TEAC
Dayton Supplemental Projects

April 1, 2025

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-2025-001
Process Stage: Solutions Meeting 04/01/2025
Previously Presented: Need Meeting 02/04/2025
Project Driver: Customer Request

Specific Assumption Reference: Dayton Local Plan Assumptions (Slide 5)

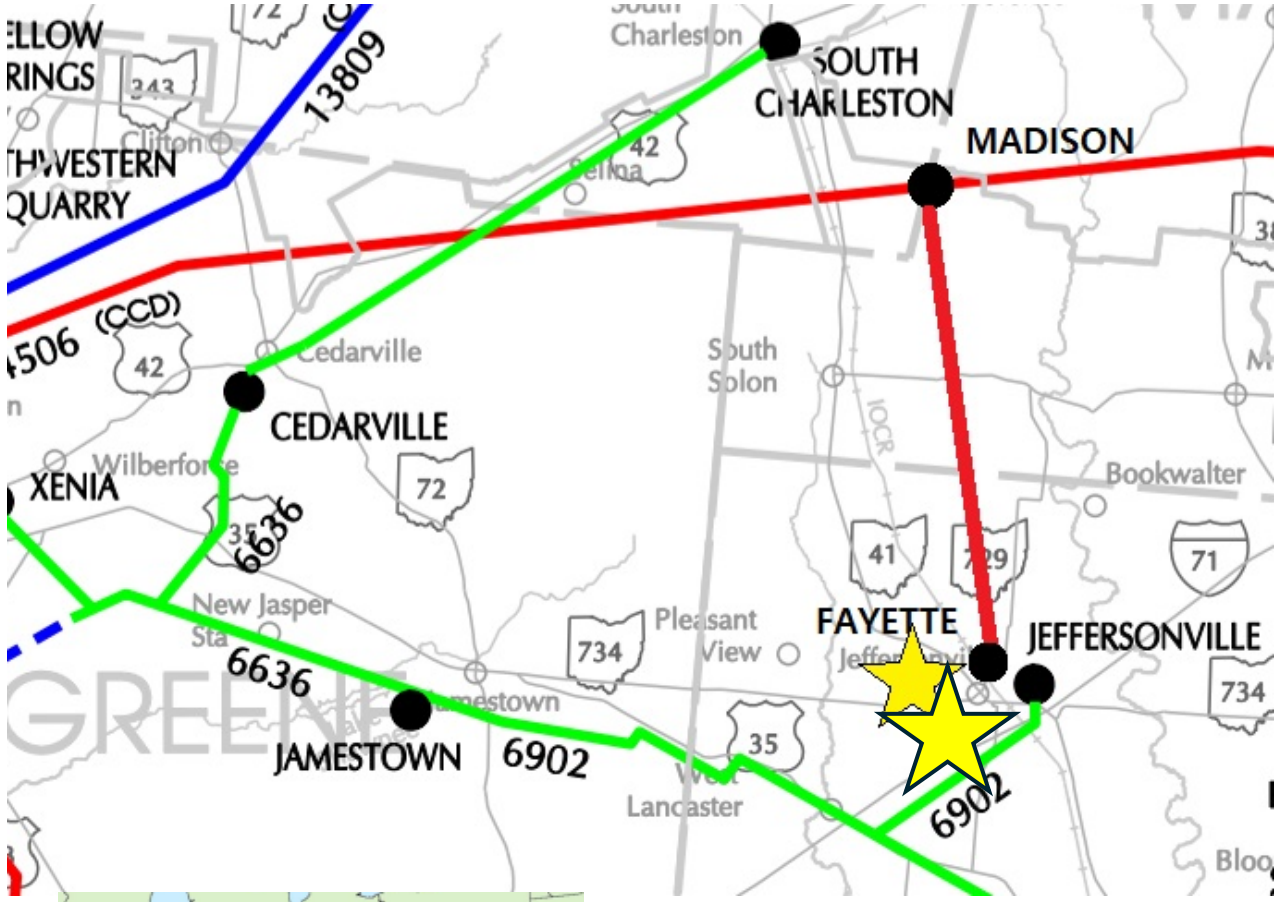
Problem Statement:

- AES Ohio has a customer request for service in the vicinity of its Fayette Substation in Jeffersonville, OH.

- Total MW load requests, associated timelines, & load totals

Requested In Service Date	Total Requested New Load
9/2026	35 MW
9/2028	480 MW
1/2031	1.5 GW

Model: 2024 RTEP Series, 2029 Summer Case



Dayton Transmission Zone M-3 Process

Need Number: Dayton-2025-002
Process Stage: Solutions Meeting 04/01/2025
Previously Presented : Need Meeting 2/04/2025
Project Driver: Customer Request

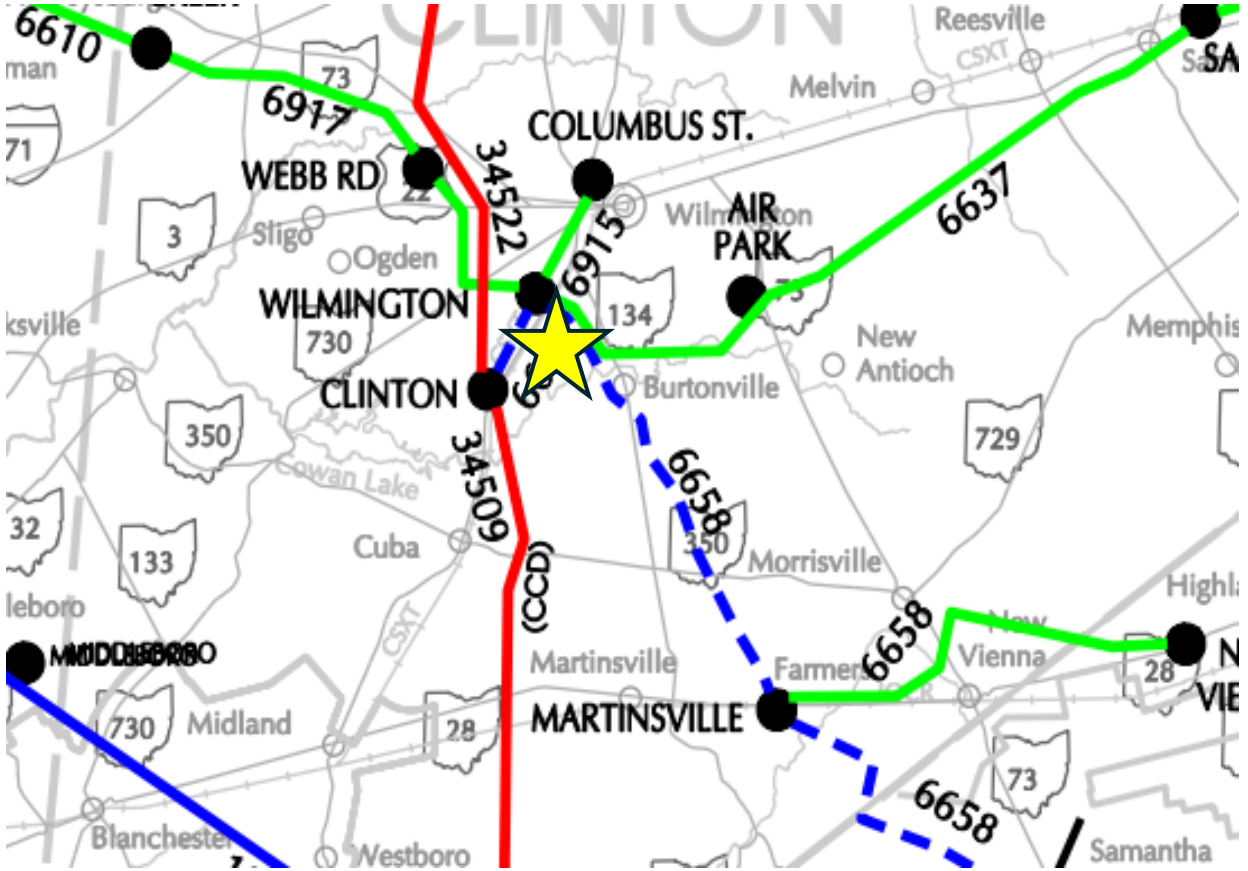
Specific Assumption Reference: Dayton Local Plan Assumptions (Slide 5)

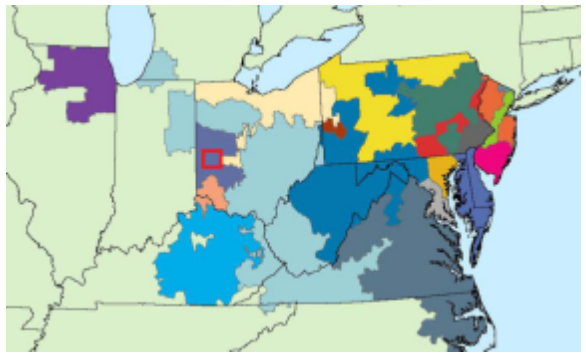
Problem Statement:

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

Requested In Service Date	Total Requested New Load
1/2028	35 MW
4/2028	100 MW
1/2029	300 MW
1/2030	500 MW

Model: 2024 RTEP Series, 2029 Summer Case





= 765kV
= 345kV
= 138kV
= 69kV

Need Number: Dayton-2025-001, Dayton-2025-002

Process Stage: Solution Meeting, 04/01/2025

Previously Presented: Need Presented, 02/04/2025

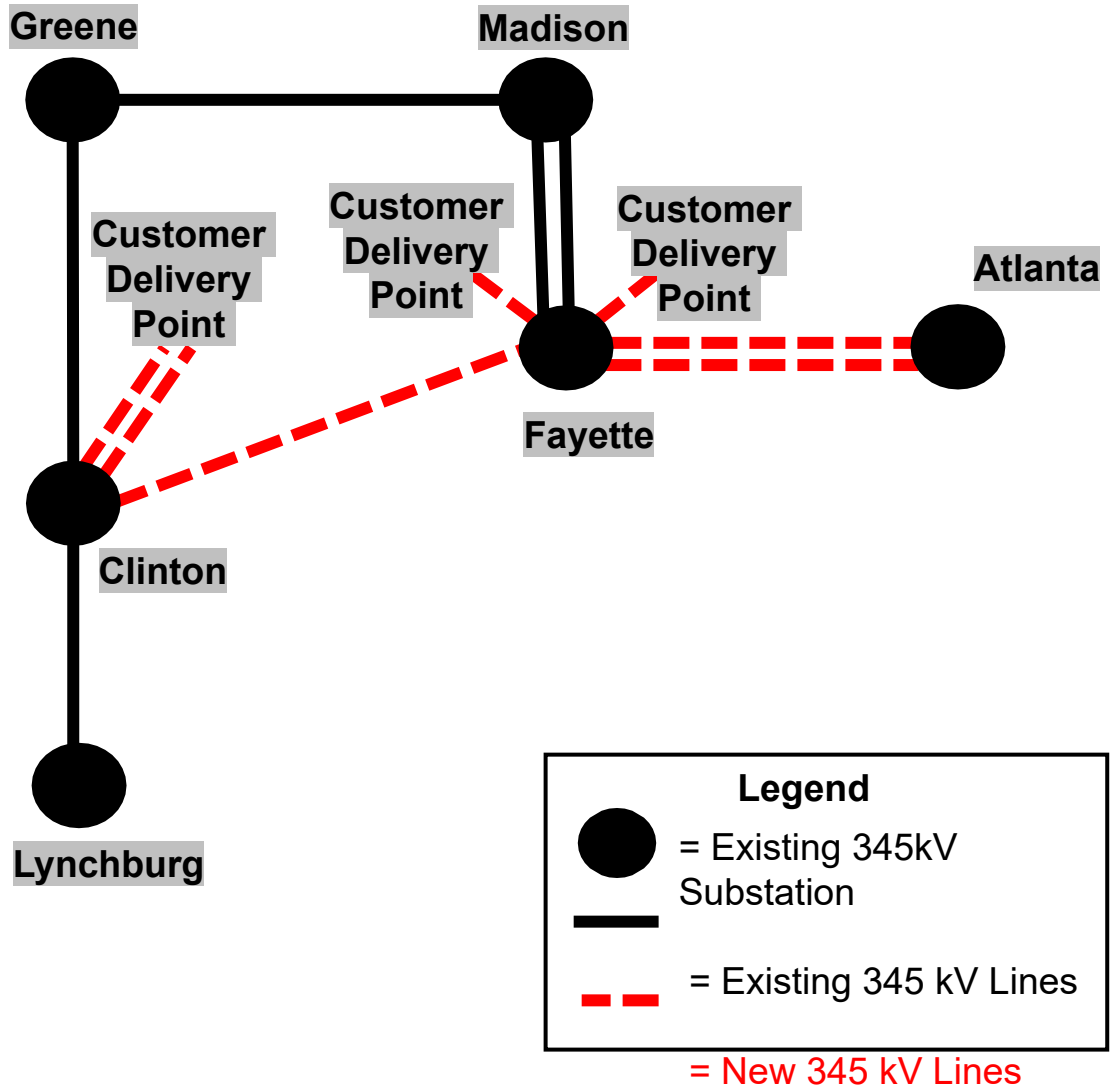
Project Driver: Customer Service

Specific Assumption Reference: Dayton Local Plan Assumptions

Selected Solution:

- **Fayette Substation:** Expand the Fayette 345 kV substation to breaker-and-a-half arrangement to accommodate the additional 345 kV lines and the customer feeds. Projected ISD: 10/30/2026 **Estimated Cost : $48 M**
- **Atlanta Substation:** Reconfigure the Atlanta 345kV substation into a breaker-and-a-half arrangement to accommodate the 2 additional 345 kV lines. **Projected ISD:** 9/1/2030 **Estimated Cost : $36 M**
- **Atlanta – Fayette 1 & 2:** Construct an ~ 25-mile 345 kV double circuit line from Atlanta substation to Fayette substation. The line is projected to be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. New expected ratings, Fayette 345kV – Clinton 345kV **SN:** 1263 MVA, **SE:** 1561 MVA **WN:** 1750 MVA **WE:** 1954. **Projected ISD:** 9/1/2030 **Estimated Cost : $ 192 M**
- **Customer Service Lines from Fayette 1-4:** Establish four ~0.5-mile 345 kV feed to the customer substations from AES's Fayette substation. These lines will be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. **Projected ISD:** 10/30/2026 **Estimated Cost : $9 M**
- **Clinton Substation:** Expand the Clinton 345 kV substation to accommodate the additional 345 kV line, 2 customer feeds, and a new 250 MVAR Static VAR Compensator. **Projected ISD:** 1/2028 **Estimated Cost : $75 M**
- **Clinton - Fayette:** Construct an ~ 27-mile 345 kV single circuit from Clinton substation to Fayette substation. These lines will be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. New expected ratings, Fayette 345kV – Clinton 345kV **SN:** 1263 MVA, **SE:** 1561 MVA **WN:** 1750 MVA **WE:** 1954. **Projected ISD:** 12/1/2031 **Estimated Cost : $ 100M**

Model: 2024 RTEP Series, 2029 Summer Case



- **Customer Service Lines from Clinton 1 & 2:** Establish two ~2-mile 345 kV single circuit feeds to the customer substation from AES's Clinton substation. These lines will be built with 2-1024.5 ACAR conductor and strung with OPGW for communications. Projected ISD: 1/30/2028 **Estimated Cost : $20 M**

Total Estimated Transmission Cost : $480 M

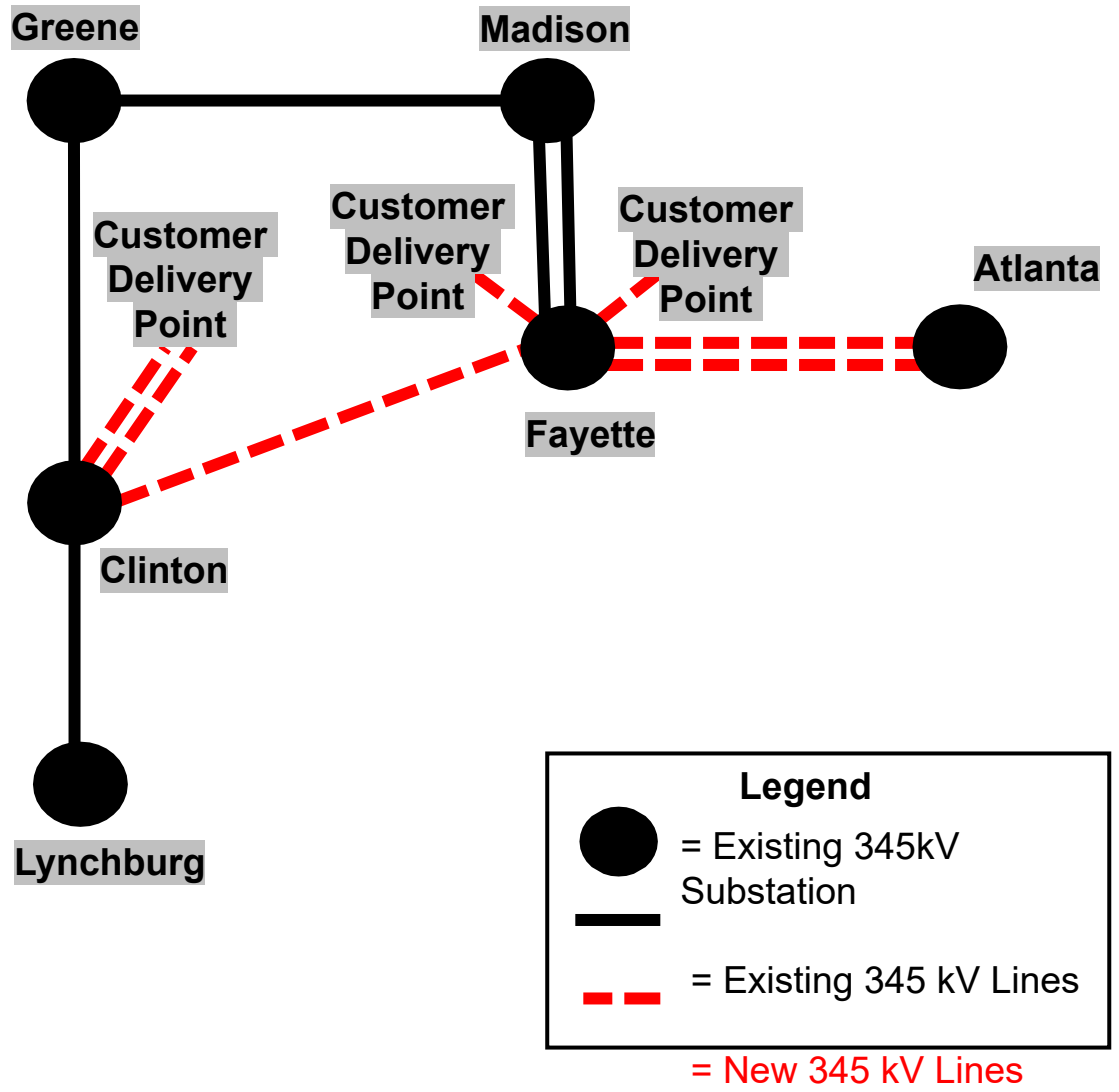
Projected In-Service: 01/2031

Project Status: Conceptual

Alternatives Considered:

- **Alternative 1:** Adding a second circuit between Clinton and Fayette, was not selected because adding a Static VAR Compensator at Clinton is more cost effective.
- **Alternative 2:** A single circuit from Atlanta to Fayette, was not selected because it would require significant reactive support at both Clinton and Fayette and causes overloads on the nearby AEP system.
- **Alternative 3:** Adding a Static VAR Compensator at Fayette, was not selected since it would require significantly more reactive support than at Clinton.

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

03/20/2025 – V1 – Original version posted to pjm.com

04/10/2025 – V2 – Dayton updated projects IS date