

Western Sub Regional RTEP: AEP Supplemental Projects

November 15, 2024

Needs

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

Need Number: AEP-2024-IM003

Need Number:

Process Stage: Need Meeting SRRTEP-W – 11/15/2024

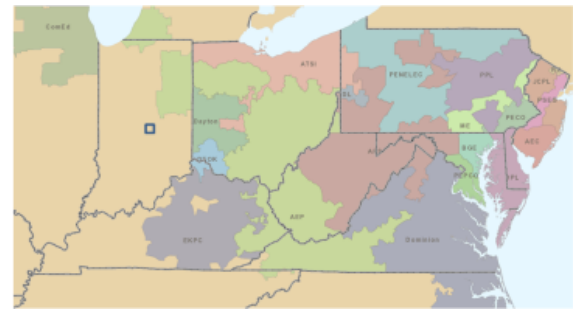
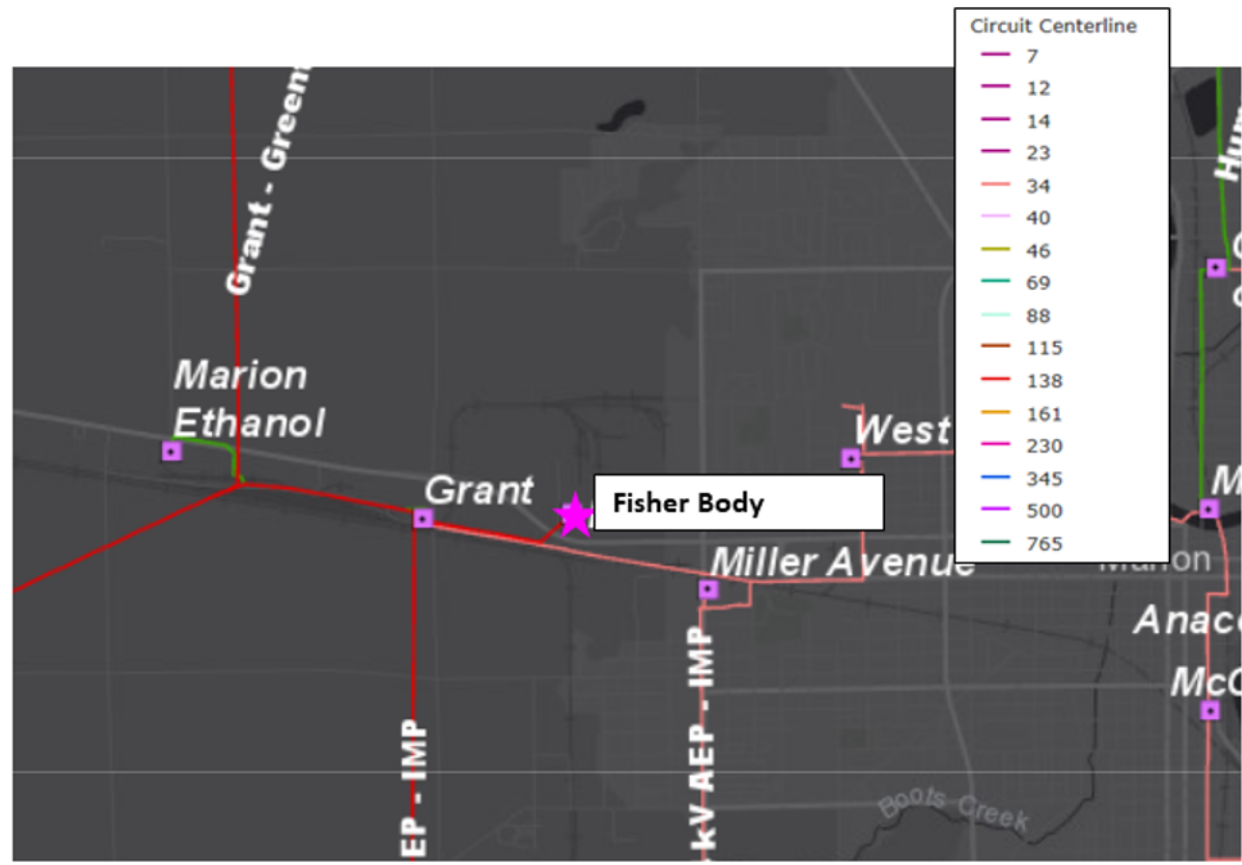
Supplemental Project Driver: Equipment Condition/Performance/Risk

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

Problem Statement:

Fisher Body:

- Circuit breaker “A” (vintage 1985) interrupting Medium: SF6
- Interrupting Capability : 40 kA
- Fault Operations:
 - Number of Fault Operations: 45
 - Manufacturer recommended Number of Operations: 10
- 145-PA type breaker which the manufacturer no longer supports and no spare parts are provided for these breakers. Most common issues documented are loss of SF6 gas and mis-operations.
- The expected life of the bushing gaskets and port seals is 25 years and the unit has exceeded it. Seals that are no longer adequate can cause SF6 leaks to become more frequent.
- 138 kV line GOAB towards Grant station has mechanisms that are no longer supported by the switch manufacturer. The 138 kV line GOAB is a center break switch that does not operate properly due to misalignment and condition of the switch itself.

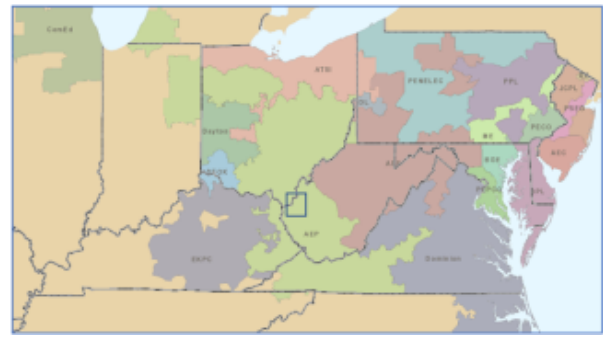
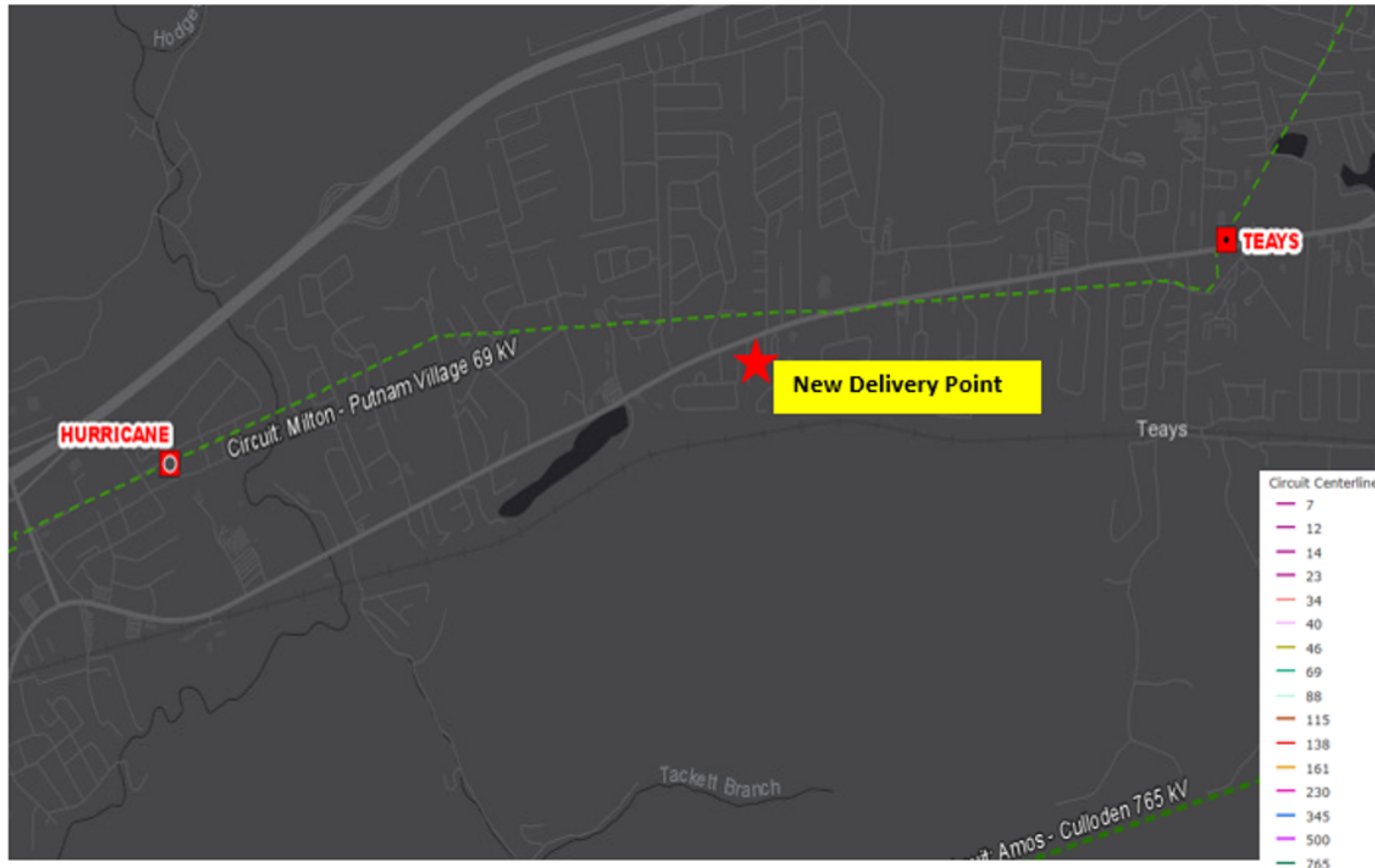


Need Number: AEP-2024-AP005
Process Stage: Need Meeting SRRTEP-W – 11/15/2024
Supplemental Project Driver: Customer Service
Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:
 APCO Distribution has requested a new transmission delivery point in 2027 to offload existing deliveries at Hurricane and Teays stations.

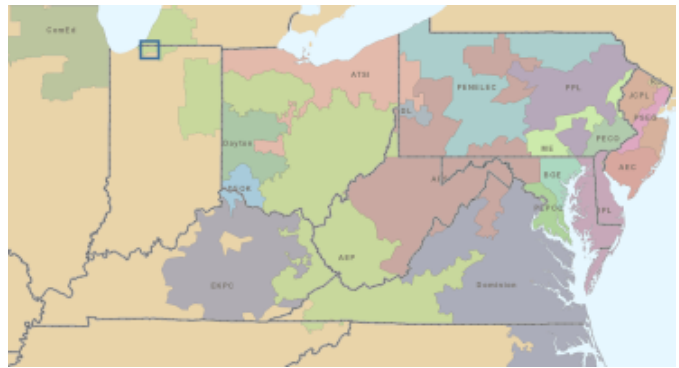
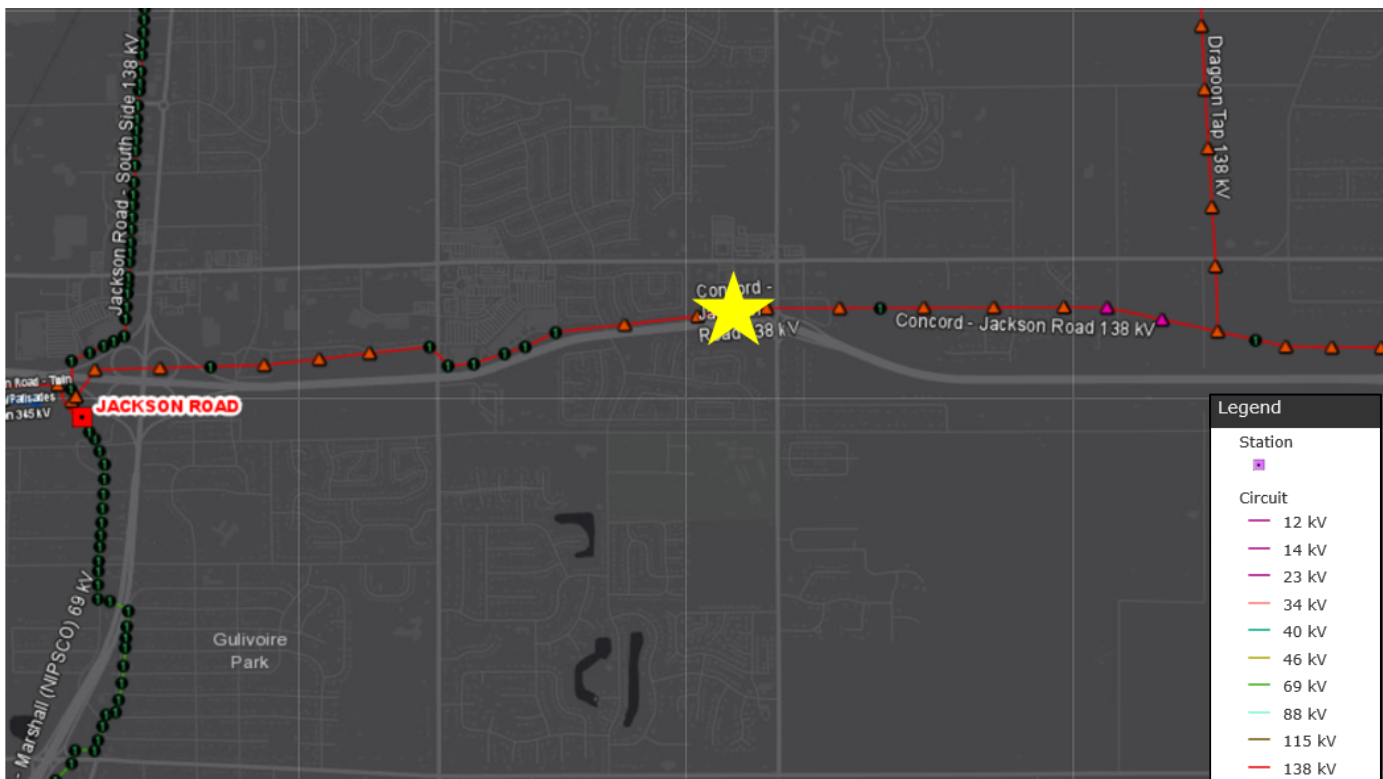
Projected Summer Peak: 14.0 MVA

Projected Winter Peak: 16.3 MVA



Need Number: AEP-2024-IM017
Process Stage: Need Meeting SRRTWP-W – 11/15/2024
Supplemental Project Driver: Customer Service
Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:
 I&M Distribution is requesting upgrades and expansion to the existing Ireland Road delivery point due to deteriorating distribution equipment and load growth in the area.



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-2024-OH033

Process Stage: Solution Meeting SRRTEP-W - 11/15/2024

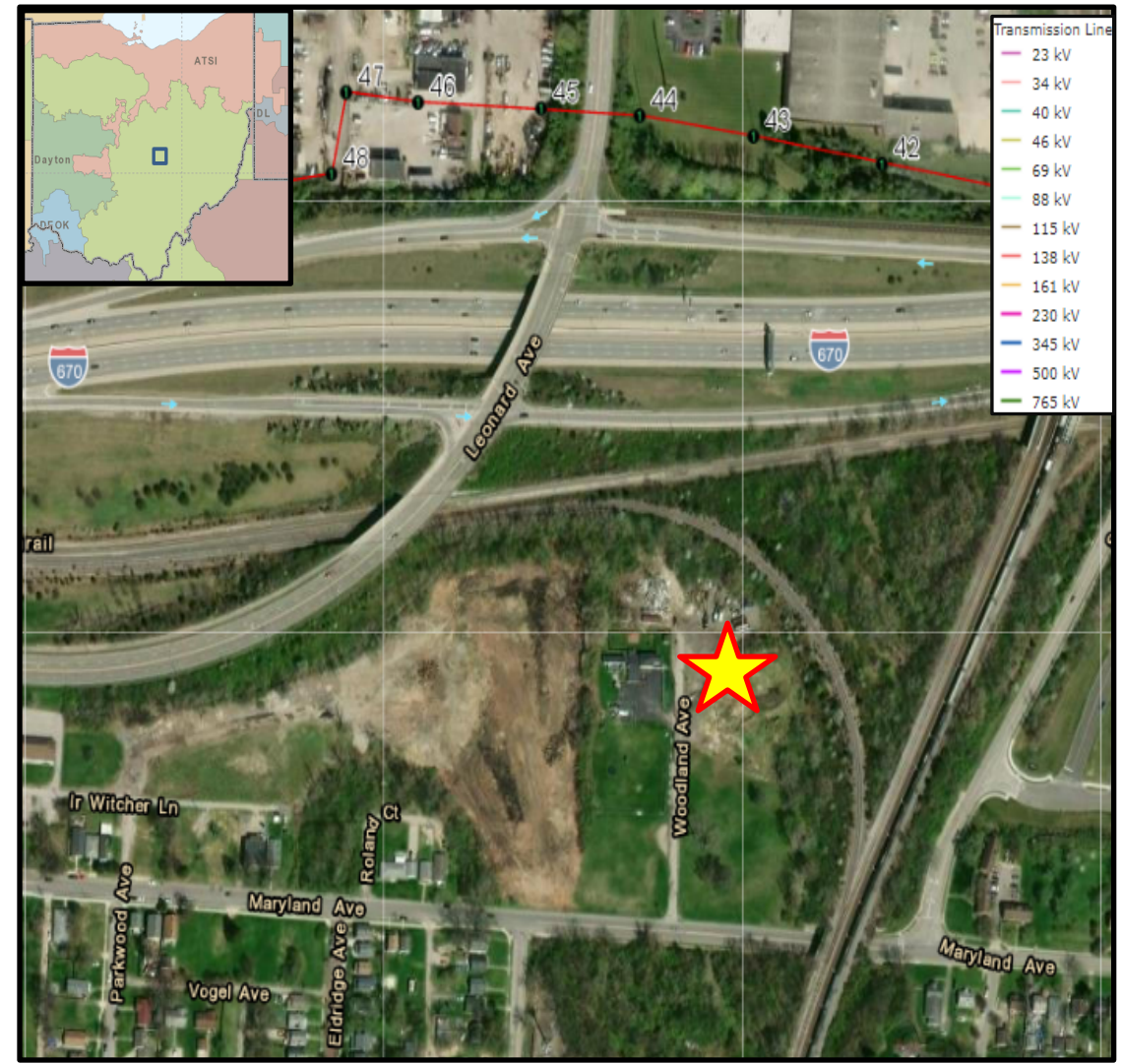
Previously Presented: Need Meeting 04/19/2024

Project Driver: Customer Service

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

Problem Statement:

- AEP Ohio is requesting a new 138 kV delivery point in Franklin County Ohio, just southeast of St. Clair and west of Bexley Station to support growth in the area. Initial load is anticipated to be approximately 18 MVA with a future projected load of approximately 23 MVA.
- The requested in-service date is November 2026.



Need Number: AEP-2024-OH033

Process Stage: Solution Meeting SRRTEP-W - 11/15/2024

Proposed Solution:

Drew Station Transmission Line Cut in and Extension work.: A greenfield double circuit 138kV T-line (~0.2 miles) will be constructed from the existing Bexley - St. Clair Ave 138 kV line cut in the new distribution delivery at the proposed Drew station.
Estimated Cost: \$5.302 M

Drew Station: To accommodate the new distribution deliveries requested a new 138/13.8 kV station called Drew will be constructed. The station will be configured as a four breaker ring utilizing 138 kV 3000A 63 kA breakers to provide service to two new 138/13.8 kV distribution transformers. Estimated Cost: \$4.746 M

Relay Upgrades at Bexley and St. Clair Avenue: Remote end work will be performed at Bexley and St. Clair Ave stations in or to coordinate with the newly proposed Drew station. Estimated Cost: \$0.746 M

Transmission Cost Estimate: \$10.793 M

Alternatives Considered:

- Transfers to other area distribution feeders and stations (St. Clair & Bexley) were considered, but capacity on these feeders is already very limited. This would only buy a year or two before overloading would again be an issue and would eliminate contingency transfer options. Reliability on the existing distribution feeder is poor and an ongoing issue with high profile customers.
- Constructing a new distribution feeder out of Bexley was considered, but a new duct and manhole system would have to be utilized for the entire length. This new feeder was estimated to cost around \$10M. Additionally, this would not address the lack of contingency transferability between feeders in the area.

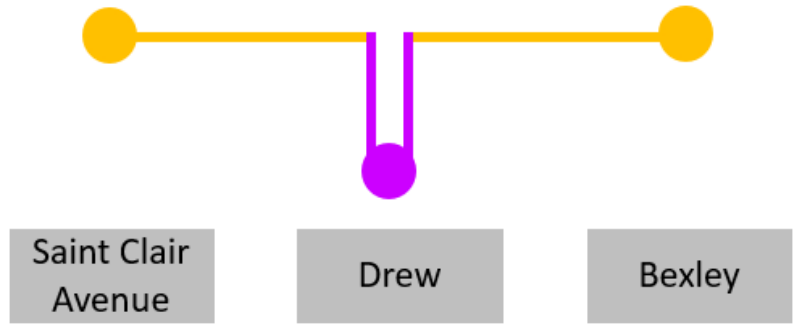
Projected In-Service: 11/30/2026

Project Status: Scoping

Existing:



Proposed:



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

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

11/5/2024 – V1 – Original version posted to pjm.com