



# Reliability Analysis Update

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Transmission Expansion Advisory Committee

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# Changes to Existing Projects

## Baseline Reliability Projects



# Dominion Transmission Zone: Baseline Idylwood to Tysons & Tysons Substation

## Existing b2361 Cost Increase

**Original: Baseline Project: Idylwood to Scott's Run 230kV Line and Substation**

**Revised: Idylwood to Tysons 230kV Line and Rebuild Tysons with GIS**

## Problem Statement:

- N-1-1 loss of Line #2010 (Reston-Tysons) and Line #2035 (Idylwood-CIA) results in the loss of more than 300 MW (NERC Category P6 - Multiple Contingency – Two overlapping singles).

**Most Recent Submission Date:** 10/12/2017 (TEAC)

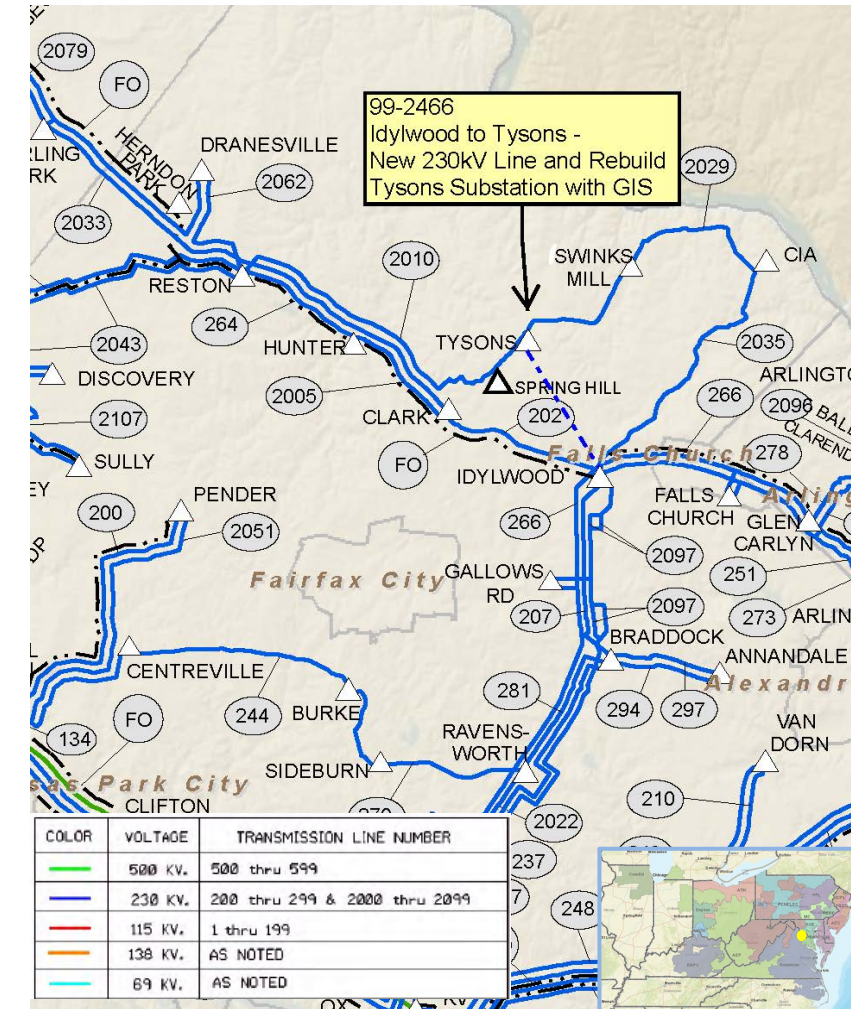
## Most Recent Solution

- Construct a 230kV UG line approx. 4.5 miles from Idylwood to Tysons. Tysons Substation will be rebuilt, within its existing footprint, with a 6-breaker ring bus using GIS equipment.
- Rebuild Tysons Sub and convert Tysons substation to GIS equipment.
- **Est. Total Cost \$111.7M**
- **Revised Est. Total Cost \$181.8M**

## Reason for Cost Increase:

- Engineering (**Est. cost increase \$2M**)
- Materials (**Est. cost increase \$4M**)
- Construction bid – Site prep at Tysons (**Est. cost increase \$5.3M**)
- Construction bid – UG line work (**Est. cost increase \$19.14M**)
- Delay charges for civil and HDD contractors due to permits, local approvals, and communications (**Est. cost increase 6.3M**)
- Nighttime work required by VDOT permitting requirements (**Est. cost increase \$16.5M**)

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# Dominion Transmission Zone: Baseline Idylwood to Tysons & Tysons Substation

## Existing b2361 Cost Increase

Original: Baseline Project: Idylwood to Scott's Run 230kV Line and Substation

Revised: Idylwood to Tysons 230kV Line and Rebuild Tysons with GIS

## Reason for Cost Increase (continued):

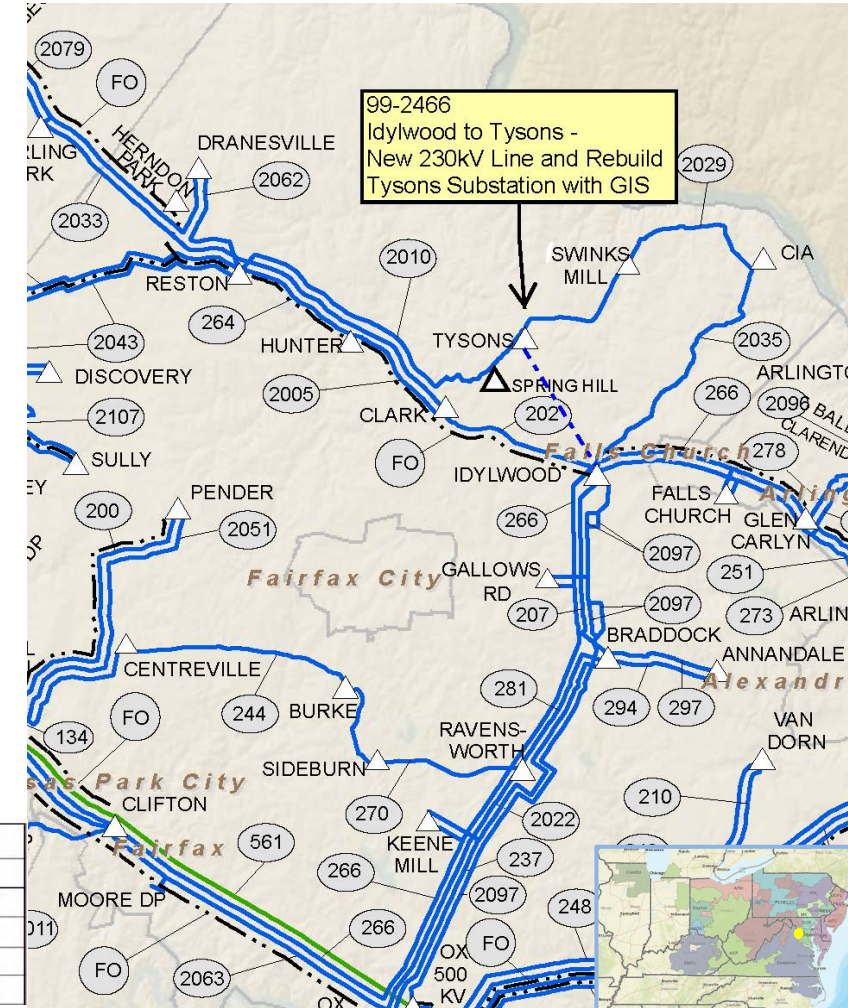
- Re-routing W&OD Trail. (Est. cost increase \$0.81M)
- VDOT required monitor of HDD (Est. cost increase \$0.85M)
- Increase in AFUDC (Est. cost increase \$14.3M)
- Additional substation work at Idylwood and Reston (Est. cost increase \$0.91M)

- **Total cost increase (Est. cost increase \$70.1M)**

Original Projected IS Date: 6/1/2017

Revised Projected IS Date: 12/31/2022

Project Status: Construction





# PJM CIL (Capacity Import Limit) Study 2020

- Compliance:
  - NERC Standard MOD-004-1, Requirement 6:
    - Requires the Transmission Planner to establish a CBM value for each Available Transfer Capability (ATC) Path or Flowgate to be used in planning during each of the full calendar years two through ten following the current year.
- Purpose:
  - The purpose of this study is to confirm that the PJM and surrounding transmission systems will be robust enough to enable PJM to import the amount of emergency assistance (CBM) assumed available in the 2019 PJM Reserve Requirement Study (RRS) and PJM RAA (R6.1).
    - The amount of CBM used in the PJM Reserve Requirement Study (RRS) is **3,500 MW**.
    - Attachment C.7 of Manual M-14B requires that CBM be preserved in generator deliverability studies
- Methodology:
  - Attachment G.11 “PJM Capacity Import Limit (CIL) Calculation Procedure”

<u>Supply Zone</u>	<u>2020 RTEP CBM Allocation (MW)</u>	<u>2021 RTEP CBM Allocation (MW)</u>
North	120	389
West 1	1,402	1,063
West 2	896	1,348
South 1	38	18
South 2	1,044	682
<b>TOTAL</b>	<b>3,500</b>	<b>3,500</b>

- The 2020 PJM CIL Study verifies that PJM meets its requirement for CBM in accordance with NERC standard MOD-004-1 Requirement 4.
- The primary drivers for the CBM allocation changes from the previous study are
  - Generation dispatch in NYISO caused an increase in import capability from the North Zone.
  - Significant load changes in WEC resulted in a decrease in import capability from the West 1 Zone.
  - Generation dispatch changes and a new 500/230 kV substation in TVA reduces flows on one of the two binding facilities and results in an increase in import capability from the West 2 Zone and a decrease in import capability from the South 2 Zone.





# 2020 RTEP Window 4

- Violation of FERC Form 715 criteria previously posted as excluded from the proposal window process due to the below 200kV exclusion
- Need for window follows a review of the potential solution indicating cost allocation to multiple zones
  - Multi-zone cost allocation not permitted for below 200kV projects which have not gone through a proposal window
- PJM thirty-day 2020 RTEP Proposal Window 4 to address a local Transmission Owner criteria issue for the Harmon-Brewster 69 kV line
- Schedule
  - Open: March 3, 2021
  - Close: April 2, 2021



# 2021 RTEP

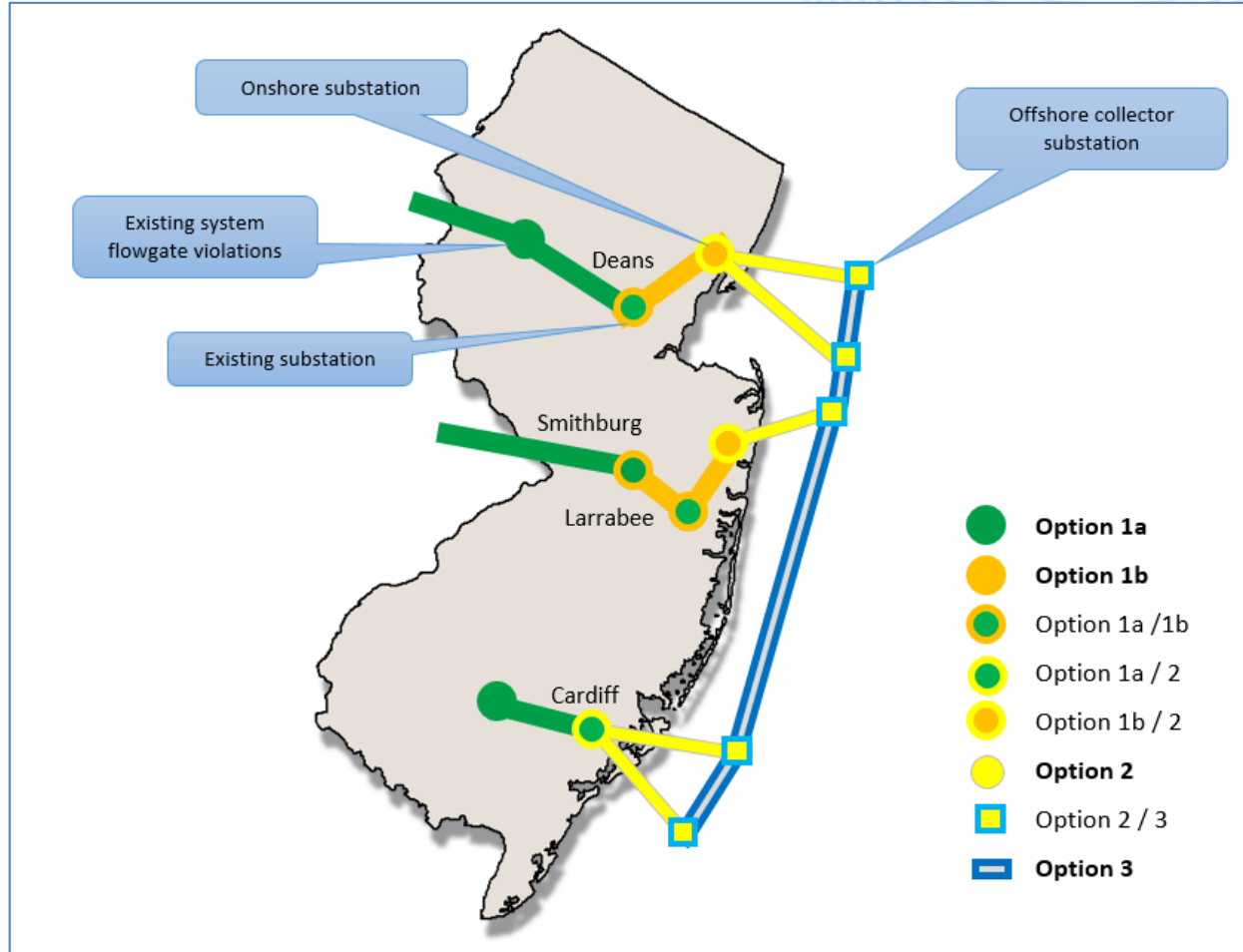
- Model review in progress
- Current schedule (currently targeting the schedule below)
  - Anticipate releasing model on March 12
  - Post updates to models on a monthly basis beginning April 1 (if required)
  - Post draft PJM analysis releases on a monthly basis beginning 2<sup>nd</sup> week of April
  - Requesting FERC Form 715 analysis results from transmission owners first week of May to post second week of May
  - Targeting second week of June to open 2021 RTEP proposal window



# 2021 SAA Proposal Window to Support NJ OSW

- PJM is soliciting project proposals to build the necessary transmission to meet New Jersey's goal of facilitating the delivery of a total of 7,500 MW of offshore wind through 2035
  - Anticipated Schedule
    - Open Window March 30
    - Pre-bid meeting April 6
    - Close Window July 28

- PJM anticipates seeking proposals to address the following options:
  - Option 1a, Onshore Upgrades on Existing Facilities
  - Option 1b, Onshore New Transmission Connection Facilities
  - Option 2, Offshore New Transmission Connection Facilities
  - Option 3, Offshore Network



**Note:** Options For the NJ Offshore Wind Transmission Solution (Concepts depicted are for illustration purposes only; details of new lines and facilities are to be provided in proposals to meet objectives of this solicitation.)



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## Reliability Analysis Update



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