PJM Western Sub-Regional RTEP Committee
DEOK Supplemental Upgrades

April 23, 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

Need Number: DEOK 2019-012

Process Stage: Needs Meeting 04-23-2019

Supplemental Project Driver:

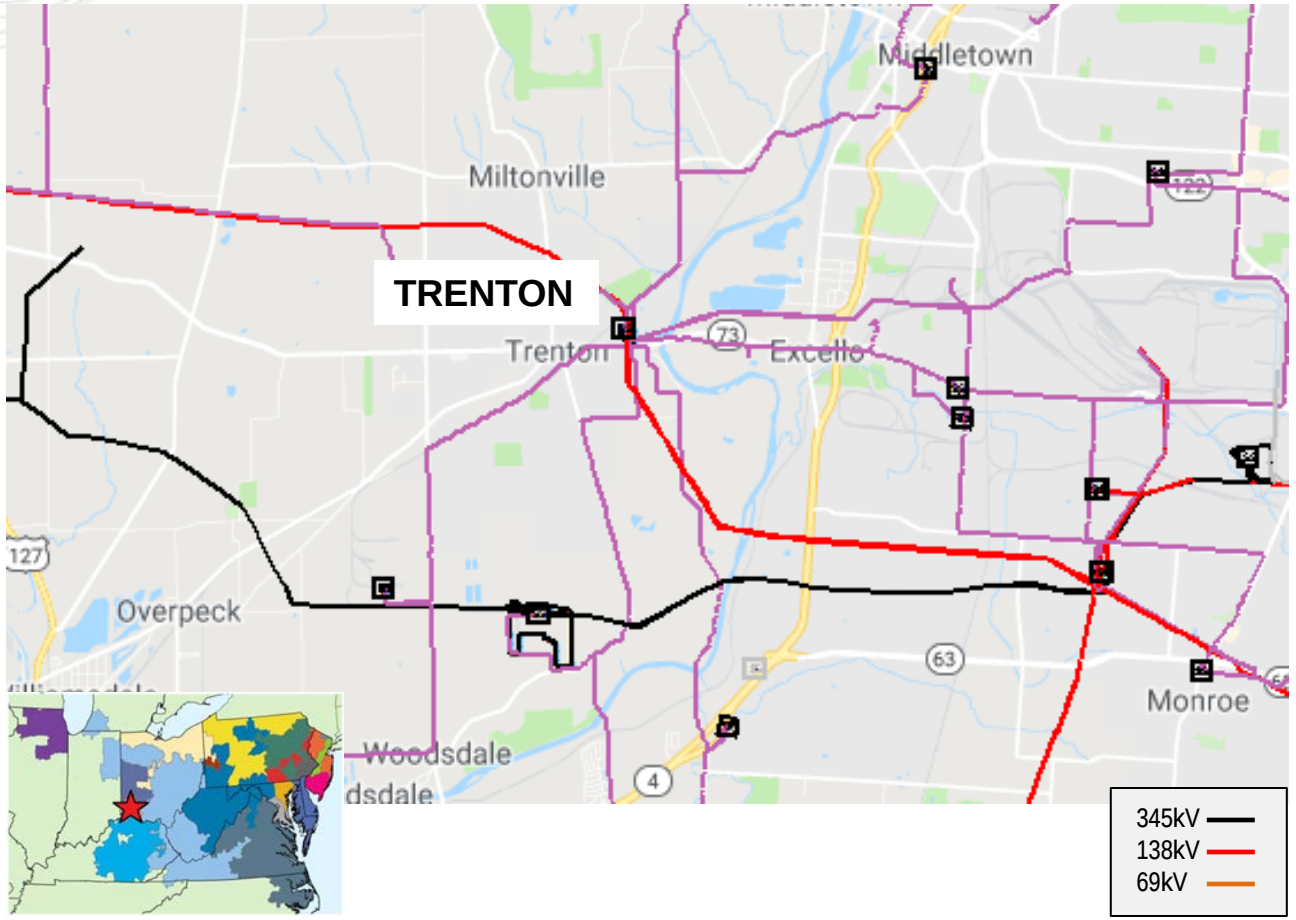
Customer Service

Specific Assumption References:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 10

Problem Statement:

An existing distribution customer is consolidating manufacturing to a facility served from Trenton substation. An additional 5MW of service is required by 01-01-2021. There are two distribution transformers at Trenton, a 22.4MVA experiencing loads near 20MVA and a 33MVA seeing loads at 34MVA.



Need Number: DEOK 2019-013

Process Stage: Needs Meeting 04-23-2019

Supplemental Project Driver:

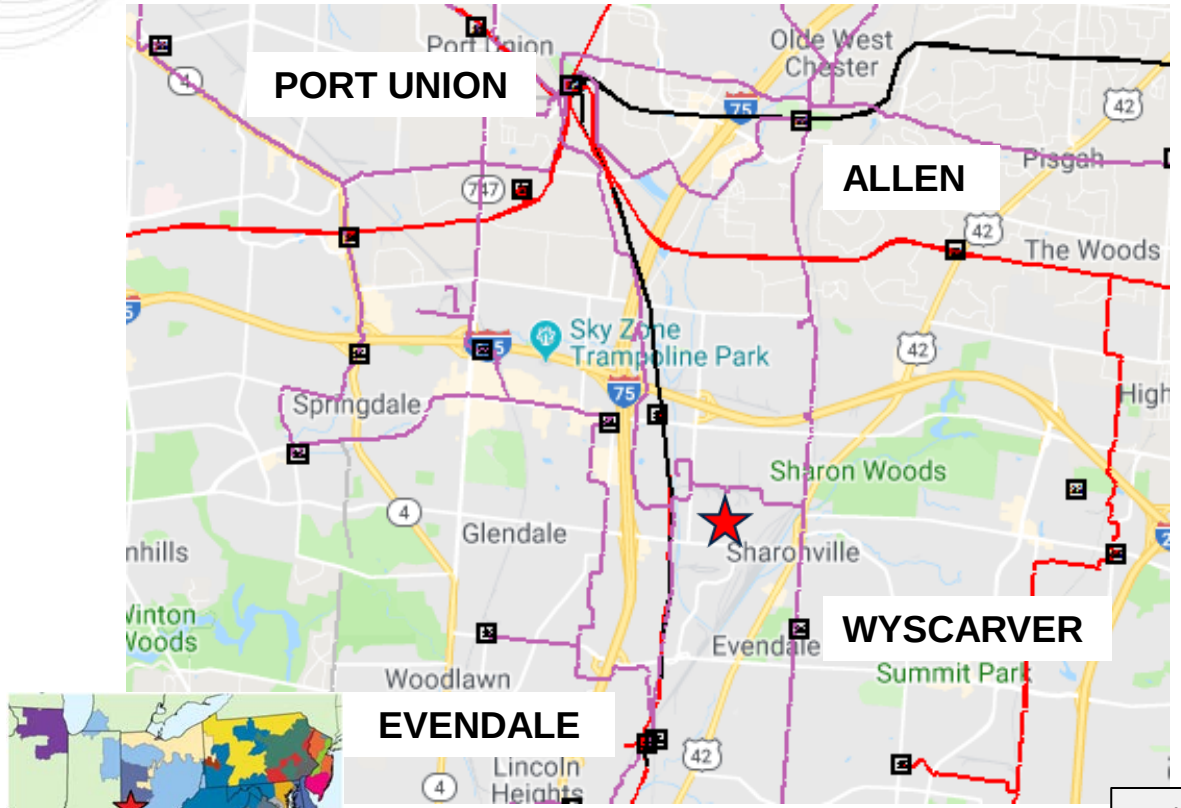
Customer Service, Operational Flexibility and Efficiency, Infrastructure Resilience

Specific Assumption References:

Duke Energy Ohio & Kentucky Local Planning Assumptions slides 8,9, and 10

Problem Statement:

An automotive manufacturer in Sharonville, Ohio is currently supplied via a tap that extends from the 69kV Evendale - Port Union feeder. This tap is also the source for an adjacent Industrial plant. The Evendale - Port Union feeder is also a source for a distribution transformer at Port Union, which supplies commercial and industrial load in the vicinity of Port Union. The circuit has 7.7 miles of line exposure in a heavily commercialized and industrial area. (continued)

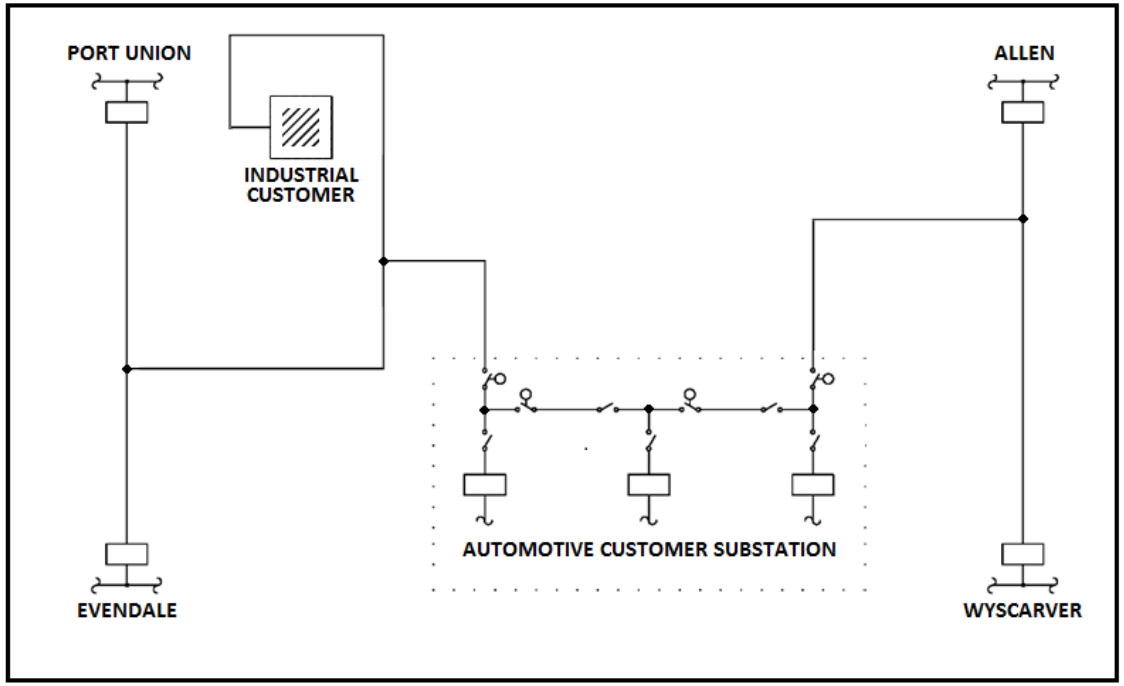


Need Number: DEOK 2019-013

Process Stage: Needs Meeting 04-23-2019

Problem Statement:

(continued) The primary source for the automotive customer's substation is the Evendale - Port Union feeder. The substation is also connected normally open to an alternate source from the Allen - Wyscarver feeder. There is an auto throw-over (ATO) scheme to transfer to the alternate source via air break switches. Faults on the primary source lead to momentary outages and outages up to 40 seconds if the primary source fault is permanent and restoration is accomplished via the ATO. This causes significant disruption to their operations. During heavy load or abnormal system conditions, the ATO to the alternate source must be disabled. Under such circumstances, an outage of the primary source would result in an extended outage to the automotive plant . The customer has advised that just a momentary outage causes major disruption to the plant's production from which it takes up to 24 hours to recover. The disruptions have a ripple effect throughout their national production chain impacting other plants around the county. (continued)



Need Number: DEOK 2019-013

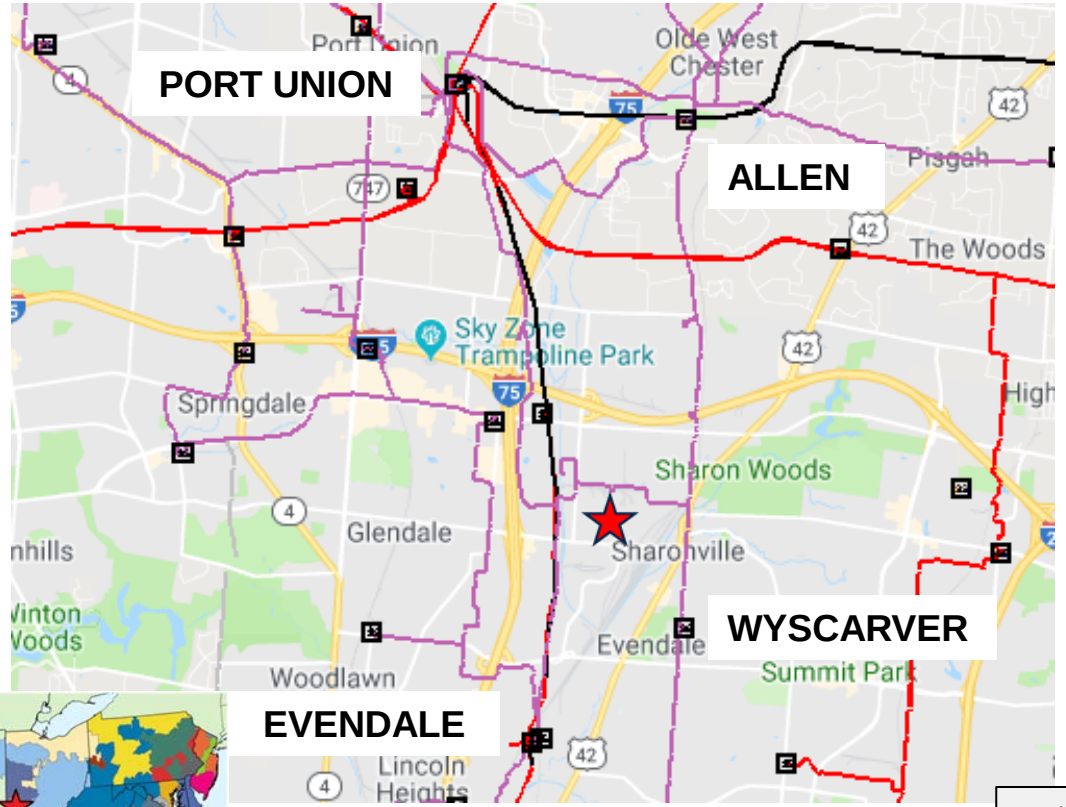
Process Stage: Needs Meeting 04-23-2019

Problem Statement:

(continued) The adjacent industrial plant is also interrupted for events on the primary feeder. No ATO is available to restore service. Restoration must be performed by manual inspection to determine the problem and repair, and the operation of pole mounted switches to sectionalize the circuit.

Any problem in the automotive customer's substation results in the interruption of the Evendale - Port Union path. Disrupting supply to the adjacent industrial customer and to the distribution transformer that serves commercial and industrial load near Port Union.

Any work in the automotive customer's substation must be coordinated, resulting in operational constraints.



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

Beckjord

Need Number: DEOK-2019-002

Process Stage: Solutions Meeting 04-23-2019

Previously Presented:

Needs Meeting 02-20-2019

Supplemental Project Driver:

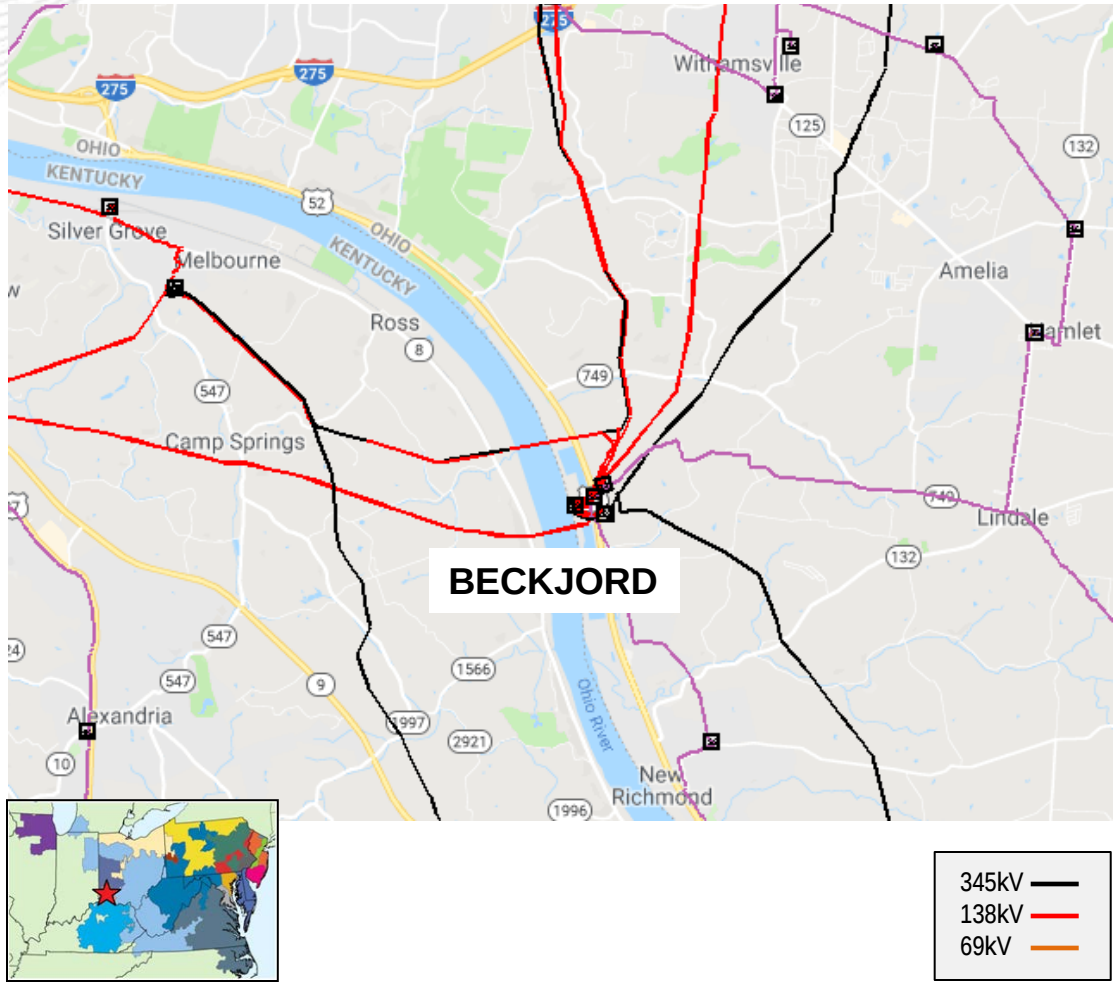
Equipment Condition, Performance and Risk

Specific Assumption References:

Duke Energy Ohio & Kentucky Assumptions Presentation Slides 7, 8

Problem Statement:

Beckjord 138 kV buses 3 and 4 are 66 years old, constructed of copper bus with cap and pin insulators, and are in deteriorating condition. The breakers on these busses are oil filled and obsolete. Rebar is showing though the deteriorating structural and equipment foundations.



Beckjord

Need Number: DEOK-2019-002

Process Stage: Solutions Meeting 04-23-2019

Potential Solution:

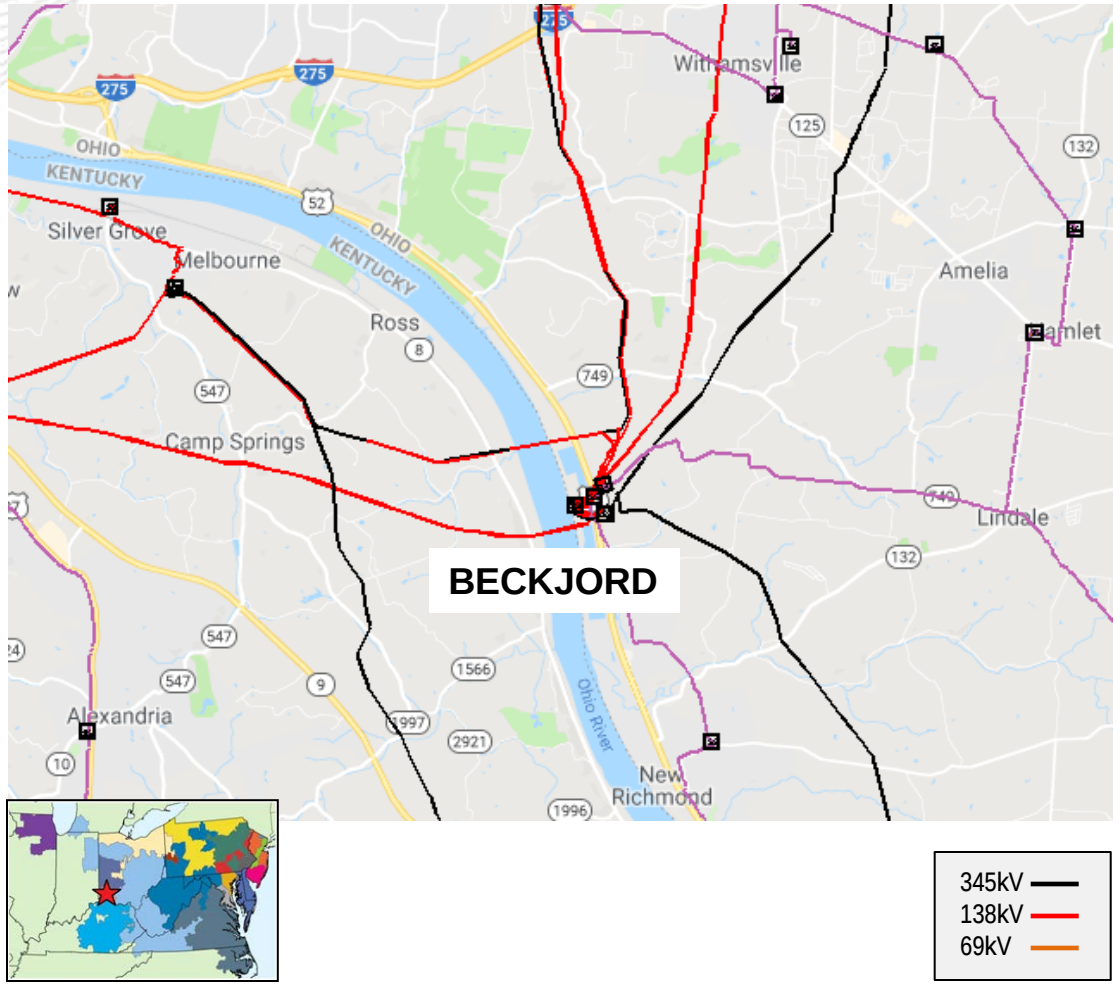
Replace/repair foundations as necessary. Rebuild buses 3 and 4. Retire one oil filled circuit breaker no longer in service. Replace three oil filled circuit breakers.

Estimated Transmission Cost: $ 5,552,779

Alternatives Considered:

None

Projected In-Service: 12-31-2020



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

4/12/2019 – V1 – Original version posted to pjm.com

5/1/2019 – V2 – Slide #3: Update Problem Statement with corrected load level