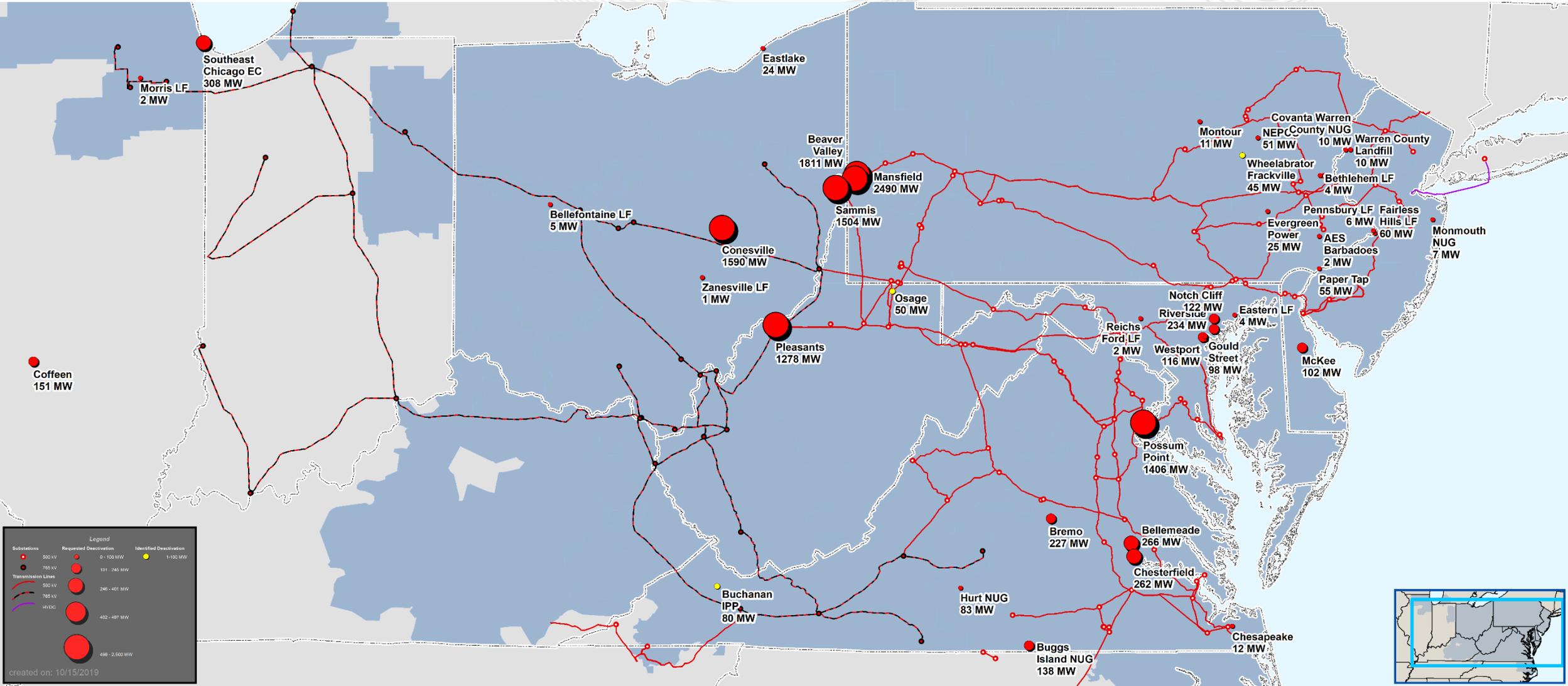




Generation Deactivation Notification Update

Transmission Expansion Advisory
Committee

October 17, 2019



Unit(s)	Transmission Zone	Requested Deactivation Date	PJM Reliability Status
Frackville Wheelabrator 1 (45.1 MW)	PPL	3/01/2020	Reliability analysis complete. No violation identified
Buchanan 1 and 2 (80 MW)	AEP	06/01/2023	Reliability analysis complete. New baselines resolve identified impacts. Units can retire as scheduled
Osage (50 MW)	APS	01/01/2020	Reliability analysis Underway.

**Problem Statement: N-1-1 thermal
AEP FERC 715 violation**

Garden Creek – Whetstone 69 kV line is overloaded for the following scenarios.

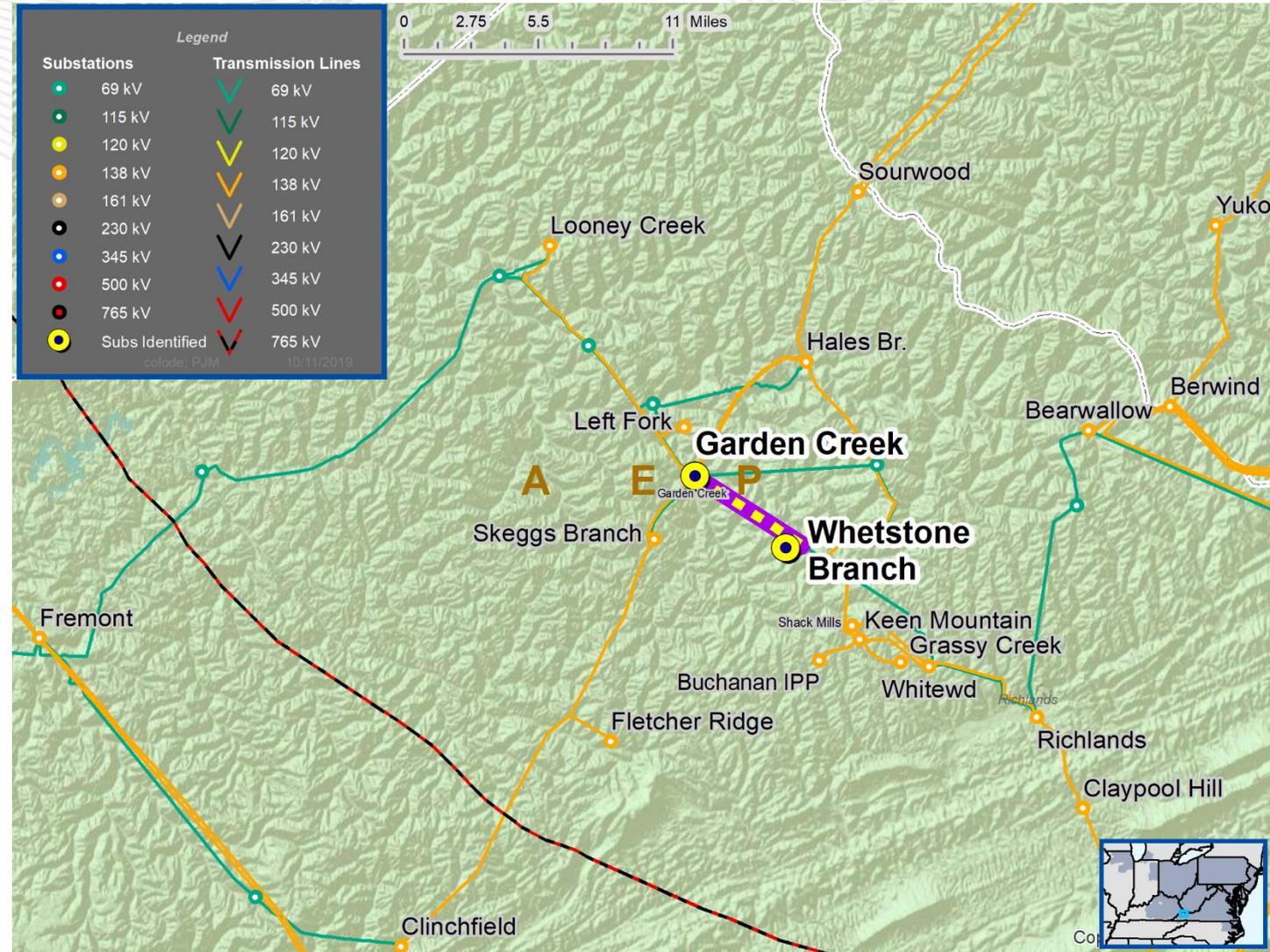
- Single contingency loss of Richland - Broadford 138 kV line followed by single contingency loss of the Garden Creek - Shack Mills 138 kV line.
- Single contingency loss of Richlands - Broadford 138 kV line followed by single contingency loss of the Whitewood – Hales Branch 138 kV line.

Recommended Solution:

- Rebuild the Garden Creek - Whetstone 69 kV line (4.65 mile) (b3139).
- Existing Scope Rating: 44 MVA SN / 44 MVA SE
- New Scope Rating: 102 MVA SN / 142 MVA SE

**Required IS Date: 06/01/2023
Projected IS Date: 06/01/2023**

Estimated Project Cost: \$14M



Problem Statement: N-1-1 thermal AEP FERC 715 violation

Whetstone - Knox Creek - Coal Creek 69kV line is overloaded for the following scenarios:

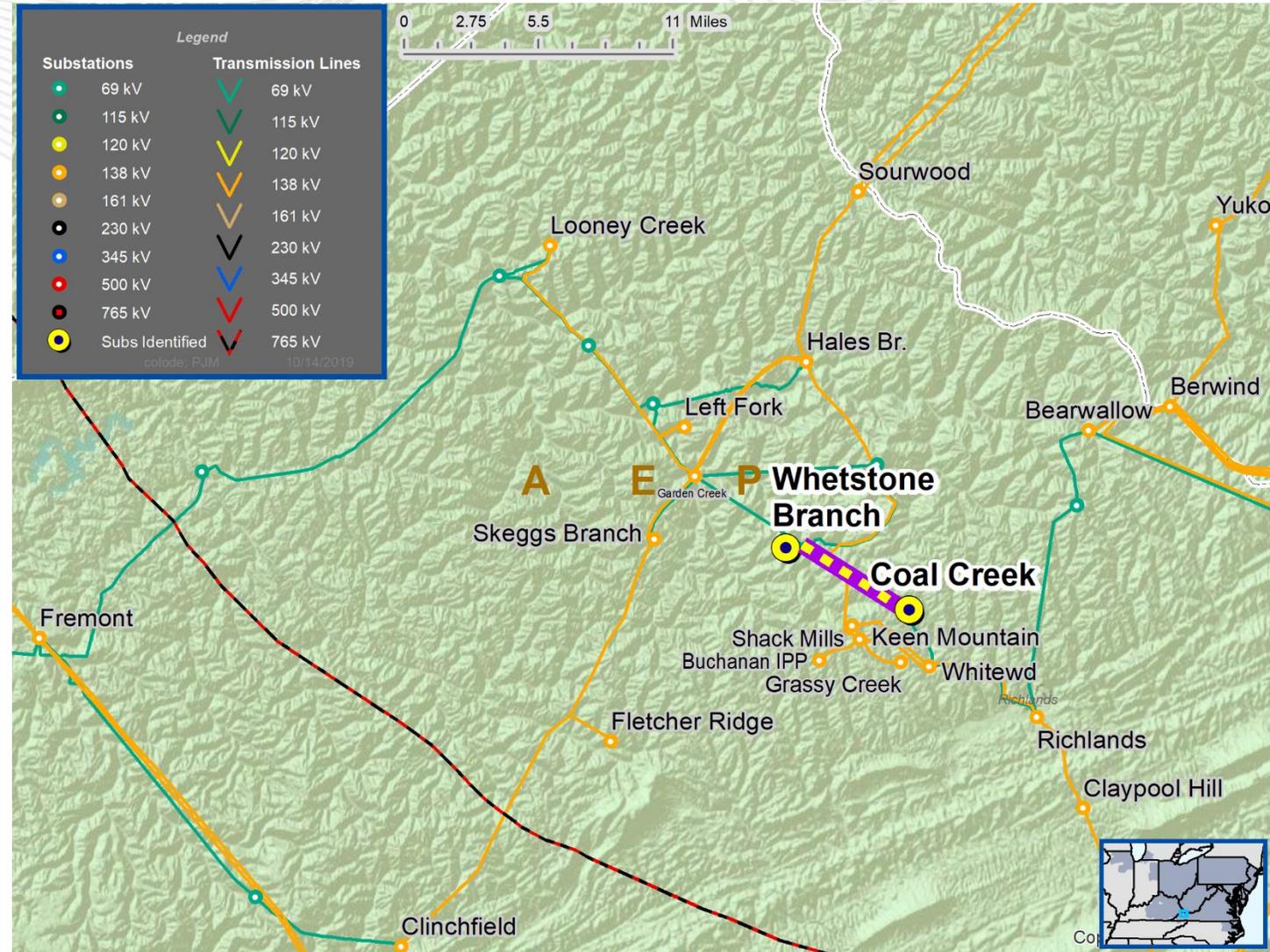
- Single contingency loss of Richlands - Broadford 138 kV line followed by single contingency loss of the Whitewood – Hales Branch 138 kV line.
- Single contingency loss of Clinch River – Hales Branch 138 kV line followed by single contingency loss of the Richlands – Whitewood 138 k line.

Recommended Solution:

- Rebuild the Whetstone - Knox Creek 69 kV line (3.1 mile) (b3140).
- Rebuild the Knox Creek –Coal Creek 69 kV line (2.9 mile) (b3141).
- Existing Scope Rating: 44 MVA SN / 44 MVA SE
- New Scope Rating: 102 MVA SN / 142 MVA SE

Required IS Date: 06/01/2023
Projected IS Date: 06/01/2023

Estimated Project Cost: \$9M – b3140
\$9M – b3141



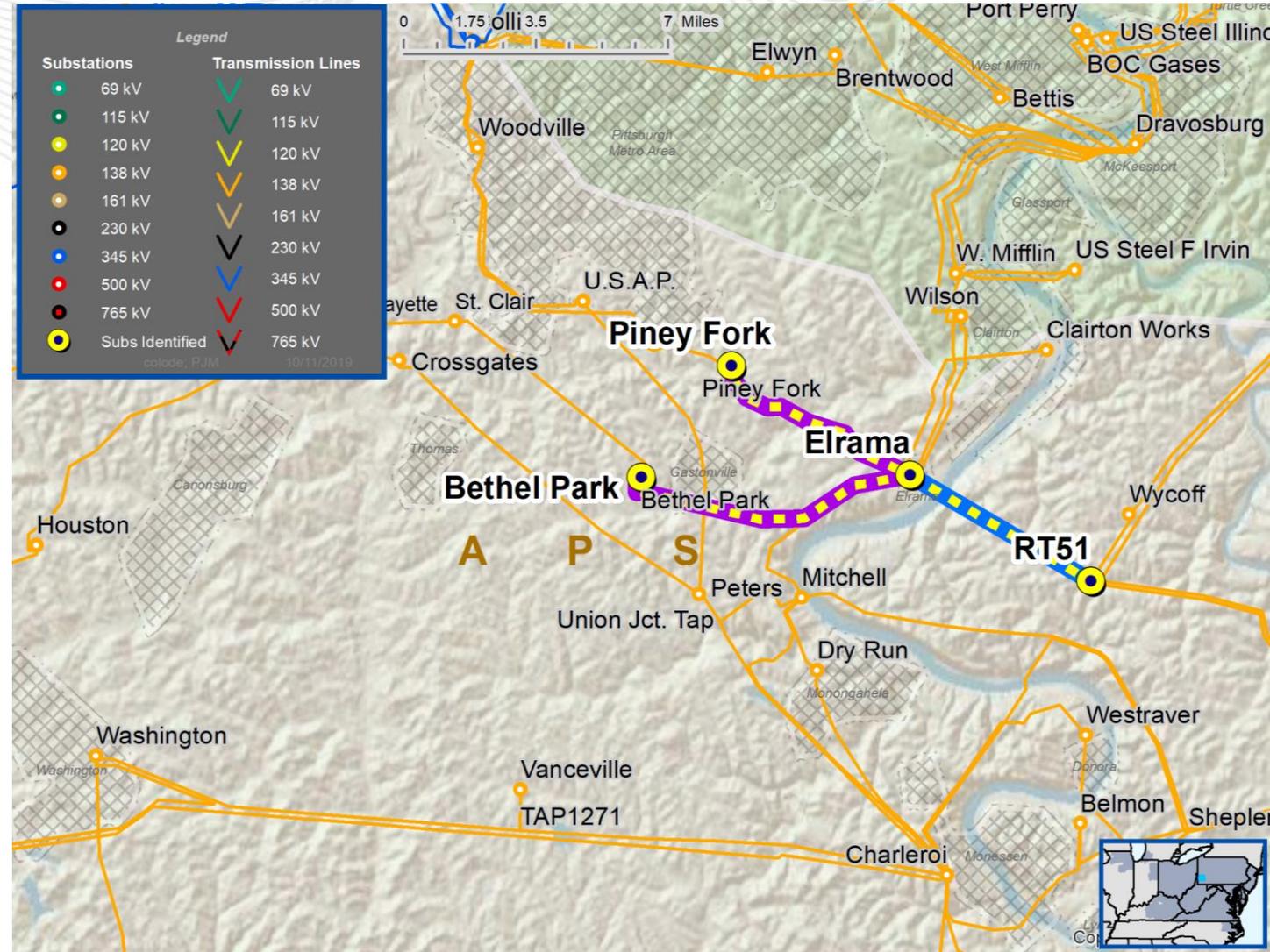
Second Read

Problem Statement: Missing Scope

- The need for B3064 (DLCO) was confirmed for FE reinstatement - Expand Elrama 138 kV substation to loop in the existing USS Steel Clariton - Piney Fork 138 kV line.
- FE identified the missing scope of the projects driven by DLCO's B3064.

Recommended Solution:

- B3064.2, B3064.3 (APS) - Upgrade line relaying at Piney Fork and Bethel Park for Piney Fork – Elrama 138 kV line and Bethel Park – Elrama 138 kV line.
- **Required IS Date:** 06/01/2021
- **Projected IS Date:** 06/01/2021
- **Estimated Project Cost:** \$0.6M
- **First Read TEAC date:** 09/12/19



Problem Statement: Generation Deliverability

- Mitchell – Elrama 138 kV line is overloaded for the for the tower contingency of tripping two Route 51 – Elarma 138 kV lines.

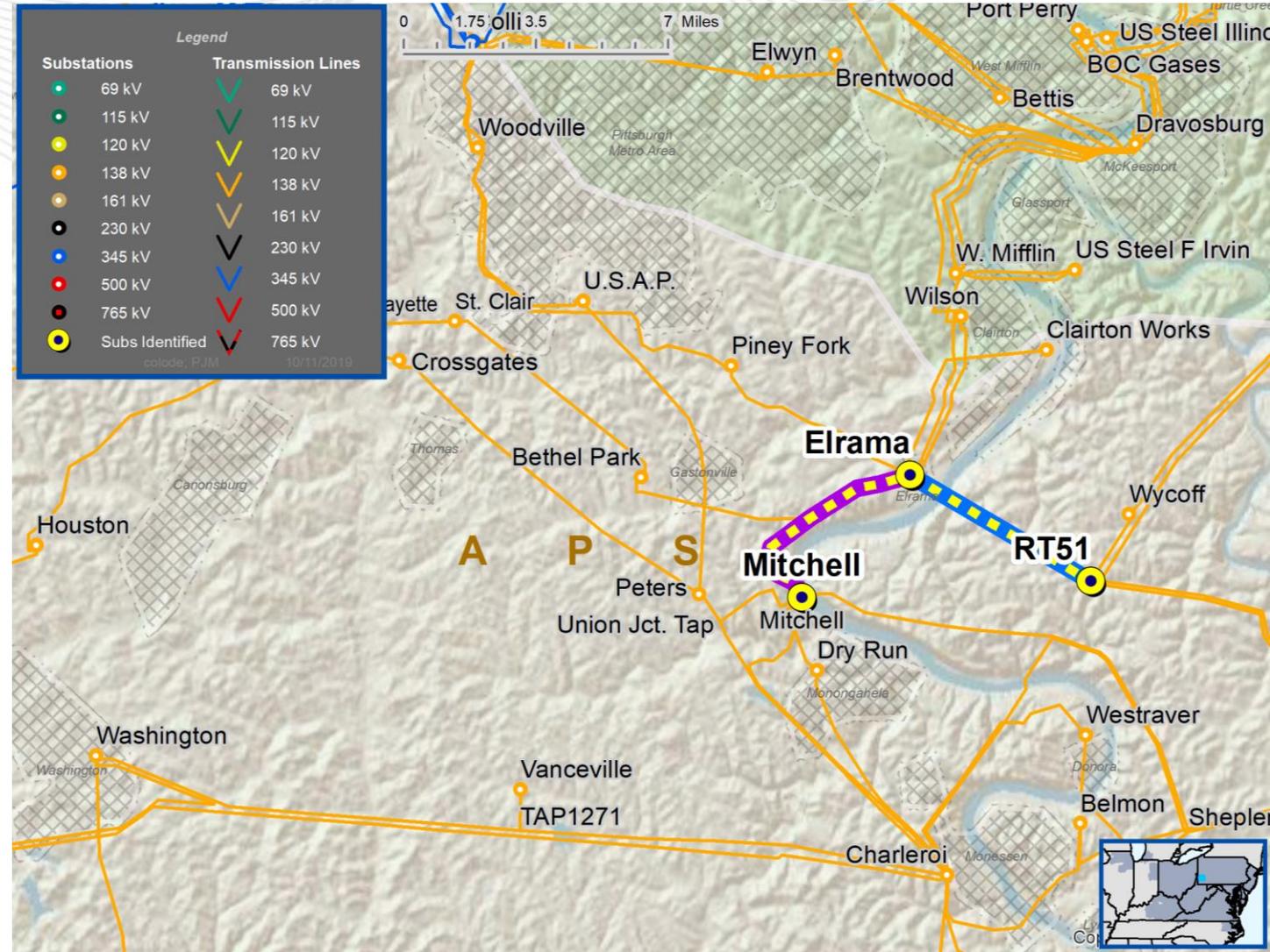
Recommended Solution:

- B3015.8 (APS) – Re-establish work of B3015.6 (canceled 2/2019) - upgrade terminal equipment at Mitchell for Mitchell – Elarma 138 kV line.

Existing Scope Rating: SN 498 MVA / SE 600 MVA

New Scope Rating: SN 790 MVA / SE 838 MVA

- Required IS Date:** 06/01/2021
- Projected IS Date:** 06/01/2021
- Estimated Project Cost:** \$2M
- First Read TEAC date:** 09/12/19



- V1 - 10/14/2019 - Original slides posted
- V2 - 10/16/2019 - Slide 2: Correct location of Buchanan units updated, Slide 4 and 5: baseline #s added
- V3 - 10/29/2019 - Slide 4 and 5: New Scope rating (SE) updated