

# Sub Regional RTEP Committee: Western Dayton Supplemental Projects

February 18, 2022

# 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:** Dayton-2019-005

**Process Stage:** Solution Meeting 2/18/2022

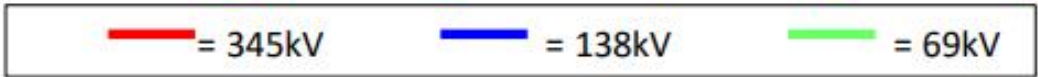
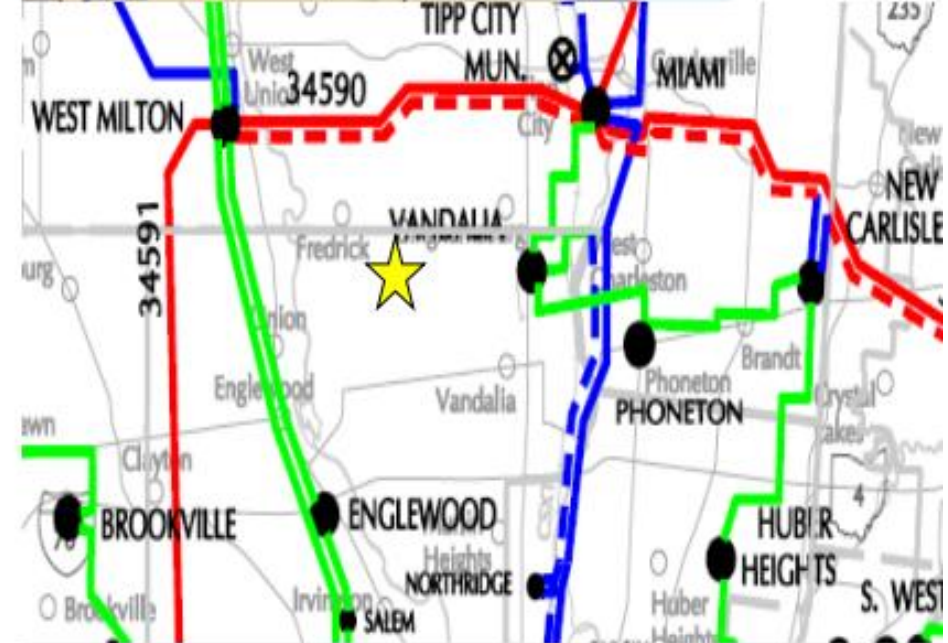
**Previously Presented:** Needs Meeting 2/20/2019, Solution Meeting 11/20/2020

**Project Driver:** Customer Service ( Source for Underlying Distribution)

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

**Problem Statement:**

- Existing distribution circuits AZ1210 and AZ1205 from Vandalia Substation exceeded their thermal rating this past summer. There continues to be strong load growth in this area with multiple transmission and distribution customer requests.
- Distribution circuits that supply the growing load center emanate from distant substations and end-use customers are beginning to see voltage issues. Specifically this has been an issue on distribution circuit OC1204 from West Milton.
- There are critical customers served in this area and there is a need to supply sufficient capacity and diversity to ensure continued reliable operations amid the rapid load growth.



**Need Number:** Dayton-2019-005

**Process Stage:** Solution Meeting 2/18/2022

**Selected Solution:** (originally presented on 11/20/2020, changes are redlined below)

This project will tap the existing West Milton to Miami 138kV line and build ~~a~~ two new ~~1.9-mile~~ 138kV circuits, each extending approximately ~1 mile from the tap point to the new substation. ~~to double circuit loop in and out of a new distribution substation.~~ There will be a single 138/12kV 30 MVA distribution transformer, ~~a~~ 138kV delivery to Pioneer REC, ~~installed at the new substation~~ and ~~three~~ four new 138kV breakers arranged in a ring bus configuration, ~~expandable to four breakers.~~ ~~OPGW will be installed between West Milton, the new substation, and Miami substation as part of this project.~~ The new substation will be in proximity to the growing load center near the Dayton airport and will provide critical distribution sources for ~~DP&L~~ AES Ohio's distribution load and Pioneer Electric distribution load in this area.

**Estimated cost:** ~~\$8.7M~~ \$12.9M

**Reason for Revision:**

- A fourth breaker and short line extension has been added to accommodate a new 138kV delivery to Pioneer who has recently finalized agreements to serve additional large new customer loads in the vicinity of the City of Union.

**Alternatives Considered:**

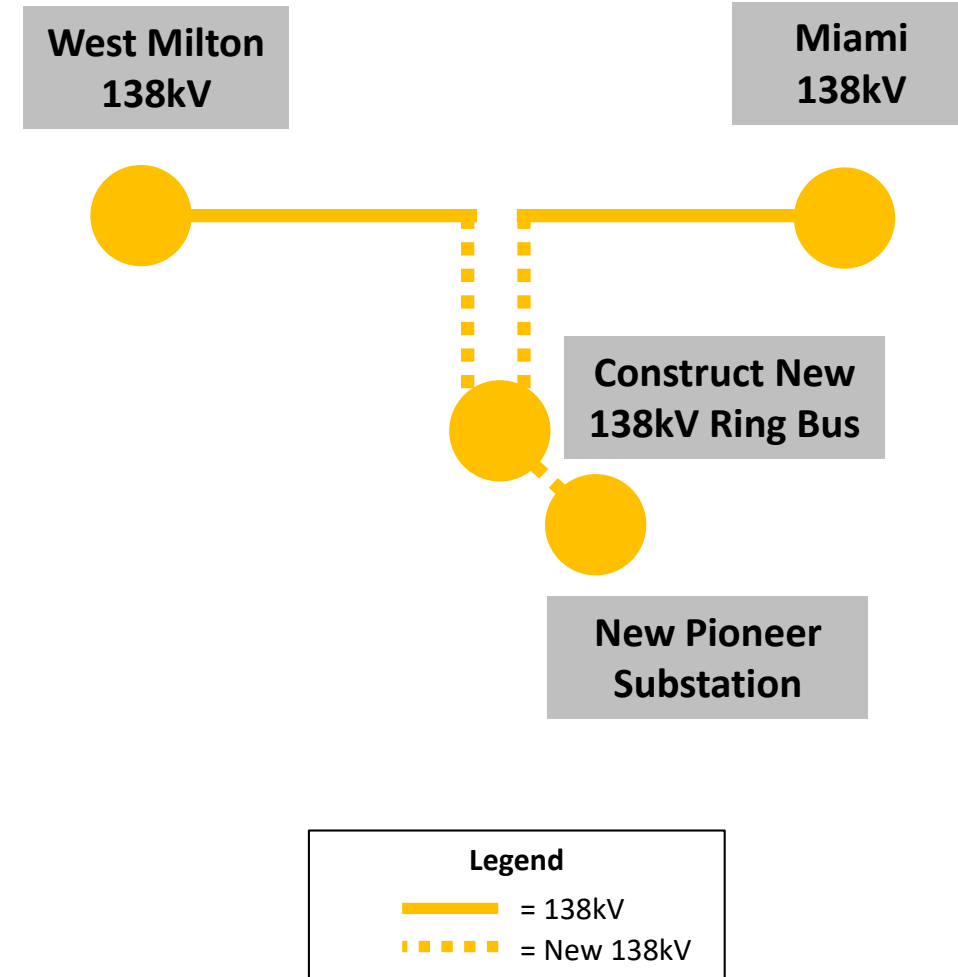
1. Route a ~4 mile double circuit 69kV line from the Salem-West Milton 69kV line to the new distribution substation. This solution would present significant routing issues including crossing a conservancy property, a flood plain, and heavy vegetation.

**Estimated cost:** ~~\$9.8M~~ \$11.1M

**Projected In-Service:** 12/31/2022

**Project Status:** Engineering

**Model:** 2020 RTEP – 2025 Summer Case



- **Need Number:** Dayton-2021-011
- **Process Stage:** Solutions Meeting 02/18/2022
- **Previous Presented:** Needs Meeting 12/17/2021
- **Project Driver:** Customer Service (Source for underlying distribution)
- **Specific Assumption Reference:** Dayton Local Plan Assumptions (Slide 5)
- **Problem Statement:**
  - AES Ohio transmission has received a request for a new distribution delivery point out of its proposed Octa substation.
  - AES Ohio's Jeffersonville substation provides service to the local area distribution system and to a large industrial customer. For the contingency loss of the 69/12kV transformer serving the industrial customer, the remaining distribution source is unable to adequately support the customer's load.
  - There are two 69/12kV distribution delivery points served via the Washington Court House substation. For the contingency loss of bank 2, the remaining distribution sources are unable to restore service to all load served from the substation
  - As part of previously presented supplemental project (S2256), AES Ohio plans to construction a new 69kV ring bus substation designated as Octa. The Octa substation allows for a second 69kV source to be established into the radially fed Jeffersonville substation while avoiding the creation of a new three terminal line configuration. This proposal seeks to address historical reliability concerns associated with the radial 6902 Jamestown-Jeffersonville-Washington Court House circuit.
  - The 6902-transmission circuit is approximately 31.16 miles in length utilizing wood pole construction and has recorded a total of 24 outages total to 1,887 minutes over the last 5 years.

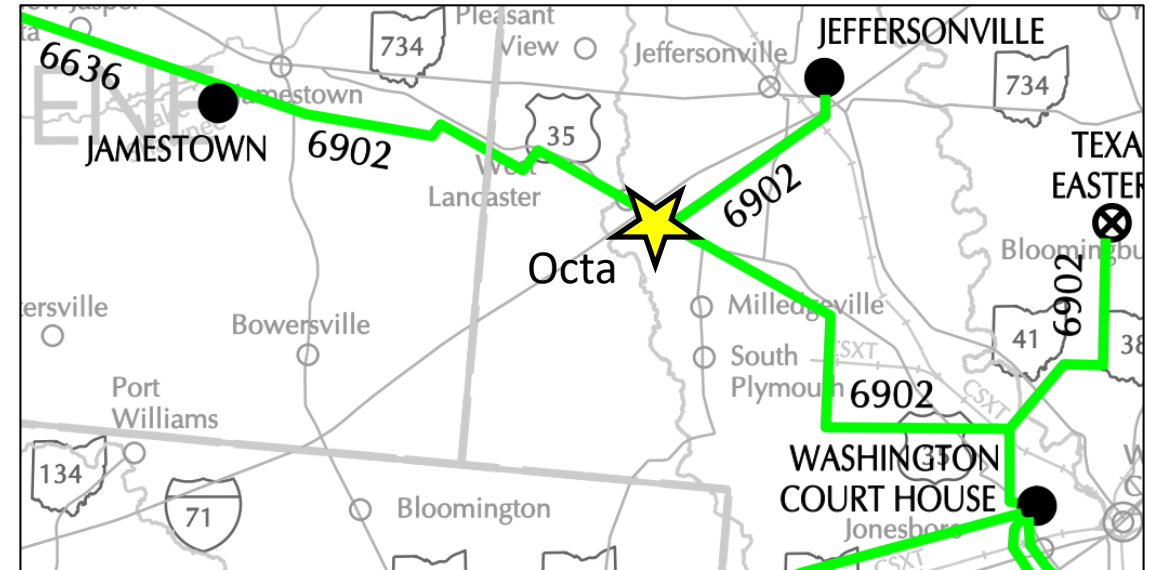
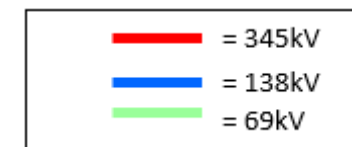


Figure 1 : Area Map



**Need Number:** Dayton-2021-011

**Process Stage:** Solutions Meeting 02/18/2022

**Selected Solution:**

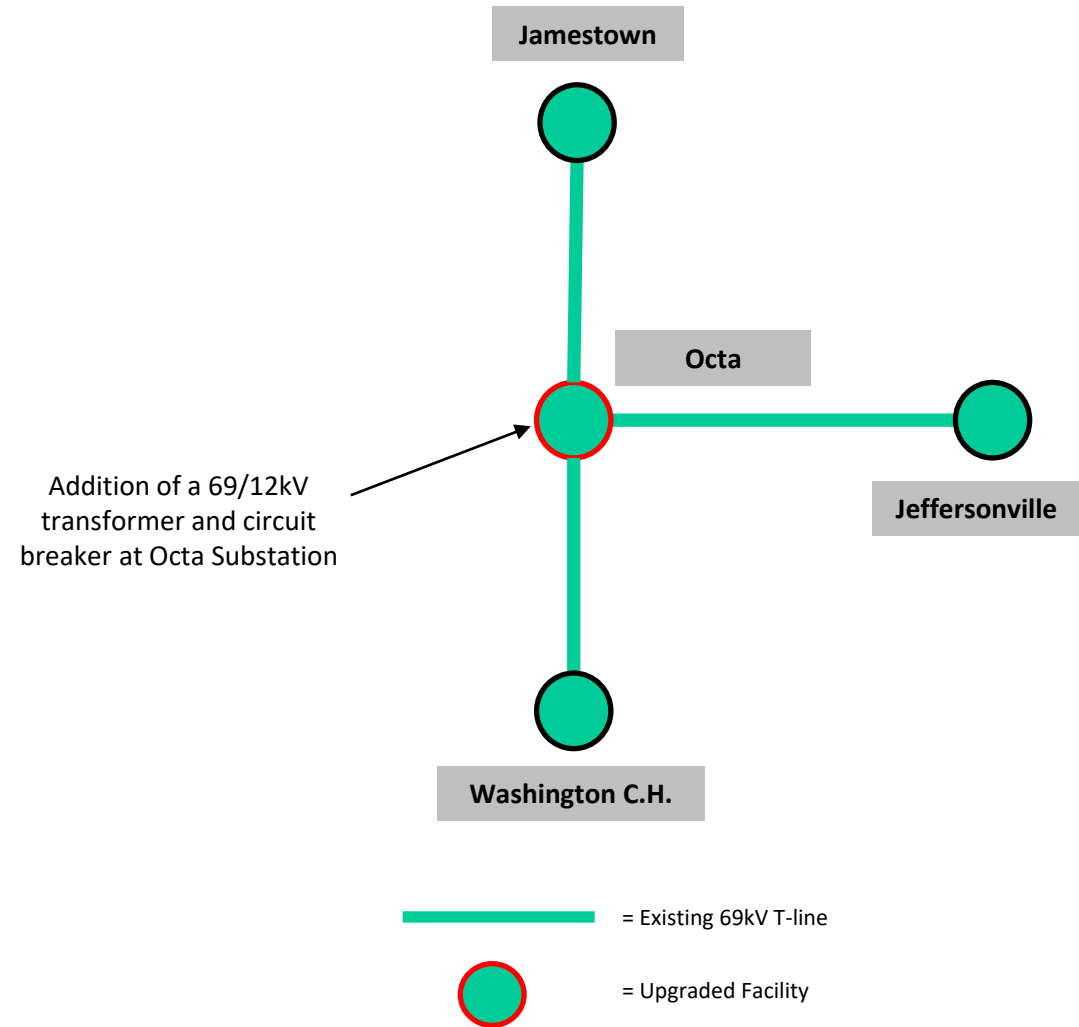
➤ **Octa Substation :** A new 69/12kV transformer will be installed at Octa Substation and terminated into a new 69kV breaker position. This will expand Octa Substation from a three breaker 69kV ring bus to a four breaker 69kV ring bus. This transformer will create a new delivery point for AES Ohio distribution. This delivery point will provide capacity and switching flexibility, particularly at the Washington Courthouse and Jeffersonville substations, ensuring load can be restored under contingency conditions.

➤ **Estimated cost :** \$310K

➤ **Projected In-Service:** 12/31/2023

➤ **Project Status:** Conceptual

➤ **Model:** 2021 RTEP – 2026 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

2/8/2022 – V1 – Original version posted to pjm.com