PSEG 2025
Submission of Supplemental Projects for Inclusion in the Local Plan

PSE&G Transmission Zone M-3 Process
Newark Bay Area

Need Number: PSEG-2023-0005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 01/06/2025

Previously Presented:

- Need Meeting 05/18/2023
- Solutions Meeting 07/20/2023

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

PSE&G 2023 Annual Assumptions

- Equipment Criticality, Consequence of Failure

Problem Statement:

- The cable connecting Newark and Bayonne 69kV networks is a high pressure fluid-filled circuit and is an environmental risk. The high pressure fluid-filled line was constructed in 1963. The line length totals to 2.3 miles with approximately 4800 feet underwater in the Newark Bay.

- The circuit contains over 23,000 gallons of dielectric fluid. There is a potential risk of an un-controlled leak of up to 56% of that fluid into Newark Bay.

Model: 2022 Series 2027 Summer RTEP 50/50

PSE&G Transmission Zone M-3 Process
Newark Bay Area

Need Number: PSEG-2023-0005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 01/06/2025

Selected Solution:

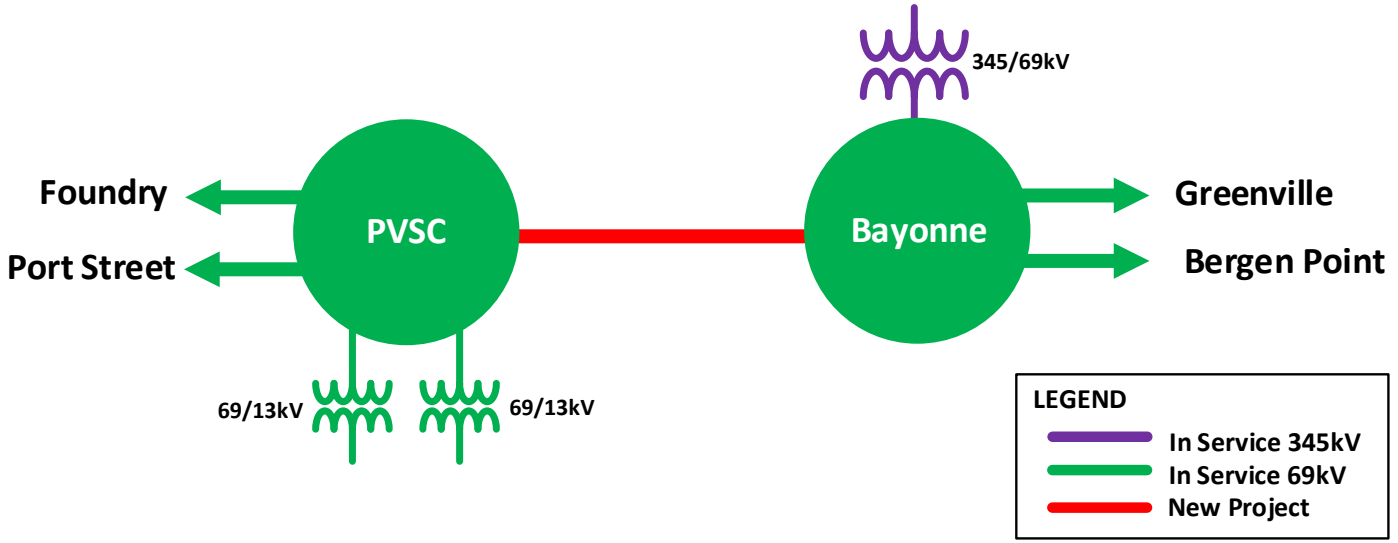
- Replace the High Pressure Fluid Filled (HPFF) cable with Extruded Pipe (EP) cable.
  - Replace 2.3 miles of HPFF cable with EP cable.
  - Re-use the existing pipe and route for the cable replacement.
  - Modify terminal equipment at PVSC and Bayonne stations to accommodate the EP cables
  - At Bayonne station, de-commission and remove the oil pumping equipment including pumping plant, tank, controls, and piping associated with the cable.

Estimated Cost: $25.6M

Projected In-Service: 12/2025

Supplemental Project ID: s3007.1

Project Status: Engineering and Planning



PSE&G Transmission Zone M-3 Process
South Brunswick

Need Number: PSEG-2024-0005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/08/2025

Previously Presented:

- Need Meeting 12/12/2024
- Solutions Meeting 01/16/2025

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2024 Annual Assumptions]

- Customer Substations

Problem Statement:

- A data center developer has submitted a request for a new 69kV interconnection point to serve a large single customer load in Middlesex County with a total load of 35 MW. Requested in-service date is 06/2026.

Initial In-Service Load – 5MW
Projected 2030 Load – 35MW

Model: 2022 Series 2027 SUM

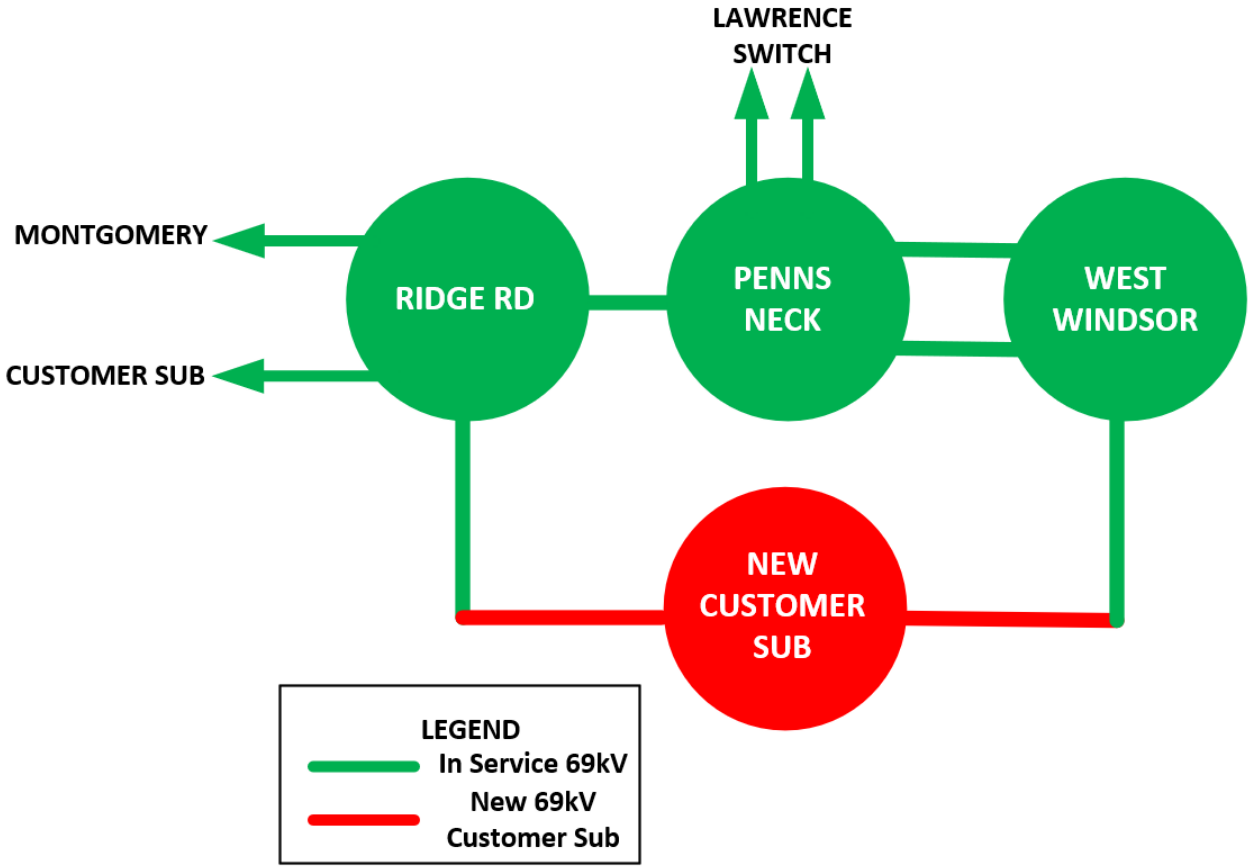
PSE&G Transmission Zone M-3 Process
South Brunswick

Need Number: PSEG-2024-0005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/08/2025

Selected Solution:

- Cut and loop 69kV line from Ridge Road Station to West Windsor Station into customer's new station.



Estimated Cost: $3.4M

Projected In-Service: 06/30/2026

Supplemental Project ID: s3570

Project Status: Engineering and Planning

PSE&G Transmission Zone M-3 Process
Lumberton Area

Need Number: PSEG-2023-0011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/17/2025

Previously Presented:

- Need Meeting 10/31/2023
- Solutions Meeting 12/03/2024

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

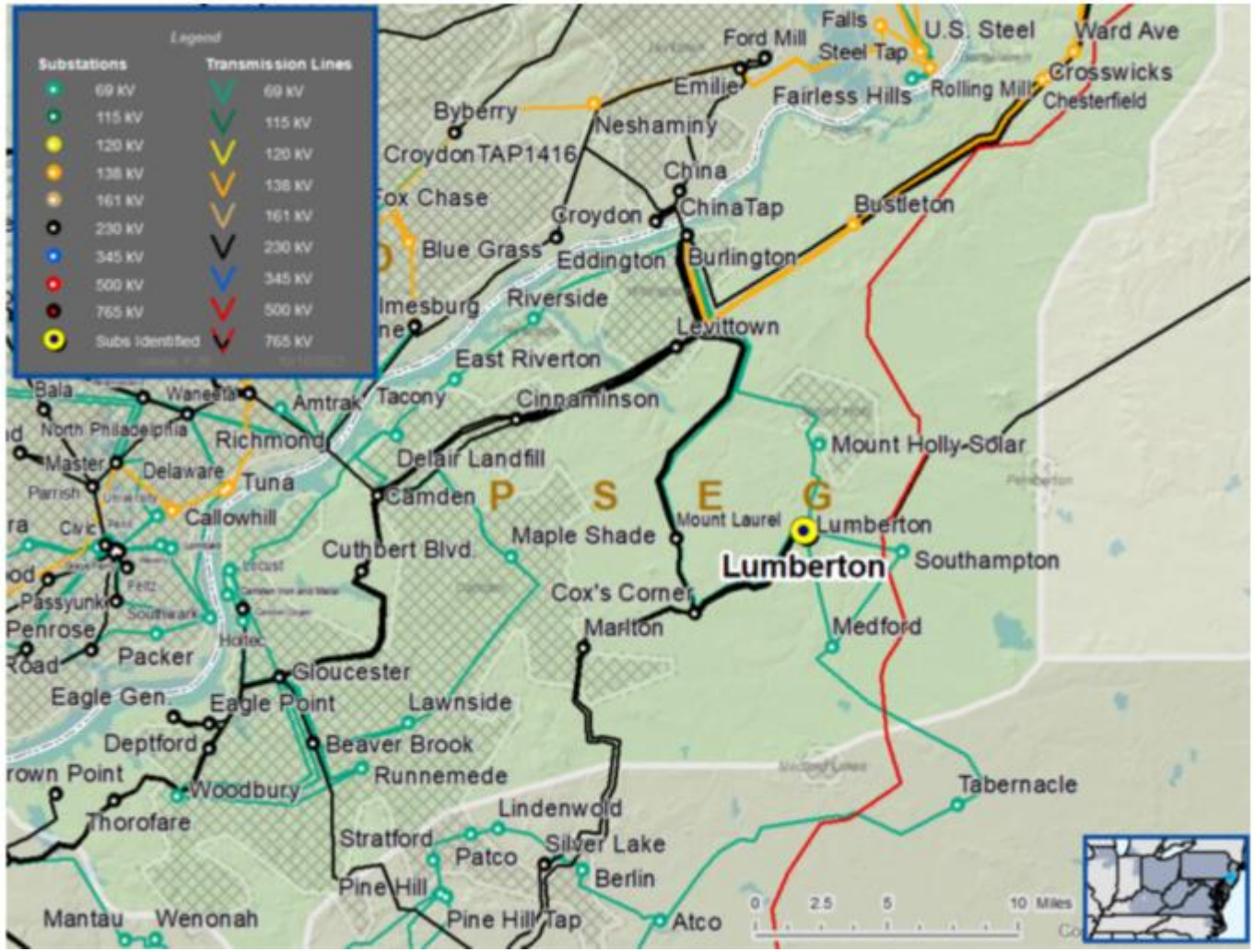
PSE&G 2023 Annual Assumptions

- Localized Load Growth & Contingency Overloads

Problem Statement:

- Lumberton Substation is a station in the Lumberton area with no additional station capacity.
  - Lumberton serves over 17,000 customers with a peak load of over 73.2 MVA in 2022.
  - The actual station capacity is 59.41 MVA. Contingency overload is 115%.

Model: 2022 Series 2027 Summer RTEP 50/50



PSE&G Transmission Zone M-3 Process
Lumberton Area

Need Number: PSEG-2023-0011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/17/2025

Selected Solution:

At Pemberton:

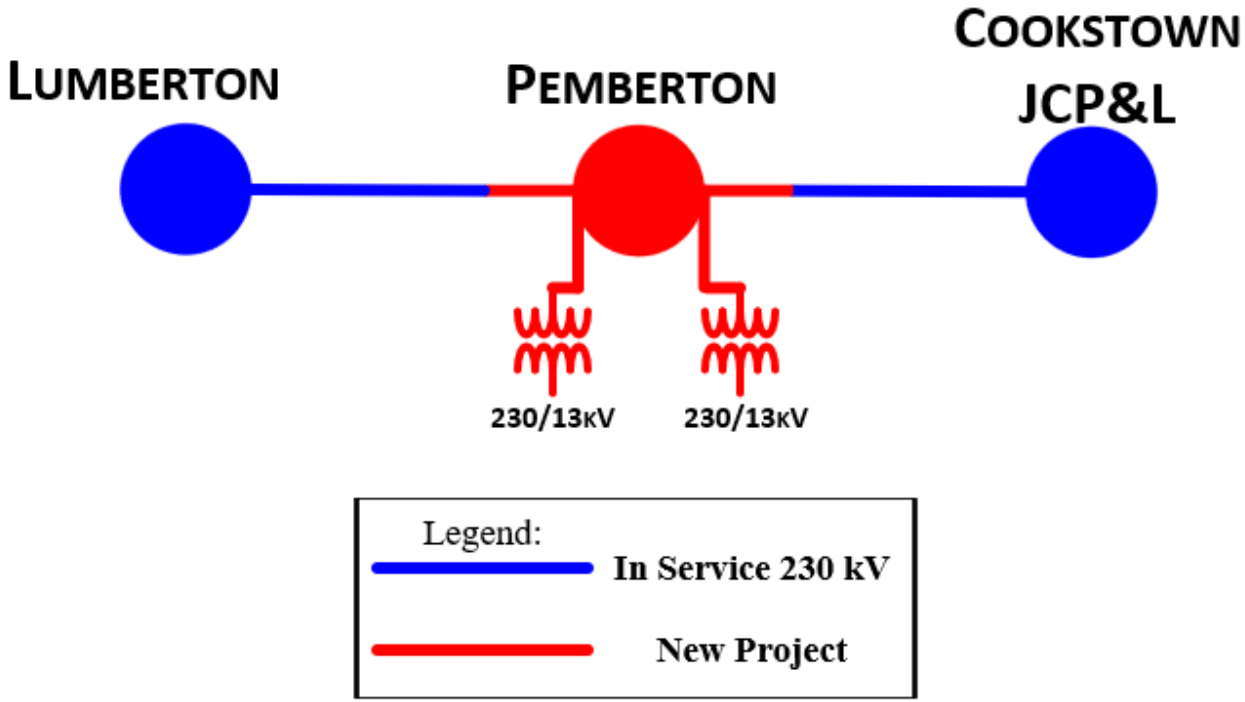
- Construct a 230-13kV Substation at PSEG owned property in the Pemberton Area.
  - Construct a 230kV substation.
  - Cut and loop Lumberton-Cookstown 230kV circuit into new substation.
  - Install two (2) 230-13kV transformers.
  - Estimated Cost: $62.7M
- First Energy (JCP&L) to install a Fiber Connection on JCP&L owned portion from Pemberton to Cookstown.
  - First Energy (JCP&L) Estimated Cost: $1.8M

Total Project Cost : $64.5M

Projected In-Service: 12/2029

Supplemental Project ID: s3569

Project Status: Engineering and Planning



PSE&G Transmission Zone M-3 Process
East Rutherford Area

Need Number: PSEG-2024-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/28/2025

Previously Presented:

- Need Meeting 5/16/2024
- Solutions Meeting 8/15/2024

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:
PSE&G 2024 Annual Assumptions

- Equipment Criticality, Consequence of Failure

Problem Statement:

- The East Rutherford 138/26 kV transformers No. 132-1 and 132-2 are exhibiting oil and nitrogen leaks, allowing moisture intrusion to accelerate the deterioration of the dielectric insulation system. These transformers are 65 years old with an increased probability of failure.

Model: 2023 Series 2028 Summer RTEP 50/50

PSE&G Transmission Zone M-3 Process
East Rutherford Area

Need Number: PSEG-2024-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/28/2025

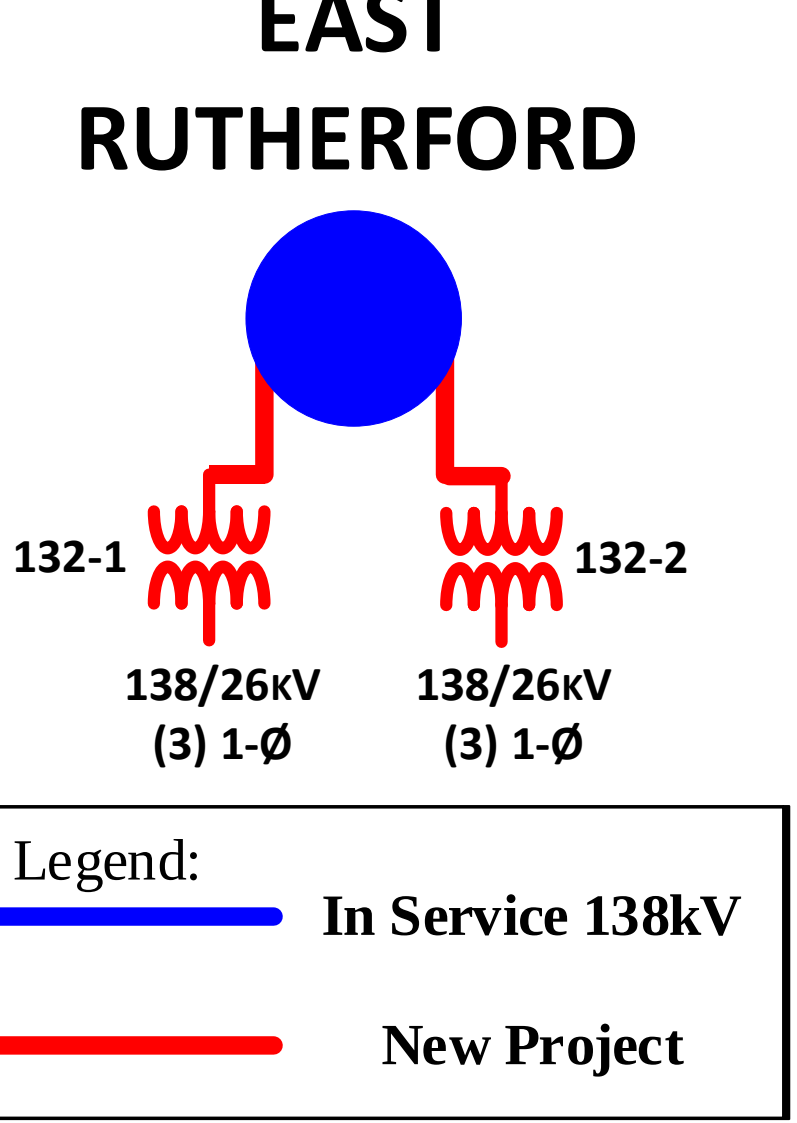
Selected Solution:

- Replace existing transformers 132-1 and 132-2 with six (6) single-phase transformers (3 per bank)
- Install one (1) additional single-phase transformer to be used as a spare in the event of failure of one of the in-service transformers
- Add one (1) additional 138kV bus-tie circuit breaker to existing 138kV straight bus
- Add two (2) 138kV transformer head breakers
- **Estimated Cost: $43.1M**

Projected In-Service: 5/31/2028

Supplemental Project ID: s3604

Project Status: Engineering and Planning



Revision History

1/06/2025 – V1 – s3007.1

4/8/2025 – V2 – s3570

4/17/2025 –V3 – s3569

4/28/2025 –V4 – s3604