

Subregional RTEP Committee - Western DEOK Supplemental Projects

September 20, 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-2019-004

Process Stage: Needs Meeting 09/20/2024

Previously Presented: Needs Meeting 03/25/2019

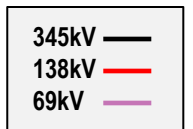
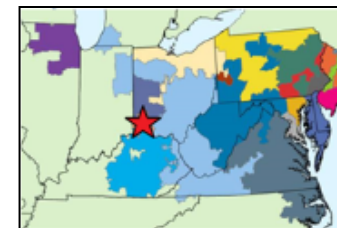
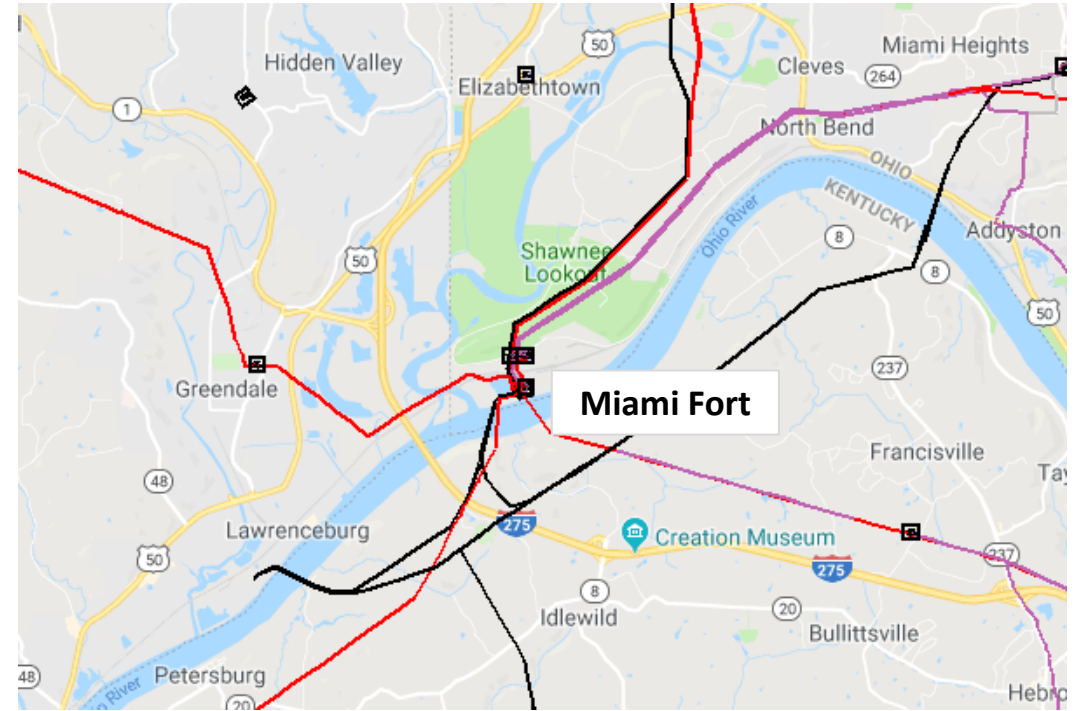
Project Driver: Equipment condition, performance and risk

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 6-7

Problem Statement:

The painted lattice tower that supports the Miami Fort – Clifty Creek 138kV line has deep rust exhibiting heavy pack-out including deformed members and missing bolts. Concrete foundations are spalling causing exposure of reinforcing steel resulting in the delamination of concrete. Anchor bolts are rusting and as a result are showing significant section loss causing a reduction in tensile strength. Subsequent to this 89-year-old tower's installation adjacent to Miami Fort generation station a fly ash pond was built near it. The tower now sits in/on the dike between the fly ash pond and the Ohio River. The owner of the fly ash pond considers this high risk and has asked that the tower be moved off the dike. The condition of the tower combined with its use is also a risk. This tower is one side of the Ohio River crossing.





DEOK Transmission Zone M-3 Process Miami Fort – Clifty Creek

Need Number: DEOK-2019-004

Process Stage: Needs Meeting 09/20/2024

Previously Presented: Needs Meeting 03/25/2019

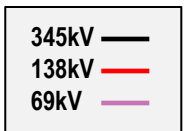
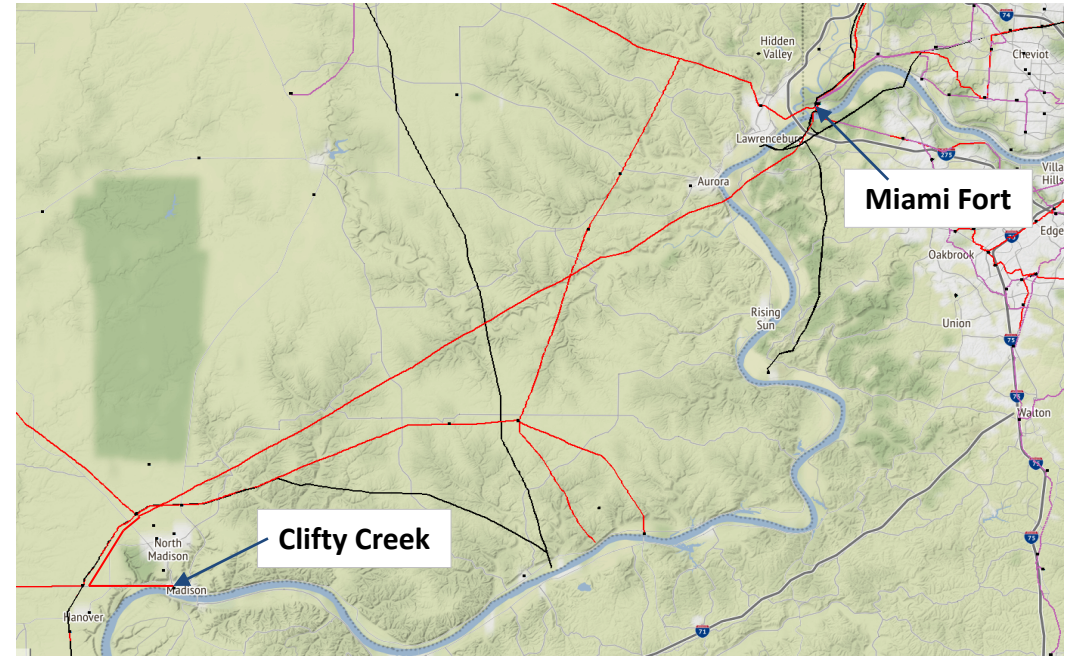
Project Driver: Equipment condition, performance and risk

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 6-7

Withdrawal Statement:

This tower and river crossing are no longer necessary due to the retirement of the Miami Fort – Clifty Creek 138 kV line. See need number DEOK-2023-001.



Need Number: DEOK-2024-007

Process Stage: Needs Meeting 09/20/2024

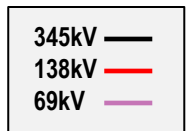
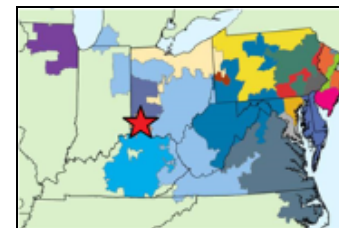
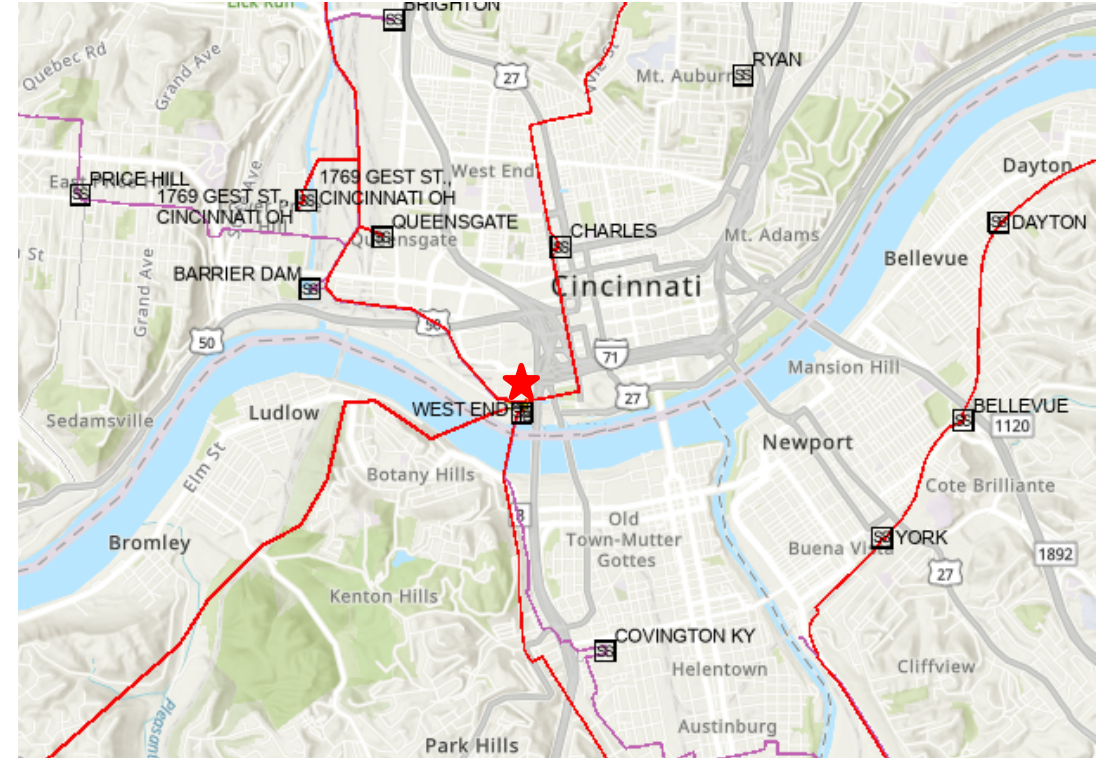
Project Driver: Customer Service

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 6

Problem Statement:

Duke Energy Distribution has requested a new delivery point near Mehring Way in Cincinnati. The adjacent West End distribution substation supplies the downtown Cincinnati network and is being rebuilt. Radial feeders will be moved to buses in this new location to isolate them from the network feeders, increasing the reliability and voltage/VAR management of the downtown Cincinnati network.



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 Miami Fort – Clifty Creek

Need Number: DEOK-2023-001

Process Stage: Solutions Meeting 09/20/2024

Previously Presented: Needs Meeting 01/20/2023

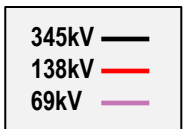
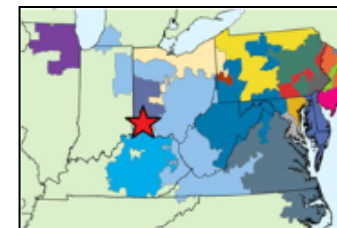
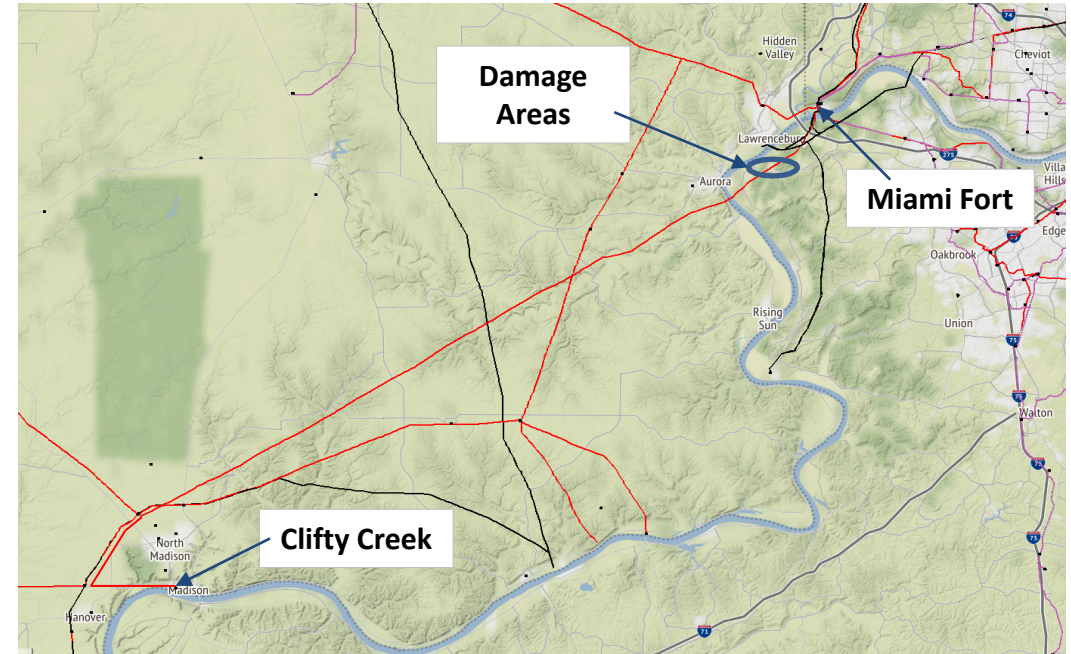
Project Driver: Equipment condition, performance and risk

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 6-7

Problem Statement:

The 138 kV feeder from Miami Fort (Duke Energy) – Clifty Creek (OVEC) is 93 years old, 47 miles long, and constructed of single circuit lattice towers with 336 ACSR conductor. Near Petersburg, Kentucky a 2000 ft section of static failed dropping onto the B phase conductor. The breaker at Clifty Creek opened due to the fault. The protection at Miami Fort failed to operate which caused B phase to see 900 Amps. The line is rated at 542 Amps. After fifteen minutes, nine miles west of the initial static failure, a B phase conductor failed falling to the ground. Flexing of the towers snapped two statics. 3700 ft of line is damaged at this location. An analysis of the failed conductor was performed. Visual inspection found extensive corrosion and pitting on the outer conductor. Rust was noted to various degrees on the steel core. Tensile testing on the core showed breaking strength approximately 26% lower than the ASTM requirement. Zinc coating was found to have an area density 15% lower than the required minimum. We believe these test results to be indicative of the condition of the remaining line.





DEOK Transmission Zone M-3 Process Miami Fort – Clifty Creek

Need Number: DEOK-2023-001

Process Stage: Solutions Meeting 09/20/2024

Previously Presented: Needs Meeting 01/20/2023

Project Driver: Equipment condition, performance and risk

Specific Assumption Reference:

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Potential Solution:

Retire the line.

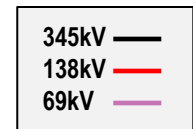
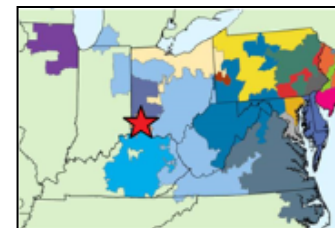
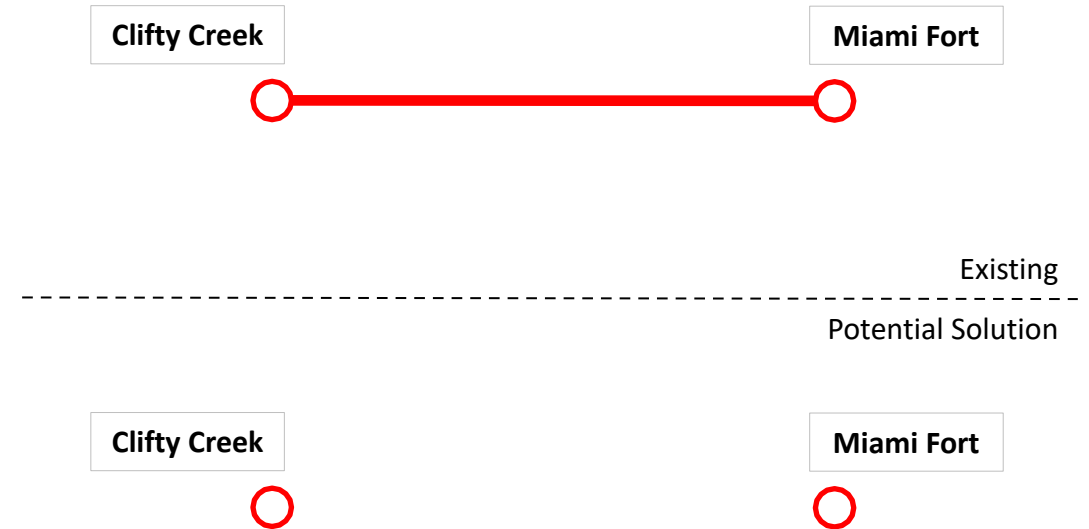
Alternatives: Rebuild the line, but the cost would outweigh the benefit. The path includes two Ohio River crossings and difficult, wooded hillside terrain in northern Kentucky and southeast Indiana. The desktop estimate was approaching \$80 MM. This line is only loaded to 60 MVA at summer peak.

Estimated Transmission Cost: \$39.0 MM

Proposed In-Service Date: 12-31-2026

Project Status: Scoping

Model: 2024 RTEP



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

09/10/2024 – V1 – Original version posted to pjm.com