

Western Sub Regional RTEP: AEP Supplemental Projects

March 19, 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

Need Number: AEP-2026-OH008

Process Stage: Need Meeting 03/19/2026

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.



Need Number: AEP-2026-IM002

Process Stage: Need Meeting 03/19/2026

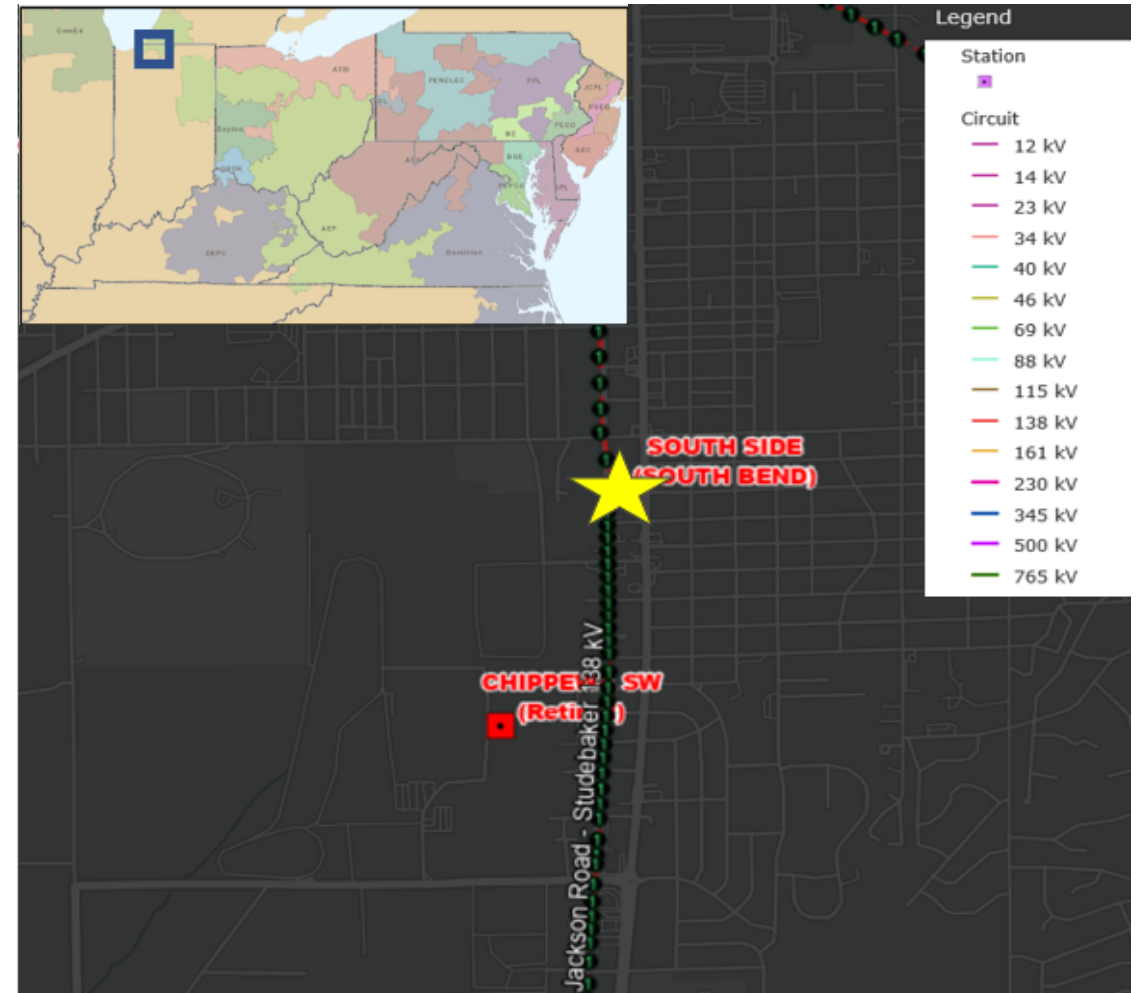
Project Driver: Equipment Condition/Performance/Risk, Customer Service

Specific Assumption References:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12 and 13)

Problem Statement:

I&M Distribution is requesting upgrades at their South Side 138kV station to address asset performance/material/risk on Distribution owned equipment. Additionally, South Side station is located within the 100-year flood plain. The site is built over a culvert to allow the creek located below to flow. The site has experienced flooding over the years, most recently as 2017 from significant rainfall.



AEP Transmission Zone M-3 Process Somerton, OH/Herlan, OH/Natrium Plant, WV/Speidel, OH

Need Number: AEP-2026-OH006

Process Stage: Need Meeting 03/19/2026

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

Specific Assumption References:

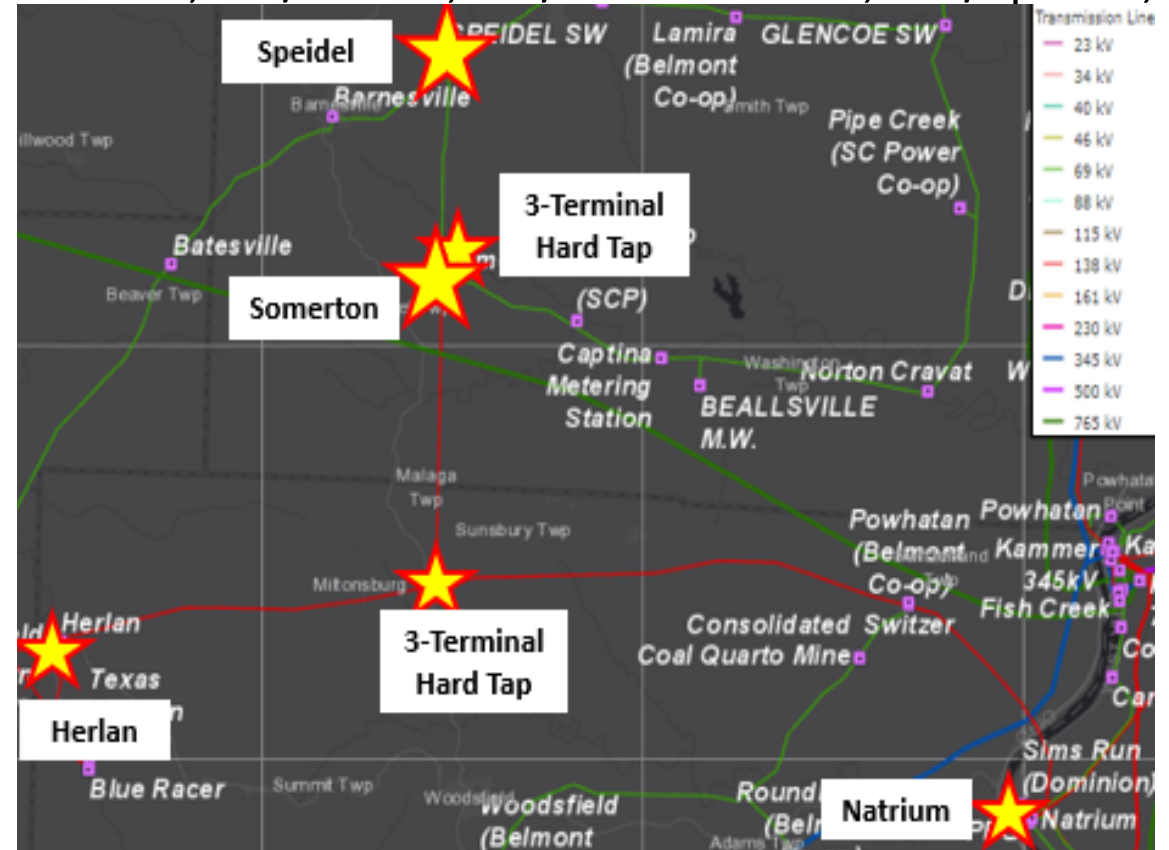
AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slides 13-14)

Problem Statement:

Somerton Station Equipment Condition/Performance/Risk

69 kV Circuit Breakers CB - D :

- Breaker age: 1966
- Interrupting Medium: (Oil)
- Number of Fault Operations: 50
- Additional Information: The 69kV transmission owned circuit breaker, CB -D is an oil filled breaker. It's 1960's Vintage circuit breaker and 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. The manufacture provides no support for this fleet of circuit breakers and spare parts are not readily available. This model family has experienced major malfunctions associated with their hydraulic mechanism, 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.



Somerton, OH/Herlan, OH/Natrium Plant, WV/Speidel, OH

Problem Statement (continue):

Somerton Station Equipment Condition/Performance/Risk

Transformer #1 138-69 kV (50 MVA nameplate rating):

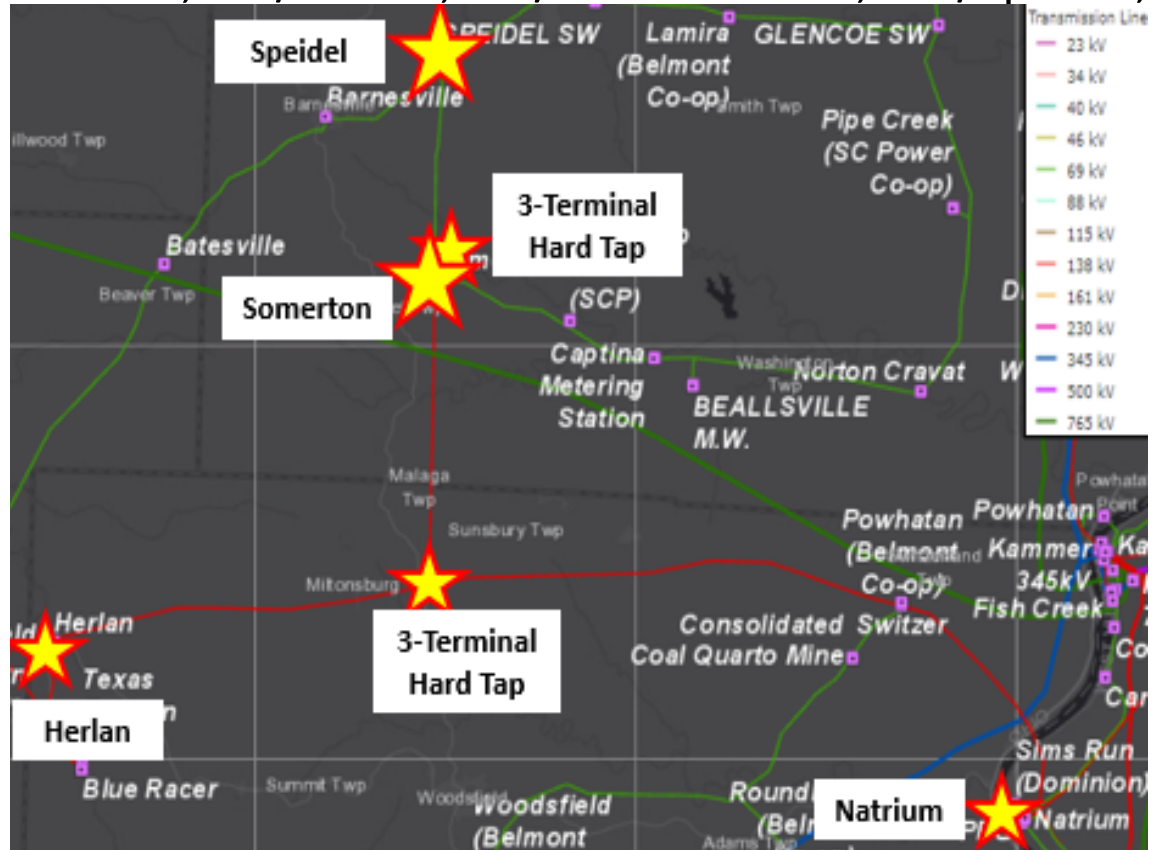
- Transformer Age: 1962
- There is an upward trend in insulation power factor, which indicates an increase in particles within the oil. The values of IFT and power factor indicate the dielectric strength of the insulation system (oil and paper) are in poor condition, which impairs the unit's ability to withstand electrical faults.
- Low levels of IFT, indicating that acid is coating the insulation and sludge is ready to deposit in the transformer
- No oil containment; the DETC has an oil leak around it
- Uses an obsolete 138kV MOAB/ground-switch protection scheme, which requires remote 138kV breaker tripping at Herlan and Natrium stations for a fault on the transformer.

Relays:

- Currently, 21 of the 28 relays (75% of all station relays) are in need of replacement. All 21 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.

Operational Flexibility and Efficiency:

- The Somerton station has 3 overlapping zones of protection: 138kV circuit, 138-69kV transformer, and 69kV bus, due to the lack of circuit breakers at the station. This requires an overly complex station protection system, which is more prone to misoperation and human error.
- The Herlan-Natrium-Somerton 138kV circuit is a 3-terminal line that is 34.7 miles in length, with a hard tap at the 3-terminal junction point. A customer is served via a ~2 mile hard tap just outside of Somerton off the ~5 mile Somerton - Speidel 69 kV circuit. 3-terminal lines are inherently more difficult to protect and more prone to misoperation and overtripping. The hard tap limits the ability of Operations and Field personnel to properly sectionalize the transmission system when doing maintenance or outage restoration.



Need Number: AEP-2026-IM003

Process Stage: Need Meeting 03/19/2026

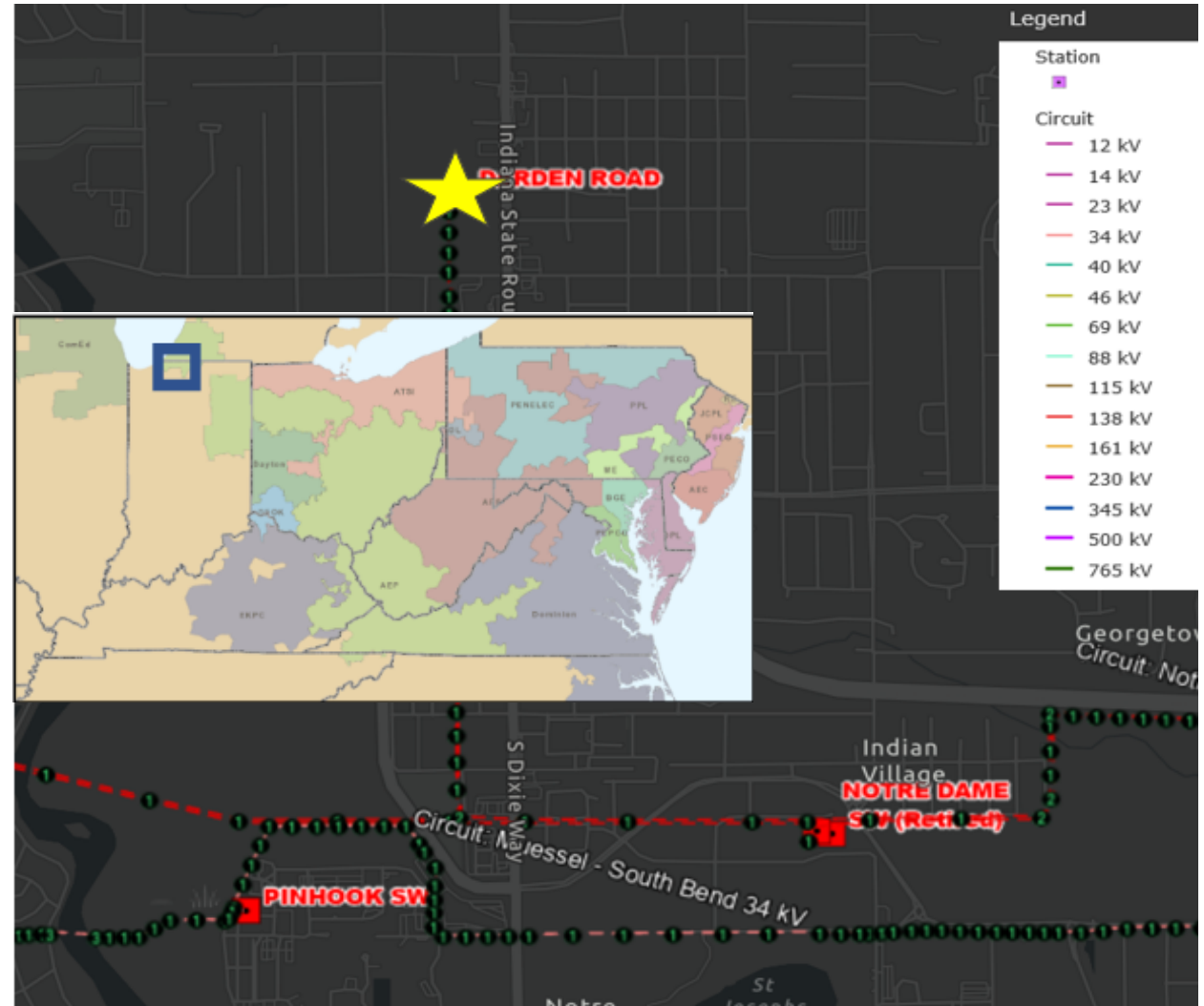
Project Driver: Customer Service

Specific Assumption References:

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

Problem Statement:

I&M distribution is requesting upgrades at their Darden Road 138kV station to address equipment material/performance/risk on Distribution equipment.



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

Need Number: AEP-2026-OH001

Process Stage: Solution Meeting SRRTEP-W - 03/19/2026

Previously Presented: Need Meeting 01/16/2026

Project Driver: Customer Service

Specific Assumption References:

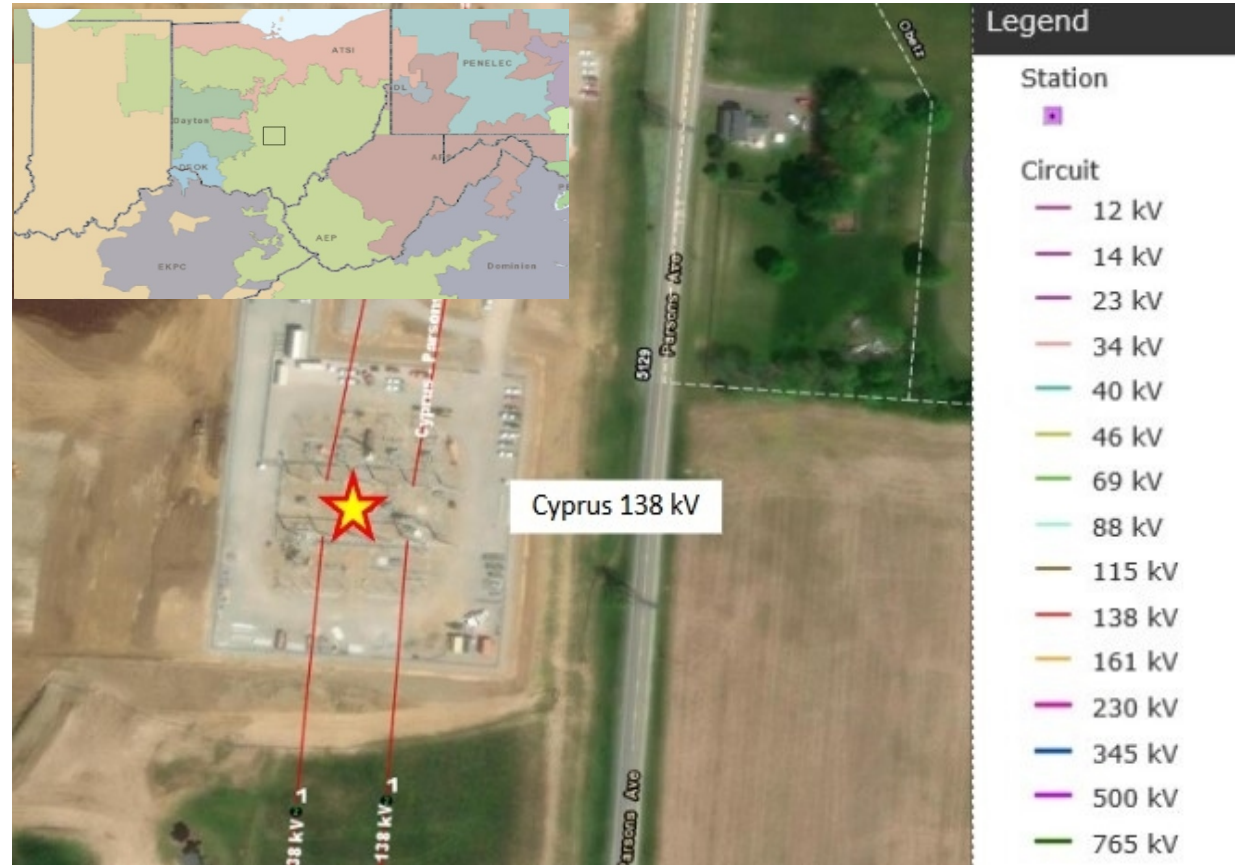
AEP Connection Requirements for the AEP Transmission System
(AEP Assumptions Slide 12)

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.



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

Need number(s): AEP-2026-OH001

Process Stage: Solution Meeting SRRTEP-W - 03/19/2026

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

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

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

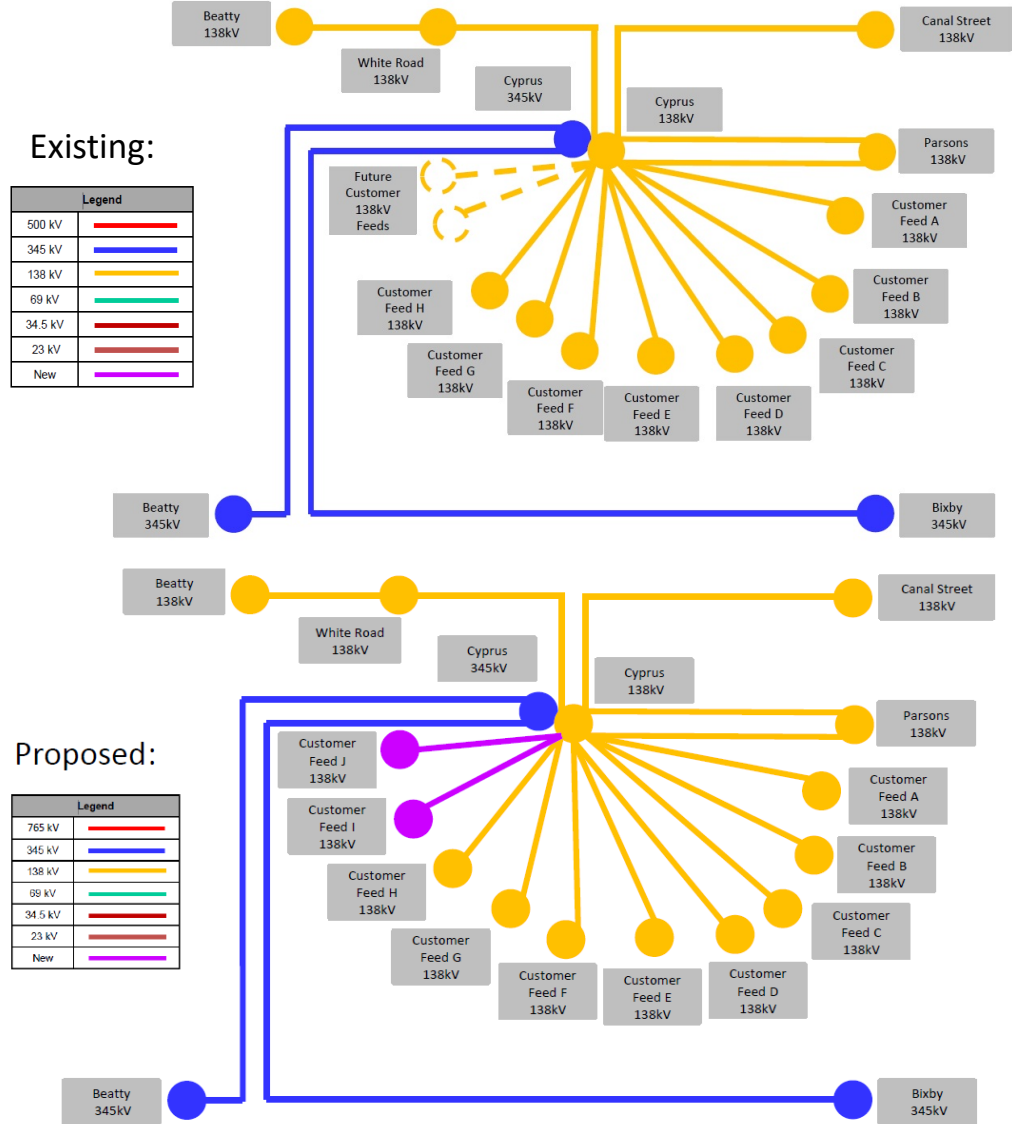
Transmission Cost Estimate: \$5.218 M

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.

Projected In-Service: 09/01/2026

Project Status: Engineering



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

03/09/2026– V1 – Original version posted to pjm.com