



Reliability Analysis Update

Transmission Expansion Advisory
Committee

November 8, 2018

- The following definitions explain the basis for excluding flowgates and/or projects from the competitive planning process and designating projects to the incumbent Transmission Owner.
- Flowgates/projects excluded from competition will include the underlined language on the corresponding slide.
 - Immediate Need Exclusion: Due to the immediate need of the violation (3 years or less), the timing required for an RTEP proposal window is infeasible. As a result, the local Transmission Owner will be the Designated Entity. - Operating Agreement, Schedule 6 § 1.5.8(m)
 - Below 200kV: Due to the lower voltage level of the identified violation(s), the driver(s) for this project are excluded from the competitive proposal window process. As a result, the local Transmission Owner will be the Designated Entity - Operating Agreement, Schedule 6 § 1.5.8(n)
 - FERC 715 (TO Criteria): Due to the violation need of this project resulting solely from FERC 715 TO Reliability Criteria, the driver(s) for this project are excluded from the competitive proposal window process. As a result, the local Transmission Owner will be the Designated Entity - Operating Agreement, Schedule 6 § 1.5.8(o)
 - Substation Equipment: Due to identification of the limiting element(s) as substation equipment, the driver(s) for this project are excluded from the competitive proposal window process. As a result, the local Transmission Owner will be the Designated Entity - Operating Agreement, Schedule 6 § 1.5.8(p)



2018 RTEP Analysis Update



Dominion Transmission Zone: Baseline Project

Previously Presented :10/11/2018 TEAC

PJM Criteria Violation – N-1 High Voltage (Summer), (N1-SVH1 & N1-SVH2)

Problem Statement:

- N-1 high voltage conditions exist at 230kV Radnor Heights bus and 230kV Davis bus following a breaker-failure event (2036T2142).

Alternatives Considered:

- 2018_1-2A (\$0 M)
- 2018_1-2B (\$0.481 M)
- 2018_1-2C (\$0.537 M)
- 2018_1-2D (\$13.493 M)
- 2018_1-2E (\$3.161 M)
- 2018_1-2F (\$12.732 M)

Recommended Solution:

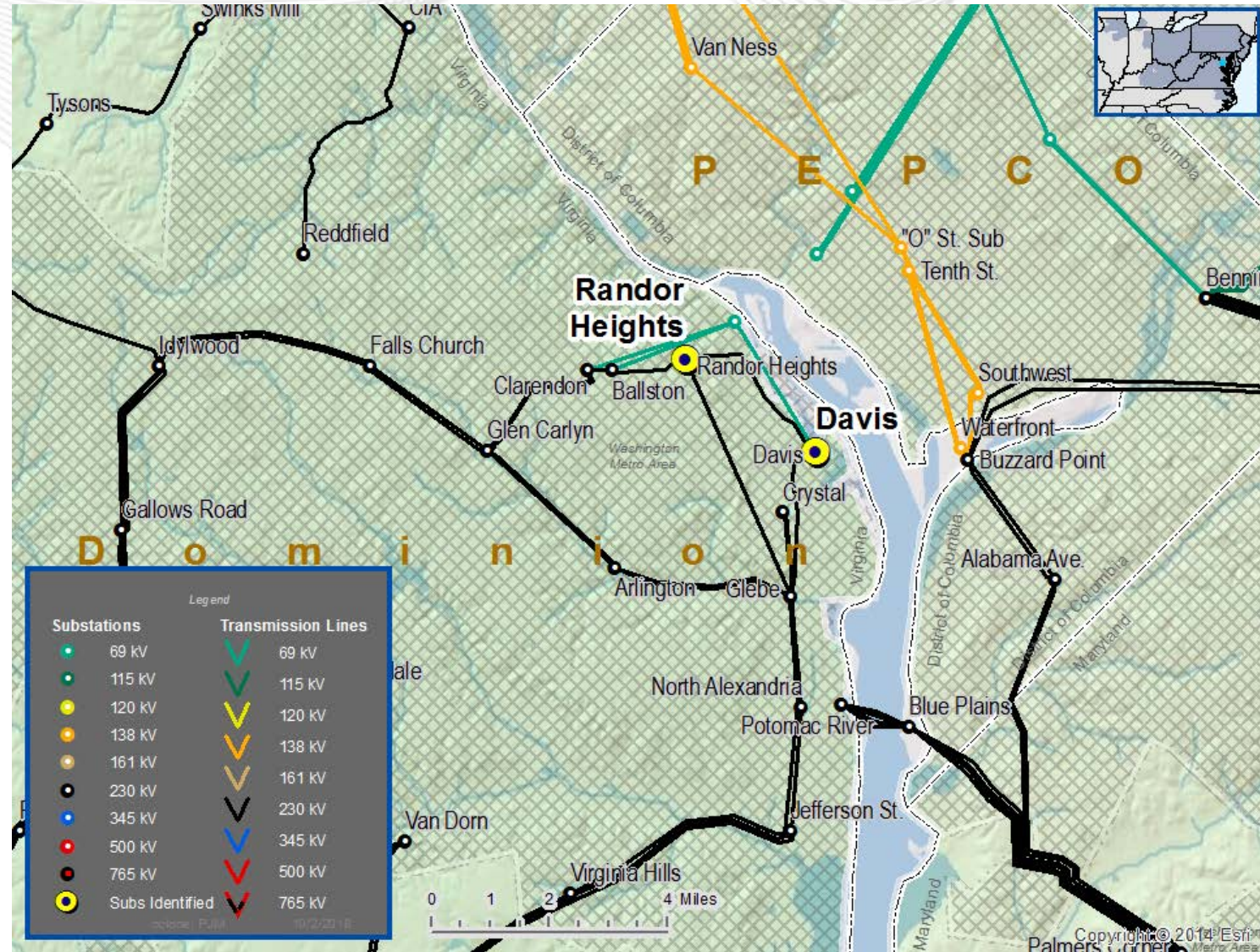
- Move spare 168 MVA 230/69 kV transformer from Jefferson Street substation to the vacant Transformer #2 bay at Davis substation. (2018_1-2C) (b3055)

Estimated Project Cost : \$0.537 M

Required IS Date: 6/1/2023

Projected IS date: 6/1/2023

Status: Conceptual



Stability Projects

Previously Presented: 10/11/2018 TEAC

PJM Stability Criteria Violation

Problem Statement:

- Instability at STA 29 Joliet for close-in delayed-cleared faults on 345kV lines 2912 and 2913.

Recommended Solution:

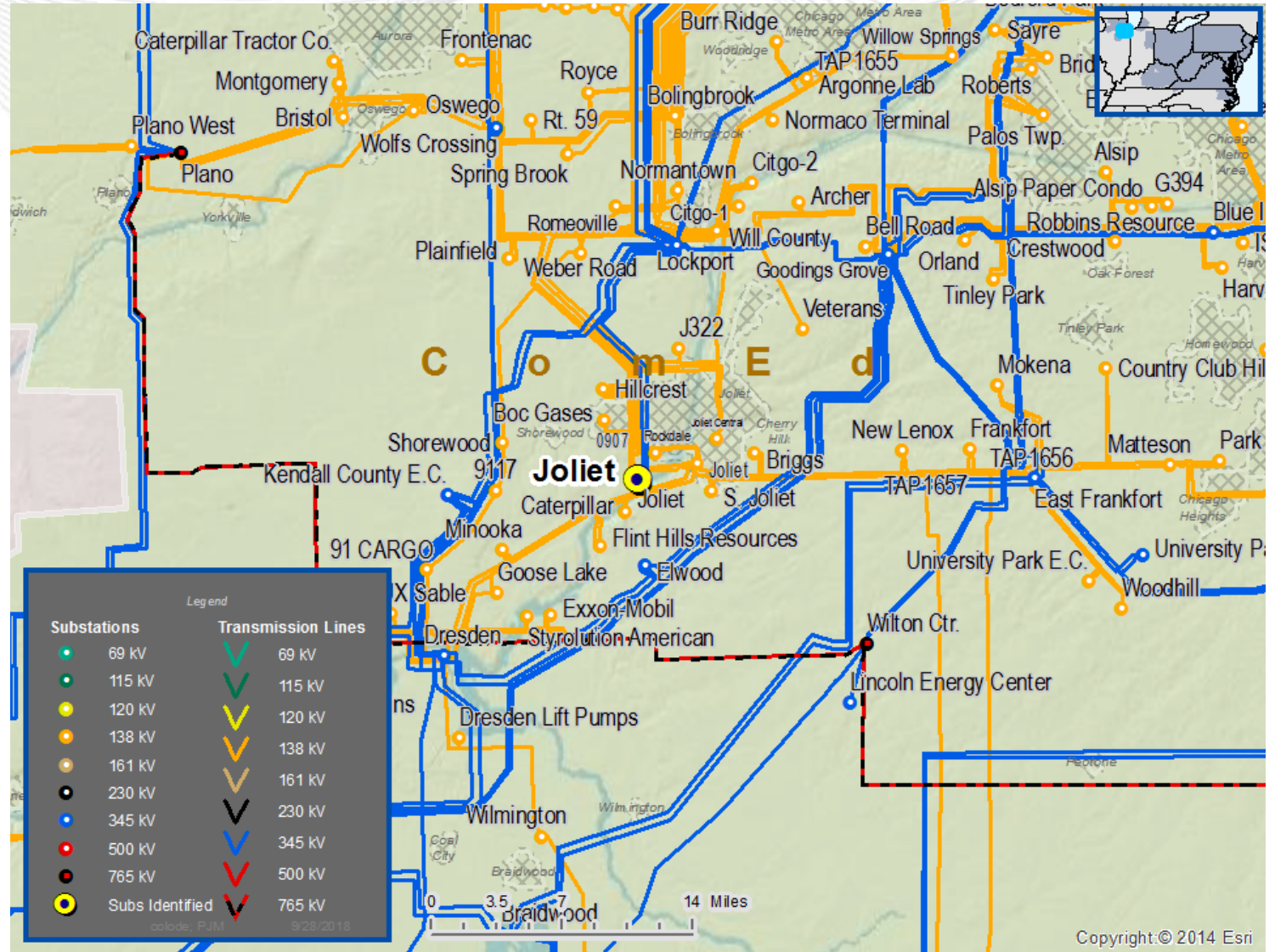
- Replacement of gang-operated 345kV line breakers on 345kV lines 2912 and 2913 with IPO breakers (b3049)

Estimated Project Cost : \$ 4.0M

Required IS Date: 06/01/2020

Projected IS date: 06/01/2021

Status: Conceptual



Supplemental Projects

Existing s0605 Scope Modification and Cost Increase

Date Project Last Presented: 08/21/2013 Southern Sub-Regional

Original Problem Statement:

- In 2013, Dominion Distribution submitted a DP Request for a new substation (Farmwell) with an ultimate configuration to install four 84 MVA transformers in order to accommodate datacenter growth in the region. Energization is summer 2015.

Original Solution:

- Tap Line #2149 (Enterprise – Waxpool). Install two 84 MVA transformers with two double-dead end backbones and one 230kV breaker (in a 6 breaker ring configuration).

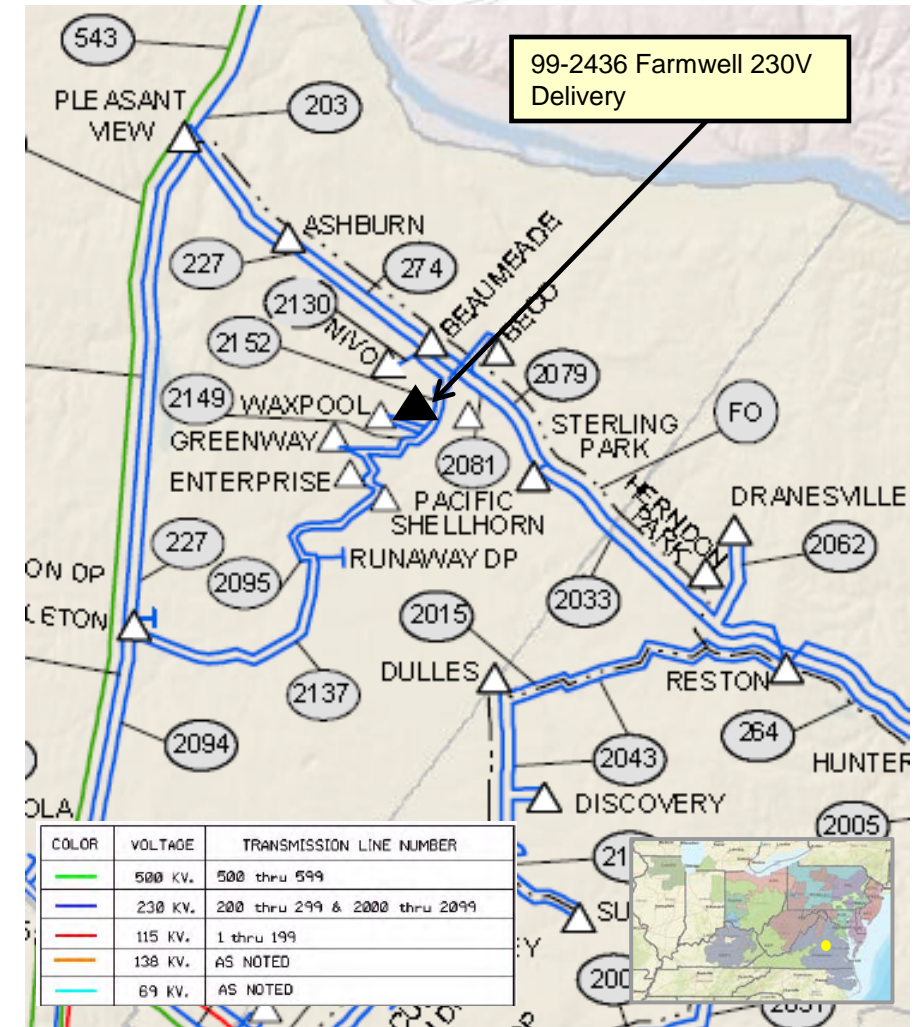
Revised Problem Statement:

- Dominion Distribution has submitted a revised DP request for a new substation (Farmwell) with projected load greater than 100 MVA by 2023 with an ultimate configuration to install four 84 MVA transformers.

Revised Solution:

- Cut and loop Line #2152 (Beaumeade – Waxpool) into a four breaker ring bus configuration with space for two additional breakers in the future. Install two 84 MVA transformers.

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Dominion Transmission Zone: Supplemental Farmwell 230kV Delivery

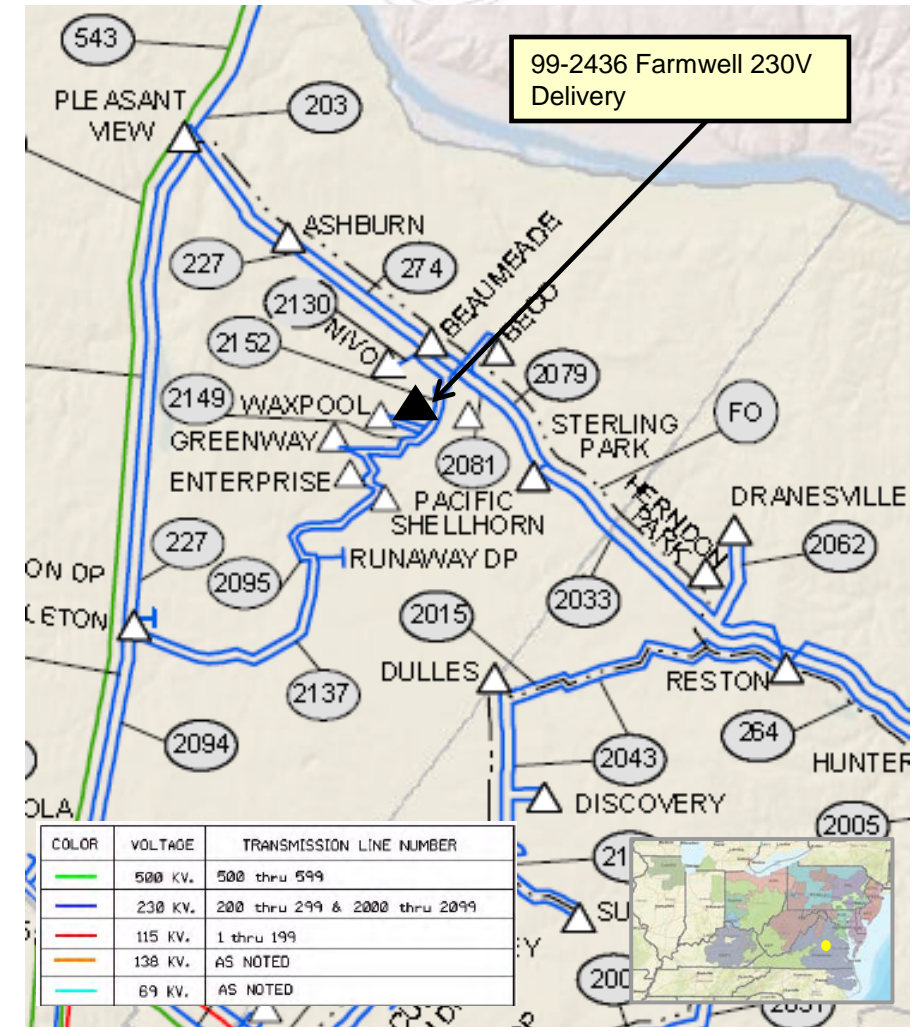
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Existing s0605 Scope Modification and Cost Increase
Date Project Last Presented: 08/21/2013 Southern Sub-Regional

Revised Estimated Project Cost: \$5.5M (Original: \$1.5M)

Revised Projected In-service Date: 11/15/2020 (Original: 05/15/2015)

Project Status: Conceptual



2018 RTEP Next Steps

- 15 year analysis
- Extreme contingencies
- Stability Analysis

Questions?



2018

- TEAC meetings are the following Thursdays in 2018
- 1/11, 2/8, 3/8, 4/5, 5/3, 6/7, 7/12, 8/9, 9/13, 10/11, 11/8, 12/13

- V1 – 11/2/2018 – Original Slides Posted
- V2 – 11/7/2018 – Added missing RTEP Baseline Number b3055 to Slide 4.