Transmission Expansion Advisory Committee
DEOK Supplemental Projects

June 4, 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: DEOK-2024-005

Process Stage: Needs Meeting 06/04/2024

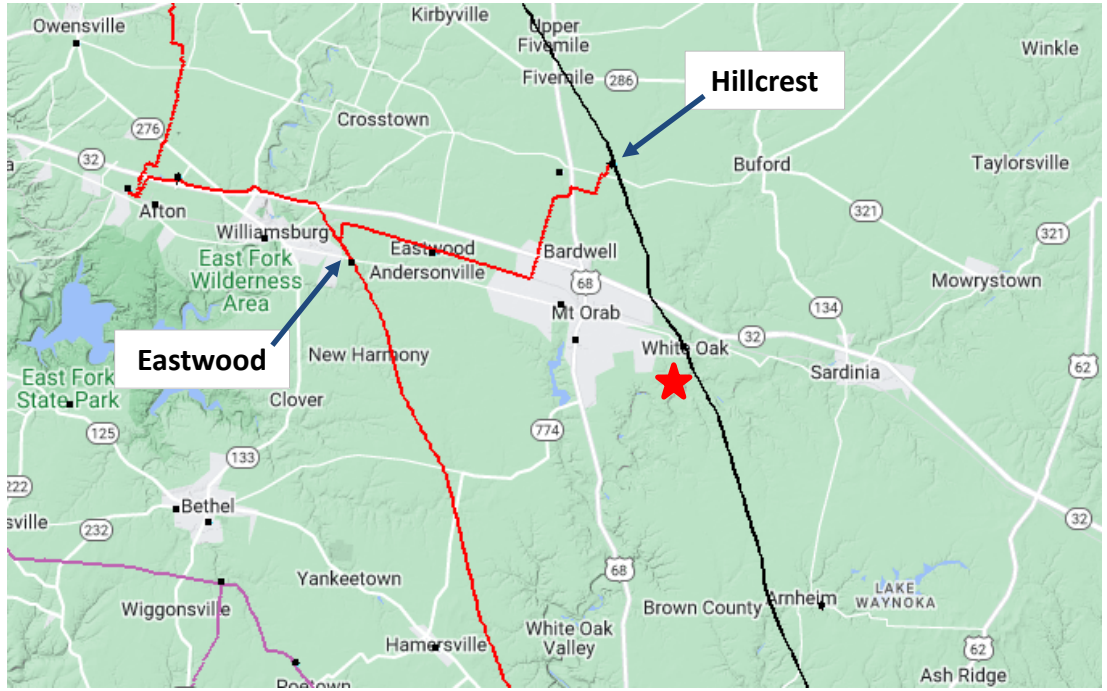
Project Driver: Customer Service

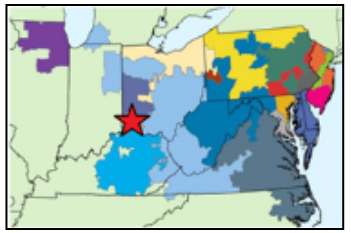
Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 6

Problem Statement:

A new customer has requested transmission service near Mt. Orab in Brown County, OH. The initial load is expected to be 10 MW in 2025, ramping to 2000 MW in 2029.





345kV
138kV
69kV

Need Number: DEOK-2024-006

Process Stage: Needs Meeting 06/04/2024

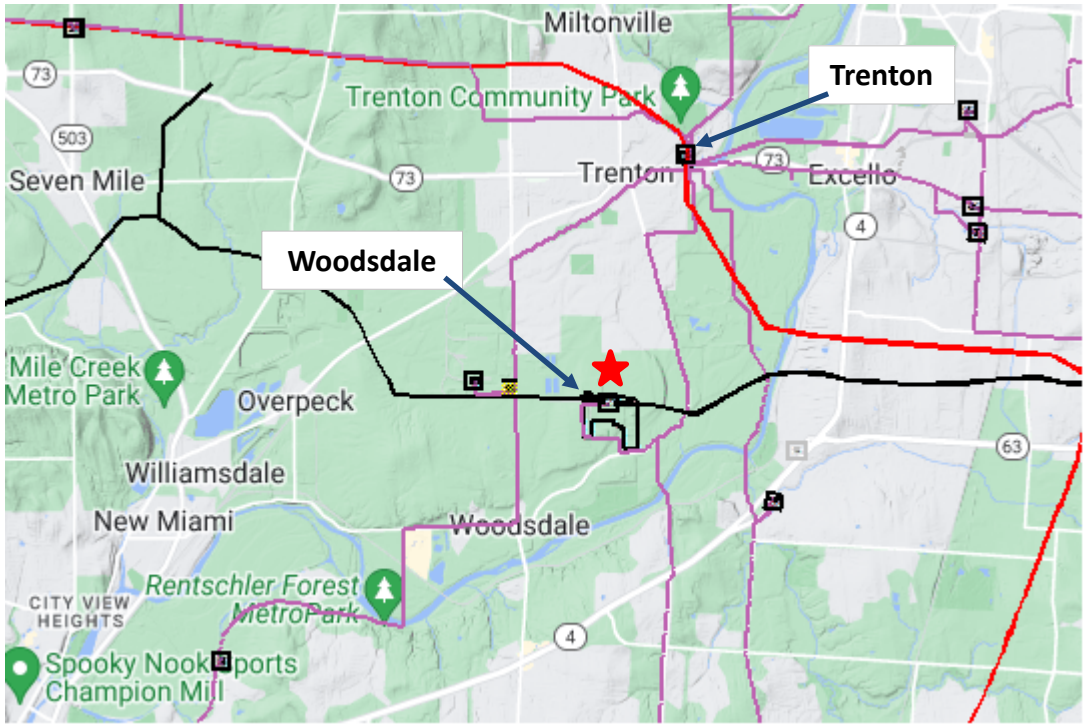
Project Driver: Customer Service

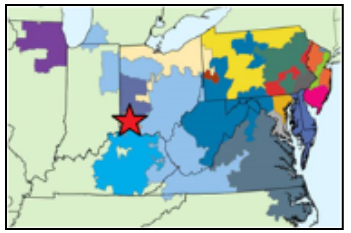
Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 6

Problem Statement:

A new customer has requested transmission service near Trenton in Butler County, OH. The initial load is expected to be 15 MW in 2025, ramping to 500 MW in 2028.





345kV
138kV
69kV

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

DEOK Transmission Zone M-3 Process
Woodsdale

Need Number: DEOK-2021-002

Process Stage: Solutions Meeting 06/04/2024

Previously Presented: Needs Meeting 03/19/2021

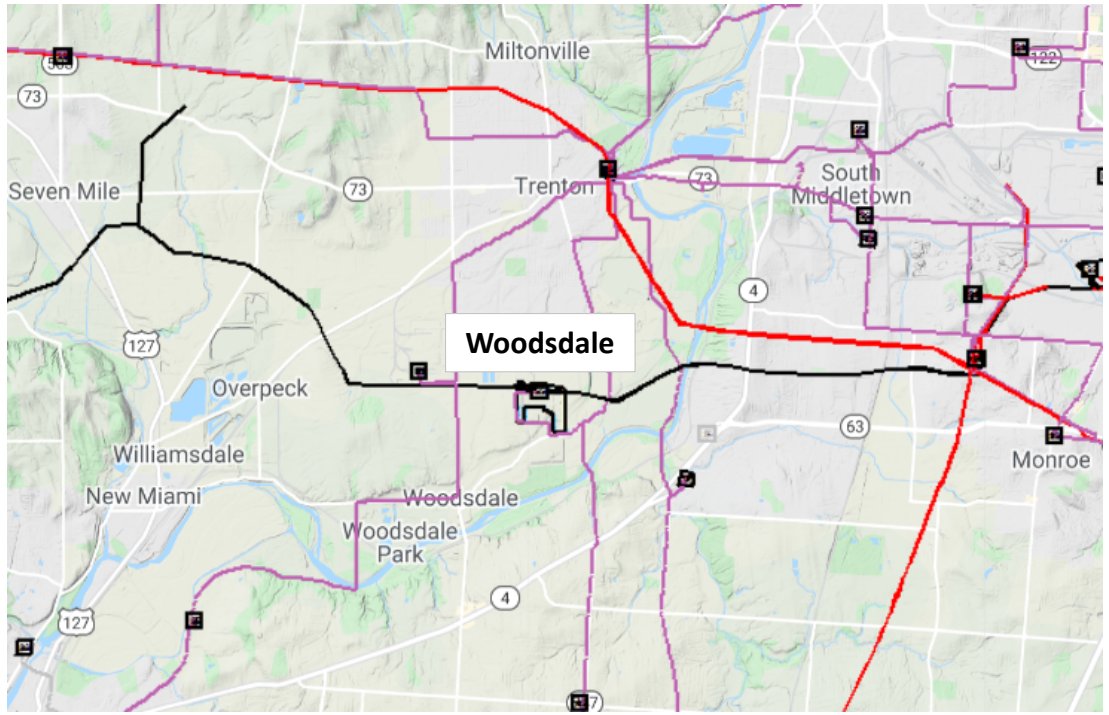
Project Driver: Equipment Condition, Performance and Risk

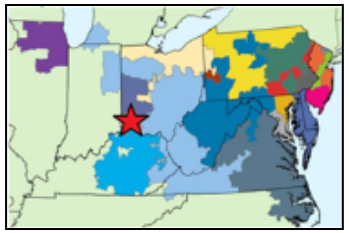
Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 5-6

Problem Statement:

Woodsdale substation has nine 345 kV Cogenel breakers that went into service in 1992. These breakers require intensive maintenance due to issues with hydraulic systems and oil filled CTs. Spare parts availability is challenging due to these being unique, older model breakers. The number of operations on these breakers ranges from 221 to 457.





345kV
138kV
69kV

DEOK Transmission Zone M-3 Process
Woodsdale

Need Number: DEOK-2021-002

Process Stage: Solutions Meeting 06/04/2024

Previously Presented: Needs Meeting 03/19/2021

Project Driver: Equipment Condition, Performance and Risk

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 5-6

Potential Solution:

Replace the circuit breakers with 3000A, gas filled circuit breakers. Replace 17 disconnect switches with 3000A switches. Replace all bus conductor with dual 1590 kcmil conductor.

Alternatives: none

Ancillary Benefit: The higher rated breakers, switches and bus conductor eliminate single element derate contingencies, making the transmission line conductors the limiting elements.

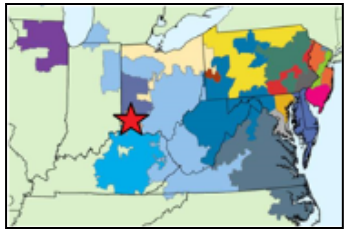
Estimated Transmission Cost: $7,769,972

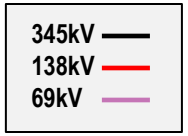
Proposed In-Service Date: 11/12/2027

Project Status: Engineering

Model: 2023 RTEP

Bubble Diagram Not Applicable
Station Modifications Only





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

5/23/2024 – V1 – Original version posted to pjm.com