



Reliability Analysis Update

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Sub Regional RTEP Committee - PJM South

November 14, 2024

First Review Baseline Reliability Projects



DOM Transmission Zone: Baseline Merck #5 to Port Republic 115kV

Process Stage: First Review

Criteria: Summer & Winter Baseline Thermal & IPD, and Summer Generation Deliverability

Assumption Reference: 2029 RTEP assumption

Model Used for Analysis: 2029 RTEP Summer & Winter

Proposal Window Exclusion: Below 200 kV Exclusion

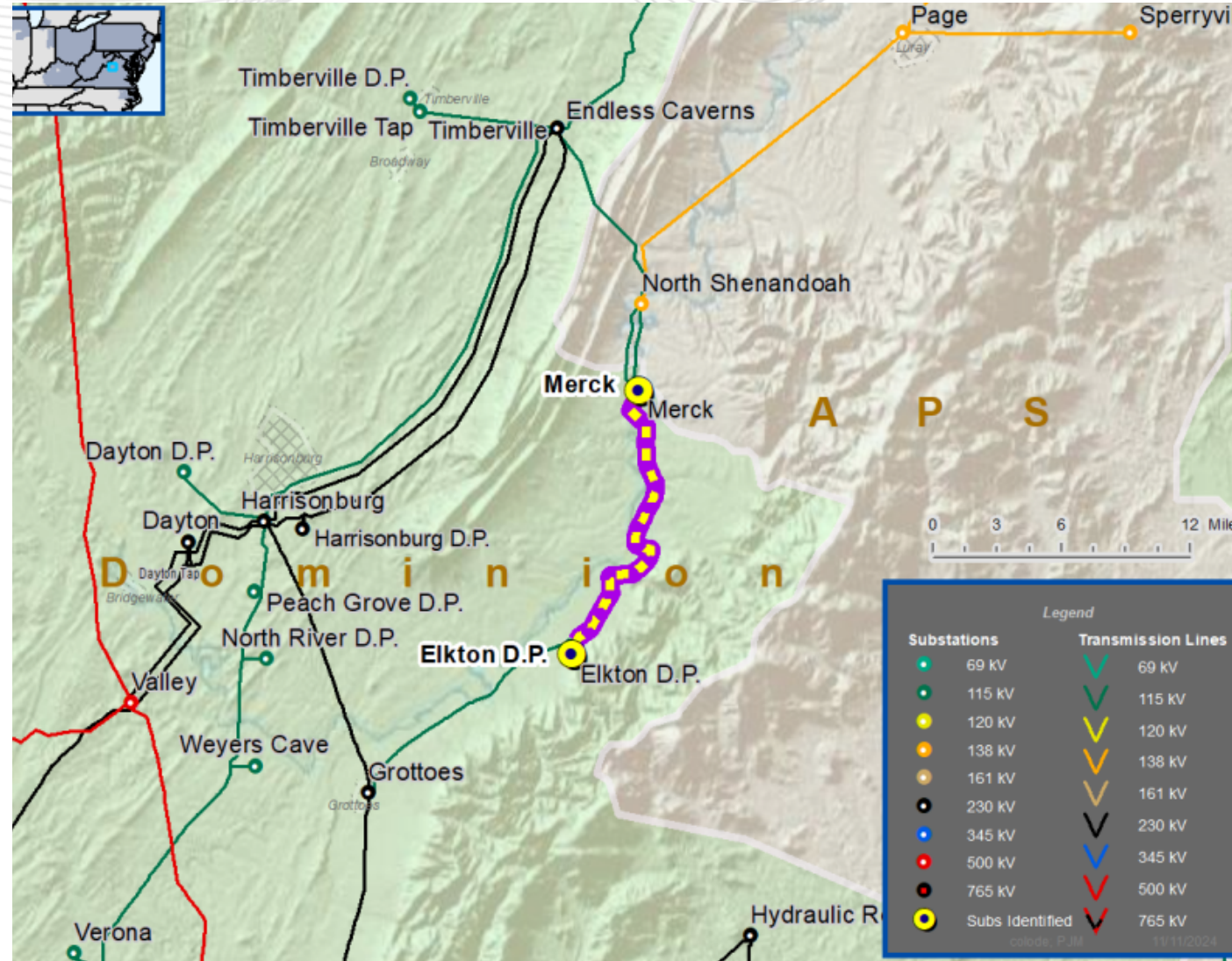
Problem Statement: The Merck #5 – Port Republic 115kV line is overloaded for multiple contingencies.

Violations were posted as part of the 2024 Window 1:

2024W1-GD-S847	2024W1-IPD-S1690	2024W1-N1-WTNEW1
2024W1-GD-SNEW27	2024W1-IPD-SNEW137	2024W1-N1-WT5
2024W1-IPD-S525	2024W1-N1-ST3	
2024W1-IPD-S647	2024W1-N1-STNEW12	

Existing Facility Rating:

Branch	SN/SE/WN/WE (MVA)
3ELKTON– 3MERCK5 115 kV	144/144/175/175





DOM Transmission Zone: Baseline Merck #5 to Port Republic 115kV

Proposed Solution:

- Wreck and rebuild 115kV line #119 from structure 119/305 (Merck #5 substation) to 119/411A (Port Republic Substation). The existing structures shall be replaced one for one within the existing ROW using primarily custom engineered double circuit 115kV steel structures on concrete foundations. The line will be rebuilt with 3-phase 1-768.2 ACSS/TW/HS (20/7) 250 MOT “Maumee” conductor and two (2) DNO-11410 OPGW.
- Uprate the 397.5 ACSR jumpers and associated equipment at Merck #5 substation to meet the line conductor rating of 393MVA.

Estimated Cost: \$42.3M

Preliminary Facility Rating:

Branch	SN/SE/WN/WE (MVA)
3ELKTON– 3MERCK5 115 kV	393/393/412/412

Alternatives:

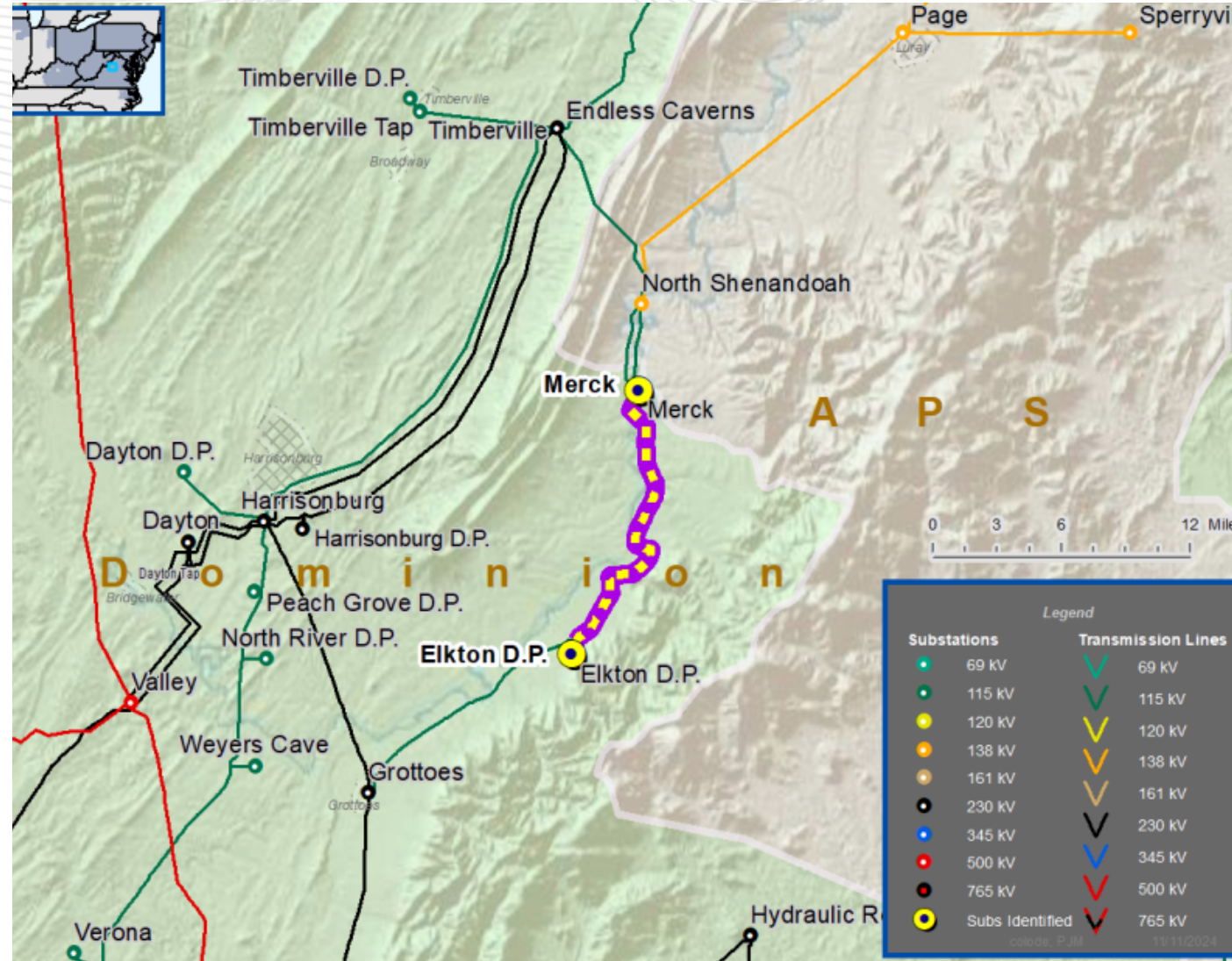
- N/A

Required IS Date:

- 6/1/2029

Projected IS Date:

- 6/1/2029





DOM Transmission Zone: Baseline Brema 138/115kV Transformer #8

Process Stage: First Review

Criteria: Summer Generation Deliverability, Baseline Thermal & IPD

Assumption Reference: 2029 RTEP assumption

Model Used for Analysis: 2029 RTEP Summer

Proposal Window Exclusion: Below 200 kV Exclusion

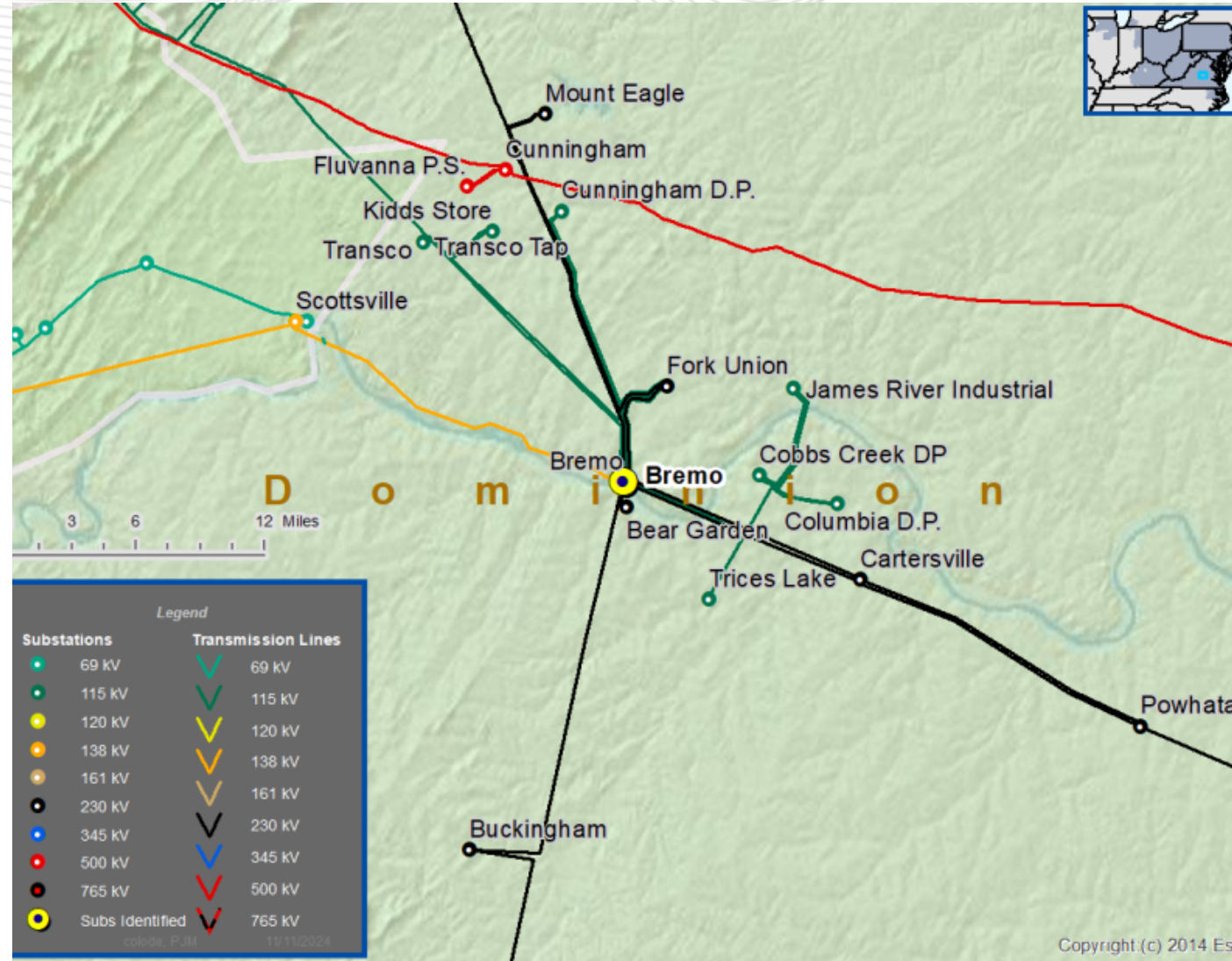
Problem Statement: The Brema 138/115kV Transformer #8 is overloaded for multiple contingencies.

Violations were posted as part of the 2024 Window 1:

2024W1-IPD-SNEW2	2024W1-IPD-S926	2024W1-N1-ST106
2024W1-IPD-SNEW3	2024W1-IPD-S1562	2024W1-N1-ST64
2024W1-IPD-S925	2024W1-IPD-S1900	2024W1-GD-S5
2024W1-IPD-S923	2024W1-IPD-S1901	2024W1-GD-S326
2024W1-IPD-S924	2024W1-GD-S330	2024W1-GD-S328

Existing Facility Rating:

Transformer	SN/SE/WN/WE (MVA)
4BREMO- 3BREMO 138/115 kV	198/218/250/266





DOM Transmission Zone: Baseline Brema 138/115kV Transformer #8

Proposed Solution:

Upgrade the 795AAC high side and low side leads as to not limit the Brema Transformer #8 rating.

Estimated Cost: \$.092M

Preliminary Facility Rating:

Transformer	SN/SE/WN/WE (MVA)
4BREMO– 3BREMO 138/115 kV	293/302/360/360

Alternatives:

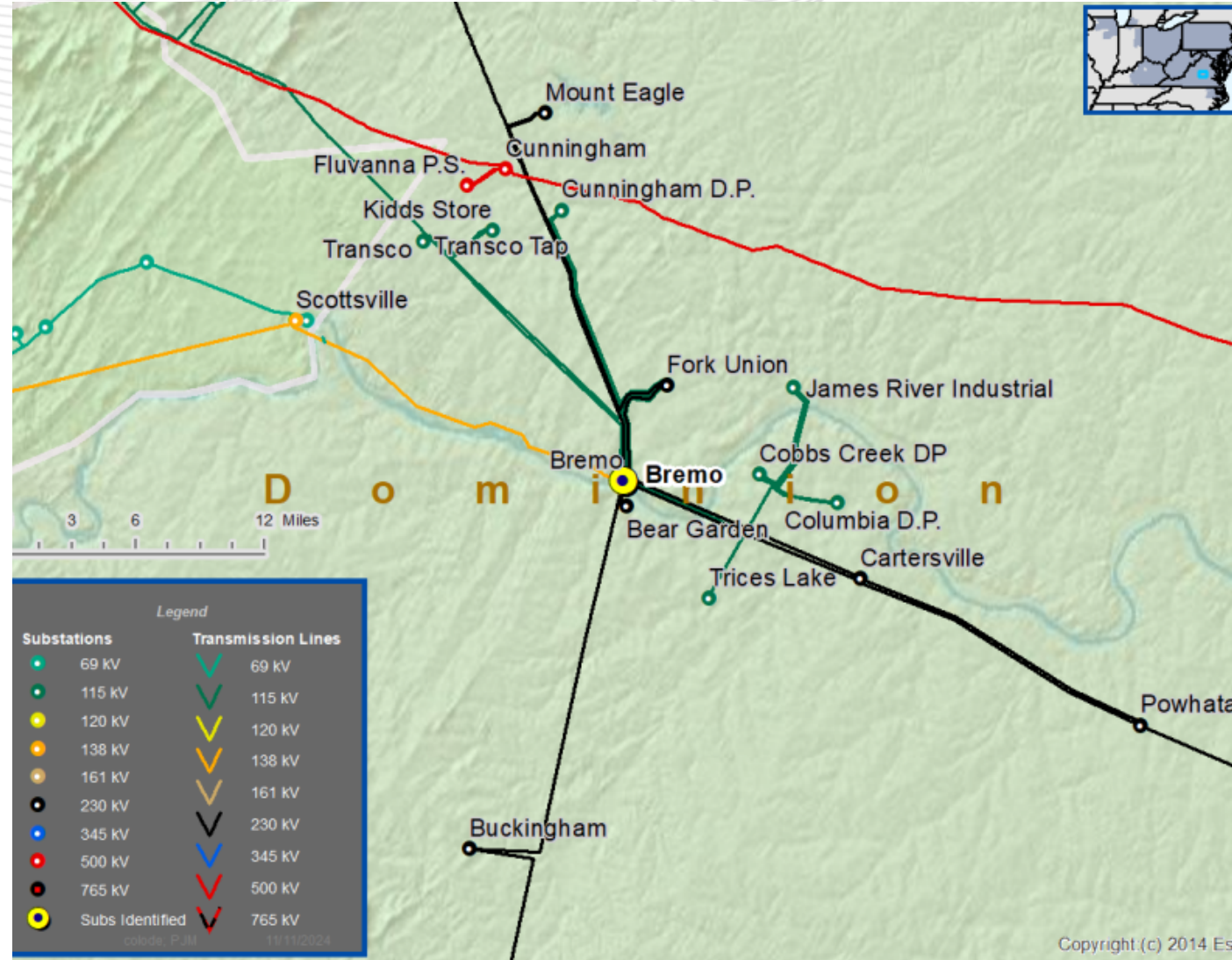
- N/A

Required IS Date:

- 6/1/2029

Projected IS Date:

- 6/1/2029





DOM Transmission Zone: Baseline Alta Vista 138/115kV Transformer #3

Process Stage: First Review

Criteria: Summer Generation Deliverability

Assumption Reference: 2029 RTEP assumption

Model Used for Analysis: 2029 RTEP Summer

Proposal Window Exclusion: Below 200 kV Exclusion

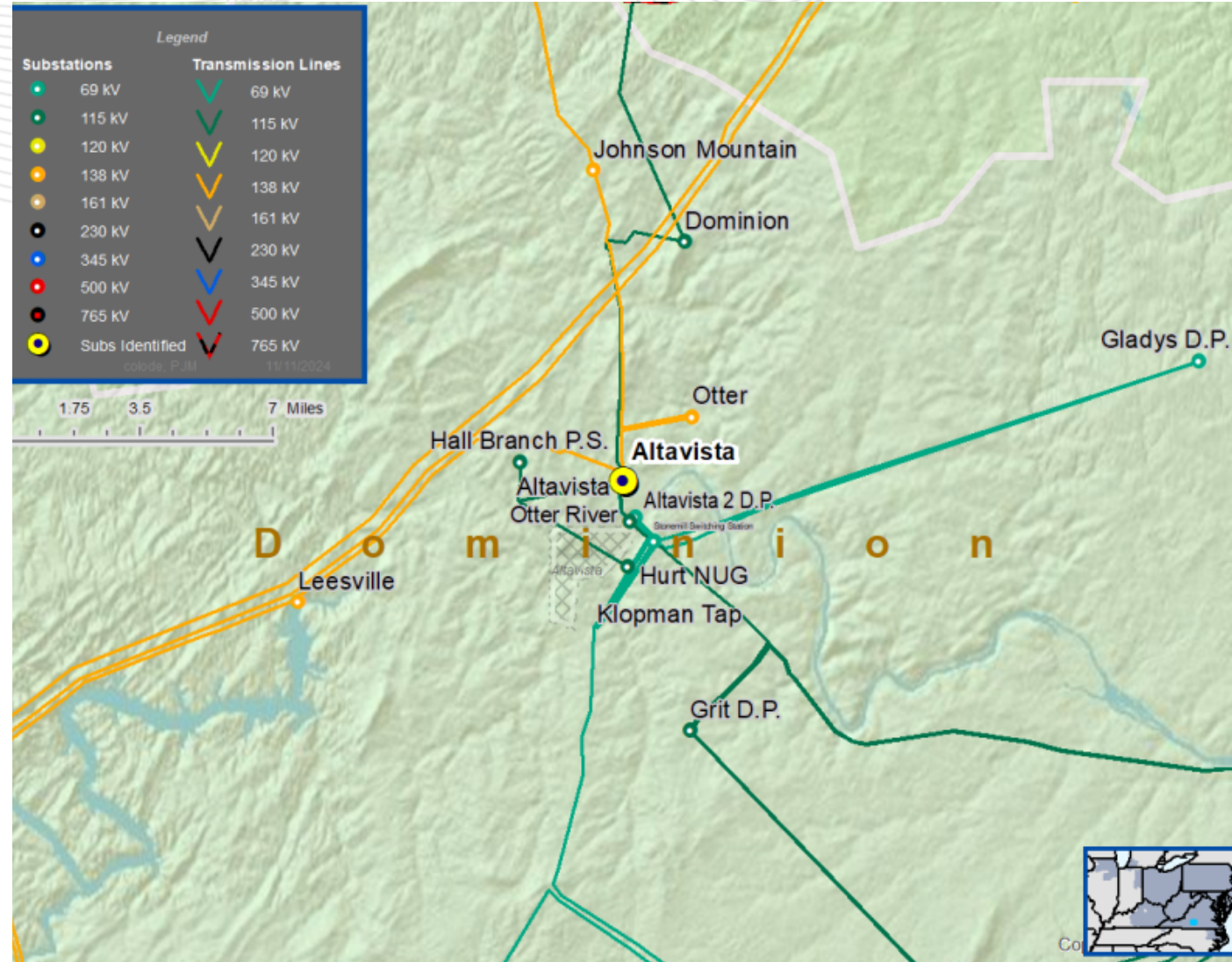
Problem Statement: The Alta Vista 138/115kV Transformer #3 is overloaded for a single contingency.

Violations were posted as part of the 2024 Window 1:

FG# - 2024W1-GD-S82

Existing Facility Rating:

Branch	SN/SE/WN/WE (MVA)
4ALTVSTA- 3ALTVSTA 138/115 kV	127/131/157/160





DOM Transmission Zone: Baseline Alta Vista 138/115kV Transformer #3

Proposed Solution:

Upgrade 138/115kV transformer and associated substation equipment for the Alta Vista 138/115kV Transformer #3.

Estimated Cost: \$5M

Preliminary Facility Rating:

Branch	SN/SE/WN/WE (MVA)
4ALTVSTA– 3ALTVSTA 138/115 kV	198/219/251/266

Alternatives:

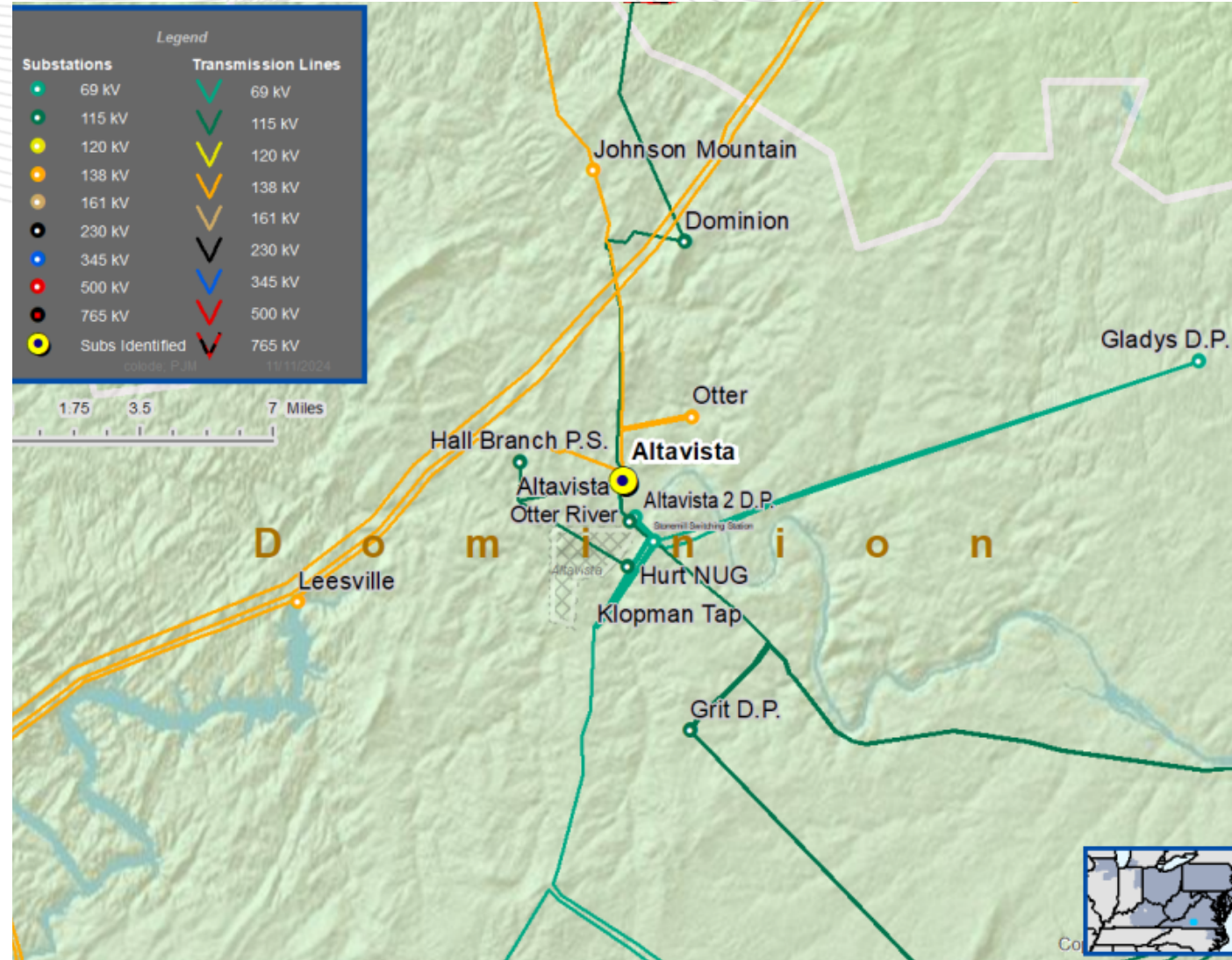
- N/A

Required IS Date:

- 6/1/2029

Projected IS Date:

- 6/1/2029





DOM Transmission Zone: Baseline Line #1031 Pantego to Terra 115kV

Process Stage: First Review

Criteria: Summer Generation Deliverability

Assumption Reference: 2029 RTEP assumption

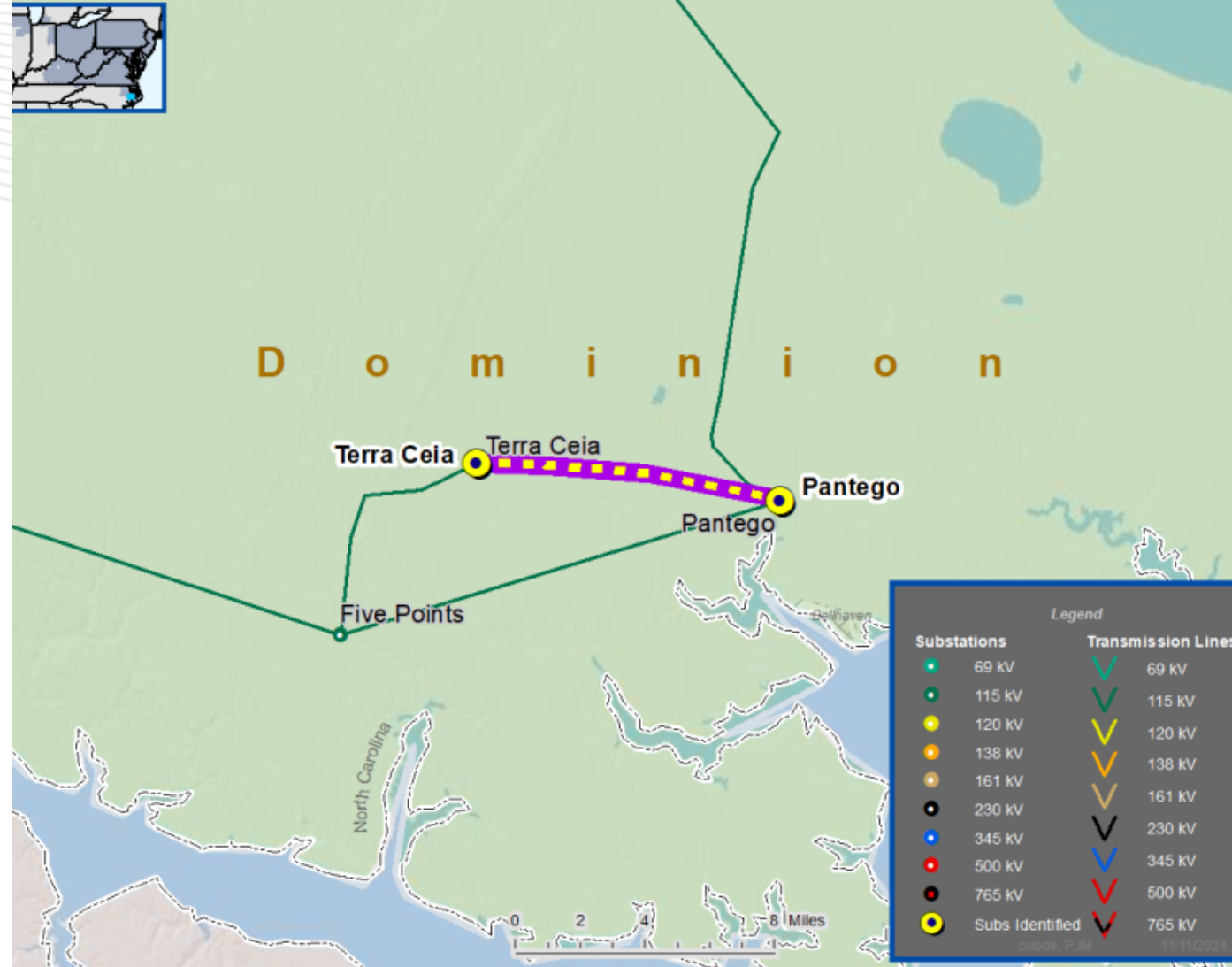
Model Used for Analysis: 2029 RTEP Summer

Proposal Window Exclusion: Below 200 kV Exclusion

Problem Statement: The Pantego to Terra 115kV line is overloaded under the N-1-1 test.

Existing Facility Rating:

Branch	SN/SE/WN/WE (MVA)
AB2-169 POI- 3PANTEGO 115 kV	79/79/100/100





DOM Transmission Zone: Baseline Line #1031 Pantego to Terra 115kV

Proposed Solution:

Wreck and rebuild 115kV line 1031 from structure 1031/220 to structure 1031/329. The existing structures shall be replaced one for one within the existing ROW using single circuit steel monopoles on foundations. The line will be rebuilt with single circuit 3-phase 768.2 ACSS/TW/HS (20/7) "Maumee" conductor and single (1) DNO-11410 OPGW, respectively.

Estimated Cost: \$26.6M

Preliminary Facility Rating:

Branch	SN/SE/WN/WE (MVA)
AB2-169 POI- 3PANTEGO 115 kV	393/393/412/412

Alternatives:

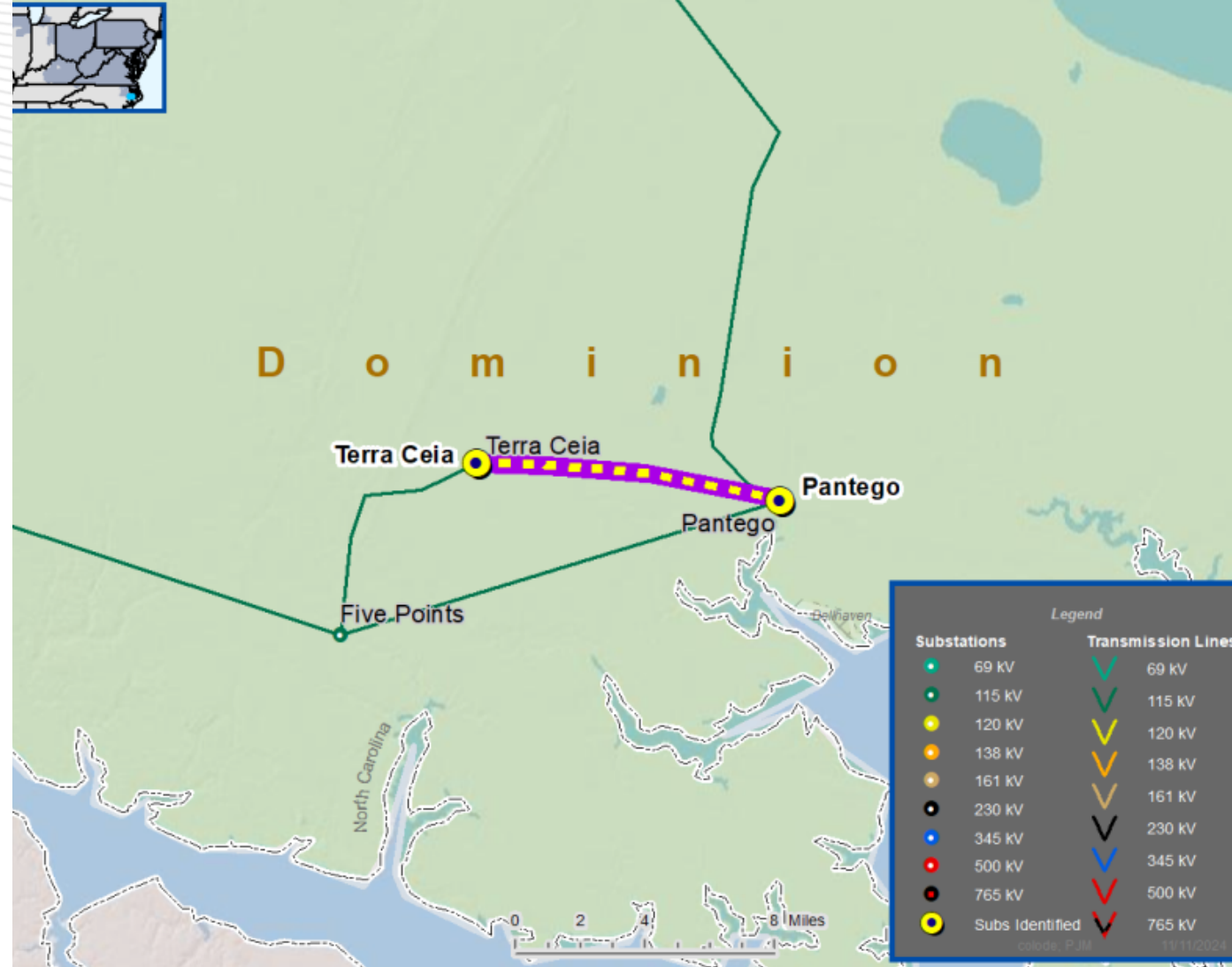
- N/A

Required IS Date:

- 6/1/2029

Projected IS Date:

- 6/1/2029



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Reliability Analysis Update



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Version No.	Date	Description
1	November 11, 2024	<ul style="list-style-type: none"> Original slides posted
2	November 12, 2024	<ul style="list-style-type: none"> Updated proposed solution to Merck #5 to Port Republic 115kV on slide 4. Slides associated with Line #152 Edinburg to Strasburg 138kV uprate to be presented at a future SRRTEP meeting.