

Subregional RTEP Committee - Western DEOK Supplemental Projects

July 19, 2024

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

Existing Customer New Substation

Need Number: DEOK-2023-008

Process Stage: Solutions Meeting 07/19/2024

Previously Presented: Needs Meeting 11/17/2023

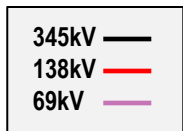
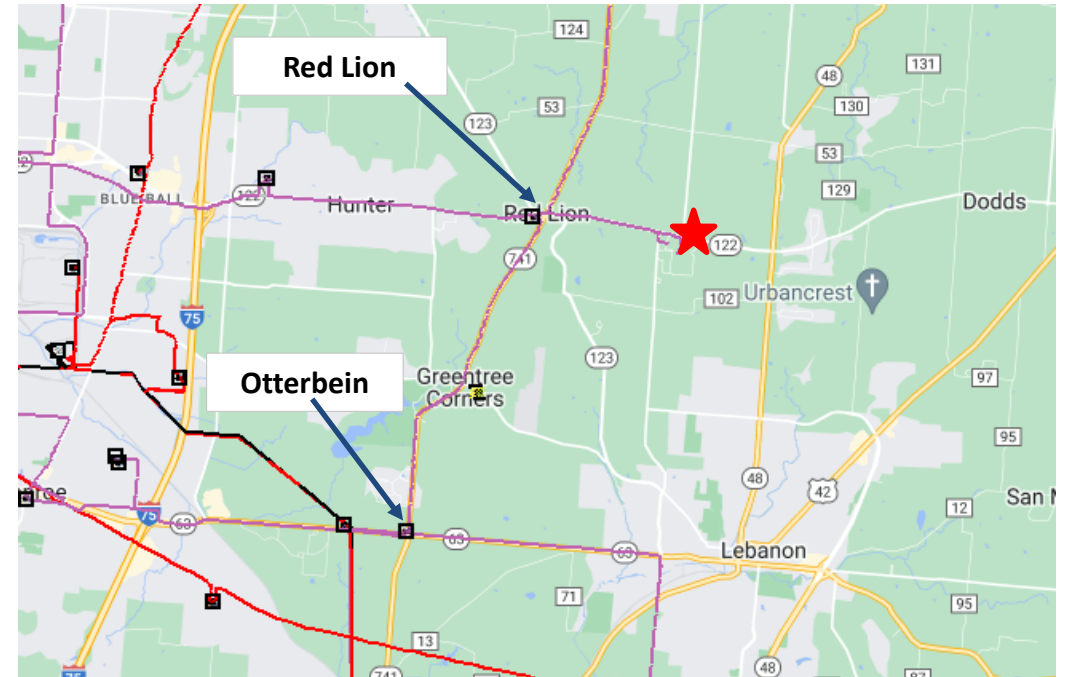
Project Driver: Customer Service

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 5

Problem Statement:

An existing customer with two 69 kV connected substations is building a third substation to serve their expanding facility. They have requested a third 69 kV connection for the new substation. 15 MW of new load is expected by Q1 2026.





DEOK Transmission Zone M-3 Process Existing Customer New Substation

Need Number: DEOK-2023-008

Process Stage: Solutions Meeting 07/19/2024

Previously Presented: Needs Meeting 11/17/2023

Project Driver: Customer Service

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 8

Potential Solution:

Tap the existing feeder adjacent to customer's new substation. Install three steel poles: one at the tap, one to support a line switch, and one to support two spans to the customer's substation. Install a motorized line switch with SCADA control. Connect all with 954 ACSR conductor. Install revenue metering in the customer's new substation.

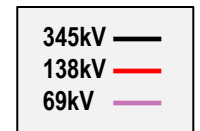
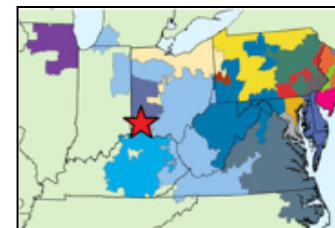
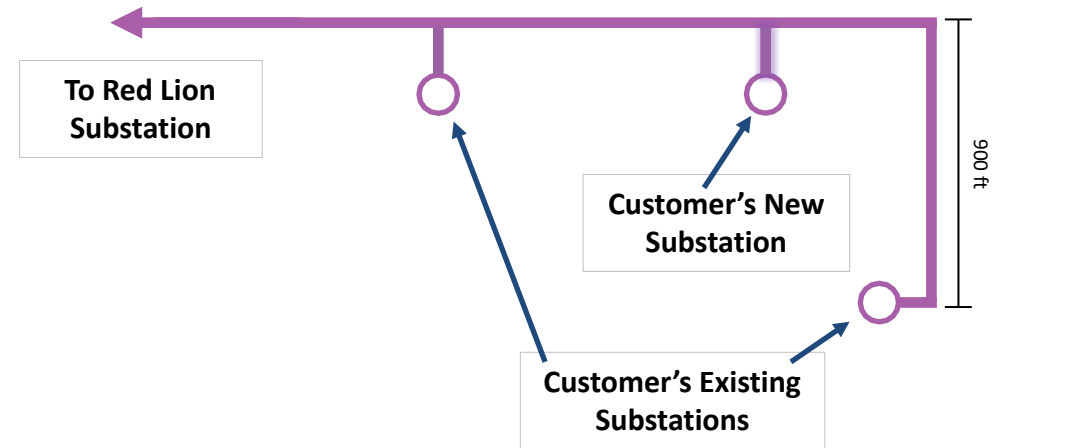
Alternatives: None

Estimated Transmission Cost: \$499,100.0

Proposed In-Service Date: 02/23/2026

Project Status: Scoping

Model: 2023 RTEP





DEOK Transmission Zone M-3 Process Evendale

Need Number: DEOK-2024-002

Process Stage: Solutions Meeting 07/19/2024

Previously Presented: Needs Meeting 02/16/2024

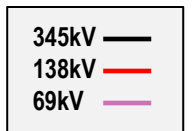
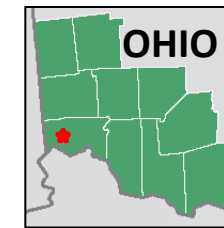
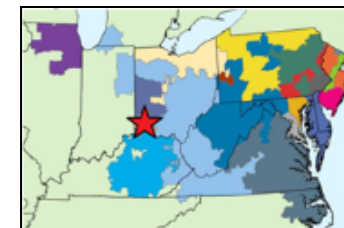
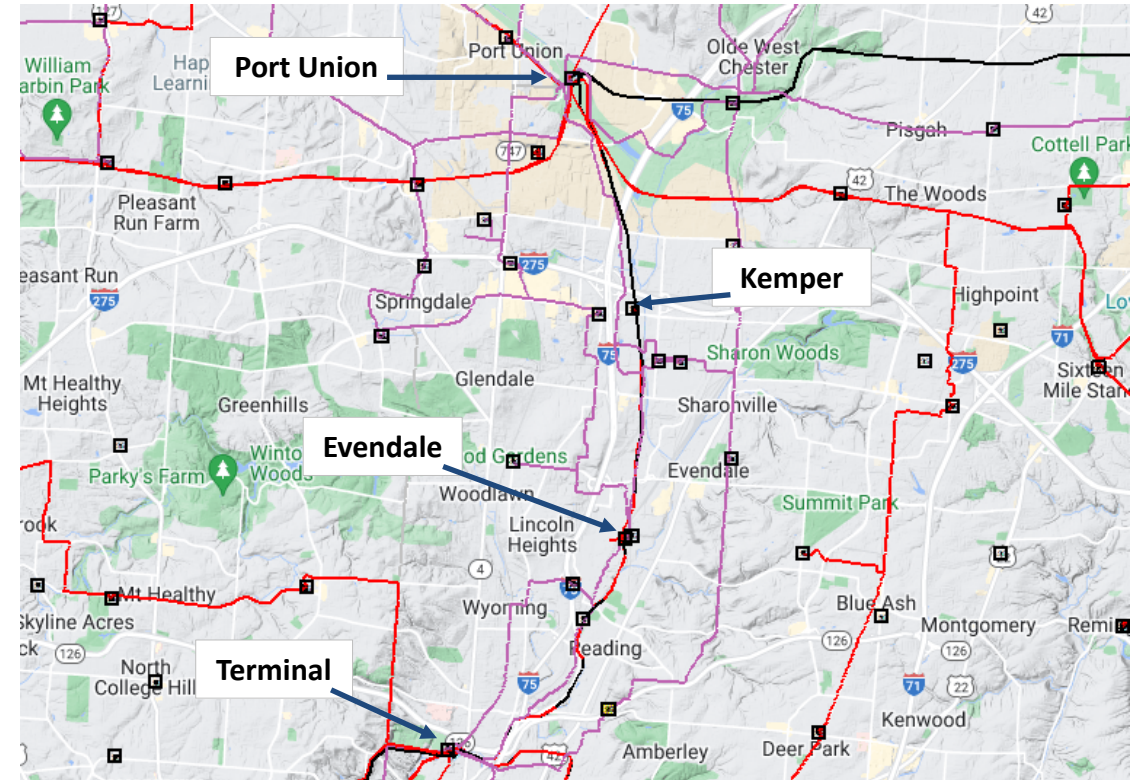
Project Drivers: Infrastructure Resilience, Equipment condition, performance and risk

Specific Assumption References:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 7-8, 10

Problem Statement:

Evendale substation supplies a large industrial customer. 138 kV Buses 1 and 2 are tied together with breaker CB930. A CB930 failure will trip both Bus 1 and Bus 2 resulting in a complete interruption of service to the customer, and the tripping of two 138/69 kV transformers that supply the 69 kV network in this industrial area. Port Union CB835 connects the feeder from Port Union through Kemper to Evendale. It's a 53-year-old, oil filled breaker. Oil spills are frequent with breaker failures presenting an environmental hazard. Spare parts for this older style breaker are more difficult to find.



Need Number: DEOK-2024-002

Process Stage: Solutions Meeting 07/19/2024

Previously Presented: Needs Meeting 02/16/2024

Project Drivers: Infrastructure Resilience, Equipment condition, performance and risk

Specific Assumption References:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 7-8, 10

Potential Solution:

At Evendale, disconnect CB930 and save it for re-use. In an open, adjacent bay install a new 3000A gas circuit breaker in series with CB929 creating a double bus, double breaker connection for the feeder that connects Evendale through Kemper to Port Union. Install new line and bus disconnects and connecting bus conductors. This double breaker configuration removes the total interruption of service contingency and acts as a bus tie.

At Port Union, replace CB835 with a new 3000A gas circuit breaker, its line and bus disconnects, and connecting bus conductors. Circuit limiting CTs are being replaced with CB835. The new ratings for the circuit from Port Union to Kemper are 394/394 MVA summer and 487/487 MVA winter.

Alternatives: Move CB930 to the new position. However, the new circuit breaker will need to be in service before CB930 is disconnected.

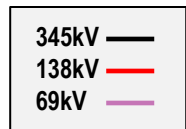
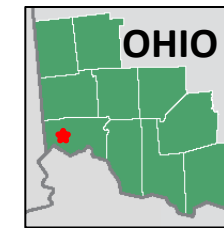
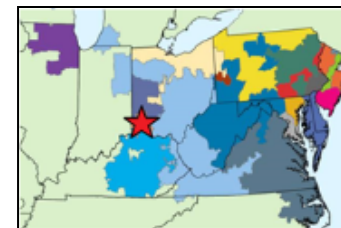
Estimated Transmission Cost: \$3,064,034

Proposed In-Service Date: 12/18/2026

Project Status: Engineering

Model: 2023 RTEP

**Bubble Diagram Not Applicable
Station Modifications Only**





Questions?

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

07/08/2024 – V1 – Original version posted to pjm.com