PSEG 2022
Submission of Supplemental Projects for Inclusion in the Local Plan

PSE&G Transmission Zone M-3 Process
Somerville Area

Need Number: PSEG-2021-0005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 12/10/2021

Previously Presented:

- Need Meeting 8/13/2021
- Solutions Meeting 9/14/2021

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

PSE&G 2021 Annual Assumptions

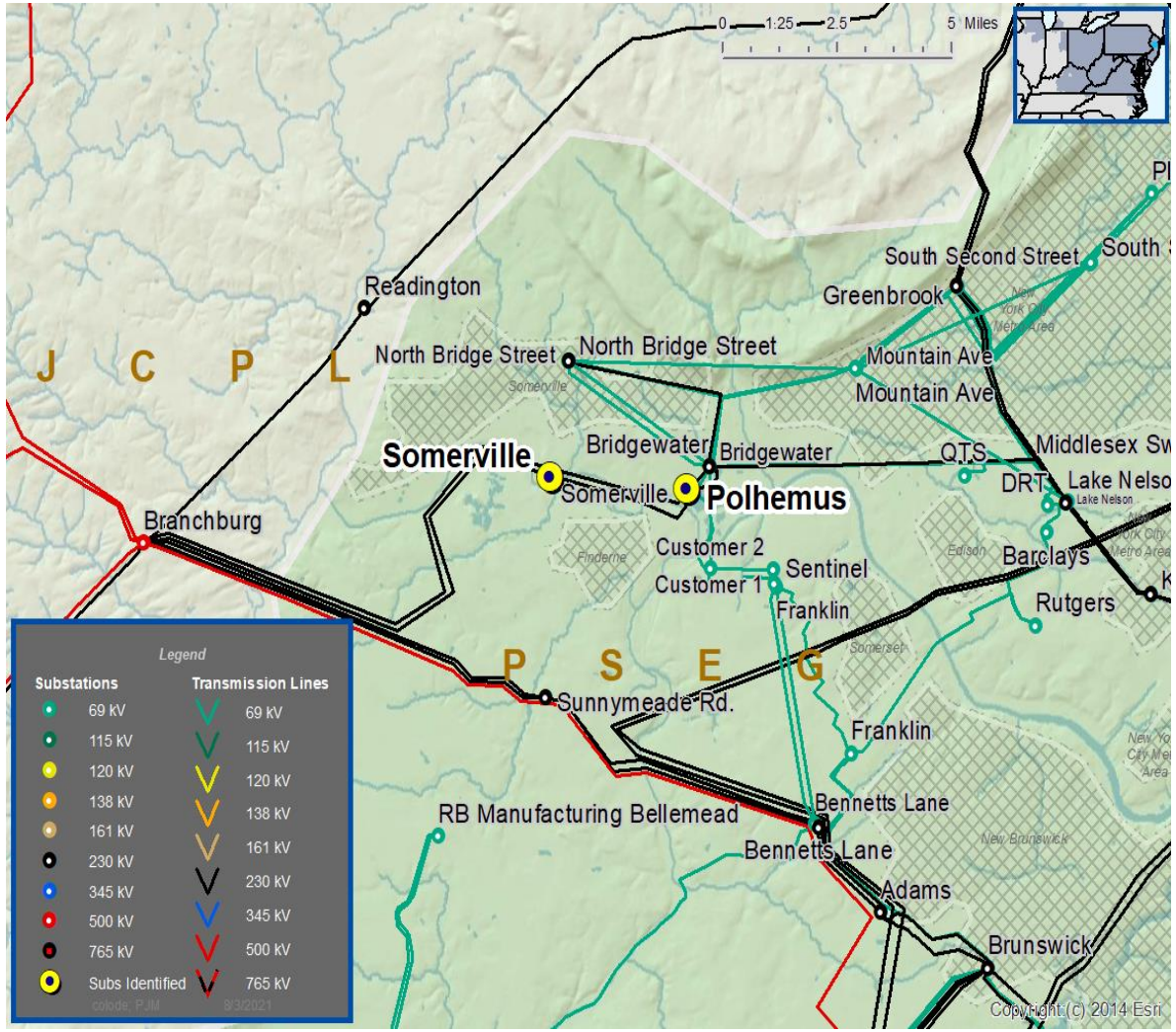
- Localized Load Growth & Contingency Overloads

Problem Statement:

- Somerville and Polhemus are stations in the Somerville area at capacity of 60MVA.

- Somerville serves roughly 14,500 customers with a peak load of 62.1 MVA in 2020.
- Polhemus serves roughly 11,000 customers with a peak load of 69.1 MVA in 2020.

Model: 2020 Series 2025 Summer RTEP 50/50



PSE&G Transmission Zone M-3 Process
Somerville Area

Need Number: PSEG-2021-0005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 12/20/2021

Selected Solution:

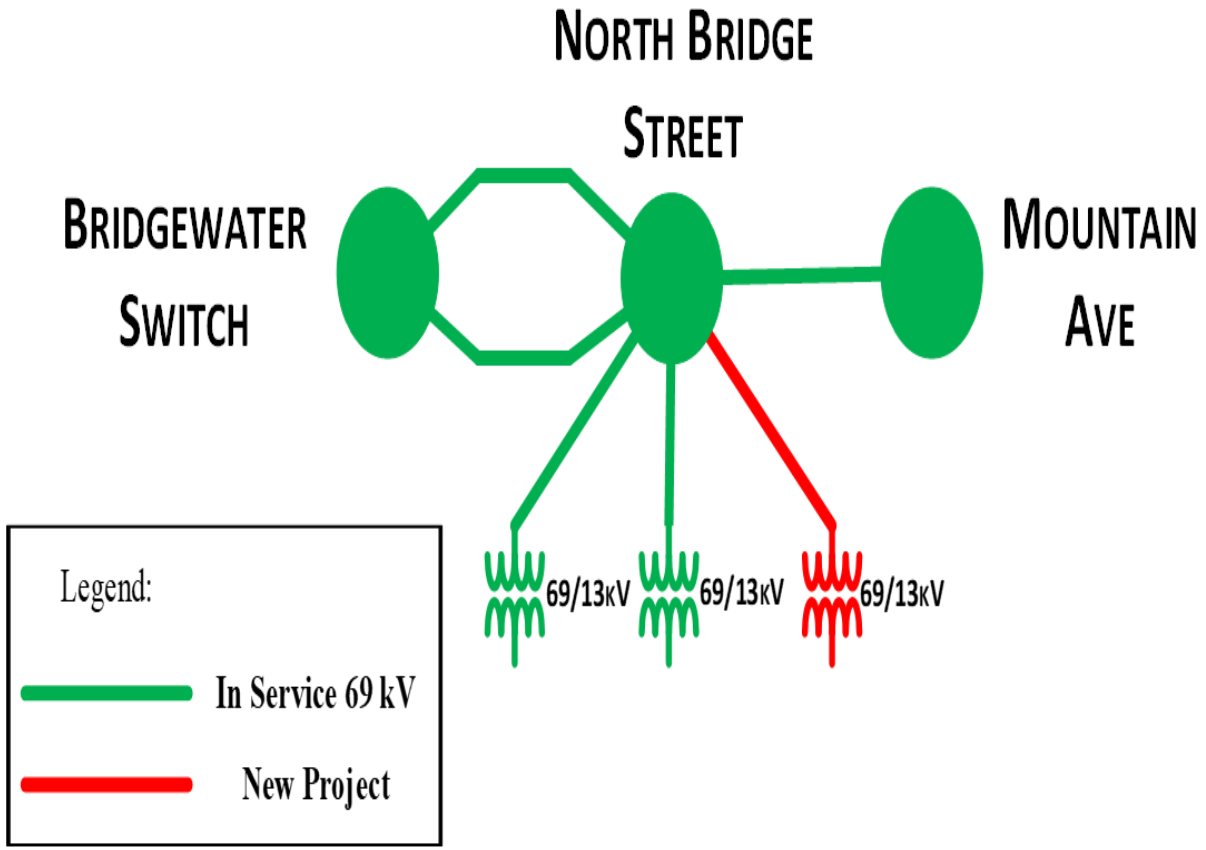
- Construct 3rd 69/13kV transformer to increase capacity at North Bridge Street.
  - Tap existing 69kV ring bus at North Bridge Street Substation.
  - Transfer load from Heavily loaded Somerville and Polhemus.

Estimated Cost: $8M

Projected In-Service: 05/2024

Supplemental Project ID: s2644

Project Status: Engineering and Planning



PSE&G Transmission Zone M-3 Process
North Bergen Area

Need Number: PSEG-2021-0004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Previously Presented:

- Need Meeting 08/10/2021
- Solutions Meeting 08/31/2021

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

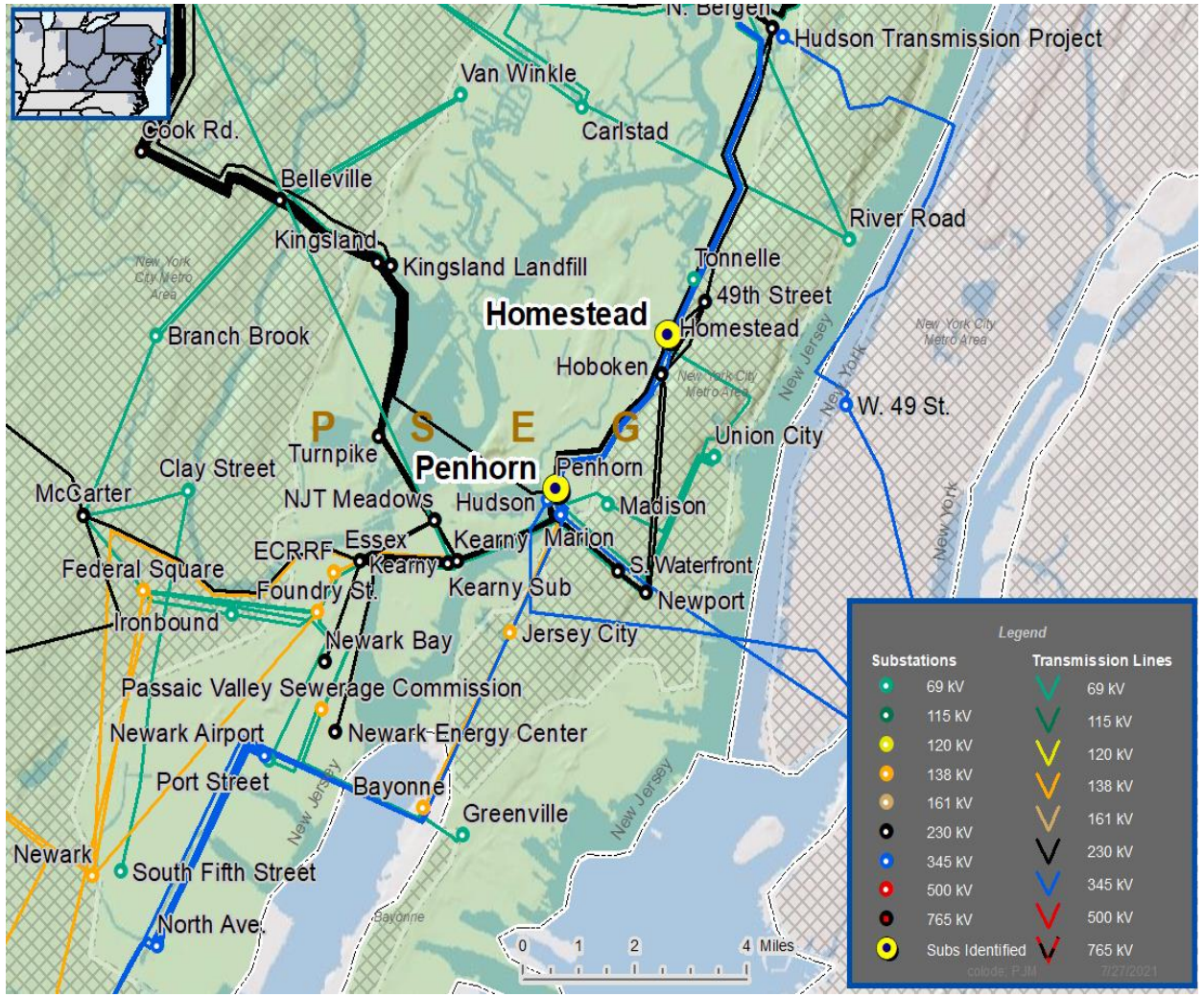
- PSE&G 2021 Annual Assumptions
- Localized Load Growth & Contingency Overloads

Problem Statement:

Homestead 2H and Penhorn 1H are stations in the North Bergen area with capacity less than 60MVA.

- Homestead 2H serves roughly 22,000 customers and 64.8 MVA of load.
- Penhorn 1H serves roughly 20,200 customers and 62.1 MVA of load.
- 50/50

Model: 2020 Series 2025 Summer RTEP 50/50



Need Number: PSEG-2021-0004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Selected Solution:

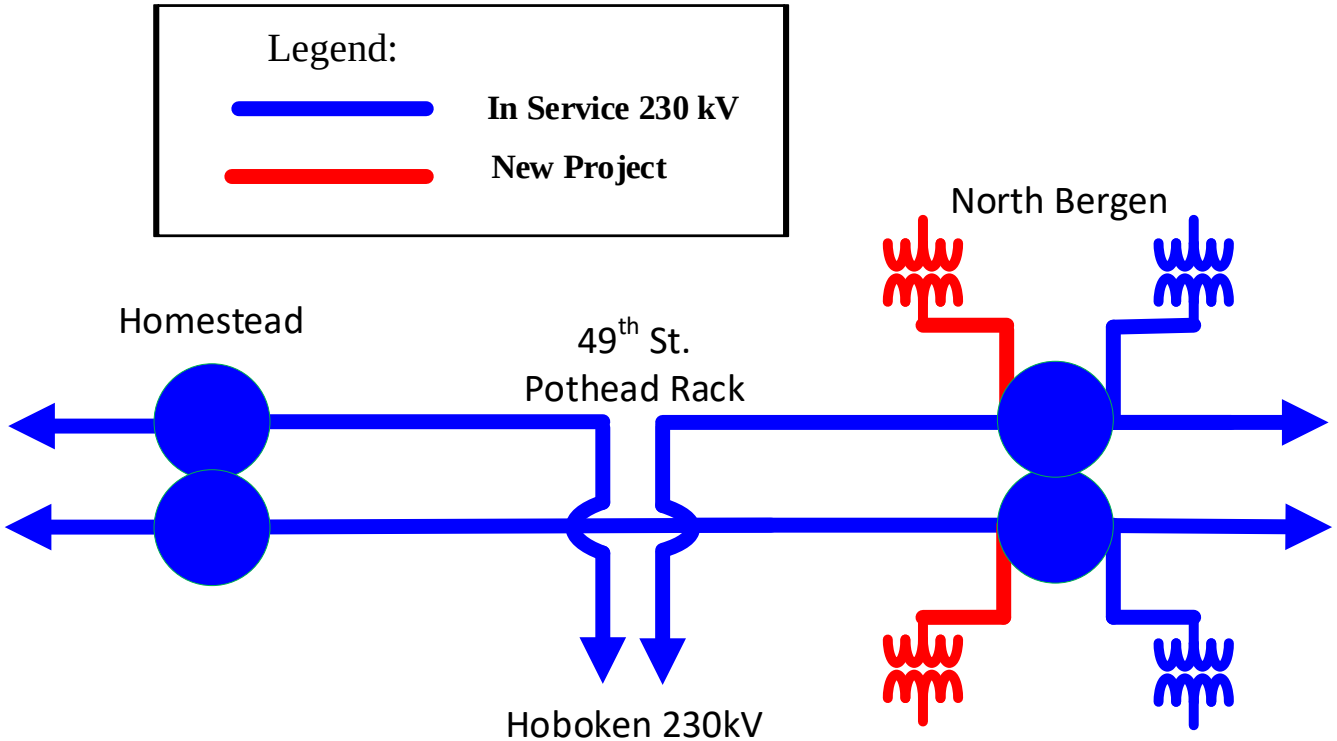
- Construct second half of 230-13kV Class H station at existing North Bergen station.
  - Two (2) additional new 230-13kV transformers and associated equipment.
  - Transfer load from heavily loaded Homestead and Penhorn to the new second half North Bergen 230kV station.

Estimated Cost: $28.9M

Projected In-Service: 12/2025

Supplemental Project ID: s2588

Project Status: Engineering and Planning



PSE&G Transmission Zone M-3 Process
Bayonne Cogen

Need Number: PSEG-2021-0006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2022

Previously Presented:

- Need Meeting 12/20/21
- Solutions Meeting 1/20/2022

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

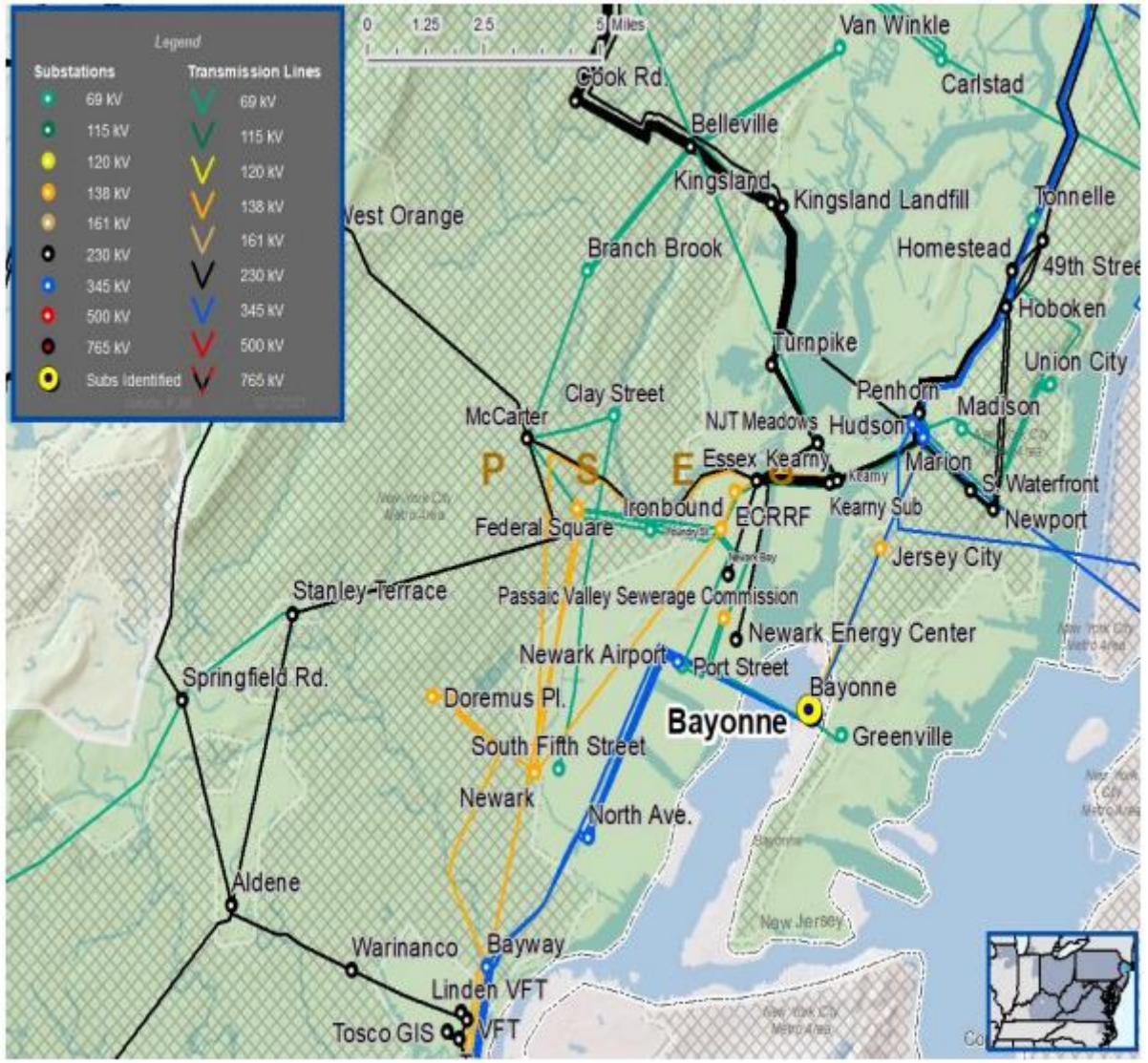
PSE&G 2021 Annual Assumptions

- Equipment Criticality, Consequence of Failure

Problem Statement:

- A high pressure oil-filled transmission line constructed as a dedicated feed to a cogeneration facility to allow for generation export is now subject to obsolescence due to the recent retirement of the cogeneration facility. The high pressure oil-filled transmission line currently provides no transmission system benefit and presents potential environmental impact risks.

Model: 2020 Series 2025 Summer RTEP 50/50



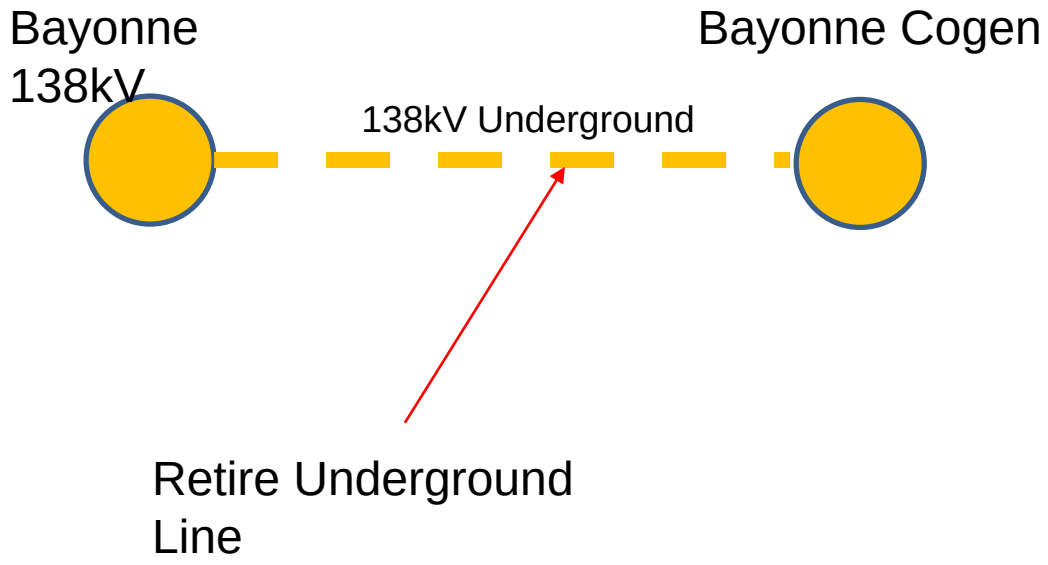
PSE&G Transmission Zone M-3 Process
Bayonne Cogen

Need Number: PSEG-2021-0006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/28/2022

Selected Solution:

- Retire the Bayonne to Bayonne Cogen 138kV Underground Circuit assets.
  - Remove circuit assets(i.e. cable, fluid & station equipment)
  - Abandon pipe/conduit and manhole system



Estimated Cost: $8.0M

Projected Retirement: 12/2022

Supplemental Project ID: s2720

Project Status: Engineering and Planning

PSE&G Transmission Zone M-3 Process
South Plainfield Area

Need Number: PSEG-2022-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/19/2022

Previously Presented:

- Need Meeting 3/17/2022
- Solutions Meeting 4/19/2022

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

PSE&G 2022 Annual Assumptions

- Localized Load Growth & Contingency Overloads

Problem Statement:

Green Brook 1H and Fanwood 1H are substations in the South Plainfield area that are heavily loaded and operate at higher than their 60 MVA capacity for N-1 contingency overload criteria.

- Green Brook 1H serves roughly 19,000 customers with a peak load of 79.3 MVA in 2021.
- Fanwood 1H serves roughly 22,900 customers with a peak load of 85.2 MVA in 2021.

Model: 2021 Series 2026 Summer RTEP 50/50

PSE&G Transmission Zone M-3 Process
South Plainfield Area

Need Number: PSEG-2022-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/19/2022

Selected Solution:

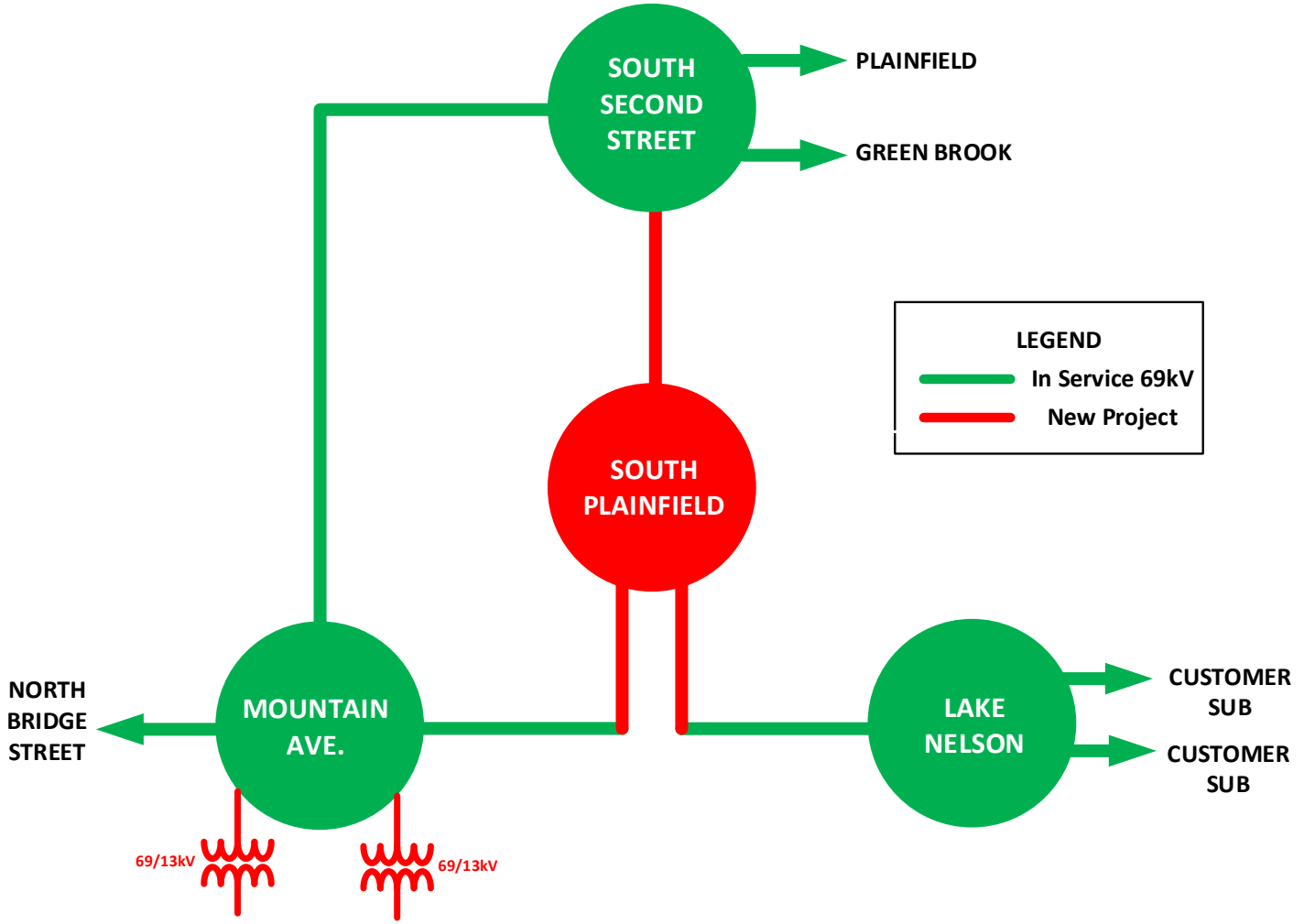
- Construct a 69-13kV seven (7) breaker ring bus class H substation at South Plainfield on a new property.
  - Cut and loop the Mountain Avenue to Lake Nelson 69kV line in to new South Plainfield Area substation.
  - Construct a new 69kV Circuit between new substation and South Second Street.
- Replace three (3) 69-13kV transformers with two (2) higher capacity 69-13kV transformers at Mountain Ave Substation.
- **Ancillary Benefit**: Green Brook Contingency Overload can be addressed with shorter, more reliable circuits from South Plainfield and Mountain Ave.

Estimated Cost: $96.6M

Projected In-Service: 05/2027

Supplemental Project ID: s2729

Project Status: Engineering and Planning



PSE&G Transmission Zone M-3 Process
Jersey City Area

Need Number: PSEG-2022-0001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/2022

Previously Presented:

- Need Meeting 02/17/2022
- Solutions Meeting 03/17/2022

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

PSE&G 2022 Annual Assumptions

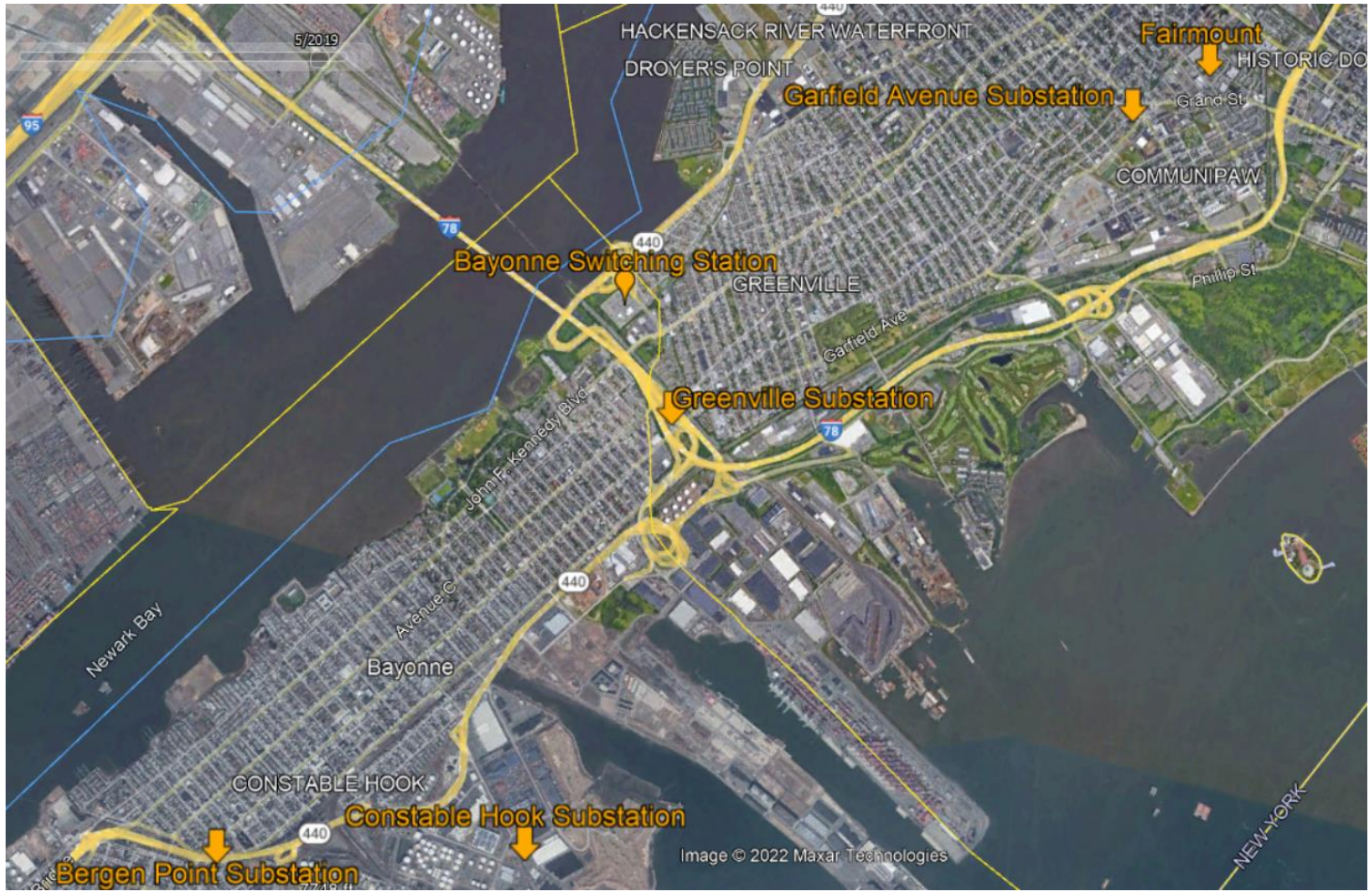
August 2017 26kV to 69kV PSE&G Presentation

- Equipment Reliability and Condition Assessment
- Asset Risk Model

Problem Statement:

- Garfield Avenue Substation is a station in the Jersey City area with no additional supply capacity, no additional station capacity, and station condition issues.
  - Station equipment at Garfield Avenue is in poor condition and needs to be addressed.
  - The substation building was built over 100 years ago, is in poor condition, and is not in compliance with today's NJ UCC requirements.
  - Substation has no additional supply capacity for projected load growth in the area.
  - Garfield serves over 14,600 customers

Model: 2021 Series 2026 Summer RTEP 50/50



PSE&G Transmission Zone M-3 Process
Jersey City Area

Need Number: PSEG-2022-0001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/2022

Selected Solution:

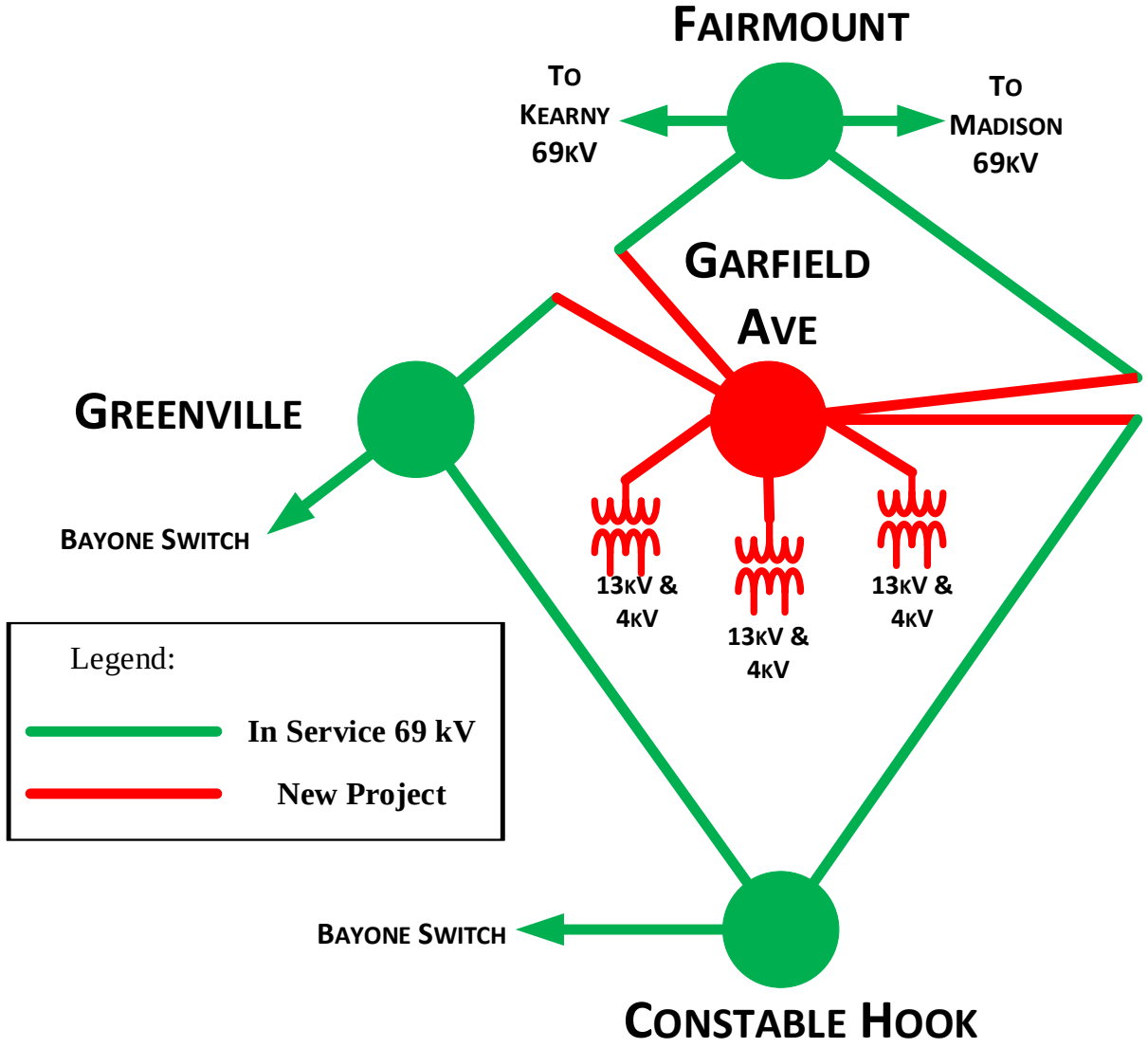
- Construct new 69-13-4kV station on existing property.
  - Construct a new seven (7) breaker 69kV ring bus.
  - Install three (3) 3 winding 69-13-4kV transformers.
  - Reconfigure the 69kV network by cutting and looping existing 69kV lines in the Jersey City Area into Garfield Ave.

Estimated Cost: $85.6M

Projected In-Service: 5/2027

Supplemental Project ID: s2715

Project Status: Engineering and Planning



Revision History

1/3/2022 – V1 – Local Plan for s2644 posted to pjm.com

3/17/2022 – V2 – Added local for s2588

8/3/2022 – V3- Added Local Plan for s2720

8/22/2022 – V4 – Added Local Plan for s2729

10/10/2022 – V5 – Added local plan for s2715