



# Reliability Analysis Update

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Sub Regional RTEP Committee - PJM West  
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# Recommended Solution

## Baseline Reliability Projects



# AEP Transmission Zone: Baseline Jug Street 138kV Breaker Replacement

**Process Stage:** Recommend Solution

**Criteria:** Short Circuit

**Assumption Reference:** 2027 RTEP Assumption

**Model Used for Analysis:** 2022 Series 2024 RTEP Short Circuit Model

**Proposal Window Exclusion:** Immediate Need, Below 200 kV

**Problem Statement:**

2022W1-SC-1 through 4, 2022W1-SC-6, 2022W1-SC-7, 2022W1-SC-10 through 2022W1-SC-13, and 2022W1-SC-24 through 2022W1-SC-27

Jug Street 138kV breakers M, N, BC, BF, BD, BE, D, H, J, L, BG, BH, BJ, BK are overdutied.

**Existing Facility Rating:** 40kA

**Proposed Solution:**

Replace the Jug Street 138kV breakers M, N, BC, BF, BD, BE, D, H, J, L, BG, BH, BJ, BK with 80KA breakers (**B3763**)

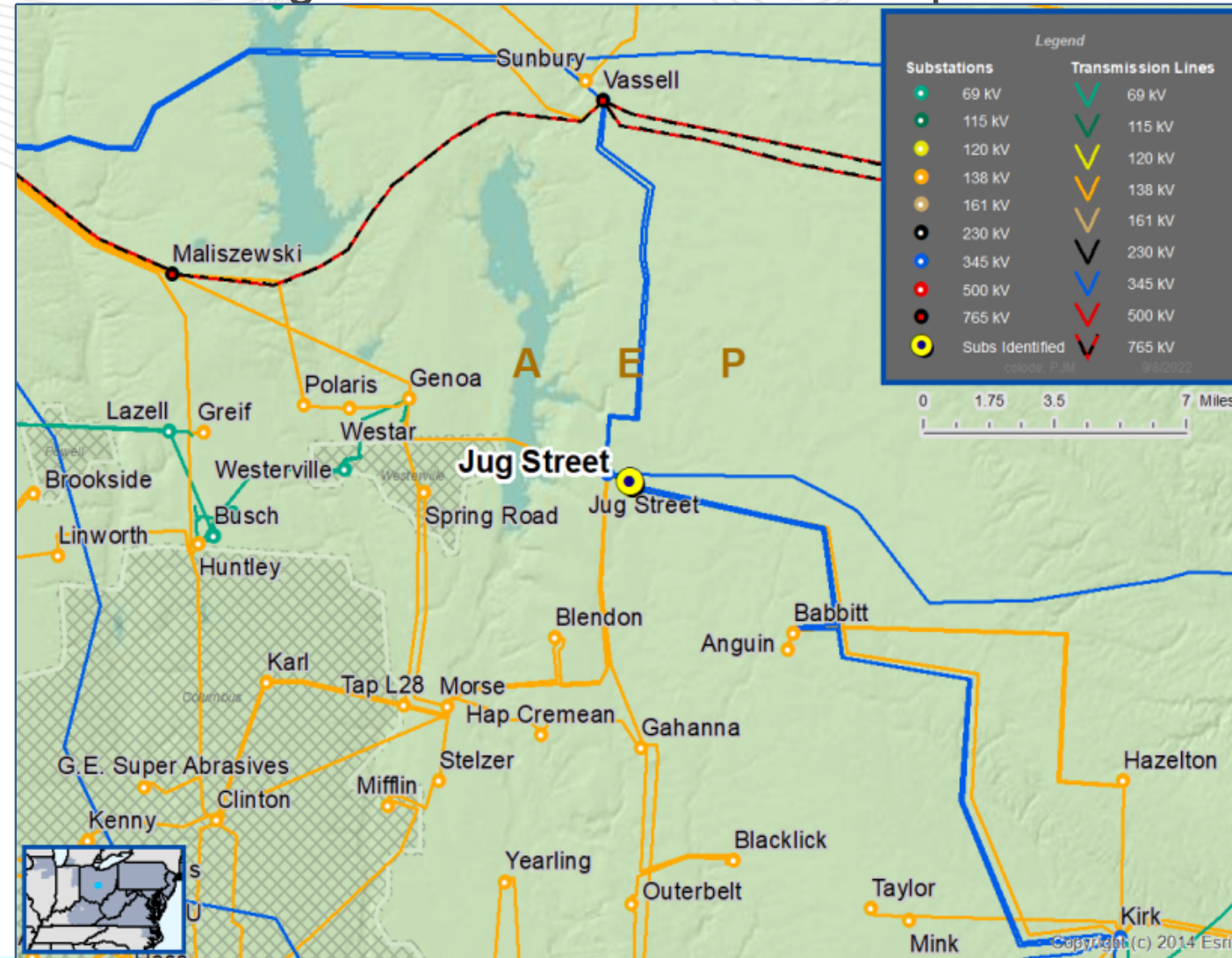
**Estimated Total Cost:** \$14M

**Preliminary Facility Rating:** 80kA

**Required In-Service:** 06/01/2024

**Projected In-Service:** 06/01/2024

**Previously Presented:** 11/18/2022





# AEP Transmission Zone: Baseline Hyatt 138kV Breaker Replacements

**Process Stage:** Recommended Solution

**Criteria:** Short Circuit

**Assumption Reference:** 2027 RTEP Assumption

**Model Used for Analysis:** 2022 Series 2024 RTEP Short Circuit Model

**Proposal Window Exclusion:** Immediate Need, Below 200 kV

**Problem Statement:**

2022W1-SC-15 and 2022W1-SC-23

Hyatt 138kV breakers AB1 and AD1 are overdutied.

**Existing Facility Rating:** 50kA

**Proposed Solution:**

Replace the Hyatt 138kV breakers AB1 and AD1 with 63kA breakers (B3764)

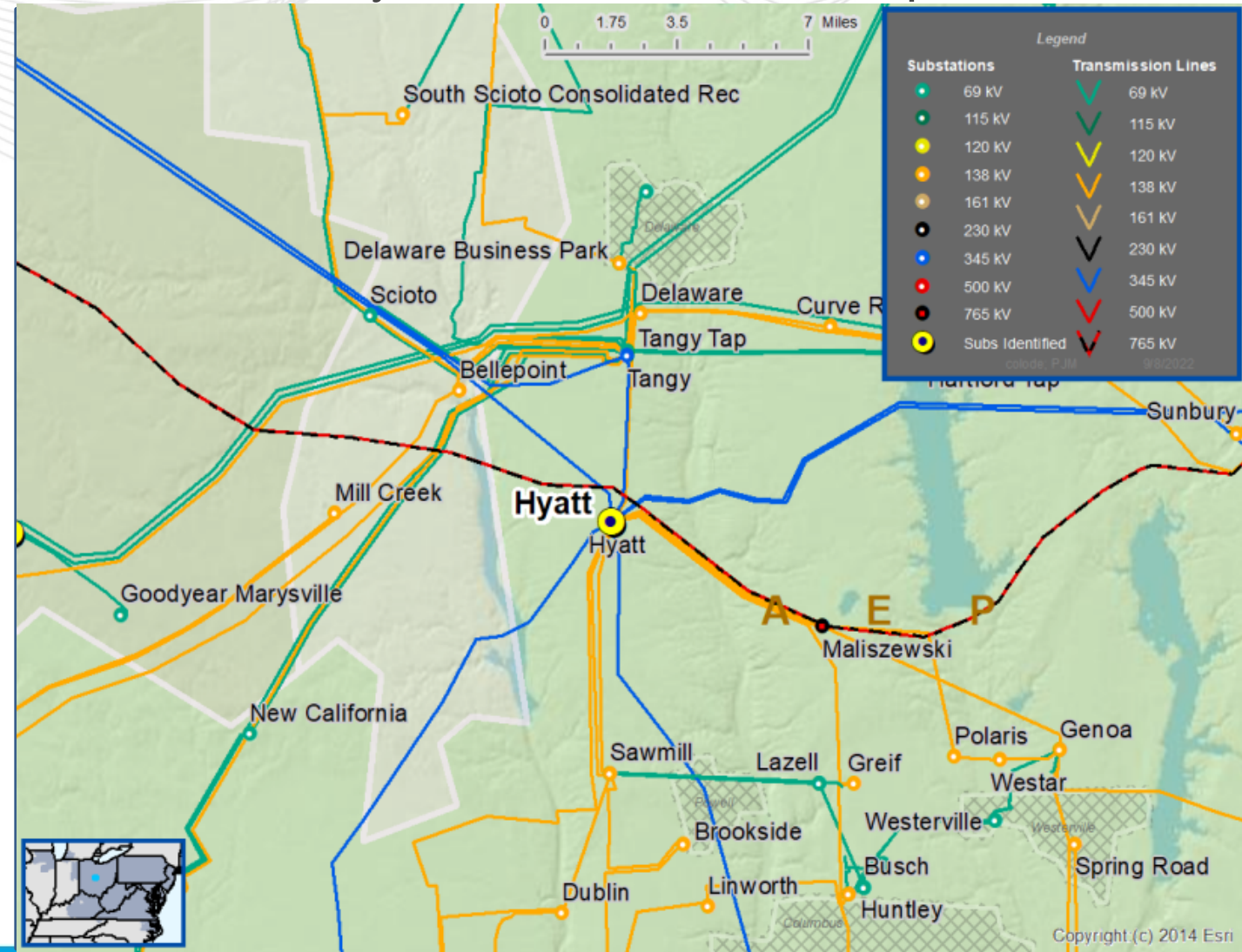
**Existing Facility Rating:** 63kA

**Estimated Total Cost:** \$2M (\$1M each)

**Required In-Service:** 06/01/2024

**Projected In-Service:** 06/01/2024

**Previously Presented:** 11/18/2022



**Process Stage:** Recommended Solution

**Criteria:** Baseline N-1-1 Analysis

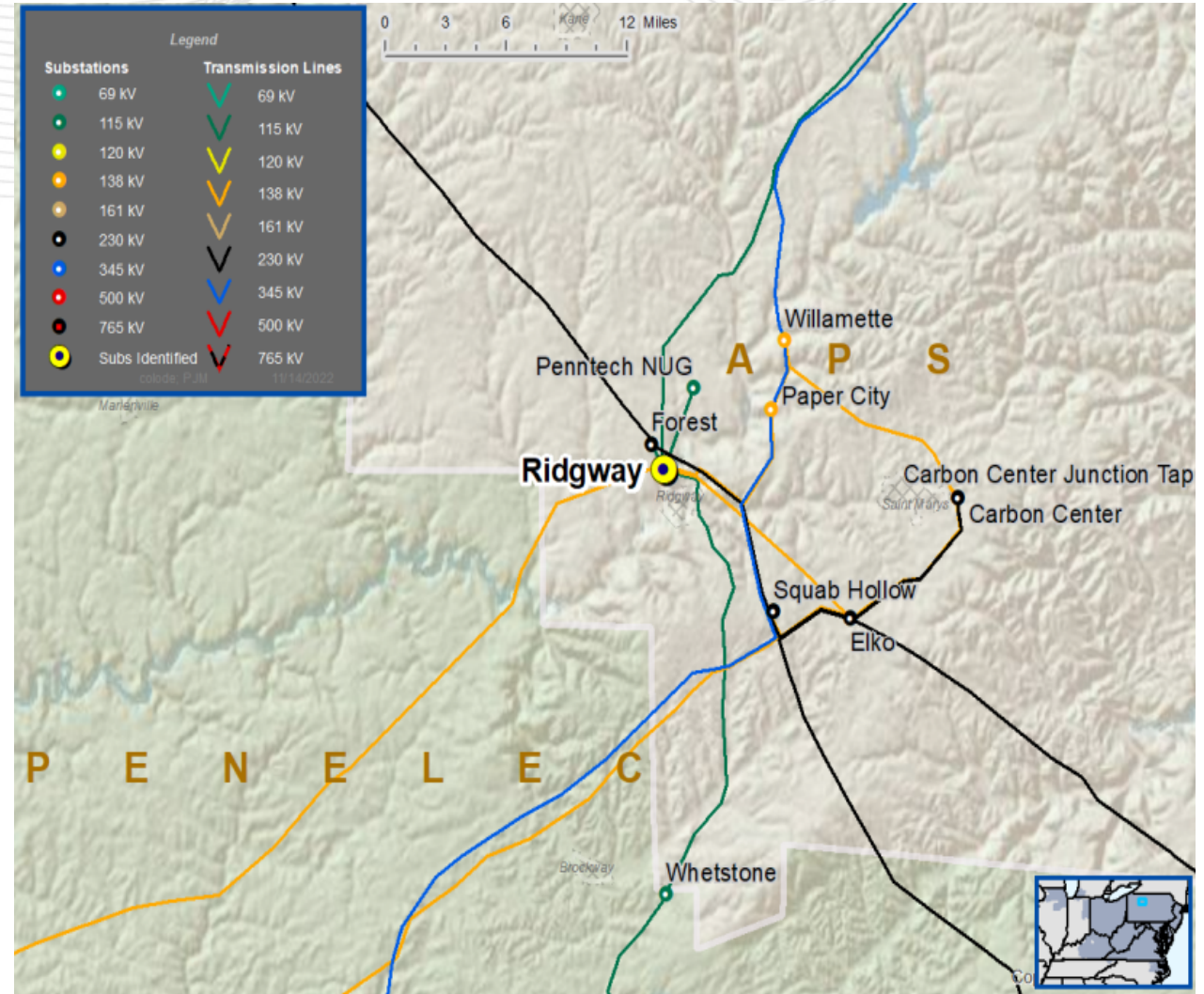
**Assumption Reference:** 2027 RTEP assumption

**Model Used for Analysis:** 2027 Summer RTEP case

**Proposal Window Exclusion:** Below 200 kV Exclusion

**Problem Statement:** 2022W1-N2-ST1

In 2027 RTEP Summer case, Carbon Center to Elko 138 kV line is overloaded due to N-1-1 contingencies.



## Recommended Solution:

- Install 138 kV Breaker on the Ridgway 138/46 kV #2 Transformer (b3761)

**Transmission Estimated Cost: \$1.1M**

**Ancillary Benefits:** Adding a 138 kV breaker on the Ridgway #2 138/46 kV Transformer will prevent the 138 kV bus from being de-energized in the event of a transformer fault.

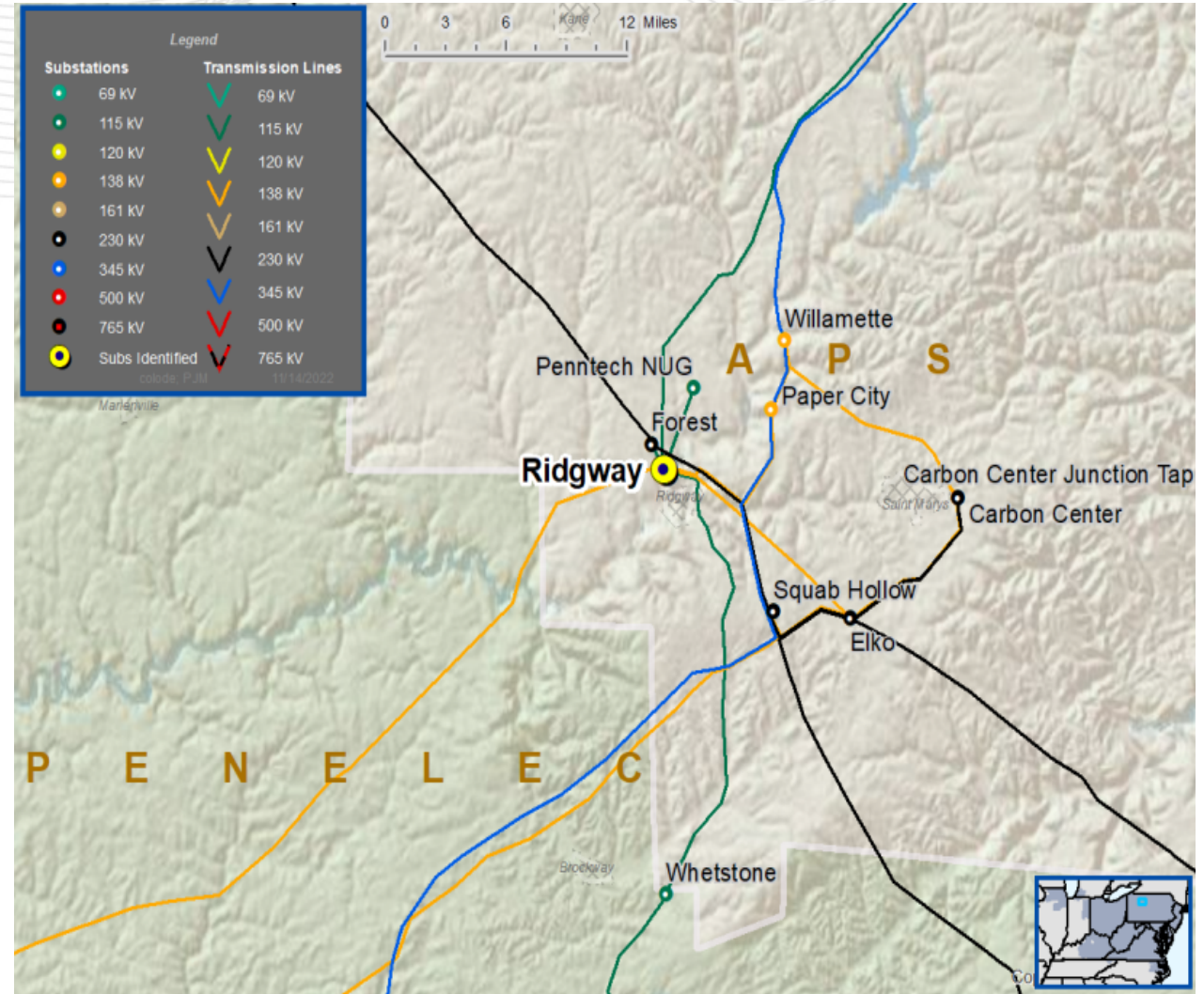
**Alternatives:** None

**Preliminary Facility Rating:** N/A

**Required in-service date:** 6/1/2027

**Projected in-service date:** 6/1/2027

**Previously Presented:** 11/18/2022





# EKPC Transmission Zone: Baseline Fawkes-Duncannon Lane Tap 69 kV Rebuild

**Process Stage:** Recommended Solution

**Criteria:** EKPC 715 Criteria

**Assumption Reference:** EKPC Assumptions Presentation slides 3-10

**Model Used for Analysis:** EKPC's internal models representing 2026/27 winter peak conditions that were used for EKPC's annual system screening analysis for 2022 planning cycle. Includes Cooper Units 1 and 2 off with replacement generation imported from the north of EKPC system.

**Proposal Window Exclusion:** Below 200 kV Exclusion

**Problem Statement:**

The Fawkes-Duncannon Lane Tap 69 kV line (LGEE-EKPC tie line) is overloaded for an N-1 outage.

Violation was posted as part of the 2022 Window 1: FG# 2022W1-EKPC-T1

**Existing Facility Rating:** 89SN/98SE, 128WN/134WE MVA

**Proposed Facility Rating:** 114SN/127SE, 166WN/174WE MVA

**Proposed Solution:**

Rebuild EKPC's Fawkes-Duncannon Lane Tap 556.5 ACSR 69 kV line section (7.2 miles) using 795 ACSR. **(b3762)**

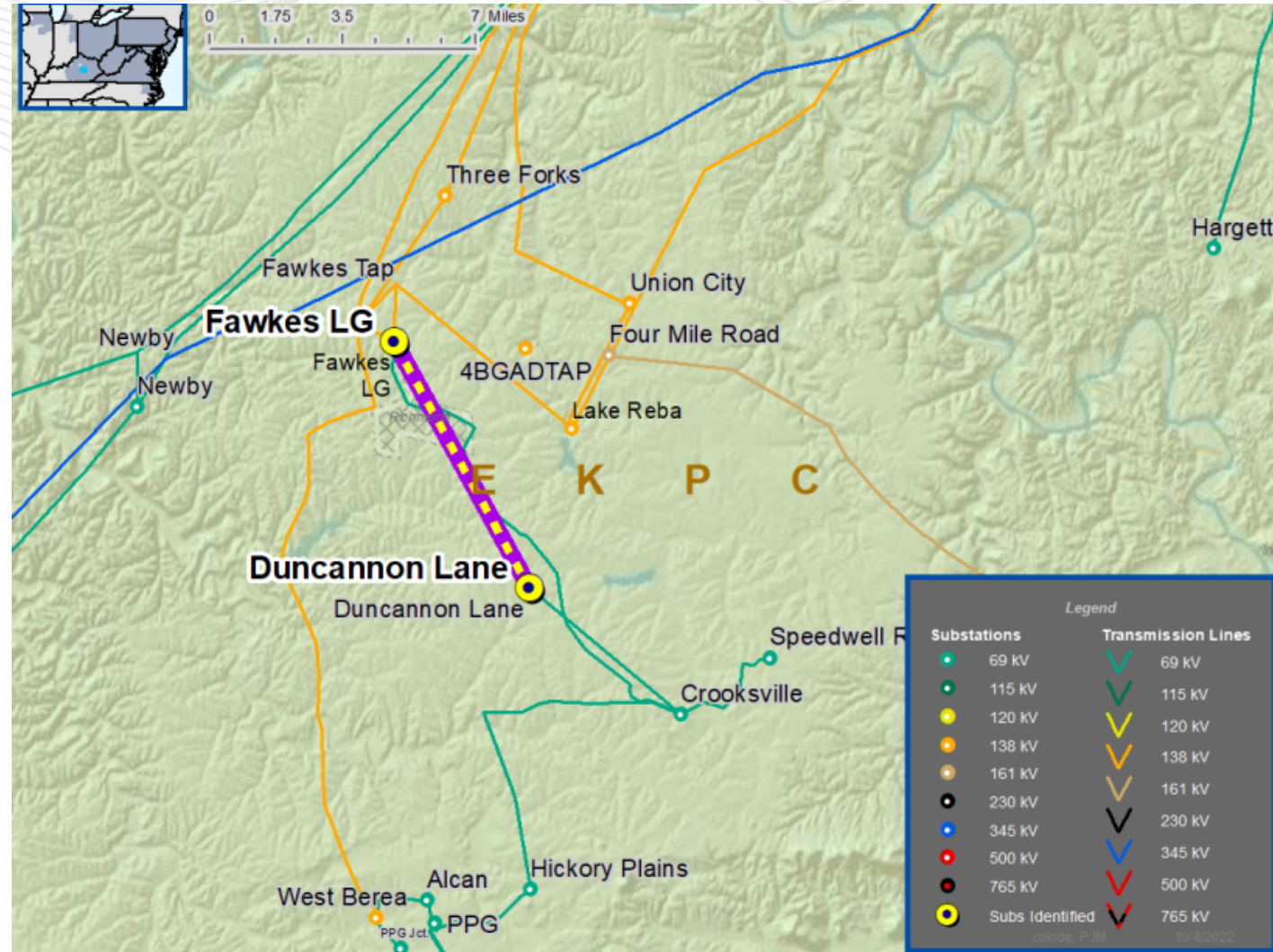
**Estimated Cost:** \$8.5 M

**Ancillary Benefits:** Replacement of aging infrastructure associated with line section.

**Required In-Service:** 12/1/2026

**Projected In-Service:** 12/31/2024

**Previously Presented:** 10/14/2022



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- V1 – 12/7/2022 – Original slides posted
- V2 – 12/13/2022 – Removed original slides #8-10