

Sub Regional RTEP Committee: Western Dayton Supplemental Projects

November 20, 2020

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: Dayton-2020-010

Process Stage: Needs Meeting

Date: 11/20/2020

Supplemental Project Driver(s):

Requested Customer Upgrade, Operational Performance

Specific Assumption Reference(s):

DP&L 2020 RTEP Assumptions, Slide 5

Problem Statement:

- Buckeye Power, on behalf of Pioneer Rural Electric Cooperative, has requested reliability upgrades on the Staunton-KTH 69kV 6657 line located in Miami and Champaign Counties.
- The 6657 line is a radial 17-mile 69kV wood pole line connecting DPL’s Staunton Substation to Pioneer’s KTH delivery point.
 - The line was constructed primarily in the 1960’s and is approximately 17 miles long.
 - The line has experienced 2 permanent and 3 momentary outages since 2016. Most outages were caused by lightning.
 - The line serves approximately 19MW of load between East Casstown, St. Paris, and KTH substations.
 - Loss of the 6657 line could lead to extended customer outages for customers served via East Casstown, St. Paris, and KTH due to the current radial configuration and limited switching options.
- The KTH delivery point served at the end of the radial 6657 line provides service to the largest employer in Champaign County.

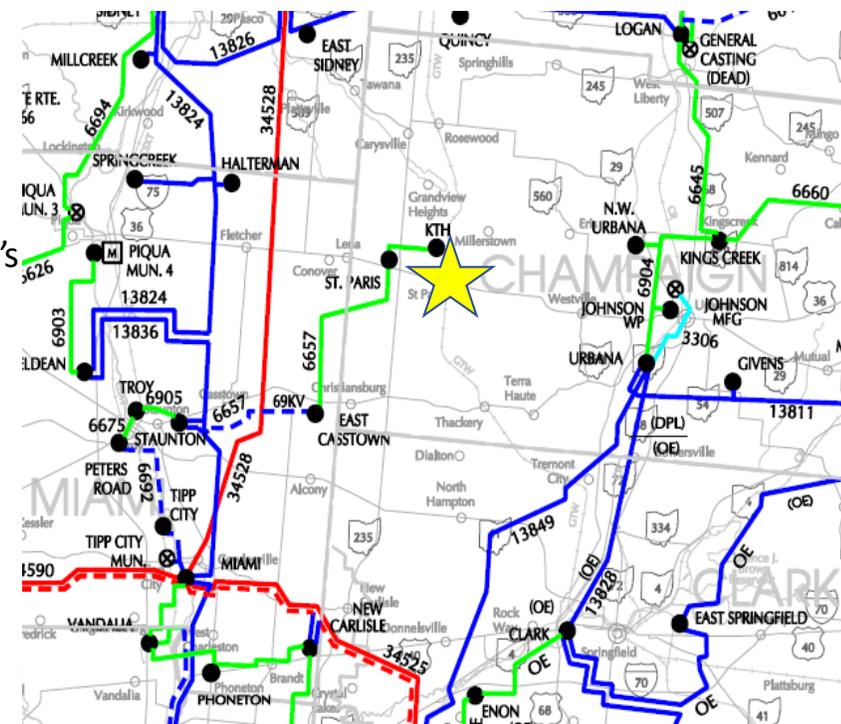
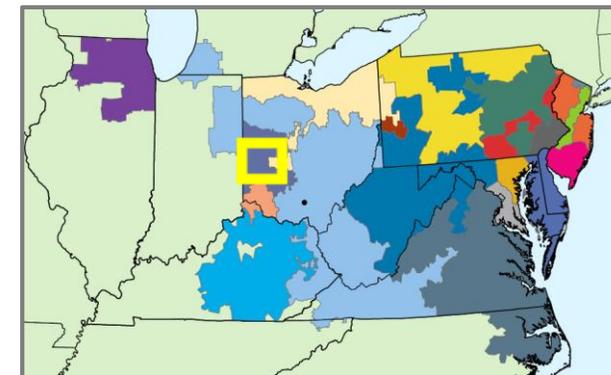


Figure 1 : Area Map

Model: 2020 RTEP Series, 2025 Summer Case

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 11/20/2020

Previously Presented: Needs Meeting 2/20/2019

Project Driver:

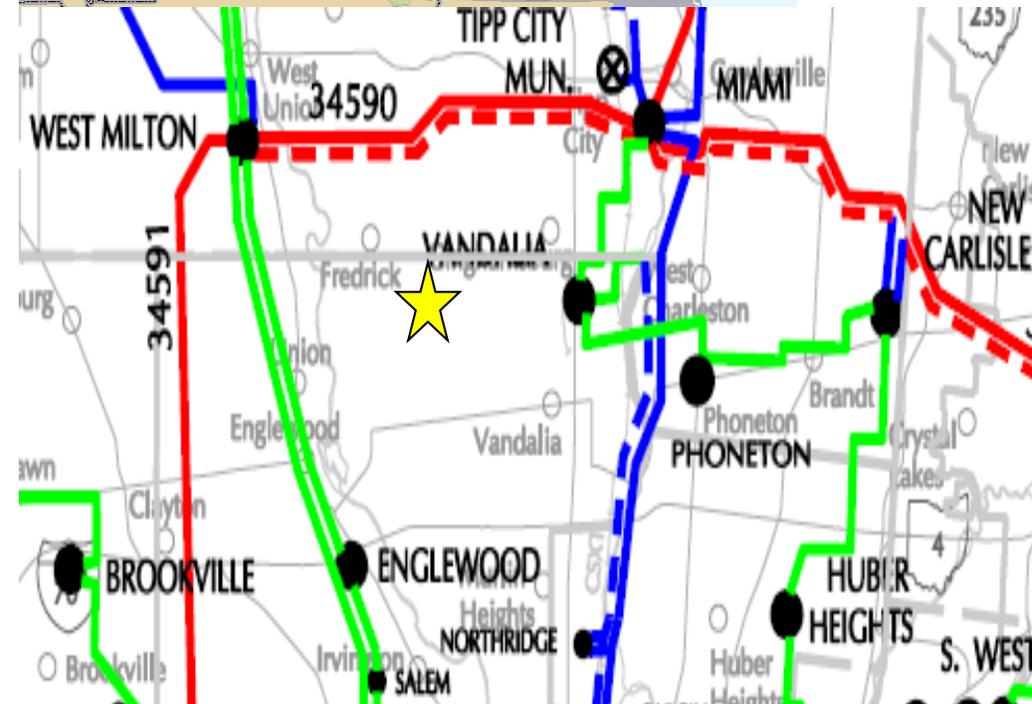
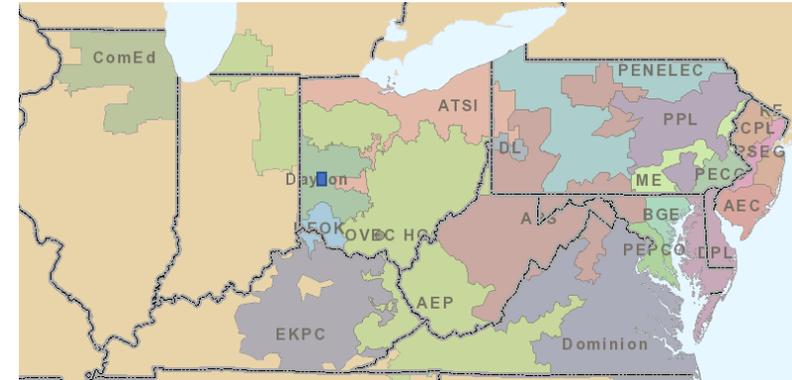
-Source for Underlying Distribution

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: Solutions Meeting 11/20/2020

Proposed Solution:

This project will tap the existing West Milton to Miami 138 kV line and build a new 1.9-mile 138 kV double circuit loop in and out of a new distribution substation. There will be a single 138/12 kV 30 MVA distribution transformer installed at the new substation and three new 138 kV breakers arranged in a ring bus configuration. OPGW will be installed between West Milton, the new substation, and Miami 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 distribution load and Pioneer Electric distribution load in this area.

Estimated Cost = \$8.7M

Alternatives Considered:

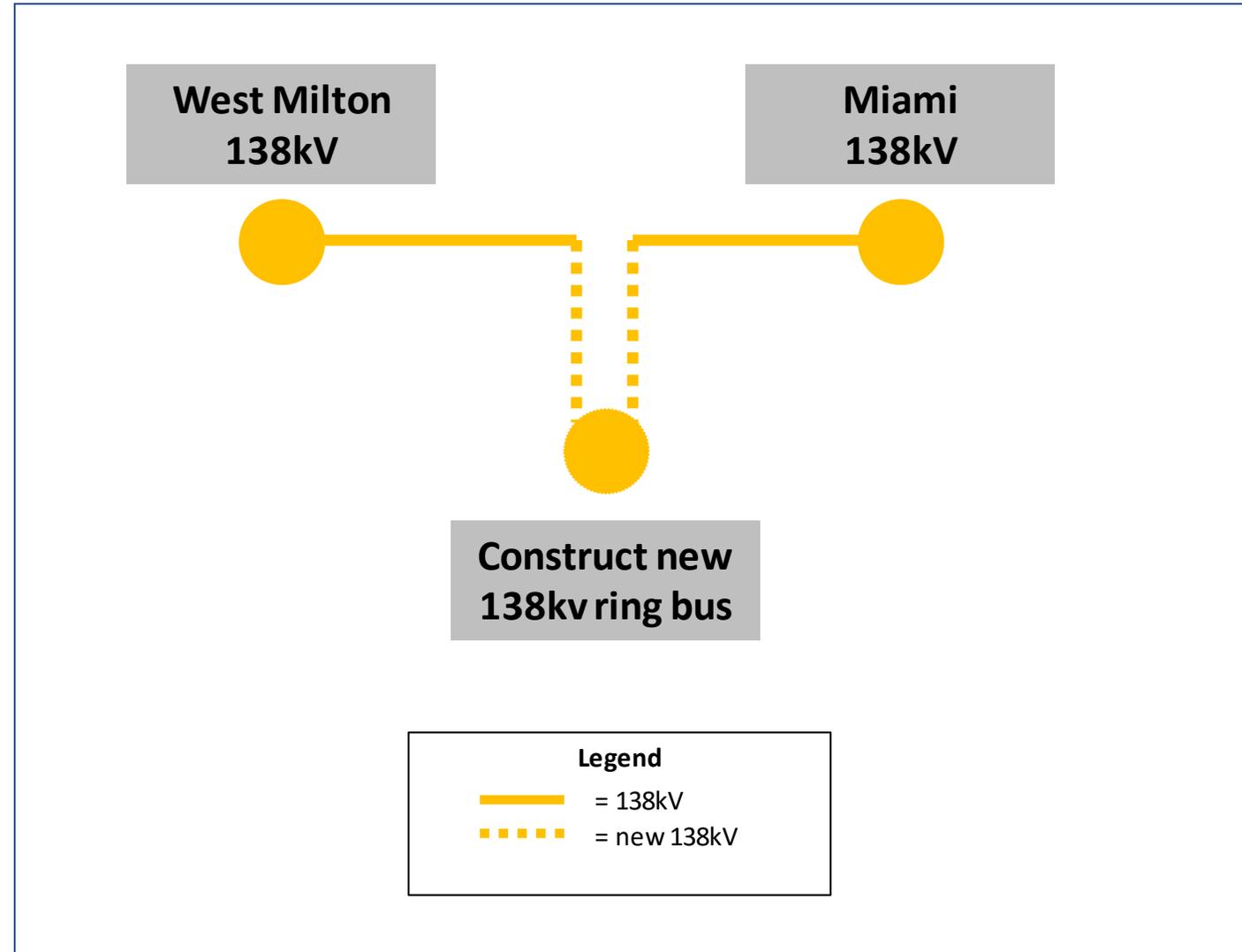
1. Route a ~4 mile double circuit 69kV line from the Salem-West Milton 69kV line to the new distribution substation. This solution would present significant routing issues including crossing a conservancy property, a flood plain, and heavy vegetation.

Estimated cost = \$9.8M

Projected In-Service: 12/31/2022

Project Status: Conceptual

Model: 2020 RTEP – 2025 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

11/10/2020 – V1 – Original version posted to pjm.com