Transmission Expansion Advisory Committee
PEPCO
Supplemental Projects

Sep 9, 2025

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

PEPCO Transmission Zone M-3 Process
Champlain Substation

Need Number: PEP-2025-003

Process Stage: Solutions Meeting 09/09/2025

Previously Presented:

Need Meeting 6/5/2025

Project Driver:

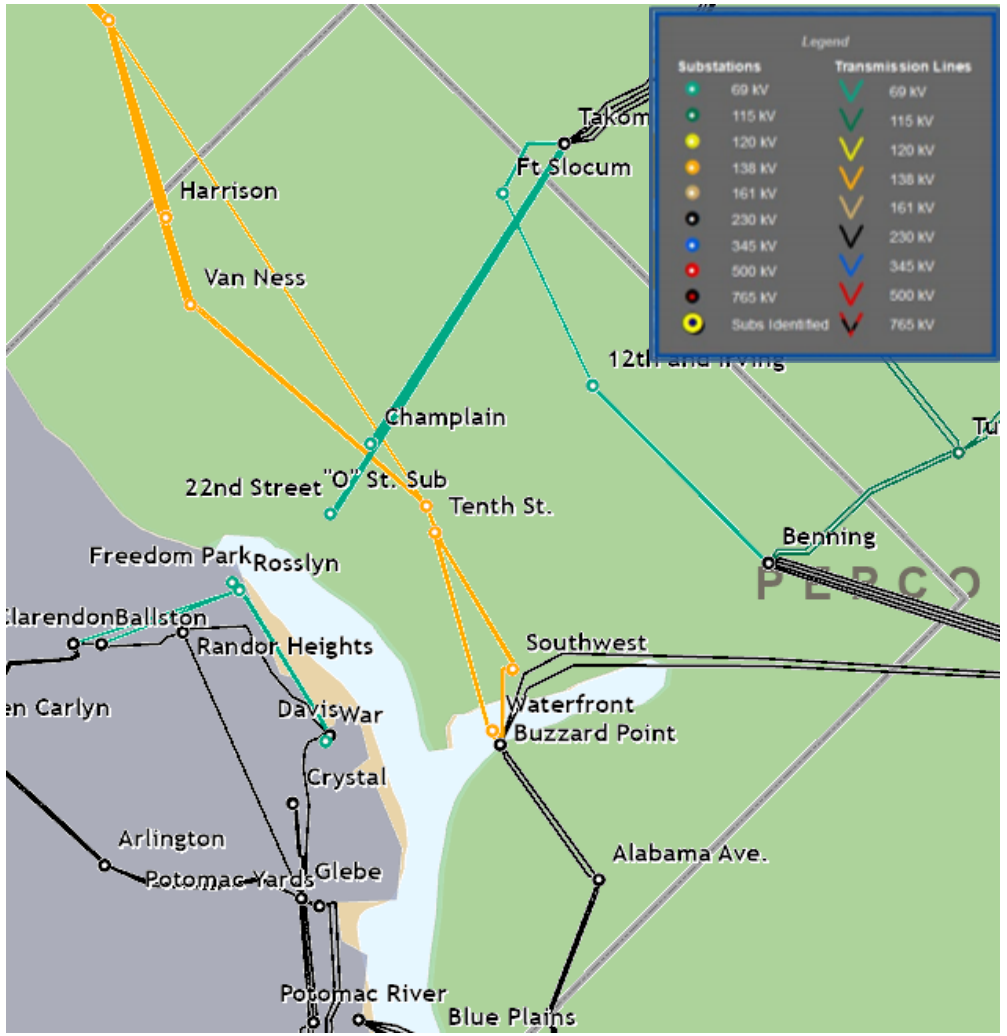
- Equipment Material Condition, Performance and Risk
- Operational Flexibility and Efficiency
- Infrastructure Resilience

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Enhancing system functionality, flexibility, visibility, or operability and Networking existing radial facilities.
- Remedy recurring operational problems and Resiliency enhancements. Increasing system capacity.

Problem Statement:

- 11 oil filled cables running under the Potomac river are experiencing frequent operational issues (approx 45 years old).
- "I" Street Substation has reliability and maintenance issues (over 40 Years Old)
- Aging 69 kV supply feeders to Georgetown Substation and "F" Street (nearing 50 Years Old).
- Aging 34kV supply feeders to "L" Street are nearing end of useful life. (45 Years)
- Lack of alternative available supply capacity in downtown Washington DC.



PEPCO Transmission Zone M-3 Process
Champlain Substation

Need Number: PEP-2025-003

Process Stage: Solutions Meeting 09/09/2025

Proposed Solution:

- Replacing retired Champlain substation with a 230kV GIS (Gas Insulated Substation) breaker and half (BAAH) Bus and a 69kV GIS breaker and half Bus , (3) 230kV/69kV Transformers. Takoma substation will have - (2) 500 MVA phase shifters at Takoma substation that are required for flow control once Champlain substation is put in-service; N-1-1 overloads would be present without their use.
- Champlain substation provides a 69kV source to create a new 69kV network into downtown DC to resupply Georgetown, F street and L street substations and retire 11 oil filled cables.
- Champlain substation makes use of capacity provided by Pepco's downtown 230kV Network (s0838, s0839 and s0840) .
- Champlain substation will enable I street substation retirement.

Total estimated Transmission cost: $590M

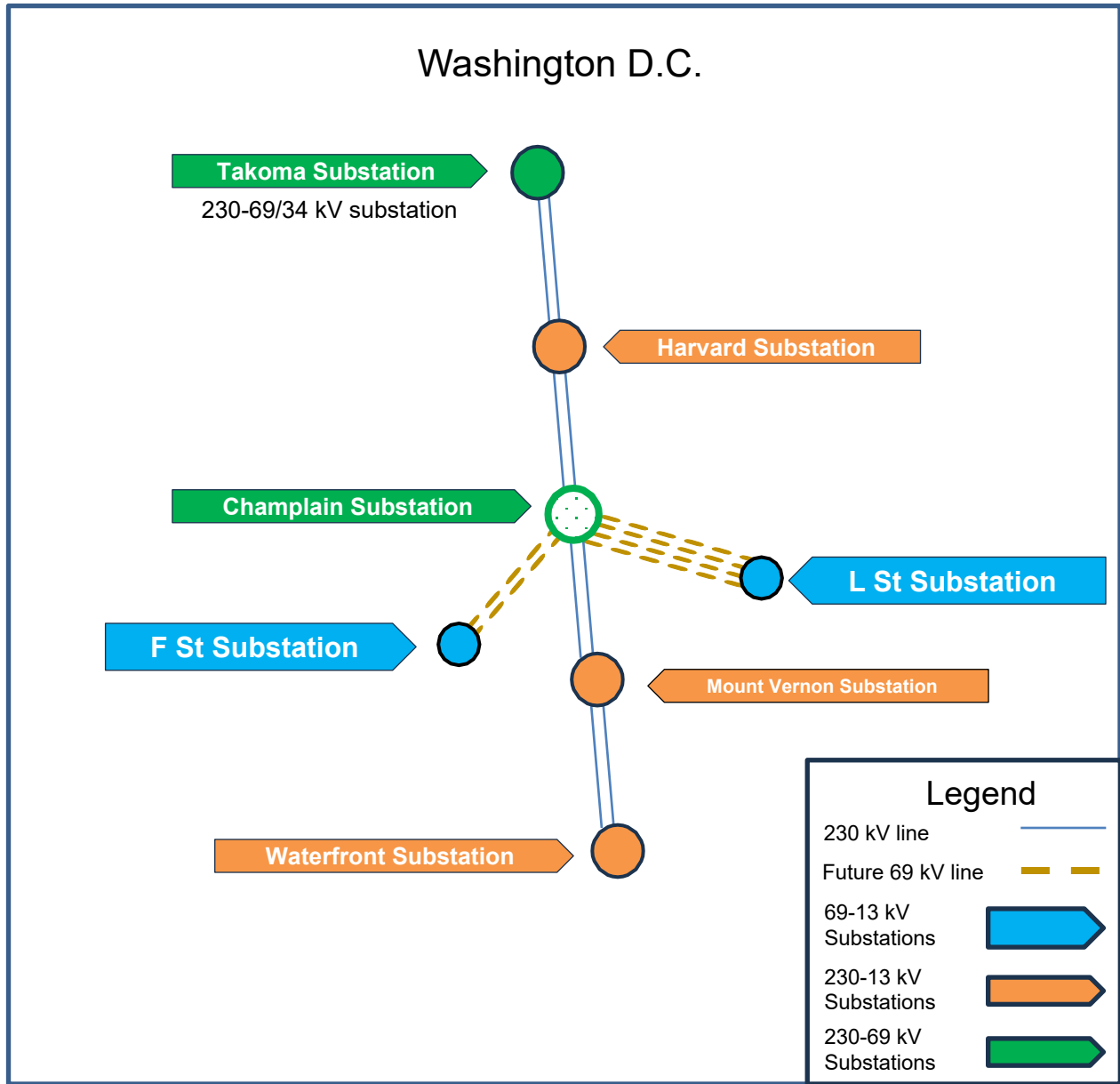
Alternatives Considered:

Resupply F street and Georgetown substations from Takoma substation at 69kV via four (4) new 69kV XLPE cables and resupply L Street substation from Takoma substation via four (4) new 69kV XLPE cables. Total estimated cost in excess of $1.6B.

Projected In-Service: 7/1/2029

Project Status: Engineering

Model: RTEP 2029



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

8/29/2025 – V1 – Original version posted to pjm.com