Reliability Analysis Update

Transmission Expansion Advisory Committee
November 8, 2018
Proposal Window Exclusion Definitions

• 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
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
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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**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?
Upcoming TEAC Meetings

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
Revision History

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