SRRTEP Committee: Western DEOK Supplemental Projects

Marc 17, 2020

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
Locust - Fairfield

Need Number: DEOK 2019-020

Process Stage: Solutions Meeting 03-19-2020

Previously Presented: Needs Meeting 07-24-2019

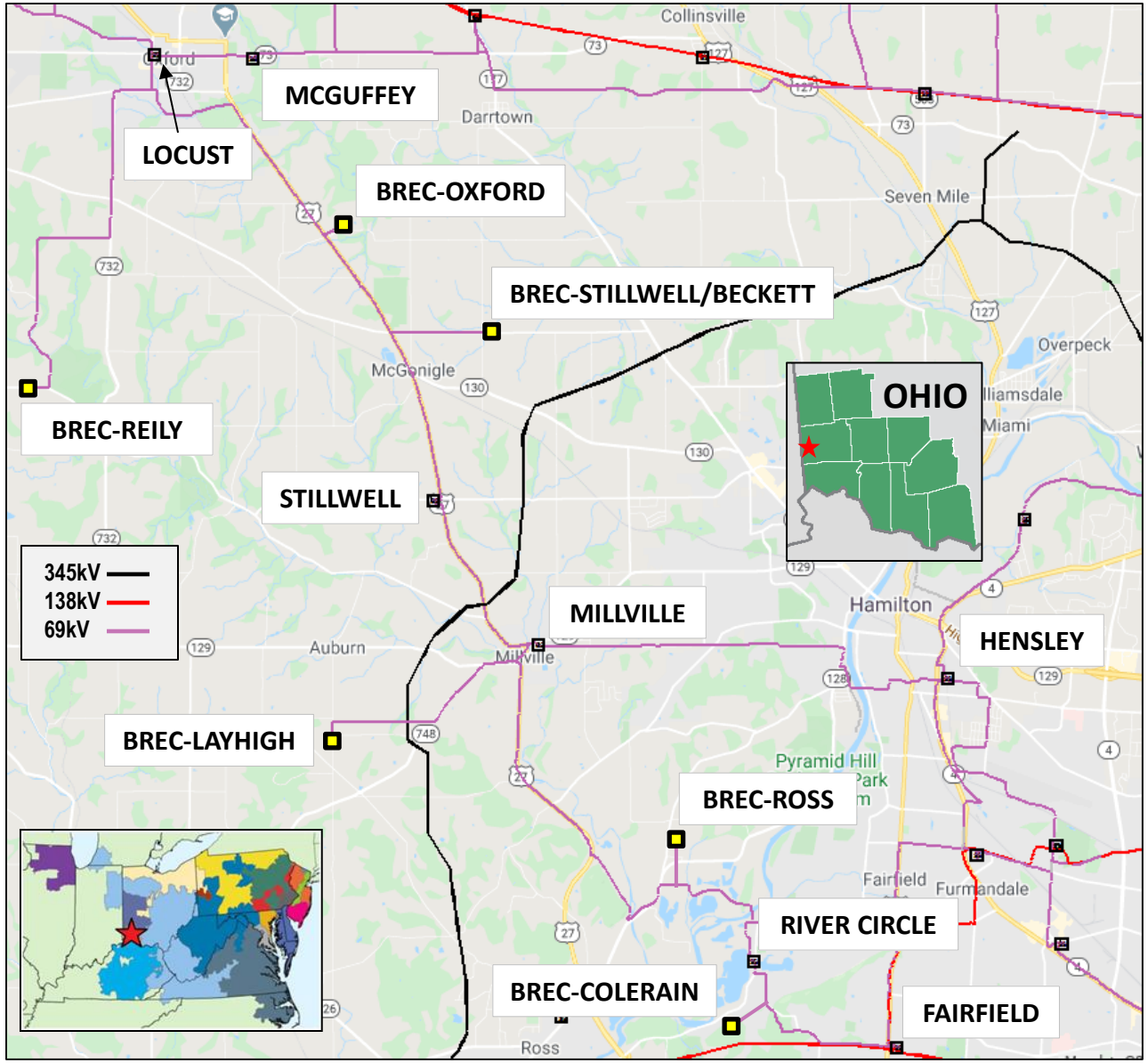
Project Driver: Customer Service

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, 69kV 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.



DEOK Transmission Zone M-3 Process
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Potential Solution:

The comprehensive solution to improving the reliability of this wide area is the sum of five projects.

Locust Ring Bus - Install four 69kV breakers in a ring bus configuration. Split the main feeder into two circuits. Terminate the two new main feeder circuits and the feeder to McGuffey each into their own position on the ring.

Estimated Costs: $7,642,394

Projected In-service date: 06-01-2023

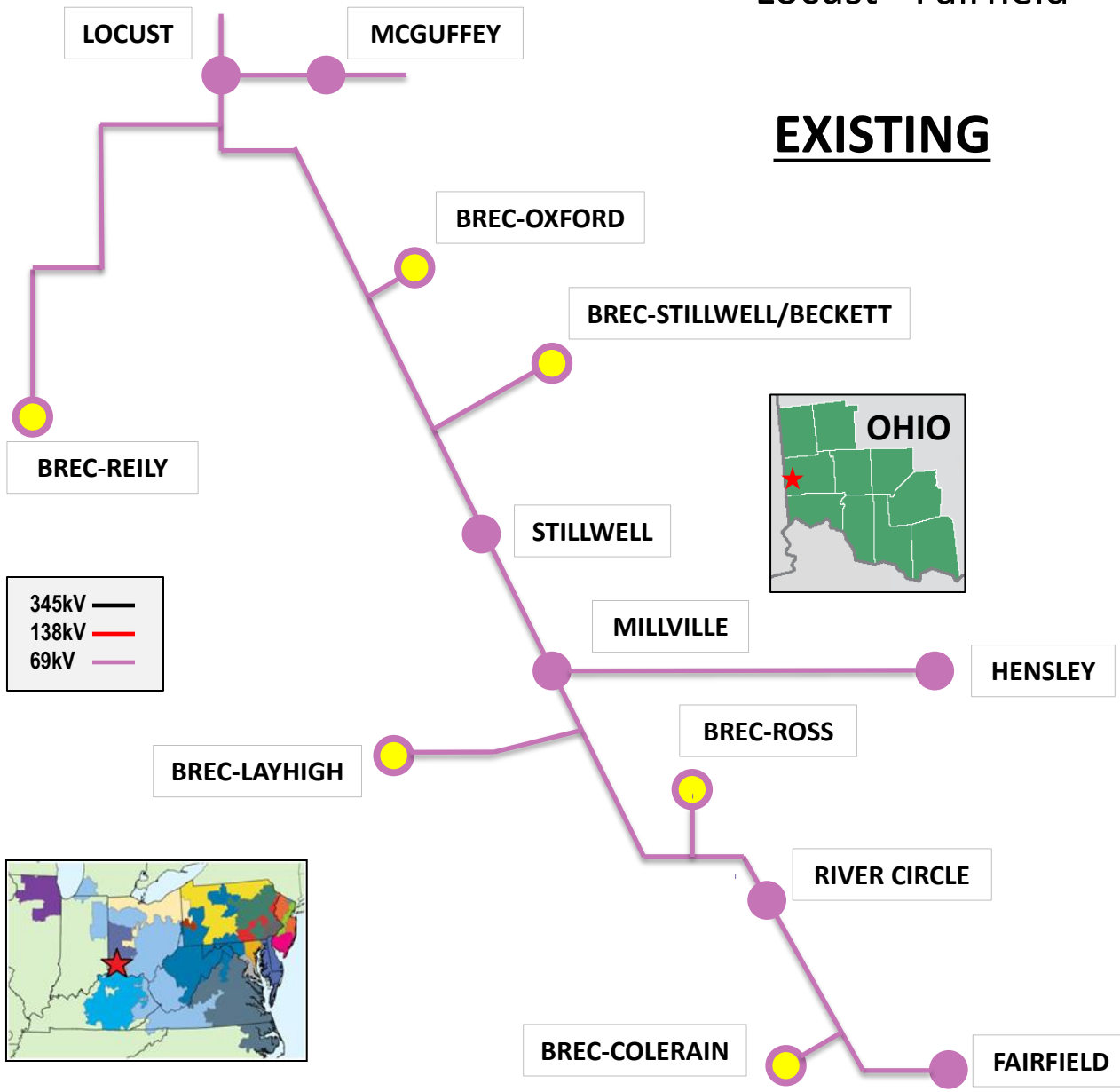
McGuffey Automatic Throw Over- Install voltage sensing, control and associated equipment to implement an automatic throw over (ATO) scheme in McGuffey Substation

Estimated Costs: $236,126

Projected In-service date: 12-31-2023

Locust-Millville Sectionalizing - Install switching facilities with energy management system (EMS) control and an ATO scheme in a new station at the BREC Stillwell/Beckett tap. Loop the main feeder though the new facilities.

(continued)



DEOK Transmission Zone M-3 Process
Locust - Fairfield

Need Number: DEOK 2019-020

Process Stage: Solutions Meeting 03-19-2020

(continued)
Install switching facilities with EMS control and transmission line sectionalizing (TLS) in or adjacent to BREC Oxford Station. Loop the main feeder through the facilities.

Estimated Costs: $5,969,771

Projected In-service date: 12-31-2023

Millville Ring Bus - Install four 69kV breakers in a ring bus configuration. Split the main feeder into two circuits. Extend the feeder that supplies BREC-Layhigh to Millville. Terminate the two new main feeder circuits, the feeder to BREC-Layhigh and the feeder to Hensley each into their own position on the ring.

Estimated Costs: $7,468,582

Projected In-service date: 6-1-2023

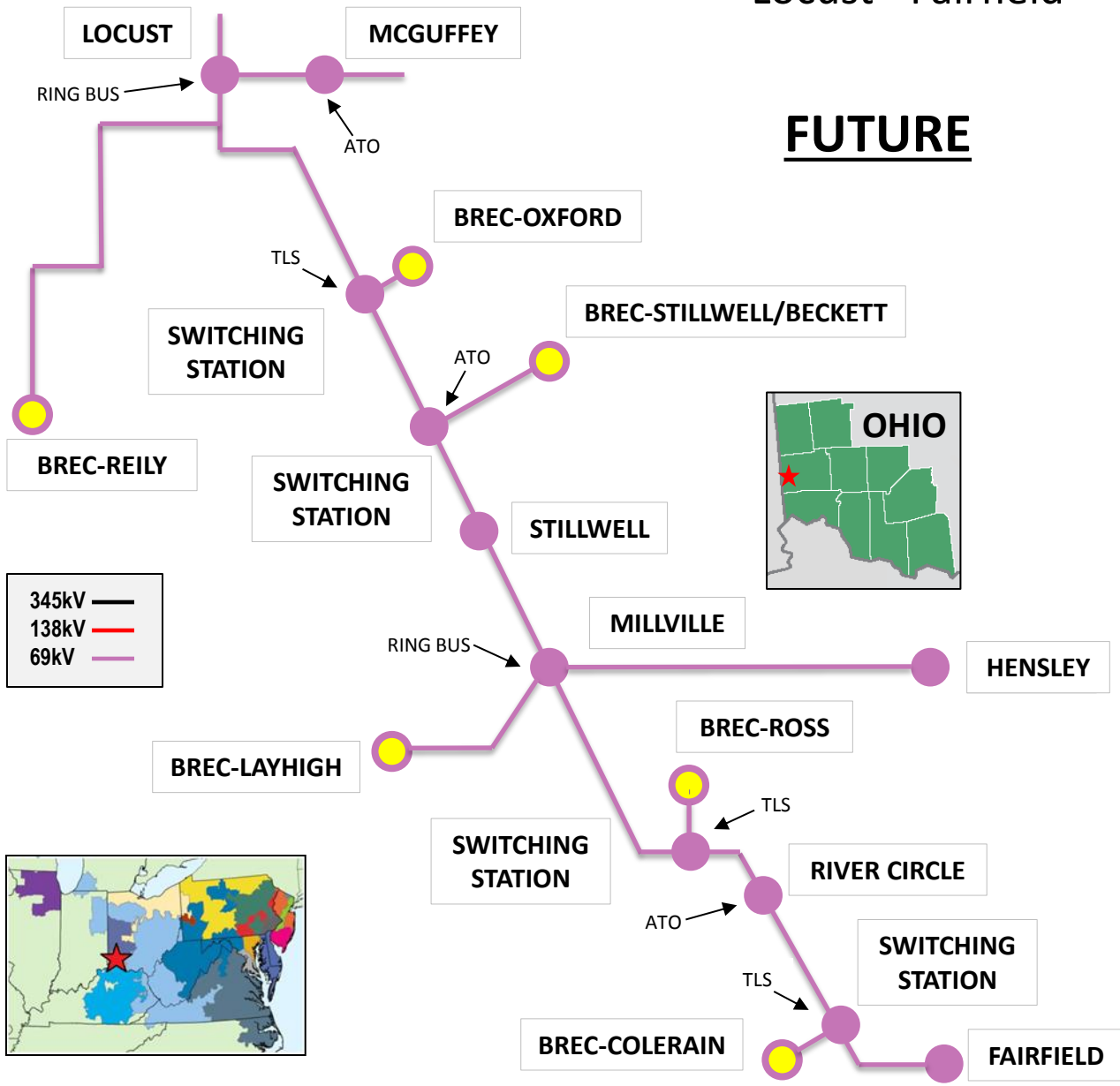
Millville-Fairfield Sectionalizing - Install switching facilities with EMS control and TLS in or adjacent to BREC Ross. Loop the main feeder though the new facilities. Install switching facilities with EMS control and TLS at or near the tap to BREC Colerain. Loop the main feeder though the new facilities. Install ATO in River Circle Substation. Loop the main feeder through the facilities.

Estimated Costs: $5,969,771

Projected In-service date: 12-31-2023

Projects Status: Scoping

Model: 2019 RTEP Summer



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

3/6/2020 – V1 – Original version posted to pjm.com