

PSEG 2021

Submission of Supplemental Projects for Inclusion in the Local Plan

Need Number: PSEG-2020-0006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 02/10/2021

Previously Presented:

- Need Meeting 9/01/2020
- Solutions Meeting 10/06/2020

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

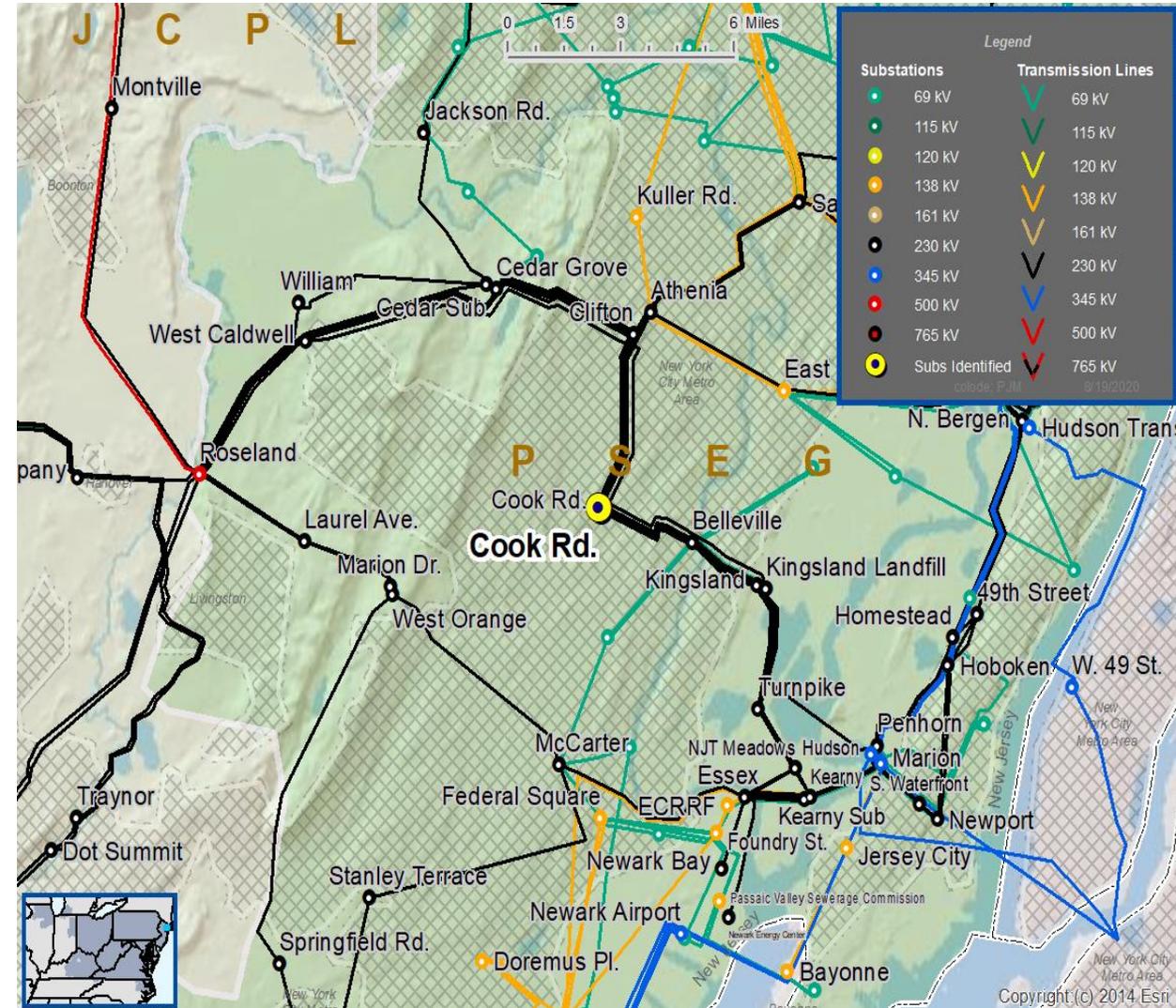
- Localized Load Growth & Contingency Overloads

Problem Statement:

Cook Rd is a station in the Belleville area at capacity of 120 MVA.

- Cook Rd serves roughly 49,000 customers with a peak load of 145 MVA in 2019.

Model: 2020 Series 2025 Summer RTEP 50/50



Need Number: PSEG-2020-0006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 02/10/2021

Selected Solution:

- New 230-13kV Station along the existing ROW at Washington Ave.
 - Install a 230kV bus station with two (2) 230/13kV transformers.
 - Cut and loop the Cook Rd-Kingsland 230kV line into the 230kV bus.
 - Transfer load from heavily loaded Cook Rd to the new station.

Ancillary Benefits:

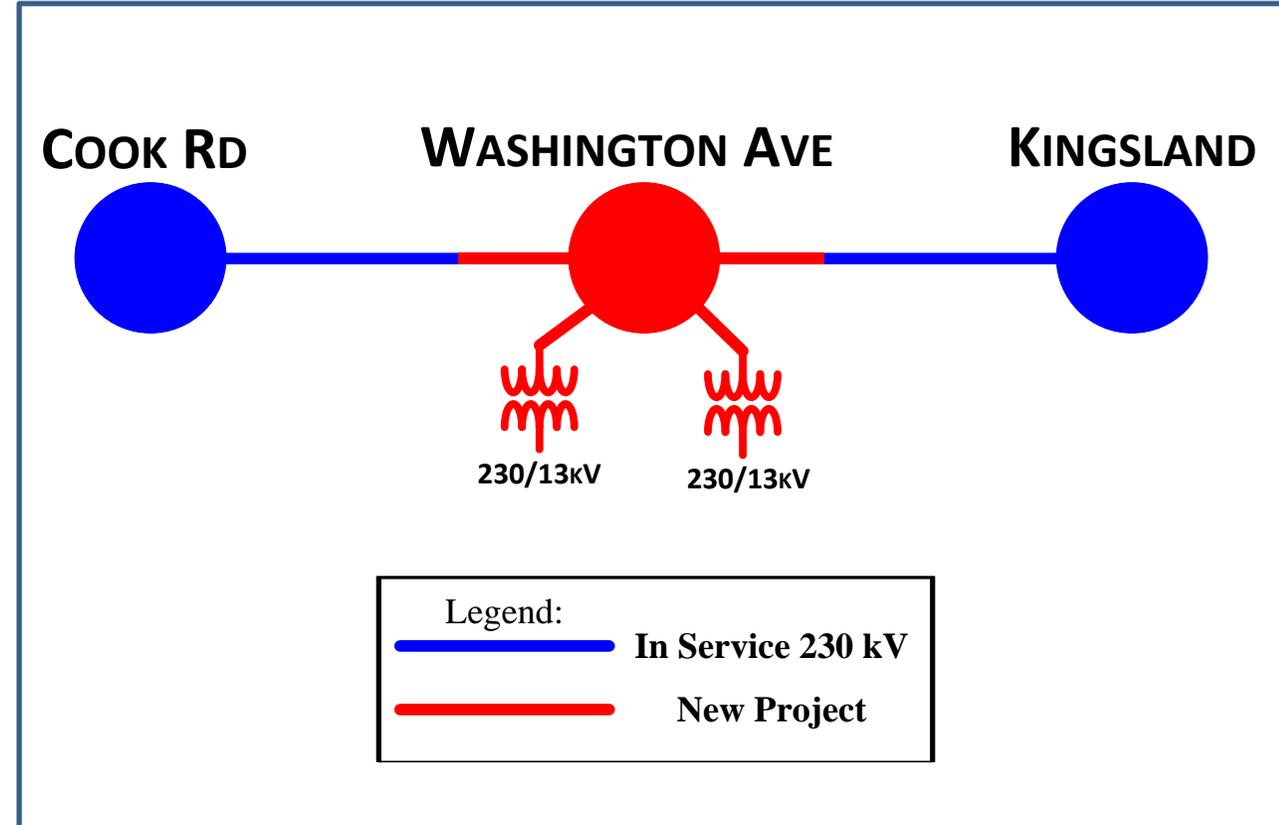
- Does not require any additional construction of new 230kV due to close proximity to the 230kV Right of Way.
- Decreases the amount of exposure and increases the reliability of the 230kV circuit.

Estimated Cost: \$31.2M

Projected In-Service: 05/2024

Supplemental Project ID: s2384

Project Status: Engineering and Planning



Need Number: PSEG-2020-0008

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/16/2021

Previously Presented:

- Need Meeting 09/10/2020
- Solution Meeting 11/18/2020

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

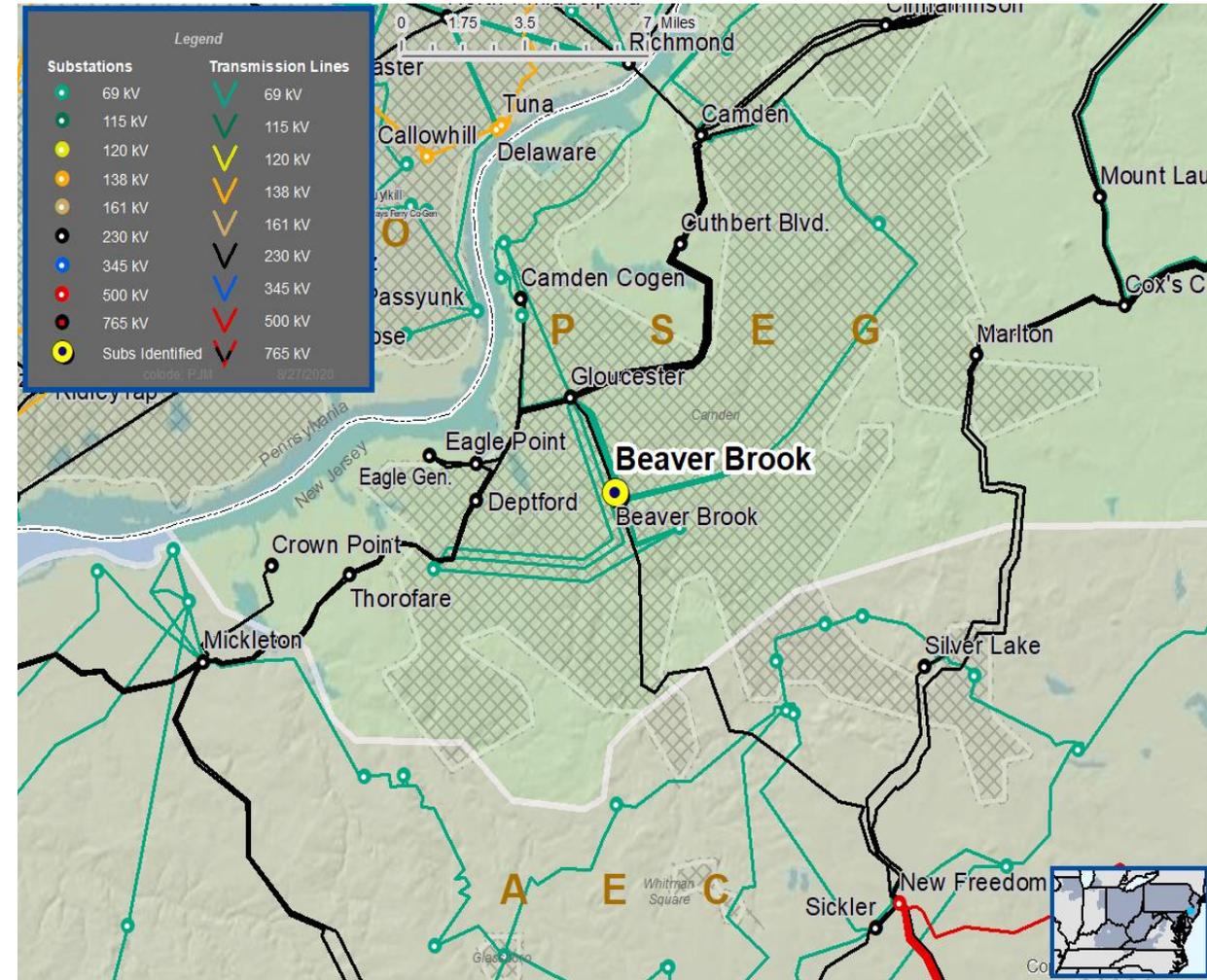
- Localized Load Growth & Contingency Overloads

Problem Statement:

Beaverbrook is a station in the Western Camden County area at capacity of 60 MVA.

- Beaverbrook serves roughly 22,000 customers with peak load of 70 MVA in 2019.

Model: 2020 Series 2025 Summer RTEP 50/50





Need Number: PSEG-2020-0008

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/16/2021

Selected Solution:

- Construct a new 69/13kV Class H station at Nicholson Road with four ~~(4)~~ (3) 69kV circuits.
 - Purchase Property to accommodate new construction.
 - Install a 69kV station with two (2) 69/13kV transformers.
 - Transfer load from heavily loaded Beaver Brook to new station.
 - Construct a 69kV network between Gloucester, Woodlynne, Lawnside and the new Station

Ancillary Benefits:

- There is an existing PSE&G owned right of way with an underground 230kV and 69kV circuits adjacent to the proposed property
- Provides capacity increase and 13kV self healing loops.

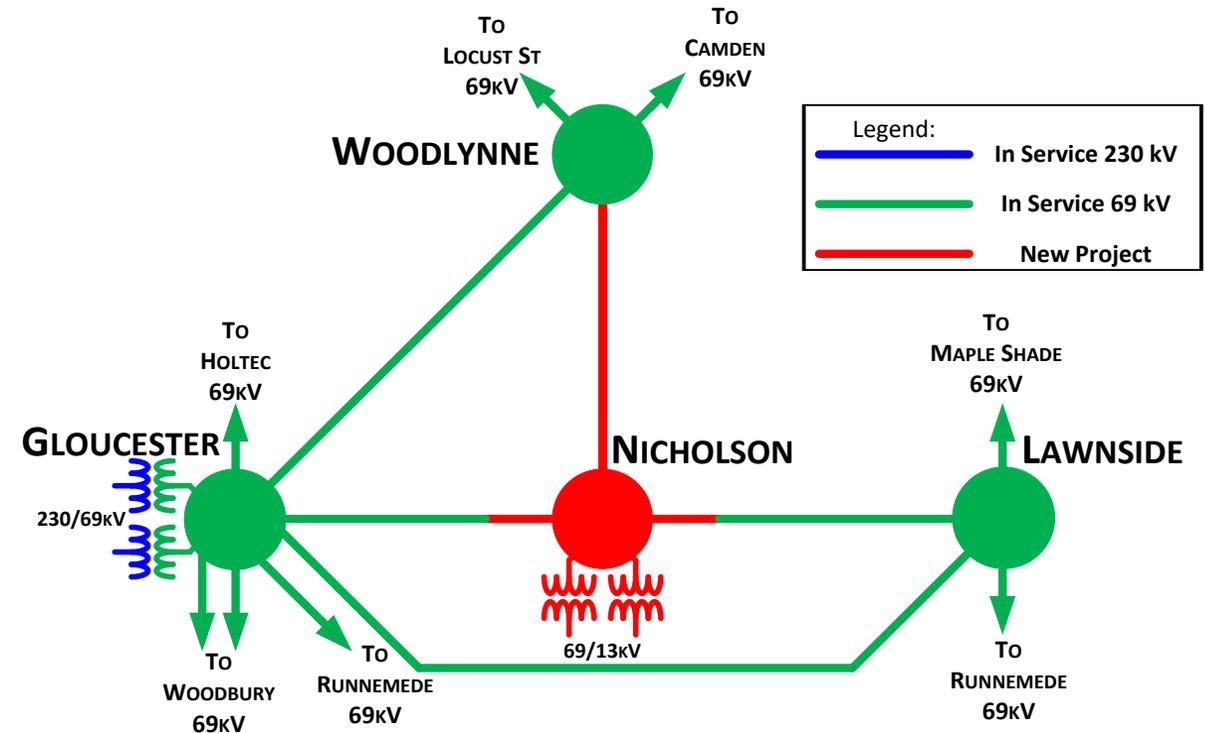
Estimated Cost: \$41.6M

Projected In-Service: 05/2025

Supplemental Project ID: s2413

Project Status: Engineering and Planning

PSEG Transmission Zone M-3 Process Western Camden County Area



Need Number: PSEG-2020-0009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/16/2021

Previously Presented:

- Need Meeting 09/10/2020
- Solution Meeting 11/18/2020

Supplemental Project Driver:

- Customer Service
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

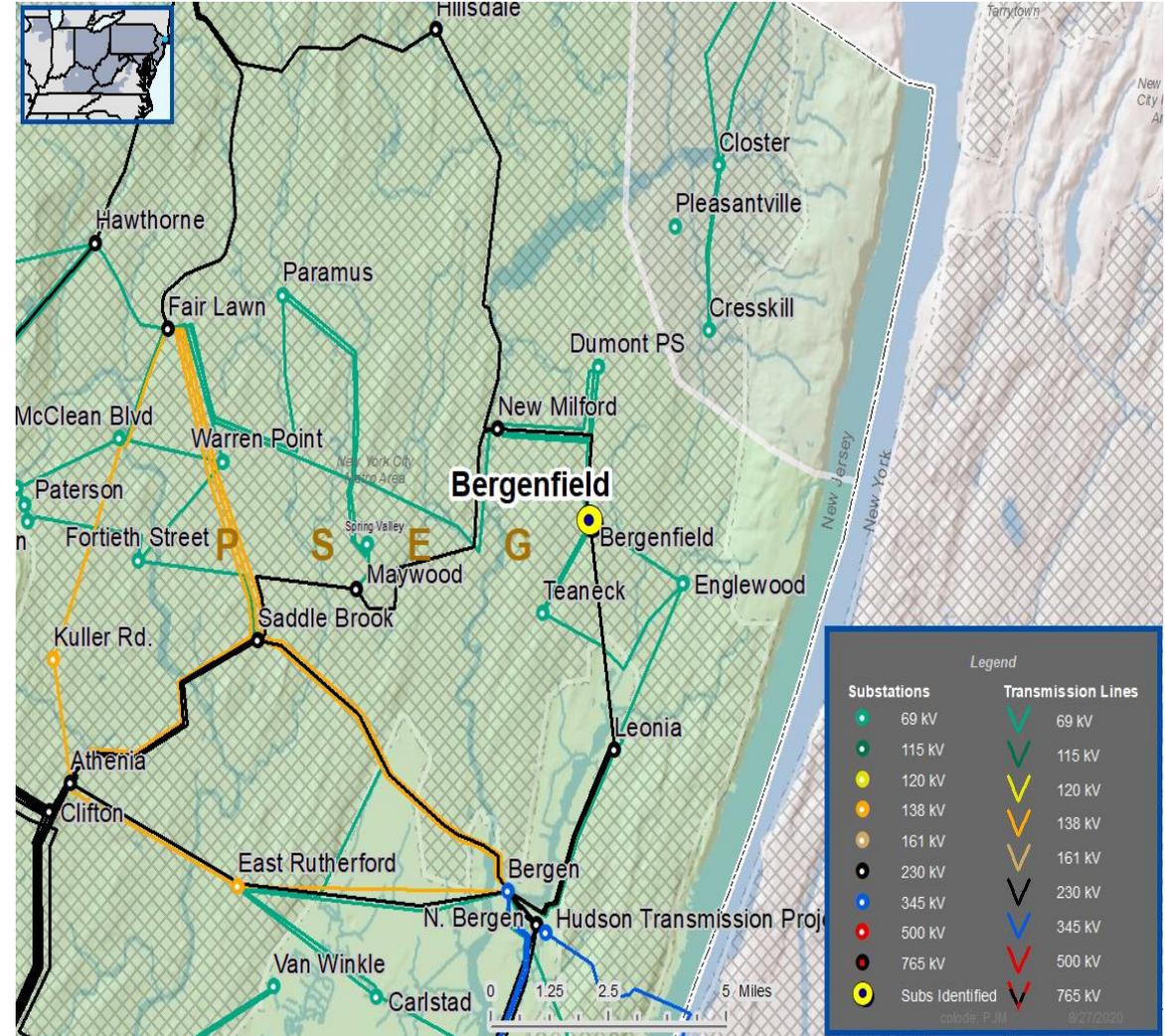
- Localized Load Growth & Contingency Overloads

Problem Statement:

Leonia is a station in the eastern Bergen County area at capacity of 120 MVA. Bergenfield is a station in the eastern Bergen County area at capacity of 60 MVA.

- Leonia serves roughly 34,800 customers with peak load of 145 MVA in 2019.
- Bergenfield serves roughly 19,200 customers with peak load of 72 MVA in 2019.

Model: 2020 Series 2025 Summer RTEP 50/50



Need Number: PSEG-2020-0009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 04/16/2021

Selected Solution:

- Construct a new 69/13kV station at Cliffs with three ~~(3)~~ (4) new 69kV circuits.
 - Install a 69kV station with two (2) 69/13kV transformers.
 - Transfer load from heavily loaded Leonia and Bergenfield to the new station.
 - Construct a 69kV network between Bergen, New Milford, Englewood and the new Station

Ancillary Benefits:

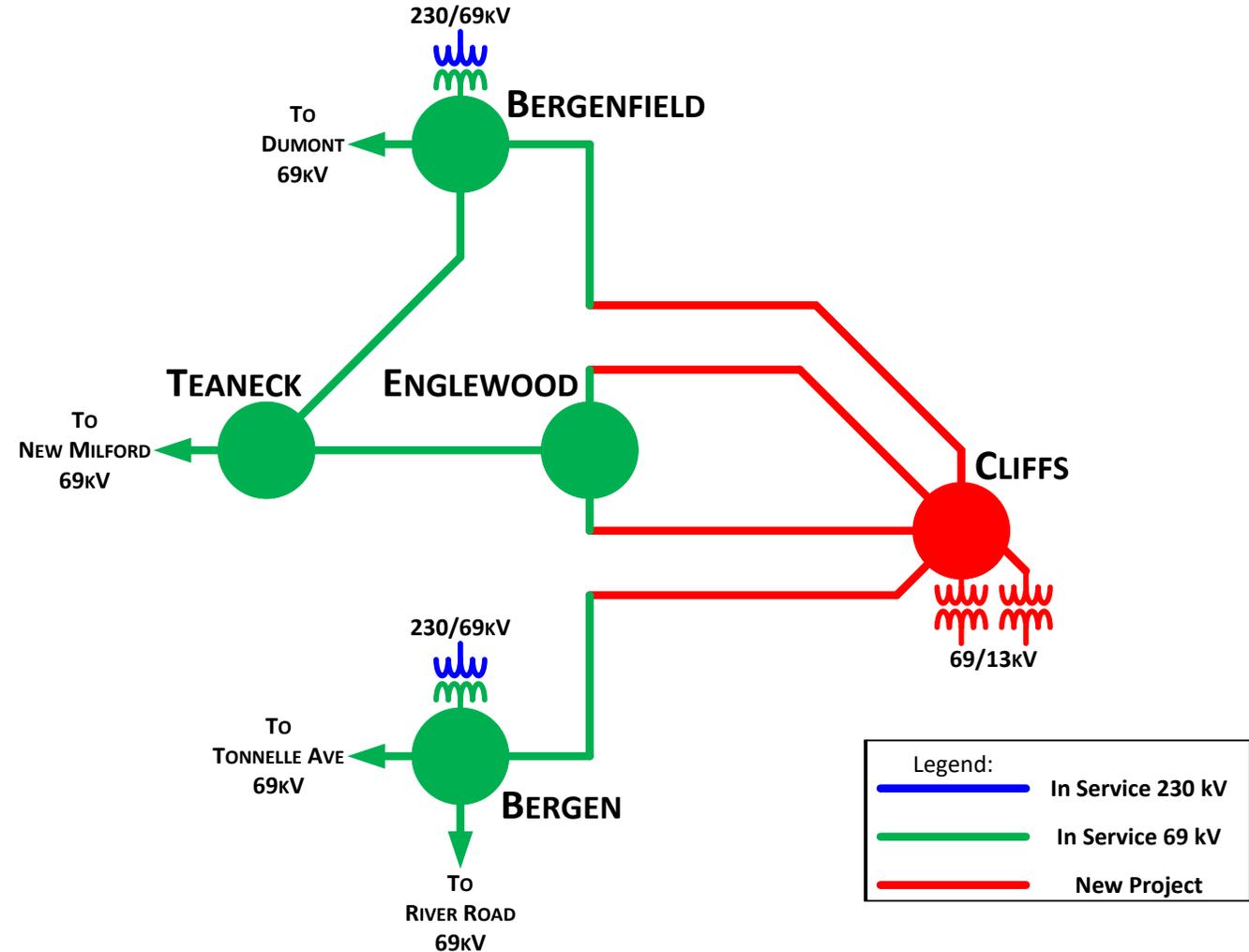
- Provides capacity increase and 13kV self healing loops.

Estimated Cost: \$99.2M

Projected In-Service: 05/2025

Supplemental Project ID: s2415

Project Status: Engineering and Planning





PSE&G Transmission Zone M-3 Process Downtown New Brunswick Area

Need Number: PSEG-2020-0012

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 06/28/2021

Previously Presented:

- Need Meeting 11/18/2020
- Solution Meeting 01/14/2021

Supplemental Project Driver:

- Storm Hardening
- Customer Service
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

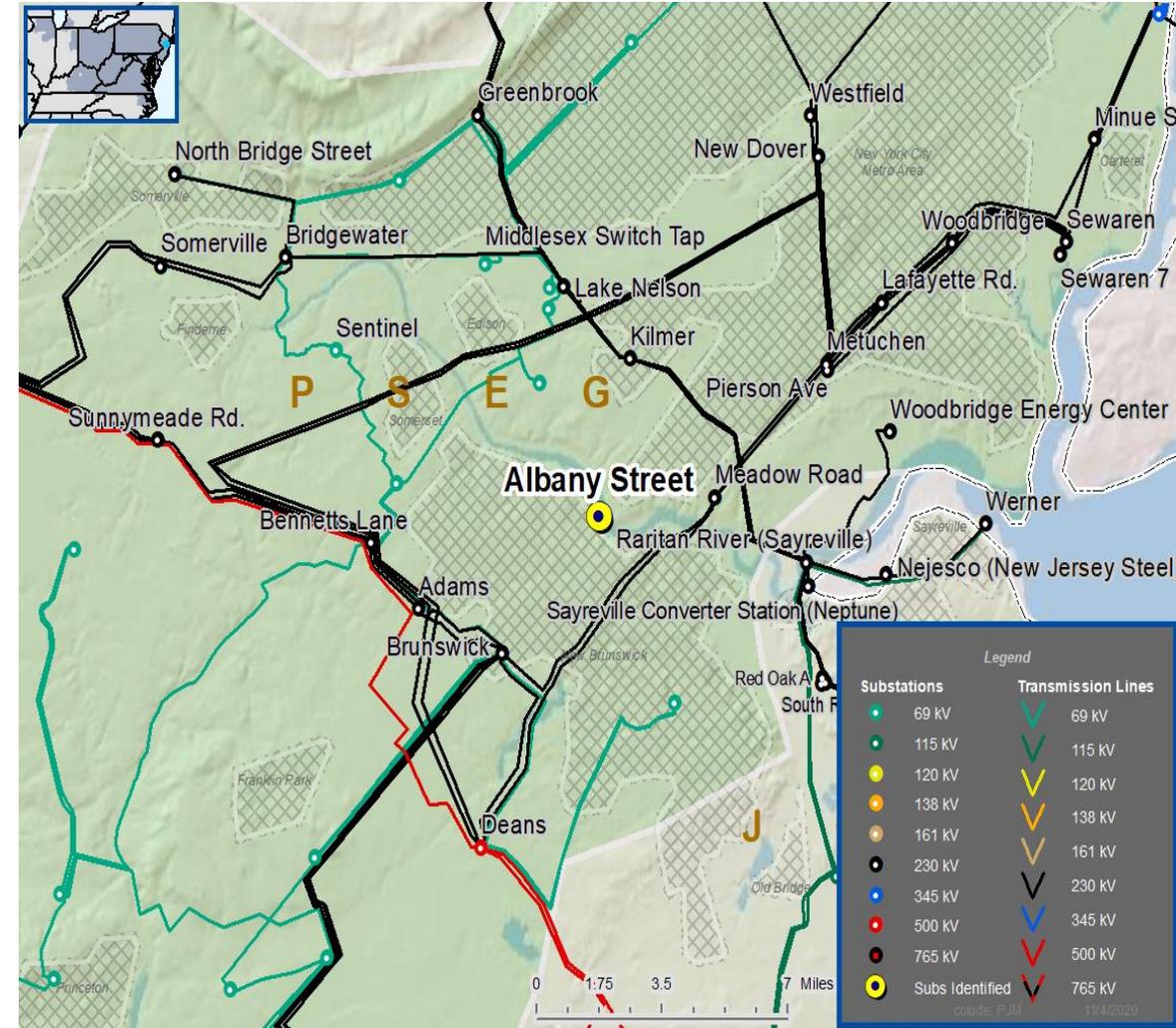
[PSE&G 2019 Annual Assumptions](#)

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

Problem Statement:

- Albany St is supplied by 26kV circuits with increasing performance problems.
 - Albany St. Station is at risk in a major storm event. Albany St. is surrounded by flood zone and is inaccessible for an extended period during a flooding event.
 - Additional capacity is needed in New Brunswick for a new large customer.
 - Over the past decade, the 26kV supply circuits have seen 17 momentary and 19 extended outages, with total duration of 395 hours.
 - Albany serves roughly 18 MVA of load.

Model: 2020 Series 2025 Summer RTEP 50/50



Need Number: PSEG-2020-0012

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 06/28/2021

Selected Solution:

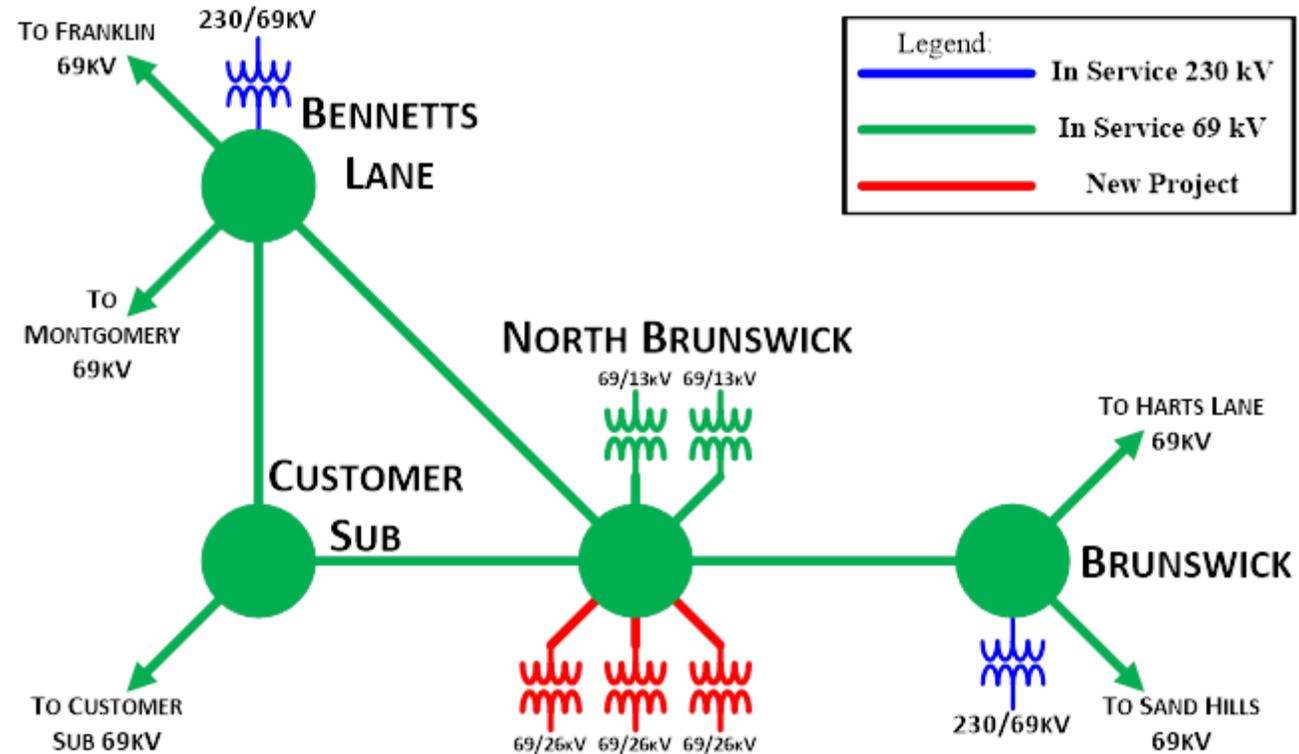
- Eliminate Albany St Station & Modify North Brunswick Area Station to Pick Up Existing Loads
 - Eliminate Albany St 26kV Substation.
 - Expand North Brunswick Area Station with three (3) 69/26kV transformers.
 - Provides additional capacity.

Estimated Cost: \$29.2M

Projected In-Service: 05/2024

Supplemental Project ID: s2482

Project Status: Engineering and Planning



Need Number: PSEG-2020-0013

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 06/28/2021

Previously Presented:

- Need Meeting 11/18/2020
- Solution Meeting 01/14/2021

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

- Localized Load Growth & Contingency Overloads

Problem Statement:

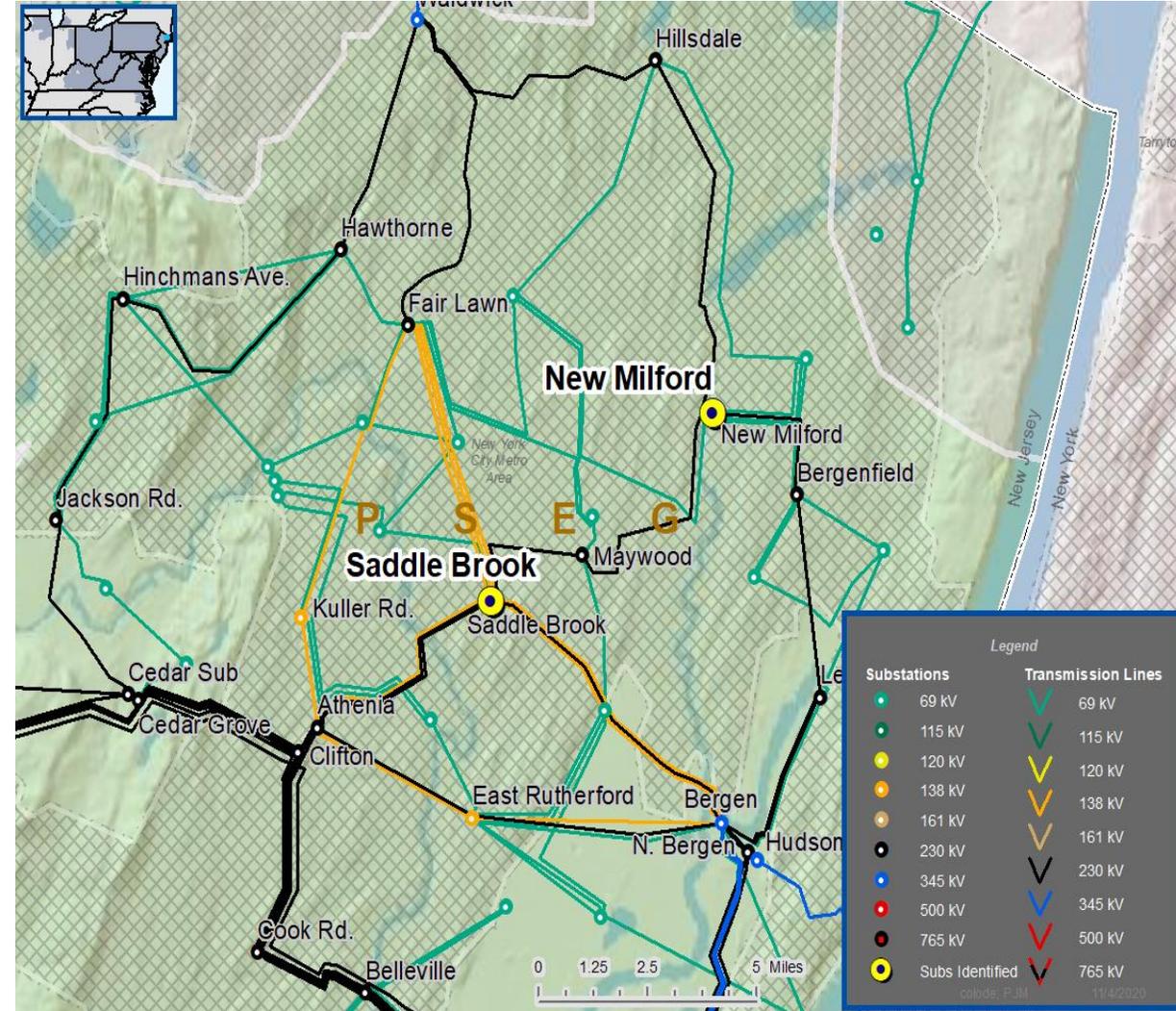
Saddle Brook 2H is a station in the Paramus area at capacity of 60 MVA.

- Saddle Brook serves roughly 20,124 customers with peak load of 67.6 MVA in 2019.

New Milford 1H and 2H is a station in the Paramus area at capacity of 120 MVA.

- New Milford serves roughly 33,472 customers with peak load of 131 MVA in 2019.

Model: 2020 Series 2025 Summer RTEP 50/50





PSEG Transmission Zone M-3 Process Paramus Area

Need Number: PSEG-2020-0013

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 06/28/2021

Selected Solution:

- Convert existing Spring Valley Rd 69/4kV substation to a 69/13kV substation
 - Replace three (3) 69/4kV transformers with two (2) 69/13kV transformers at Spring Valley Rd.
 - Transfer load from heavily loaded New Milford and Saddle Brook to new switchgear.

Ancillary Benefits:

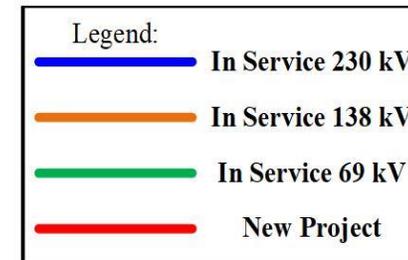
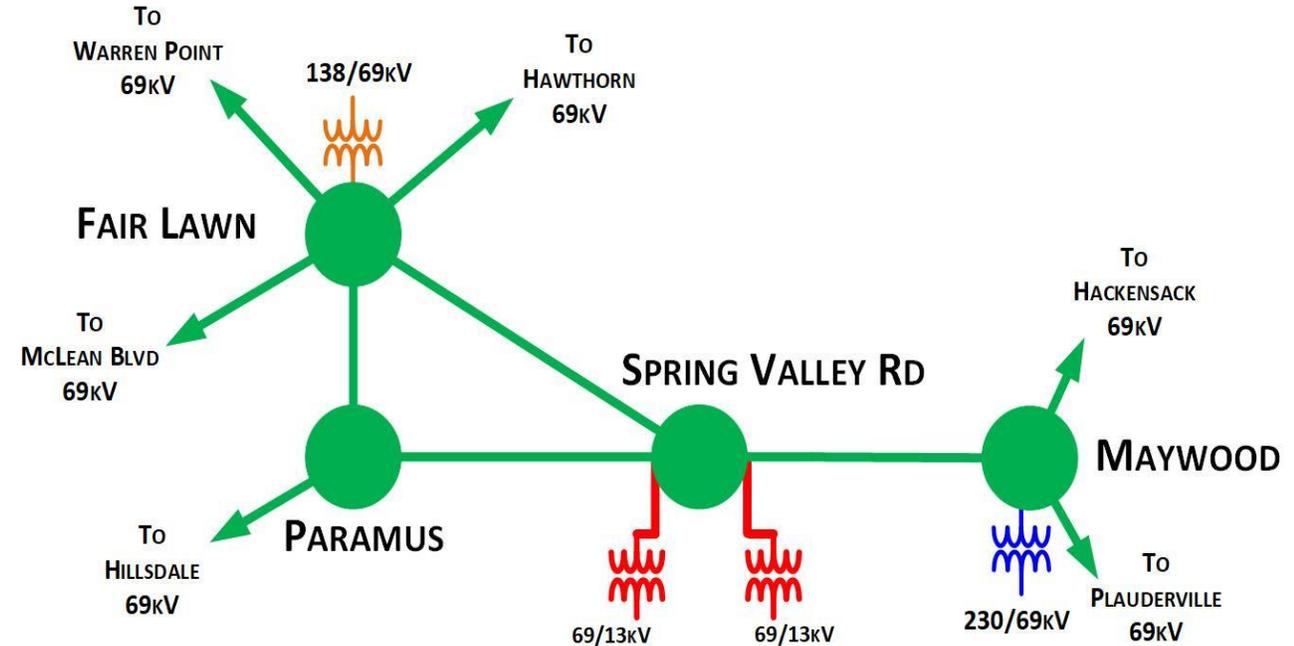
- Provides capacity increase and 13kV self healing loops.
- Facilitates future asset condition based retirements.

Estimated Cost: \$13.2M

Projected In-Service: 12/2024

Supplemental Project ID: s2483

Project Status: Engineering and Planning



Need Number: PSEG-2020-0010

Process Stage: Updated Submission of Supplemental Project for inclusion in the Local Plan 9/27/2023

Previously Presented:

- Needs Meeting 11/18/2020
- Solutions Meeting 2/16/2021
- Local Plan Submission 6/28/2021
- Project Update Presented 2/16/2023

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

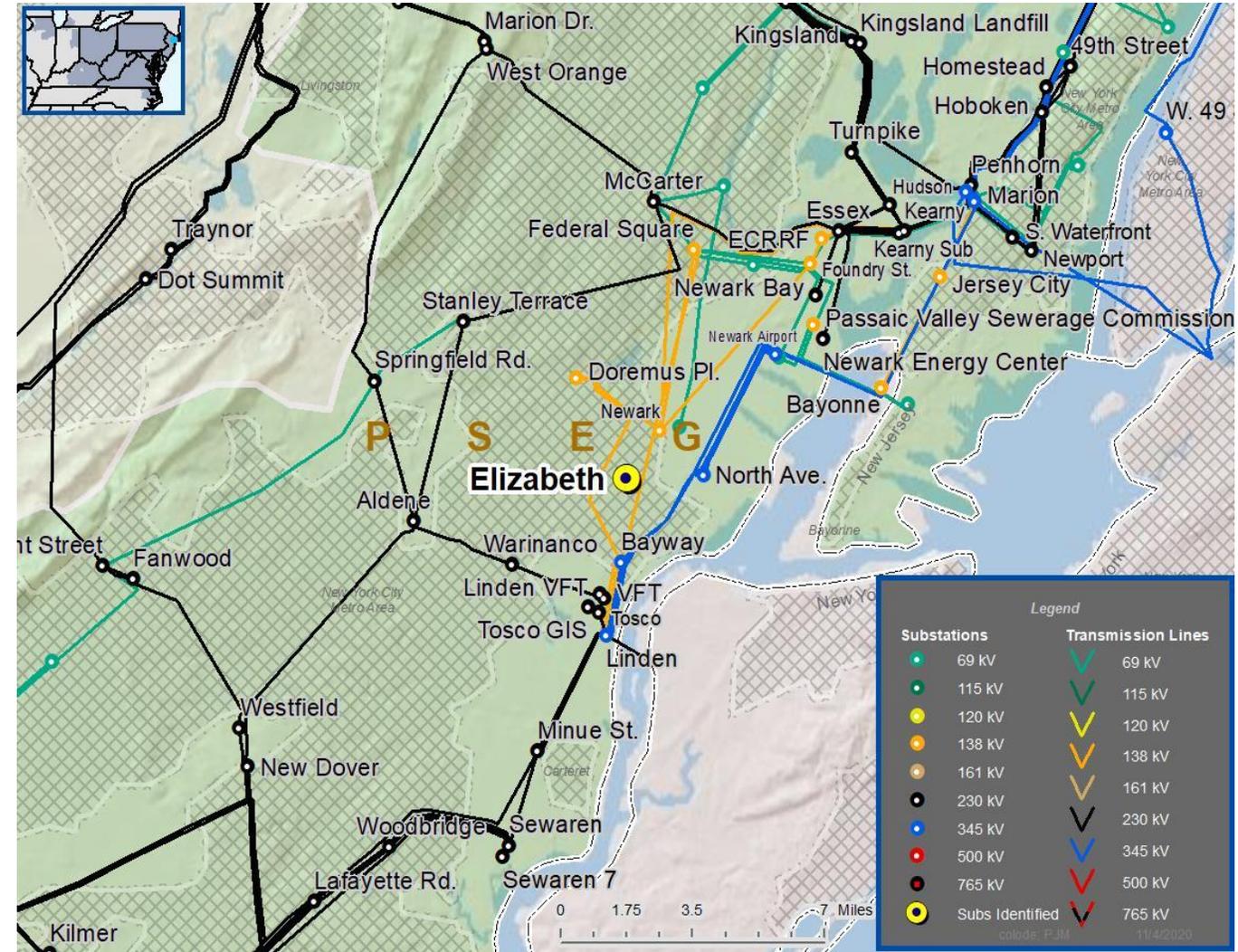
[August 2017 26kV to 69kV PSE&G Presentation](#)

- Equipment Reliability and Condition Assessment
- Asset Risk Model

Problem Statement:

- Elizabeth Substation is supplied by 26kV circuits with increasing performance problems.
 - Over the past decade, the four 26kV supply circuits have seen 11 momentary and 36 extended outages, with total duration of 1147 hours.
 - Station equipment at Elizabeth has been in service since 1914 and needs to be addressed.
 - Historical flooding has compromised some station structures.
 - Elizabeth serves roughly 8,500 customers and 28.8 MVA of load.

Model: 2020 Series 2025 Summer RTEP 50/50



Need Number: PSEG-2020-0010

Process Stage: Updated Submission of Supplemental Project for inclusion in the Local Plan 9/27/2023

Selected Solution:

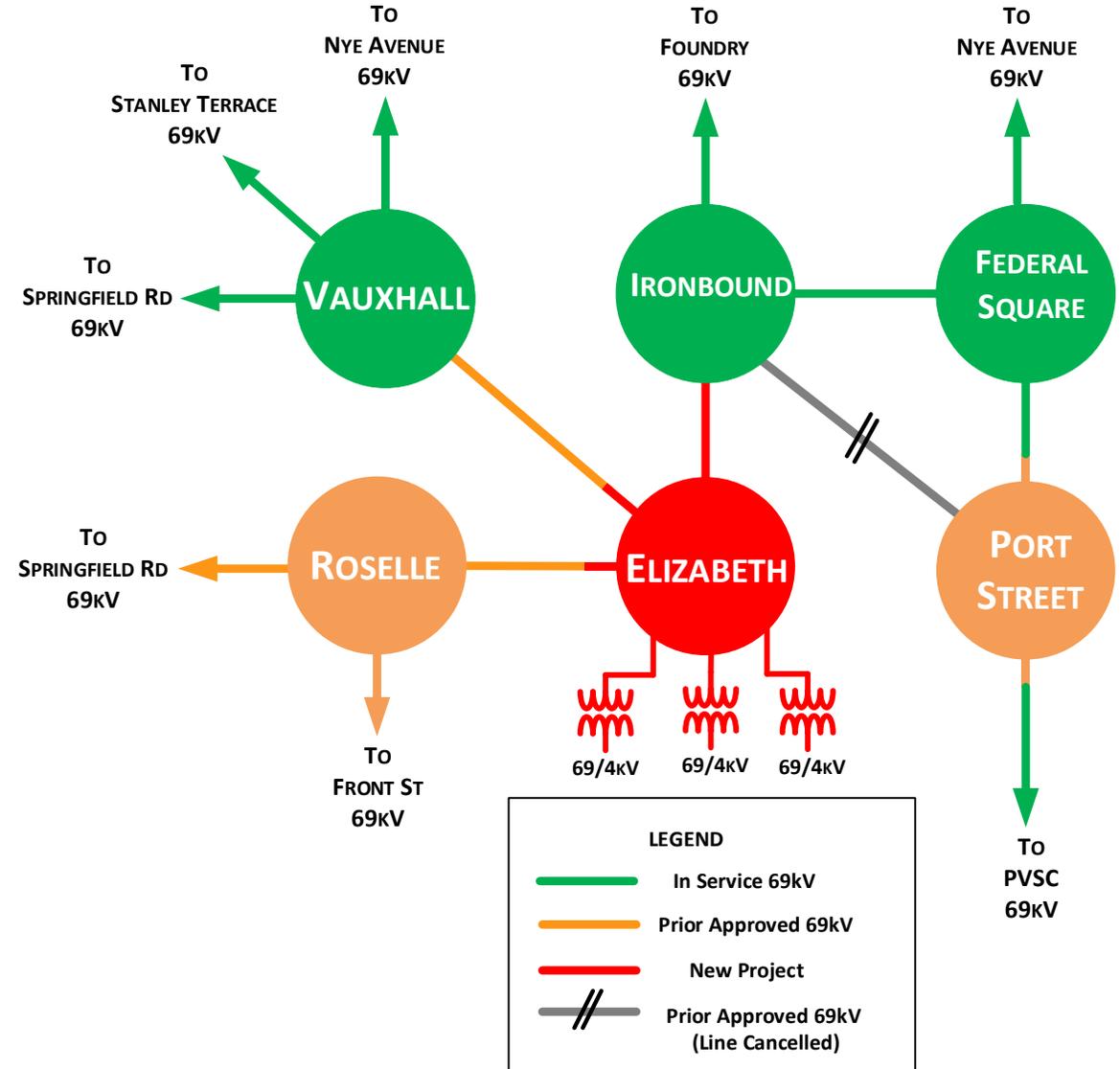
- Convert existing Elizabeth 26/4kV substation to a 69/4kV substation
 - Purchase property to accommodate new construction.
 - Install 69kV substation with three (3) 69/4kV transformers.
 - Cut and loop Roselle -Vauxhall 69kV circuit into new location.
 - Construct a circuit to Ironbound 69kV
 - Eliminate s0934.4 (69kV line between Ironbound and Port Street)

Estimated Cost: \$97.8M

Projected In-Service: 5/31/2025

Supplemental Project ID: s2491

Project Status: Under Construction





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

Need Number: PSEG-2020-0011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 07/26/2021

Previously Presented:

- Need Meeting 11/18/2020
- Solution Meeting 4/14/2021

Supplemental Project Driver:

- Storm Hardening
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

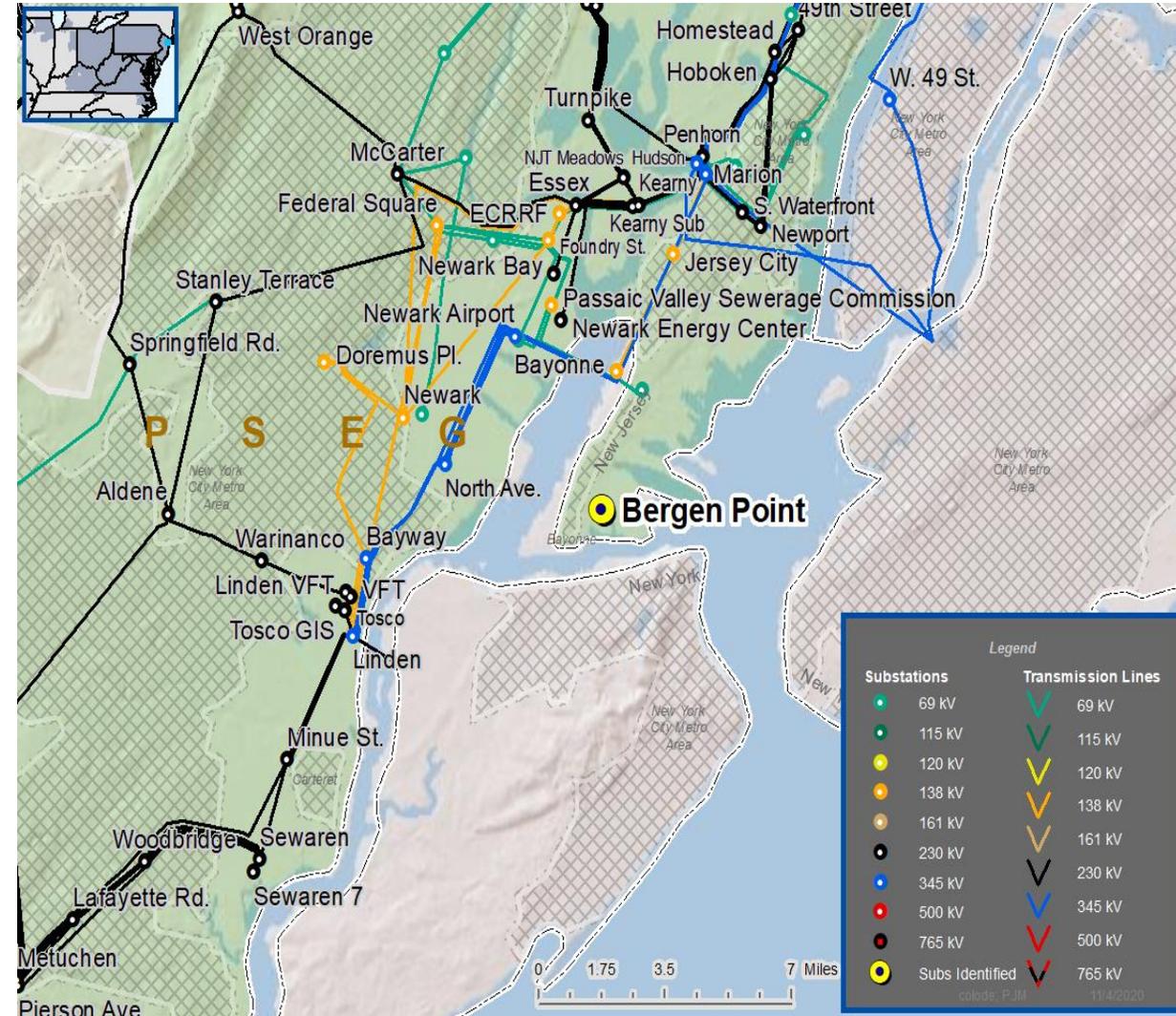
[August 2017 26kV to 69kV PSE&G Presentation](#)

- Equipment Reliability and Condition Assessment
- Asset Risk Model

Problem Statement:

- Constable Hook 26kV Station is at risk of flood in a major storm event. Equipment at Constable Hook station is currently below FEMA 100 year flood elevations.
- Bergen Point Substation is supplied by 26kV circuits with increasing performance problems.
 - Over the past decade, the 26kV supply circuits have seen 13 momentary and 26 extended outages, with total duration of 315 hours.
 - Station equipment at Bergen Point has been in service since 1929 and needs to be addressed.
 - Physical condition of the building has deteriorated.
 - Elizabeth serves roughly 11,3015 customers and 24.3 MVA of load.

Model: 2020 Series 2025 Summer RTEP 50/50





PSEG Transmission Zone M-3 Process Bergen Neck Area

Need Number: PSEG-2020-0011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 07/26/2021

Selected Solution:

- Construct a new Constable Hook 69/13kV substation in the Bergen Neck Area to feed Bergen Point load and provide for future load growth.
 - Eliminate 26kV and 4kV equipment at Bergen Point.
 - Construct 69KV ring bus class H on new property with two (2) 69/13kV transformers and three (3) line positions.
 - Construct a primarily underground 69kV network between Greenville, Bayonne, Fairmount, and Constable Hook.

Ancillary Benefits:

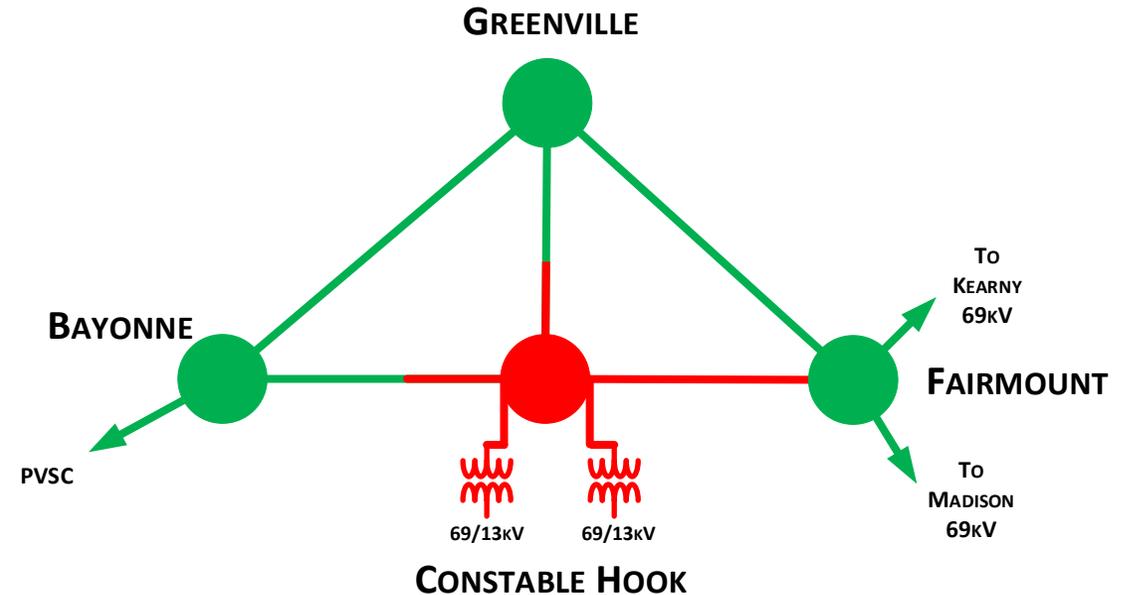
- Provides capacity increase for expected load growth in former industrial area and the MOT.

Estimated Cost: \$116M

Projected In-Service: 05/2026

Supplemental Project ID: s2537

Project Status: Engineering and Planning



Need Number: PSEG-2021-0001
Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 09/10/2021

Previously Presented:

- Need Meeting 02/09/2021
- Solutions Meeting 03/09/2021

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2021 Annual Assumptions](#)

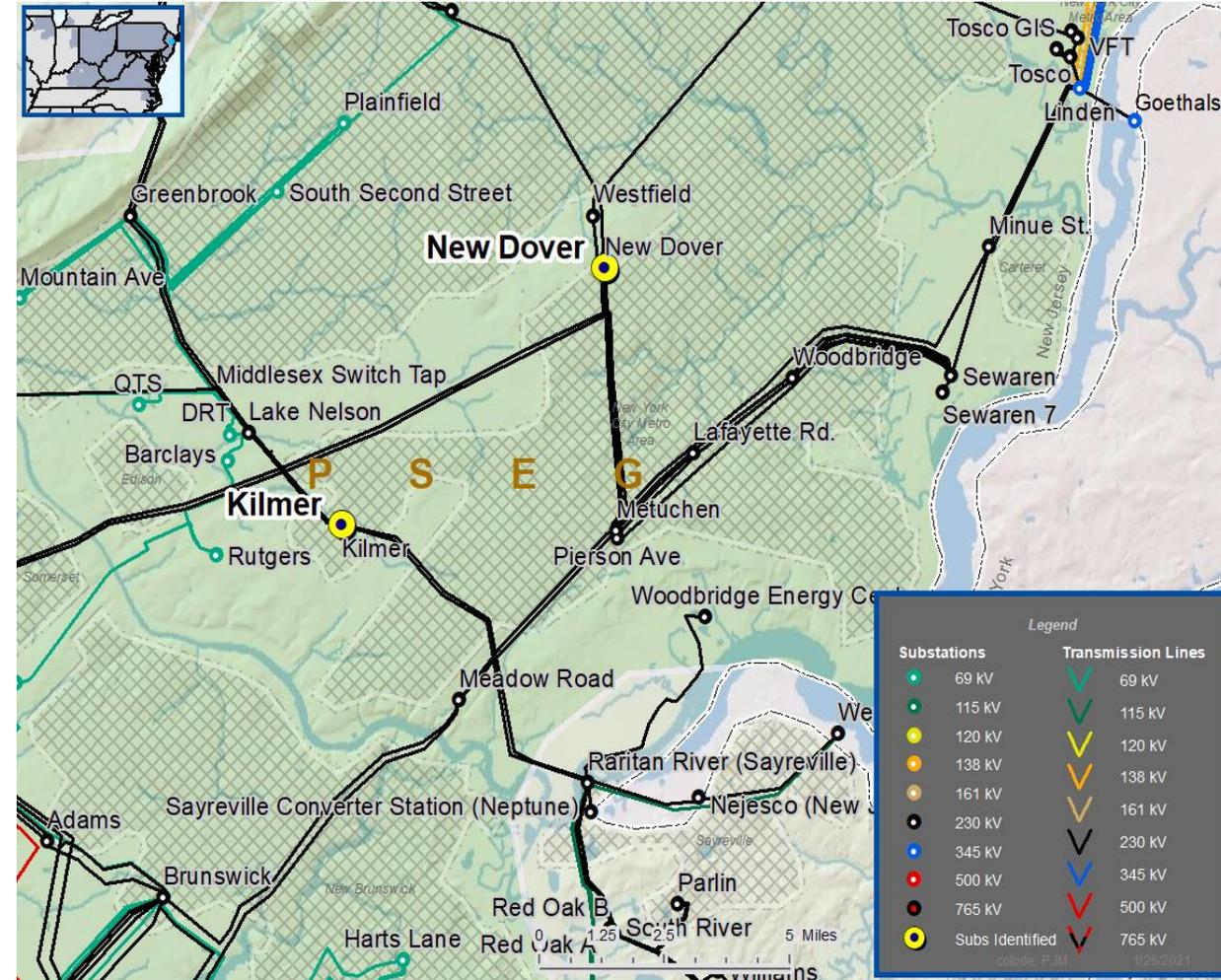
- Localized Load Growth & Contingency Overloads

Problem Statement:

Kilmer is a station in the Edison area at capacity of 120 MVA. New Dover is a station in the Edison area at capacity of 60 MVA.

- Kilmer serves roughly 24,200 customers with a peak load of 130 MVA in 2019.
- New Dover serves roughly 16,300 customers with a peak load of 75 MVA in 2019.

Model: 2020 Series 2025 Summer RTEP 50/50



Need Number: PSEG-2021-0001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 09/10/2021

Selected Solution:

- New 230kV Substation in Edison Area:
 - Install a 230kV ring bus with two (2) 230/13kV transformers.
 - Cut and loop the New Dover-Metuchen 230kV line in to the 230kV bus.
 - Transfer load from heavily loaded New Dover and Kilmer to the new station.

Ancillary Benefits:

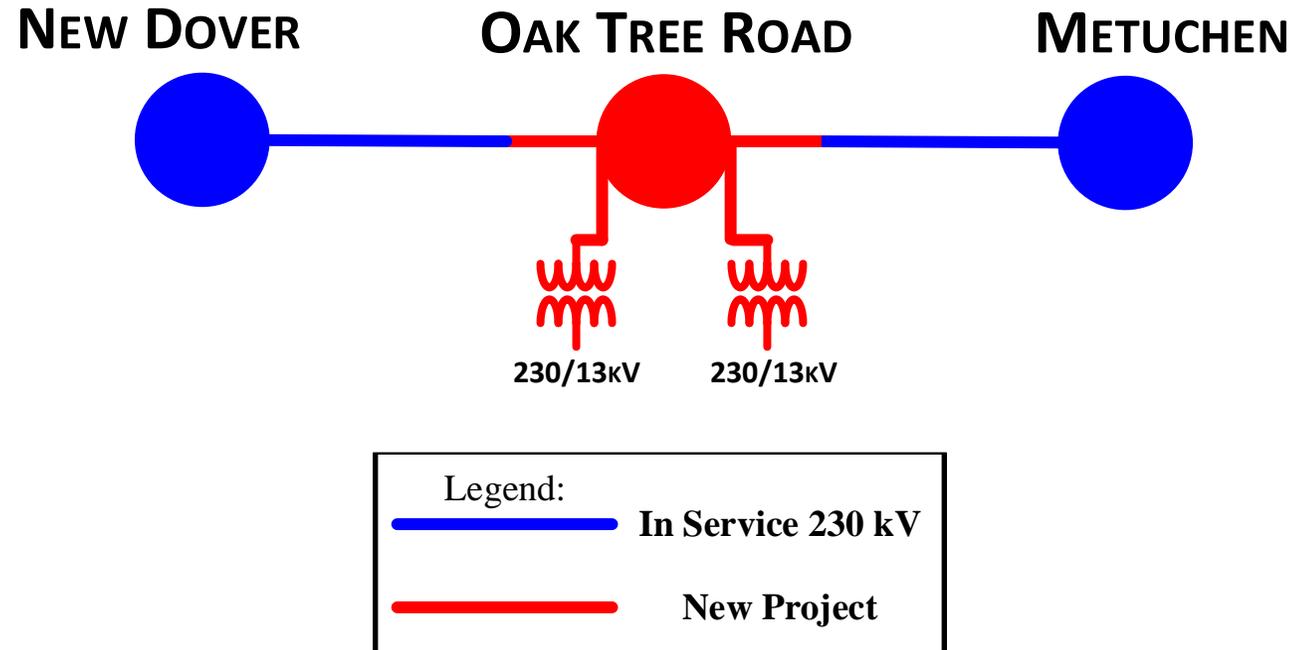
- Decreases the amount of exposure and increases the reliability of the 230kV circuit.

Estimated Cost: \$48.0M

Projected In-Service: 05/2025

Supplemental Project ID: s2564

Project Status: Engineering and Planning



Need Number: PSEG-2021-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 09/10/2021

Previously Presented:

- Need Meeting 04/14/2021
- Solution Meeting 05/20/2021

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2021 Annual Assumptions](#)

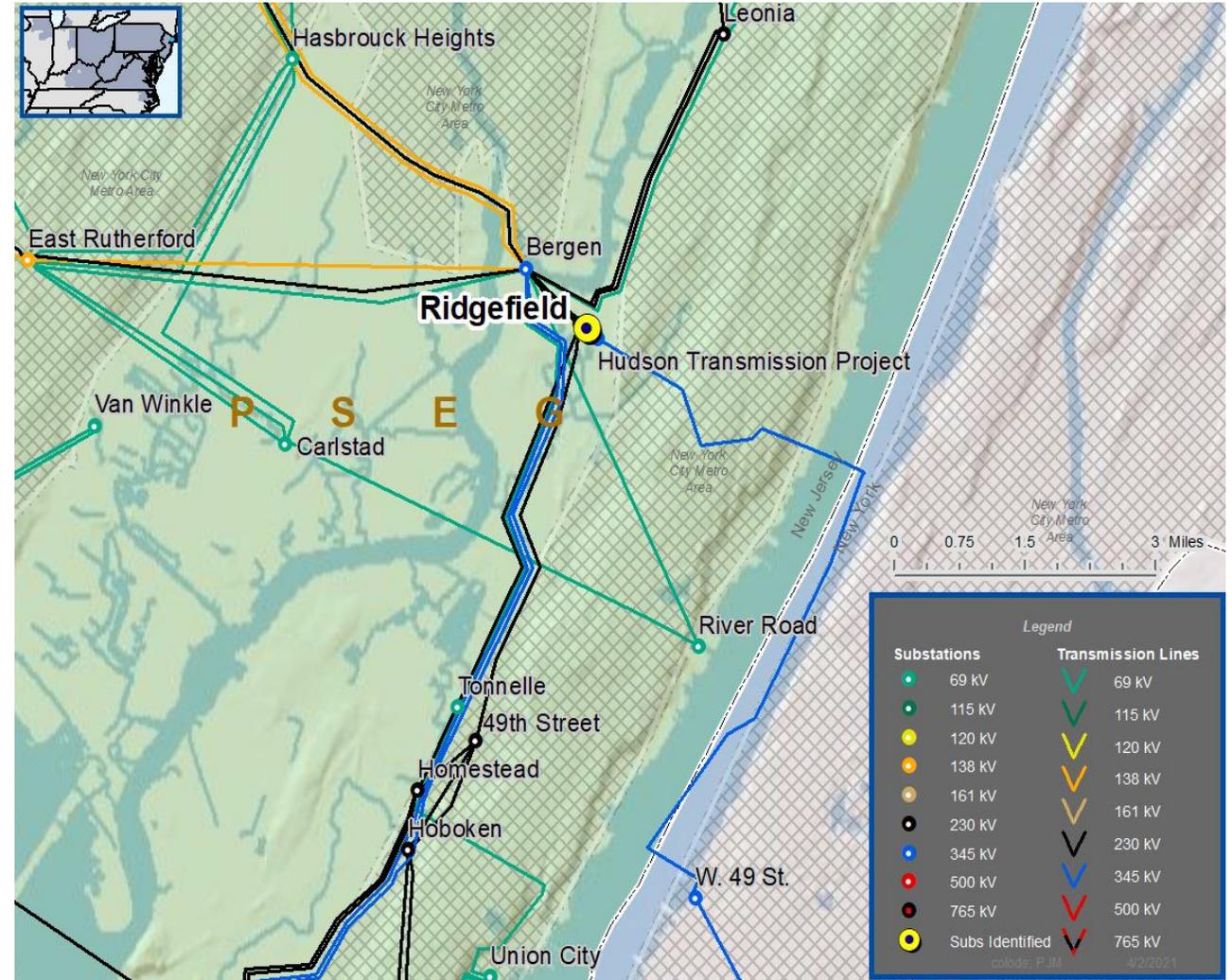
- Localized Load Growth & Contingency Overloads

Problem Statement:

Ridgefield 1H is a station in Bergen County operating above its capacity of 60 MVA.

- Ridgefield Substation 1H serves roughly 23,000 customers with a load of 66 MVA in 2020.

Model: 2020 Series 2025 Summer RTEP 50/50





Need Number: PSEG-2021-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 09/10/2021

Proposed Solution:

- New 69-13kV Station at new property in Fairview N.J.
 - Purchase Property to accommodate new construction.
 - Install a 69kV station with two (2) 69-13kV transformers.
 - Construct a 69kV network in the Southeastern Bergen County area by cutting and looping two existing lines into the station.
 - Transfer load from heavily loaded Ridgefield to the new station.

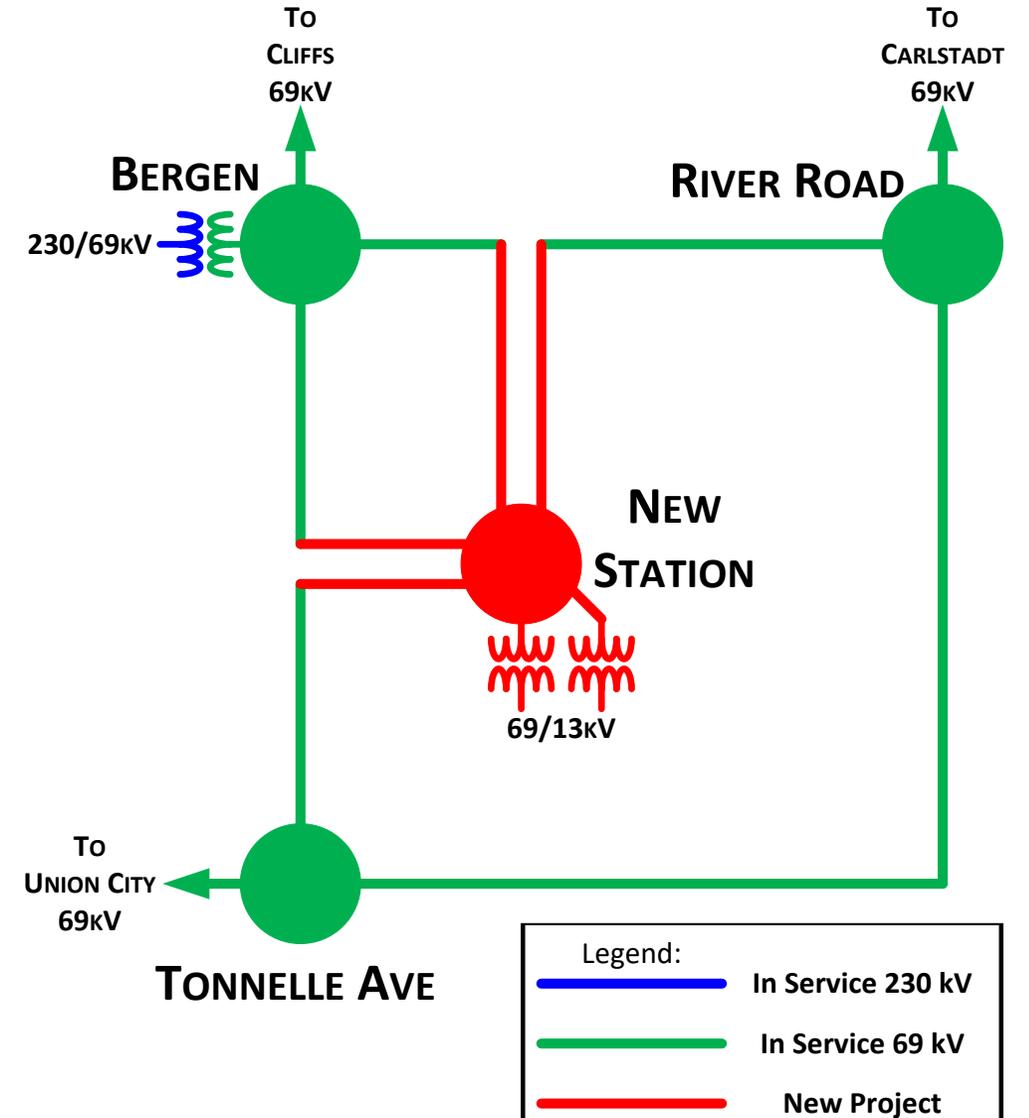
Estimated Cost: \$69.8M

Projected In-Service: 05/2026

Supplemental Project ID: s2568

Project Status: Engineering and Planning

PSE&G Transmission Zone M-3 Process Fairview Area



Need Number: PSEG-2020-0007

Process Stage:

Original Submission of Supplemental Project for inclusion in the Local Plan 11/30/2020

Updated Submission of Supplemental Project for inclusion in the Local Plan 11/12/2021

Previously Presented:

- Need Meeting 09/01/2020
- Solution Meeting 10/06/2020

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

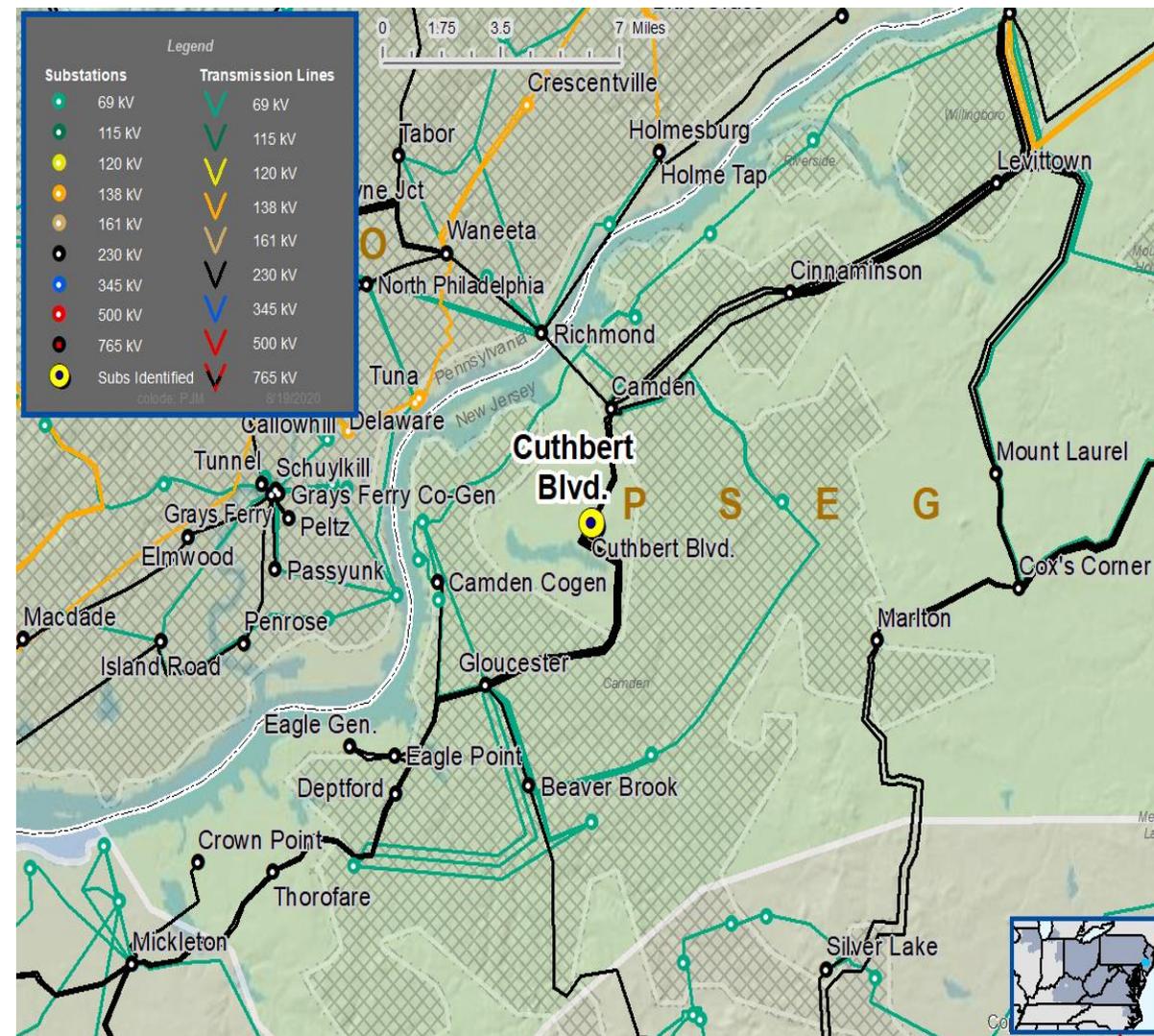
- Localized Load Growth & Contingency Overloads

Problem Statement:

Cuthbert Blvd is a station in the Northern Camden area at capacity of 120MVA.

- Cuthbert Blvd serves roughly 33,000 customers with a peak load of 143MVA in 2019.

Model: 2020 Series 2025 Summer RTEP 50/50





PSE&G Transmission Zone M-3 Process Northern Camden County Area

Need Number: PSEG-2020-0007

Process Stage:

Original Submission of Supplemental Project for inclusion in the Local Plan 11/30/2020

Updated Submission of Supplemental Project for inclusion in the Local Plan 11/12/2021

Selected Solution:

- New 230-13kV Station along the existing ROW in Pennsauken
 - Install a 230kV station with two (2) 230/13kV transformers.
 - Cut and loop the Camden-Cinnaminson 230kV line into the 230kV bus.
 - Transfer load from heavily loaded Cuthbert Blvd to the new station.

Ancillary Benefits:

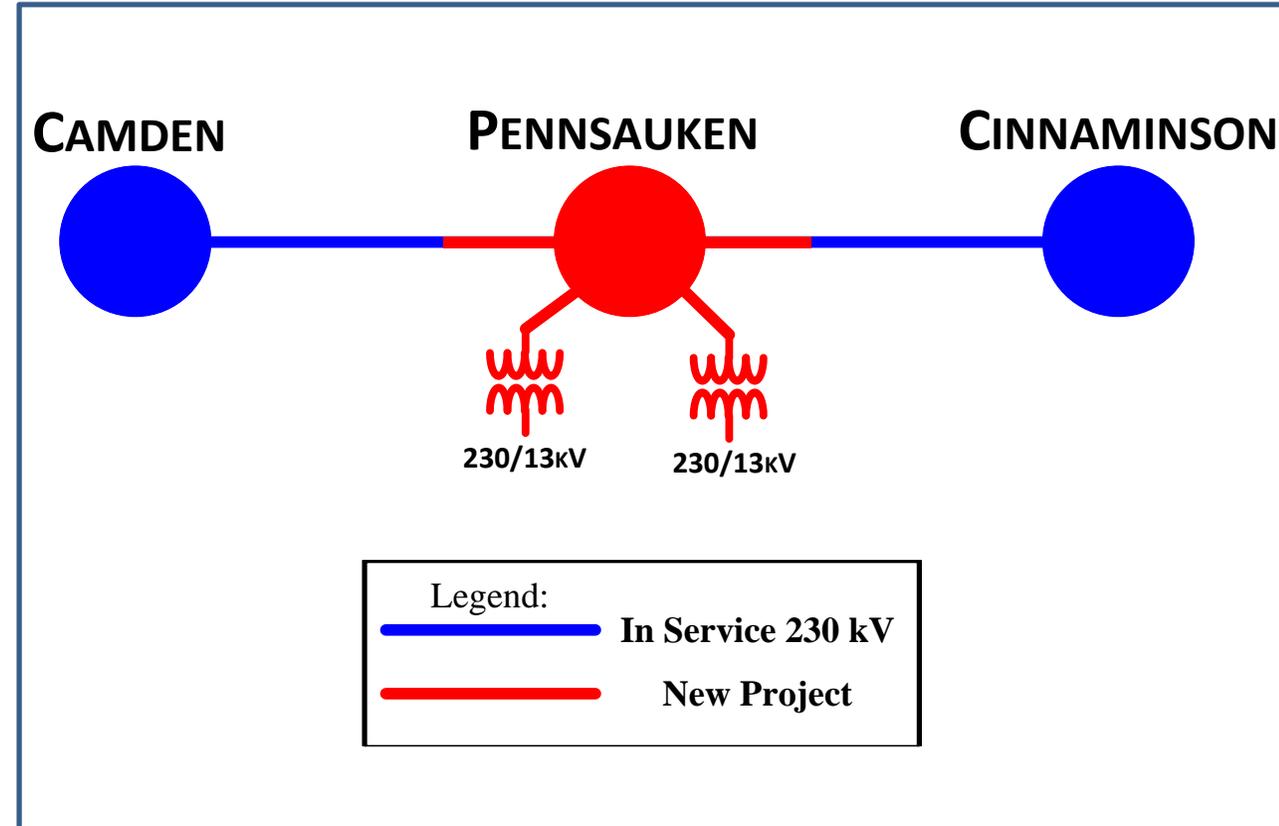
- Does not require any additional construction of new transmission circuits due to close proximity to the 230kV Right of Way.
- Decreases the amount of exposure and increases the reliability of the 230kV circuit.

Estimated Cost: \$48.6M

Projected In-Service: 05/2024

Supplemental Project ID: s2385

Project Status: Engineering and Planning



Revision History

2/10/2021 – V1 – Local Plan for s2384 posted to pjm.com

4/16/2021 – V2 – Updated the local plan for sB2413 and sB2415

4/19/2021 – V2 – Updated revision history to corrected project supplemental project numbers

6/28/2021 – V3 – Updated the local plan for s2482, s2482 and s2491, Minor correction on slide #5 and #7

7/26/2021 – V4 – Updated the local plan for s2537

9/15/2021 – V5 – Updated the local plan for s2564 and s2568

11/12/2021 – V6 Updated the local plan for s2385

09/27/2023 –V7 – Updated scope of PSEG-2020-0010