

Western SRRTEP Committee DEOK Supplemental Projects

June 17, 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 Port Union - Foster

Need Number: DEOK-2019-019

Process Stage: Needs Meeting 6/17/2019

Supplemental Project Driver:

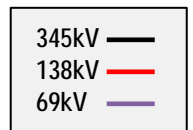
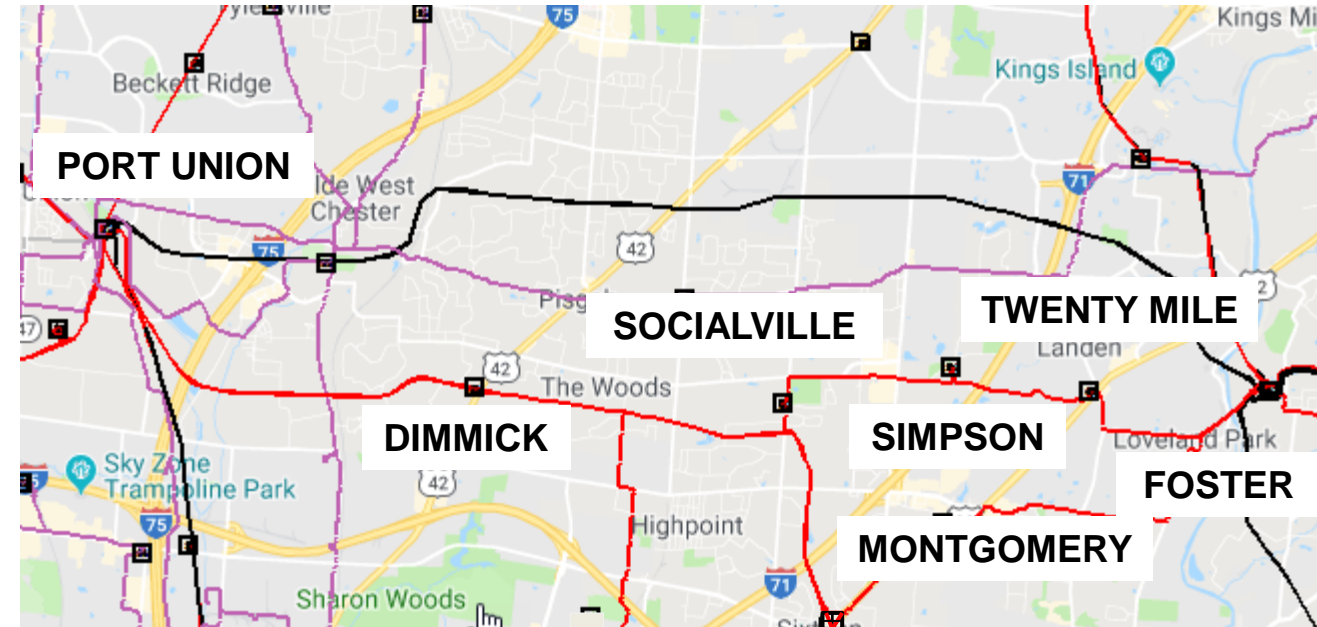
Operational Flexibility, Infrastructure Resilience, Customer Service

Specific Assumptions Reference:

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

Problem Statement:

Nine 138/13kV 22.4MVA 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 150MW load loss. During heavy load periods an automatic restoration scheme at Montgomery must be disabled to eliminate potential overloads.



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 Verona

Need Number: DEOK-2019-014

Process Stage: Solutions Meeting 6/17/2019

Previously Presented:

Needs Meeting 05-20-2019

Supplemental Project Driver:

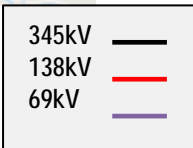
Customer Servic

Specific Assumptions Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 10

Problem Statement:

Duke Energy Distribution has requested a new delivery point at Verona substation. Verona's single 69/13kV 10.5MVA transformer is seeing loads at 9MVA. An additional 5MWs of commercial and industrial load is expected in 2020.



DEOK Transmission Zone M-3 Process Verona

Need Number: DEOK-2019-014

Process Stage: Solutions Meeting 6/17/2019

Proposed Solution:

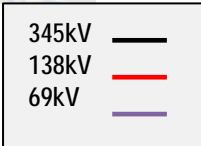
Extend the 69kV bus, install a second 69/13kV 10.5MVA transformer, 13kV bus work and breakers for one feeder exit. The new transformer will be switch connected to the 69kV bus similar to TB1.

Transmission Cost Estimate: \$659,542

Alternatives Considered:

none

Projected In-Service: 6/1/2020



DEOK Transmission Zone M-3 Process Longbranch

Need Number: DEOK-2019-015

Process Stage: Solutions Meeting 6/17/2019

Previously Presented:

Needs Meeting 05-20-2019

Supplemental Project Driver:

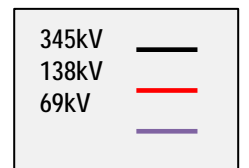
Customer Service

Specific Assumptions Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 10

Problem Statement:

Duke Energy Distribution has requested a new delivery point at Longbranch substation. Loading on the single 138/13kV 22MVA transformer has reached the nameplate rating. Commercial and residential development continues in this area. Load growth has been trending at 7% per year.



DEOK Transmission Zone M-3 Process Longbranch

Need Number: DEOK-2019-015

Process Stage: Solutions Meeting 6/17/2019

Proposed Solution:

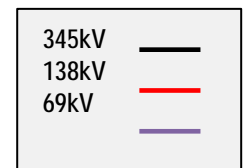
Expand the substation. Remove and rebuild the box structure. Reroute the 138kV feeder into and out of the substation. Extend the 138kV bus. Add a second 138/13kV 22MVA transformer, 13kV bus work and breakers for two distribution feeder exits. The new transformer will be switch connected to the 138kV bus similar to TB1.

Transmission Cost Estimate: \$2,785,399

Alternatives Considered:

none

Projected In-Service: 12/31/2020



DEOK Transmission Zone M-3 Process Amanda

Need Number: DEOK-2019-016

Process Stage: Solutions Meeting 6/17/2019

Previously Presented:

Needs Meeting 05-20-2019

Supplemental Project Driver:

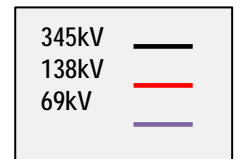
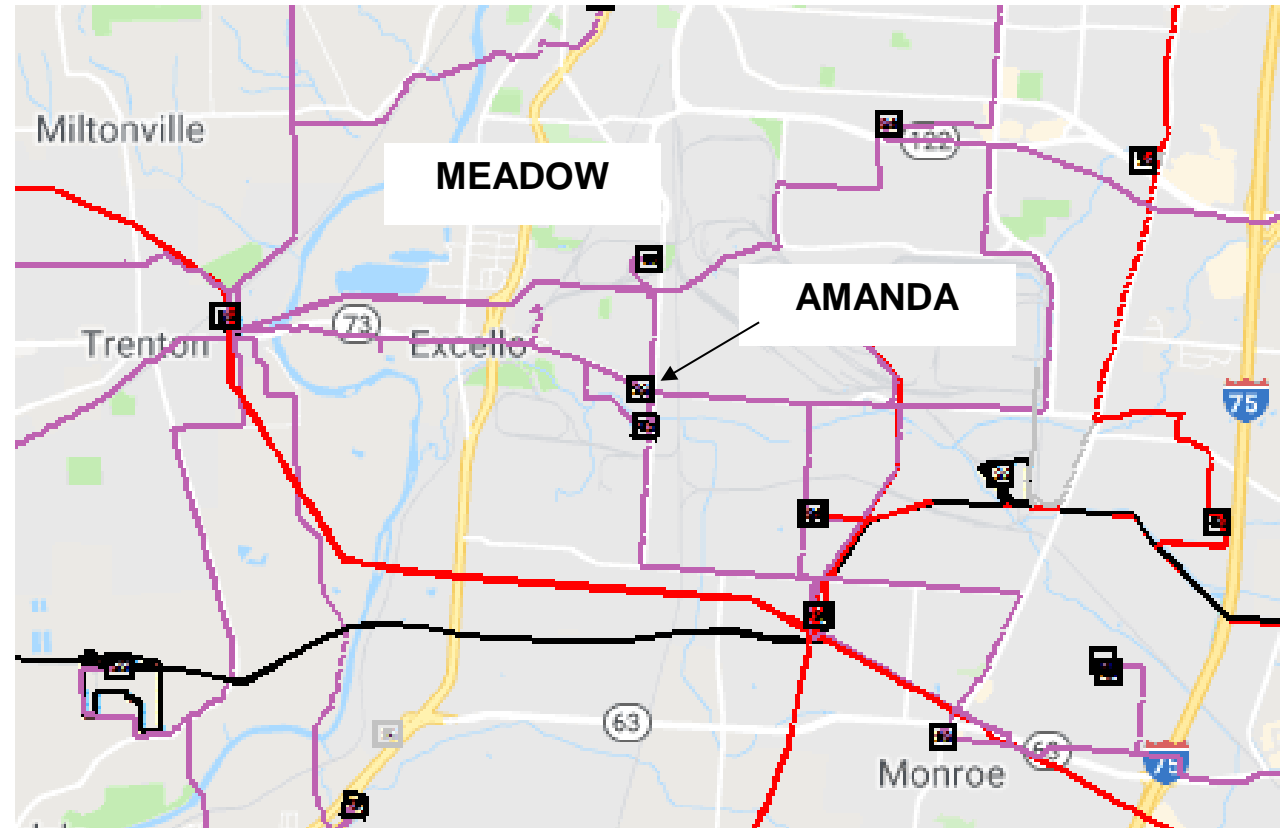
Customer Service

Specific Assumptions Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 10

Problem Statement:

Duke Energy Distribution has requested a new delivery point at Amanda substation. Amanda has a single 69/4kV 2.5MVA transformer. A new commercial customer requires 4MW of service by 12-31-2020.



DEOK Transmission Zone M-3 Process Amanda

Need Number: DEOK-2019-016

Process Stage: Solutions Meeting 6/17/2019

Proposed Solution:

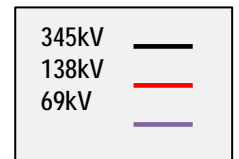
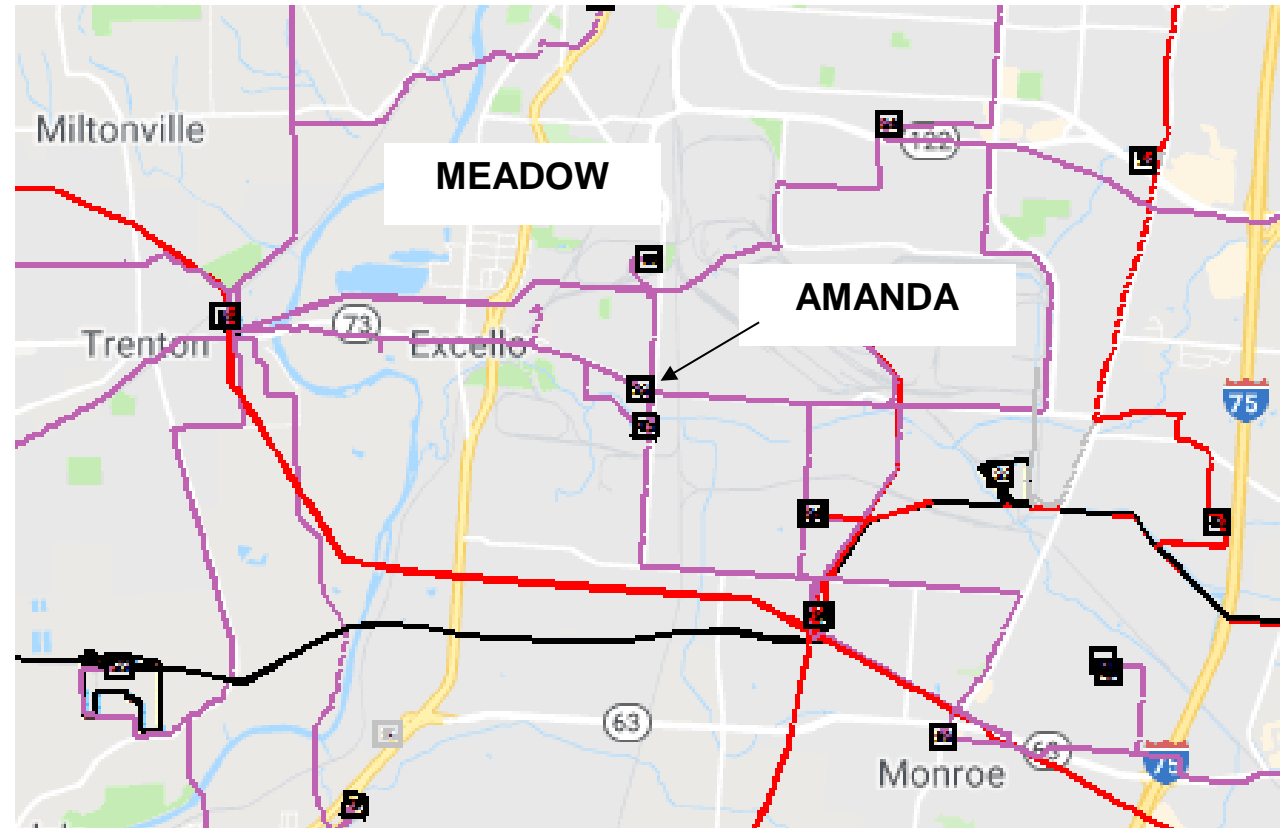
Remove the existing takeoff tower, 69/4kV 2.5MVA transformer and 4kV switchgear. Expand the substation. Install two H-frame structures. Reroute the 69kV feeder into and out of the substation. Install 69kV bus, a 69/13kV 22.4MVA transformer and 13kV breakers for two feeder exits. The transformer will be switch connected to the 69kV bus.

Transmission Cost Estimate: \$1,889,751

Alternatives Considered:

none

Projected In-Service: 12/31/2020



DEOK Transmission Zone M-3 Process Trade Port

Need Number: DEOK-2019-017

Process Stage: Solutions Meeting 6/17/2019

Previously Presented:

Needs Meeting 05-20-2019

Supplemental Project Driver:

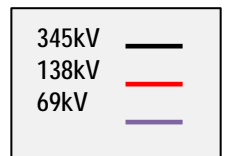
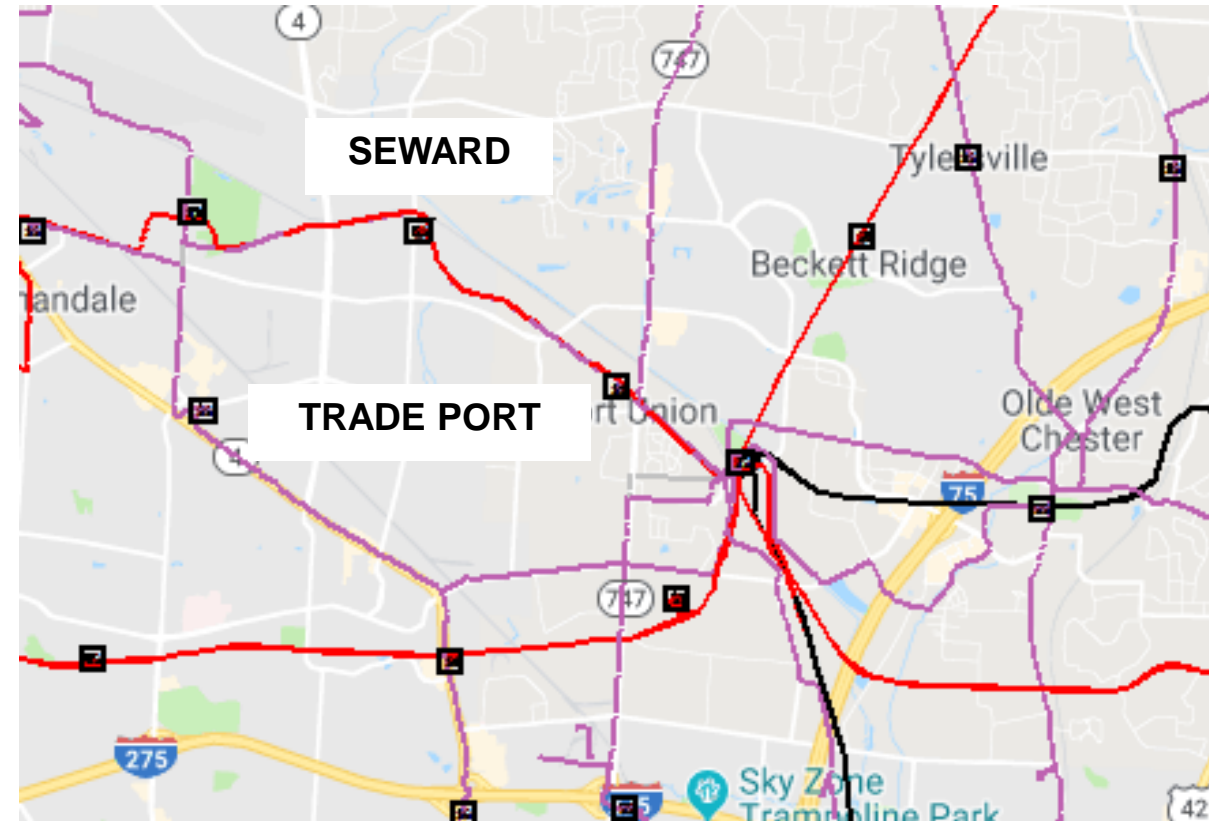
Customer Service

Specific Assumptions Reference:

Duke Energy Ohio & Kentucky Local Planning Assumptions slide 10

Problem Statement:

Duke Energy Distribution has requested a new delivery point at Trade Port substation. An existing customer is renovating its operation and requires 5.5 MWs of additional service by 12-31-2020. Trade Port's single 69/13 kV 10.5 MVA transformer is seeing loads at 6.5 MVA.



DEOK Transmission Zone M-3 Process Trade Port

Need Number: DEOK-2019-017

Process Stage: Solutions Meeting 6/17/2019

Proposed Solution:

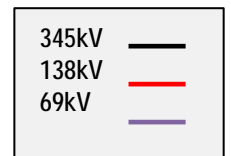
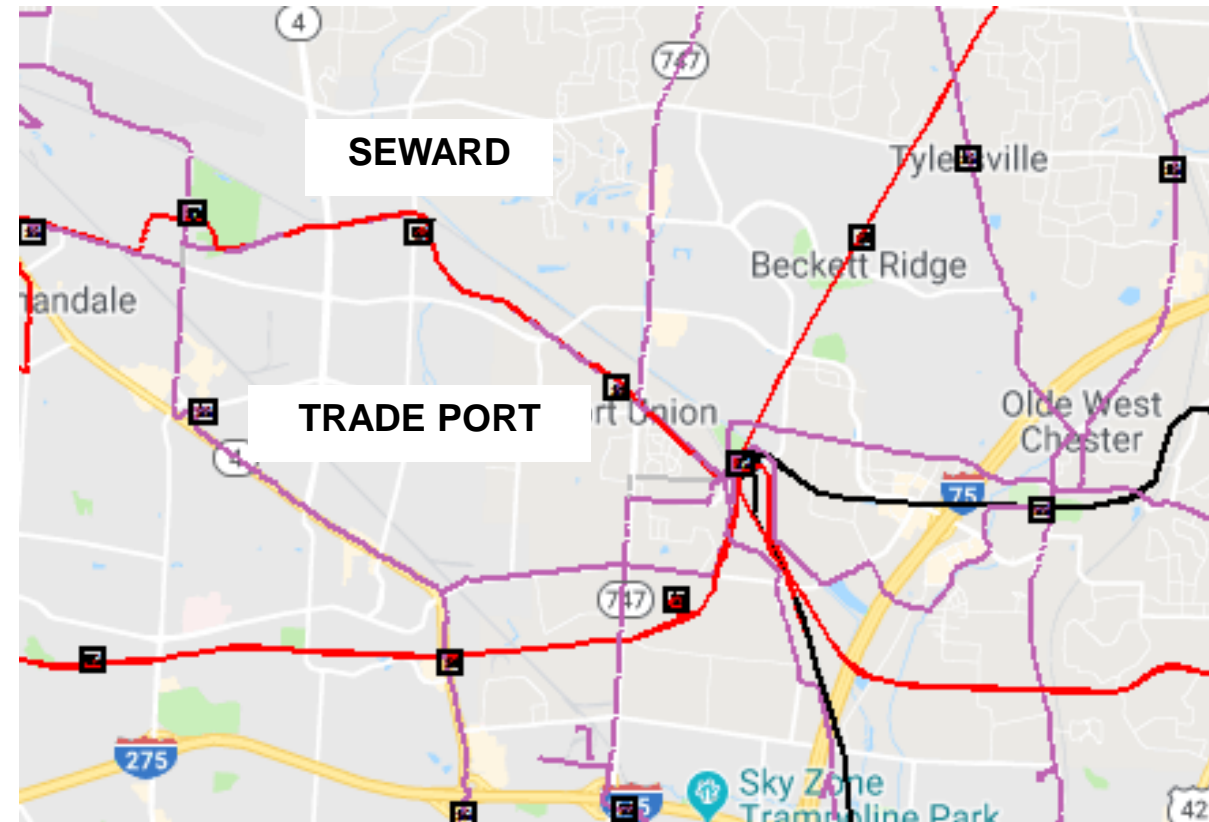
Extend the 69kV bus. Install a 69/13kV 22.5MVA transformer and 13kV switchgear for two distribution feeder exits. The new transformer will be switch connected to the 69kV bus similar to TB1.

Transmission Cost Estimate: \$700,591

Alternatives Considered:

none

Projected In-Service: 12/31/2020



Appendix

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

6/7/2019 – V1 – Original version posted to pjm.com