

Sub Regional RTEP Committee: Western DEOK Supplemental Projects

October 15, 2021

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 Collinsville

Need Number: DEOK 2021-008

Process Stage: Solutions Meeting 10-15-2021

Previously Presented: Needs Meeting 07-16-2021

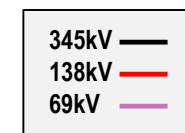
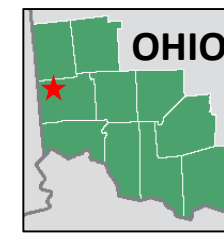
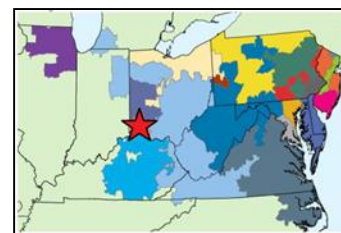
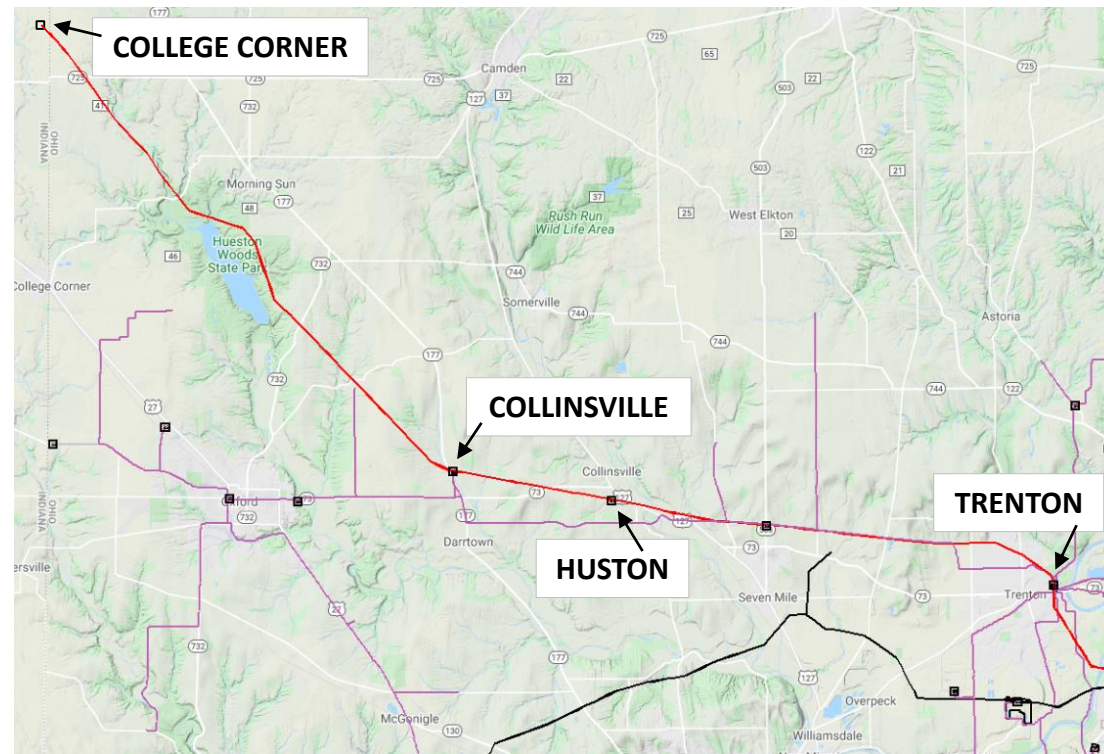
Project Driver: Equipment condition, performance and risk, Operational flexibility and efficiency, and Infrastructure resilience

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 5 through 8

Problem Statement:

The 138 kV feed to Collinsville has 24 miles of exposure. The feeder is breaker connected at College Corner, switched connected through Collinsville and Huston, and breaker connected at Trenton. Collinsville TB1 will be lost for a fault anywhere on the feeder or a transformer or bus failure at Huston. Collinsville's single 138/69 kV TB1 is 60 years old. Dissolved gas analysis is indicating paper insulation deterioration. Power factor is above normal limits and increasing. TB1 is fed via an obsolete, oil filled circuit breaker and is switch connected to the 69 kV bus. The 69 kV feeders into and out of Collinsville are breaker connected. However, this straight bus configuration limits switching options.





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Potential Solution:

Expand the substation. Install three 138 kV breakers to form a ring bus. Install a new 138/69 kV 150 MVA transformer. Relocate the 138 kV feeder terminals. Install three 69 kV breakers to form a ring bus. Relocate the 69 kV feeder terminals. Install a control building with relaying and communications equipment.

Alternatives: none

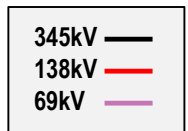
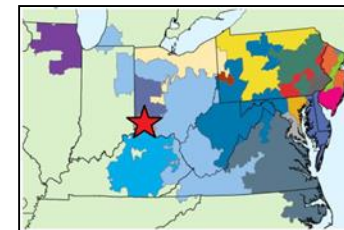
Transmission Cost Estimate: \$12.7M

Proposed In-Service Date: 07-05-2023

Project Status: Scoping

Model: 2021 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

10/5/2021 – V1 – Original version posted to pjm.com