

Transmission Expansion Advisory Committee – PSE&G Supplemental Projects

May 9th, 2023

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



Need Number: PSEG-2023-0001

Process Stage: Solutions Meeting 5/09/2023

Previously Presented: Need Meeting 2/07/2023

Supplemental Project Driver:

- Customer Service
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

[PSE&G 2023 Annual Assumptions](#)

[August 2017 26kV to 69kV PSE&G Presentation](#)

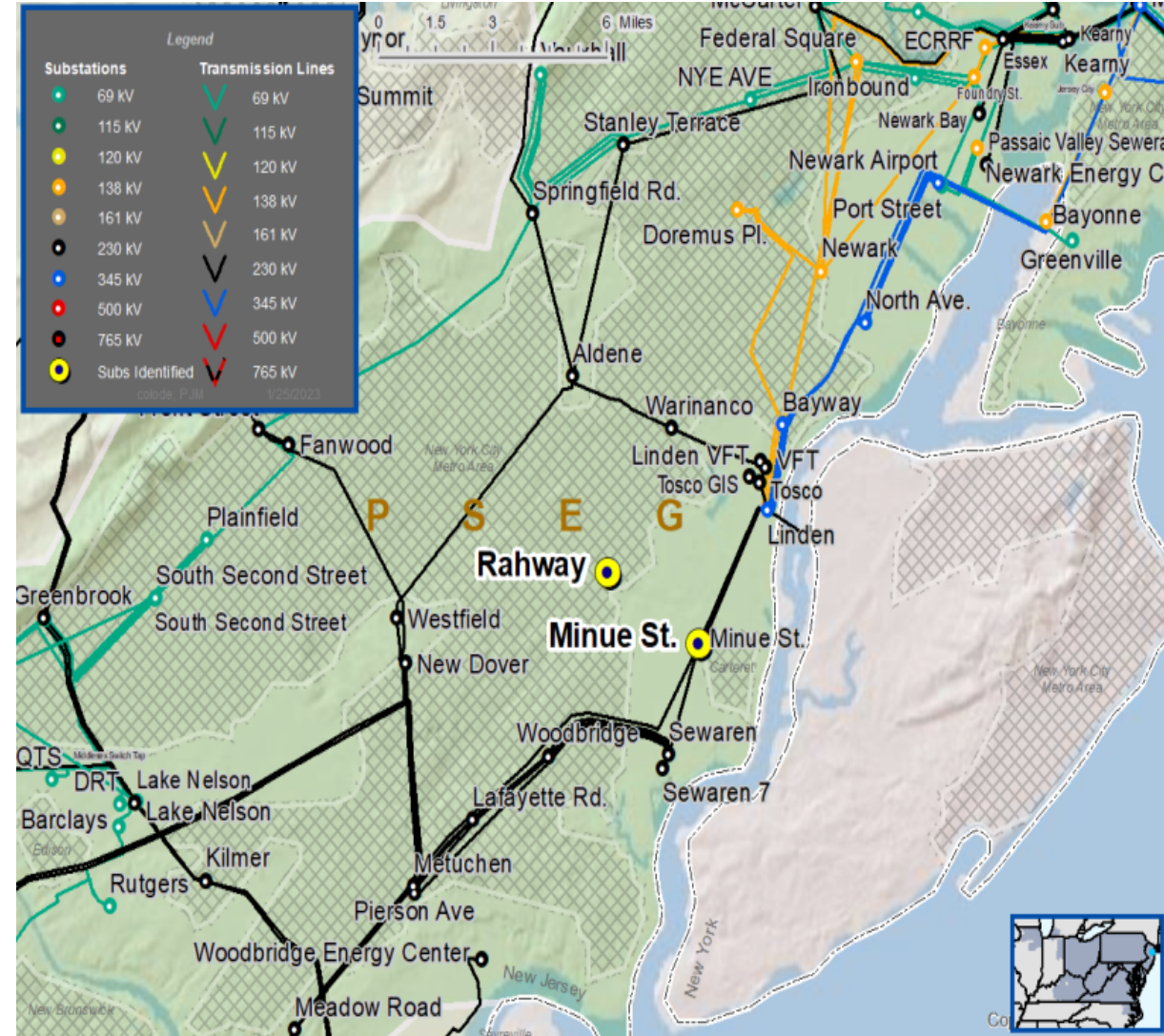
- Localized Load Growth & Contingency Overloads
- Equipment Reliability and Condition Assessment
- Asset Risk Model

Problem Statement:

- Minue Street Substation is a station in the Rahway area with no additional station capacity.
 - Minue Street serves over 13,600 customers with a peak load of over 69MVA in 2021 and 2022.
 - The actual station capacity is 60MVA. Contingency overload is 116.2%.
- Rahway substation is a station in the Rahway Area with equipment and building condition issues.
 - Station equipment at Rahway is in poor condition and will need to be addressed.
 - Rahway Substation building is nearly 100 years old, is in poor condition, and is not in compliance with today's NJ UCC requirements.
 - Rahway serves over 7,300 customers.
- Thermal and voltage issues are anticipated and likely will need to be addressed.

Model: 2021 Series 2026 Summer RTEP 50/50

PSE&G Transmission Zone M-3 Process Rahway Area





PSEG Transmission Zone M-3 Process Rahway Area

Need Number: PSEG-2023-0001

Process Stage: Solutions Meeting 5/09/2023

Proposed Solution:

- Construct a new 230-69kV Station along the existing ROW in Port Reading
 - Install a 230kV switching station with one (1) 230/69kV transformer.
 - Cut and loop the Metuchen - Sewaren 230kV line into the 230kV bus.
 - Build a new 69kV line to Rahway.
- Construct a new 69-13kV Class H substation at Rahway
 - Construct new 69-13kV station on existing property.
 - Install two (2) 69-13kV transformers.
 - Cut and loop the Front Street/Roselle line into the new substation.
 - **Estimated Cost:** \$271M

Ancillary Benefits:

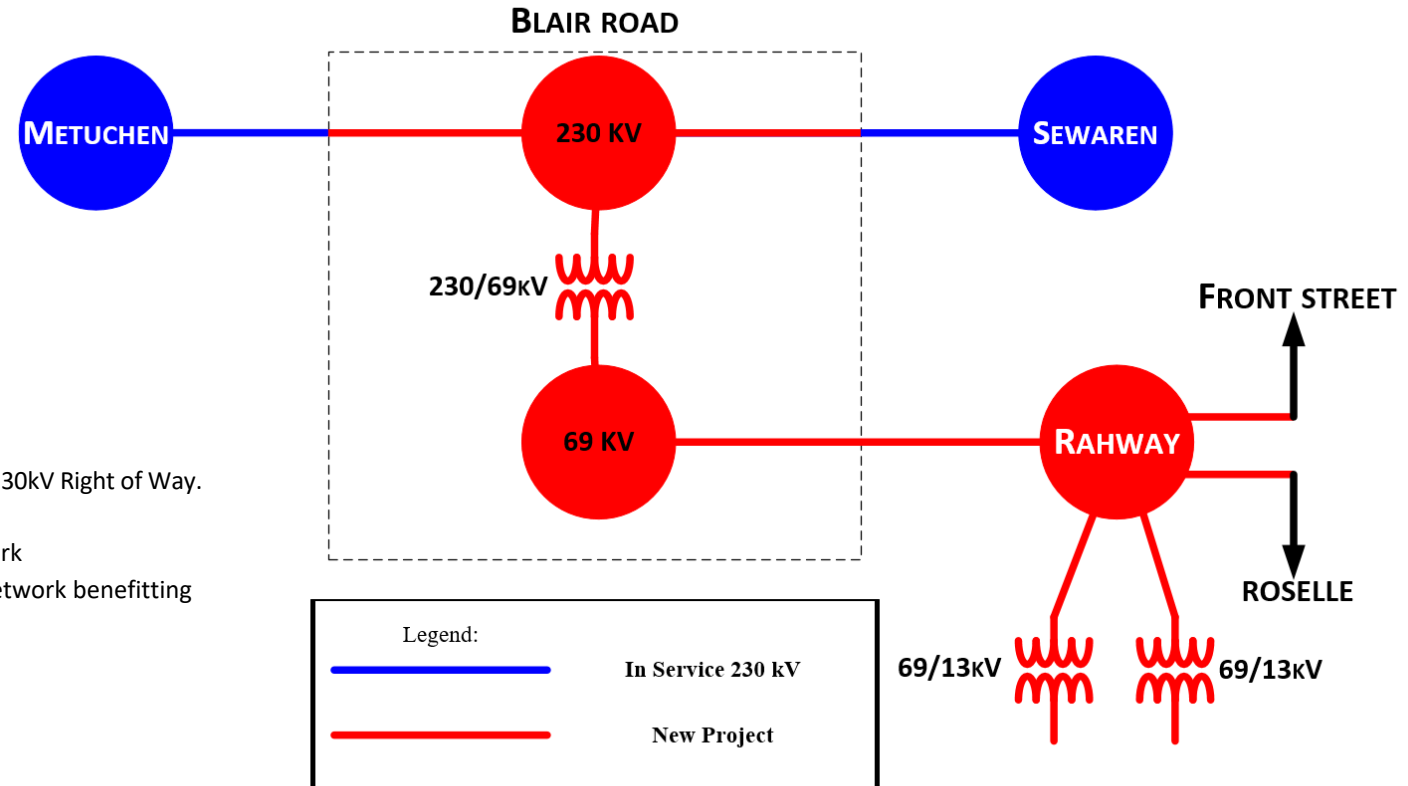
- Does not require any additional construction of new 230kV due to close proximity to the 230kV Right of Way.
- Decreases the amount of exposure and increases the reliability of the 230kV circuit.
- A 230kV source station in this area provides reliability benefits to the entire 69kV network
- Capacity provided in this area can be utilized to meet increasing demand on the 69kV network benefitting in excess of 40,000 customers.
- Solution resolves all thermal and voltage issues.

Alternatives Considered:

- Construct New 69-13kV Class H at Rahway and 230-69kV Station at Port Reading.
 - Build two (2) new 69kV lines between Rahway and Blair Rd.
 - Build one (1) new 69kV line from Port Reading to South Plainfield.
 - **Estimated Cost:** \$348M
- Construct New 69-13kV Class H at Rahway and 230-69kV Station at Port Reading.
 - Build one (1) new 69kV lines between Rahway and Blair Rd.
 - Build one (1) new 69kV line from Rahway to South Plainfield.
 - **Estimated Cost:** \$316M

Projected In-Service: 12/2027

Project Status: Conceptual





PSEG Transmission Zone M-3 Process Fords Area of Woodbridge

Need Number: PSEG-2023-0004

Process Stage: Solutions Meeting 5/09/2023

Previously Presented: Need Meeting 04/11/2023

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

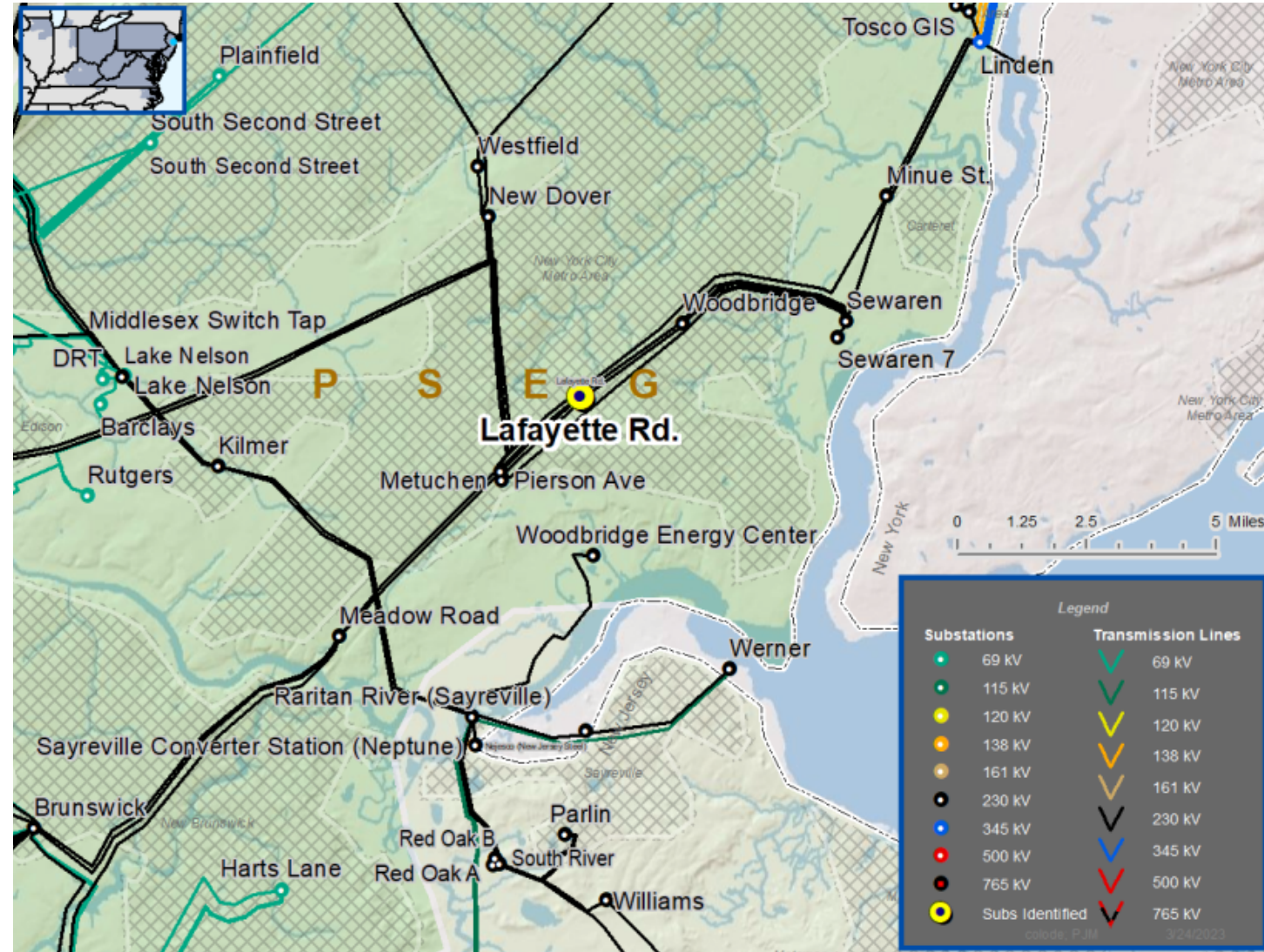
[PSEG 2023 Annual Assumptions](#)

- Localized Load Growth & Contingency Overloads

Problem Statement:

- Lafayette Road Substation is a station in the Fords area with no additional station capacity.
 - Lafayette Road serves over 14,000 customers with a peak load of over 77.2 MVA in 2022.
 - The actual station capacity is 59.4 MVA. Contingency overload is 130%.

Model: 2022 Series 2027 Summer RTEP 50/50



Need Number: PSEG-2023-0004

Process Stage: Solutions Meeting 5/09/2023

Proposed Solution:

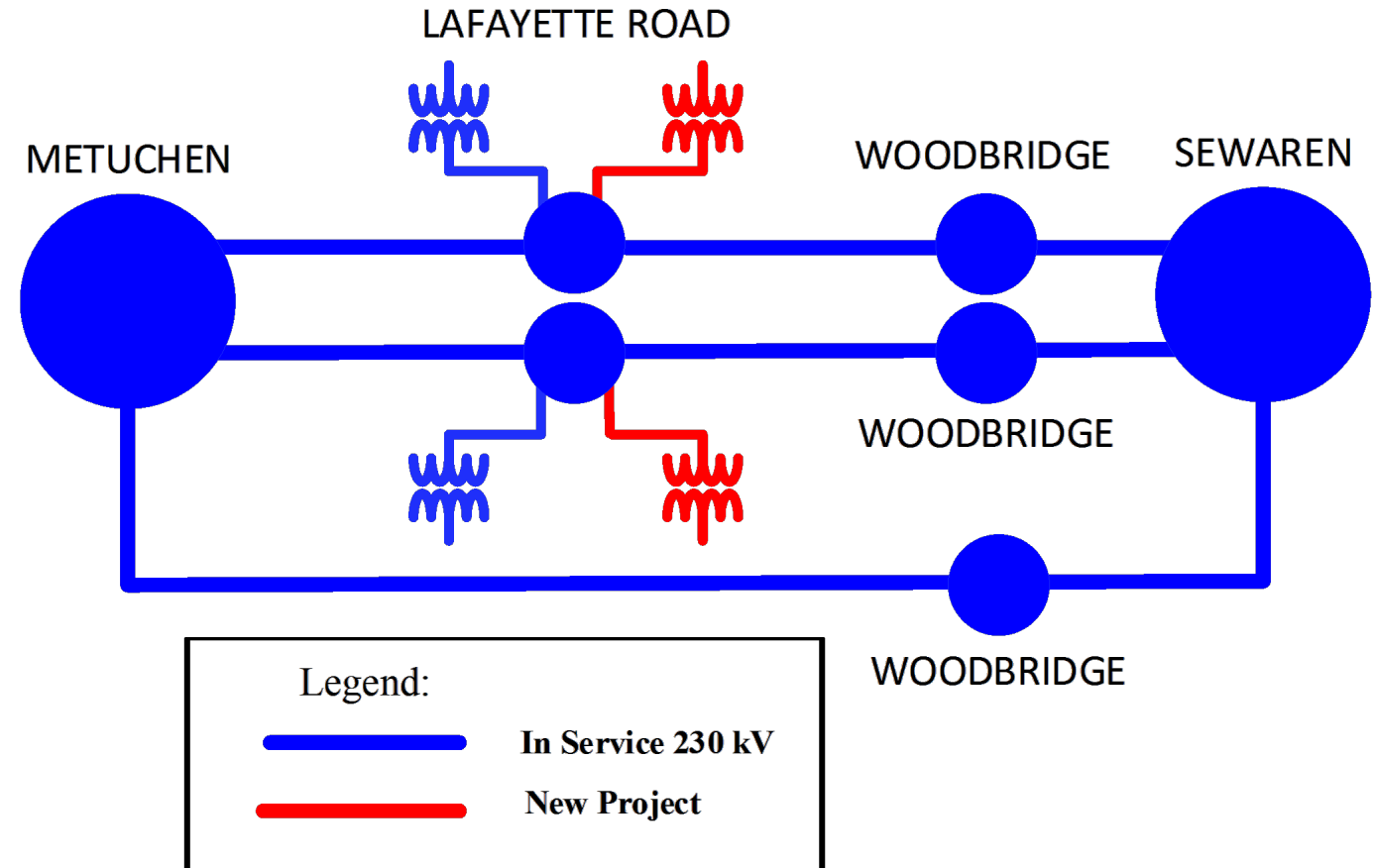
- Construct 2nd half (230/13kV) of Lafayette Road Substation.
 - Tap the 230kV lines and bring them into the new substation.
 - Install two (2) new 230-13kV transformers and associated equipment.
 - Expand control house.
 - **Estimated Cost:** \$27M

Alternative Considered:

- Construct a 230-13kV substation at Metuchen/Sewaren ROW.
 - Construct a 230kV GIS ring bus.
 - Install two (2) new 230-13kV transformers and associated equipment.
 - Install new control house.
 - **Estimated Cost:** \$81M

Projected In-Service: 05/2027

Project Status: Conceptual



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

4/28/2023 - V1 – Original version posted to pjm.com