Regional Transmission Expansion Planning Update

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Presented to ISAC
March 27, 2023
• Annual RTEP Planning
  – 2022 RTEP Window 3
• Scenario Planning and Special Studies
• OPSI Policy Scenario Study
• Offshore Wind Studies
2022 RTEP Window 3
Earlier in 2022, PJM shared its forecast for 2022 and indicated high Data Center Load growth activity, particularly in Northern VA.

In July 2022, PJM directed an Immediate Need transmission project to enable the integration of the forecasted load within the Dominion Data Center Alley up to and including year 2025.

Since then, Data Center Loads within Northern Virginia has been increasing at an unprecedented rate (2022 Summer Peak recorded 21,156 MW – Forecast 20,424 MW).

The 2028 timeframe load will require major transfer reinforcements into the Doubs/Northern Virginia region to support high flows and VAR requirements.

PJM is working towards opening a competitive window in early February 2023 to address the identified violations.
• **Window Opened; February 24, 2023**
  – PJM posted preliminary planning basecases on January 31st 2023
  – Window Closing – May 10, 2023

• **Purpose:**
  – Address reliability needs in the Dominion and APS zones primarily associated with Data Center Load forecasts (up to 7,500 MWs by 2027-28)
  – Seeking robust and flexible solutions to address the reliability needs in those specific areas
2022 RTEP Window 3 - Objective

- Develop robust, holistic and expandable solutions that address the 2027-28 baseline violations associated with:
  - Local constraints: resulting from directly serving the data center loads in APS and Dominion zones through the respective 230 kV networks and into the points of delivery:
    - Goose Creek- Ashburn – Mars - Wishing Star and Brambleton
  - Regional constraints resulting from imports into load center areas (500 kV primarily):
    - Doubs - Goose Creek
    - Front Royal - Morrisville – Vint Hill – Loudoun/Mosby
    - Meadow Brook - Loudoun/Mosby
    - Morrisville – Bristers - Ox
    - Peach Bottom – Conastone – Brighton – Doubs
  - Needed reactive power VAR reinforcements, both static and dynamic as deemed necessary, to address the reactive power needs of the system for the 2027-28 baseline scenario
• Holistic solutions are to be designed such that they are robust and expandable as the load grows within the area.

• A scalable solution ensures, at a minimum, near-term reliability needs are addressed while also enabling future expansion (beyond the 2027-28 baseline levels) as data center load increases in the Dominion and APS zones.

  – Consider flexibility, robustness and scalability of 2027-28-baseline solutions against the Interim 2027-28 Summer, Winter and Light Load basecases.
  – Evaluate proposals for their effectiveness towards existing reactive interfaces in the area, particularly those supporting the Dominion and APS zones.
  – Evaluate the effectiveness of the proposed solutions towards the transmission system load deliverability into the Dominion and APS zones (CETL).
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