Sub Regional RTEP Committee: Western
DEOK Supplemental Projects

March 17, 2023

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

DEOK Transmission Zone M-3 Process
Customer Load Increase

Need Number: DEOK 2022-001

Process Stage: Needs Meeting 03-17-2023

Previously Presented: Needs Meeting 01-21-2022

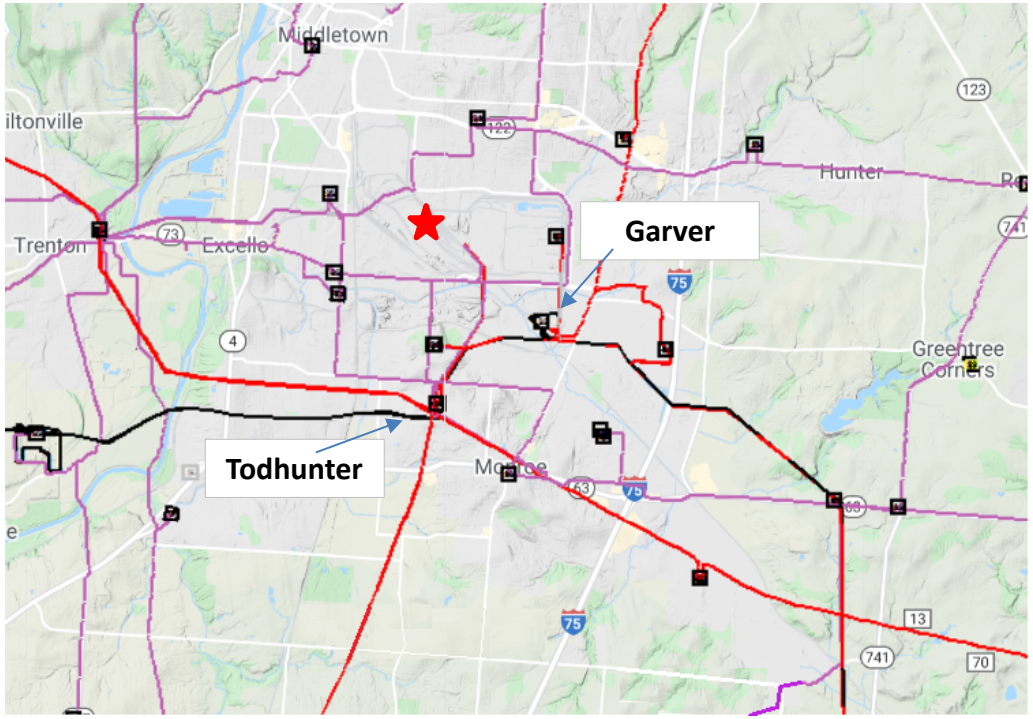
Project Driver: Customer Service

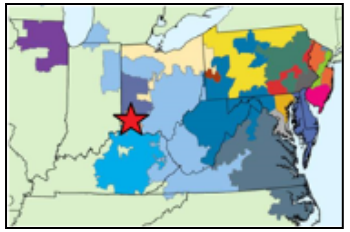
Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 9

Problem Statement:

An existing customer has requested 600 MW of additional transmission capacity. The expected incremental increases are 200 MW by Q4 2024, 100 MW by Q4 2025 and 300 MW by Q4 2029.





345kV
138kV
69kV

DEOK Transmission Zone M-3 Process
Customer Load Increase

Need Number: DEOK 2022-001

Process Stage: Needs Meeting 03-17-2023

Previously Presented: Needs Meeting 01-21-2022

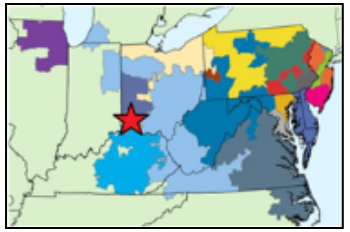
Project Driver: Customer Service

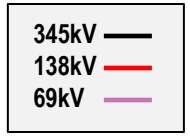
Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 9

Withdrawal Statement:

The customer has canceled the project.





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: DEOK-2019-024

Process Stage: Solutions Meeting 03-17-2023

Previously Presented: Needs Meeting 11-22-2019

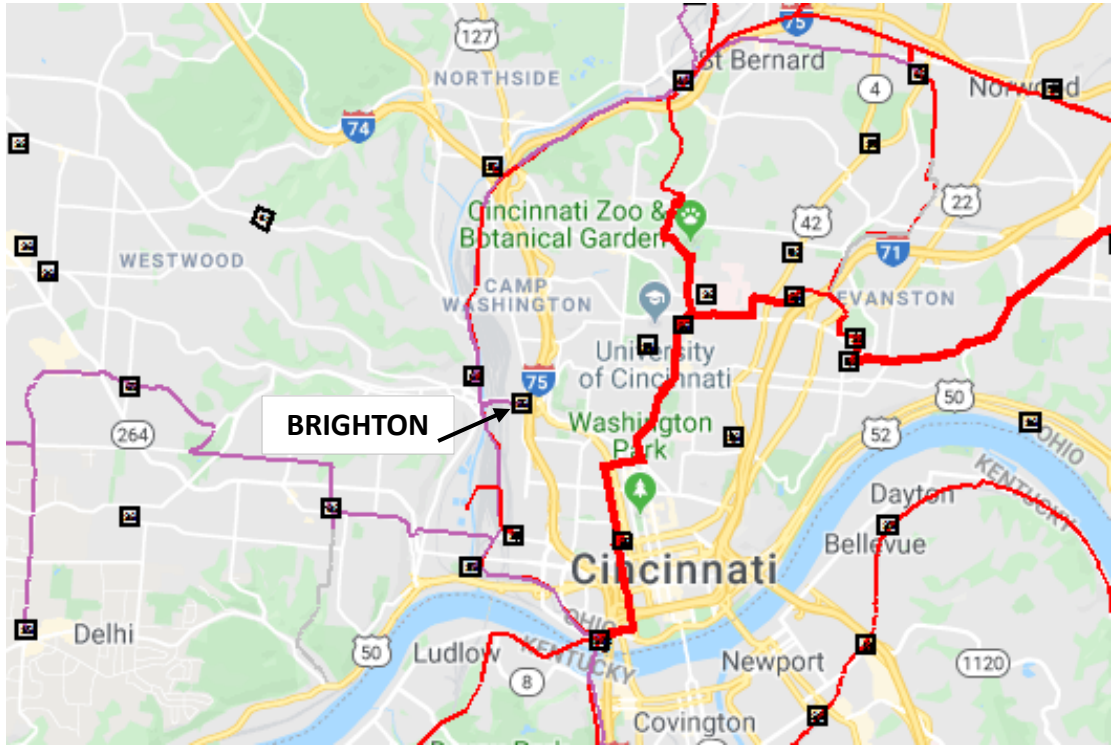
Project Driver: Other

Specific Assumption Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 11

Problem Statement:

The City of Cincinnati is planning to replace the Western Hills Viaduct. The new roadway will be constructed immediately south of the existing roadway. Brighton substation is in the path of the new roadway. Brighton serves 40MW of residential, commercial and light industrial load with two 69/13kV 35MVA transformers connected to five feeder exits each.



DEOK Transmission Zone M-3 Process

Need Number: DEOK-2019-024

Process Stage: Solutions Meeting 03-17-2023

Previously Presented: Needs Meeting 11-22-2019

Project Driver: Other

Specific Assumption Reference:
Duke Energy Ohio & Kentucky Local Planning Assumptions slide 11

Potential Solution:
Disconnect the 69 kV feeder loop connecting Brighton substation. Demolish and remove Brighton. Build Camp Washington, a new 3-breaker ring bus substation to serve area load formally served by Brighton. Install three 138/13 kV, 22 MVA transformers and switchgear for distribution feeders. Due to land constraints two of the ring positions in this small substation will also loop the South Fairmount-Metro Sewer 138 kV feeder through Camp Washington.

Alternatives: none

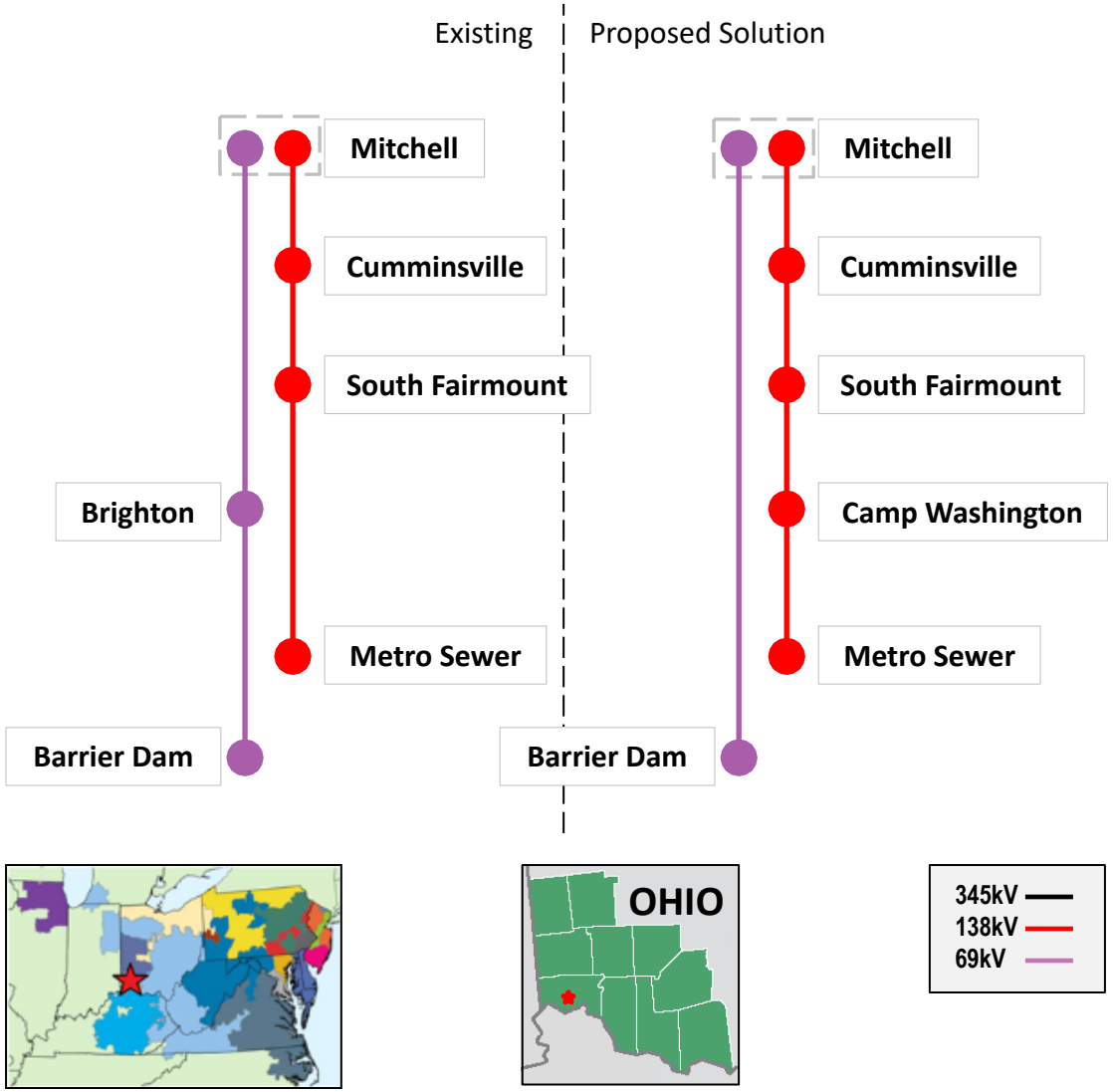
Ancillary Benefits: 138 kV is a stronger source for the area load. The 3-breaker ring allows more switching options and increases reliability and resilience.

Estimated Transmission Cost: $19.5MM

Proposed In-Service Date: 12-19-2025

Project Status: Scoping

Model: 2022 RTEP



DEOK Transmission Zone M-3 Process
Wilder

Need Number: DEOK-2023-002

Process Stage: Solutions Meeting 03/17/2023

Previously Presented: Needs Meeting 02/17/2023

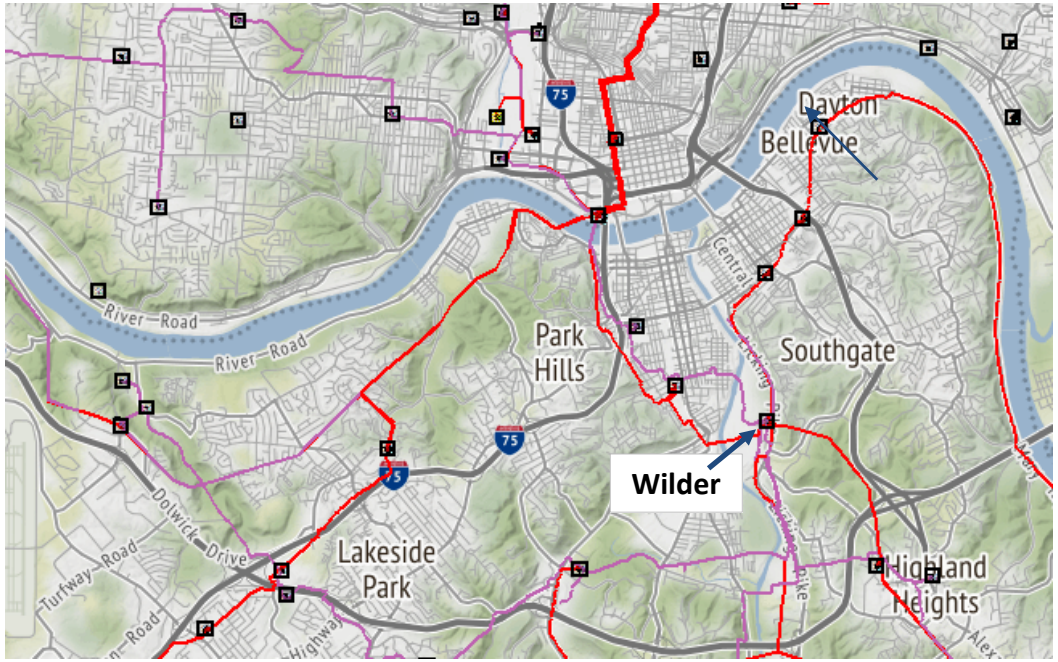
Project Driver: Equipment condition, performance and risk

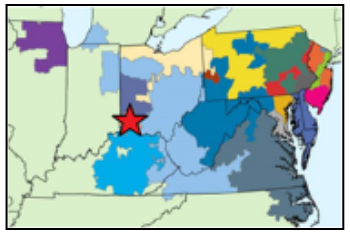
Specific Assumption Reference:

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

Problem Statement:

Wilder 138 kV CB 836 is a vintage 1968 oil filled circuit breaker that is in deteriorating condition. The most recent service indicates the internal wear is exceeding its normal maintenance cycle and is trending towards costly repairs. This breaker also has type U bushings which are known to be prone to failure.





345kV
138kV
69kV

DEOK Transmission Zone M-3 Process
Wilder

Need Number: DEOK-2023-002

Process Stage: Solutions Meeting 03/17/2023

Previously Presented: Needs Meeting 02/17/2023

Project Driver: Equipment condition, performance and risk

Specific Assumption Reference:

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

Potential Solution:

Replace Wilder 138 kV CB 836, its bus and line disconnect switches, and drops from the switches to the breaker.

Alternatives: none

Ancillary Benefits: Removes the environmental hazard of the oil in the old breaker. The replacement of the drops raises the capacity of the circuit by 8 MVA.

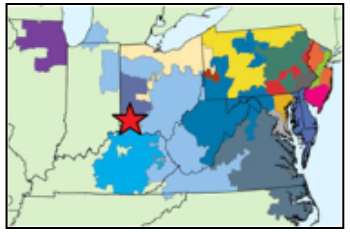
Estimated Transmission Cost: $655K

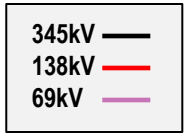
Proposed In-Service Date: 03-25-2024

Project Status: Scoping

Model: 2022 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

3/7/2022 – V1 – Original version posted to pjm.com