

Transmission Expansion Advisory Committee Dayton Supplemental Projects

May 8th, 2026

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

Dayton Transmission Zone M-3 Process

Need Number: Dayton-2025-007

Previously Presented: Need Meeting 02/03/2026

Process Stage: Solution Meeting 05/08/2026

Project Driver: Customer Request

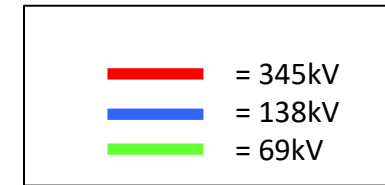
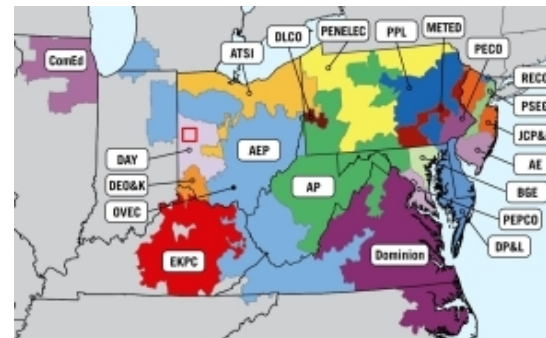
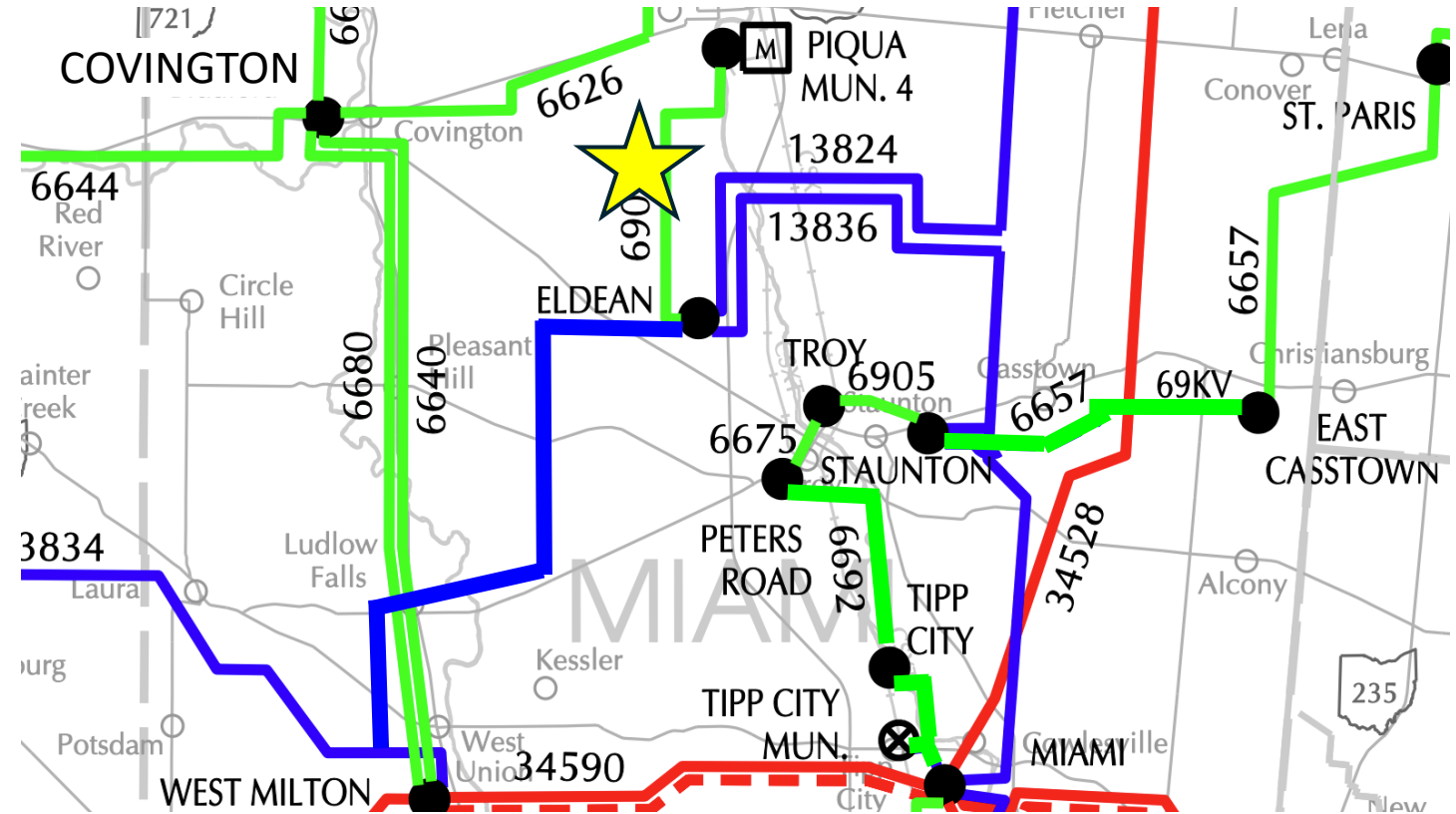
Specific Assumption Reference: Dayton Local Plan Assumptions

Problem Statement:

- AES Ohio has a datacenter customer request for service in the vicinity of its Eldean Substation in Piqua, OH.
- Total MW load requests, associated timelines, & load totals

Requested In Service Date	Total Requested New Load
12/2027	45 MW
12/2028	205 MW
05/2029	365 MW
12/2029	600 MW
05/2030	870 MW
11/2031	1140 MW
05/2033	1400 MW

- **Model:** 2024 RTEP Series, 2029 Summer Case



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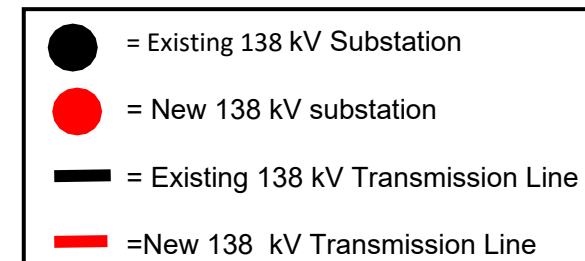
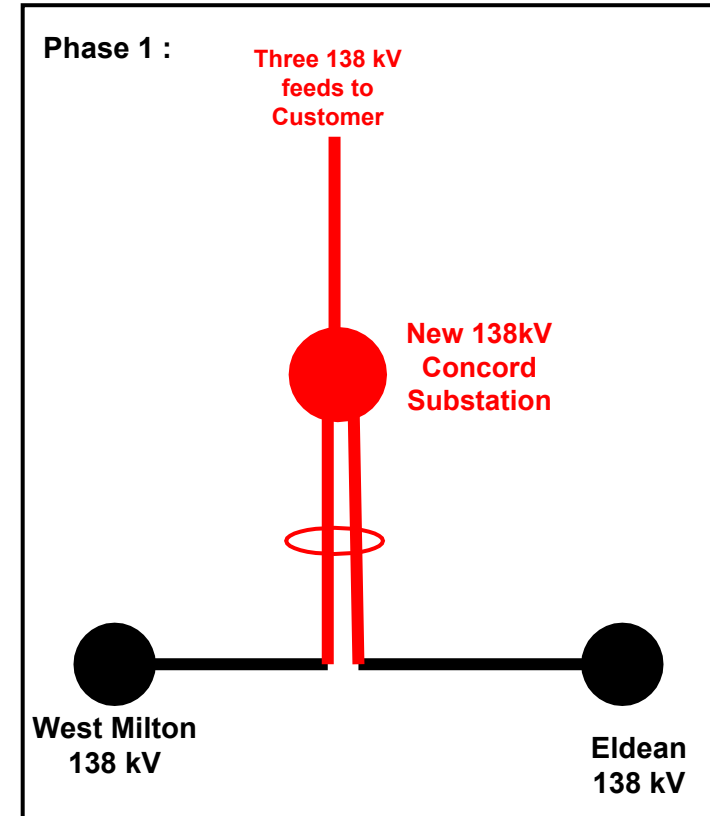
Specific Assumption Reference: Dayton Local Plan Assumptions

Problem Statement:

Phase 1 –

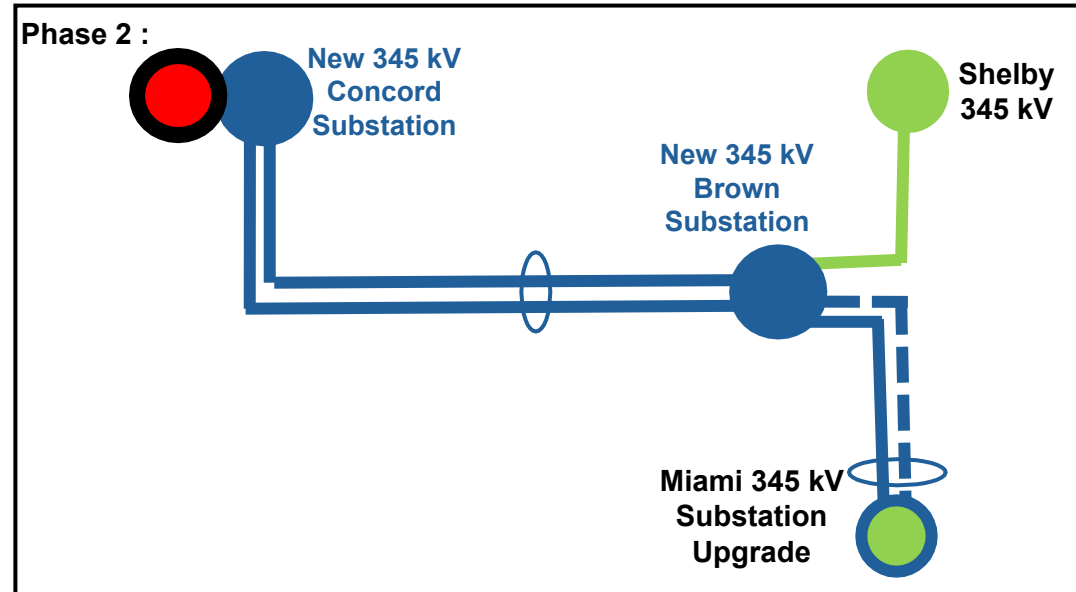
- Cutin the existing 138 kV transmission line from West Milton to Eldean and extend ~2-mile double circuit to a new 138 kV “Concord” near the customer site and add two new 31.2 MVAR capacitor banks at the new Concord 138 kV Substation.
Estimated Cost: \$41.6M
- Extend three 138kV feeds from the new Concord substation to the customer.
Estimated Cost \$8.4M (Paid by Customer)
- **Phase 1 In Service Date** – July 31, 2028

Transmission Line	SN	SE	WN	WE
Concord – Eldean 138 kV	301	374	419	468
Concord – West Milton 138 kV	301	374	419	468

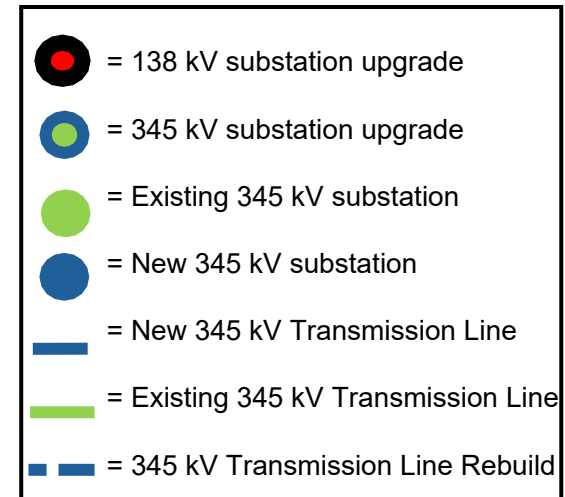


Phase 2 –

- Cutin the existing 345 kV transmission line from Miami to Shelby into a new 345 kV “Brown” Substation. **Estimated Cost:** \$40.8M
- Rebuild ~11-mile 345 kV transmission line from the new Brown substation to existing Miami substation into double circuit. **Estimated Cost:** \$22.3M
- Expand Miami 345 kV to accommodate the new transmission line. **Estimated Cost:** \$5.4M
- Construct new Concord 345 kV Substation near the customer site with two new 61.2 MVAR capacitor banks and two new 450MVA 138/345kV transformers. **Estimated Cost:** \$50.4M
- Construct ~10-mile double circuit transmission lines from Brown 345 kV substation to Concord 345 kV substation. **Estimated Cost:** \$67.2M
- **Phase 2 In Service Date –** December 31,2030

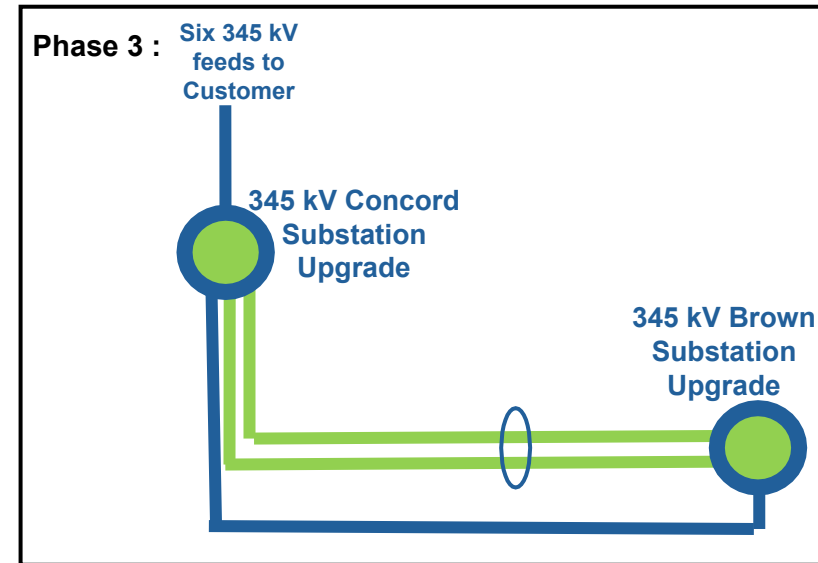


Transmission Line	SN	SE	WN	WE
Brown – Shelby 345 kV	1076	1076	1076	1076
Brown – Miami (1) 345 kV	1263	1561	1750	1954
Brown – Miami (2) 345 kV	1263	1561	1750	1954
Brown – Concord (1) 345 kV	1263	1561	1750	1954
Brown – Concord (2) 345 kV	1263	1561	1750	1954



Phase 3 –

- Six new 345 kV feeds from Concord Substation to customer. **Estimated Cost:** \$14.8M (Paid by Customer)
- Construct a new ~10-mile single circuit transmission line from Concord 345 kV substation to Brown 345 kV substation. **Estimated Cost:** \$48.2M
- Two new 50 MVar STATCOMs at the new Concord 345 kV Substation. **Estimated Cost:** \$44M
- Expand Concord 345 kV substation to accommodate the customer feeds, new Transmission Line and STATCOMs. **Estimated Cost:** \$46.8M
- Expand Brown 345 kV substation to accommodate the new Transmission Line. **Estimated Cost:** \$4.7M
- **Phase 3 In Service Date – April 30,2031**

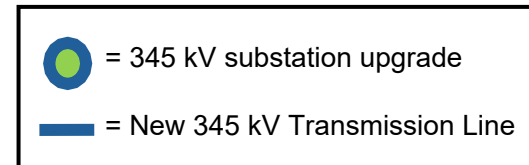
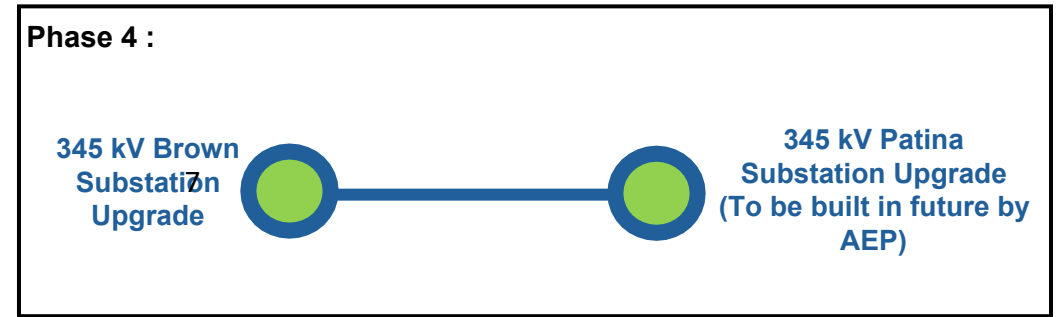


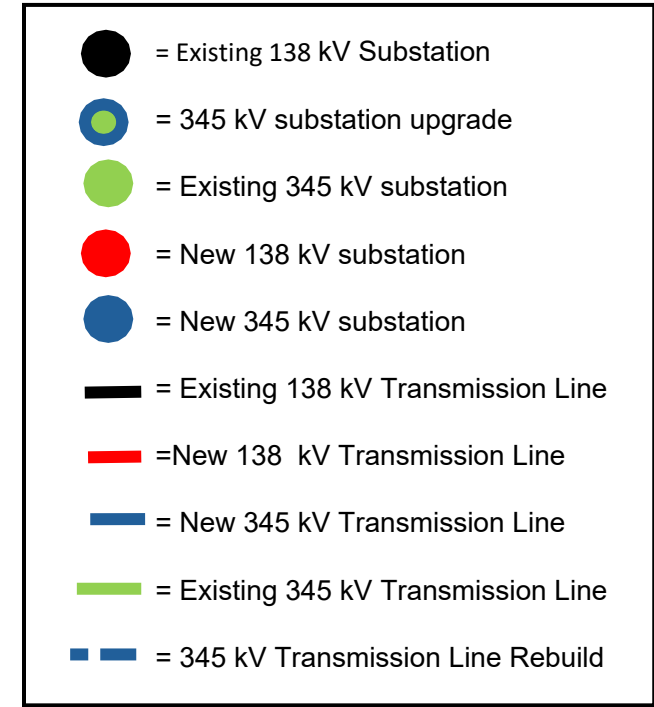
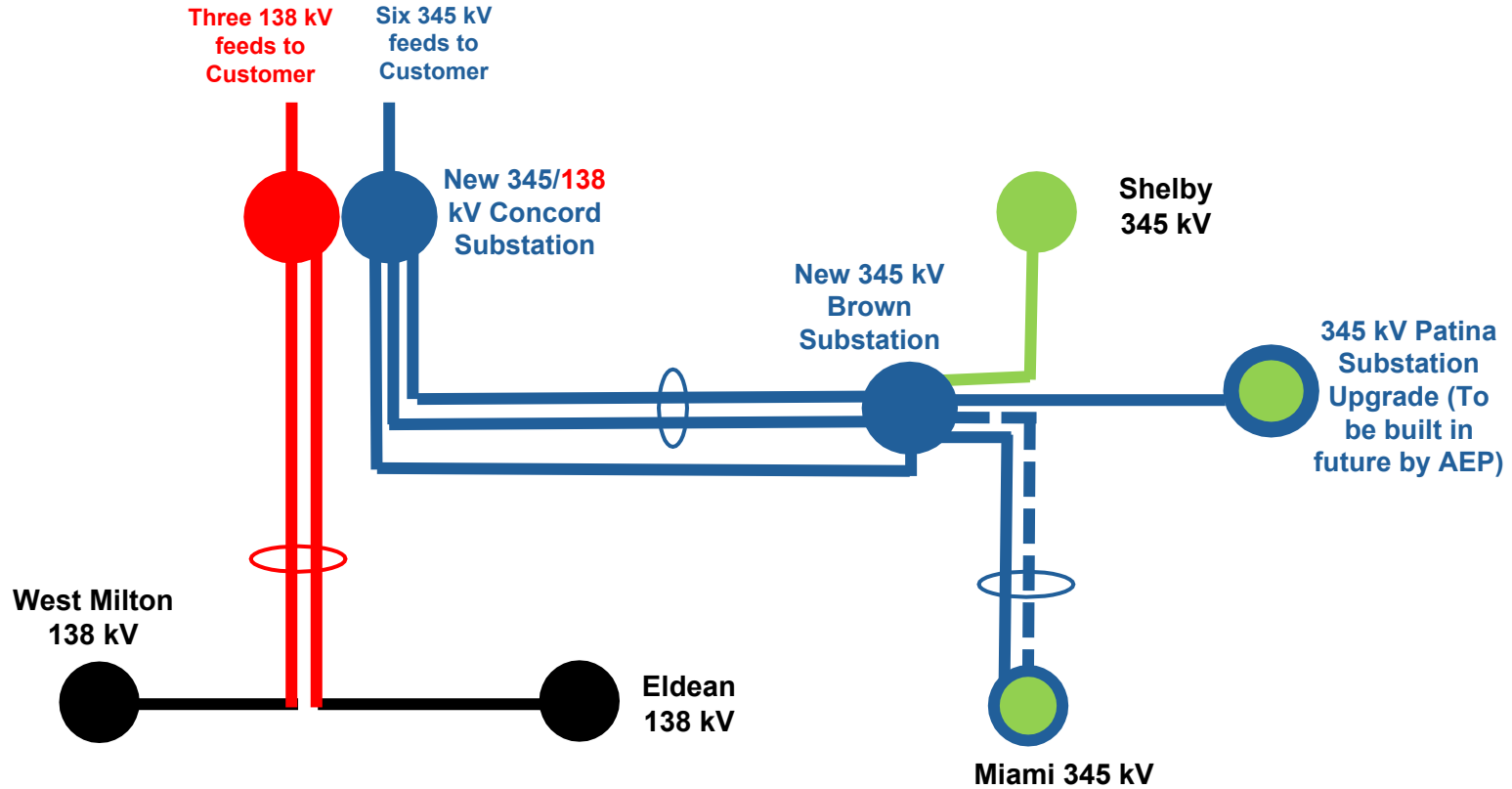
Transmission Line	SN	SE	WN	WE
Brown – Concord (3) 345 kV	1263	1561	1750	1954

Phase 4 –

- New ~37-mile single circuit 345 kV transmission line from new Brown substation to AEP’s Patina substation. **Estimated Cost: \$174.2M**
- Expand Brown 345 kV substation to accommodate the new Transmission Line. **Estimated Cost: \$4.7M**
- Expand AEP’s Patina 345 kV substation to accommodate the new Transmission Line. **Estimated Cost: \$18M**
- **Phase 4 In Service Date – June 30, 2032**

Transmission Line	SN	SE	WN	WE
Brown – Patina (AEP) 345 kV	1263	1561	1750	1954





Total Estimated Cost: \$591.5M

Projected In-Service Date: June 30th, 2032

Project Status: Conceptual

Alternatives: Multiple rebuilds in AEP Lima territory. Rebuild 345kV corridor Brown-Shelby-Gristmill (AEP)-SW Lima (AEP) (30miles) into double circuit. Rebuild SW Lima to W Moulton 138kV line. Not selected due to higher costs and extensive outages needed.

Model: 2024 RTEP Series, 2029 Summer Case

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

04/28/2026 – V1 – Original version posted to pjm.com