

Western Sub Regional RTEP: AEP Supplemental Projects

July 17, 2026

Needs

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

AEP Transmission Zone M-3 Process Mound, OH

Need Number: AEP-2026-OH027

Process Stage: Need Meeting 07/17/2026

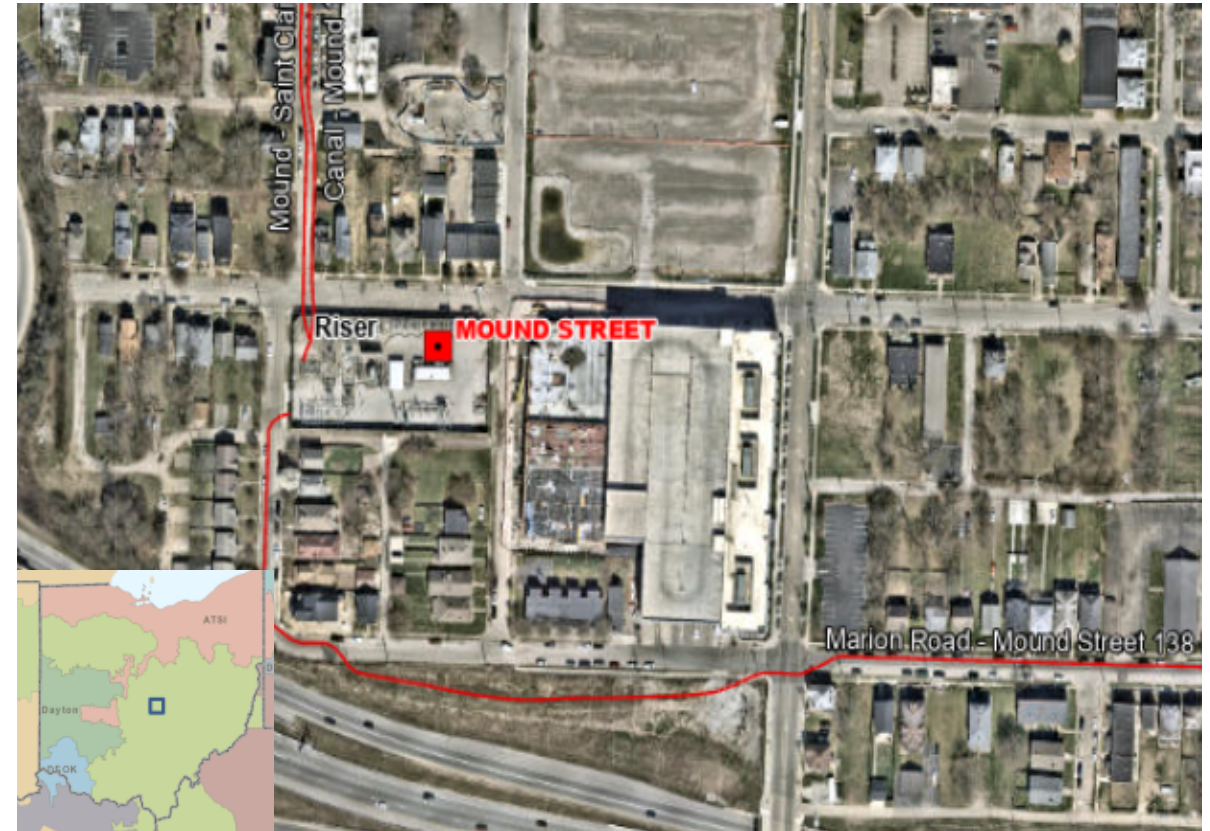
Project Driver: Customer Service

Specific Assumption References:

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

Problem Statement:

AEP Ohio Distribution is requesting upgrades at their Mound Street 138kV station due to continued load growth in the area and deteriorating equipment on the Distribution side.





AEP Transmission Zone M-3 Process OH/Kenny, OH/Cliton, OH/Roberts

Need Number: AEP-2026-OH031

Process Stage: Need Meeting 07/17/2026

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

Specific Assumption References:

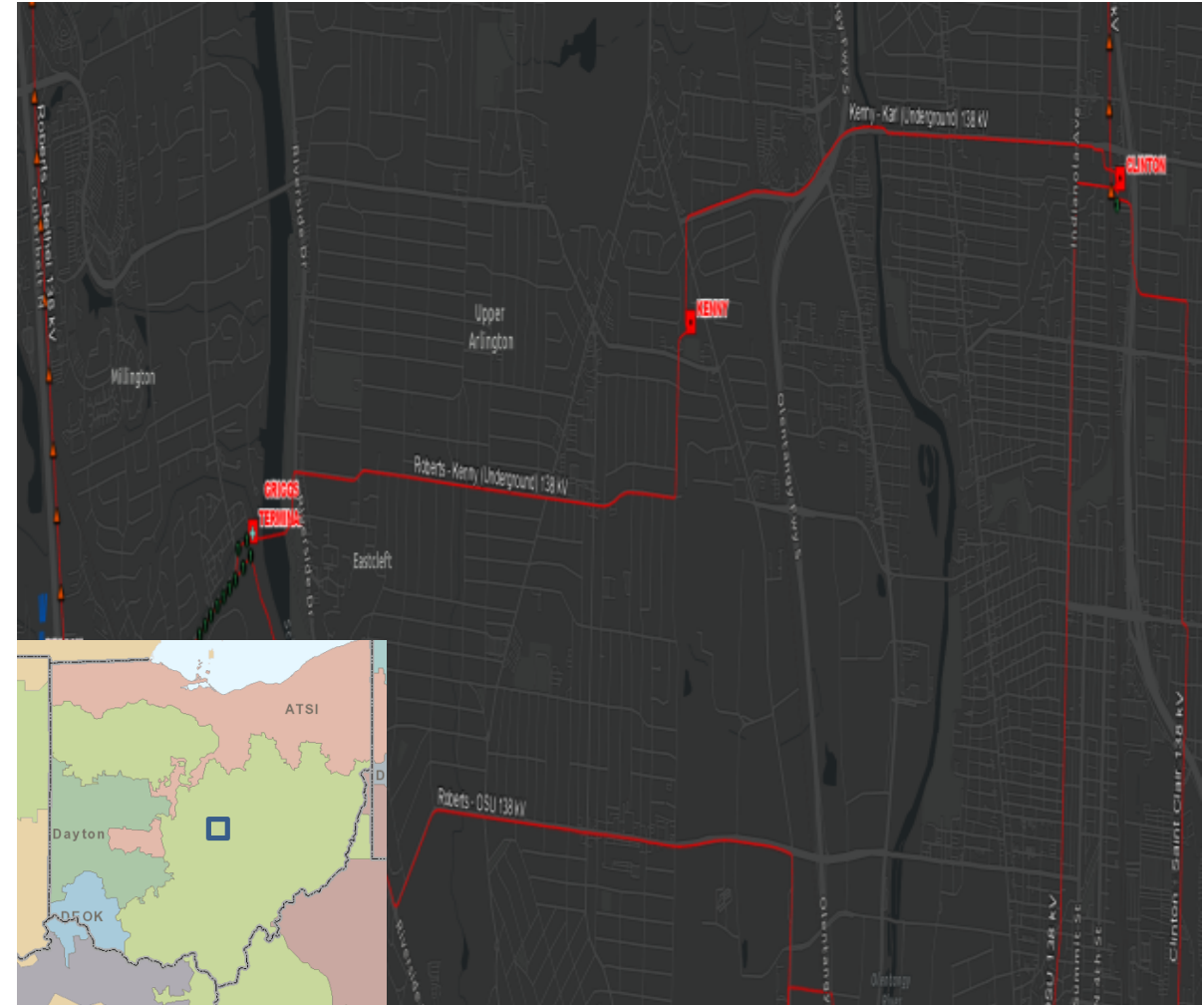
AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

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

Problem Statement:

Kenny Area (Downtown Columbus)

- The existing Kenny - Clinton 138 kV underground circuit is approximately 3.0 miles long and was originally installed in 1974.
- The circuit utilizes an underground oil-filled pipe type cable designed which is obsolete, has limited vendor support and spare parts are not readily available. Oil-filled pipe type underground cables come are also prone to failure and leaks. Also refer to previous AEP presentation on oil-pipe type cable needs described as part of AEP-2023-OH024 in the March 17, 2023 SRRTEP Western meeting.
- Visual inspection of the lines is not possible. Weekly pipe-type cable alarm reviews are completed by field personnel to ensure oil pressure is adequate and no leaks are occurring.
- AEP Ohio has also requested modifications to its existing delivery point at Kenny station.





AEP Transmission Zone M-3 Process Carrothers-Willard 69kV

Need Number: AEP-2026-OH005

Process Stage: Need 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:

Line Name: Carrothers-Willard 69kV Line

Original Install Date (Age): 1963

Length of Line: 16.25 miles

Total structure count: 256

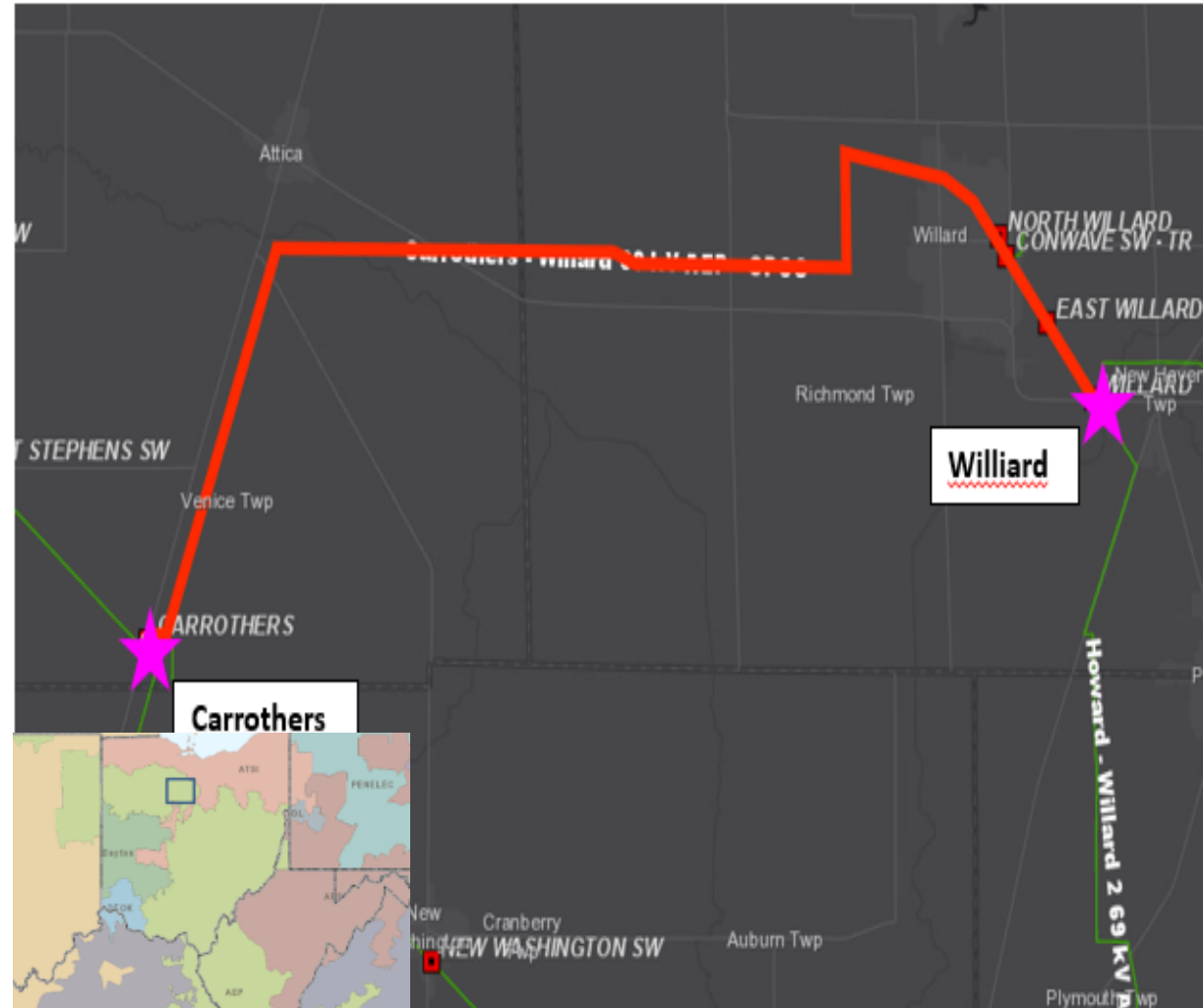
Original Line Construction Type: Wood poles

Conductor Type: 4/0 ACSR 6/1 (Penguin)

Outage History:

Carrothers - North Willard 69kV Circuit

- From January 1, 2021 to January 1, 2026, there were 8 forced direct momentary, 1 forced direct permanent, 1 forced indirect momentary, and 1 forced indirect permanent outages on the Carrothers - North Willard 69kV Circuit. The 1 forced direct permanent outage was due to failed ac circuit equipment - conductor. The forced direct permanent outages caused an estimated 2.52M minutes of interruption for distribution customers at Williard, East Willard, North Willard, and South Greenwich substations.





AEP Transmission Zone M-3 Process Carrothers-Willard 69kV

Need Number: AEP-2026-OH005

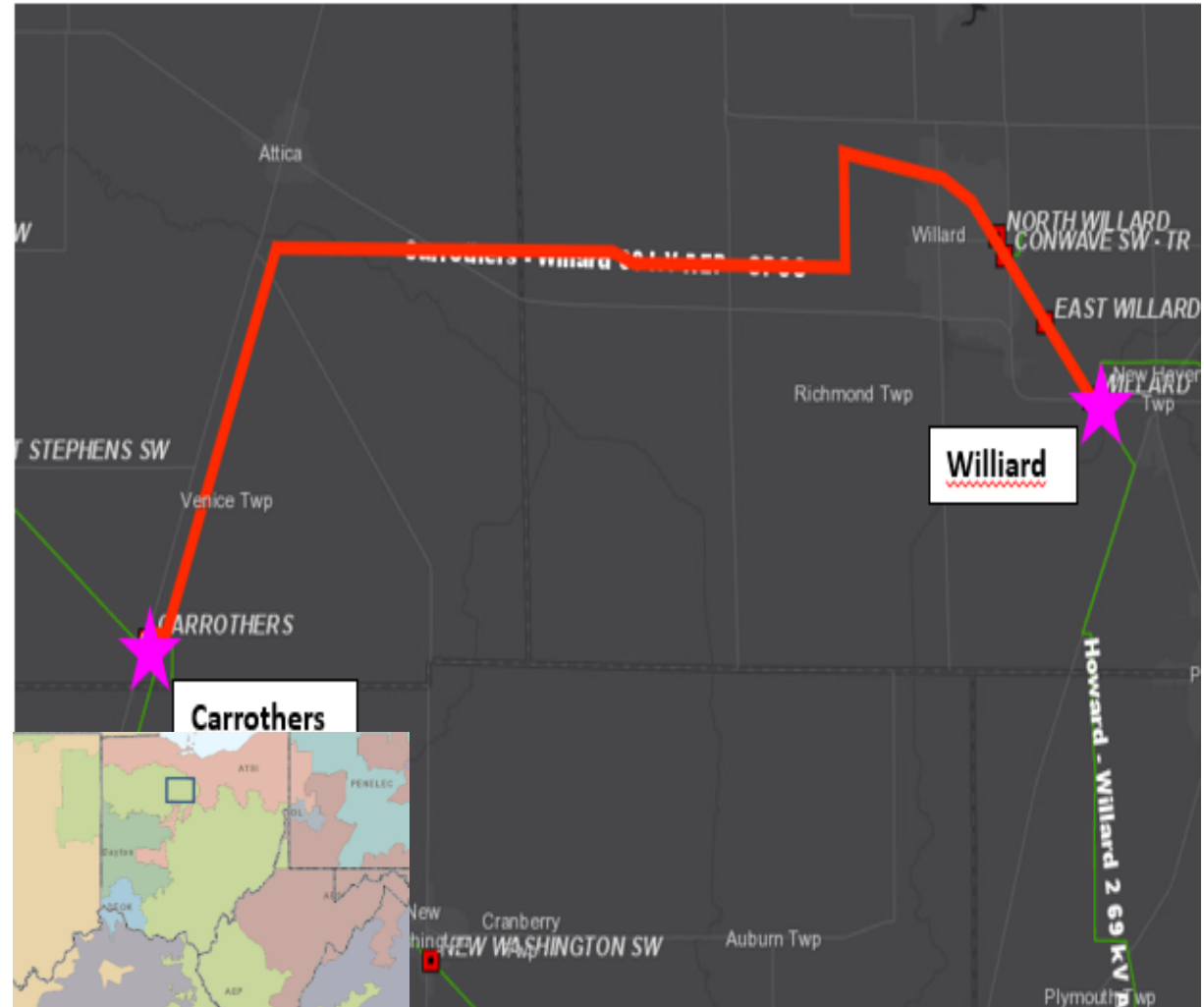
Problem Statement: Continued from previous slide...

North Willard - Willard 69kV Circuit

- From January 1, 2021 to January 1, 2026, there were 3 forced direct momentary, 4 forced indirect momentary, and 1 forced indirect permanent outages on the North Willard - Willard 69kV Circuit.

Condition Summary:

- Out of the 256 structures along the Carrothers - Willard 69kV line, 111 structures evaluated by aerial drone, 72% had reported conditions. Reported conditions including the following:
- Original wood poles showing weathering, longitudinal cracking, and animal damage.
- Deterioration of crossarms, porcelain insulators, and corrosion on the end fittings
- Flashover damage & damaged chipped insulators.
- Conductors and shield wires are original vintage with visible corrosion and splices from previous repairs.



Solutions

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



AEP Ohio has requested additional capacity at Malizewski 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: Solution Meeting 07/17/2026

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

Hyatt Station Remote End

- Remote end relay settings work to allow work at Maliszewski 138 kV
- Estimated Cost: \$0.667 M

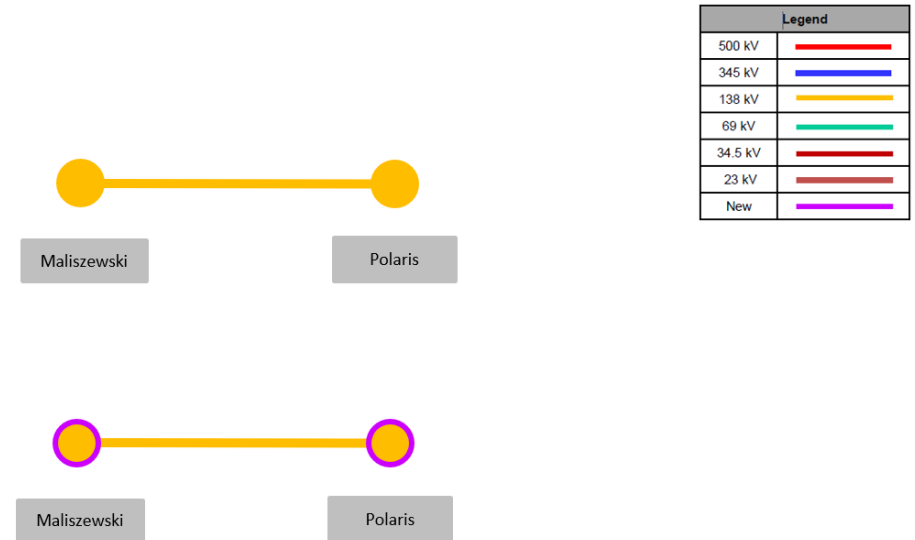
Maliszewski Station 138 kV

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

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

Existing





BOUNDLESS ENERGY™

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

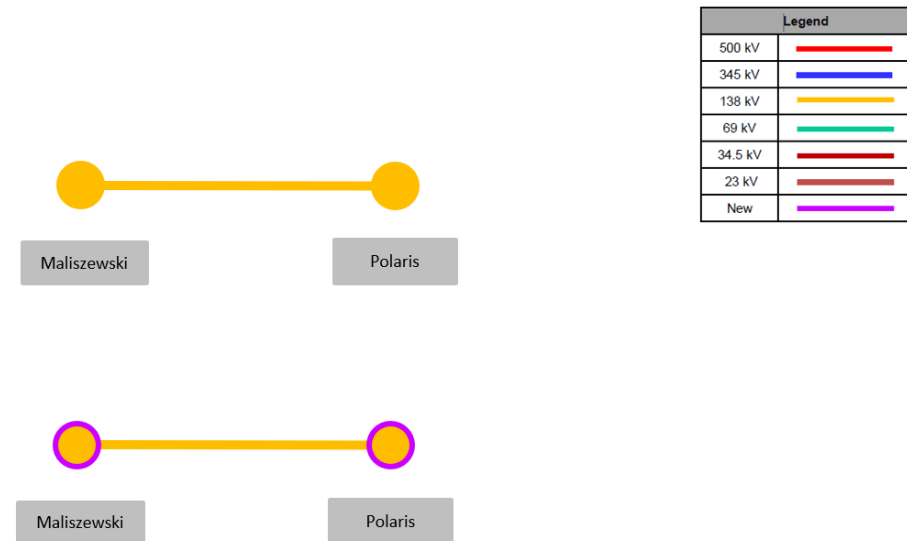
Hyatt Station Remote End

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.

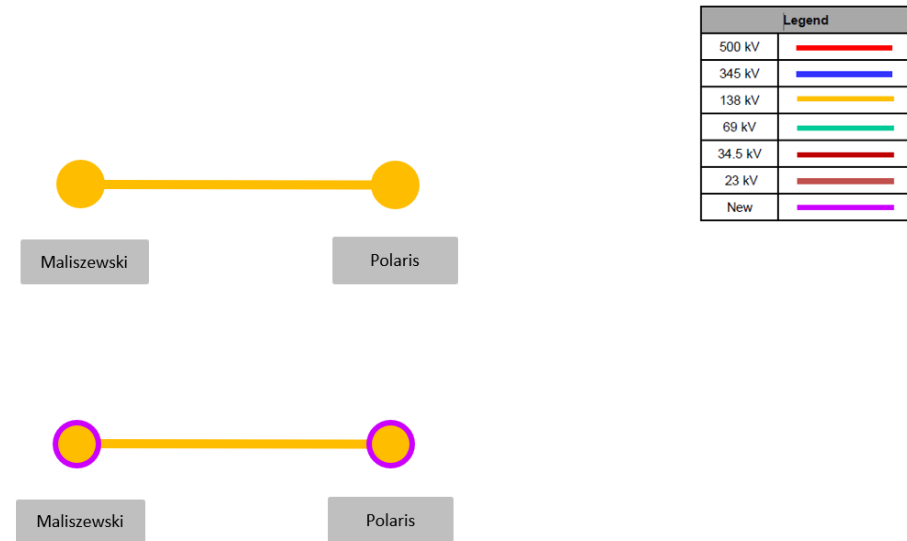
Transmission Cost Estimate: \$12.57 M

Projected In-Service: 09/15/2027

Project Status: Scoping

Model: 2030 RTEP

Existing





Need Number: AEP-2023-OH009

Process Stage: Solution Meeting 07/17/2026

Previously Presented: Need Meeting 05/19/2023

Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

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

Problem Statement:

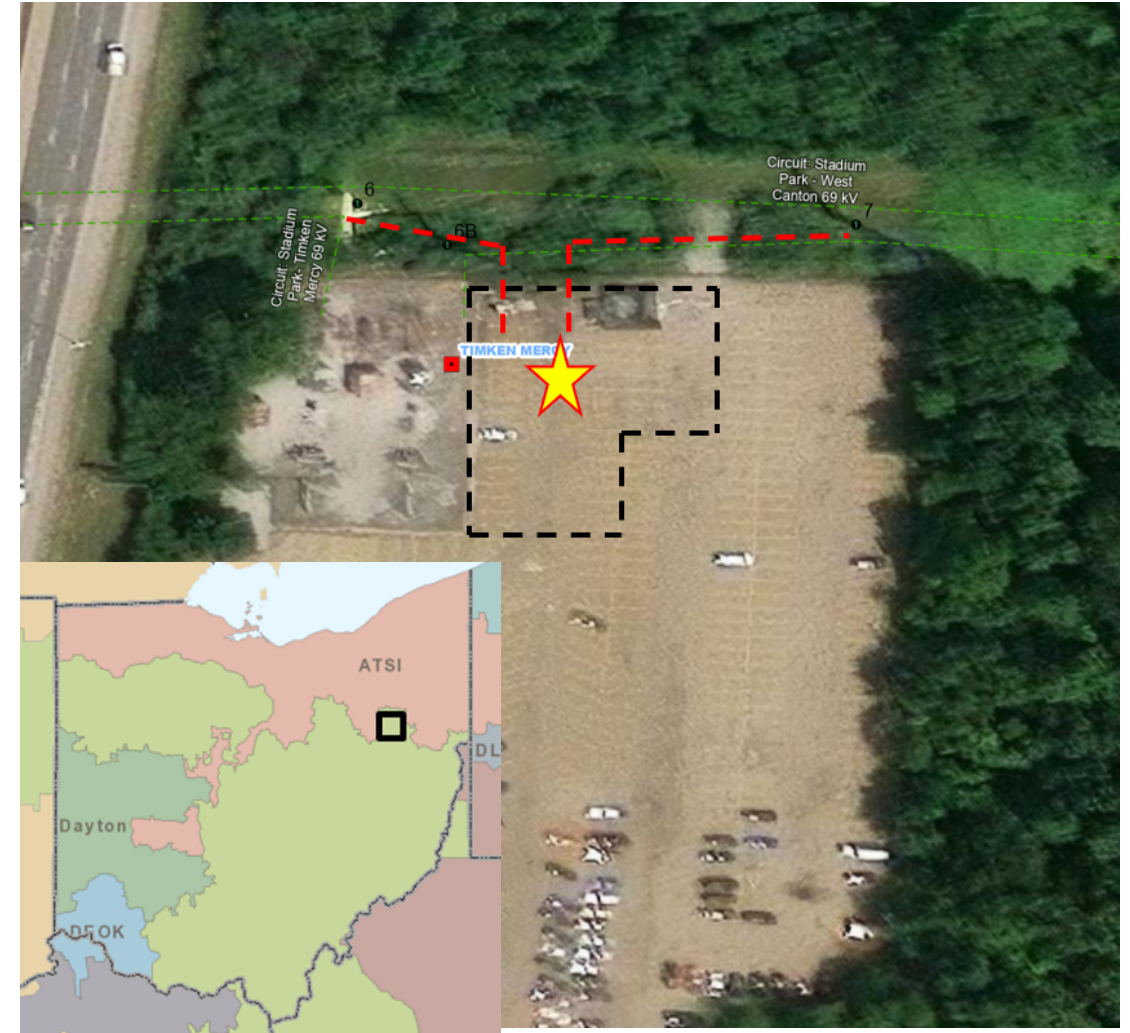
69 kV Circuit Breaker A:

- 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.

AEP Transmission Zone M-3 Process Timken Mercy Rebuild





Need Number: AEP-2023-OH009

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Problem Statement:

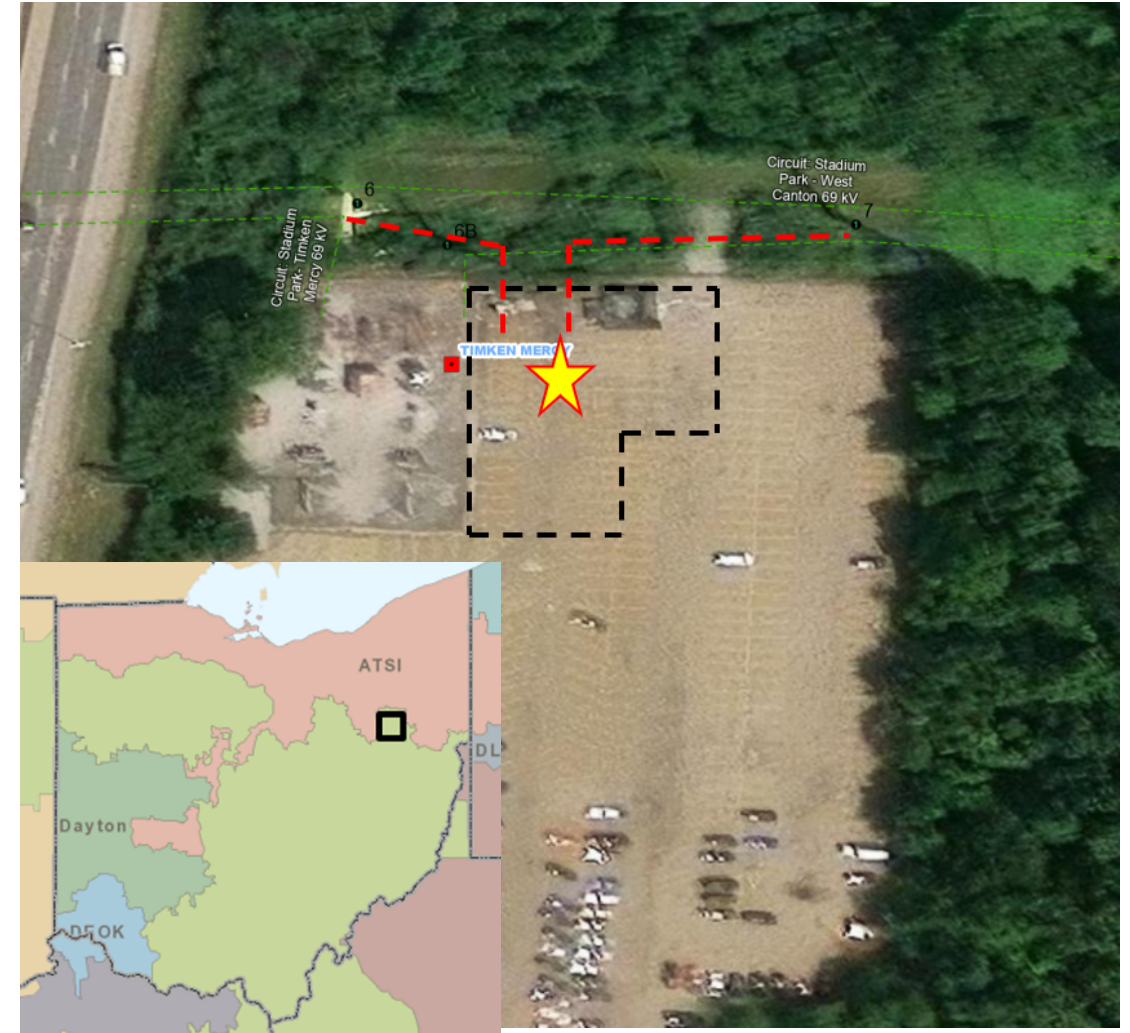
Relays:

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





BOUNDLESS ENERGY™

Need number(s): AEP-2023-OH009

Process Stage: Solution Meeting 07/17/2026

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

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

Schroyer Avenue 69kV

- Remote end relaying work to accommodate new breaker at Timken Mercy
- Estimated Cost: \$0.221 M

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

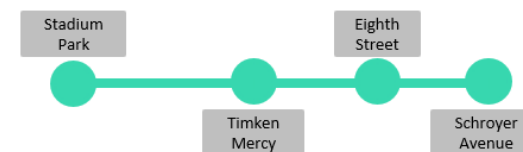
Schroyer Avenue 69kV

AEP Transmission Zone M-3 Process Timken Mercy Rebuild



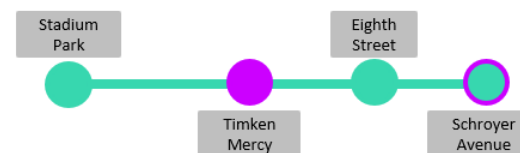
BOUNDLESS ENERGY™

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

Projected In-Service: 05/04/2028

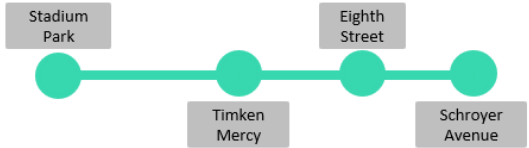
Project Status: Engineering

Model: 2030 RTEP

AEP Transmission Zone M-3 Process Timken Mercy Rebuild

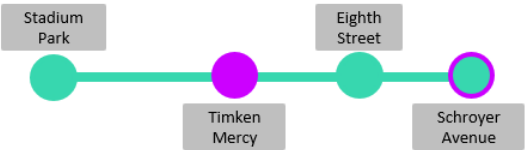


Existing



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

Proposed





Need Number: AEP-2023-IM012

Process Stage: Solution Meeting 07/17/2026

Previously Presented: Need Meeting 04/21/2023

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

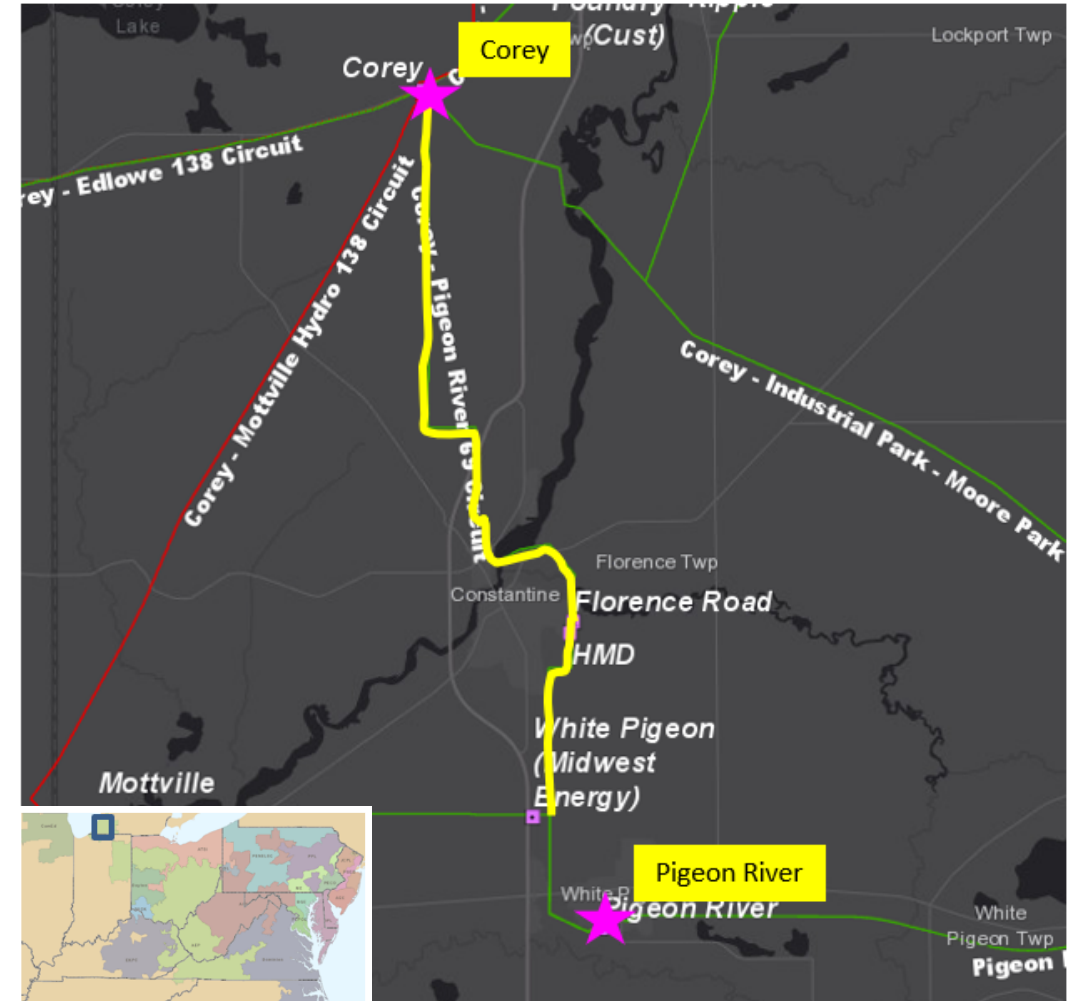
AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

Corey – Florence Road 69kV Line:

- Corey – Florence Road 69kV line is 7.1 miles long originally installed in 1979 consisting of wood pole structures with legacy porcelain horizontal line post insulators
- Since 2018, the Corey – Florence Road 69kV line has experienced 10 momentary and 2 permanent outages due to weather, resulting in 48.8 hours of interruption to the circuit from the permanent outages
- The insulators on the line do not meet current AEP standards for CIFO and minimum leakage distance requirements.
- The grounding does not meet current AEP standards
- There are 51 structures that have at least one (1) open condition (32.3% of line). These conditions specifically affecting the pole include woodpecker damage, rot top, rot heart, rot shell, split, and rot pocket conditions

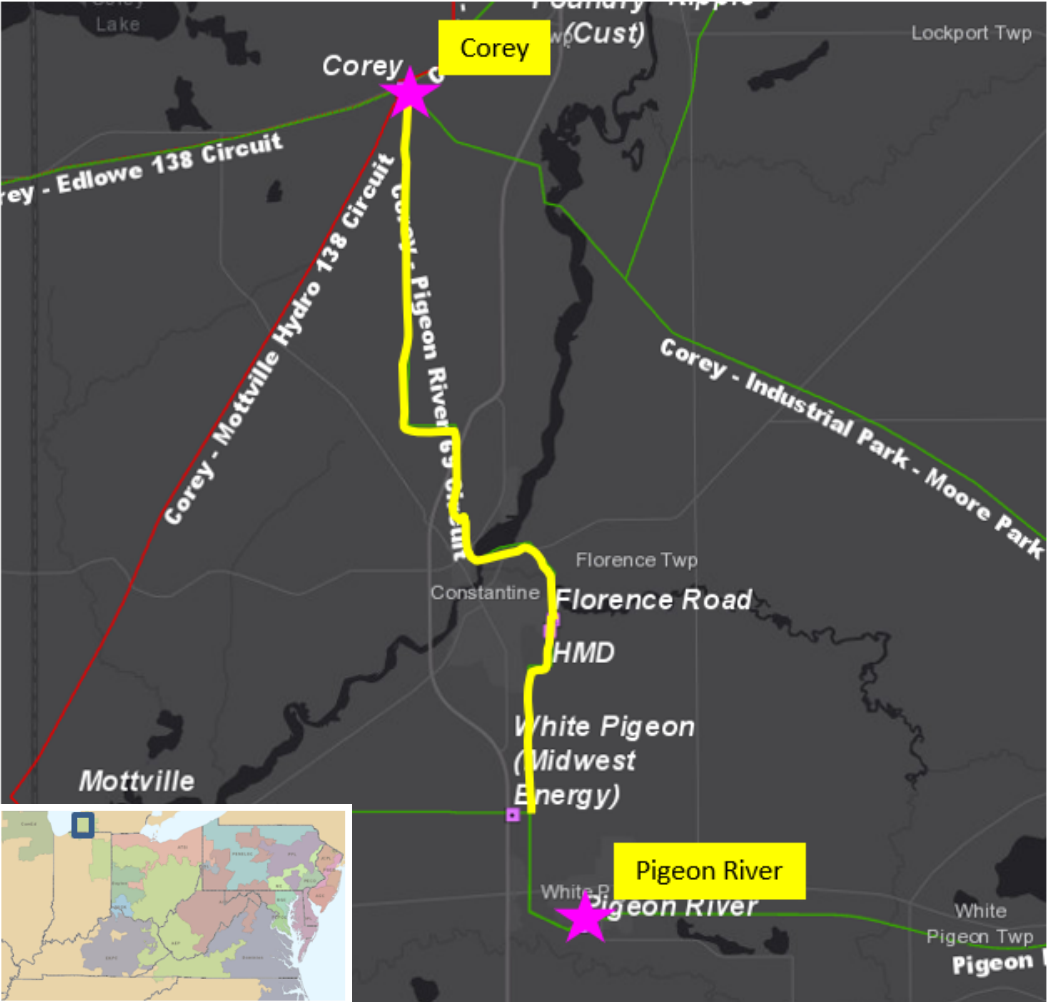
AEP Transmission Zone M-3 Process Corey - Pigeon River 69kV rebuild



- Florence Road – Pigeon River 69kV line is 2.27 miles long originally installed in 1971 consisting of wood pole structures with legacy porcelain horizontal post insulators from structures 1-39
- Since 2017, the Florence Road – Pigeon River 69kV line has experienced 10 momentary and 3 permanent outages due to weather, resulting in 135.45 hours of interruption to the circuit from the permanent outages
- Structures fail to meet 2017 NESC Grade B loading criteria
- The insulators on the line do not meet current AEP standards for CIFO and minimum leakage distance requirements.
- The grounding does not meet current AEP standards. The grounding method utilizes butt wraps on every other pole, which is inadequate for AEP standards
- There are 33 structures that have at least one (1) open condition (59% of line). These conditions specifically affecting the pole include woodpecker, rot top, rot heart, rot shell, burnt, and split conditions
- Out of the 39 structures assessed, approximately 23% have pole cavities or woodpecker damage

AEP Transmission Zone M-3 Process

Corey - Pigeon River 69kV rebuild





AEP Transmission Zone M-3 Process Corey - Pigeon River 69kV rebuild

Need number(s): AEP-2023-IM012

Process Stage: Solution Meeting 07/17/2026

Proposed Solution:

Corey - Florence Road 69kV

- Rebuild ~7.1 miles of 69kV line from Corey to Florence Road
- Estimated Cost: \$30.621 M

Florence Road - Pigeon River 69kV

- Rebuild ~1.54 miles of 69kV line from Florence Road to structure 39. Reground/reinsulate structures 40-56.
- Estimated Cost: \$10.278 M

Corey Remote End

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$0.606 M

Pigeon River Remote End

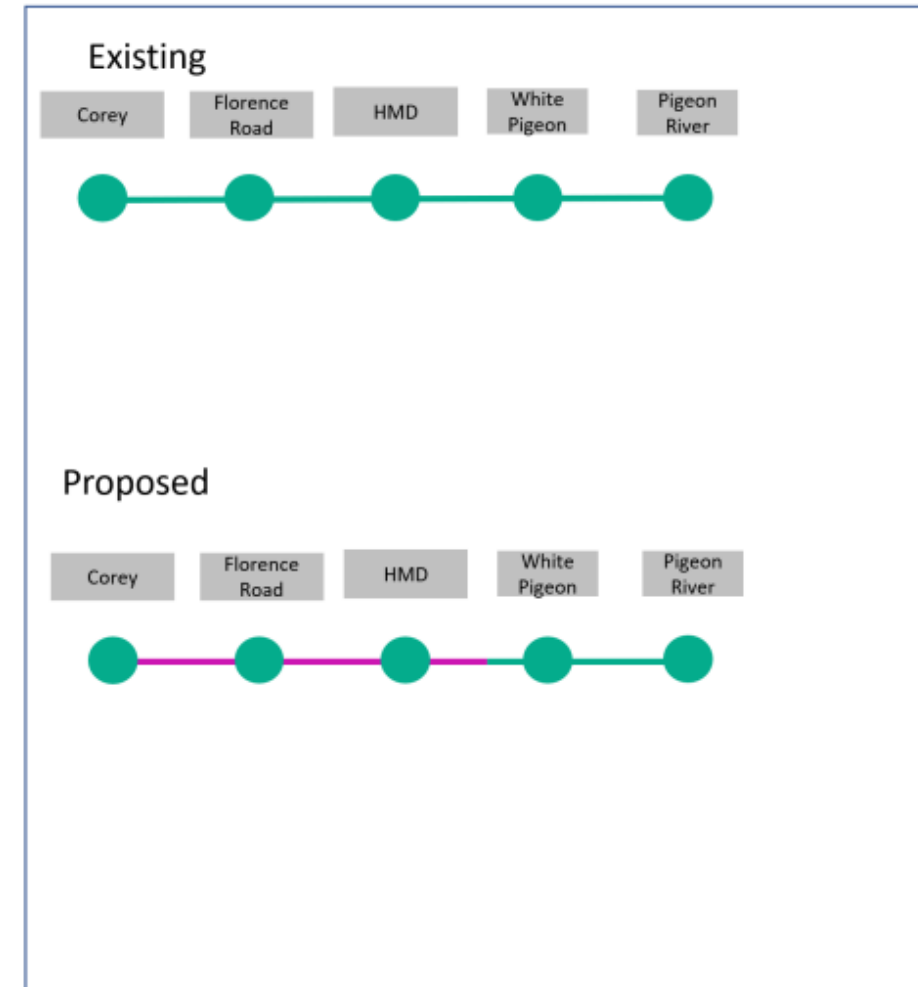
- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$0.753 M

HMD Remote End

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$0.949 M

Florence Road Remote End

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$0.151 M





Need number(s): AEP-2023-IM012

Continued from previous slide...

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

Corey - Florence Road 69kV

- Before Proposed Solution: 99/118/125/139
- After Proposed Solution: 129/180/162/202

Florence Road - Pigeon River 69kV

- Before Proposed Solution: 99/118/125/139
- After Proposed Solution: 129/180/162/202

Corey Remote End

Pigeon River Remote End

HMD Remote End

Florence Road Remote End

Alternatives Considered:

Retire the Corey - Florence Road 69kV section. This would leave Florence Road, HMD, and White Pigeon served from a ~4 mile lone radial which downgrades reliability and leaves those loads susceptible to single outages.

Transmission Cost Estimate: \$43.358 M

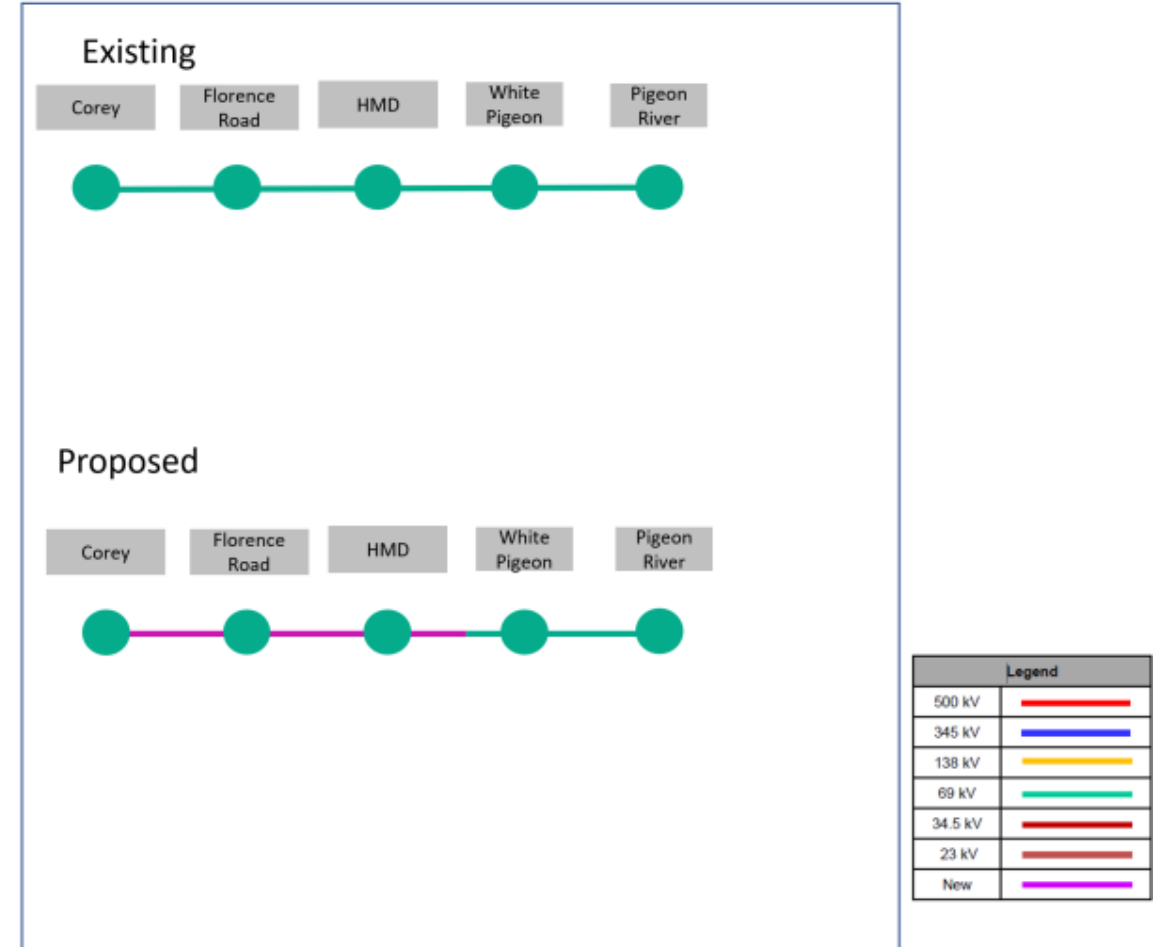
Projected In-Service: 09/27/2029

Project Status: Scoping

Model: 2030 RTEP

SRRTEP-W - 07/17/2026 - AEP

AEP Transmission Zone M-3 Process Corey - Pigeon River 69kV rebuild





AEP Transmission Zone M-3 Process Hartford - Valley - Corey 138kV Rebuild

Need Number: AEP-2023-IM011

Process Stage: Solution Meeting 07/17/2026

Previously Presented: Need Meeting 04/21/2023

Project Driver: Equipment Condition/Performance/Risk

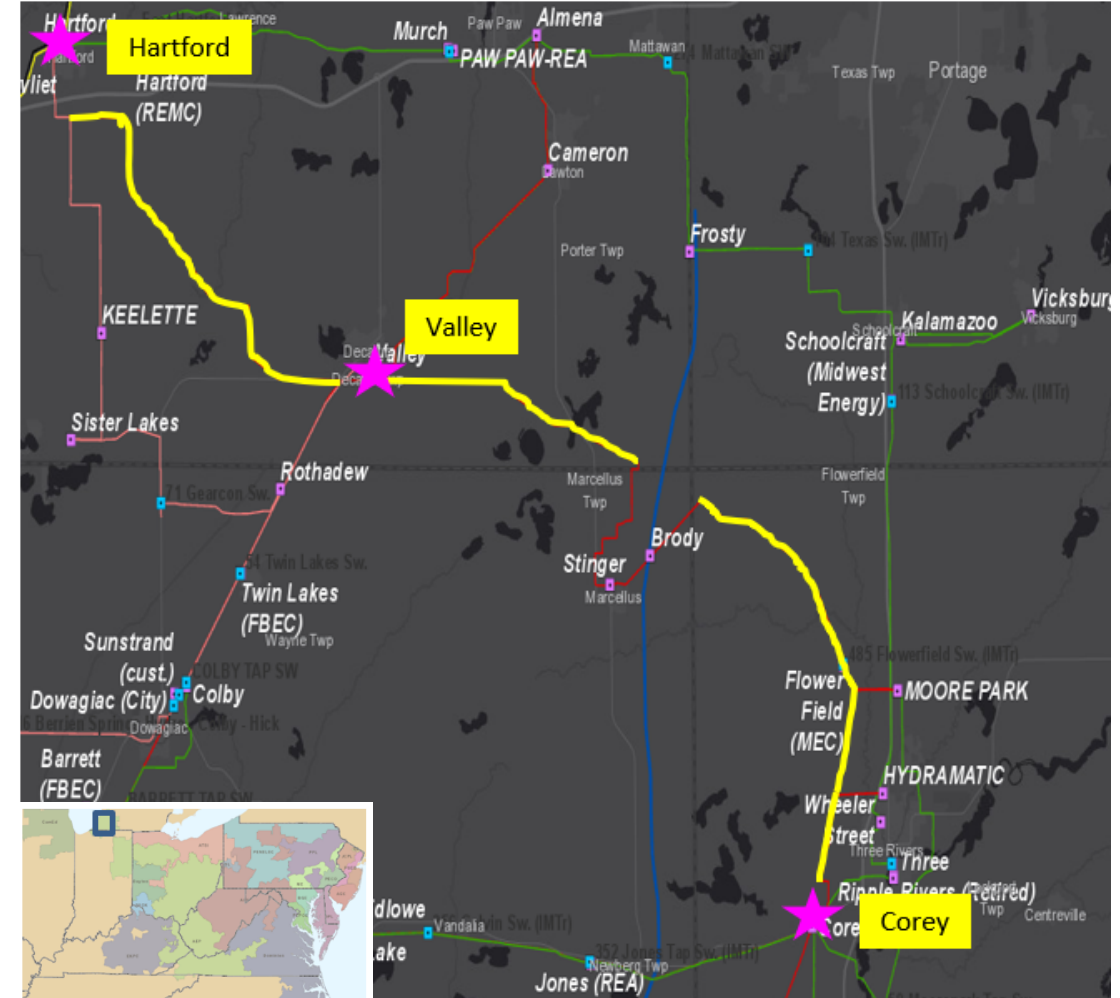
Specific Assumption References:

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

Problem Statement:

Hartford – Valley – Corey 138kV Line:

- Hartford – Valley – Corey 138kV line is 36.49 miles long that was originally installed in 1973 and mostly consists of single wood poles
- Since 2018, the Hartford – Valley 138kV circuit has experienced 2 momentary and 3 permanent outages caused by weather and vegetation. The permanent outages resulted in about 213 hours of interruption to the circuit
- Since 2018, the Brody – Moore Park 138kV circuit has experienced 1 momentary outage due to weather
- Since 2018, the Stinger – Valley 138kV circuit has experienced 1 momentary and 1 permanent outage due to weather and a trip check error. The permanent outage resulted in 49 minutes of interruption to the circuit
- Structures fail to meet 2017 NESC Grade B and AEP structural strength requirements





AEP Transmission Zone M-3 Process Hartford - Valley - Corey 138kV Rebuild

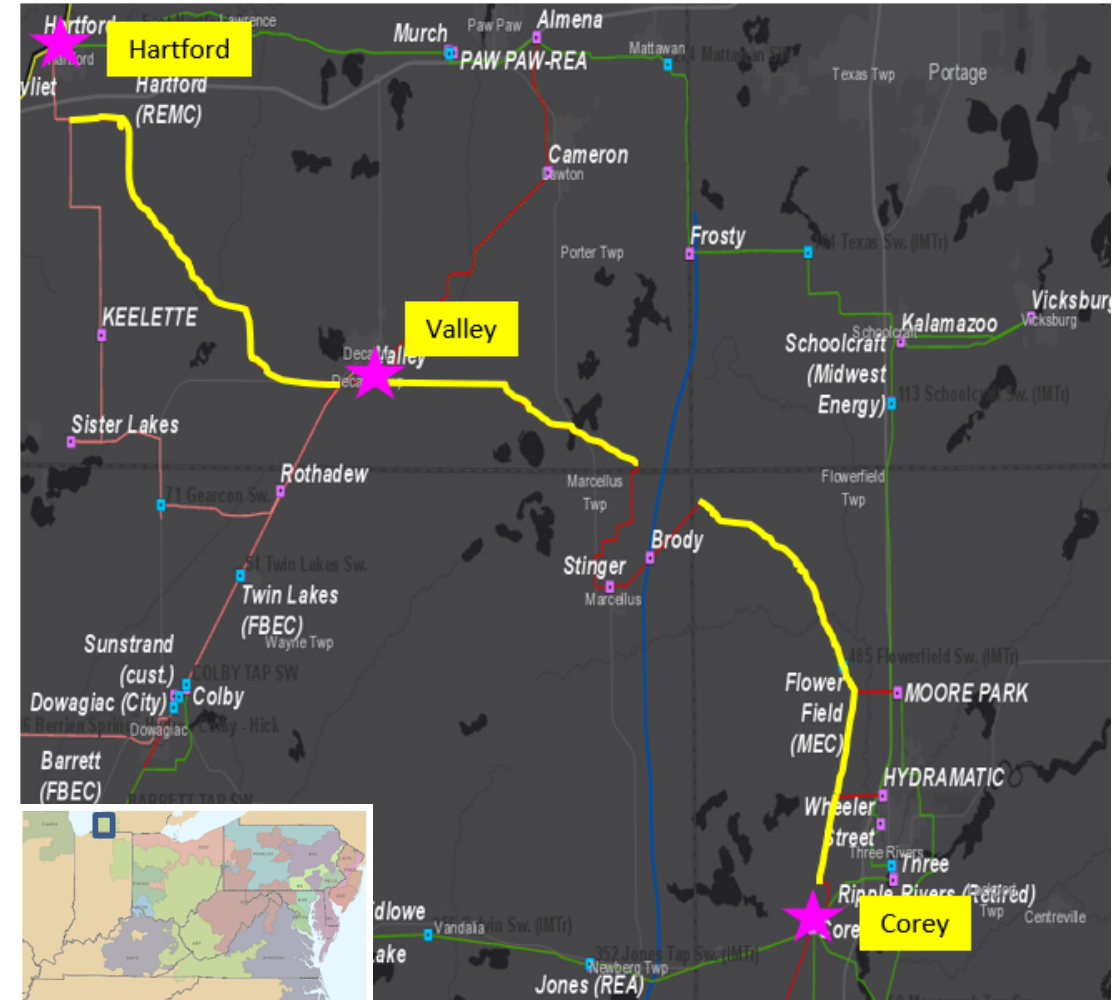
Need Number: AEP-2023-IM011

Continued from previous slide...

Problem Statement:

Hartford – Valley – Corey 138kV Line:

- The insulators on the line do not meet current AEP standards for CIFO and minimum leakage distance requirements.
- The grounding does not meet current AEP standards
- There are 210 structures with that have at least one (1) open condition (44% of line). These conditions specifically affecting the pole include woodpecker damage, rot top, insect damage, split, rot shell, general damage, rot heart, rot pocket, sitting in water, cracked, and leaning traverse conditions
- Out of 60 structures assessed (30 by aerial drone and 30 by ground crew), the following conditions were found:
 - The vast majority of wood poles assessed have some level of decay or top rot, woodpecker holes, insect damage, and/or shell rot
 - There is a significant number of structures with flashed, burnt, or broken insulators due to the application of aluminum grounding





AEP Transmission Zone M-3 Process Hartford - Valley - Corey 138kV Rebuild

Need number(s): AEP-2023-IM011

Process Stage: Solution Meeting 07/17/2026

Proposed Solution:

Hartford - Valley 138kV Install

- Rebuild from structure 35 to 280L (~13.1 miles) between Hartford and Valley.
- Estimated Cost: \$64.739 M

Valley - Stinger Tap 138kV Install

- Rebuild from Valley to structure 1 (Stinger Tap), ~9.52 miles
- Estimated Cost: \$41.893 M

Brody Tap - Flowerfield 138kV Install

- Rebuild from structure 1 (Brody Tap) to Flowerfield SS, ~6.45 miles
- Estimated Cost: \$25.673 M

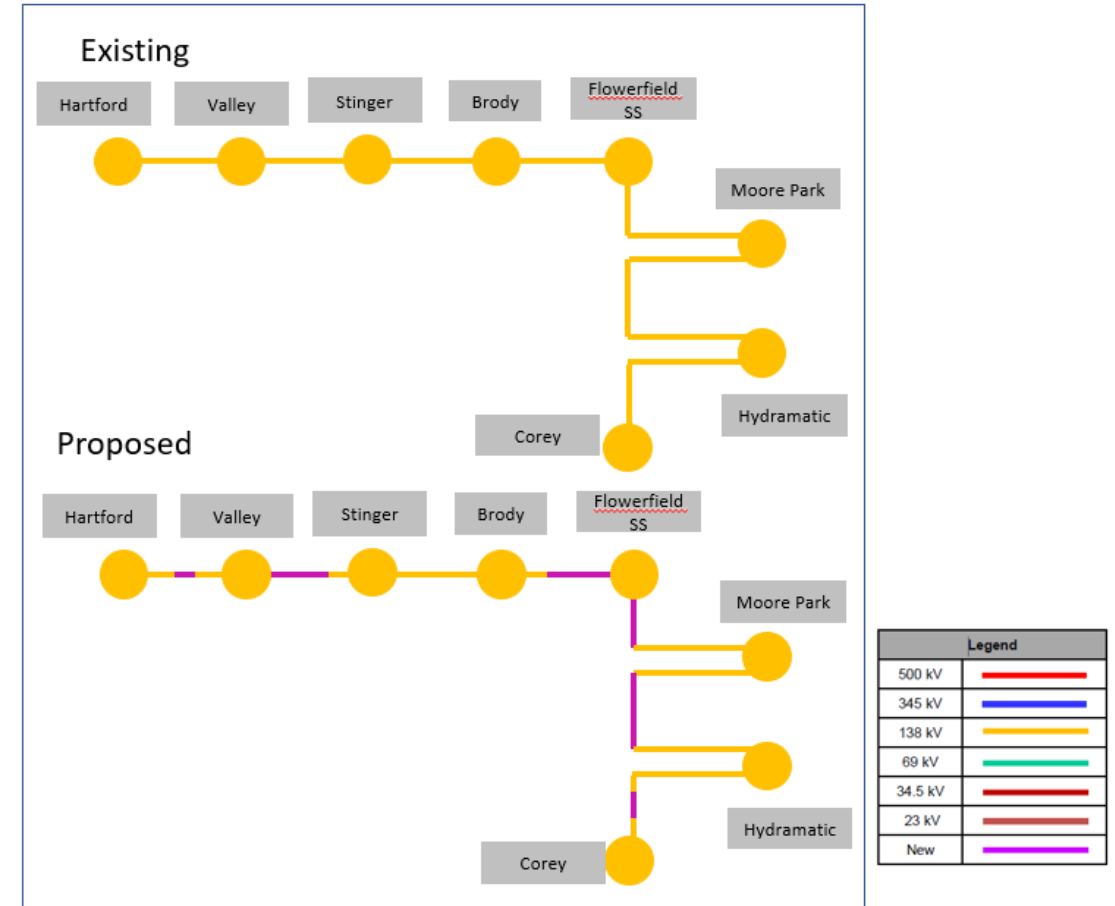
Flowerfield - Corey 138kV Install

- Rebuild from Flowerfield SS to structure 519 (throughpath only, not extensions into Moore Park or Hydramatic), ~5.27 miles
- Estimated Cost: \$26.935 M

Hartford Remote End

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$2.06 M

Valley Remote End





AEP Transmission Zone M-3 Process Hartford - Valley - Corey 138kV Rebuild

Need number(s): AEP-2023-IM011

Proposed Solution: Continued from previous slide...

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$1.225 M

Stinger Remote End

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$0.231 M

Brody Remote End

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$0.046 M

Hydramatic Remote End

- Station and P&C upgrades to accommodate the main line rebuild.
- Estimated Cost: \$0.047 M

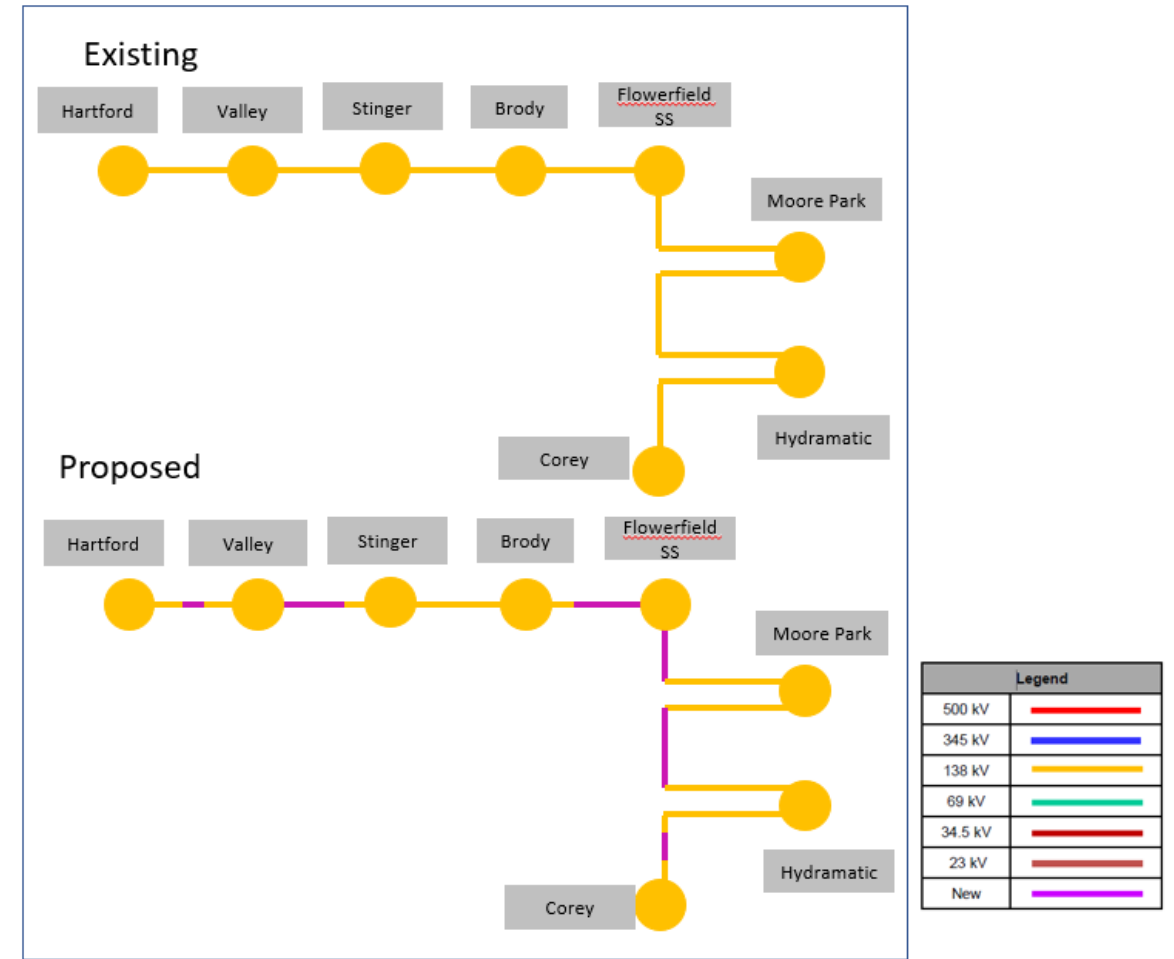
Ratings MVA (SN/SE/WN/WE):

Hartford - Valley 138kV Install

- Before Proposed Solution: 246/327/311/371
- After Proposed Solution: 257/360/325/404

Valley - Stinger Tap 138kV Install

- Before Proposed Solution: 246/327/311/371





Need number(s): AEP-2023-IM011

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

- After Proposed Solution: 257/360/325/404

Brody Tap - Flowerfield 138kV Install

- Before Proposed Solution: 246/327/311/371
- After Proposed Solution: 257/360/325/404

Flowerfield - Corey 138kV Install

- Before Proposed Solution: 246/327/311/371
- After Proposed Solution: 257/360/325/404

Hartford Remote End

Valley Remote End

Stinger Remote End

Brody Remote End

Hydramatic Remote End

Alternatives Considered:

The line being rebuilt is part of the 138kV network in the Michigan footprint and is critical to the area. Considering the stations and customers served from this line, retirement is not a desirable alternate.

Transmission Cost Estimate: \$162.85 M

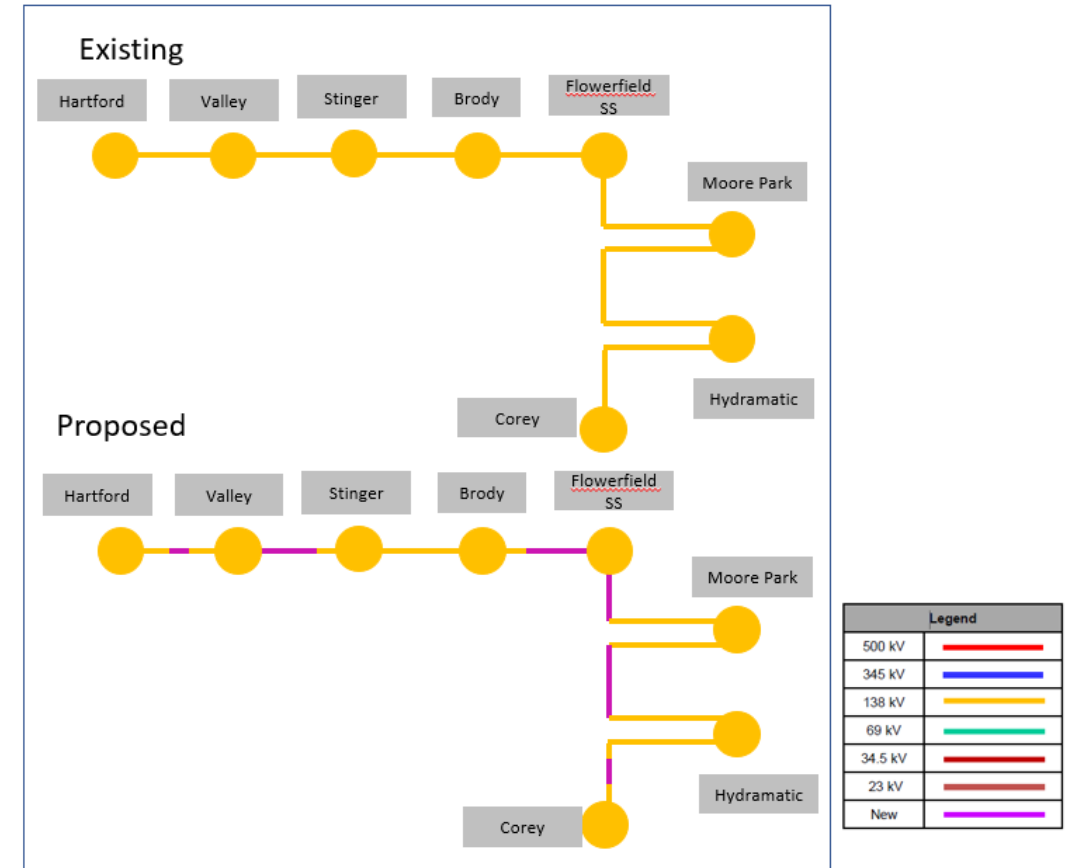
Projected In-Service: 09/23/2031

Project Status: Scoping

Model: 2031 RTEP

SRRTEP-W - 07/17/2026 - AEP

AEP Transmission Zone M-3 Process Hartford - Valley - Corey 138kV Rebuild





Need Number: AEP-2022-OH067

Process Stage: Solution Meeting 07/17/2026

Previously Presented: Need Meeting 09/16/2022

Project Driver: Equipment Condition/Performance/Risk

Specific Assumption References:

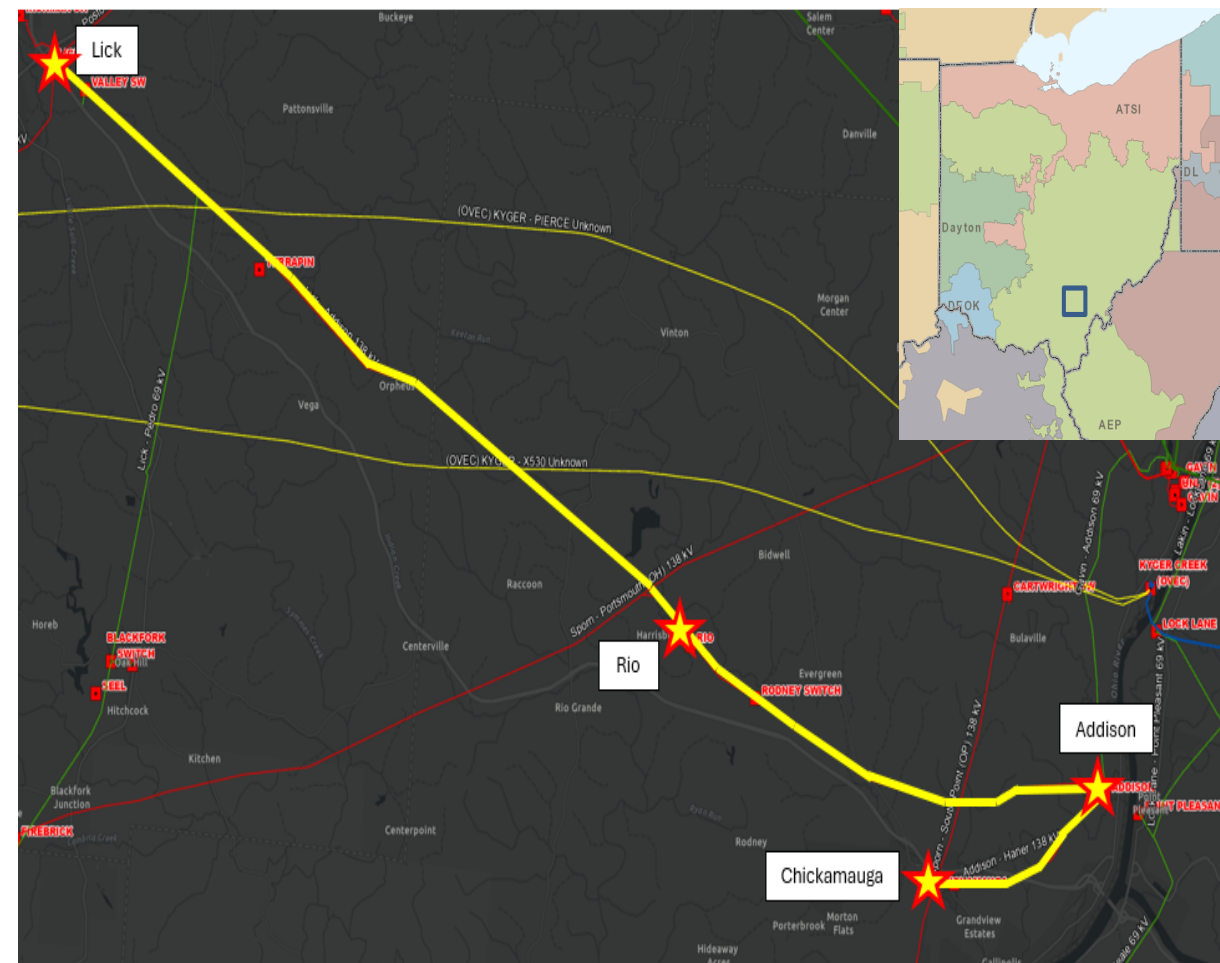
AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

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

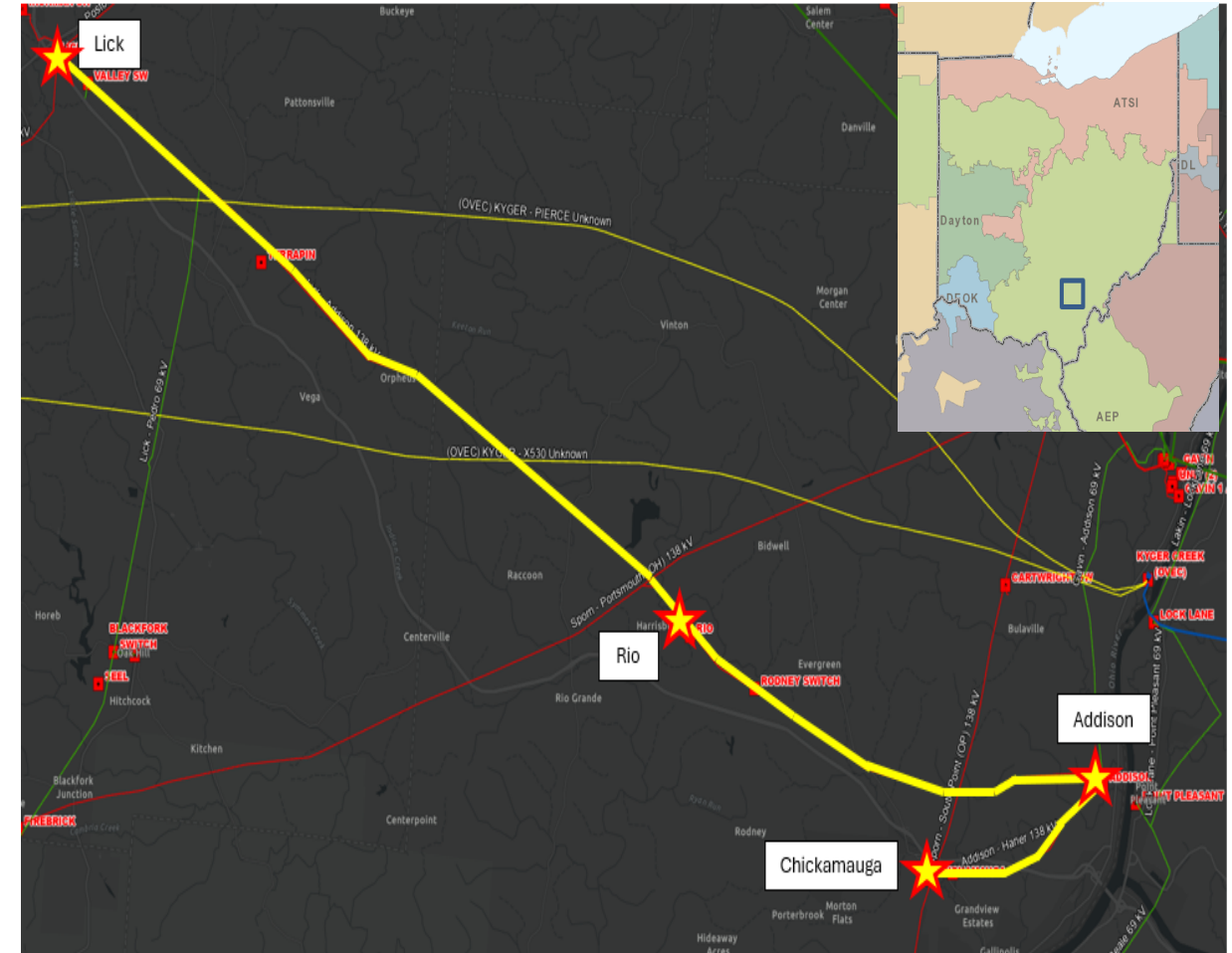
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Problem Statement:

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: Solution Meeting 07/17/2026

Previously Presented: Need Meeting 09/16/2022

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:

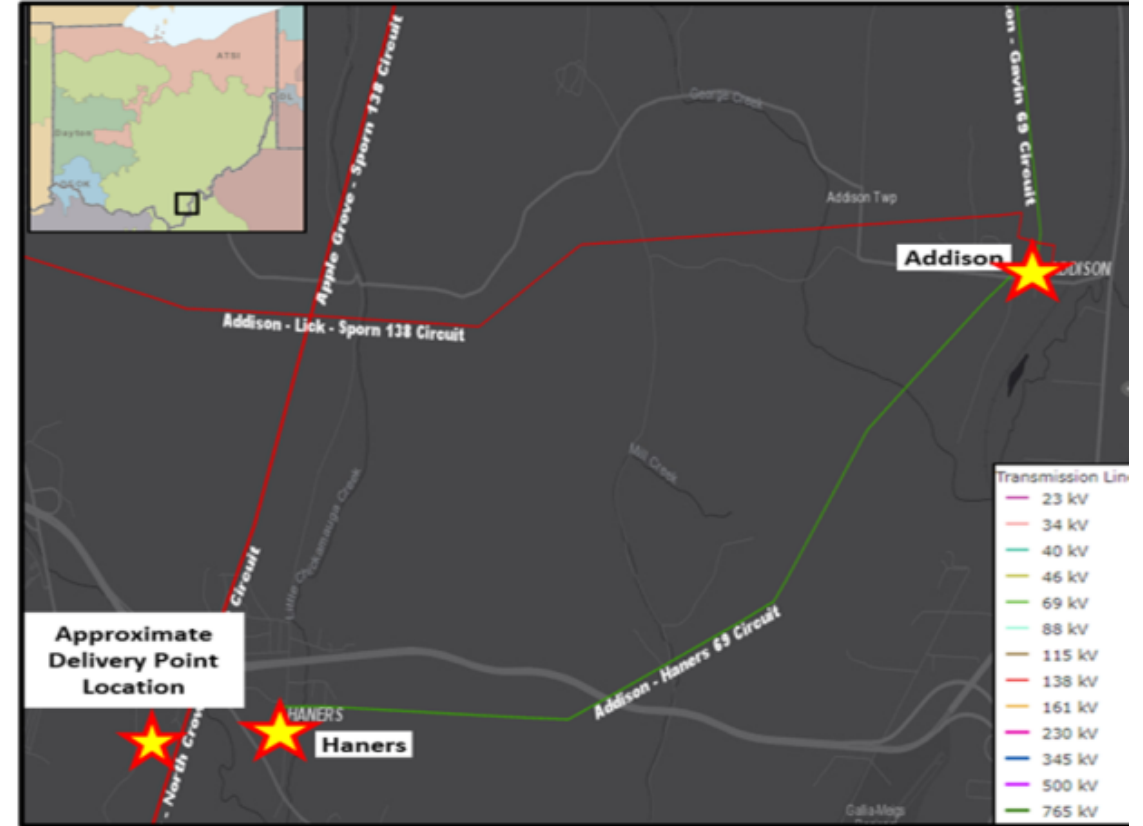
- AEP Ohio has requested to add capacity at Addison station by June 2026, due to load growth in the area. The anticipated peak load is approximately 18.3 MVA.
- AEP Ohio has requested service to a new 138kV delivery point near AEP's Haners 69kV station by June 2026. Anticipated load is approximately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

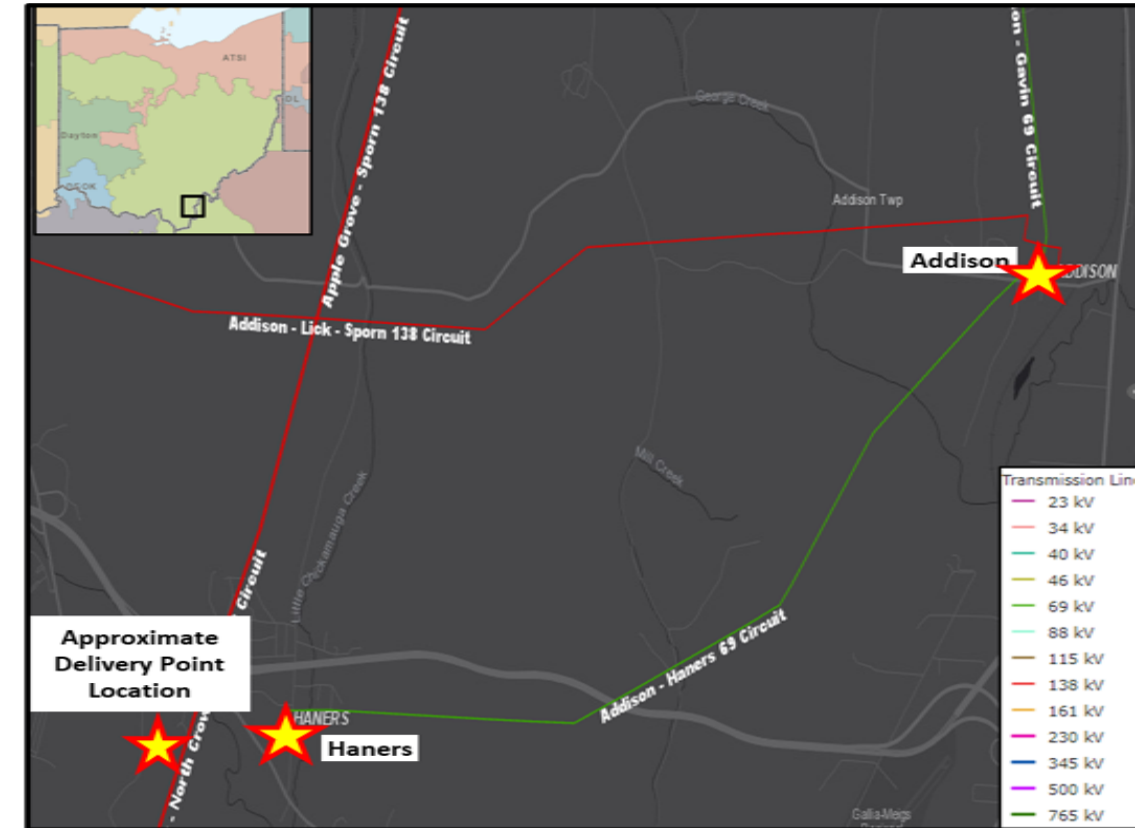
- Total Structure Count: 29 (Wood)

- 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.

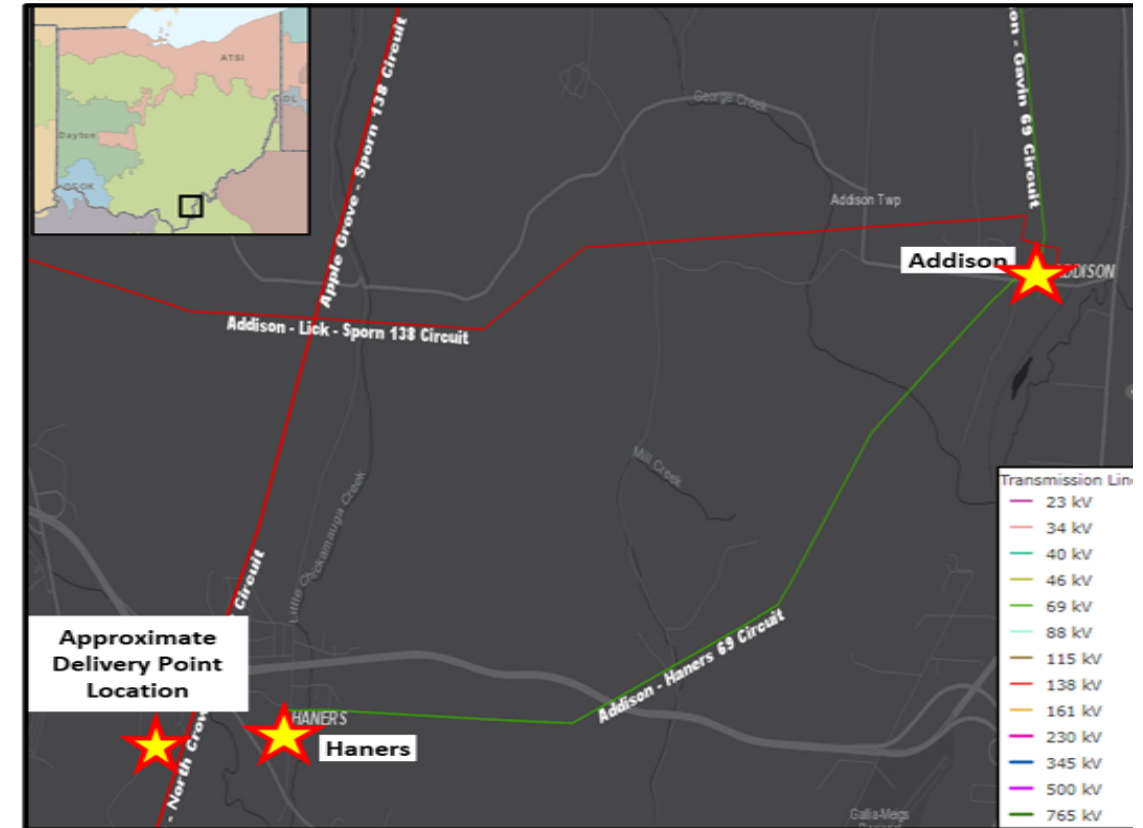
- Transformer 3 138/69/12 kV

-- 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: Solution Meeting 07/17/2026

Proposed Solution:

Lick - Addison

- Rebuild 29.02 miles of the 138kV Lick-Addison line
- Estimated Cost: \$95.705 M

Rio Station

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

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

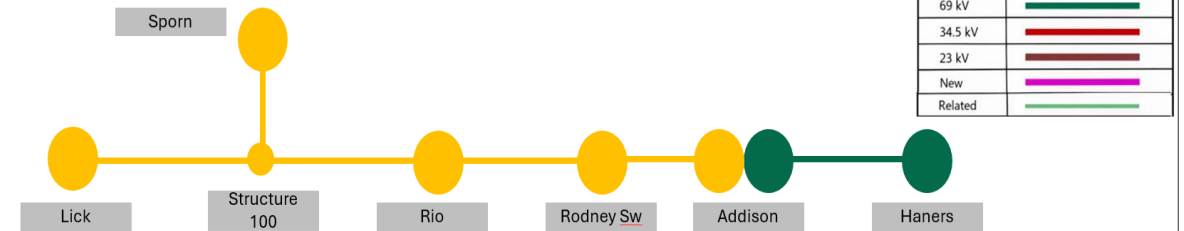
Addison - Chickamauga

- 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

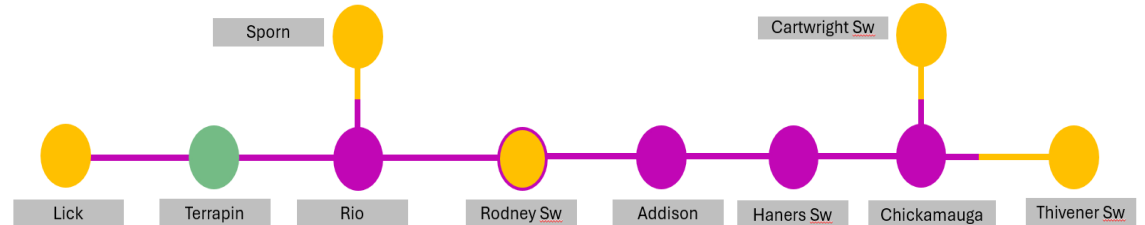
AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades

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

Chickamauga Station

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

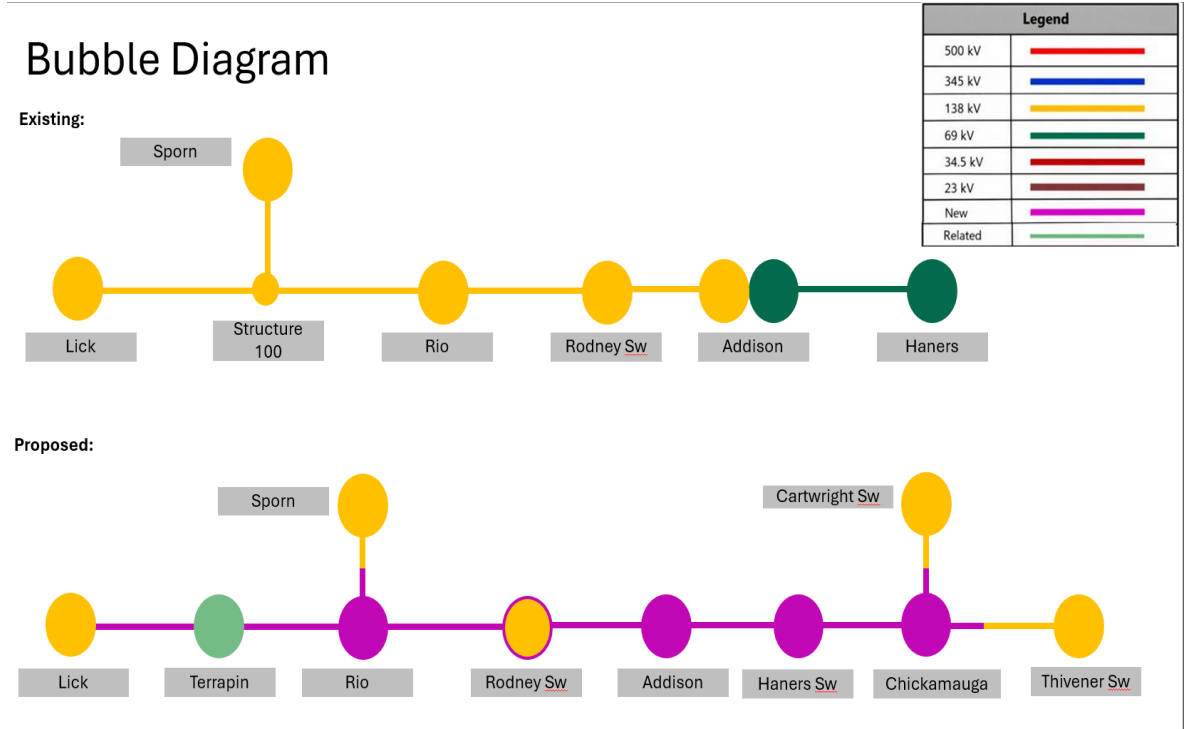
Chickamauga Extension

- 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

Gavin - Addison Retirement

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

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





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

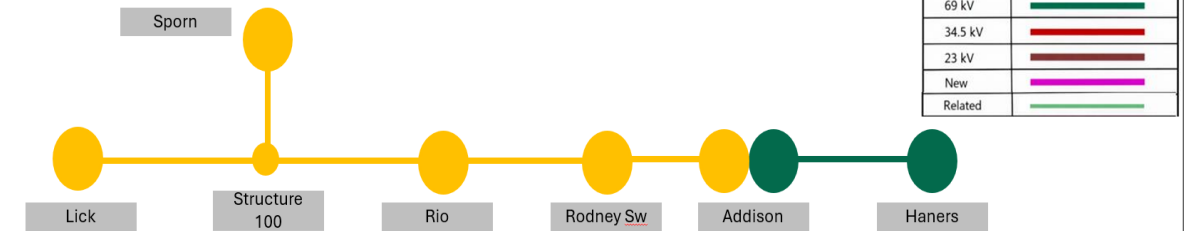
Gavin - Addison Retirement

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

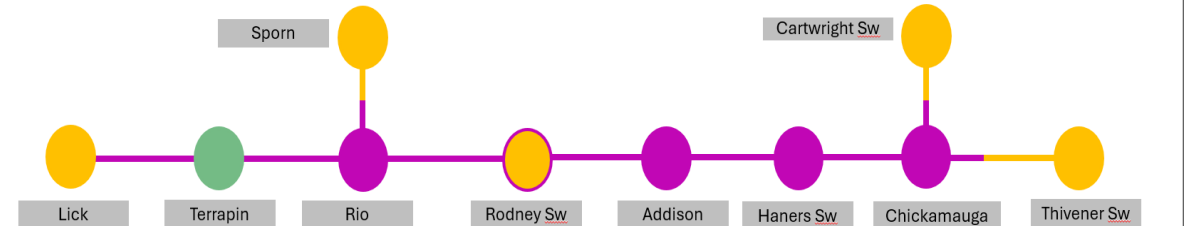
AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades

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

Projected In-Service: 10/08/2032

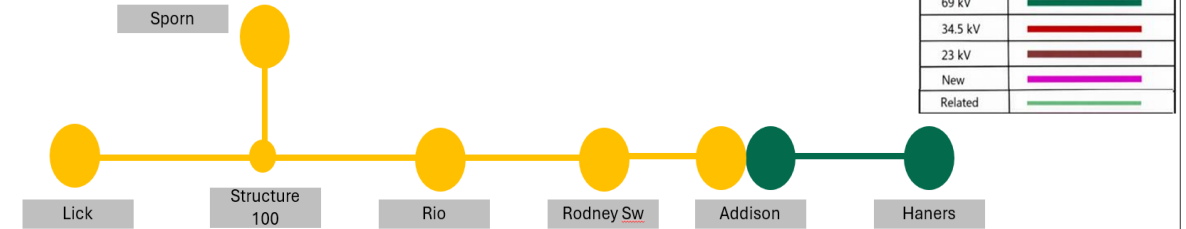
Project Status: Scoping

Model: 2030 RTEP

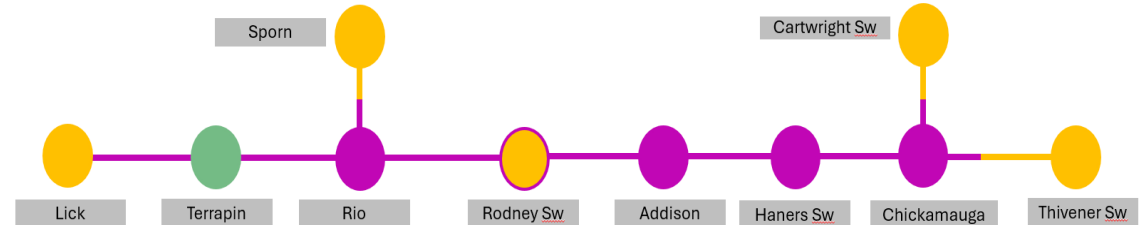
AEP Transmission Zone M-3 Process Addison - Lick, Addison - Haners Upgrades

Bubble Diagram

Existing:



Proposed:



Appendix

High Level M-3 Meeting Schedule

Assumptions

Activity	Timing
Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
Stakeholder comments	10 days after Assumptions Meeting

Needs

Activity	Timing
TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
Stakeholder comments	10 days after Needs Meeting

Solutions

Activity	Timing
TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
Stakeholder comments	10 days after Solutions Meeting

Submission of Supplemental Projects & Local Plan

Activity	Timing
Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
Post selected solution(s)	Following completion of DNH analysis
Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

07/07/2026 – V1 – Original version posted to pjm.com

07/14/2026 – V2 – Update to ratings for AEP-2026-OH008 Maliszewski - Polaris 138 kV line.