

Transmission Expansion Advisory Committee – PSE&G Supplemental Projects

February 6th, 2024

Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process



PSE&G Transmission Zone M-3 Process Deans – E Windsor – New Freedom 500kV Communications

Need Number: PSEG-2023-0013

Process Stage: Solutions Meeting 2/6/2024

Previously Presented: Need Meeting 12/5/2023

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk
- Operational Flexibility and Efficiency

Specific Assumption Reference:

[PSE&G 2023 Annual Assumptions](#)

- Equipment Criticality, Consequence of Failure

Problem Statement:

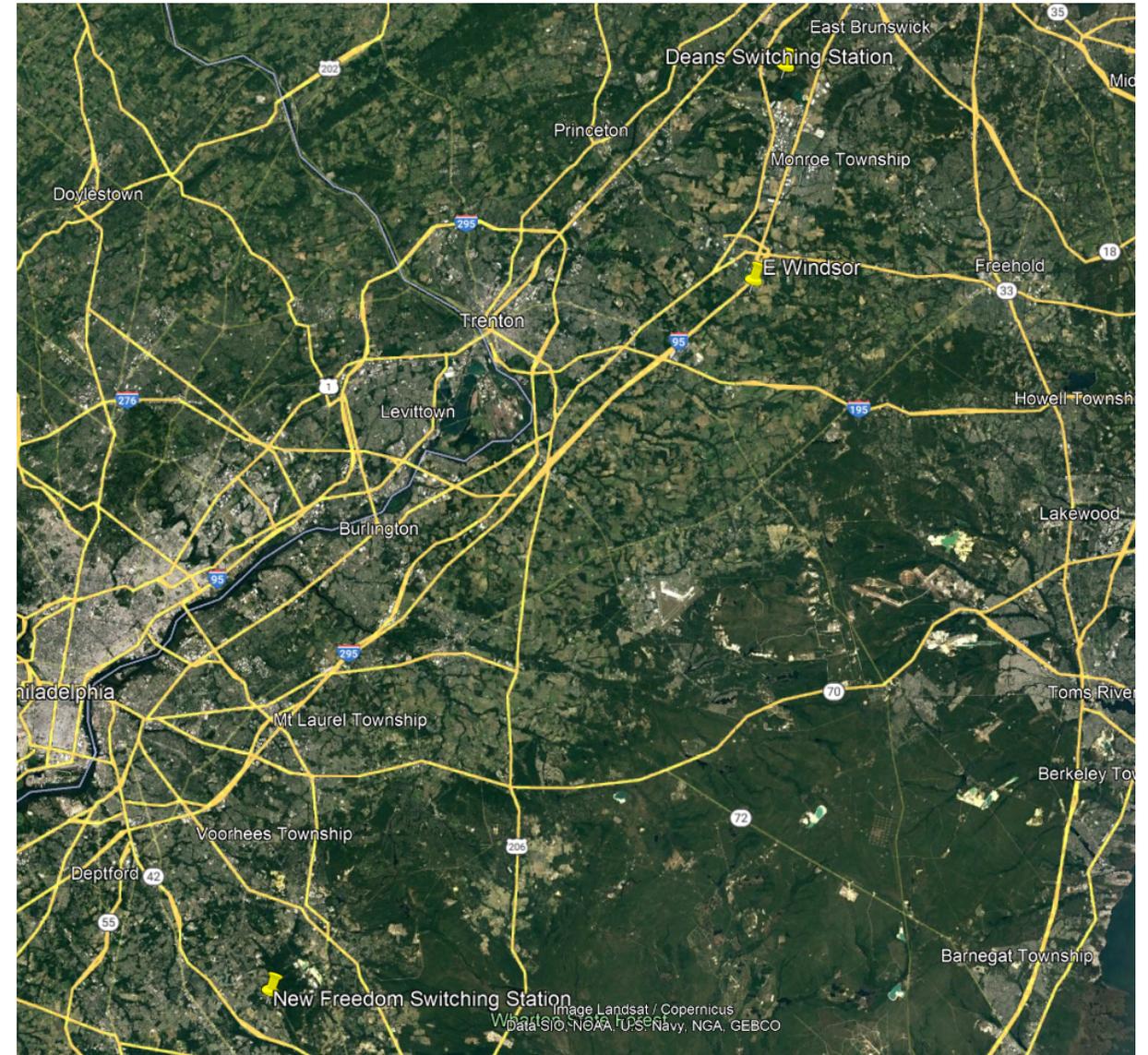
Existing communications equipment is currently power line carrier (PLC) on Deans – E Windsor and E Windsor – New Freedom 500kV. PLC equipment is affected during severe weather.

PJM Relay Subcommittee issued recommendations effective 4/17/2014 concerning Directional Comparison Blocking (DCB).

The tolerance for overtrips may be unacceptable when the stability of large generating units is adversely affected.

A protection scheme more secure than DCB is recommended in cases where stability concerns are present.

Model: 2023 Series 2028 Summer RTEP 50/50





PSE&G Transmission Zone M-3 Process Deans – E Windsor – New Freedom 500kV Communications

Need Number: PSEG-2023-0013

Process Stage: Solutions Meeting 2/6/2024

Proposed Solution:

- Construct new fiber path between New Freedom – E Windsor - Deans
 - Replace 53 miles of static wire on 5038 (New Freedom – E Windsor) and 15 miles of static wire on 5022 (E Windsor - Deans)
 - Upgrade line relay equipment and remove Power Line Carrier (PLC) equipment
 - This project will replace Project s0473
- Will be coordinated with JCPL-2023-064
- **Estimated Cost:** \$39.2M

Transmission Line Ratings:

- East Windsor – Deans 5022 500 kV Line:
 - Before Proposed Solution: 2644/2844/2946/3106 MVA (SN/SE/WN/WE)
 - After Proposed Solution: 2940/3733/3618/4424 MVA (SN/SE/WN/WE)
- East Windsor – New Freedom 5038 500 kV Line:
 - Before Proposed Solution: 2644/2844/2917/3106 MVA (SN/SE/WN/WE)
 - After Proposed Solution: 2940/3386/3478/3827 MVA (SN/SE/WN/WE)

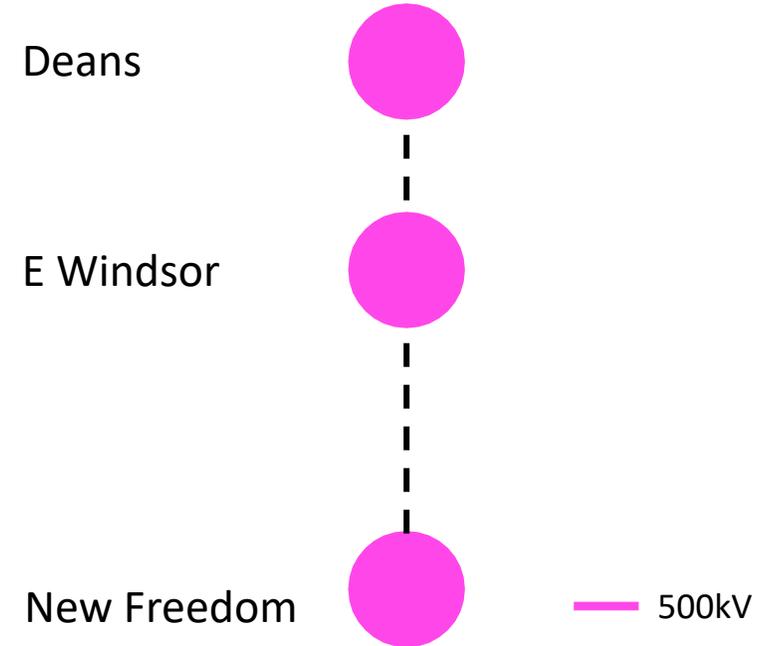
Alternative Considered:

- Continued operation and maintenance of existing PLC based protective relaying scheme which may result in reliability impacts and higher maintenance costs.

Projected In-Service: 12/2025 (5022/Deans) & 6/2027 (5038/N Freedom)

Project Status: Conceptual

Model: 2023 RTEP model for 2028 Summer (50/50)

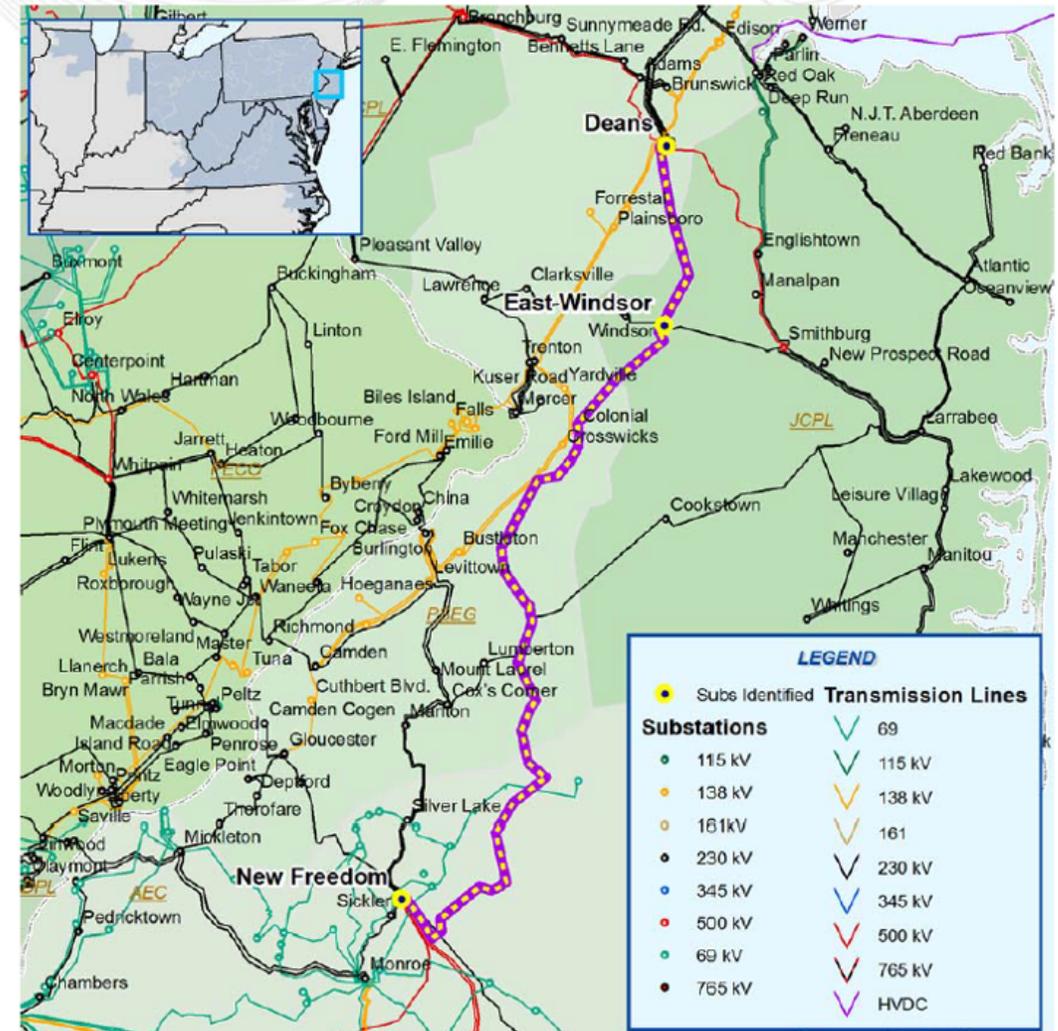


Original Scope
presented at the
September 13th, 2012
TEAC



PSE&G Transmission Zone

- Replace static wire at the following location
New Freedom – East Windsor – Deans 500 kV (S0473).
- Static Wire Replacement is an on-going program that entails replacing aged tower static wires with a new approach, installing static wire with Optical Guide Wire (OPGW). This provides strength, lightning protection and a potential communications path for high speed relaying.
- Estimated Project Cost:
\$ 20 M
- Expected IS Date:
6/1/2014



Questions?



Appendix

High level M-3 Meeting Schedule

Assumptions	Activity	Timing
	Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
	Stakeholder comments	10 days after Assumptions Meeting
Needs	Activity	Timing
	TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
	Stakeholder comments	10 days after Needs Meeting
Solutions	Activity	Timing
	TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
	Stakeholder comments	10 days after Solutions Meeting
Submission of Supplemental Projects & Local Plan	Activity	Timing
	Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
	Post selected solution(s)	Following completion of DNH analysis
	Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
	Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

1/26/2024 - V1 – Original version posted to pjm.com