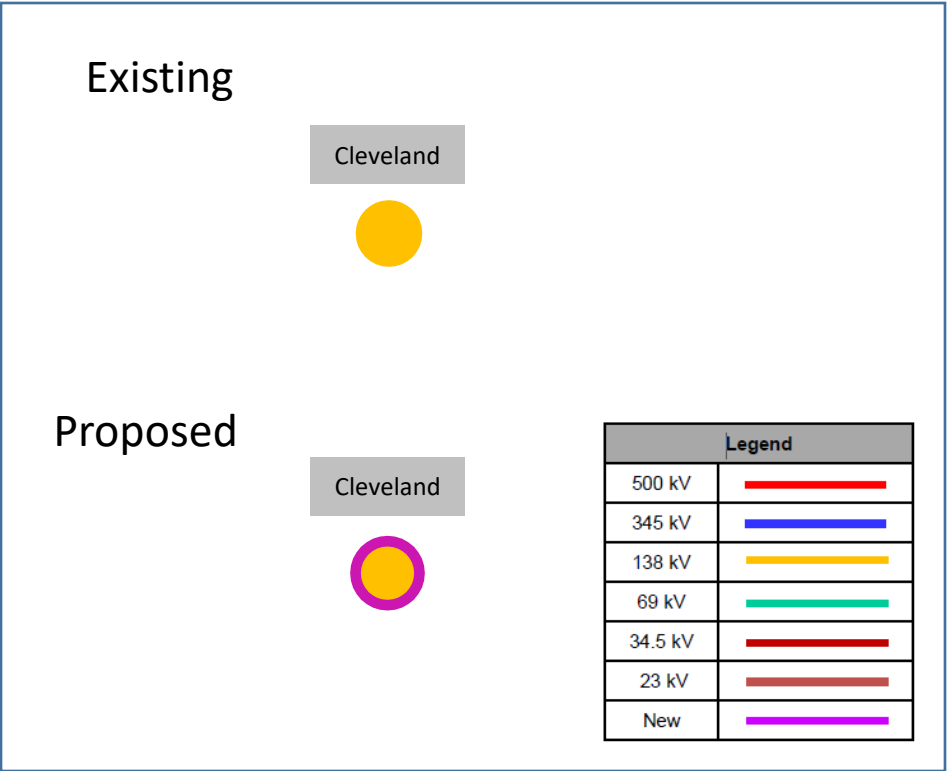
Alternatives Considered:

Construct a greenfield station away from the existing Cleveland site. This option was not pursued to eliminate risks associated with real estate acquisition, siting activities, and additional cost. There is space available in the existing station to complete the proposed work. Estimated cost: \$25M

Supplemental Project ID: s3839.1-4.

Projected In-Service: 12/31/2030

Project Status: Scoping



Need Number: AEP-2025-AP007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 11/14/2025, Need Meeting 10/17/2025

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumption Slide 12)

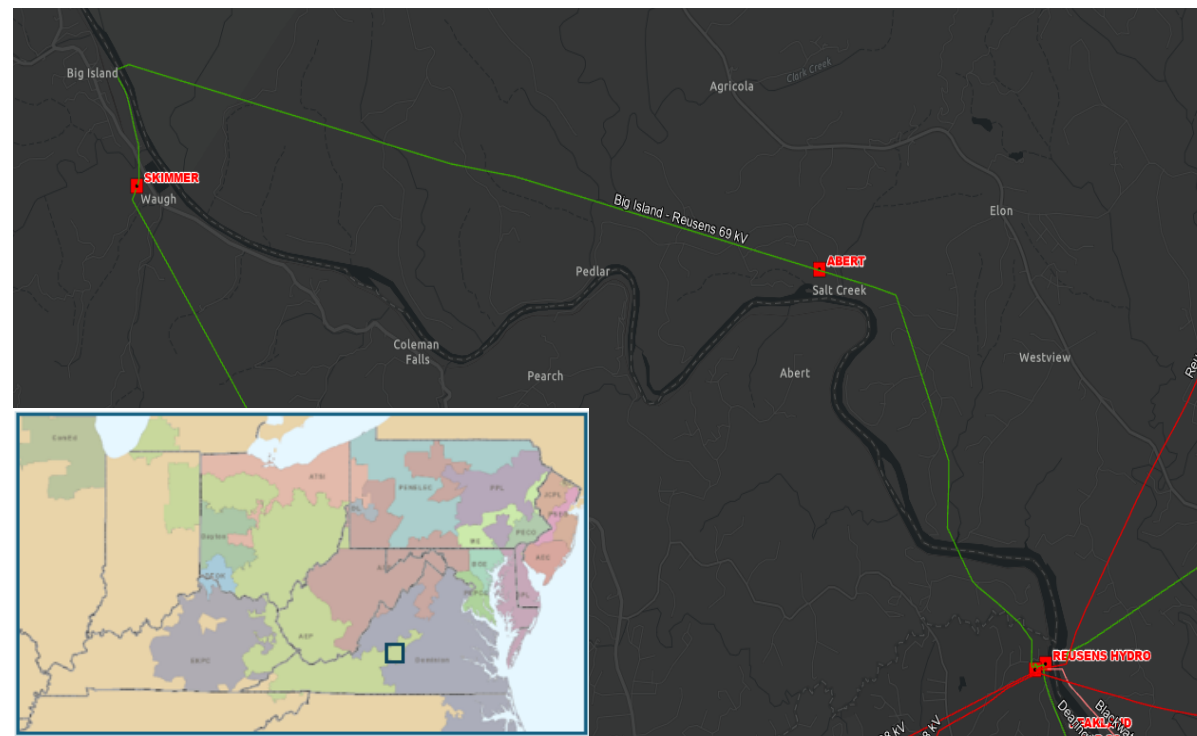
Problem Statement:

Abert Station:

69 kV Cap Bank Circuit Switcher AA is a 2030-69 type, SF6 filled switcher that is 1989 vintage. This switcher is in poor health, and this family of switchers is prone to malfunction. Performing maintenance on the capacitor bank can be difficult due to the limited access around the associated equipment. The 69 kV capacitor bank is also physically close to the 12kV Bay which complicates maintenance activities and outages.

The 69kV MOABs W, and Y switches and motor mechanisms are obsolete and there is no ability to procure spare parts. These MOABs are installed as a guyed wood pole within the station yard which limits access for maintenance and work within the station yard.

AEP Transmission Zone M-3 Process Abert, VA



Need number(s): AEP-2025-AP007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

Abert Station Work: Install new 69 kV circuit switcher on the 69 kV capacitor bank at Abert Station. Relocate 69 kV Capacitor bank at Abert Station to create room for the installation of the new capacitor bank circuit switcher. The 69 kV POP Switch will be replaced with a 69 kV Box Bay. Station will be expanded to accommodate the new location of the circuit switcher and capacitor bank. Relaying will be updated the old EM relaying will be retired.. Estimated Cost: \$3.4 M. (s3841.1)

Transmission Cost Estimate: \$3.4 M

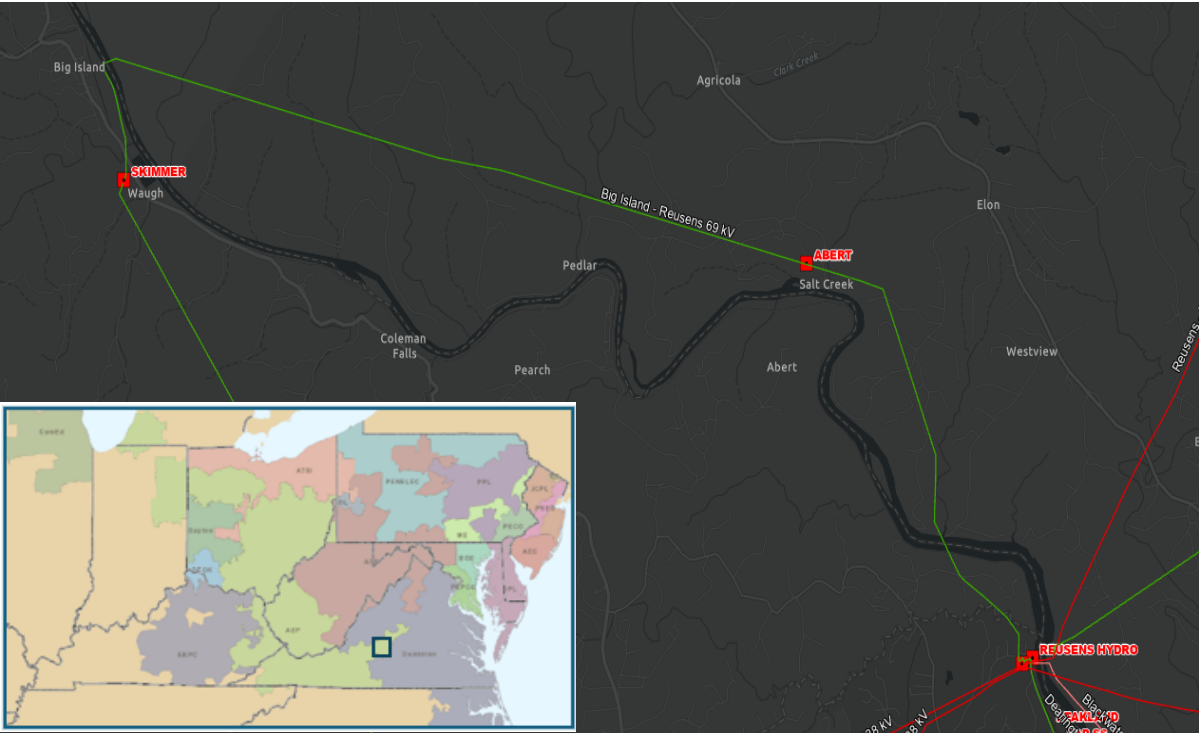
Alternatives Considered:

Rebuilding Abert station in the clear to accommodate the upgrades. This alternative was cost prohibitive; therefore, it was not chosen. Estimated cost: \$15M

Supplemental Project ID: s3841.1.

Projected In-Service: 11/16/2029

Project Status: Scoping



Bubble diagram Not Applicable for switch replacement

AEP Transmission Zone M-3 Process Mount Vernon, Ohio

Need Number: AEP-2024-OH028

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 12/12/2025, Need Meeting 02/16/2024

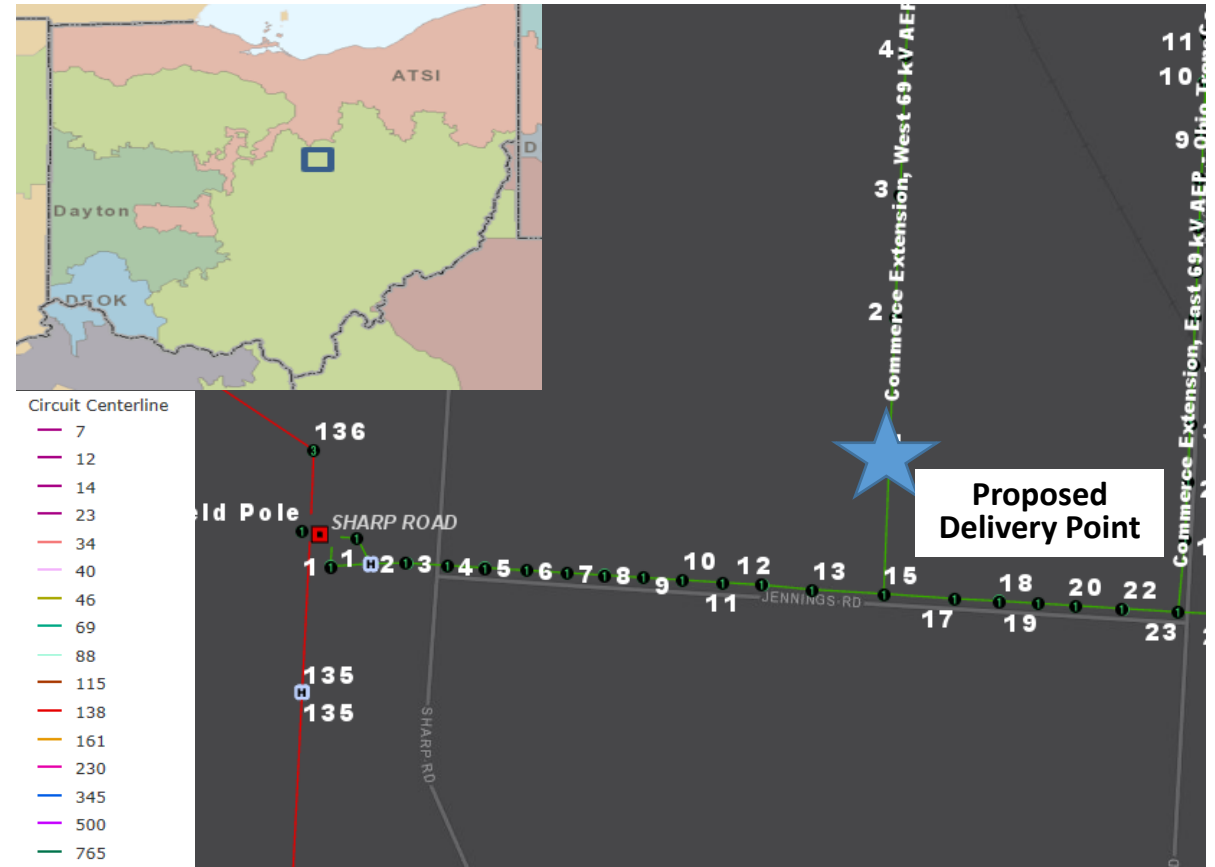
Project Driver: Customer Service

Specific Assumption Reference:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 7)

Problem Statement:

- Buckeye Co-op, on behalf of The Energy Cooperative (Licking REC), has requested a new service delivery point off the Commerce Extension (Sharp Rd – Commerce 69kV circuit) in Mount Vernon Ohio.
- The anticipated peak load is 12.031 MW by 2033
- This delivery is necessary to support industrial loads in the Mount Vernon area. Also, the new delivery point will be able to offset loading near the Brandon delivery point in anticipation of future growth.



Need number(s): AEP-2024-OH028

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2026

Proposed Solution:

Jennings Road Switch: Add Phase over Phase switch with auto-sectionalizing named Jennings Road Switch cut-in to the Sharp Road - Commerce 69 kV circuit to feed new customer.. Estimated Cost: \$1.298 M. (s3884.1)

Sharp Road - Commerce 69 kV Cut-In: Cut into the Sharp Road - Commerce 69 kV circuit to allow new switch to serve customer.. Estimated Cost: \$0.525 M. (s3884.2)

Jennings Road Extension: Construct a 69kV Extension from the switch to the customer substation, ~0.11-miles.. Estimated Cost: \$0.752 M. (s3884.3)

Transmission Cost Estimate: \$2.575 M

Alternatives Considered:

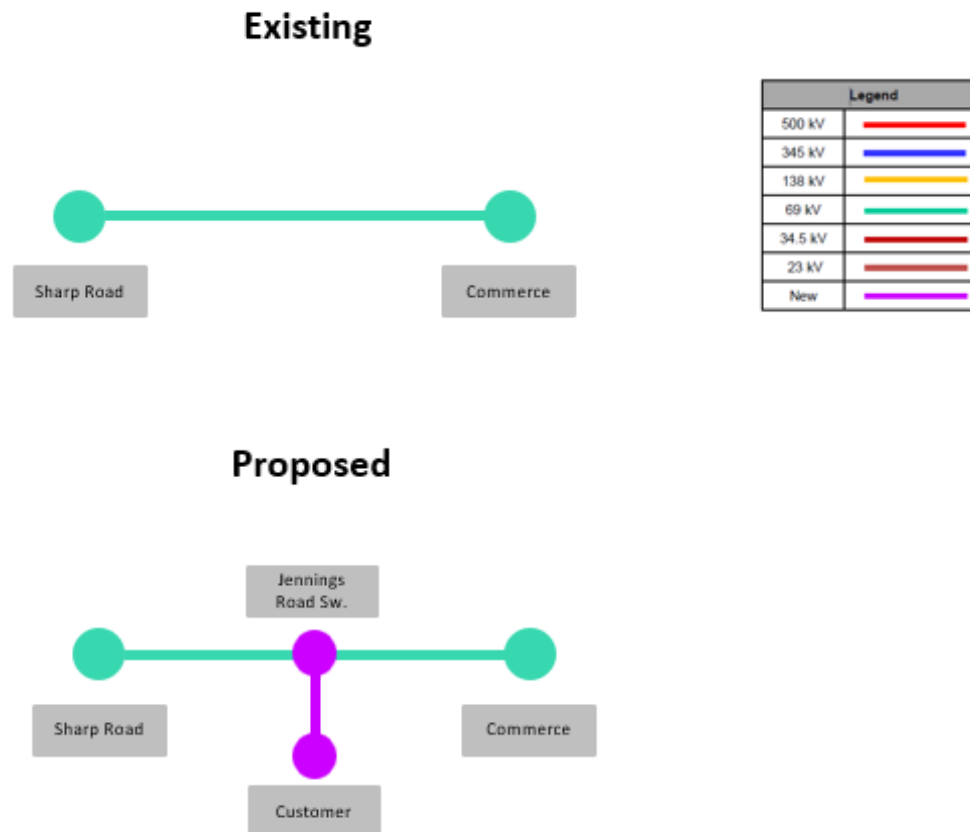
Considering the location and size of the requested load of the customer request, no other viable transmission alternatives were identified.

Supplemental Project ID: s3884.1-3.

Projected In-Service: 08/04/2027

Project Status: Scoping

AEP Transmission Zone M-3 Process Jennings Road Switch, OH/Sharp Road, OH/Commerce, OH



Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Need Number: AEP-2022-IM008. Solution Meeting on 01/20/2023. Posted in 2023 Local Plan. Scope change presented on 01/16/2026.

Original Solution presented in 2023 SRRTEP:

Adams – Berne 69 kV structure replacement: Replace ~4.9 miles of 69 kV line structures. The following cost includes the structure replacements, structure removals, ROW and station connections.

Revised Solution: Rebuild the Adams- Berne 69 kV line ~4.9 miles

Original estimated cost presented in 2023 SRRTEP: \$12.8M

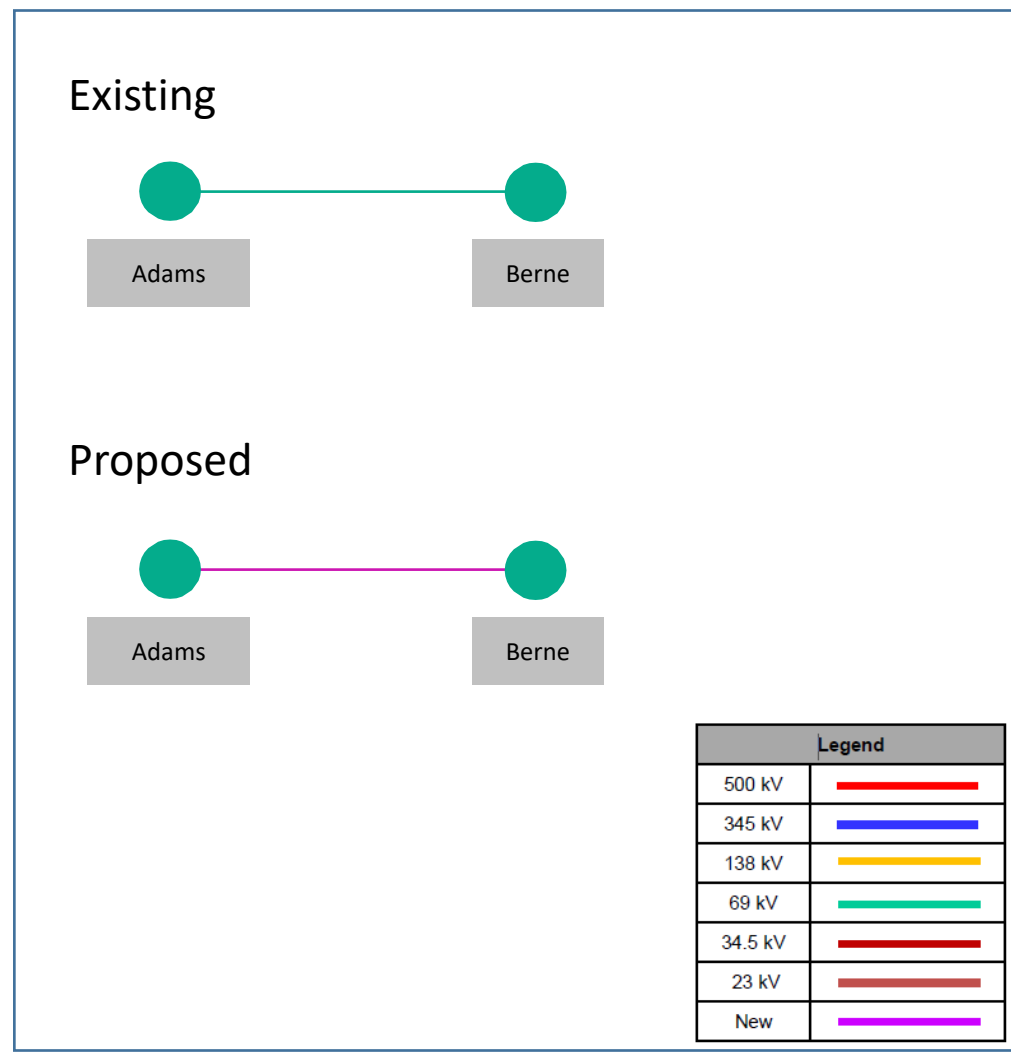
Revised Cost with Scope Change: \$19.45M

Original Projected In-Service date: 11/01/2026

Revised projected In-Service date: 2/13/2029

Reason For Change:

During detailed engineering and design for the proposed work, it was determined that a complete line rebuild of the ~4.9 miles of the Adams – Berne 69 kV line is more cost effective than replacing structures replacement along the line as originally scoped (Original Scope would cost \$22.85M today, thus rebuilt save \$3.4M). Given the existing line has H-frame structures, a structure only replacement project would require to replace with H-frame structures due to constructability. H-frame structures consist of two steel poles versus a complete line rebuild would replace the H-frame structure with one steel pole structure hence a lesser number of steel monopole structures to be installed overall.



AEP Transmission Zone M-3 Process Haverhill, Ohio

Need Number: AEP-2022-OH002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 01/16/2026, Need Meeting 01/21/2022

Project Driver:

Equipment Material/Condition/Performance/Risk

Specific Assumption Reference:

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

Problem Statement:

North Haverhill Station

Circuit Breakers (69kV): M & P (1200 A)

- Breaker Age: 1968 (M), 1977 (P)
- Interrupting Medium: (Oil)
- Fault Operations:
 - Number of Fault Operations: M-13 & P-36
- These breakers are oil filled without oil containment; oil filled breakers have much more maintenance required due to oil handling that their modern, SF6 counterparts do not require. This model family has experienced major malfunctions associated with their hydraulic mechanisms, which includes low-pressure readings, hydraulic leaks, pump lockouts, and failure to shut off. These mechanism malfunctions have led to several failures to close and other types of mis-operations across the AEP fleet.

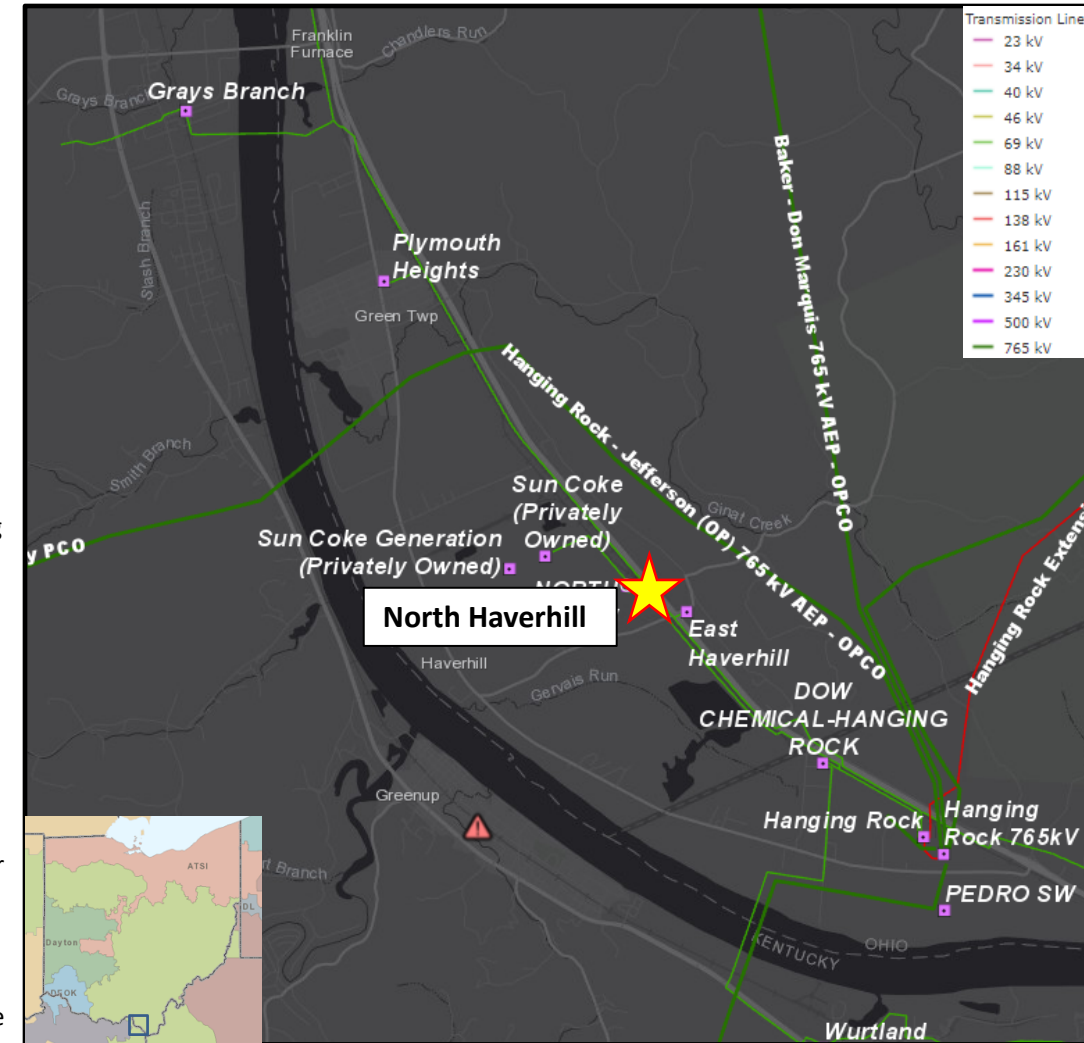
Circuit Switcher (69kV): AA

- Switcher Age: 1991 (1200 A)
- Interrupting Medium: (SF6)

This family of circuit switchers have no gas monitor and currently in-service units on the AEP System have experienced 80 malfunctions from May 2002 to August 2019. The major malfunction events include gas loss, interrupter failures, operating mechanism failures, and trip or reclose failures. Models manufactured from January 1986 to December 1995 have a high potential for broken spring carriers in the low gas target assembly. This component malfunction presents the possibility of an actual low gas situation going unnoticed due to the indicator not activating. Interrupters can only be replaced, not repaired, as they are hermetically sealed.

Relaying:

- Currently, 65 of the 65 relays (100% of all station relays) are in need of replacement. 38 of these are of the electromechanical type and 2 of the static type which have significant limitations with regards to spare part availability and fault data collection and retention as these relays are no longer supported by the manufacturer. There are also 25 microprocessor-based relays commissioned in 2004-2009 that have firmware that is no longer supported.



AEP Transmission Zone M-3 Process North Haverhill, OH

Need number(s): AEP-2022-OH002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Proposed Solution:

North Haverhill Station: At North Haverhill station, replace breakers 'M' and 'P' with 3000A 40 kA 69 kV breakers. Add bus tie breaker. Replace 69 kV capacitor switcher 'AA' with new 2000 A/40 kA interrupting device. Replace Relays. Estimated Cost: \$12.985 M. (s3904.1)

Transmission Cost Estimate: \$12.985 M

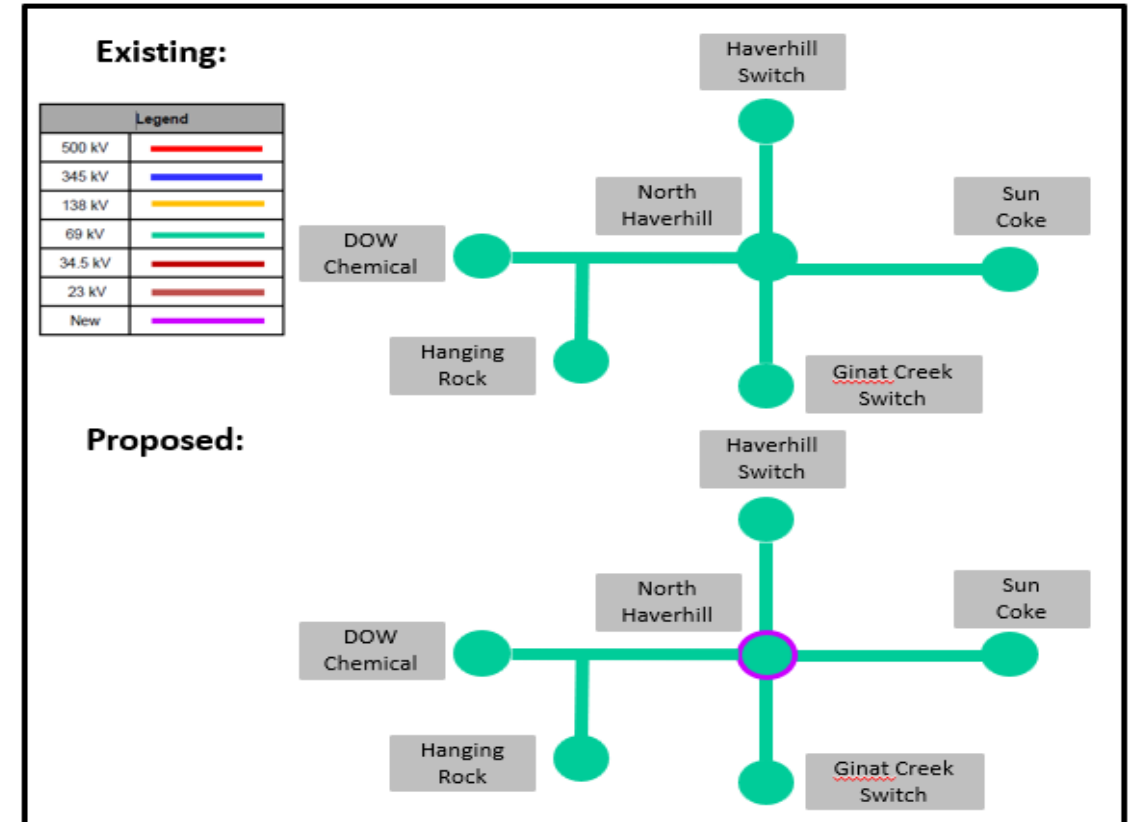
Alternatives Considered:

Rebuild North Haverhill station as a greenfield 69kV, 6 - Circuit breaker ring bus. Considering the availability of space at the existing location to complete the work, this option was not chosen. Estimated cost: \$20.2M

Supplemental Project ID: s3904.1.

Projected In-Service: 03/01/2027

Project Status: Conceptual



AEP Transmission Zone M-3 Process Lazelle, OH/Bush, OH

Need Number: AEP-2025-OH002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Solution Meeting SRRTEP-W - 01/16/2026, Need Meeting 02/14/2025

Supplemental Project Driver: Customer Service, Operational Flexibility and Efficiency

Specific Assumption Reference: AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 12 & 14)

Problem Statement:

A customer is served via a ~0.44 mi radial hard tap from the ~2.93 mi Busch Switch – Lazelle 69 kV Circuit, with no line sectionalizing switches present. The hard tap limits operational capabilities in the area; it's difficult to coordinate maintenance efforts because the T-line cannot be removed from service without a customer outage. Hard taps are a legacy customer connection option that are gradually being eliminated from the transmission system, due to their customer inconveniences and lower reliability.



Need number(s): AEP-2025-OH002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Proposed Solution:

Sancus Switch: Install a 69 kV 2000A three-way phase over phase MOAB switch with automatic reclosing and SCADA control capability to replace the hard tap..
Estimated Cost: \$4.44 M. (s3905.1)

Transmission Cost Estimate: \$4.44 M

Alternatives Considered:

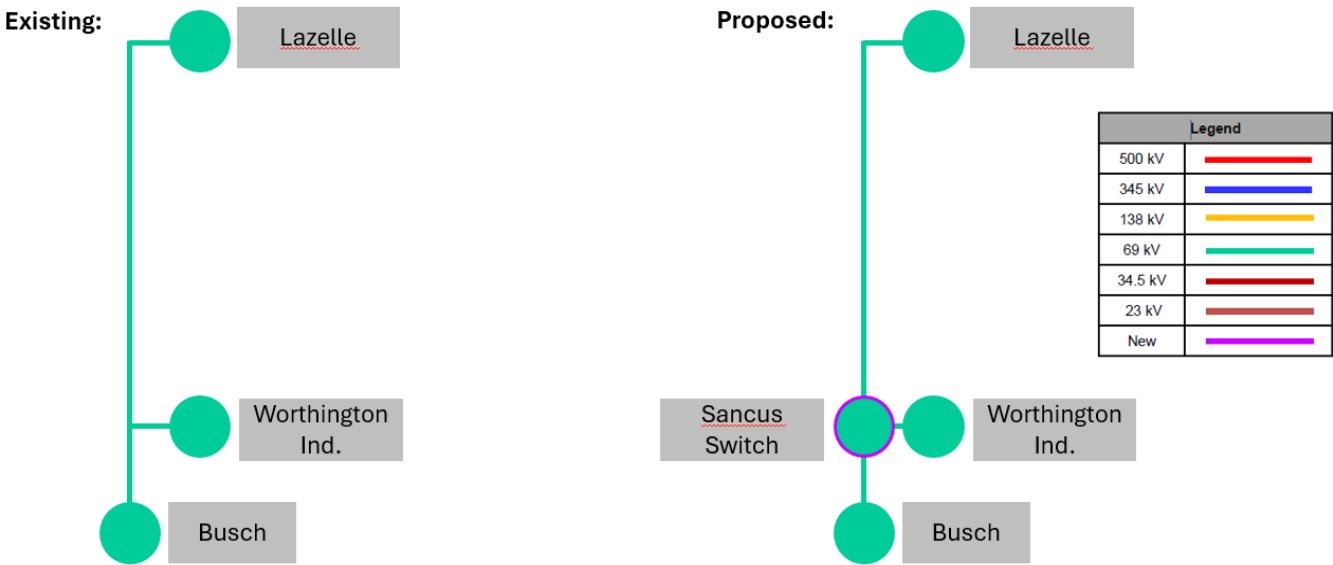
Considering the location of the line and customers served from it and the limited scope of the solution, no other viable transmission alternates were identified.

Supplemental Project ID: s3905.1.

Projected In-Service: 12/28/2027

Project Status: Engineering

Bubble Diagram



s3440.3

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Posted in 2024 Local Plan. Need Number: AEP-2022-OH071. Need Meeting 10/14/2022. Solution Meetings 5/9/2023, 12/5/2023. Scope change presented on 02/13/2026.

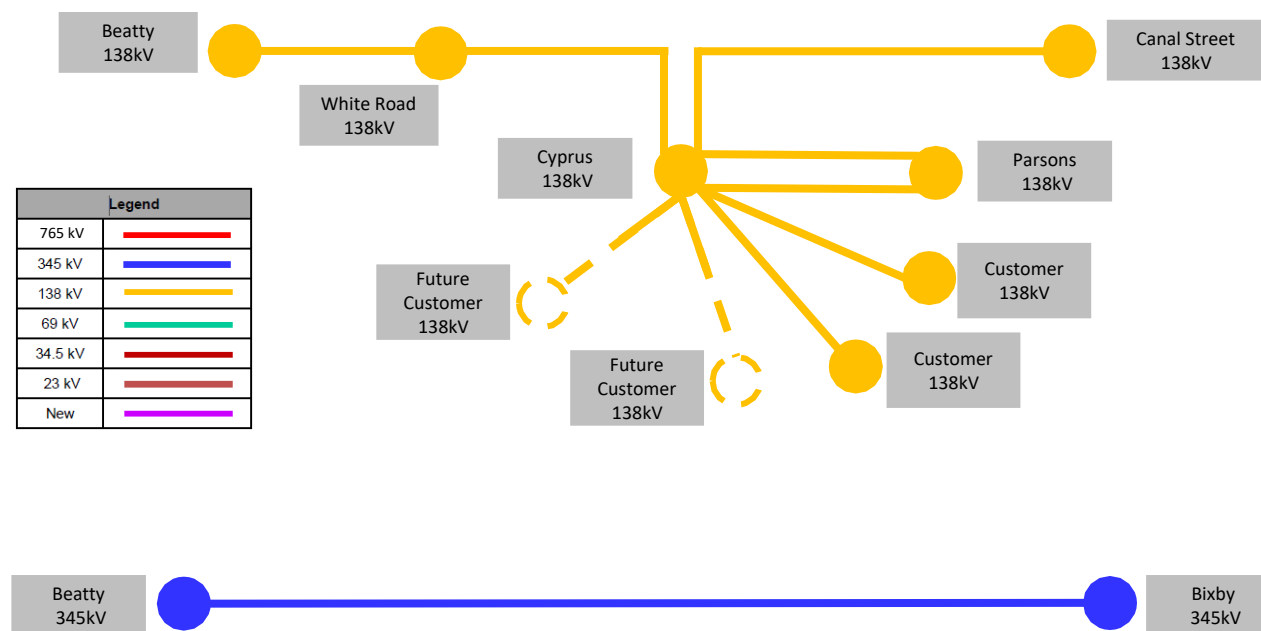
Reason For Change: The sag study conducted on the Beatty-Canal 138kV line identified the majority of the structures needing to be replaced in order to meet needed clearances to be able to operate at MOT. With those findings along with loadings forecasted to increase over the years, the scope has been updated to a rebuild of the Beatty-Canal 138kV line.

Selected Solution:

The following work is all direct connect facilities to physically connect demand to the grid.

- **Cyprus 345/138 kV:** Cyprus is the station that was originally developed (s2526) to serve 675 MW of demand with room for 345 kV expansion based on LOA with the customer. Cut into the Beatty – Bixby 345 kV circuit and construct ~1.6 miles of double circuit line, utilizing 2-bundled ACSR Bittern 1272 conductor, SE rating 2278 MVA, to a new 345 kV ring bus at Cyprus station with (4) 5000 A, 63kA circuit breakers, (2) 345/138/34.5 kV, 675 MVA transformers, (12) 4000 A, 63kA, 138 kV circuit breakers, (1) 69.1 MVAR 138 kV Cap bank. Construct (2) 138 kV single circuit, ~0.4 miles, & (2) double circuit, ~0.9 miles, tie lines to the customers dead end structures utilizing ACSR Drake 795 (26/7) conductor SE 360 MVA. Modify the existing Cyprus 138kV Extension & Parsons 138kV circuits #1 & 2 structures to accommodate a fence relocation. Remote end relay upgrades are required at Beatty & Bixby 345 kV stations. Cost: **\$46.9 M (s3440.1)**
- **Parsons 138 kV:** Install (1) 69.1 MVAR cap bank to resolve N-1-1 voltage issues. Cost: **\$2.0 M (s3440.2)**

Existing Scope



s3440.3:

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Selected Solution (continue):

The following components are system reinforcements required to serve the load and meet applicable TPL-001, PJM, and AEP planning criteria:

- Beatty – Canal 138 kV line Sag Re-rate-Rebuild:** The Beatty – Canal 138 kV line flagged as overloading under N-1-1 scenarios after the addition of the new load in Cyprus. The line will be flown to address sag issues that are limiting its current rating. It is anticipated that several structures will need to be replaced in order to raise the rating of the line. The sag study identified most of the structures along the line needing replaced. Thus, the line will be rebuilt using 795 ACSS Drake and 1033.5 ACSS Curlew to address the findings of the sag study as well as loading conditions that have continued to increase annually. Cost: ~~\$5.5 M~~ **25.4M(s3440.3)**
- Waverly Reactor 138 kV:** Install a 4% series reactor towards Rozelle at Waverly station to address a N-1-0 scenario related to the loss of a nearby 345 kV line. Cost: **\$3.0 M (s3440.4)**
- Saint Clair Avenue Reactor 138 kV:** Adjust tap settings on reactors towards Mound and Clinton stations to 3%. Cost: **\$0.0 M (s3440.5)**
- Marion Station:** Replace switch and line riser at Marion station towards Obetz to address loading concern under certain N-1-1 scenario related to customer interconnections in the area. **\$0.1M (s3440.6)**

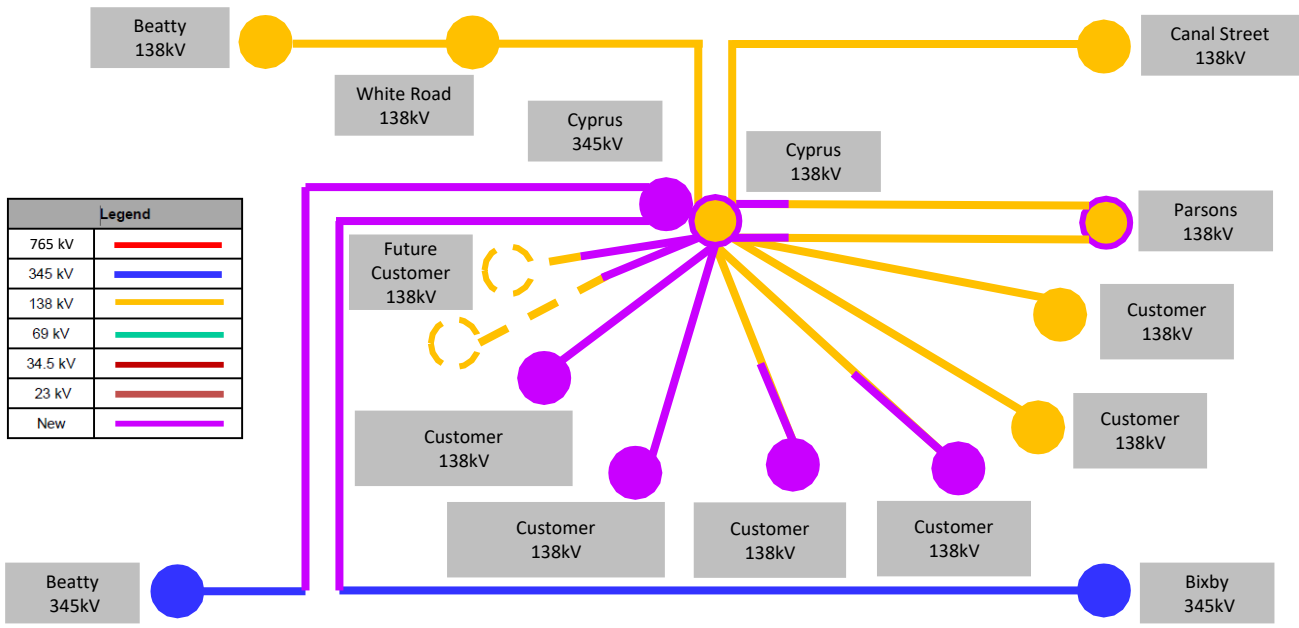
Total Estimated Transmission Cost: ~~\$57.5M~~ **\$77.4M**

Projected In-Service: 06/05/2027

Supplemental Project ID: s3440.1-.6

Project Status: Scoping

Updated Scope



Need Number: AEP-2023-IM003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Need Meeting 01/20/2023, Solution Meeting SRRTEP-W - 02/13/2026

Supplemental Project Driver: Customer Need

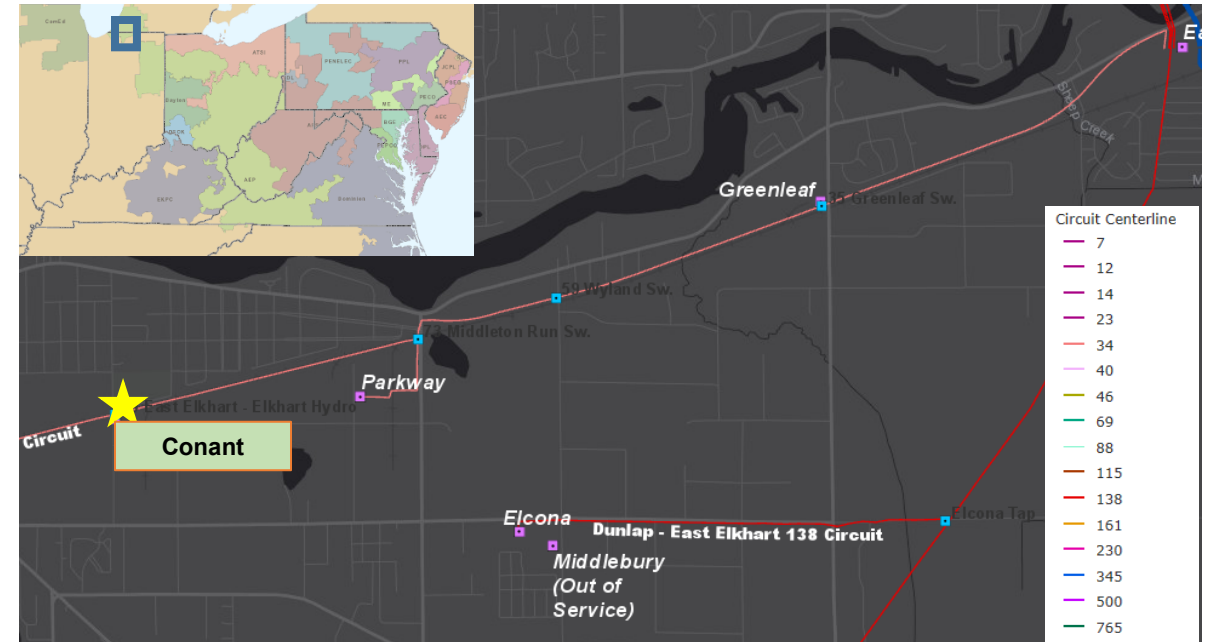
Specific Assumption Reference: AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

Conant 34.5kV Station:

Conant station is expected to achieve a loading of 29.8MVA by summer of 2024 due to recently announced block load additions, which is 114% of the transformer's capacity.

Because of this, I&M Distribution has requested upgrades to the Conant delivery point.



Need Number: AEP-2023-IM005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Need Meeting 02/17/2023, Solution Meeting SRRTEP-W - 02/13/2026

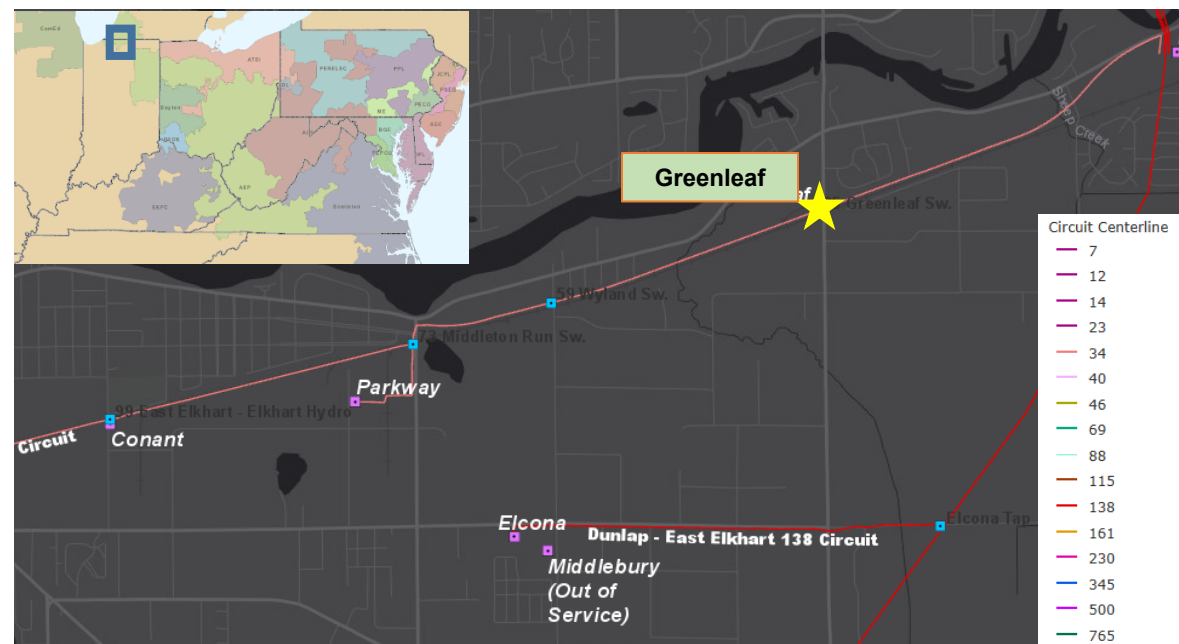
Supplemental Project Driver: Customer Need

Specific Assumption Reference: AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

Greenleaf 34.5kV Station:

Greenleaf station is expected to achieve a loading of 22.95 MVA by summer of 2024 due to recently announced block load additions, which is 100.4% of the transformer's capacity. Because of this, I&M Distribution has requested upgrades to the Greenleaf delivery point.



Need number(s): AEP-2023-IM003, AEP-2023-IM005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Proposed Solution:

Greenleaf 69kV Station: Rebuild the station as an in/out station and operate at 69kV. Install 2 69/12kV distribution transformers and associated distribution equipment. Install a 69kV bus tie breaker. Install a 28.7 MVAR capacitor bank.. Estimated Cost: \$5.578 M. (s3906.1)

Conant 69kV Station: Rebuild the station as an in/out station and operate at 69kV. Install 2 69/12kV distribution transformers and associated distribution equipment. Install a 69kV bus tie breaker.. Estimated Cost: \$4.642 M. (s3906.2)

Elkhart Hydro 69kV Station: Convert 34.5kV equipment to 69kV operation.. Estimated Cost: \$0.785 M. (s3906.3)

Osolo 69kV Station: Install 69kV bus and convert CB B to 69kV operation. Relocate CB C to Dunlap station.. Estimated Cost: \$1.03 M. (s3906.4)

Dunlap 69kV Station: Convert 34.5kV equipment to 69kV operation. Install the relocated CB C from Osolo to the low side of Transformer #2. Estimated Cost: \$1.435 M. (s3906.5)

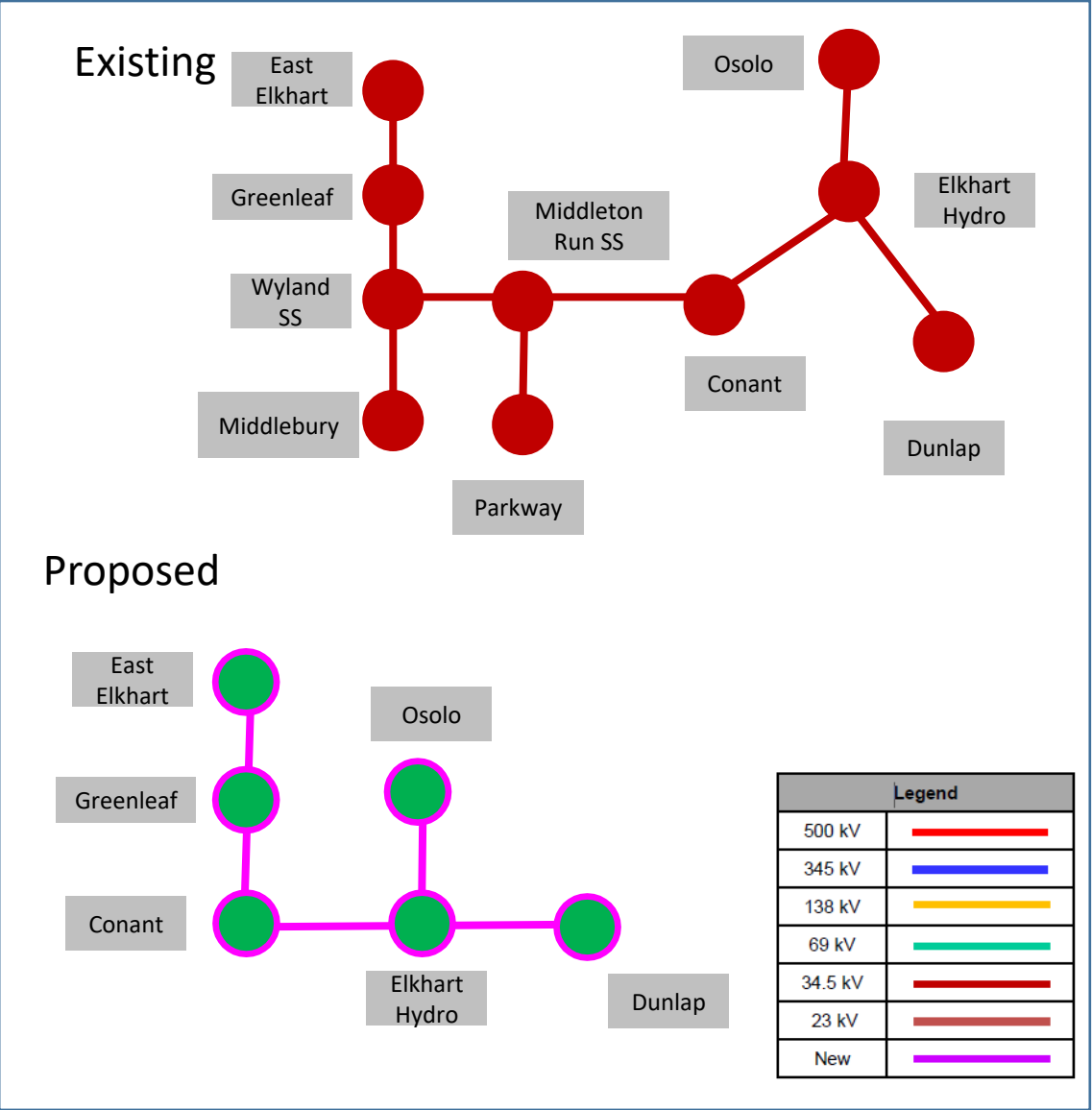
East Elkhart 69kV Station: Convert 34.5kV equipment to 69kV operation.. Estimated Cost: \$0.466 M. (s3906.6)

East Elkhart - Elkhart Hydro 69kV: Convert the East Elkhart - Elkhart Hydro line to 69kV operation.. Estimated Cost: \$2.048 M. (s3906.7)

Elkhart Hydro - Dunlap 69kV: Convert the Elkhart Hydro - Dunlap line to 69kV operation.. Estimated Cost: \$0.799 M. (s3906.8)

AEP Transmission Zone M-3 Process

Greenleaf, IN/Conant, IN/Elkhart Hydro, IN/Osolo, IN/Dunlap, IN/East Elkhart, IN/Wyland SS, IN/Middleton Run SS, IN/Middlebury, IN/Parkway, IN



Need number(s): AEP-2023-IM003, AEP-2023-IM005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Proposed Solution (continue):

Elkhart Hydro - Osolo 69kV: Convert the Elkhart Hydro - Osolo line to 69kV operation.. Estimated Cost: \$1.329 M. (s3906.9)

Wyland Switch 34.5kV Removal: Remove Wyland SS 34.5kV. Estimated Cost: \$0.414 M. (s3906.10)

Middleton Run Switch 34.5kV Removal: Remove Middleton Run SS 34.5kV. Estimated Cost: \$1.055 M. (s3906.11)

Middlebury Tap 34.5kV Removal: Removal Middlebury Tap 34.5kV. Estimated Cost: \$0.378 M. (s3906.12)

Parkway Tap 34.5kV Removal: Remove Parkway Tap 34.5kV. Estimated Cost: \$0.689 M. (s3906.13)

Transmission Cost Estimate: \$20.647 M

Alternatives Considered:

Build additional Distribution stations to help offload existing transformers. Considering the lines are already constructed to 69 kV capability, additional stations are not required. Estimated cost: \$25M

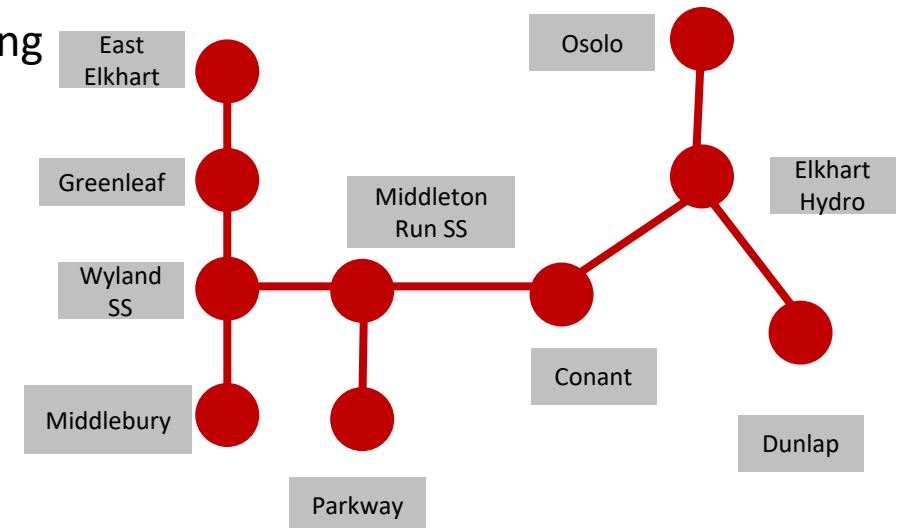
Supplemental Project ID: s3906.1-13

Projected In-Service: 09/01/2028

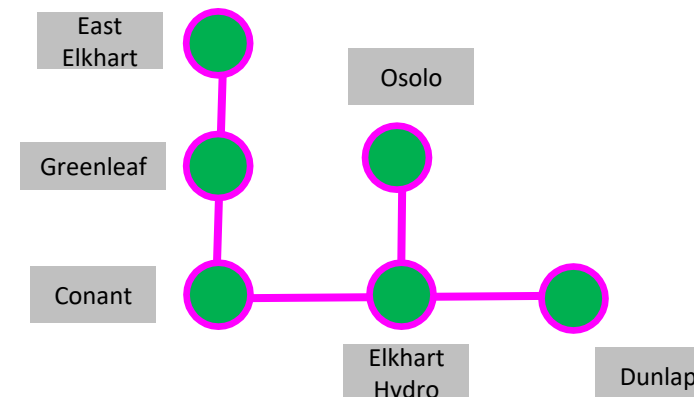
Project Status: Scoping

AEP Transmission Zone M-3 Process Greenleaf, IN/Conant, IN/Elkhart Hydro, IN/Osolo, IN /Dunlap, IN/East Elkhart, IN/Wyland SS, IN /Middleton Run SS, IN/Middlebury, IN/Parkway, IN

Existing



Proposed



Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	

Need Number: AEP-2026-OH001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Need Meeting 01/16/2026, Solution Meeting SRRTEP-W - 03/19/2026

Project Driver: Customer Service

Specific Assumption References:

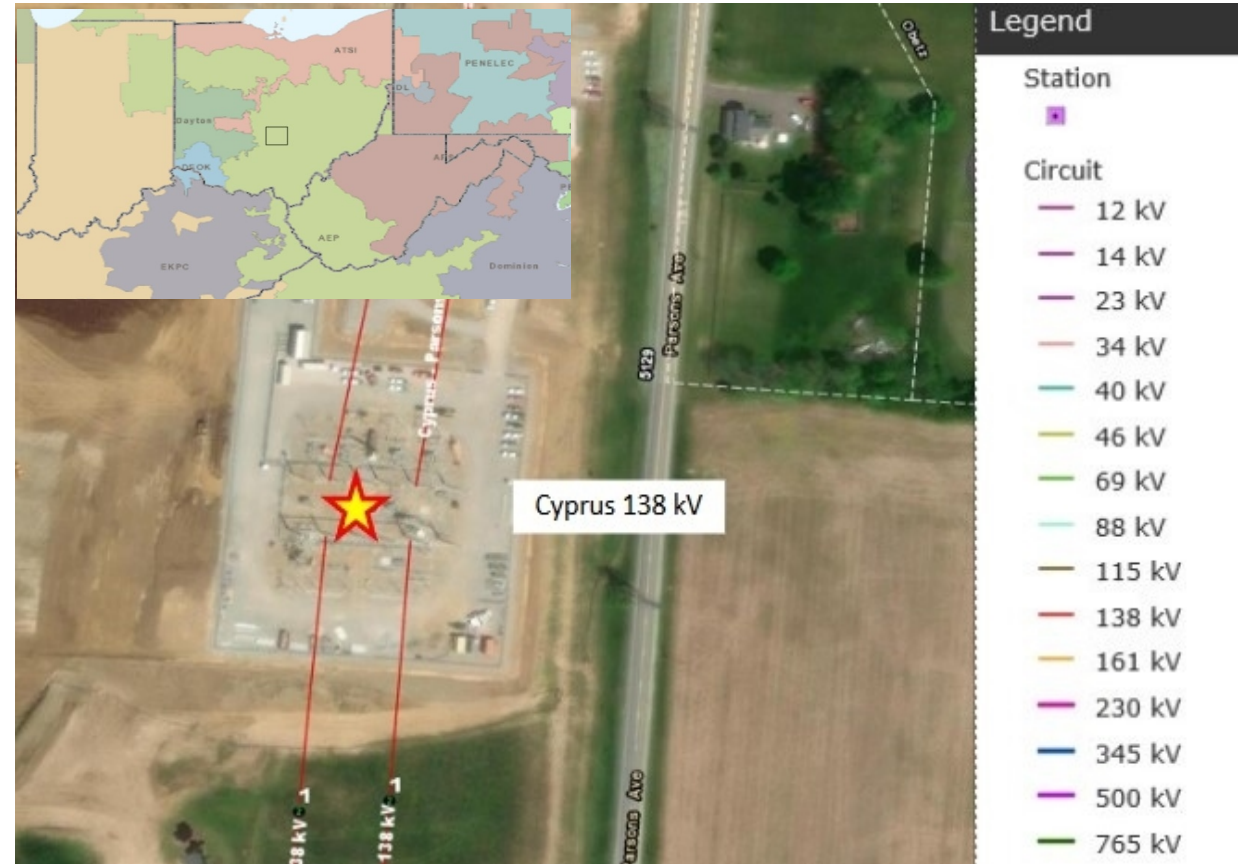
AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

A customer has requested additional 138 kV delivery points to their site in Columbus Ohio, just south of AEP's Cyprus station to serve the next phase of their construction.

There is no additional load to be added under this request. The total load served at this site will remain at 388 MW. Ultimate demand at the site is expected to be 675 MW.

Customer requested in-service date of Q2 2027.



Need number(s): AEP-2026-OH001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Proposed Solution:

Cyprus Station: At Cyprus station, build out the 9th partial string in the breaker and half bus, installing 3-138kV circuit breakers to terminate the two new customer feeds. Install 2-138kV customer meters and required fiber cables which will require a control house expansion.. Estimated Cost: \$4.802 M. (s3907.1)

Hartman Farms Extension No. 2: Build one 138 kV double circuit line, ~0.65 miles, using ACSR Drake 795 (26/7) conductor to connect Cyprus station to the Customer's delivery points.. Estimated Cost: \$0.293 M. (s3907.2)

Hartman Farms Extension No. 3: One of the double circuit connections on the Hartman Farms 138kV Extension No. 3 will be reconfigured to feed a different Customer delivery position to meet the Customer's reliability and redundancy requirements. . Estimated Cost: \$0.123 M. (s3907.3)

Transmission Cost Estimate: \$5.218 M

Alternatives Considered:

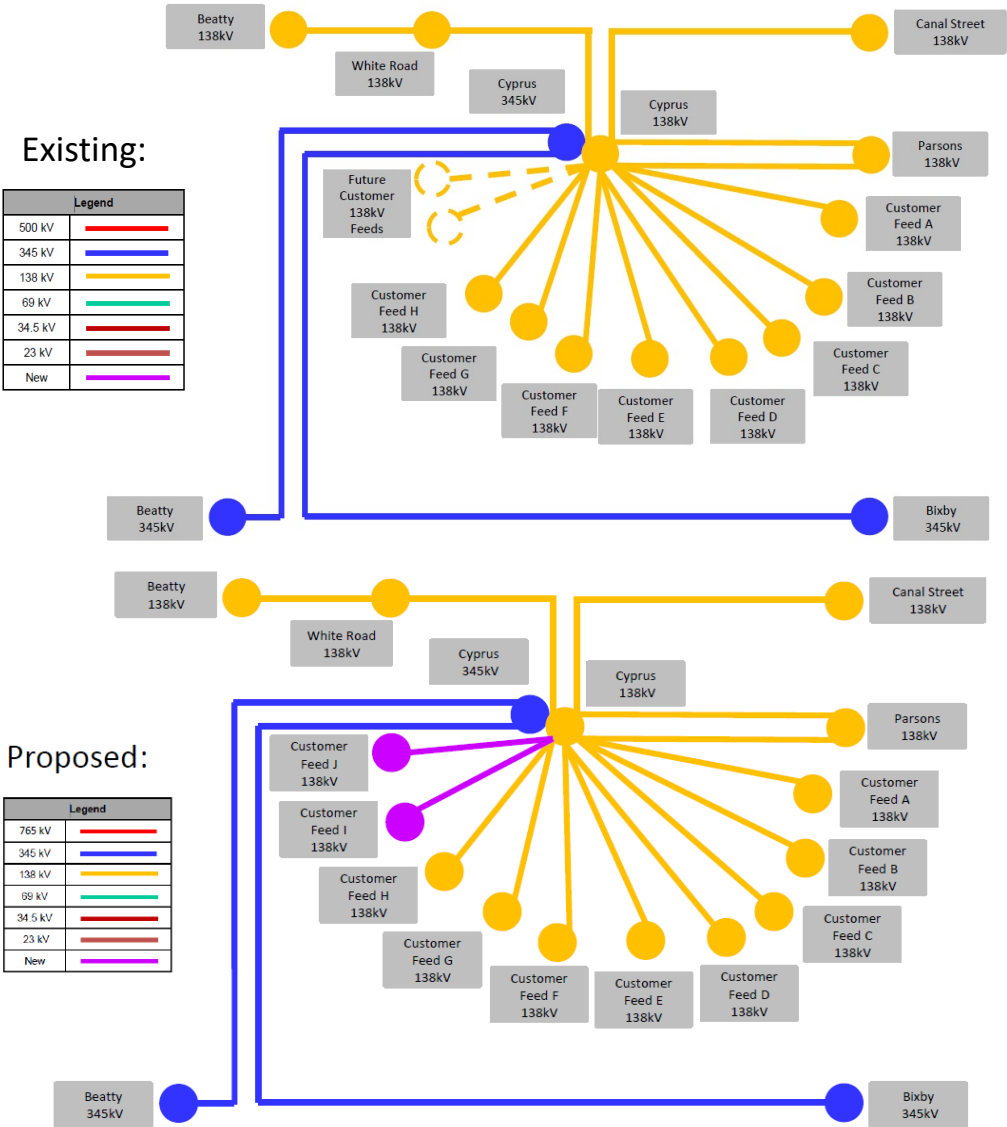
Considering the location of the customer request, a new delivery point was not needed to serve the load. No other viable transmission alternates were identified.

Supplemental Project ID: s3907.1-3

Projected In-Service: 09/01/2026

Project Status: Engineering

AEP Transmission Zone M-3 Process
Beatty, OH/Cyprus, OH



AEP Transmission Zone M-3 Process Auglaize County, OH

Need Number: AEP-2022-OH022

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Previously Presented: Need Meeting 06/15/2022, Solution Meeting SRRTEP-W - 04/15/2026

Project Driver: Equipment Condition/Performance/Risk

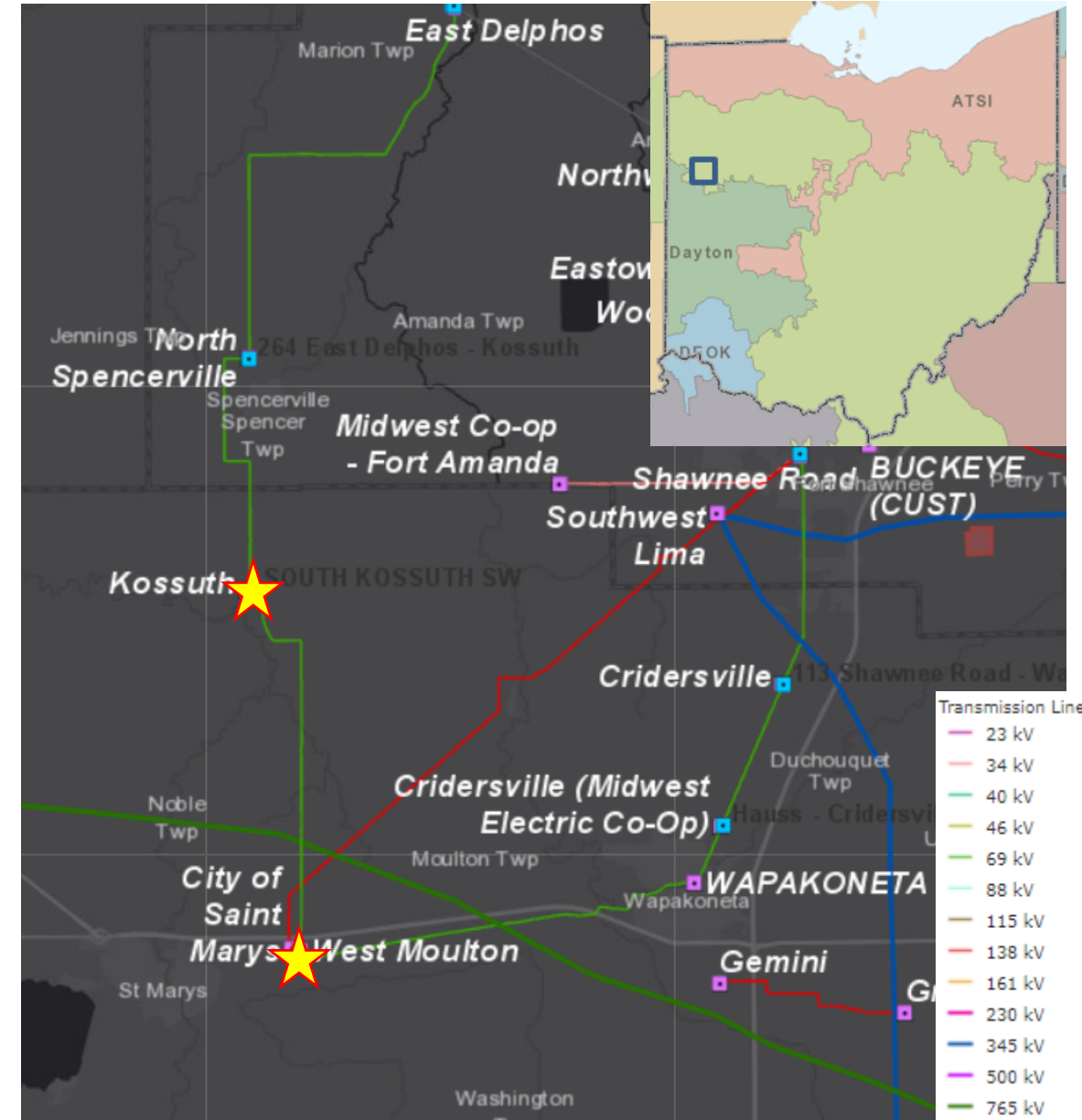
Specific Assumption Reference:

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

Problem Statement:

Kossuth – West Moulton 69kV Line(1963):

- Length of Line: 8.07 Miles
- Total Structure Count: 133
 - Wooden monopole, Steel monopole
 - Horizontal post insulators
- Conductor Types: 4/0 ACSR 6/1 (Penguin)
- Outage History: 25 Momentary and 2 Permanent outages – average duration of 3.25 hours, CMI 221,572 over the last five years
- Open Conditions: 32 Open Conditions, including poles with rot heart and rot pocket, chipped/broken insulators, cracked guy strain insulator, and loose hardware.
- The South Kossuth – West Moulton line fails to meet 2017 NESC Grade B loading criteria. The horizontal post ceramic insulators on the line do not meet current AEP standards for CIFO and minimum leakage distance requirements. The line shielding angle on the typical tangent structure is measured at 13.36 degrees, which is inadequate for AEP current shield angle requirements and can lead to poor lightening performance.
- 10 structures were future assessed by a ground crew. 100% of those structures had reported conditions including rusty shield wires and ground line structure decay.



AEP Transmission Zone M-3 Process West Moulton, OH/South Kossuth, OH

Need number(s): AEP-2022-OH022

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/28/2026

Proposed Solution:

Kossuth - West Moulton: Rebuild 7.99 miles of the Kossuth - West Moulton 69kV line with 556 ACSR conductor. Estimated Cost: \$23.396 M. (s3908.1)

Transmission Cost Estimate: \$23.396 M

Alternatives Considered:

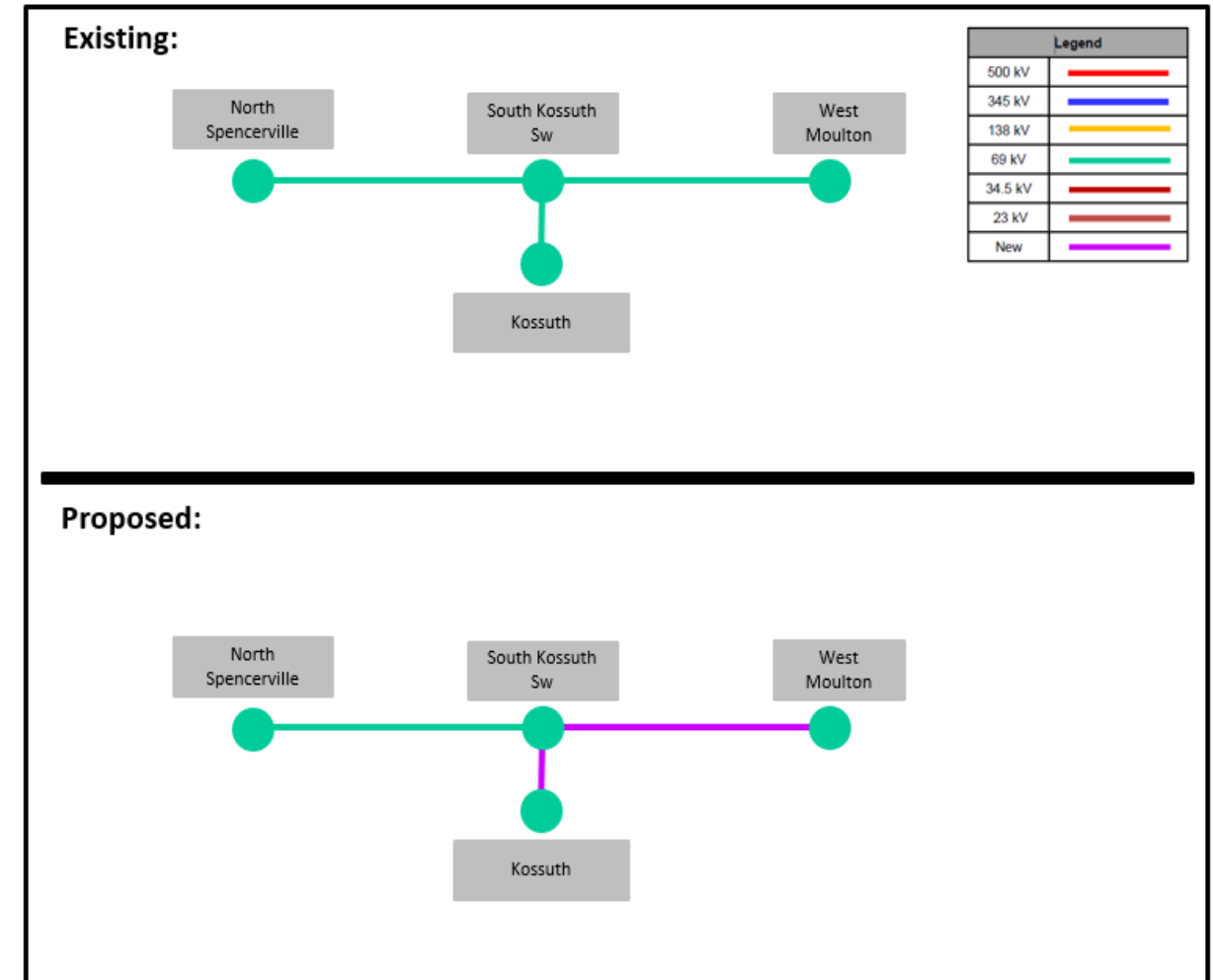
The Kossuth - West Moulton circuit provides looped service to several stations on the West Moulton - North Delphos line, so retirement of this line is not viable as it would leave multiple customers served off a long radial line.

Supplemental Project ID: s3908.1

Projected In-Service: 08/15/2029

Project Status: Engineering

Model: 2030 RTEP model



AEP Transmission Zone M-3 Process Hannibal, OH

Need Number: AEP-2024-OH039

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026

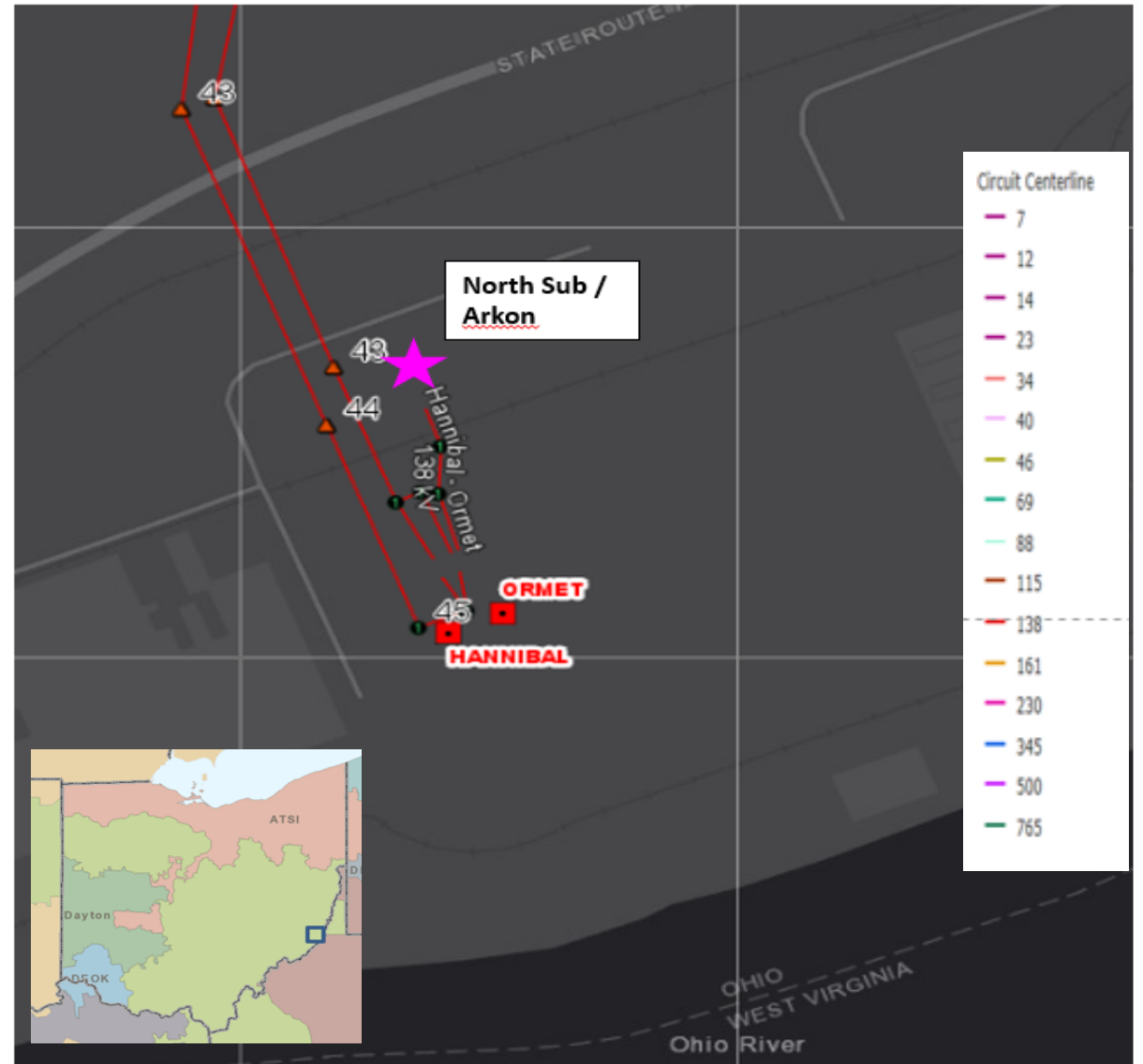
Previously Presented: Needs Meeting: 10/18/2024, Solutions Meeting: 2/14/2025

Supplemental Project Driver: Customer Service

Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

A customer has requested an increase to their existing service out of AEP's Hannibal 138 kV station in Monroe County, OH. The anticipated increase in load is 100MW, bringing the customer's total load to 200 MW at the site. They have requested an in-service date of April 2025.



AEP Transmission Zone M-3 Process Hannibal, OH

Need Number: AEP-2024-OH039
Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 2/12/2026.

Proposed Solution:

Hannibal - North Sub 138 kV: Reconductor the Hannibal - North Sub 138 kV circuit using 1033 ACSS 54/7 CURLEW to accommodate increased customer loading at North Sub Station. Estimated Cost: \$0.392 M. (s3762.1)

Transmission Cost Estimate: \$0.392 M

Alternatives Considered:

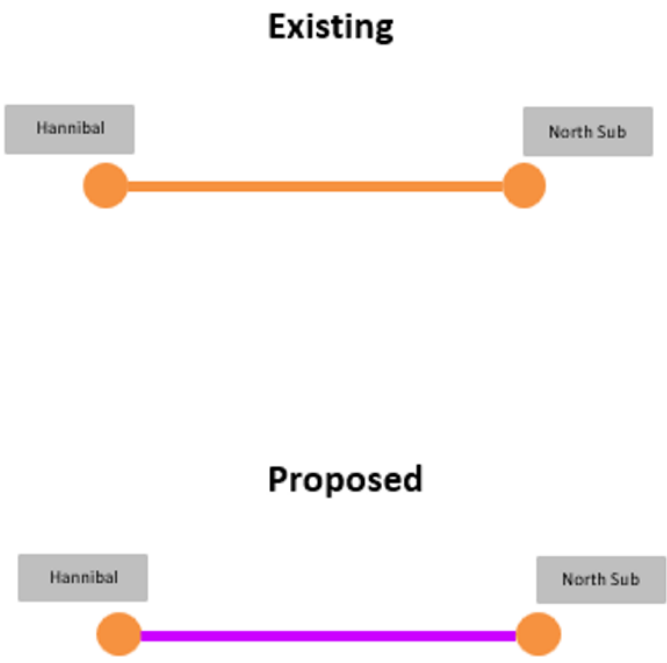
Tap the Hannibal – Kammer 138 kV lines that run parallel to the site. This would require a new switching structure as well as additional station work at the customer owned North Substation to accommodate the feed.

Supplemental Project ID: s3762.1

Projected In-Service: 07/17/2025

Project Status: Scoping

Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	



AEP Transmission Zone M-3 Process Wayne County, WV

Need Number: AEP-2022-AP032

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 05/19/2022, Solution Meeting 05/15/2026

Project Driver: Equipment Condition/Performance/Risk

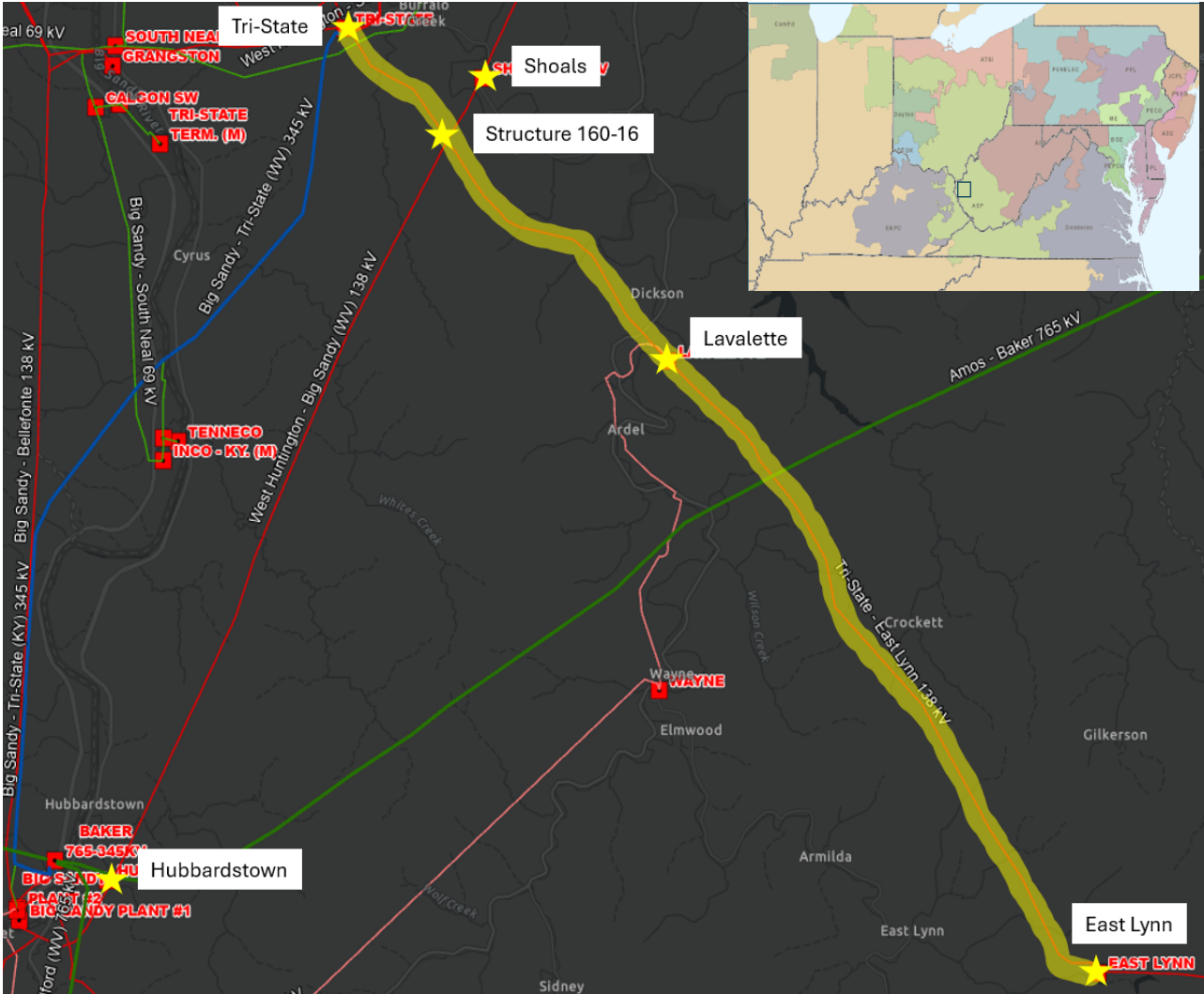
Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 8)

Problem Statement:

Tri-State – East Lynn 138 kV Line (~18 miles):

- Circuit primarily consists of original vintage (1979) wood pole structures and 795 ACSR conductor - Circuit fails to meet 2017 NESC Grade B loading criteria, AEP structural strength requirements and fails to meet the current ASCE structural strength requirements. - Legacy butt wrap grounding method is used throughout the line and is inadequate for current AEP standards
- Since 2017 there have been 6 momentary outages and 5 permanent outage on Tri-State – East Lynn 138 kV - Momentary outages were due to lightning and ice/snow - Permanent outages were due to crossarm failure, vegetation fall-in from outside AEP ROW, lightning and win. -- The permanent outages resulted in a total of 24.4M minutes of customer interruption
- 86 structures with at least one open structural condition which relates to 83% of the structures on this line asset. - Currently there are 196 open structural conditions related to woodpecker damaged poles, rot top poles, crossarms, a filler block, cracked poles, bowed crossarms, split poles and crossarms, corroded crossarms, broken cross arm and x-brace, a pole leaning transverse, rot heart crossarm - There are currently 15 open grounding conditions related to broken and stolen ground wire leads which has likely contributed to the number of lightning related outages



Tri State, WV/Hubbardstown, WV/Shoals, WV/Lavalette, WV/Lavalette, WV/East Lynn Metering, WV

Need number(s): AEP-2022-AP032

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
9/25/2026

Proposed Solution:

Tri - State - Structure 160-16: Rebuild 2.26 mile single circuit 138kV line to replace the existing single circuit 138kV line between Tri-State and existing structure 160-16 located in WV. Structure 160-16 is a newer tower installed in 2009 and will not be replaced as part of this project. . Estimated Cost: \$12.9 M. (s3952.1)

Structure 160-16 - Lavalette: Rebuild 4.7 mile single circuit 138kV line to replace the existing single circuit 138kV line between Structure 160-16 and Lavalette station. Structure 160-16 is a newer tower installed in 2009 and will not be replaced as part of this project. . Estimated Cost: \$25.3 M. (s3952.2)

East Lynn - Lavalette: Rebuild 11.01 mile single circuit 138kV line to replace the existing single circuit 138kV line between East Lynn - Lavalette.. Estimated Cost: \$60.6 M

Transmission Cost Estimate: \$98.8 M. (s3952.3)

Alternatives Considered:

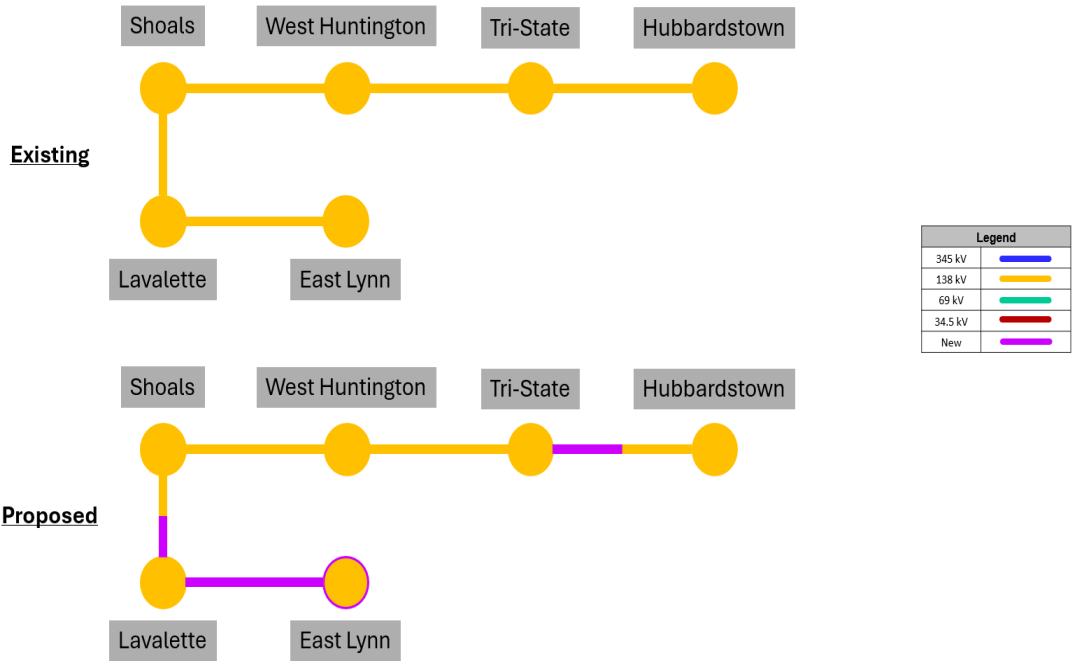
The alternative would be performing rehab work on the line. Rehab work would address structure related open conditions and ROW encroachments. However, this could potentially leave some vintage 1979 structures in-service. This approach would also not address the vintage 1979 conductor. Since 86 structures have at least one open condition (83% of all structures on the line) this option was not chosen. Retirement is also not an option as this line serves multiple customers off the line.

Supplemental Project ID: s3952.1-3

Projected In-Service: 11/28/2029

Project Status: Scoping

Model: 2030 RTEP model



Need Number: AEP-2024-IM012

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
9/25/2026

Previously Presented: Need Meeting 05/17/2024, Solution Meeting SRRTEP-W - 05/15/2026

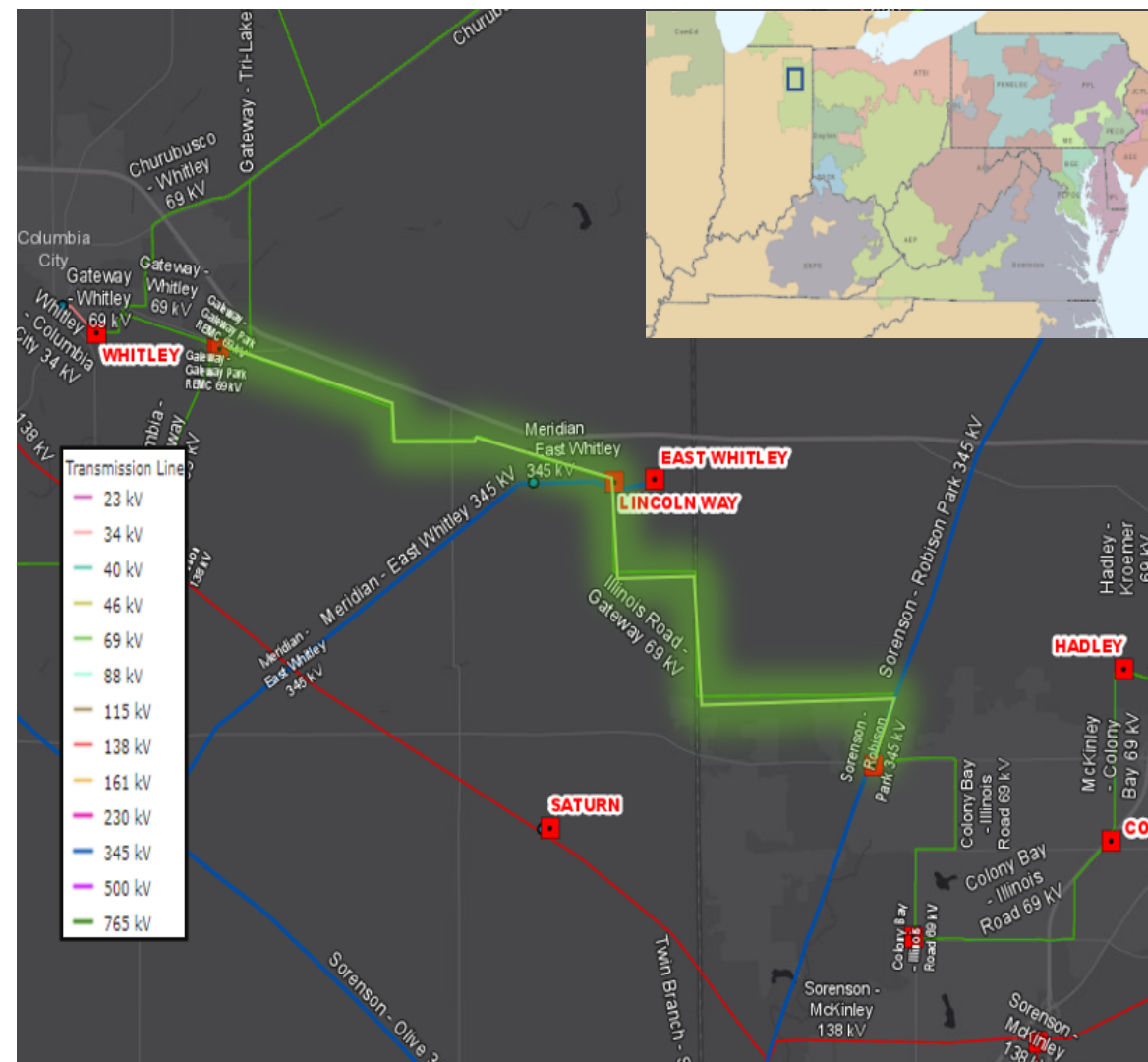
Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

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

Problem Statement:

Illinois Road – Gateway 69kV The Illinois The Illinois Gateway 69kV line is 12.39 miles long constructed in 1973. The line consists primarily of original single circuit wood pole structures with legacy porcelain horizontal post insulators. Some pole replacements have taken place in 2015, 2018, 2021. From January 1, 2019 to December 31, 2023, there have been 6 momentary and 4 permanent outages on the Gateway – Illinois Road 69kV Circuit. The momentary outages were due to lightning, foreign interference related to other utility or distributor equipment, and a circuit switcher failure. The direct permanent outages were due to multiple broken poles during a windstorm, a relay malfunction, and a circuit switcher failure. As of January 4, 2024, there are 59 structures with at least one open structural condition, which relates to 22% of the structures on the line. Structure conditions causes: woodpecker, broken, insect damage, rot heart, rot shell, split, leaning transverse, burnt, damaged, rot top, sitting in water, strength deficiency, and unauthorized attachment, knee/vee braces broken and loose, and 1 is related to a damaged push pole. There is currently 1 open conductor condition with broken strands. There is currently 1 open shielding/grounding condition related to a disconnected ground rod. There are currently 11 open hardware conditions such as horizontal post insulators with burnt/corroded, flashed, broken, and twisted causes, and guys with an exposed guy anchor, loose guy wire, and a missing guy guard. Twenty-six structures were assessed by an aerial drone and by a ground crew. Of those structures assessed, 100% had reported conditions, and the following were the most common conditions found: The majority of wood poles have moderate wood decay that includes shell decay, insect damage, and woodpecker holes. Several poles also have heavy checking and rotted pole tops. Several structures assessed are in potential wetland areas and in most cases are very difficult and expensive to access with vehicles and equipment. Insulators are gray porcelain HP design. A few flashed insulators were found. In some locations, insulators are pulling away from the pole. Structure down-leads are aluminum on stand-off brackets and pole butt wrap.



Need number(s): AEP-2024-IM012

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Proposed Solution:

Illinois Rd - Gateway 69kV: Rebuilding 12.39 miles of the Illinois Rd - Gateway 69kV transmission line with steel poles and 556 ACSR conductor.. Estimated Cost: \$53.885 M. (s3953.1)

Conrail SW: Replace the Lincolnway 3-way POP switch with a new 3-way pop switch called Conrail SW. Estimated Cost: \$1.743 M. (s3953.2)

Transmission Cost Estimate: \$55.628 M

Alternatives Considered:

Retire Illinois-Gateway Rd 69kV and rebuild a radial from Gateway to Lincolnway switch. This would take a customer that has looped in service and degrade their current reliability by establishing radial service. This would also disconnect the western Fort Wayne 69kV network from the urban Fort Wayne 69kV network which would make the networks less redundant.

Supplemental Project ID: s3953.1-2

Projected In-Service: 08/15/2030

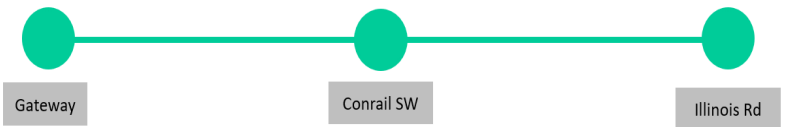
Project Status: Engineering

Model: 2030 RTEP model

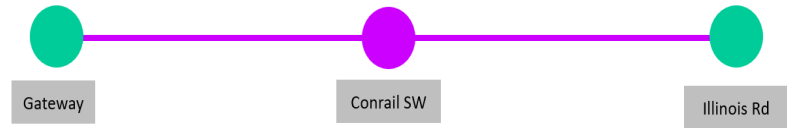
AEP Transmission Zone M-3 Process Gateway, IN/Illinois Road, IN/Conrail SW, IN

Bubble Diagram

Existing:



Proposed:



Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	

AEP Transmission Zone M-3 Process
Thelma, KY/Big Sandy, KY/Busseyville, KY

Need Number: AEP-2025-AP006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 11/14/2025, Solution Meeting SRRTEP-W - 05/15/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

AEP Assumptions Slide 13

Problem Statement:

Line Name: Big Sandy - Thelma 138kV circuit (The Big Sandy – Thelma 138kV asset stops at structure 191-79 and combines with the West Huntington – Big Sandy 138kV asset. The West Huntington – Big Sandy 138kV asset becomes a double circuit asset before entering Big Sandy station from structure 191-79.)

Original Install Date (Age): 1963

Length of Line: ~25.5 mi

Total structure count: 127

Original Line Construction Type: Wood and Lattice Aluminum

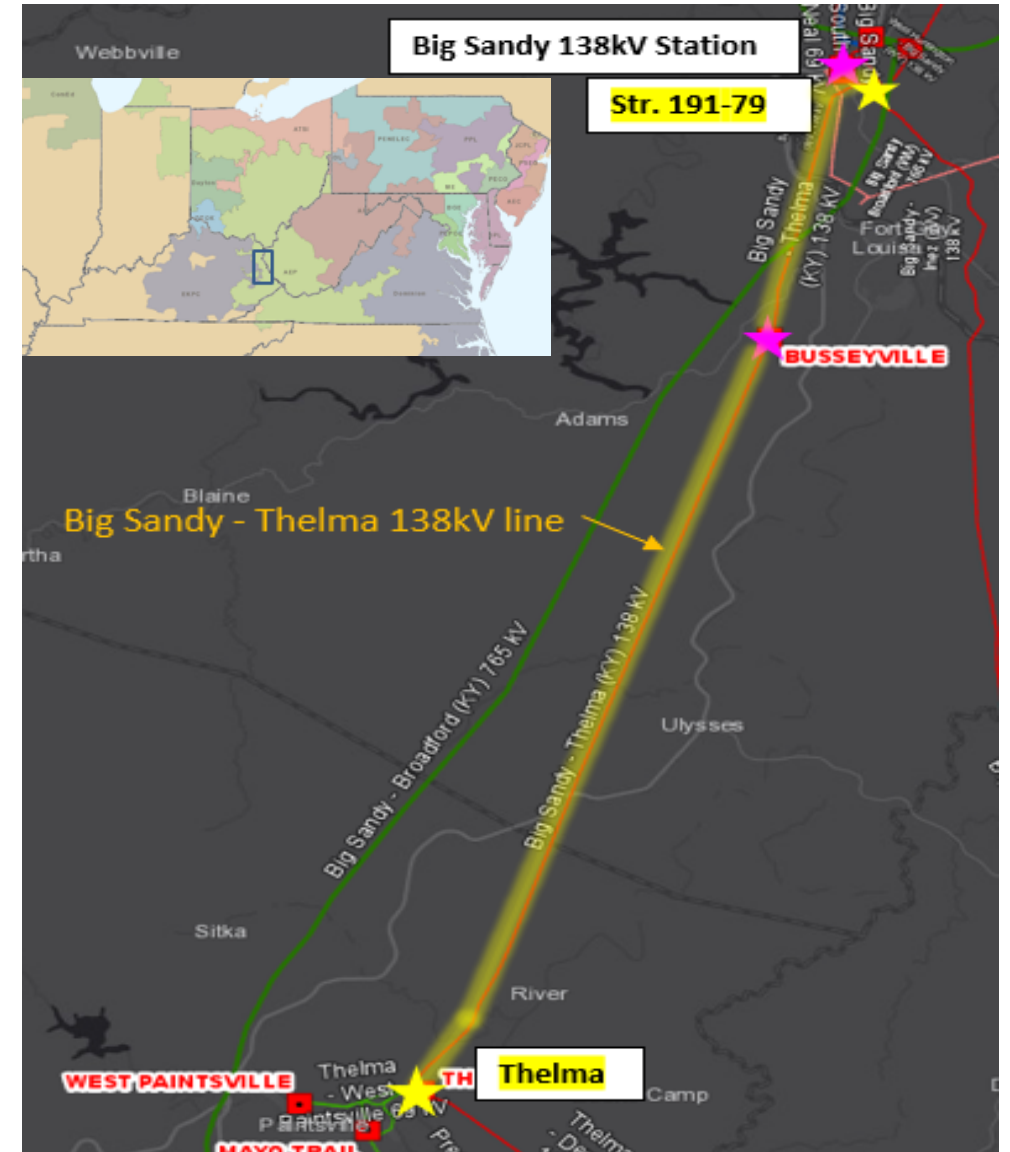
Conductor Type: 636,000 ACSR

Momentary/Permanent Outages: 5 Momentary and 5 Permanent outages on the Big Sandy – Thelma circuit causing 3.4M minutes of CMI.

The line asset serves 33 MVA of peak load at Busseyville station.

Line conditions:

- The structures on the Big Sandy - Thelma 138kV line fail to meet NESC Grade B loading criteria, fail to meet current AEP structural strength requirements, and fail to meet the current ASCE structural strength requirements.
- 112 of 127 structures or 88% of the structures are 1963 wood vintage structures and 11 of 127 are 1963 lattice vintage structures.
- There are 199 open structural conditions impacting poles, crossarms, X-braces, and knee / vee braces mainly including woodpecker holes, rot, bowing, and broken conditions. There are 137 open conditions related to broken or missing ground lead wires or missing ground rods. There are 95 structures with at least one open condition, which relates to 75% of the structures on the line.
- The structures are grounded utilizing the butt wrap method. The current grounding system and poor shielding angle do not meet current AEP and industry accepted criteria, making the line susceptible to momentary and permanent outages, affecting customer reliability.
- The inadequate grounding limits the available path to ground during any type of line fault, increasing the intensity the conductor and related hardware have to withstand during the fault. The reduced electrical strength of the insulators could lead to electrical damage to structures and hardware during a fault if the insulator were to fail from elevated electrical stresses.



Busseyville, KY/Thelma, KY/Big Sandy, KY/Busseyville, KY/Big Sandy, KY/Thelma, KY

neea number(s): AEP-2025-AP006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
9/25/2026

Proposed Solution:

Thelma - Busseyville 138 kV: Rebuild the 19 mile long 138 kV line from Thelma - Busseyville. Estimated Cost: \$120 M. (s3954.1)

Big Sandy - Busseyville 138 kV: Rebuild the 7 mile long section of Big Sandy - Busseyville 138 kV line.. Estimated Cost: \$48.4 M. (s3954.2)

Big Sandy Substation: Relay settings update at Big Sandy Substation. Estimated Cost: \$0.055 M. (s3954.3)

Thelma Substation: Replacing jumpers on Big Sandy Line. Big Sandy Line Trap, CCVT, and Tuner will be replaced. Replacement of associated control cables. Update relay settings at Thelma substation.. Estimated Cost: \$1.1 M. (s3954.4)

Transmission Cost Estimate: \$169.555 M

Alternatives Considered:

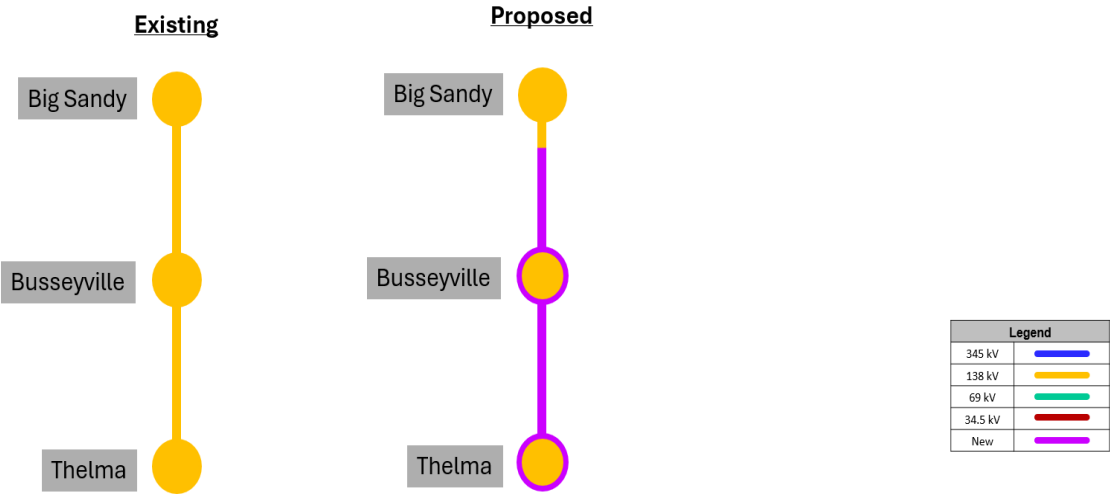
The alternative would be performing rehab work on the line. Rehab work would address structure related open conditions and ROW encroachments. However, this could potentially leave some vintage 1963 structures in-service. This approach would also not address the deteriorating 1963-installed conductor. Retirement of the line is also not a possibility as this line serves as a major 138 kV path through Kentucky to connect critical stations as well as a source to Busseyville to serve customers.

Supplemental Project ID: s3954.1-4.

Projected In-Service: 11/01/2030

Project Status: Scoping

Model: 2030 RTEP model



Need Number: AEP-2024-OH031

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Process Stage: Need Meeting 02/16/2024, Solution Meeting SRTEP-W - 06/17/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference: AEP Guidelines for Transmission Owner Identified Needs Assumptions Slide 13)

Problem Statement:

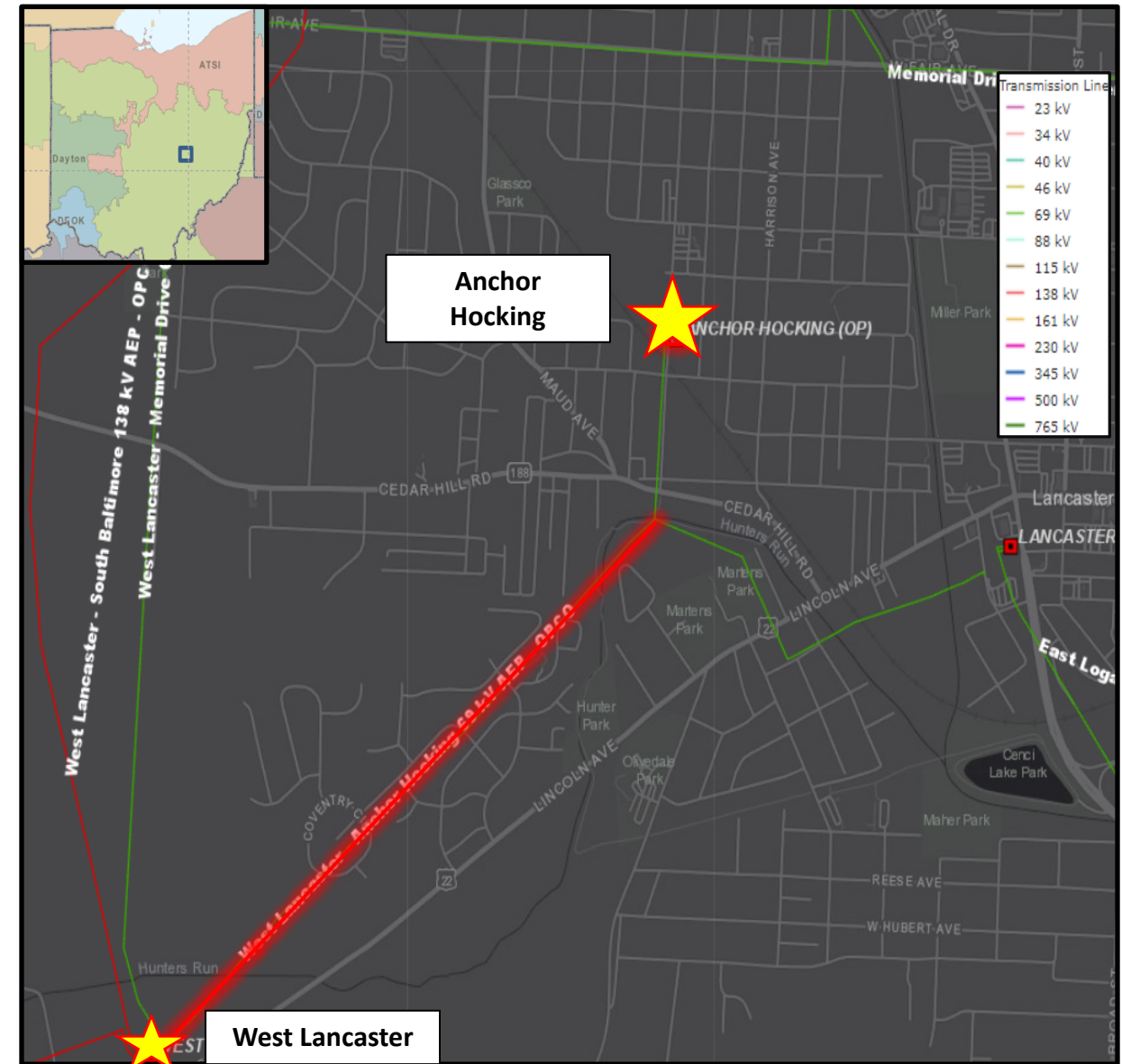
Line Name: West Lancaster - Anchor Hocking 69 kV Line

- Original Install Date (Age): 1941
- Length of Line: 1.29 miles
- Total structure count: 39 of Pole Wood
 - Wood: 28 from 1940s, 1 from 1950s, 2 from 1960s, 1 from 1974, 2 from 1980s, 2 from 1994, and 3 from 2015.
- Conductor Type: 1.62 miles of 3/0 copper from 1941.
- **Outage History**
 - Anchor Hocking - West Lancaster 69 kV circuit
 - From 2017 , there has been 1 permanent outage on the Anchor Hocking – West Lancaster 69kV Circuit. The permanent outage was due to a station insulator, resulting in 3.92 hours of circuit outage time.

Open Conditions:

- Currently, there are 18 structures with at least one open structural condition, which relates to 46% of the structures on the line. There are currently 32 structural open conditions, specifically affecting the crossarms, poles, knee braces, and a push pole including burnt, insect damaged, loose, rot heart, rot pocket, rot top, split, and woodpecker damaged conditions. There are currently 9 open hardware conditions related to broken or missing guys, molding, and an insulator. There is currently 1 open grounding condition related to a broken ground lead wire.

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AEP Transmission Zone M-3 Process West Lancaster, OH

Need Number: AEP-2024-OH044

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 10/18/2024, Solution Meeting SRRTPE-W - 06/17/2026.

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption Reference: AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

Line Name: West Lancaster - Memorial Drive 69 kV Line

- Original Install Date (Age): 1962
- Length of Line: 3.12 miles
- Total structure count: 66 Wood Poles (49 from 1962, 1 from 1967, 1 from 1969, 11 from 1970s, and 4 from 1999.)
- Conductor Type: 3.12 miles of 336.4 kCM ACSR 30/7 (Oriole) from 1963.

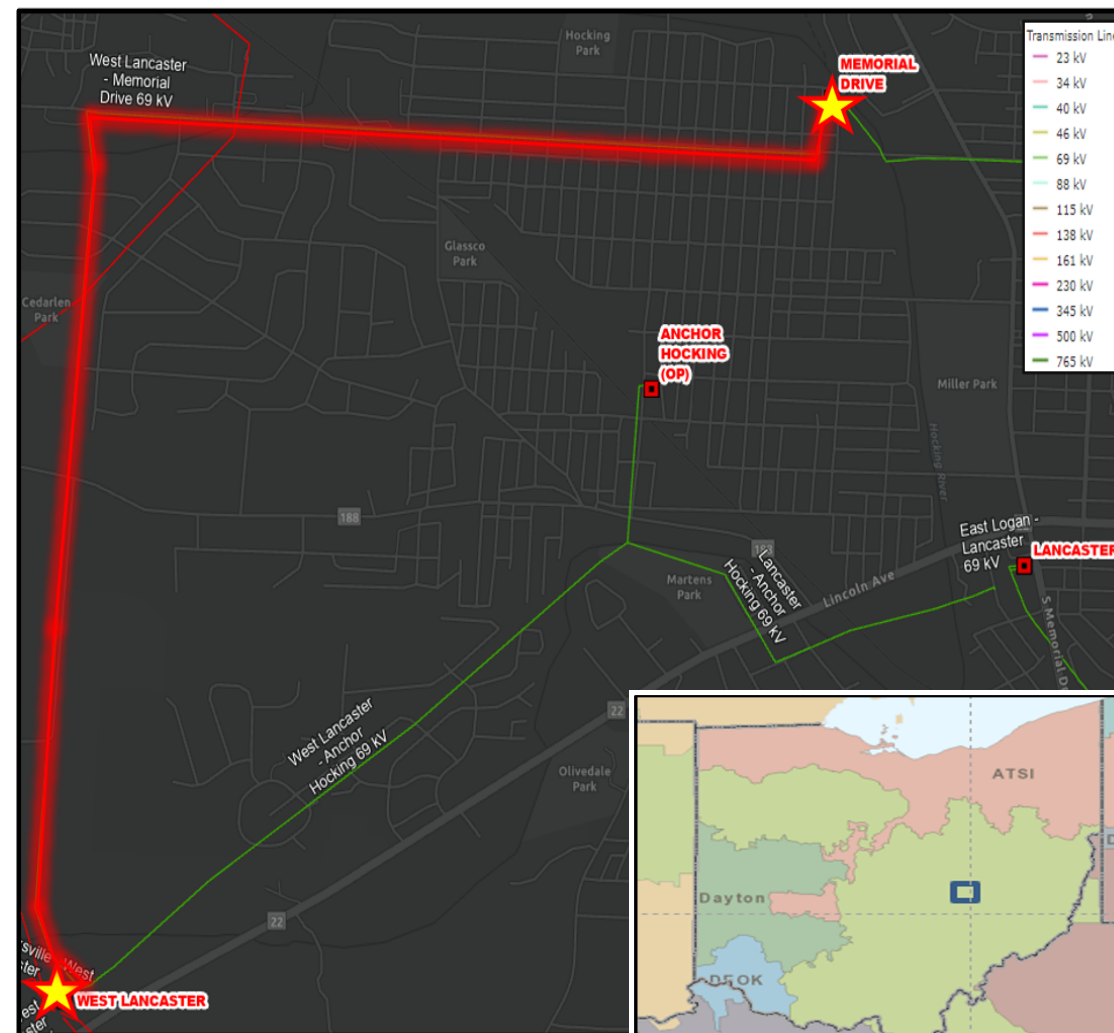
Outage History:

– East Lancaster – Ralston – West Lancaster 69 kV circuit: From 2015, there have been 4 permanent outages and 13 momentary outages.

Open Conditions:

- Currently, there are 17 structures with at least one open condition, which relates to 26% of the structures on this line.
- The entire line was inspected by a ground crew who completed a comprehensive walking inspection. The following conditions were reported: 15 broken moldings, 4 structures with heart rot, 3 structures with shell rot, multiple structures with grounding missing, 2 structures with woodpecker holes, 5 structures with pole damage, 1 bent structure and 1 conductor with broken strands.

AEP Local Plan 2026



AEP Transmission Zone M-3 Process West Lancaster, OH/South Baltimore, OH

Need number(s): AEP-2024-OH031, AEP-2024-OH044

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Proposed Solution:

West Lancaster - Anchor Hocking 69kV Line: Retire 1.3 miles of 69kV line from West Lancaster to Anchor Hocking station. Rebuild 3.2 miles of 69kV line from West Lancaster to Anchor Hocking stations. 2 miles of the rebuild will be double circuit that includes the West Lancaster - Memorial Drive 69kV line. The remaining 1.2 miles will be single circuit line before entering Anchor Hocking station. . Estimated Cost: \$20.7 M. (s3955.1)

West Lancaster - Memorial Drive 69kV Line: Retire 3.0 miles of 69kV line from West Lancaster to Memorial Drive station. Build 1.4 miles of greenfield single circuit 69kV line from where the West Lancaster - Anchor Hocking and West Lancaster - Memorial Drive lines were double circuit.. Estimated Cost: \$11.1 M. (s3955.2)

Memorial Drive Switching Structure: Replace the existing Memorial Drive phase over phase switching structure.. Estimated Cost: \$0.697 M. (s3955.3)

West Lancaster - South Baltimore 138kV Line: Raising four 138kV line structures due to two crossings of the 69kV double circuit rebuild.. Estimated Cost: \$1.1 M. (s3955.4)

West Lancaster Station: Setting updates to support the 69kV line rebuild. Estimated Cost: \$0.05 M. (s3955.5)

Anchor Hocking Station: Replace the bus conductor on bus #1 and #2. Replace the station fence and update relay settings.. Estimated Cost: \$0.205 M. (s3955.6)

Transmission Cost Estimate: \$33.852 M

Alternatives Considered:

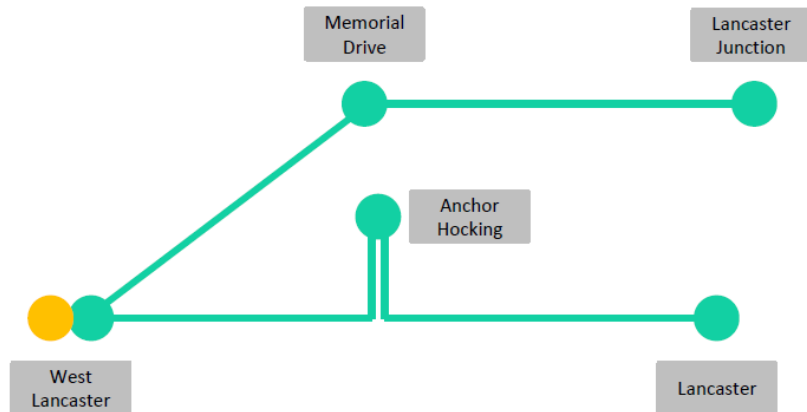
Rebuild all of the 69kV lines on current ROW/centerline. This option was not preferred due to the location of the existing towers and route through residential neighborhoods which limits access for construction. A full greenfield rebuild was also considered; however, due the locations of the substations involved and difficulty of building greenfield through the neighborhoods to those stations it was not chosen. Costs for this option were also estimated to be higher due to ROW acquisition and would have a high risk of proceeding to condemnation. Both the full rebuild and full greenfield options have similar costs to the proposed solution.

Supplemental Project ID: s3955.1-6.

Projected In-Service: 12/01/2028

Project Status: Engineering

Model: 2030 RTEP model



Legend	
765 kV	Blue line
345 kV	Blue line
138 kV	Yellow line
69 kV	Green line
34.5 kV	Red line
23 kV	Red line
New	Purple line

AEP Transmission Zone M-3 Process Hanna, IN/Tanners Creek, IN

Need Number: AEP-2025-IM010

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 11/04/2025, Solution Meeting TEAC - 06/02/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

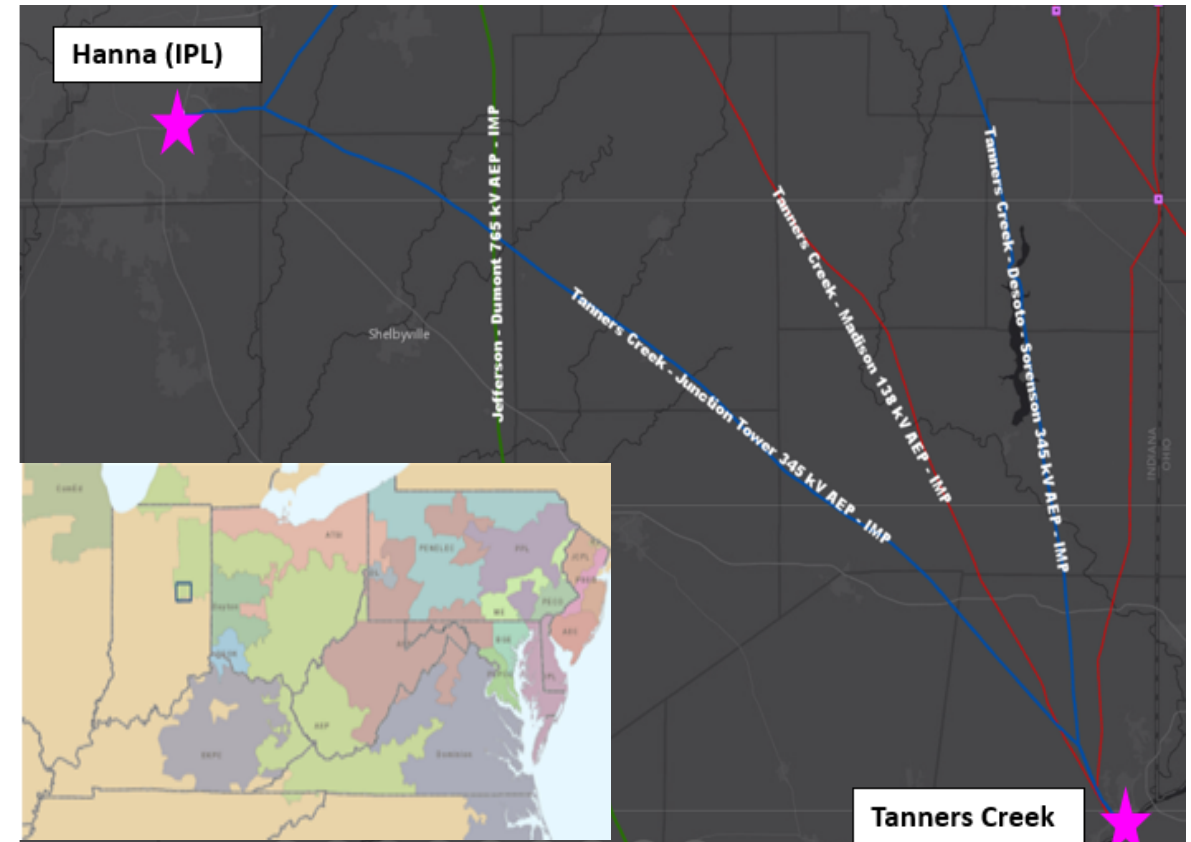
AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions slide 13)

Problem Statement:

Hanna – Tanners Creek 345 kV circuit:

Tanners Creek – Junction Tower 345 kV single circuit line is 74.07 miles long originally installed in 1961. The line is part of the Hanna – Tanners Creek 345 kV circuit.

- Length: 74.07 Miles
- Original Construction Type: Aluminum lattice guyed V structures with porcelain insulators.
- Conductor Types:
 - 954 kCM ACSR 45/7 Rail (2 bundled) (73.93 mi, 1961 vintage)
 - 2,303 kCM ACAR 54/37 (0.14 mi, 2004 vintage)
- Number of open conditions: 69 structure open conditions. Open conditions include:
 - Damaged structured legs, broken insulator assemblies, broken/damaged conductor strands, broken shield wire dampers and damaged spacers.
 - Structures do not meet AEP structural strength requirements and ASCE structural strength requirements.
 - Tower mast sections rest in aluminum casting. There is no pin connection between bottom of mast section and grillage foundation. Towers have lifted up and out of the aluminum casting, which results in the mast section being significantly damaged.
 - Structure access is generally limited to helicopter or bucket truck as most structures members don't meet fall arrest attachment requirements and thus climbing structures is very restricted.
 - Tower member has failed in the past due to vibration from wind. Connections are impacted by tower member vibrations. Tubular aluminum members crack at end connections. A failure in 2015 was due to wear at the arm swing bracket



Need Number: AEP-2025-IM010

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 11/04/2025, Solution Meeting TEAC - 06/02/2026

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

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

Problem Statement (continue):

Hanna – Tanners Creek 345 kV circuit:

- Total structure count: 313, with 311 dating back to original installation
- Aerial drone assessment recently performed on 30 structures, with the following observations:
 - Ovalization of the insulator attachment hardware was observed on 87% of the assessed structures. The ovalization is due to the attachment hardware at the top end of the suspension insulator string gradually wearing through the hole in the attachment provision on the tower. The hanger bracket hole through which the attachment clevis pin is attached is becoming oval over time versus round like it was when the tower and hanger brackets were new. The more the wear the greater the loss of strength of the attachment bracket and greater is the risk the suspension insulator string will completely wear through and allow the conductor to drop.

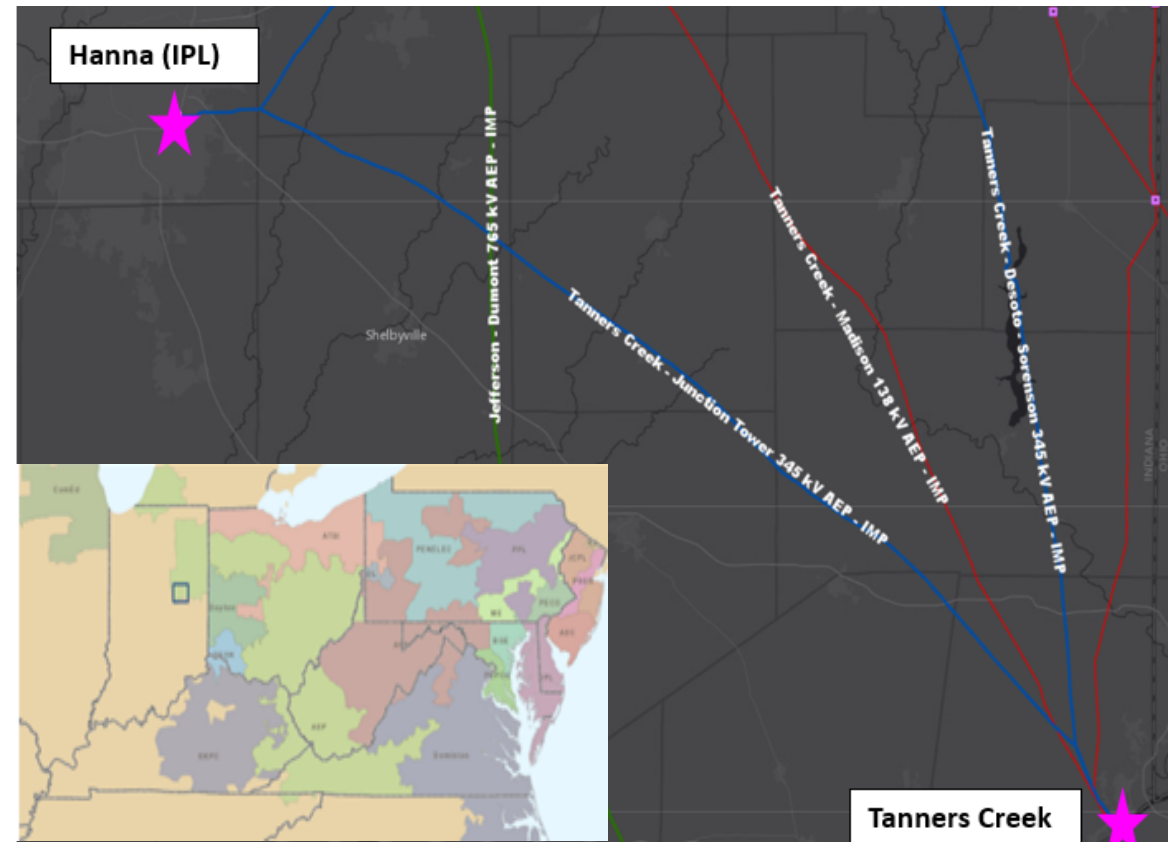
Hanna– Junction Tower 345 kV single circuit line is 5.63 miles long originally installed in 1962. The line is part of the Hanna – Tanners Creek 345 kV circuit and the Hanna – Sunnyside 345 kV circuit.

- Length: 5.63 Miles
- Original Construction Type: Steel lattice structures with porcelain insulators.
- Conductor Type:
 - 954 kCM ACSR 45/7 Rail (2 bundled) (11.1 mi, 1962 vintage)
 - 1,414 kCM ACSR/PE 62/19 Falbo (0.15 mi, 1962 vintage)
- Number of open conditions: 9 structure open conditions
- Open conditions include:
 - Structure related open conditions due to heavy rust.
 - Hardware related open conditions include broken shield wire damper and broken conductor damper
- Total structure count: 28 dating back to original installation

Outage history for the Tanners Creek - Hanna 345 kV circuit (last 5 years):

- Momentary/Permanent Outages: 7 total outages: 5 (Momentary), 2 (Permanent). One of the permanent outages was due by foreign inference causing 59 hours of outage

AEP Transmission Zone M-3 Process Hanna, IN/Tanners Creek, IN



AEP Transmission Zone M-3 Process Hanna, IN/Tanners Creek, IN

Need number(s): AEP-2025-IM010

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Proposed Solution:

Tanners Creek – Hanna 345 kV line rebuild: Rebuild ~73.9 miles of the existing Tanners Creek-Junction Tower 345kV line asset as 345 kV single circuit utilizing 2-bundle 954 ACSR 54/7 Cardinal conductor. Rebuild ~5.65 miles of the existing Hanna-Junction Tower 345 kV line asset as double circuit line with the conductor size 2-bundle 954 ACSR 54/7 Cardinal. Estimated Cost: \$520 M. (s3956.1)

Transmission Cost Estimate: \$520 M

Alternatives Considered:

Retirement of the line or a section of the line is not an option as the MISO Tranche 2.1 project will loop Duke stations Gwynneville and Batesville to Tanners Creek - Hanna 345 kV line to mitigate thermal and voltage violations in the MISO footprint.

Ancillary benefit:

MISO Tranche 2.1 project (s3608) will loop Duke stations Gwynneville and Batesville to Tanners Creek - Hanna 345 kV line to mitigate thermal and voltage violations in the MISO footprint. Rebuilding the line now will help reduce future outages on the 345 kV outlets for the new 765 kV connections.

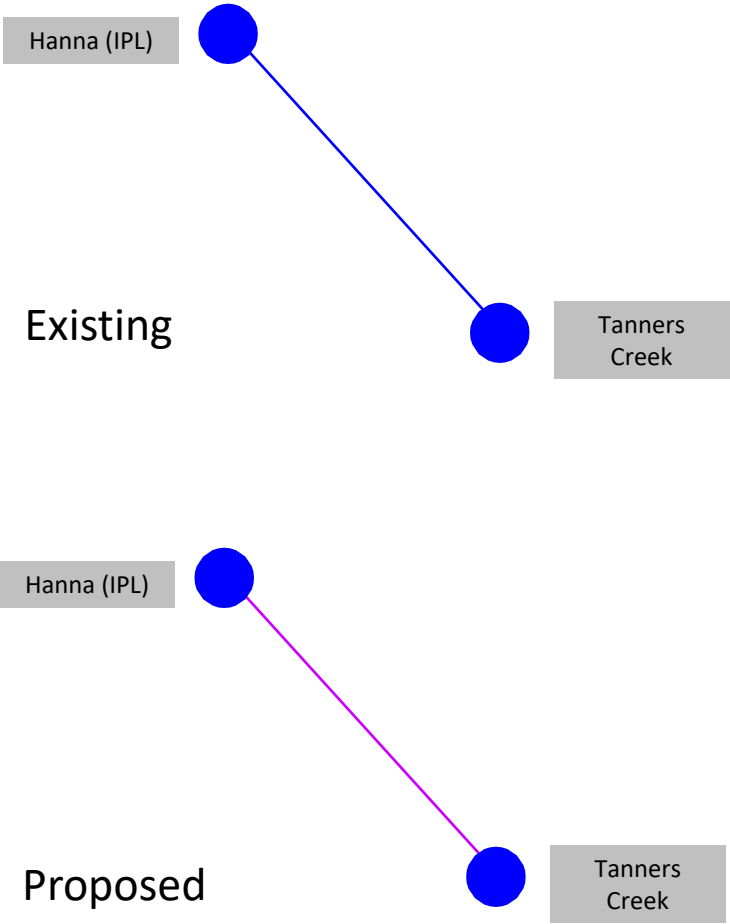
Supplemental Project ID: s3956.1.

Projected In-Service: 10/15/2031

Project Status: Scoping

Model: 2030 RTEP model

Legend	
765 kV	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	



AEP Transmission Zone M-3 Process Kenova, WV

Need Number: AEP-2026-AP004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 05/15/2026, Solution Meeting SRRTEP-W - 06/17/2026

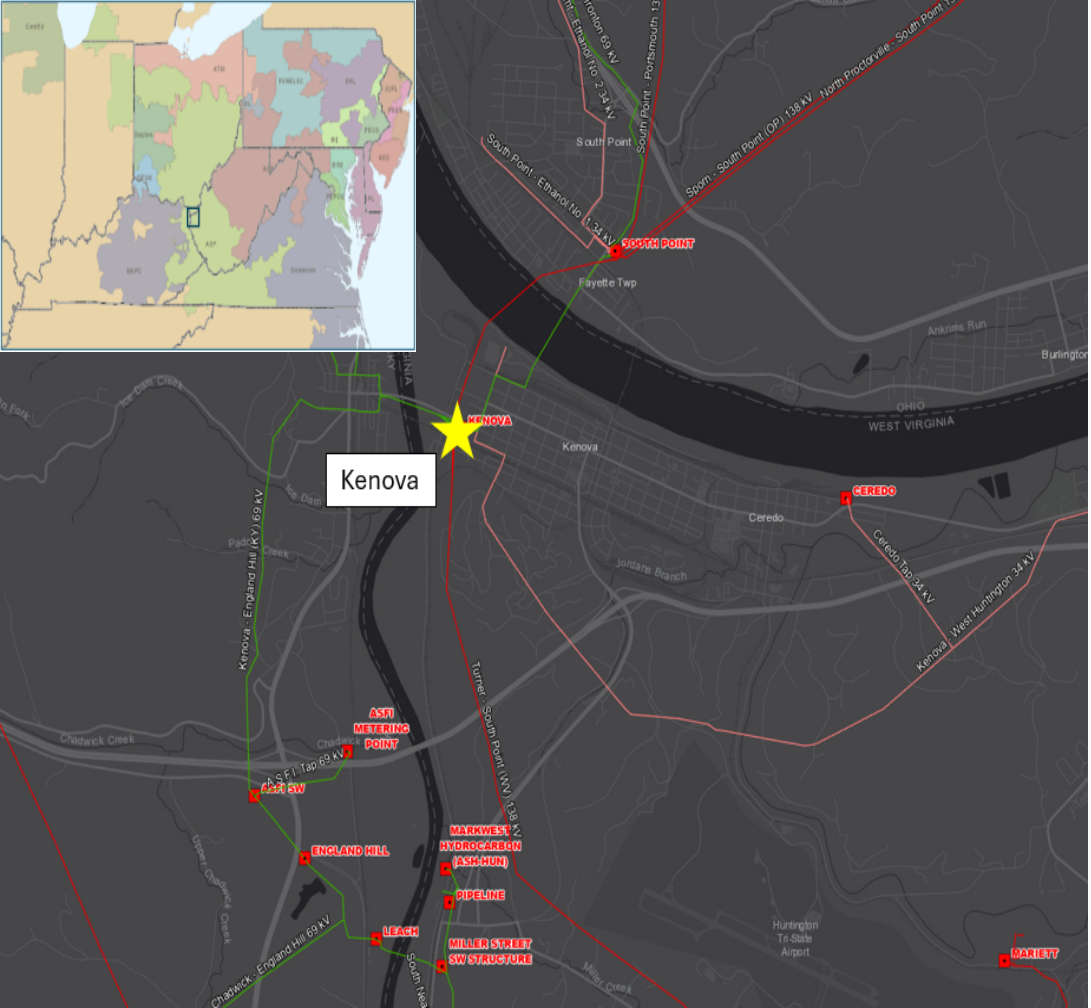
Project Driver: Customer Service

Specific Assumption References:

AEP Assumptions Slide 12

Problem Statement:

A customer request was received to investigate power quality issues caused by a fault at Kenova station, resulting in lost product and material. The customer experienced voltage issues when there was an outage on the 138/69 kV transformer at Kenova Substation. AEP determined that a contributing factor of the cause of the issue was lack of transformer protection at Kenova station.



AEP Transmission Zone M-3 Process Kenova, WV

Need number(s): AEP-2026-AP004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Proposed Solution:

Kenova Breaker: Install a 69 kV 40 kA circuit breaker on the low side of the 138/69 kV transformer #8 at Kenova Substation.. Estimated Cost: \$0.6 M. (s3957.1)

Transmission Cost Estimate: \$0.6 M

Alternatives Considered:

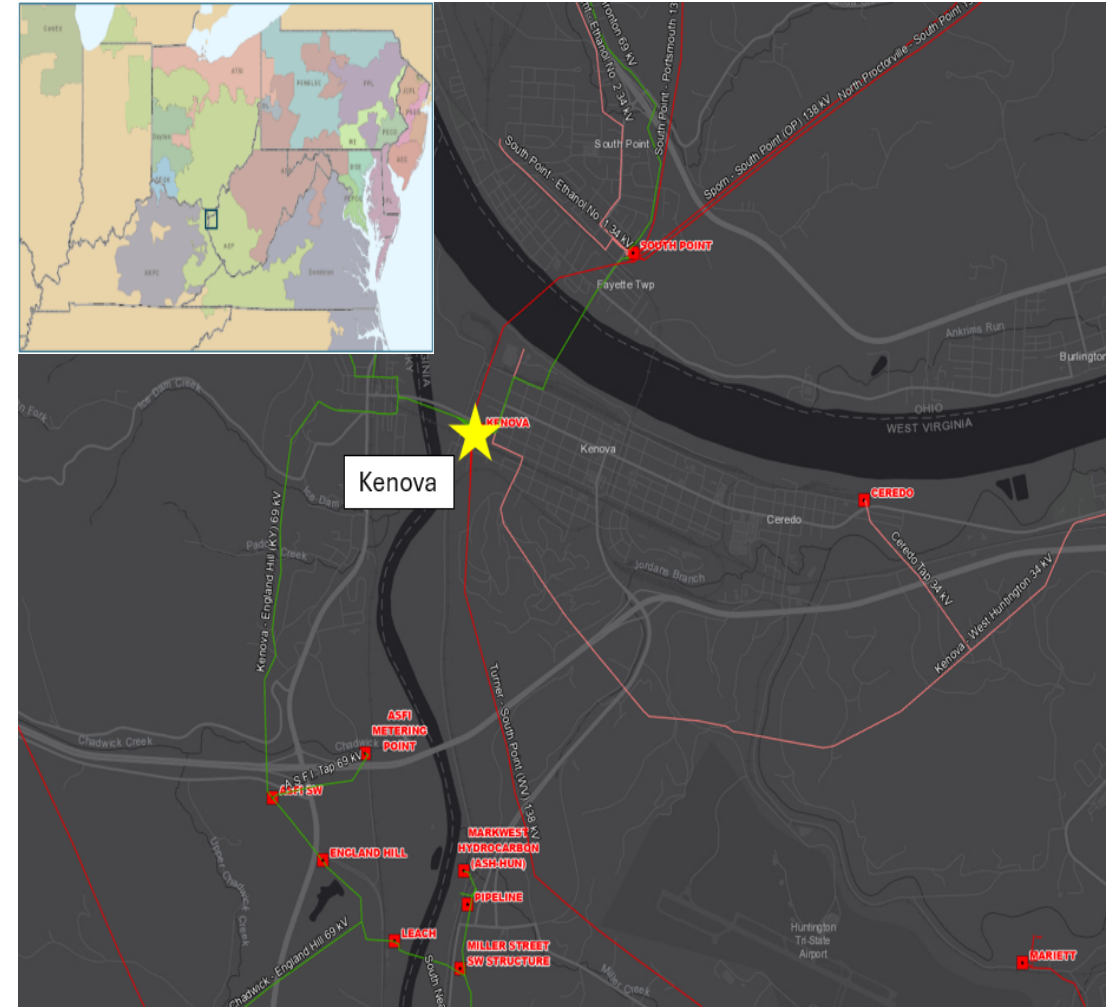
Considering the limited scope and availability of outages and space at Kenova station, no other transmission alternates were found to address the customer request.

Supplemental Project ID: s3957.1.

Projected In-Service: 05/22/2026

Project Status: In Service

Model: 2030 RTEP model





Need Number: AEP-2022-OH067

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 09/16/2022, Solution Meeting 07/17/2026.

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

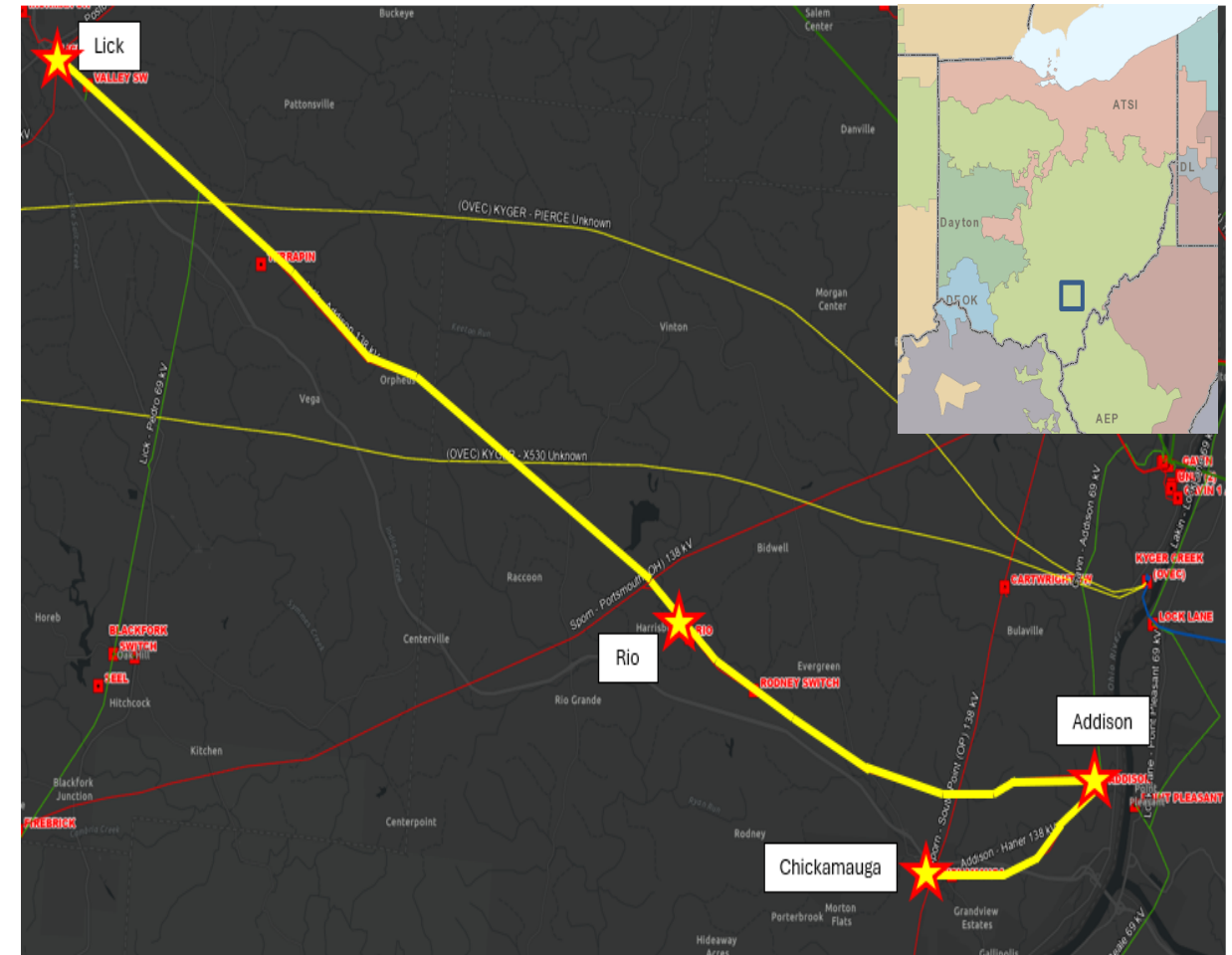
AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

Addison – Lick 138 kV:

- Original Install: 1953
- Total Length: ~28.98 Miles
- Conductor Types:
 - ~28.97 miles of 336,400 CM ACSR 30/7 (Oriole) from 1953
 - ~0.01 miles of 336,400 CM ACSR 18.1 (Merlin) from 2004
- Total Structure Count: 174
 - Wooden Structure: 116 from 1950s, 9 from 1970s, 2 from 1980s, & 14 from 1990
 - Steel Structure: 2 from 1997, 1 from 2004, & 30 from 2016
- Outage History:
 - 13 momentary & 1 permanent outage
 - CMI from permanent outage 1,242,742

AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades





Need Number: AEP-2022-OH067

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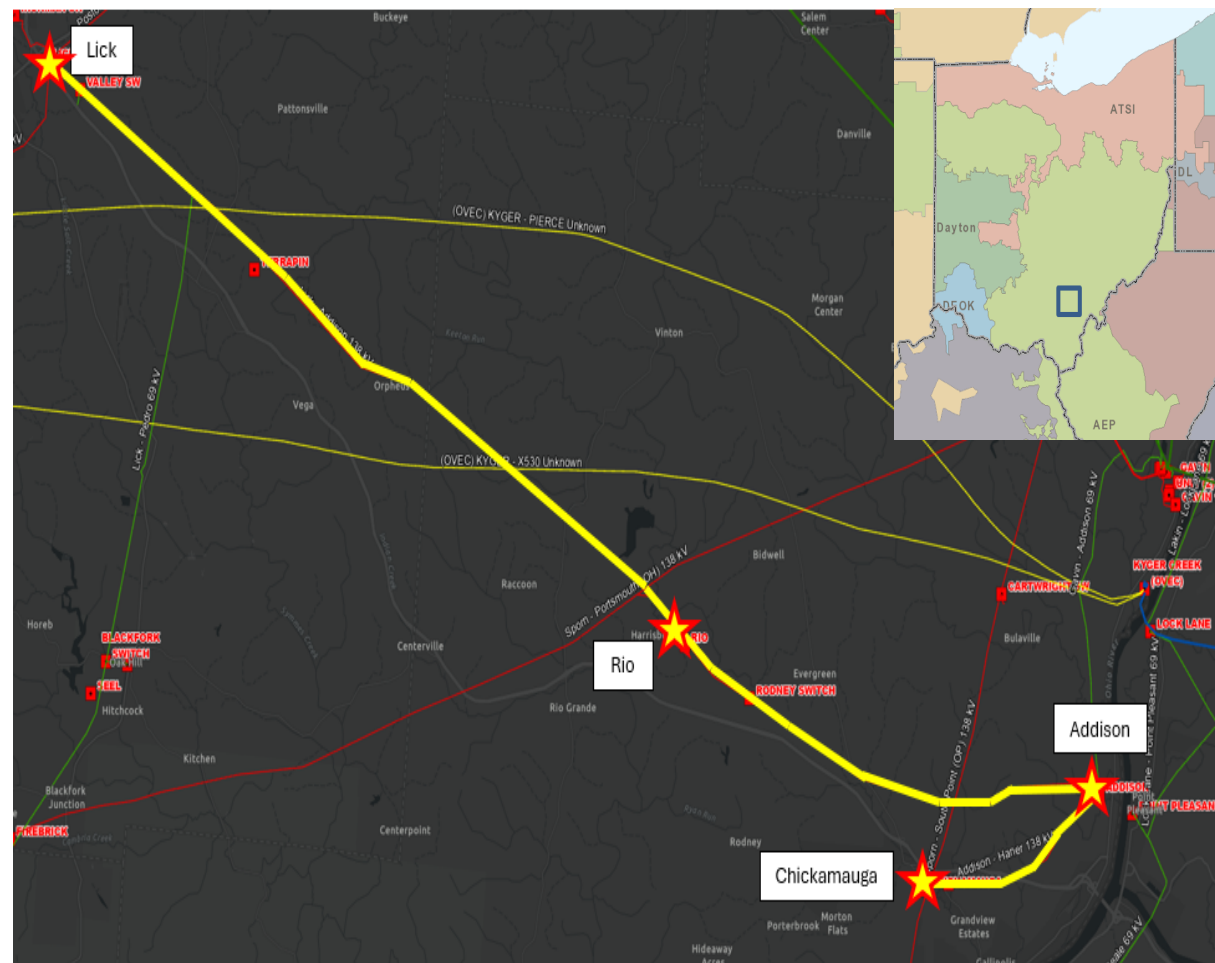
Problem Statement:

Addison – Lick 138 kV:

- Open Conditions: there are 74 structures with at least one open condition, which relates to 42.5% of the structures on the line. There are currently 90 structure related open conditions dealing with broken and split crossarms, rot heat crossarms, rot top crossarms, many wood pecker holes, broken knee/vee braces, broken poles, rot top on poles and broken x-braces. There are currently 4 shielding and grounding related open conditions dealing with missing ground lead wires or ground rods. There are currently 23 hardware related open conditions dealing with missing guy guards, burnt insulators, guy wire in vines, loose guys, broken damper, rusty guy wire and broken insulators.

- Additional Information: There is currently a hard tap near structure 100 of the line that creates a three terminal point between Addison, Lick, and Sporn stations.

AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades





Need Number: AEP-2022-OH069

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 09/16/2022, Solution Meeting 07/17/2026

Project Driver: Equipment Condition/Performance/Risk, Customer Service

Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 12 & 13)

Problem Statement:

Customer Service:

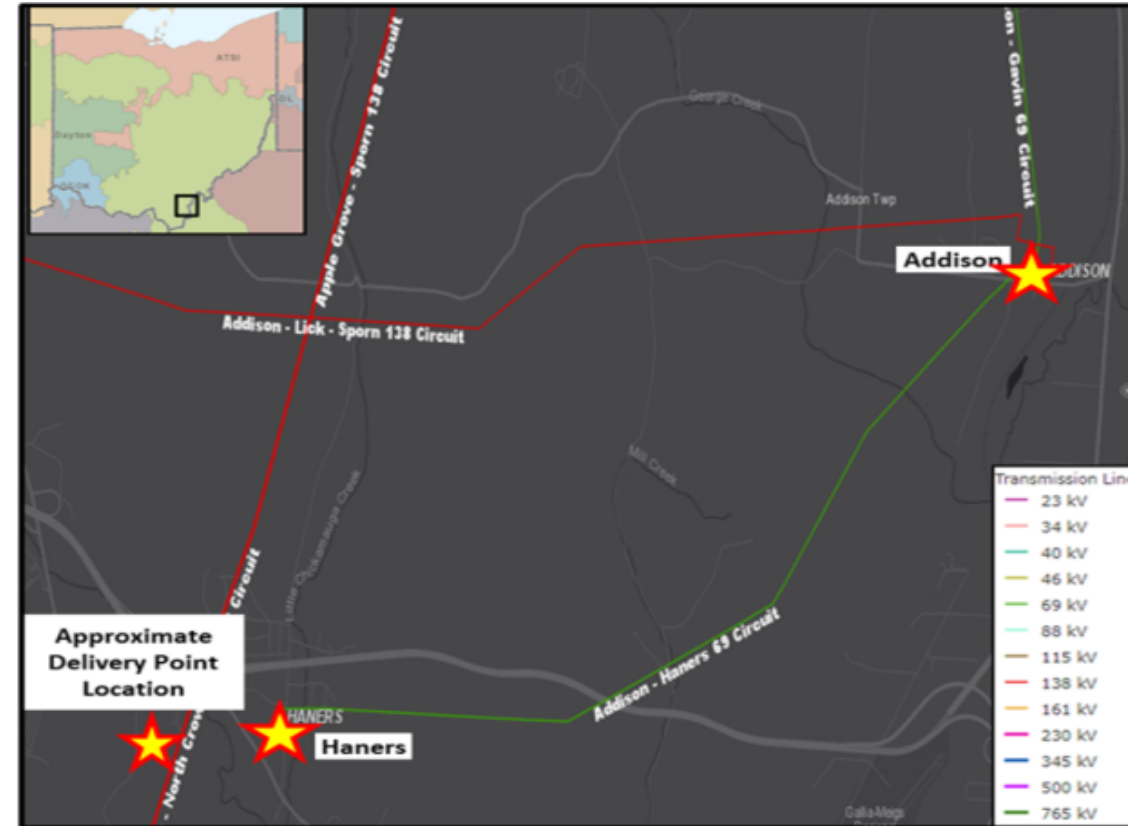
- AEP Ohio has requested to add capacity at Addison station by June 2026, due to load growth in the area. The anticipated peak load is approximately 18.3 MVA.
- AEP Ohio has requested service to a new 138kV delivery point near AEP's Haners 69kV station by June 2026. Anticipated load is approximately 20.6 MVA.

Equipment Condition/Performance/Risk:

Addison – Haners 69 kV:

- Original Install: 1967
- Total Length: ~4.23 Miles

AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades





Need Number: AEP-2022-OH069

Continued from previous slide...

Problem Statement:

Equipment Condition/Performance/Risk:

- Conductor Types:

- ~4.17 miles of 336,400 CM ACSR 30/7 (Oriole) from 1967
- ~0.05 miles of 336,400 CM ACSR 30/7 (Oriole) from 2011
- ~0.01 miles of 336,400 CM ACSR 30/7 (Oriole) from 2006

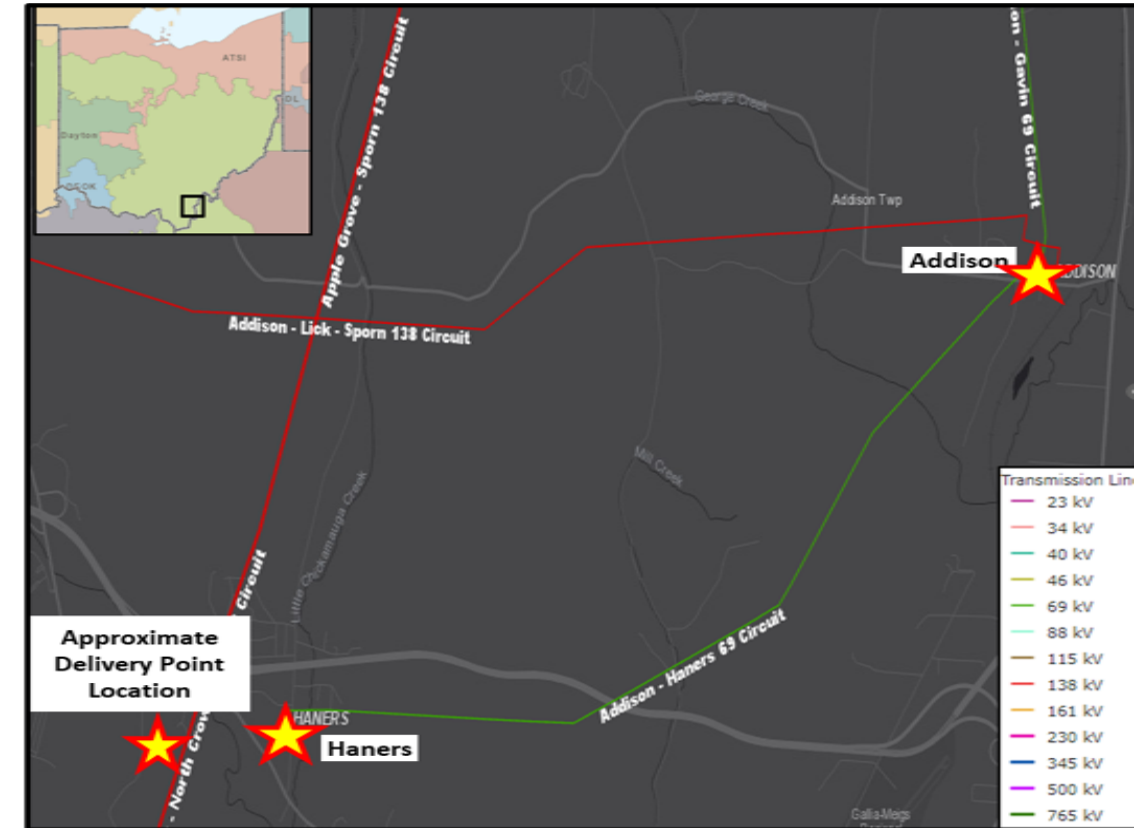
- Total Structure Count: 29 (Wood)

- 14 from 1950s, 5 from 1960s, 2 from 1970s 1 from 1990s 4 from 2000s 3 from 2010.

- Open Conditions: there are 18 structures with at least one open condition, which relates to 62% of the structures on the circuit. There are currently 57 structure related open conditions specifically affecting the crossarm or pole including rot, split, insect damage, and woodpecker conditions. There is currently 1 conductor related open condition affecting improper installation of a conductor. There are currently 7 open conditions related to the ground lead wire, including broken, missing, and damaged. This could lead to the poor lightning performance. There is currently 4 hardware related open condition specifically affecting broken, damaged, or burnt insulators and guy anchors

- Additional info: The existing Haners station is radially fed from this line. Haners feeds the city of Gallipolis, a regional hospital along with the areas emergencies services and utilities; transfer options are very limited due to capacity concerns and no other sources in the area. The radial line is 4.2 miles with approximately 20 MW of load served from the station.

AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades





Need Number: AEP-2022-OH069

Continued from previous slide...

Addison Station:

- 69kV CBs 3 & 62

- Age: CB 3 is from 1967 & CB 62 is from 1975

- Interrupting Medium: Oil

- Fault Ops: CB 3 has 0 & CB 62 has 46

- These breakers are oil filled without oil containment; oil filled breakers have much more maintenance required due to oil handling that their modern, SF6 counterparts do not require.

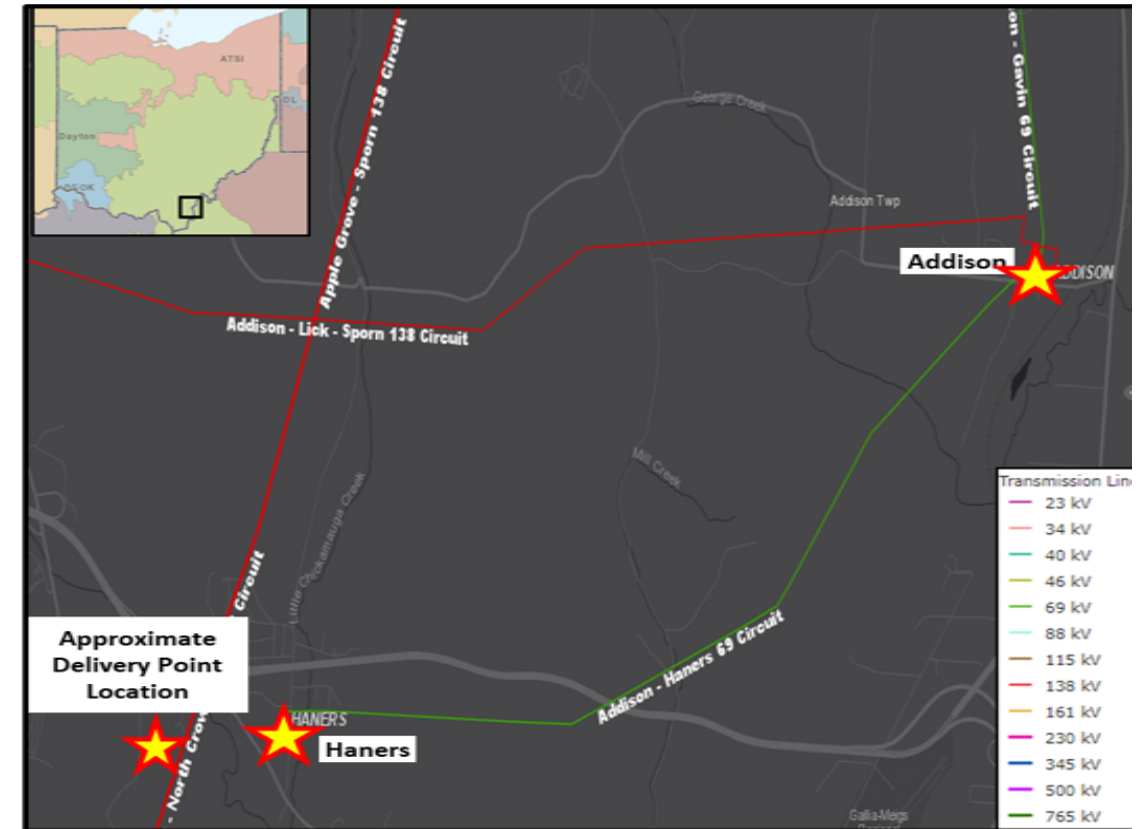
- Transformer 3 138/69/12 kV

- Age: 1976

- Elevated moisture levels, indicating gasket leaks or breakdown in oil or paper/pressboard insulation. Low dielectric strength, which indicates an increase in particles within the oil, decreasing the capability of the oil to withstand fault events, which can damage the paper insulation. There is also an upward trend in insulation power factor, which also indicates an increase in particles within the oil. The values of dielectric strength, moisture and power factor indicate the dielectric strength of the insulation system (oil and paper) are in poor condition, which impairs the unit's ability to withstand electrical faults.

- Relays: Currently, 29 of the 42 relays (69% of all station relays) need replacement. 26 of these are of the electromechanical and static type which have significant limitations with regards to spare part availability and fault data collection and retention. In addition, these relays lack of vendor support. There are also 2 DPU type units. Out of the 431 relays of this family in the AEP system, 129 of them have had at least one malfunction record documented. This relates to 30% of the DPU fleet. There is 1 microprocessor based relay commissioned in 2004 that has firmware that is unsupported.

AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades





Need number(s): AEP-2022-OH067, AEP-2022-OH069

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Proposed Solution:

Lick - Addison

- Rebuild 29.02 miles of the 138kV Lick-Addison line
- Estimated Cost: \$95.705 M. (s3958.1)

Rio Station

- Rebuild Rio as a 5 breaker ring bus to accommodate the new circuit going to Sporn 138kV
- Estimated Cost: \$10.507 M. (s3958.2)

Addison

- Rebuild the 138kV side of Addison Station as a 3-breaker ring bus. The new Addison station will be constructed on existing property in the clear. The 69 kV side will be removed. Rebuild the 12kV side and add a 4th distribution feeder
- Estimated Cost: \$11.822 M. (s3958.3)

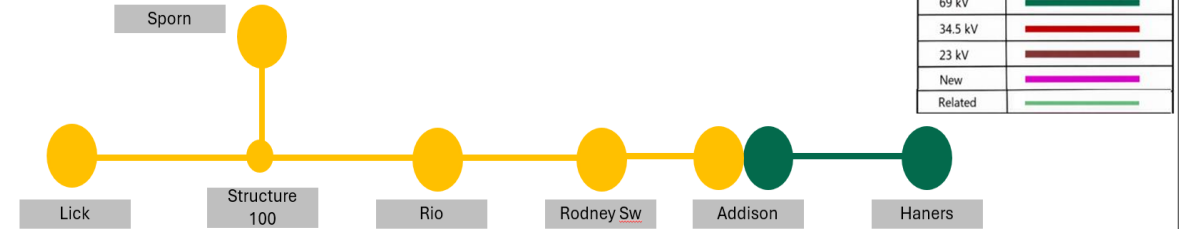
Addison - Chickamauga

- Remove the ~4.18 mile Addison - Haners 138kV line and rebuild as the Addison - Chickamauga 138 kV ~4.72 mile line.
- Estimated Cost: \$22.38 M. (s3958.4)

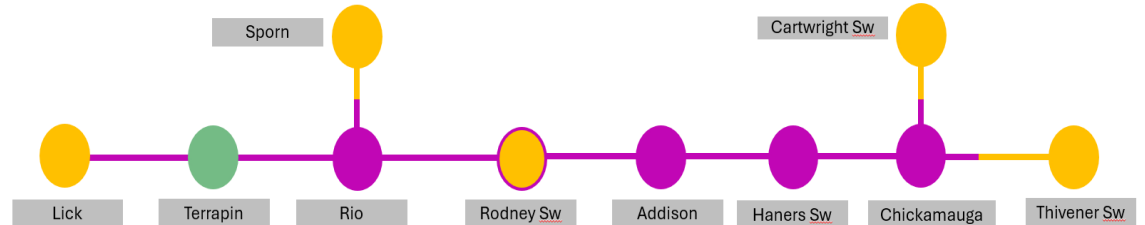
AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades

Bubble Diagram

Existing:



Proposed:





Need number(s): AEP-2022-OH067, AEP-2022-OH069

Proposed Solution: Continued from previous slide...

Haners Switch

- Install 3-way switch on the new Addison - Chickamauga 138kV line to feed Haners station.
- Replace the Distribution 69/13.09 kV 25MVA transformer at Haners with a 138/13.08 kV 25 MVA non-LTC transformer fed from the 3-way switch on the new Addison - Chickamauga 138kV line.
- Estimated Cost: \$2.375 M. (\$3958.5)

Chickamauga Station

- Build a greenfield Chickamauga station a 138 kV 3-breaker ring bus.
- Estimated Cost: \$11.903 M. (\$3958.6)

Chickamauga Extension

- Extend double circuit 138kV line (0.2 miles) from Gavin-North Proctorville 138kV line into Chickamauga to establish new path to Haners/Addison
- Estimated Cost: \$4.627 M. (\$3958.7)

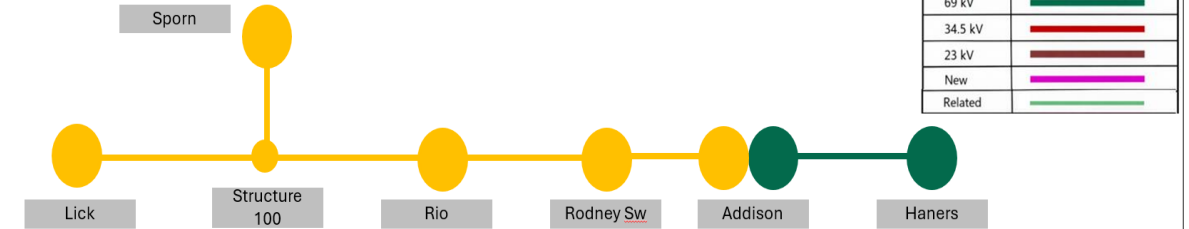
Gavin - Addison Retirement

- Retire the ~7.6 mile Gavin - Addison 69 kV line.
- Estimated Cost: \$6.407 M. (\$3958.8)

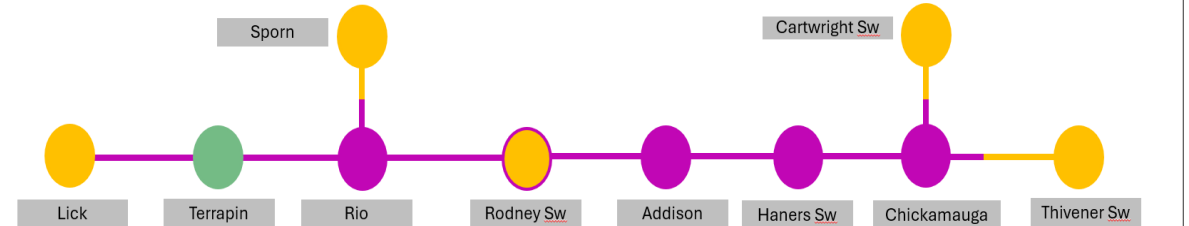
AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades

Bubble Diagram

Existing:



Proposed:





Need number(s): AEP-2022-OH067, AEP-2022-OH069

Continued from previous slide...

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

Lick - Addison

- Before Proposed Solution: 150/219/189/243
- After Proposed Solution: 257/360/325/404

Rio Station

Addison

Addison - Chickamauga

- Before Proposed Solution: 75/75/94/94
- After Proposed Solution: 257/360/325/404

Haners Switch

Chickamauga Station

Chickamauga Extension

- Before Proposed Solution: N/A
- After Proposed Solution: 257/360/325/404

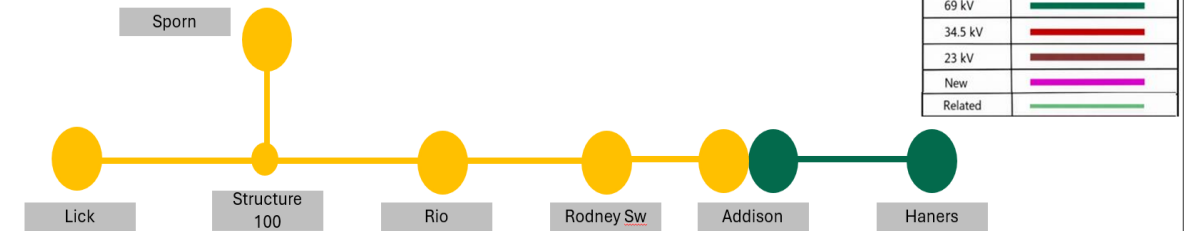
Gavin - Addison Retirement

- Before Proposed Solution: 54/69/71/82
- After Proposed Solution: N/A

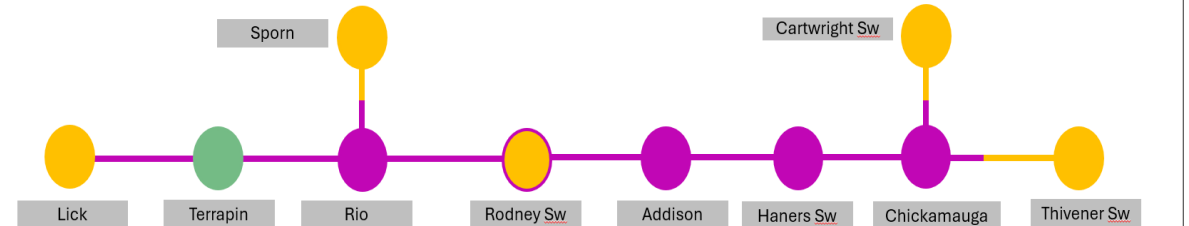
AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades

Bubble Diagram

Existing:



Proposed:





Need number(s): AEP-2022-OH067, AEP-2022-OH069

Continued from previous slide...

Alternatives Considered:

Establishing distribution delivery point at Chickamauga station was evaluated; however, the amount of line work needed to make this option work was more costly than using the existing Haners site and infrastructure. Retirement of the lines to be rebuilt is not a preferred option due to the number of stations and customers served from the line. Rebuild the line assets on existing centerline only results in more mileage to be built and does not offer the same benefits as looping Addison and Haners stations.

Transmission Cost Estimate: \$165.726 M

Supplemental Project ID: s3958.1-8.

Projected In-Service: 10/08/2032

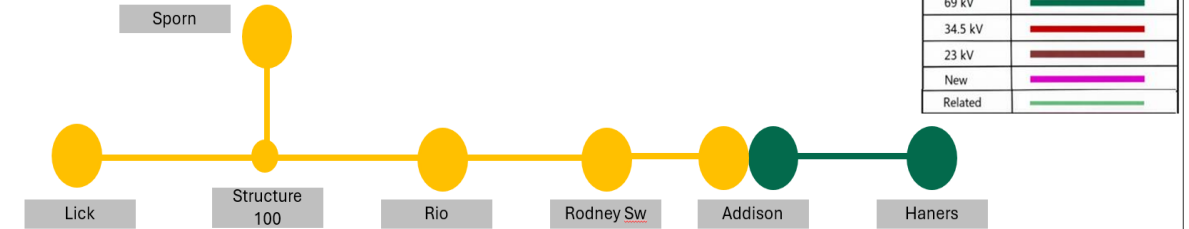
Project Status: Scoping

Model: 2030 RTEP

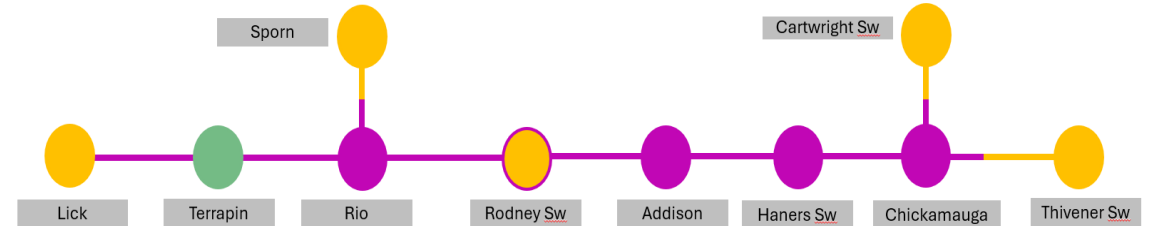
AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades

Bubble Diagram

Existing:



Proposed:





AEP Transmission Zone M-3 Process Timken Mercy Rebuild

Need Number: AEP-2023-OH009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Previously Presented: Need Meeting 05/19/2023, Solution Meeting 07/17/2026

Project Driver: Operational Flexibility and Efficiency

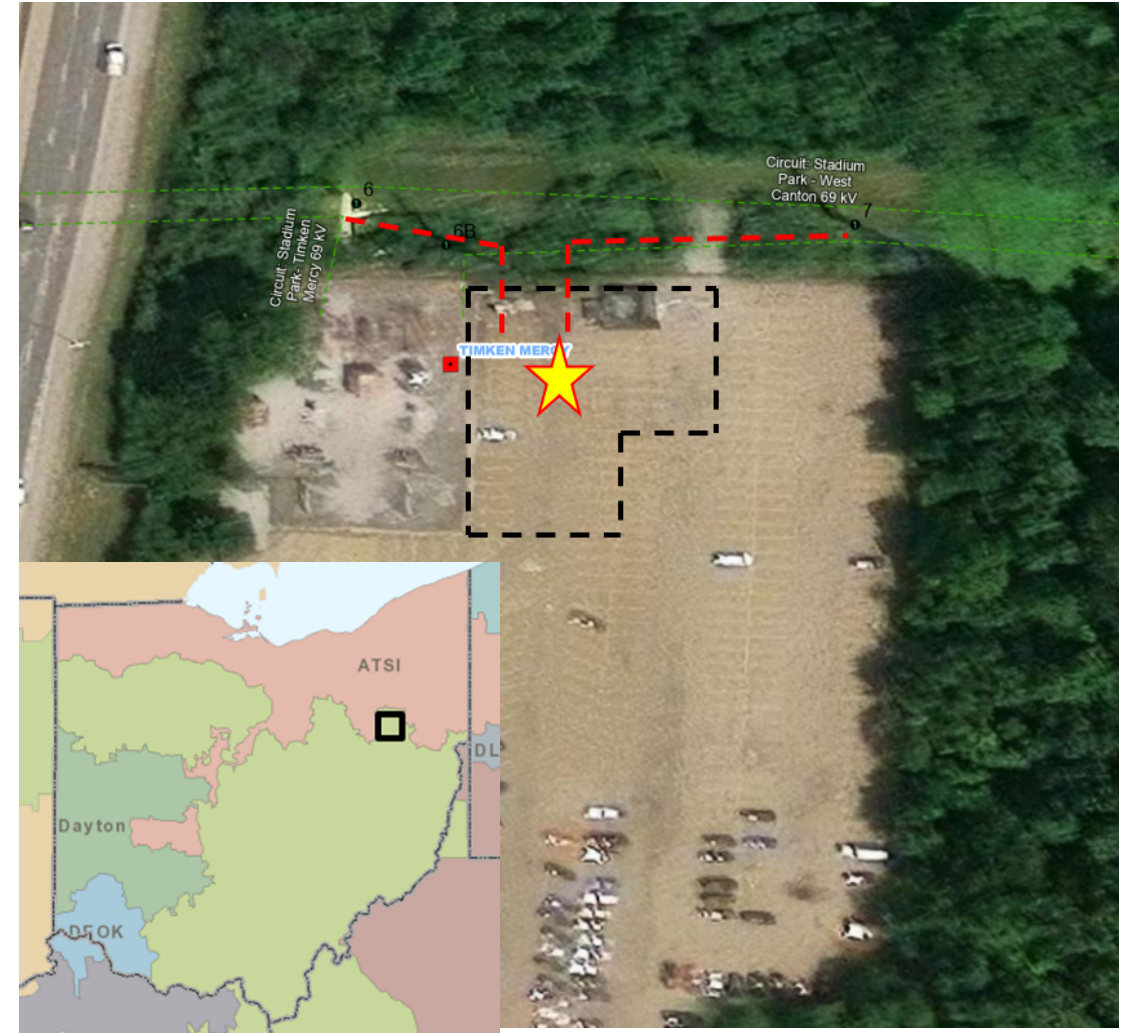
Specific Assumption References:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slides 13-14)

Problem Statement:

69 kV Circuit Breaker A:

- Breaker Age: 1966
- Interrupting Medium: (Oil)
- Additional Information: This breaker is oil filled without oil containment; oil filled breakers have much more maintenance required due to oil handling that their modern, SF6 counterparts do not require. As of April 10, 2023, there are only 33 remaining FK-69-2500-5 circuit breakers on the AEP system. The manufacturer provides no support for this fleet of circuit breakers and spare parts are not available; components are often taken from out of service units with remaining usable parts. A common failure mode documented in AEP malfunction records are compressor failures and valve defects, which cause low pressure and oil leaks. Another failure mode includes trip or reclose failures, caused primarily by spring latching and charging motor component failures. In addition, the vacuum oil and oil breakers have a lot of oil contamination from aging gaskets allowing moisture and other particle ingress.





Need Number: AEP-2023-OH009

Continued from previous slide...

Problem Statement:

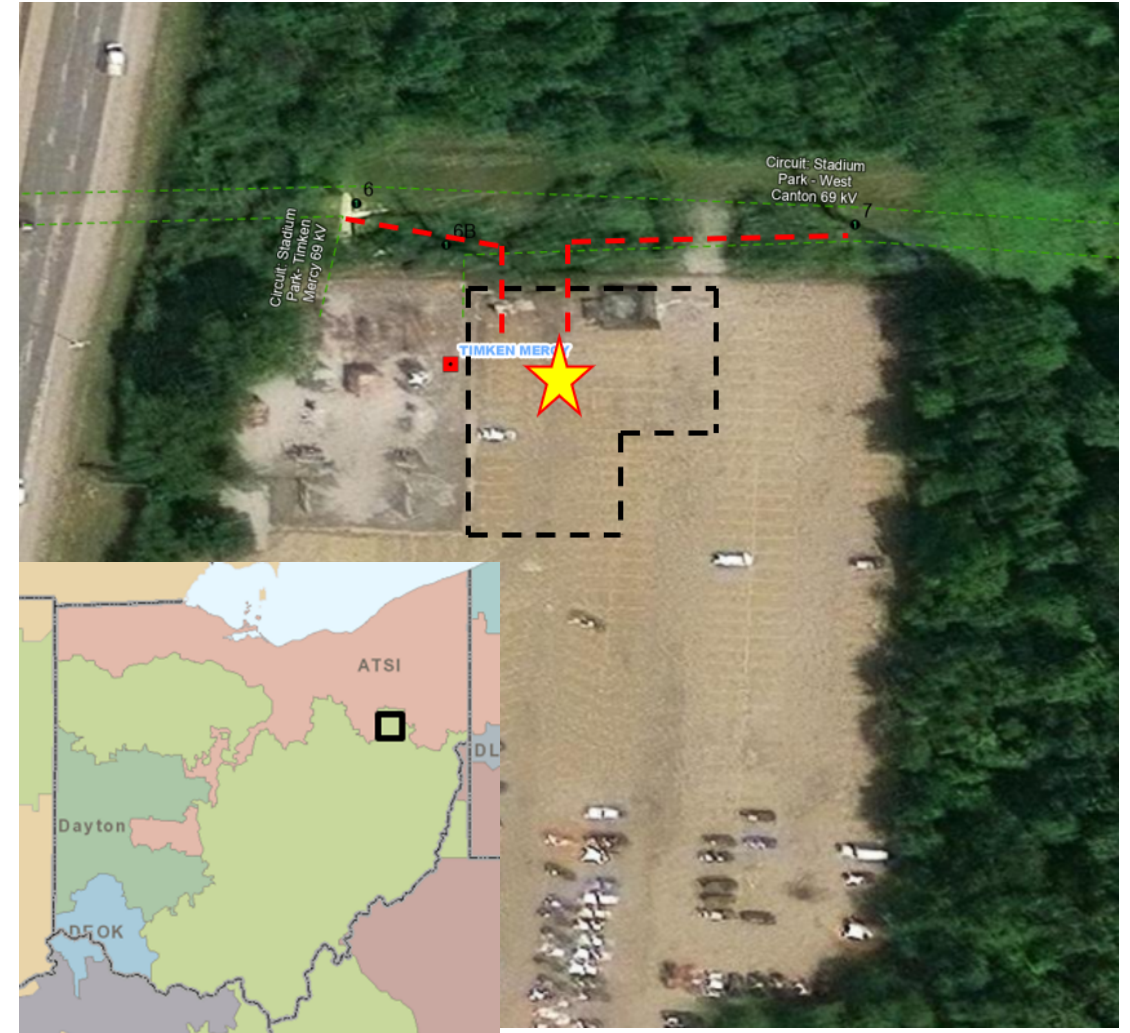
Relays:

Currently, 30 of the 33 relays (91% of all station relays) are in need of replacement. All 30 of these are of the electromechanical type which have significant limitations with regards to spare part availability and fault data collection and retention. In addition, these relays lack of vendor support.

Other: The distribution-function equipment at Timken Mercy is also of 1969-vintage and is recommended for upgrades. In November 2022, the 69-4kV transformer #1 failed in an outage event, resulting in the need for a mobile transformer to be installed.

Operational Flexibility & Efficiency: Both 69-4 kV transformers that serve the hospital customer only have a high-side motor-operated switch; the transformer fault protection requires clearing the 69kV circuit (to either Stadium Park or Schroyer Avenue, which drops customers at Eighth Street 69kV station nearby). There are 3 overlapping zones of protection, between the 69kV circuit, transformer, and 69kV bus. This can lead to potential misoperations and overtripping, affecting service to the customer.

AEP Transmission Zone M-3 Process Timken Mercy Rebuild





Need number(s): AEP-2023-OH009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/25/2026

Proposed Solution:

Timken Mercy 69 kV

- Rebuild the existing station in the clear as a In-Out Box Bay with (2) 2000A switches on the line exits and a (1) 69 kV 3000A 40 kA bus tie circuit breaker
- Estimated Cost: \$5.5 M. (s3959.1)

Stadium Park Extension 69 kV

- Retermination of t-line into the rebuilt station ~0.05 miles of line work utilizing 1033.5 KCM ACSR 54/7 Curlew (SE 206)
- Estimated Cost: \$1.474 M. (s3959.2)

Schroyer Avenue 69kV

- Remote end relaying work to accommodate new breaker at Timken Mercy
- Estimated Cost: \$0.221 M. (s3959.3)

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

Timken Mercy 69 kV

Stadium Park Extension 69 kV

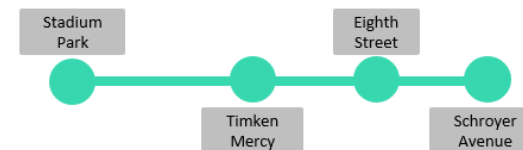
- Before Proposed Solution: 148/206/187/231
- After Proposed Solution: 148/206/187/231

Schroyer Avenue 69kV

AEP Transmission Zone M-3 Process Timken Mercy Rebuild

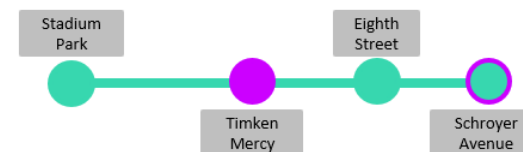


Existing



Legend	
500 kV	—
345 kV	—
138 kV	—
69 kV	—
34.5 kV	—
23 kV	—
New	—

Proposed





Need number(s): AEP-2023-OH009

Continued from previous slide...

Alternatives Considered:

Retire the Timken Mercy station and serve the hospital from either Stadium Park or Eighth Street station. This option would result in a less reliable source of power to the hospital feed from Timken Mercy, due to the increased outage exposure on lengthy distribution lines in between.

Transmission Cost Estimate: \$7.195 M

Supplemental Project ID: s3959.1-3.

Projected In-Service: 05/04/2028

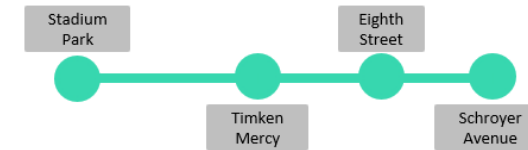
Project Status: Engineering

Model: 2030 RTEP

AEP Transmission Zone M-3 Process Timken Mercy Rebuild

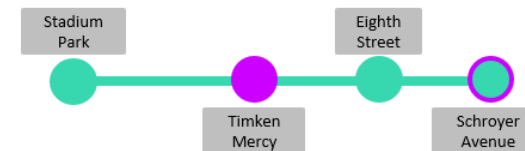


Existing



Legend	
500 kV	—
345 kV	—
138 kV	—
69 kV	—
34.5 kV	—
23 kV	—
New	—

Proposed



Need Number: AMPT-2023-004

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan – 05/11/2026

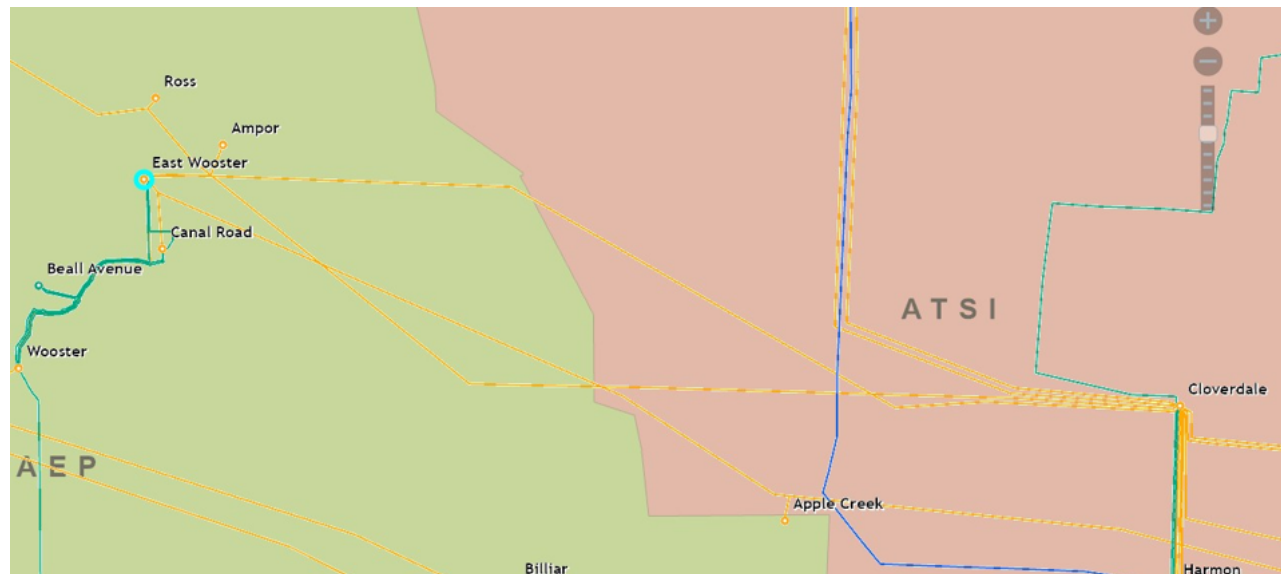
Previously Presented: Solution Meeting – 9/19/2025, Need Meeting – 3/17/2023

Supplemental Project Driver(s): Customer Service, Operational Flexibility and Efficiency

Specific Assumption Reference(s): AMPT Transmission Facilities Interconnection Requirements Document

Problem Statement:

The City of Orrville has two substations, which are served by a single circuit 138kV line approximately 8.92 miles in length, from AEP's East Wooster substation. The city load is 60 MW at peak. A single contingency outage of the 8.92-mile East Wooster-Orrville 138kV line, the "P" breaker at East Wooster sub, or the 138kV straight bus at East Wooster, will interrupt the entire Orrville municipal system. Orrville has no other transmission source, so a bolted fault on the existing 138kV source will leave all of Orrville out of service until the failed facility can be repaired.



AMPT Projects in AEP Transmission Zone M3 Process Orrville, OH

Need Number: AMPT-2023-004

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan – 05/11/2026

Previously Presented: Solution Meeting – 9/19/2025

Supplemental Project Driver(s): Customer Service, Operational Flexibility and Efficiency

Proposed Solution:

AMPT Identified Scope (\$49.841 M)

Apple Ave- FE yard 138kV line: Construct a new 138kV line from Apple Ave sub to FE's new switchyard on the Star-Cloverdale line. **(s3832.1)**

Apple Ave: expand substation: Expand Apple Ave sub to accommodate the new 138kV line to First Energy. **(s3832.3)**

Mineral Springs: reconstruct substation: Rebuild Orrville's Power Plant sub at a new location, to be called Mineral Springs sub. Construct a 4-cb 138 kV ring bus to terminate the two 138 kV lines and two 138/13 kV transformers. Work to include grading, fence, and new control house. The existing Power Plant sub has no space for the required 138 kV infrastructure. **(s3832.4)**

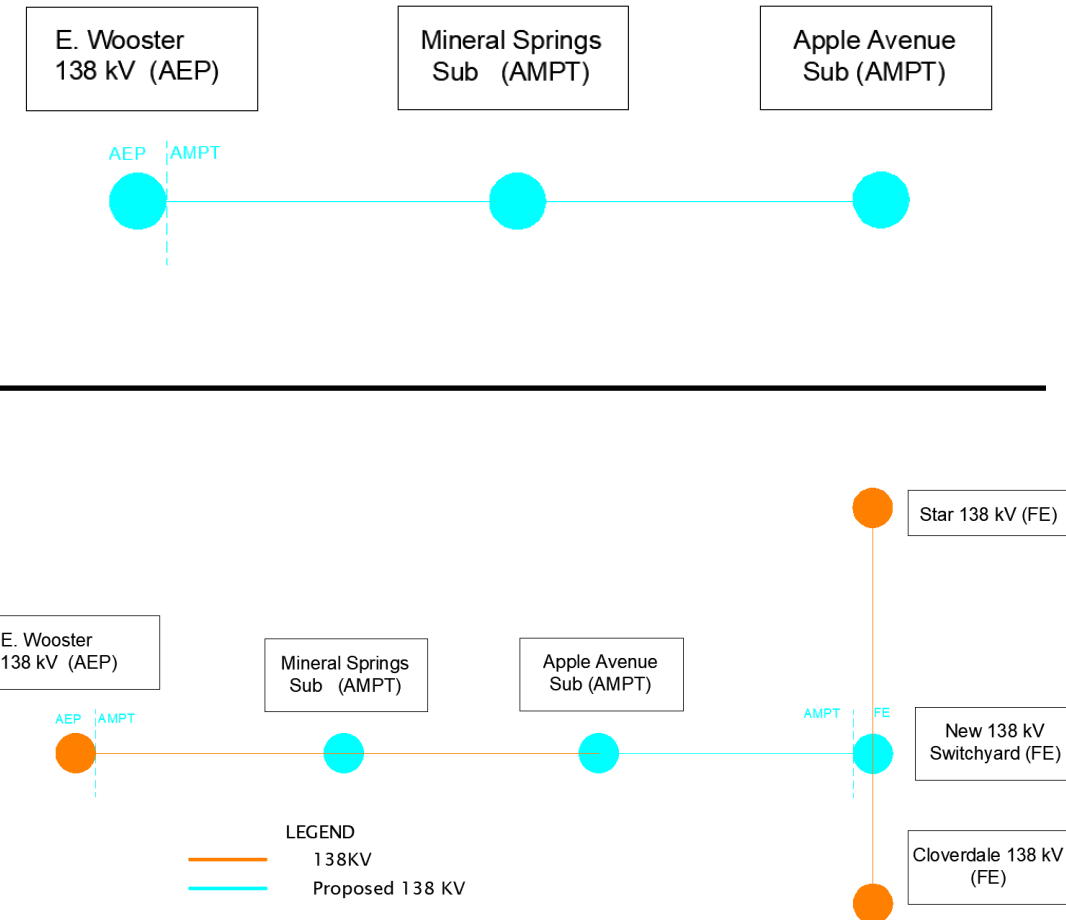
Apple Ave-Mineral Springs 138 kV line rebuild: Relocate and reconstruct the 138 kV line between Apple Ave and Mineral Springs subs. **(s3832.5)**

ATSI Identified Scope (\$18.4 M)

New FE switchyard: Construct a 138kV switchyard, intersecting the Star-Cloverdale 138 kV line. Provide a line terminal for the new Apple Ave-(new FE sub) line. **(s3832.2)**

AEP Identified Scope (\$0.5 M)

AEP East Wooster substation: Existing metering on the E Wooster-Orrville line (today's line name) is limited to 69 MVA, due to revenue metering at E Wooster sub. AEP to replace revenue metering at E Wooster, with Interconnection metering. CT's will be rated for higher than the 138kV line capacity. **(s3832.6)**





AMPT Projects in AEP Transmission Zone M3 Process Orrville, OH

Need Number: AMPT-2023-004

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan – 05/11/2026

Previously Presented: Solution Meeting – 9/19/2025

Supplemental Project Driver(s): Customer Service, Operational Flexibility and Efficiency

Alternatives Considered:

Providing a 2nd source from the Star-Cloverdale line is the most economically feasible alternative. The Brookside-Cloverdale line is approximately the same distance away from Orrville, but would entail a more difficult line siting project due to crossing through more populated suburban areas. Rebuilding the existing E Wooster-Orrville 138kV line for double circuit would still expose the city of Orrville to a complete outage for a P7 (DCTL) loss of the new DCTL line, with no restoration of load until line repairs are made.

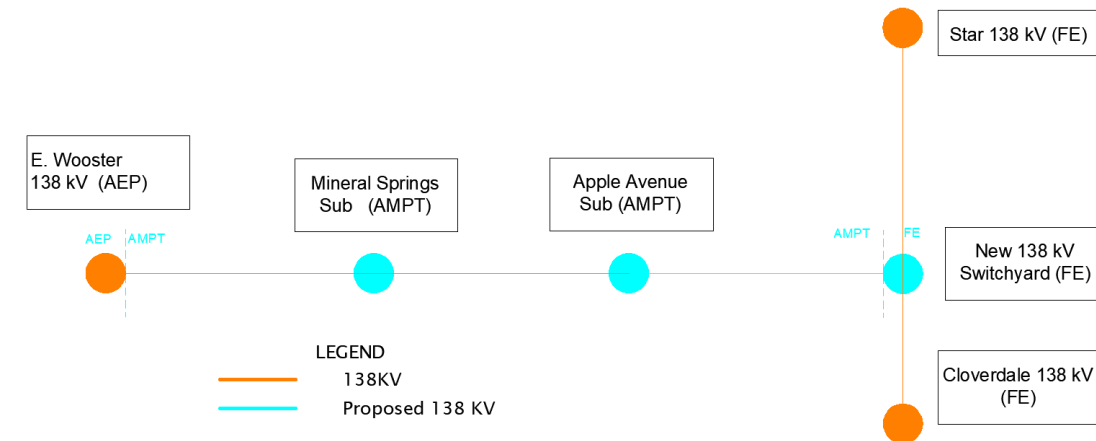
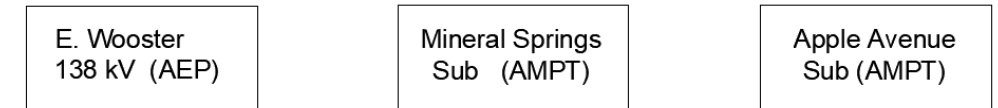
Total Estimated Transmission Cost: \$68.741M

Projected In-Service: 8/30/2030

Supplemental Project ID: s3832.1 (AMPT), s3832.2 (ATSI), s3832.3 (AMPT), s3832.4 (AMPT), s3832.5 (AMPT), s3832.6 (AEP)

Project Status:

- Engineering



AEP Transmission Zone M-3 Process Hannibal, WV

Need Number: AEP-2025-OH012

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Previously Presented: Need Meeting 07/18/2025, Solution Meeting SRRTEP-W - 01/16/2026

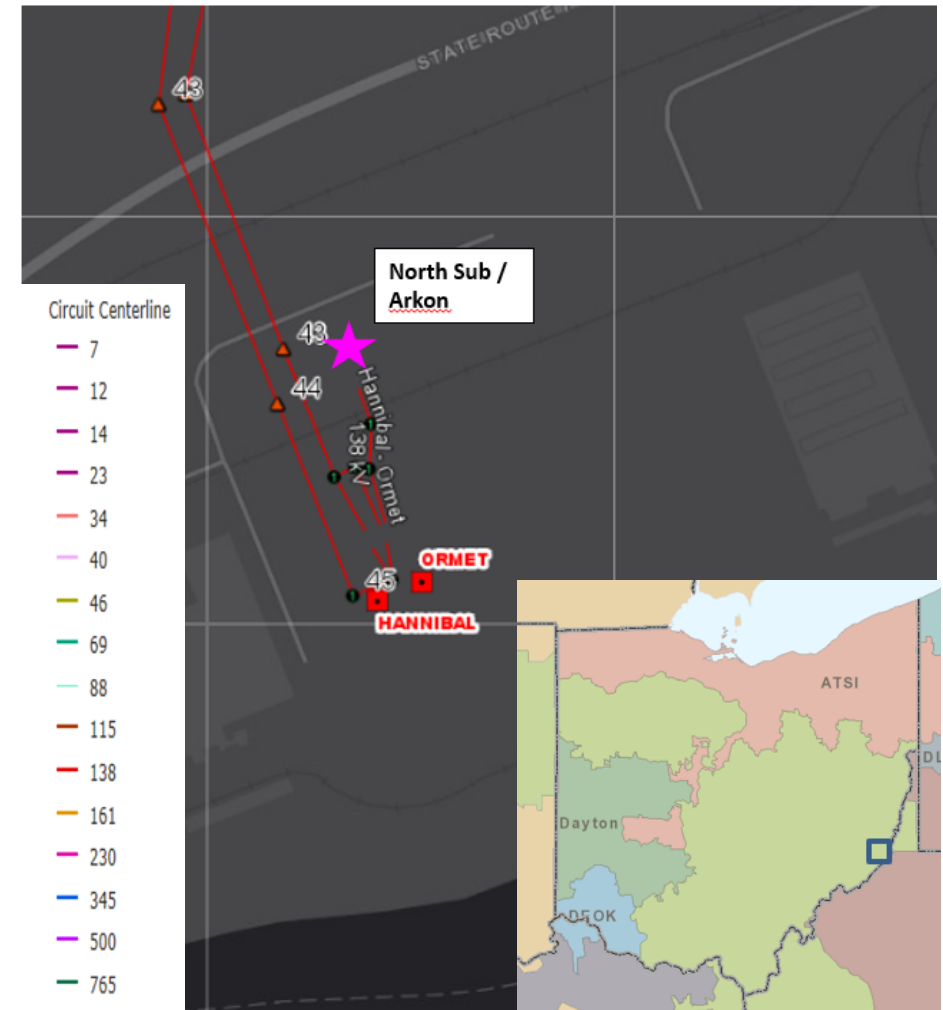
Project Driver: Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System
(AEP Assumptions Slide 13)

Problem Statement:

A customer planned to be served out of Hannibal 138kV substation has requested a new load addition of 304 MW. The total anticipated load to be served at the site is 570 MW. The customer has requested service by 5/9/2027.



Need number(s): AEP-2025-OH012

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Proposed Solution:

Hannibal Station Work: Install 1 - 138 kV 3000A 63 kA circuit breaker in addition to the 3 being installed with AEP-2024-OH040, to accommodate the additional customer feed. Estimated Cost: \$1.344 M. (s4021.1)

Hannibal - Customer 138 kV Feed: Install ~0.25 miles of 1590 KCM 54/19 FALCON ACSS conductor on the open side of the double circuit structures which will be installed with AEP-2024-OH040. Estimated Cost: \$0.532 M. (s4021.2)

Transmission Cost Estimate: \$1.875 M

Alternatives Considered:

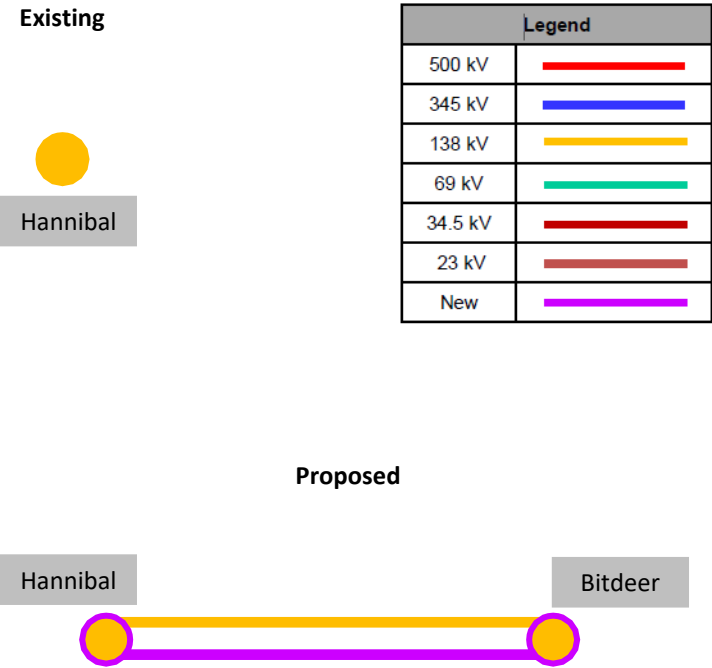
Considering the location of the customer facilities and timing of the request, no other viable transmission alternatives were identified.

Supplemental Project ID: s4021.1-2.

Projected In-Service: 10/26/2026

Project Status: Engineering

Model: 2030 RTEP



AEP Transmission Zone M-3 Process Canton Central, OH

Need Number: AEP-2025-OH021

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Previously Presented: Need Meeting 09/19/2025, Solution Meeting SRRTEP-W - 04/15/2026

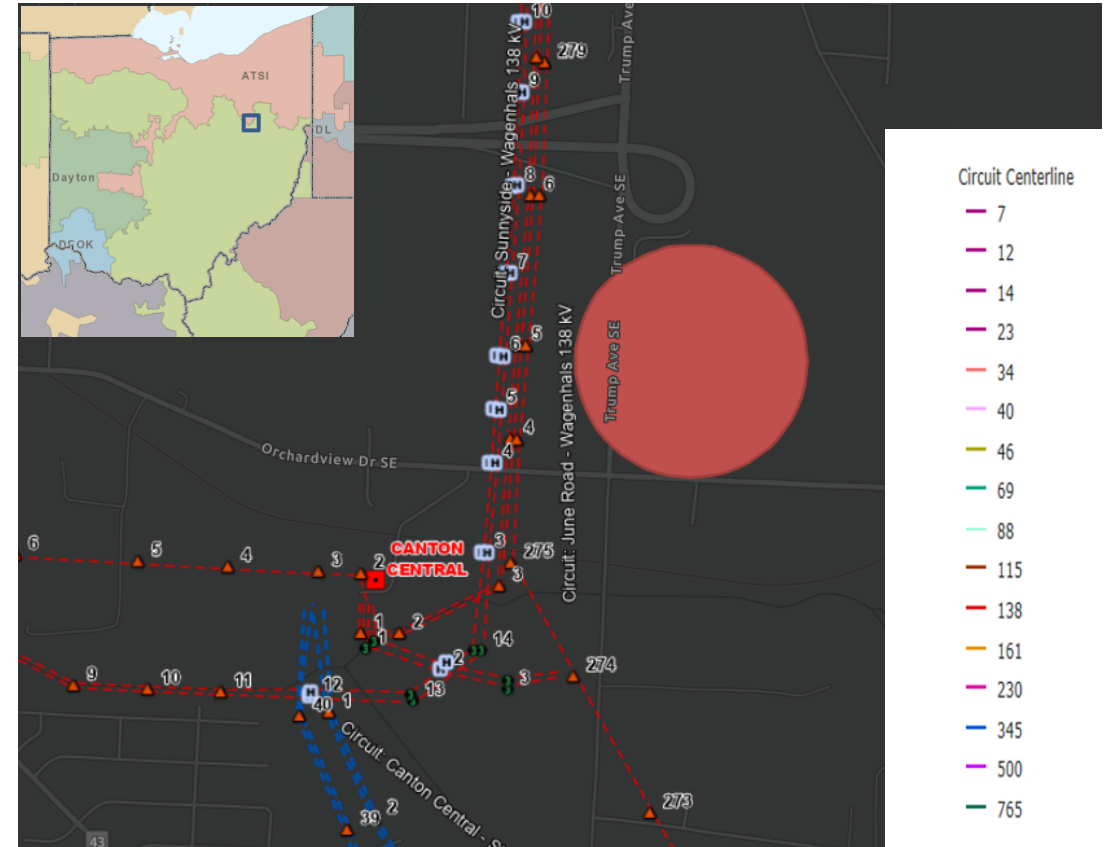
Project Driver: Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

A customer has requested 138 kV transmission service at a site near AEP's existing Canton Central station in Canton, OH. Total demand to be served at the delivery point will be 300MW. Customer requested in-service date of 01/08/2028.



Need number(s): AEP-2025-OH021

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Proposed Solution:

Canton Central 138 kV: Expand Canton Central with the installation of (3) 138 kV 4000A 63kA circuit breakers.. Estimated Cost: \$3.032 M. (s4022.1)

Triton 138 kV: Construct a greenfield breaker and a half station operated as a ring bus with (4) 138 kV 4000A 63 kA circuit breakers.. Estimated Cost: \$11.067 M. (s4022.2)

Canton Central - Triton 138 kV: Construct a greenfield ~0.81-mile double circuit 138 kV line between Canton Central and the greenfield Triton station utilizing 1272 ACSR 54/19 Pheasant (SE 481 MVA). To accommodate this greenfield line the Canton Central - Wagenhals and Tidd - Wagenhals 138 kV lines will be raised.. Estimated Cost: \$7.715 M. (s4022.3)

Triton - Triton Customer 138 kV #1: Install (1) ~0.02-mile customer feed from Triton station utilizing 1272 ACSR 54/19 Pheasant (SE 481 MVA). Estimated Cost: \$0.074 M. (s4022.4)

Triton-Triton Customer 138kV #2: Install (1) ~0.02-mile customer feed from Triton station utilizing 1272 ACSR 54/19 Pheasant (SE 481 MVA). Estimated Cost: \$0.074 M. (s4022.5)

Transmission Cost Estimate: \$21.961 M

Alternatives Considered:

Considering the location of the customer facilities and timing of the request, no other viable transmission alternatives were identified.

Supplemental Project ID: s4022.1-5.

Projected In-Service: 01/08/2028

Project Status: Engineering

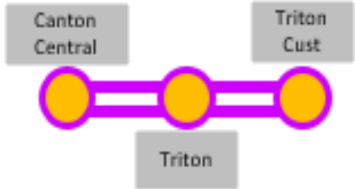
Model: 2030 RTEP

AEP Transmission Zone M-3 Process
Canton Central, OH/Triton, OH/Triton Customer, OH

Existing:



Proposed:



Legend	
500 kV	
345 kV	
138 kV	
89 kV	
34.5 kV	
23 kV	
New	

AEP Transmission Zone M-3 Process South Canton, OH/Torrey, OH

Need Number: AEP-2025-OH007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Previously Presented: Need Meeting 07/18/2025, Solution Meeting SRRTEP-W - 05/15/2026

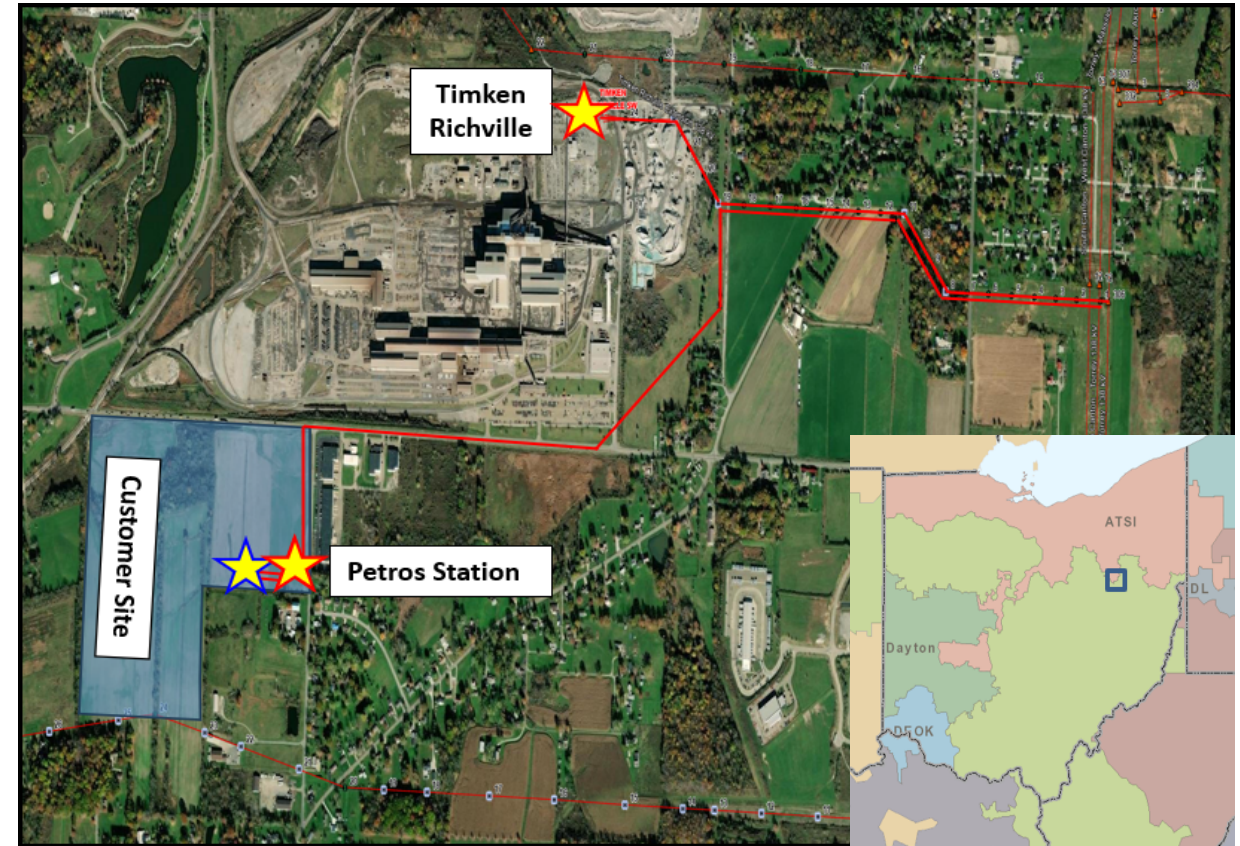
Project Driver: Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 13)

Problem Statement:

A new customer has requested 138 kV service to a site located near the South Canton - Torrey 138 kV line asset. The anticipated load is 255 MW and has a requested in-service date of 10/13/2027.



Petros, OH/Torrey, OH/Petros Customer, OH/Timken Richville, OH/South Canton, OH

Need number(s): AEP-2025-OH007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Proposed Solution:

Petros 138 kV: Construct a greenfield breaker and a half station operated as a ring bus with (4) 138 kV 3000A 63 kA circuit breakers. . Estimated Cost: \$14.033 M. (s4023.1)

Petros Extension 138 kV: Cut into the South Canton - Torrey 138 kV line with a ~2.00 mile double circuit line utilizing 795 kcmil 26/7 "Drake" ACSS (SE 492), to accommodate the greenfield Petros Station.. Estimated Cost: \$19.6 M. (s4023.2)

Petros - Customer 138 kV: Install (2) ~0.1 mile customer feeds from Petros station utilizing 795 kcmil 26/7 "Drake" ACSS (SE 492).. Estimated Cost: \$0.502 M. (s4023.3)

Timken Richville Extension 138 kV: To support this customers anticipated load ~1.42 miles of double circuit 138 kV line on the South Canton - Timken Richville & Timken Richville - Torrey circuits will be rebuilt utilizing 1033.5 ACSS 54/7 Curlew (SE 557). Estimated Cost: \$13.49 M. (s4023.4)

South Canton Extension 138 kV: To support this customers anticipated load ~0.30 miles of 138 kV line on the South Canton - Timken Richville circuit will be reconducted utilizing 1033.5 ACSS 54/7 Curlew (SE 557).. Estimated Cost: \$1.5 M. (s4023.5)

Transmission Cost Estimate: \$49.124 M

Alternatives Considered:

Considering the location of the customer facilities and timing of the request, no other viable transmission alternatives were identified. Other upgrades in the area help facilitate this connection to the 138 kV.

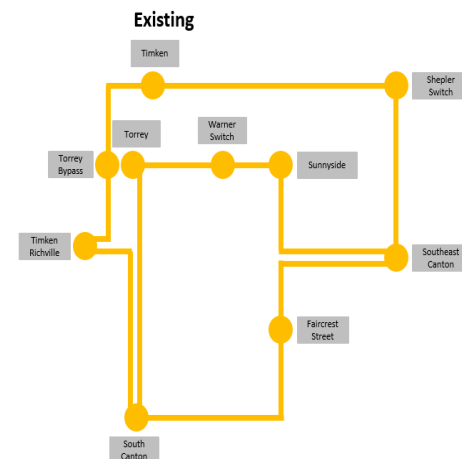
Supplemental Project ID: s4023.1-5.

Projected In-Service: 10/13/2027

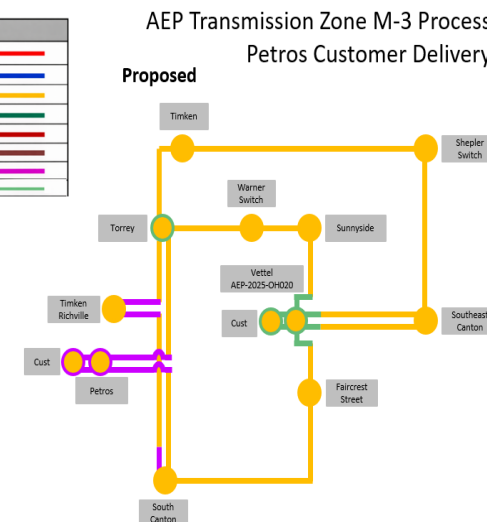
Project Status: Engineering

Model: 2030 RTEP

AEP Local Plan 2026



Legend	
500 kV	Red
345 kV	Blue
138 kV	Yellow
69 kV	Green
34.5 kV	Dark Red
23 kV	Dark Blue
New	Purple
Related	Light Green



AEP Transmission Zone M-3 Process Muskingum River, OH

Need Number: AEP-2025-OH013

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Previously Presented: Need Meeting 08/15/2025, Solution Meeting SRRTEP-W - 05/15/2026

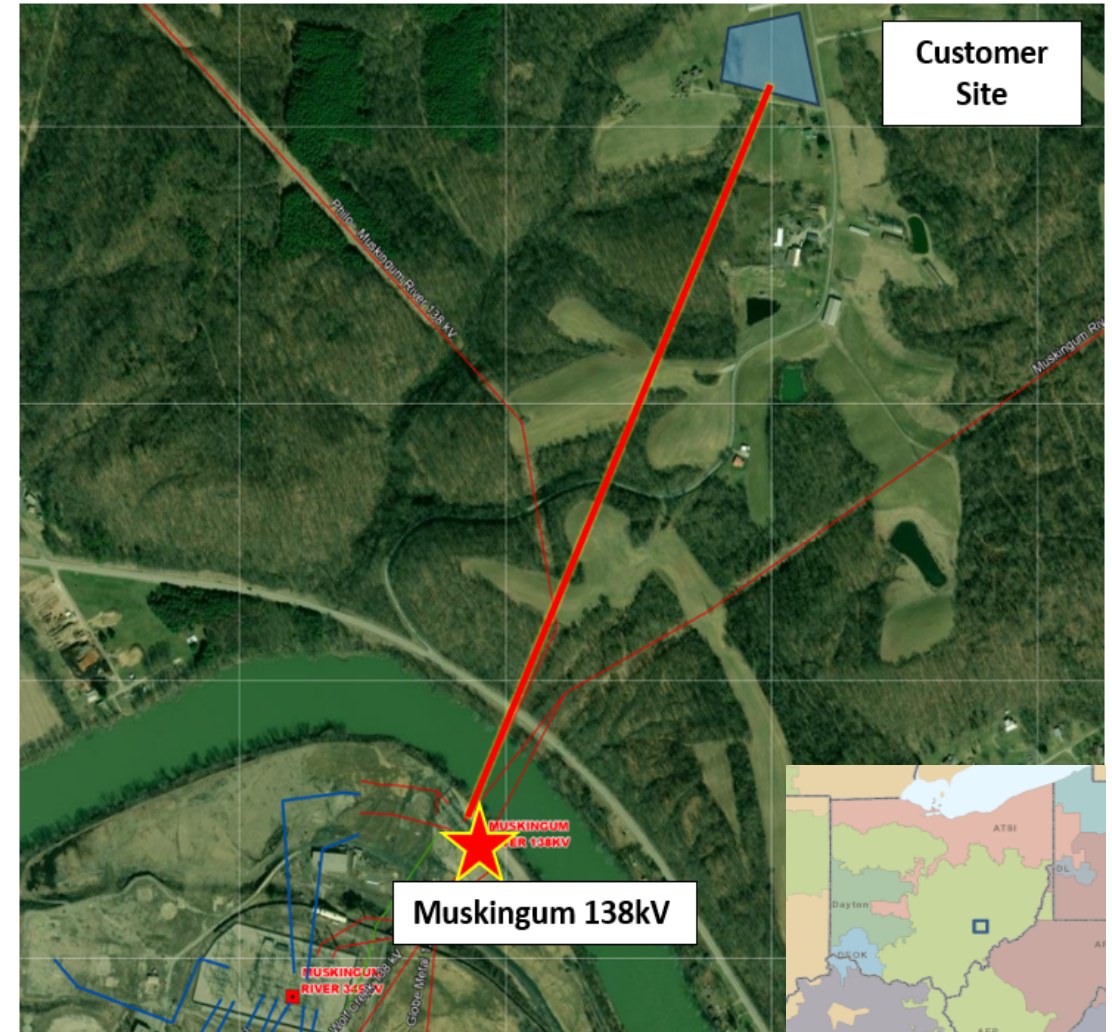
Project Driver: Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

A customer has requested new 138kV transmission service at a site near AEP's existing Muskingum station in Waterford, OH. Initial demand at the delivery point will be 25MW. Peak demand at the delivery point will be 200MW by 2029. Customer requested an initial in-service date of 02/01/2027.



AEP Transmission Zone M-3 Process Muskingum River, OH/Muskingum 138kV Customer Site, OH

Need number(s): AEP-2025-OH013

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Proposed Solution:

Muskingum Station: Install a new 138kV breaker at Muskingum River 138kV on bus #1 to facilitate extension to customer site. Estimated Cost: \$3.085 M. (s4024.1)

138kV Customer Extension: Install ~0.35 miles of 138kV line from Muskingum to customer station. Estimated Cost: \$2.697 M. (s4024.2)

Transmission Cost Estimate: \$5.782 M

Alternatives Considered:

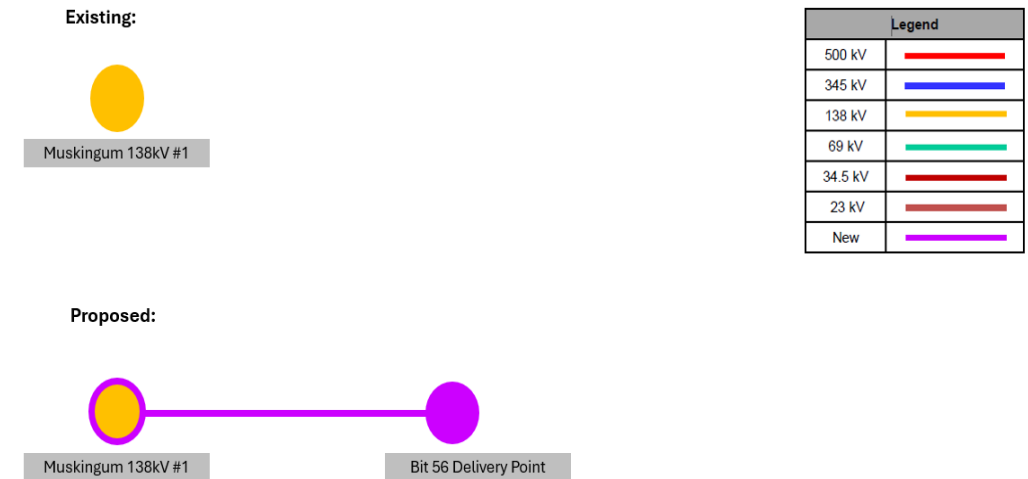
Considering the geographic location of the customer site and the ability to leverage existing infrastructure at Muskingum River station, no other viable alternatives were identified.

Supplemental Project ID: s4024.1-2.

Projected In-Service: 12/06/2027

Project Status: Conceptual

Model: 2030 RTEP





AEP Transmission Zone M-3 Process Maliszewski Station Improvements

Need Number: AEP-2026-OH008

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/30/2026

Previously Presented: Need Meeting 03/19/2026, Solution Meeting 07/17/2026

Project Driver: Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

AEP Ohio has requested additional capacity at Maliszewski station due to forecasted demand increase in the area and existing capacity limitations. The expected in-service date for this load increase is late 2027. Expected load increase is approximately 25 MW.





AEP Transmission Zone M-3 Process Maliszewski Station Improvements

Need number(s): AEP-2026-OH008

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
9/30/2026

Proposed Solution:

Maliszewski - Polaris 138 kV

- Re-terminate the Polaris - Maliszewski 138 kV circuit between Breaker P1 and New Breaker P at Maliszewski station.
- Estimated Cost: \$0.882 M. (s4025.1)

Hyatt Station Remote End

- Remote end relay settings work to allow work at Maliszewski 138 kV
- Estimated Cost: \$0.667 M. (s4025.2)

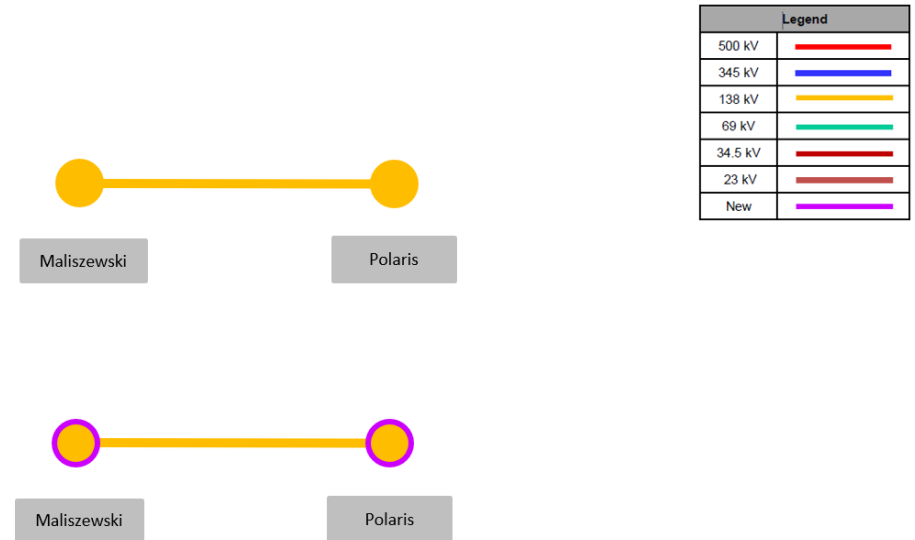
Maliszewski Station 138 kV

- Install five new 138 kV, 63 kA circuit breakers to accommodate the new distribution transformer at Maliszewski station.
- Estimated Cost: \$7.009 M. (s4025.3)

Polaris 138 kV Station

- Add a new 138 kV circuit breaker to Polaris station to improve sectionalizing towards Maliszewski and the existing Distribution equipment. The breaker addition also drives the need for a new control house.
- Estimated Cost: \$4.012 M. (s4025.4)

Existing





Need number(s): AEP-2026-OH008

Continued from previous slide...

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

Maliszewski - Polaris 138 kV

- Before Proposed Solution: 223/310/281/349
- After Proposed Solution: 223/310/281/349

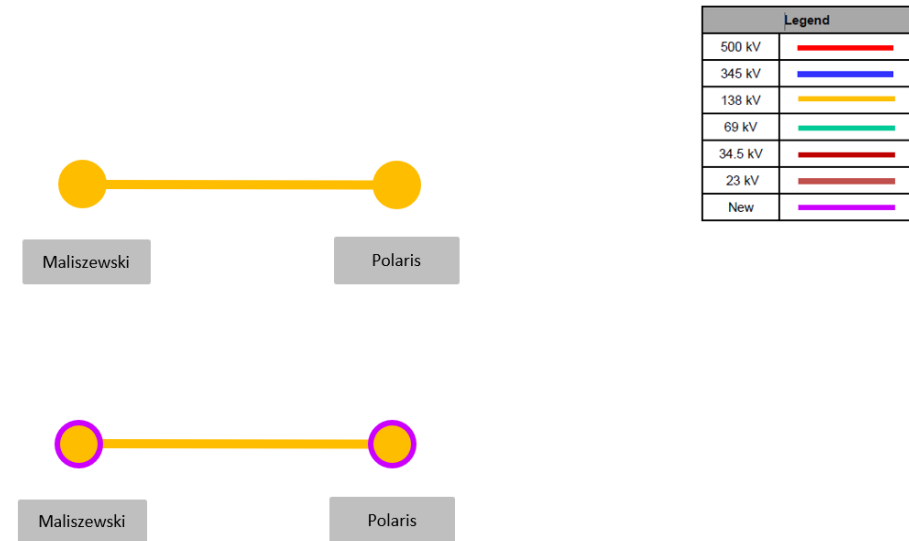
Hyatt Station Remote End

Maliszewski Station 138 kV

- P 138 kV Breaker
 - Before Proposed Solution: NA
 - After Proposed Solution: 63
- A2 138 kV Breaker
 - Before Proposed Solution: NA
 - After Proposed Solution: 63
- A5 138 kV Breaker
 - Before Proposed Solution: NA
 - After Proposed Solution: 63
- A8 138 kV Breaker
 - Before Proposed Solution: NA
 - After Proposed Solution: 63

AEP Transmission Zone M-3 Process Maliszewski Station Improvements

Existing





AEP Transmission Zone M-3 Process Maliszewski Station Improvements

Need number(s): AEP-2026-OH008

Ratings MVA (SN/SE/WN/WE): Continued from previous slide...

- L2 138 kV Breaker
 - Before Proposed Solution: NA
 - After Proposed Solution: 63

Polaris 138 kV Station

- C 138 kV Breaker
 - Before Proposed Solution: NA
 - After Proposed Solution: 63

Alternatives Considered:

Considering the location of the request and availability of space at Maliszewski station, no other comparable transmission alternates were identified.

Transmission Cost Estimate: \$12.57 M

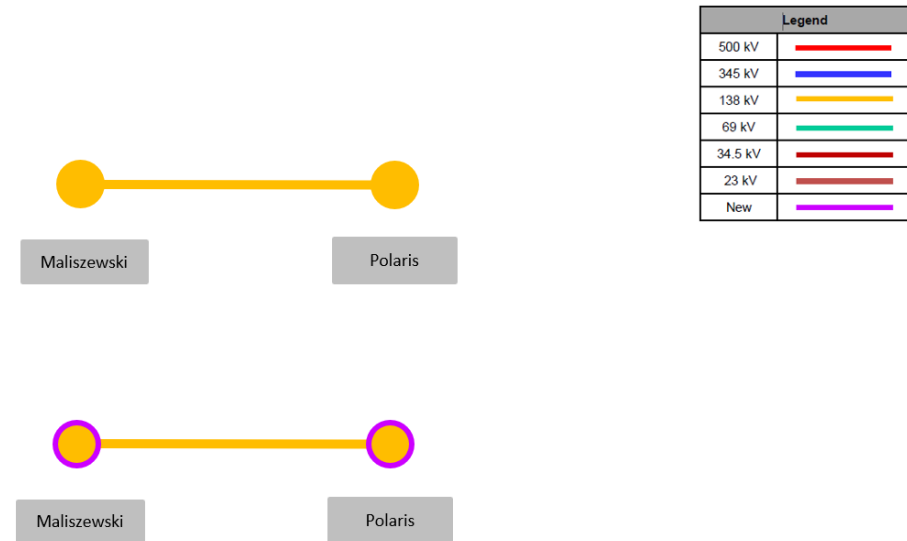
Supplemental Project ID: s4025.1-4.

Projected In-Service: 09/15/2027

Project Status: Scoping

Model: 2030 RTEP

Existing



Revision History

01/22/2026 – V1 Added slides #1-7: s3750.1-4, s3608.1-7.

02/12/2026 – V2 Added slides #8-13: s3762.1., s3763.1, s3764.1-2, s3765.1.

03/03/2026 – V3 removed s3762.1 relevant slides due to AEP-2024-OH039 idvs correction.

04/14/2026 – V4 Added slides #14-27: s3825.1, s3826.1-3, s3827.1, s3828.1-4, s3829.1-4, s3830.1, s3831.1-3

07/10/2026 – V5 Added slides #28-29: s3864.1-6

07/28/2026 – V6 Added slides #30-45: s3837.1, s3836.1-3, s3838.1-3, s3840.1-3, s3842.1, s3839.1-4, s3841.1, s3884.1-3.

08/28/2026 – V7 Added slides #46-60: s2888 scope change, s3440.3 scope change, s3904.1, s3905.1, s3906.1-13, s3907.1-3, s3908.1

09/25/2026 – V8 Added slides #61-92: s3762.1, s3952.1-3, s3953.1-2, s3954.1-4, s3955.1-6, s3956.1, s3957.1, s3958.1-8, s3959.1-3, s3832.6 (AEP scope in AMPT project).

09/30/2026 – V9 Added slides #93-104: s4021.1-2, s4022.1-5, s4023.1-5, s4024.1-2, s4025.1-4.