

# SRRTEP Committee: Western DEOK Supplemental Projects

July 24, 2019

# 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 Locust - Fairfield

**Need Number:** DEOK 2019-020

**Process Stage:** Needs Meeting 07-24-2019

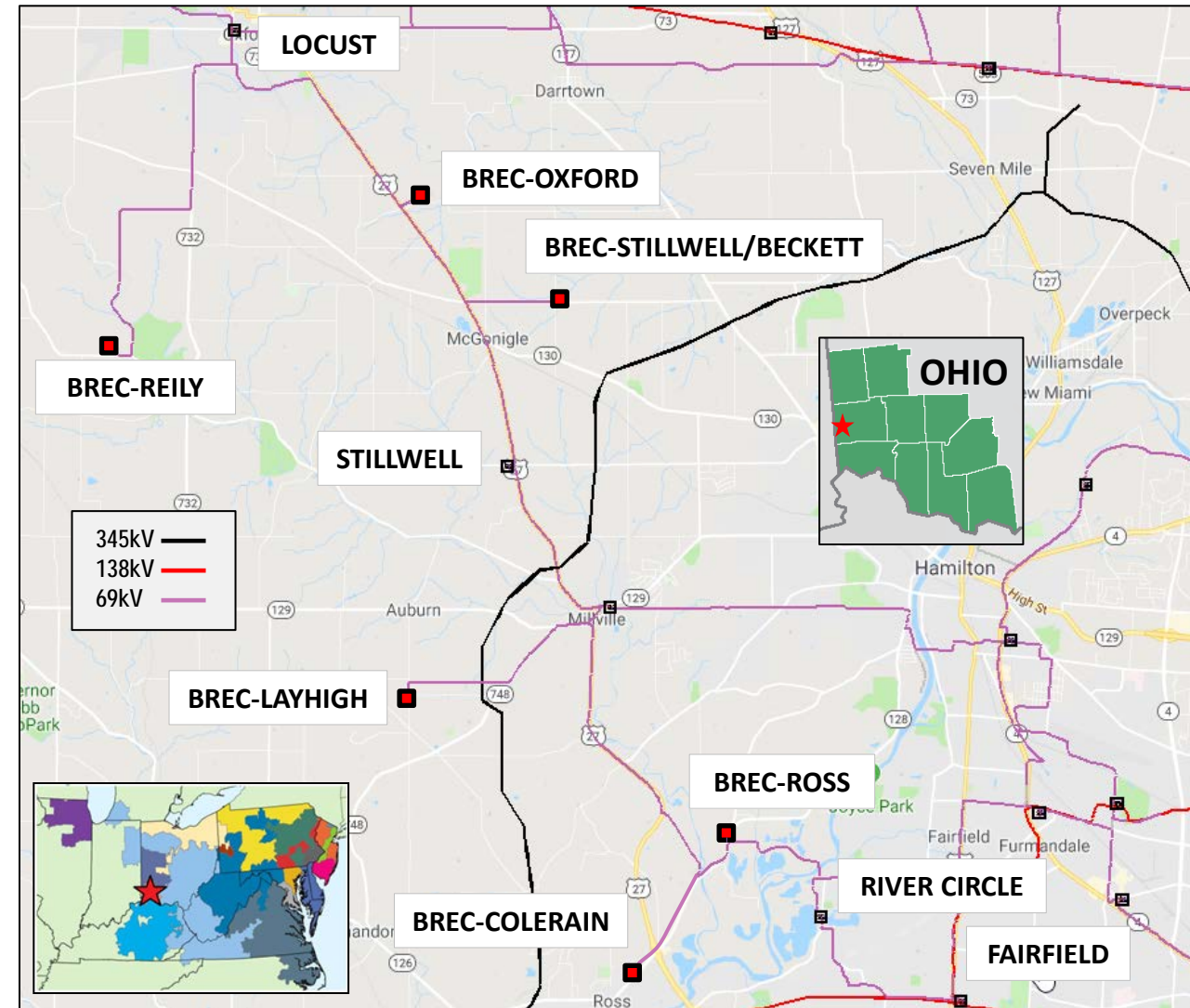
**Project Driver:** Customer Service

**Specific Assumption Reference:**

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 10.

**Problem Statement:**

Buckeye Power, on behalf of Butler Rural Electric Cooperative, has requested Duke Energy review options for improving the reliability of the 34 mile long, 69 kV circuit from Fairfield to Locust substations. The six BREC delivery points connected to the circuit serve 5,135 customers and experienced 7,015,437 customer minutes of interruption (CMI) in the 2009-2019 YTD period [data provided by Buckeye Power]. Duke Energy's Stillwell and River Circle substations serve 3,130 customers and experienced 4,596,672 CMI in the 2009-2019 YTD period.



# 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 Port Union - Foster

**Need Number:** DEOK 2019-019

**Process Stage:** Solutions Meeting 07-24-2019

**Previously Presented:**

Needs Meeting 06-17-2019

**Project Driver:**

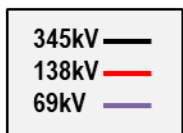
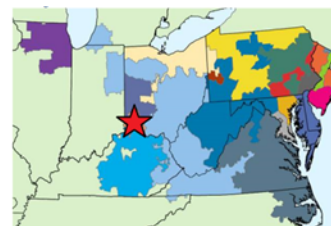
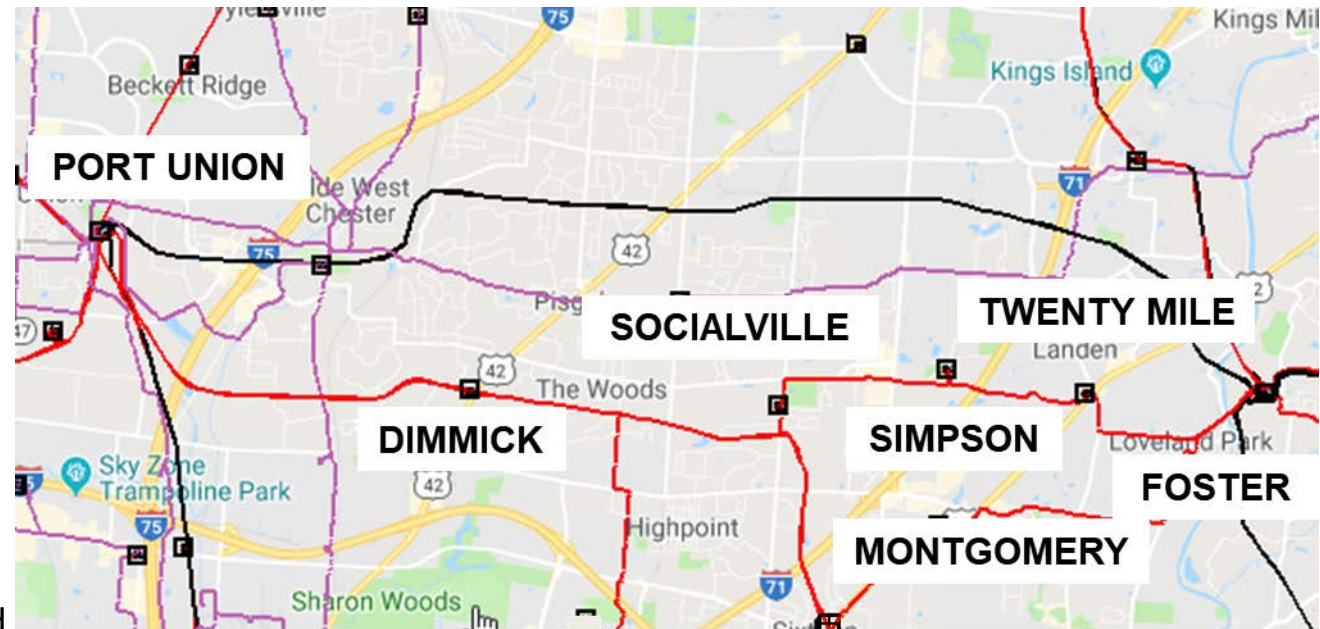
Operational Flexibility, Infrastructure Resilience, Customer Service

**Specific Assumption Reference:**

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

**Problem Statement:**

Nine 138/13 kV 22.4 MVA transformers are located at four substations in a highly developed commercial and residential area along the feeder from Port Union to Foster (two each at Dimmick, Socialville, Twenty Mile, three at Simpson). Only the feeder terminals at Port Union and Foster are breaker connected. Any disruption to this 12 mile long feeder results in a 150 MW load loss. During heavy load periods an automatic restoration scheme at Montgomery must be disabled to eliminate potential overloads.



# DEOK Transmission Zone M-3 Process Port Union - Foster

**Need Number:** DEOK 2019-019

**Process Stage:** Solutions Meeting 07-24-2019

**Proposed Solution:** Rebuild Socialville and Simpson into 3-breaker ring buses. Rebuild Montgomery into a 5-breaker ring bus. Extend the Montgomery tap ¼ mile to connect at Socialville. Connect Cornell-Wards Corner that runs through Montgomery, at Montgomery. This configuration limits the 150 MW load loss to these maximums: 30MW Port Union-Socialville, 34MW Socialville-Simpson, 48 MW Simpson-Foster.

**Estimated Transmission Cost:** \$14.2 M

**Ancillary Benefits:** Operational options for switching, greater networking of 138 kV system, provides more options to deal with non-standard operating conditions, improves system's ability to absorb and recover from an interruption of service, diversifies source paths to load areas.

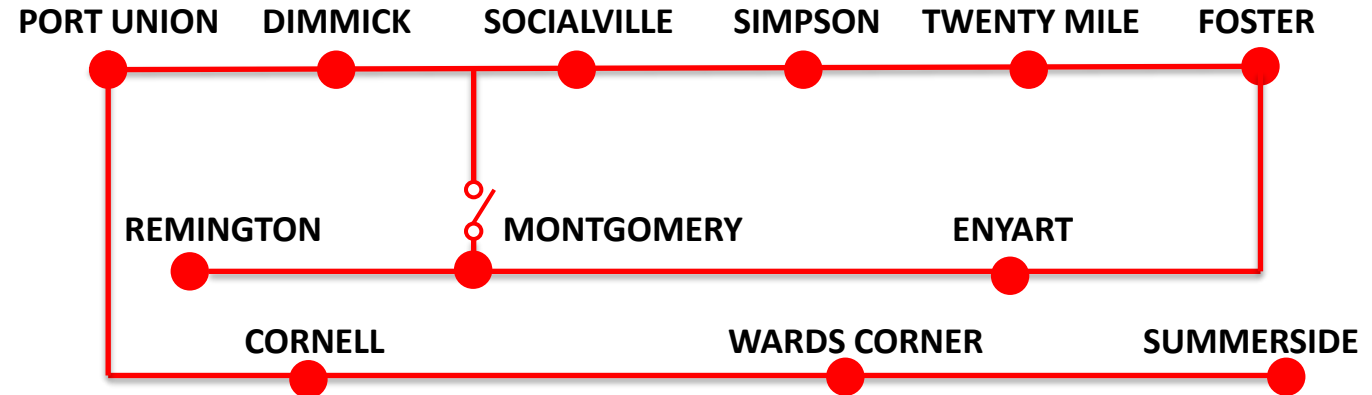
**Alternatives Considered:**

1. Installing a single breaker at Montgomery operating normally closed. Rejected since it would create a 3-terminal line and a breaker failure contingency that would interrupt 5 transformers.

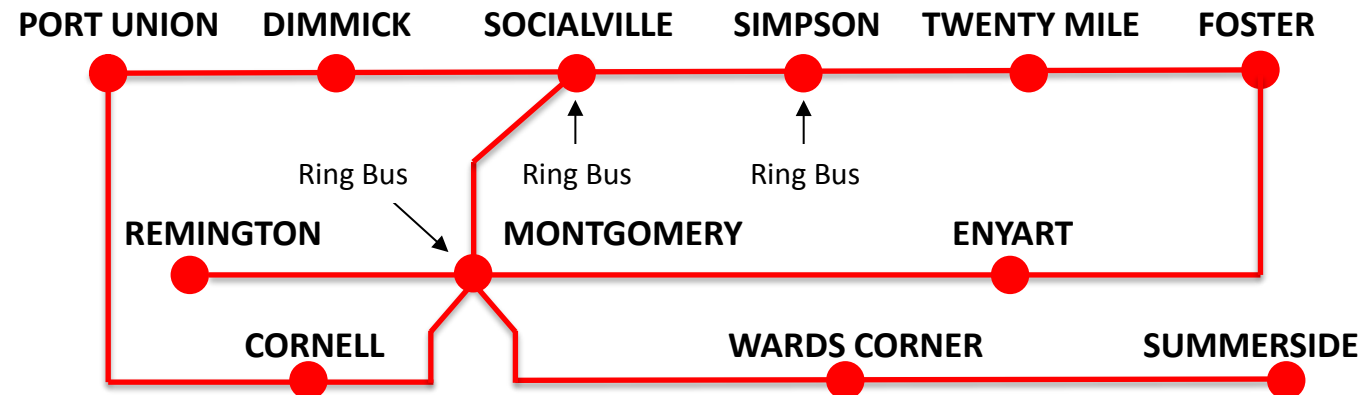
**Projected In-Service:** 06-01-2023

**Project Status:** Scoping

Model: 2018 RTEP Summer



Existing  
Proposed Plan



# 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

7/11/2019 – V1 – Original version posted to pjm.com

7/11/2019 – V2 – PJM is reviewing “Existing/Proposed Plan” diagram for project DEOK 2019-019 for CEII concerns and has been removed.

7/12/2019 – V3 – The “Existing/Proposed Plan” diagram for project DEOK 2019-019 had been added back in as it is not a CEII concern.