

PSEG 2020

Submission of Supplemental Projects for Inclusion in the Local Plan

Need Number: PSEG-2020-0001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/31/2020

Previously Presented:

- Need Meeting 4/14/2020
- Solutions Meeting 6/02/2020

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

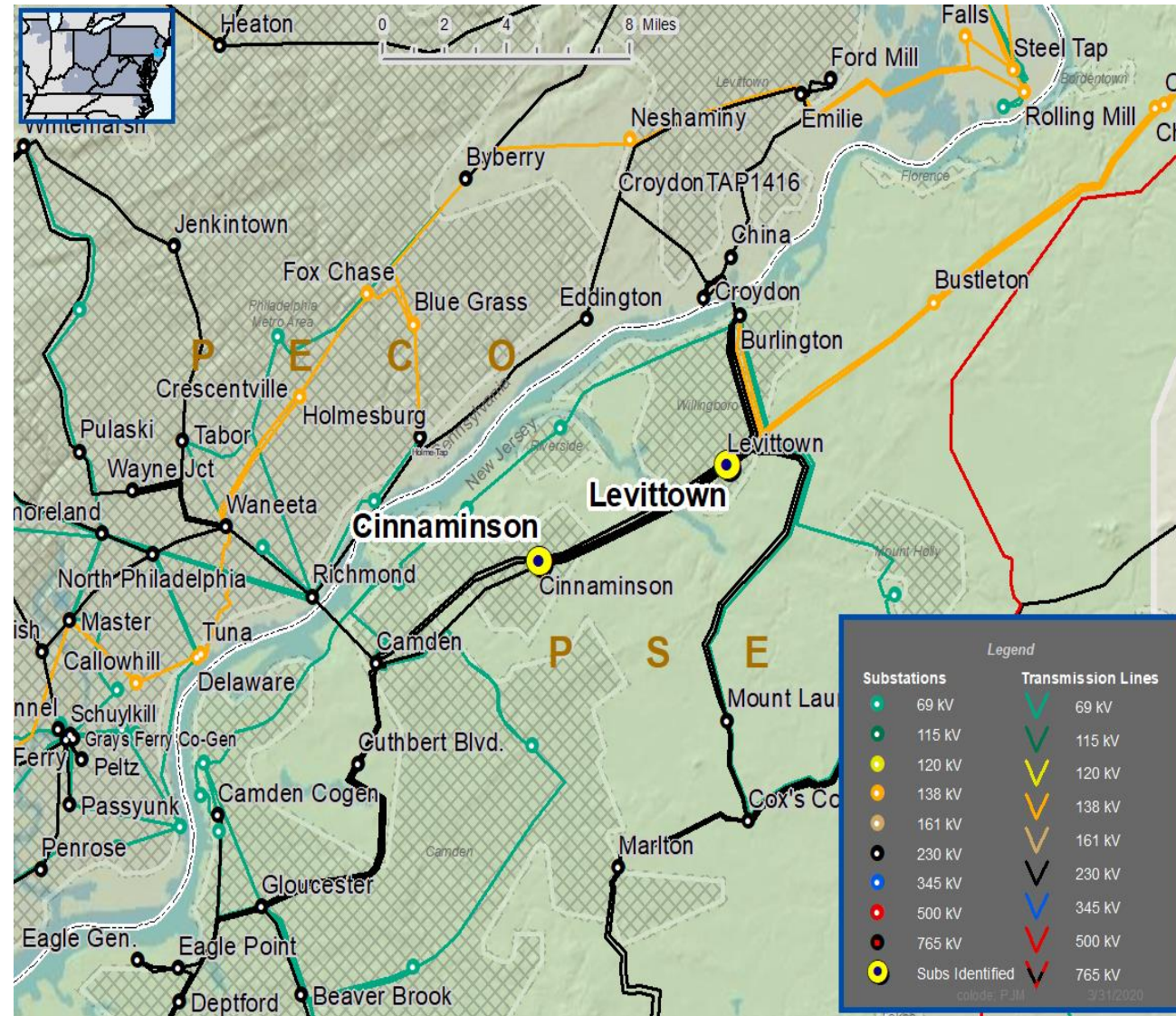
- Localized Load Growth & Contingency Overloads

Problem Statement:

Cinnaminson and Levittown are stations in the Northern Camden/Southern Burlington area respectively at capacity of 120 MVA each. The stations are currently at capacity.

- Cinnaminson serves roughly 20,500 customers with peak load of 121 MVA in 2019.
- Levittown serves roughly 34,000 customers with peak load of 126 MVA in 2019.

Model: 2019 Series 2024 Summer RTEP 50/50





PSEG Transmission Zone M-3 Process Northern Burlington County Area

Need Number: PSEG-2020-0001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 8/31/2020

Selected Solution:

- New 230kV Station in Rancocas
 - Install a 230kV station on existing Right of Way with two (2) 230/13kV transformers.
 - Cut and loop the Camden-Burlington 230kV line in to the 230kV bus.
 - Transfer load from heavily loaded Cinnaminson and Levittown to the new station.

Ancillary Benefits:

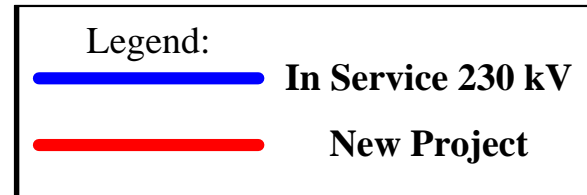
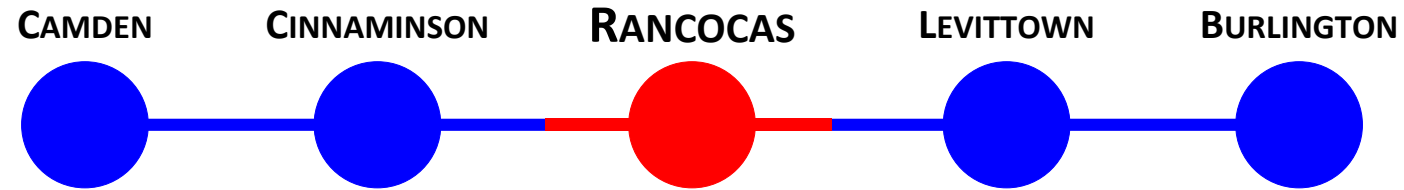
- Decreases the amount of exposure and increases the reliability of the 230kV circuit. Line exposure to a fault is halved by the cut and loop in to the new station.

Estimated Cost: \$39M

Projected In-Service: 05/2024

Supplemental Project ID: s2276

Project Status: Engineering and Planning



Need Number: PSEG-2020-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/12/2020

Previously Presented:

- Need Meeting 7/07/2020
- Solutions Meeting 8/04/2020

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

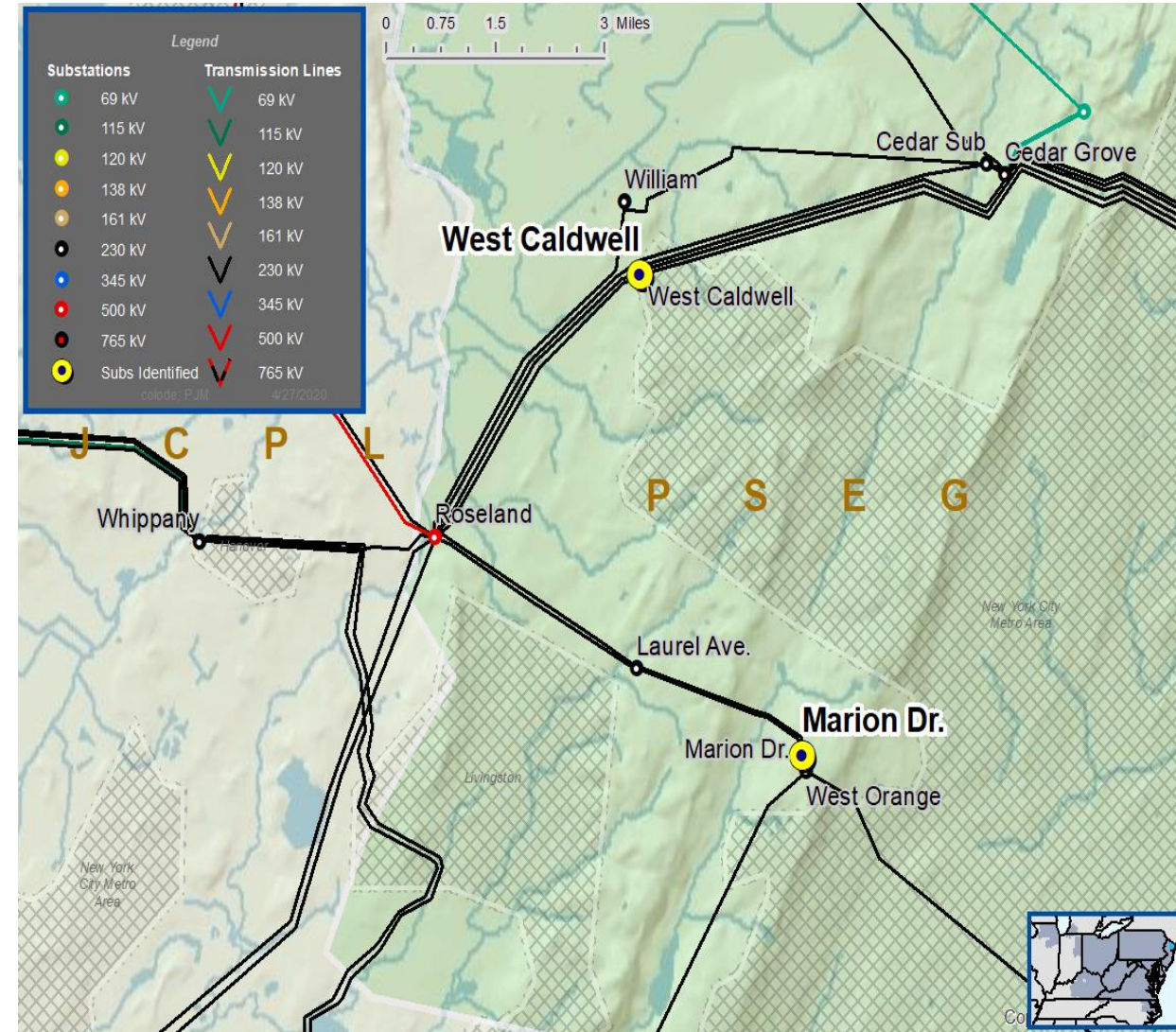
- Localized Load Growth & Contingency Overloads

Problem Statement:

West Caldwell is a station in the Western Essex County area at capacity of 120 MVA. Marion Drive is a station in the Western Essex County area at capacity of 60 MVA.

- Marion Drive serves roughly 18,200 customers with a peak load of 62 MVA in 2019.
- West Caldwell serves roughly 18,000 customers with a peak load of 131 MVA in 2019.

Model: 2019 Series 2024 Summer RTEP 50/50





PSE&G Transmission Zone M-3 Process Western Essex County Area

Need Number: PSEG-2020-0002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/12/2020

Selected Solution:

- New 230-13kV Station in Livingston
 - Install a 230 kV station with two (2) 230/13kV transformers.
 - Cut and loop the Roseland-Laurel Ave 230kV line into the 230kV bus.
 - Transfer load from heavily loaded Marion Drive and West Caldwell to the new station.
 - **Estimated Cost:** \$29.8M

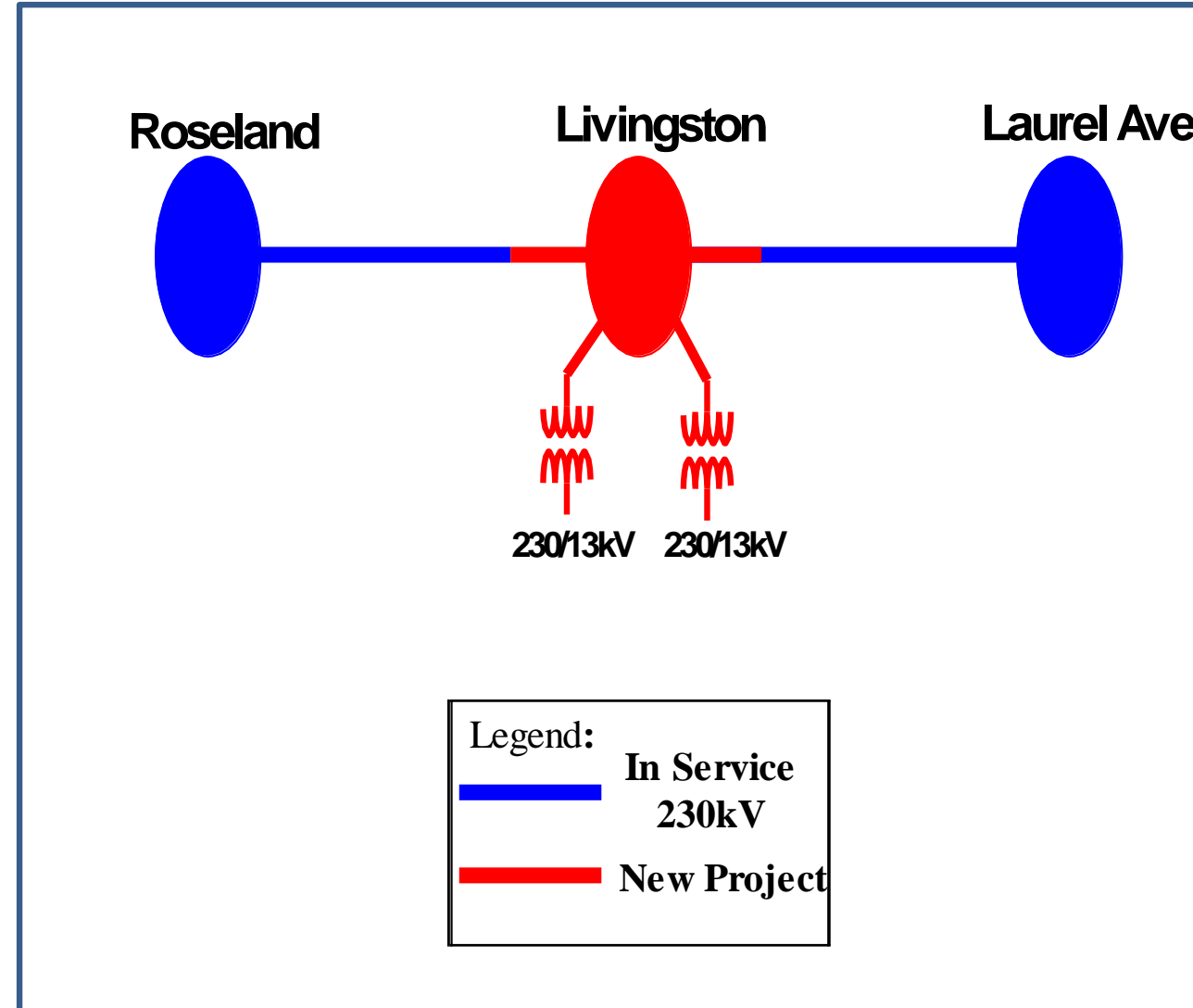
Ancillary Benefits:

- Does not require an extension of the existing 230kV circuits due to close proximity to the 230kV Right of Way.
- Decreases the amount of exposure and increases the reliability of the 230kV circuit.

Projected In-Service: 12/2024

Supplemental Project ID: s2316

Project Status: Engineering & Planning



Need Number: PSEG-2020-0003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/12/2020

Previously Presented:

- Need Meeting 5/21/2020
- Solutions Meeting 8/13/2020

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

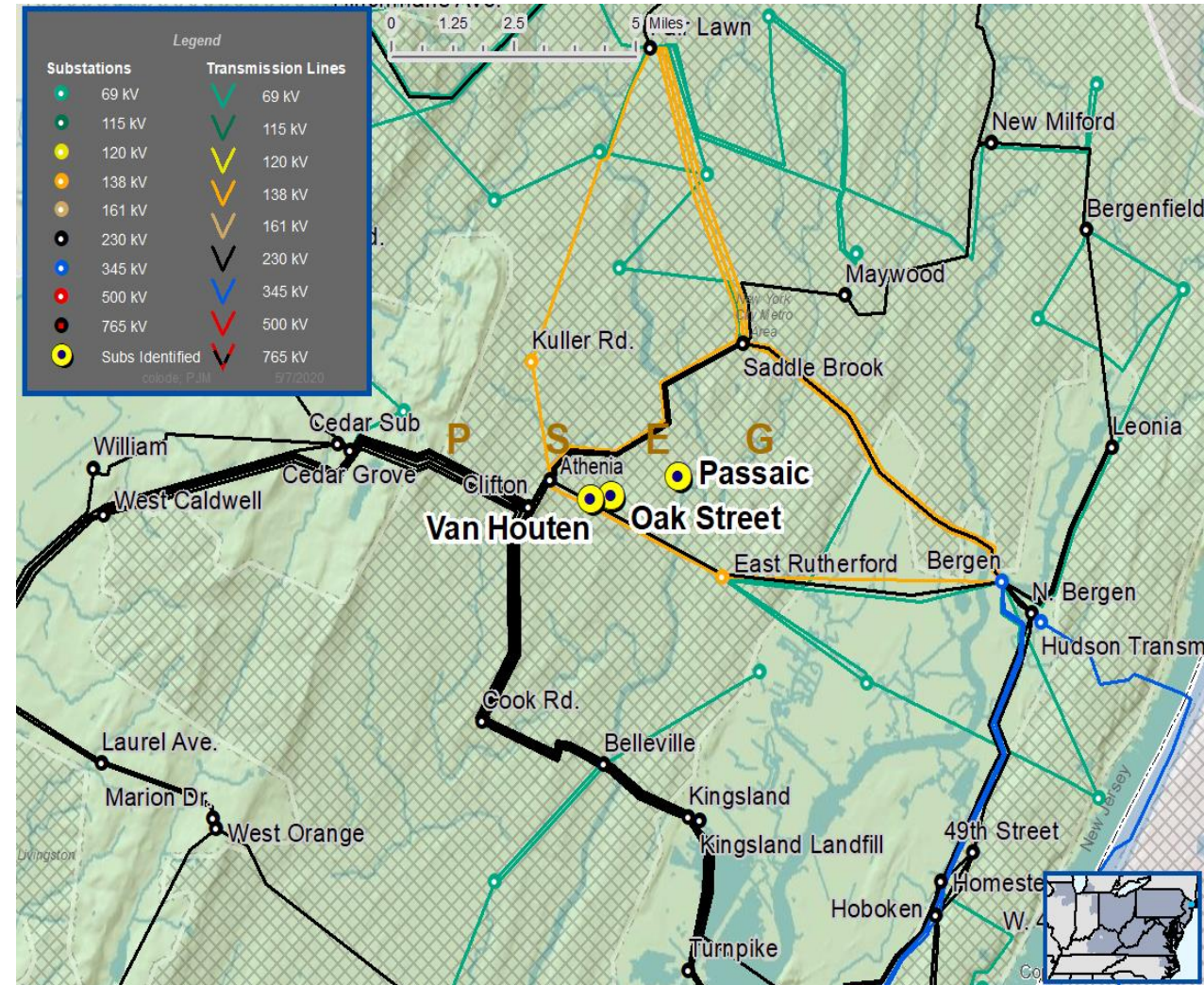
[August 2017 26kV to 69kV PSE&G Presentation](#)

- Equipment Reliability and Condition Assessment
- Asset Risk Model

Problem Statement:

- Oak Street is supplied by two 26kV circuits with increasing performance problems. The station is configured with a normally open 26kV bus and normally open 4kV bus. The station is currently not designed for N-1.
 - Over the past decade, the 26kV supply circuits have seen 14 momentary and 10 extended outages, with total duration of 143 hours.
- Station equipment at Oak Street has been in service since 1961 and needs to be addressed.
- Oak Street serves roughly 7,843 customers and 16.8 MVA of load.

Model: 2019 Series 2024 Summer RTEP 50/50



Need Number: PSEG-2020-0003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/12/2020

Selected Solution:

- New 69/13kV Station in Southern Passaic County Area
 - Purchase Property to accommodate new construction.
 - Install a 69kV station with two (2) 69/13kV transformers.
 - Construct a 69kV network in the Southern Passaic County Area.
 - Eliminate Oak Street Substation.
 - **Estimated Cost:** \$75.6M

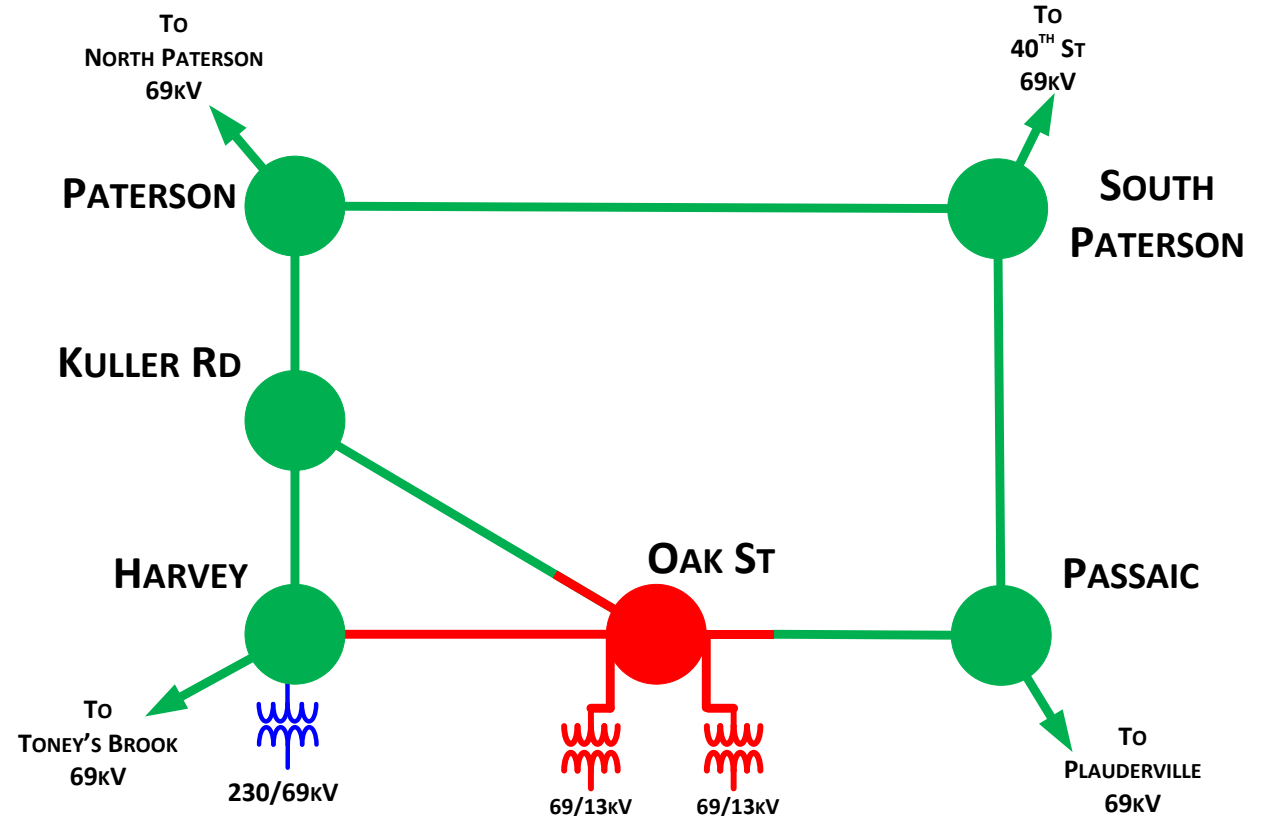
Ancillary Benefits:

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

Projected In-Service: 09/2024

Supplemental Project ID: s2317

Project Status: Engineering & Planning





PSE&G Transmission Zone M-3 Process Eastern Essex County Area

Need Number: PSEG-2020-0004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/12/2020

Previously Presented:

- Need Meeting 7/16/2020
- Solutions Meeting 8/13/2020

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

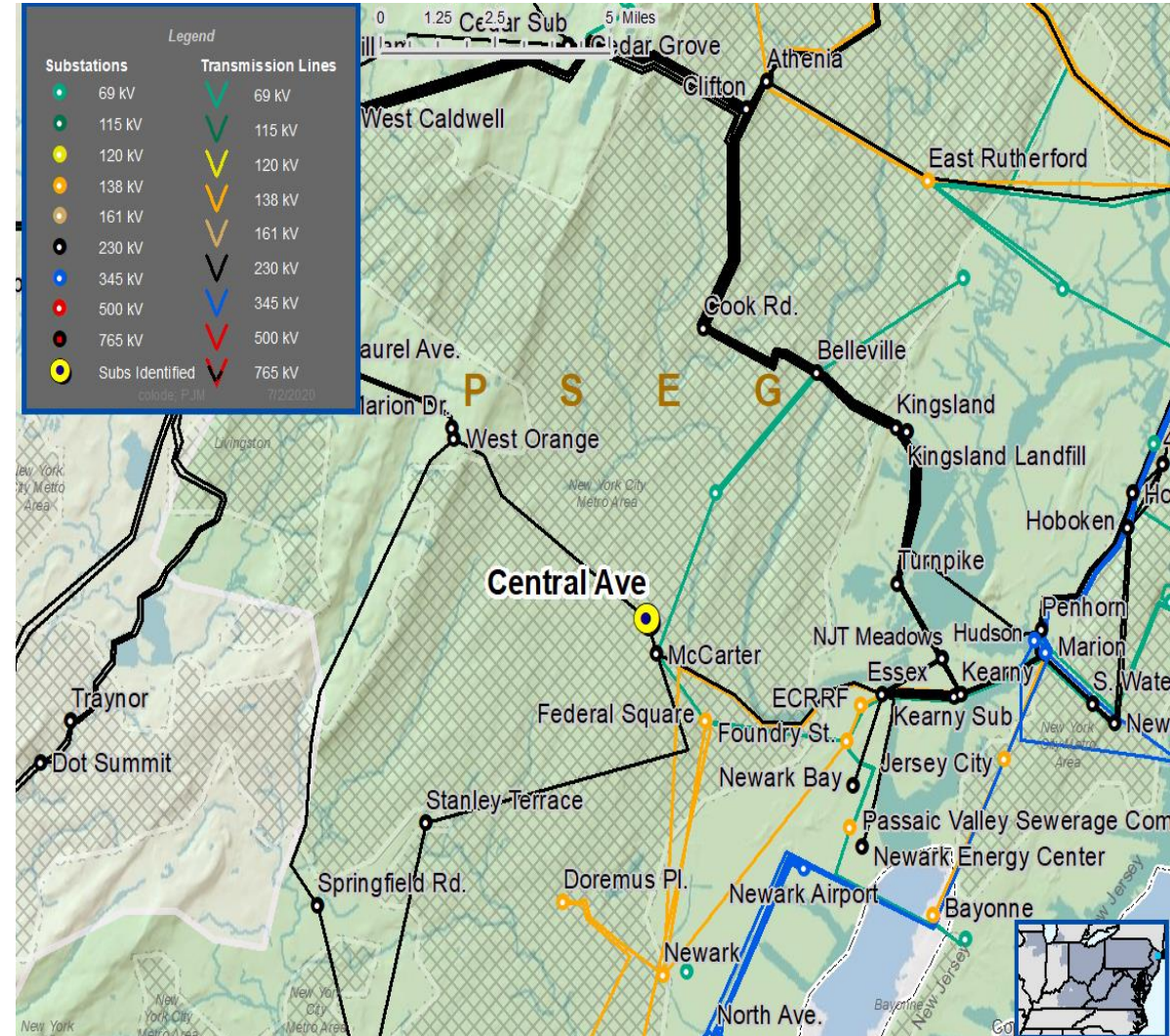
[August 2017 26kV to 69kV PSE&G Presentation](#)

- Equipment Reliability and Condition Assessment
- Asset Risk Model

Problem Statement:

- Station equipment at Central Avenue has been in service since 1926 and needs to be addressed. The station building is in poor condition.
- The 26kV breakers are original and failure of breakers to operate has resulted in 2 extended station shutdowns. Central Avenue protective relays do not have designated bus protection.
- Central Avenue serves roughly 18,300 customers and 24.7 MVA of load.

Model: 2019 Series 2024 Summer RTEP 50/50



Need Number: PSEG-2020-0004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/12/2020

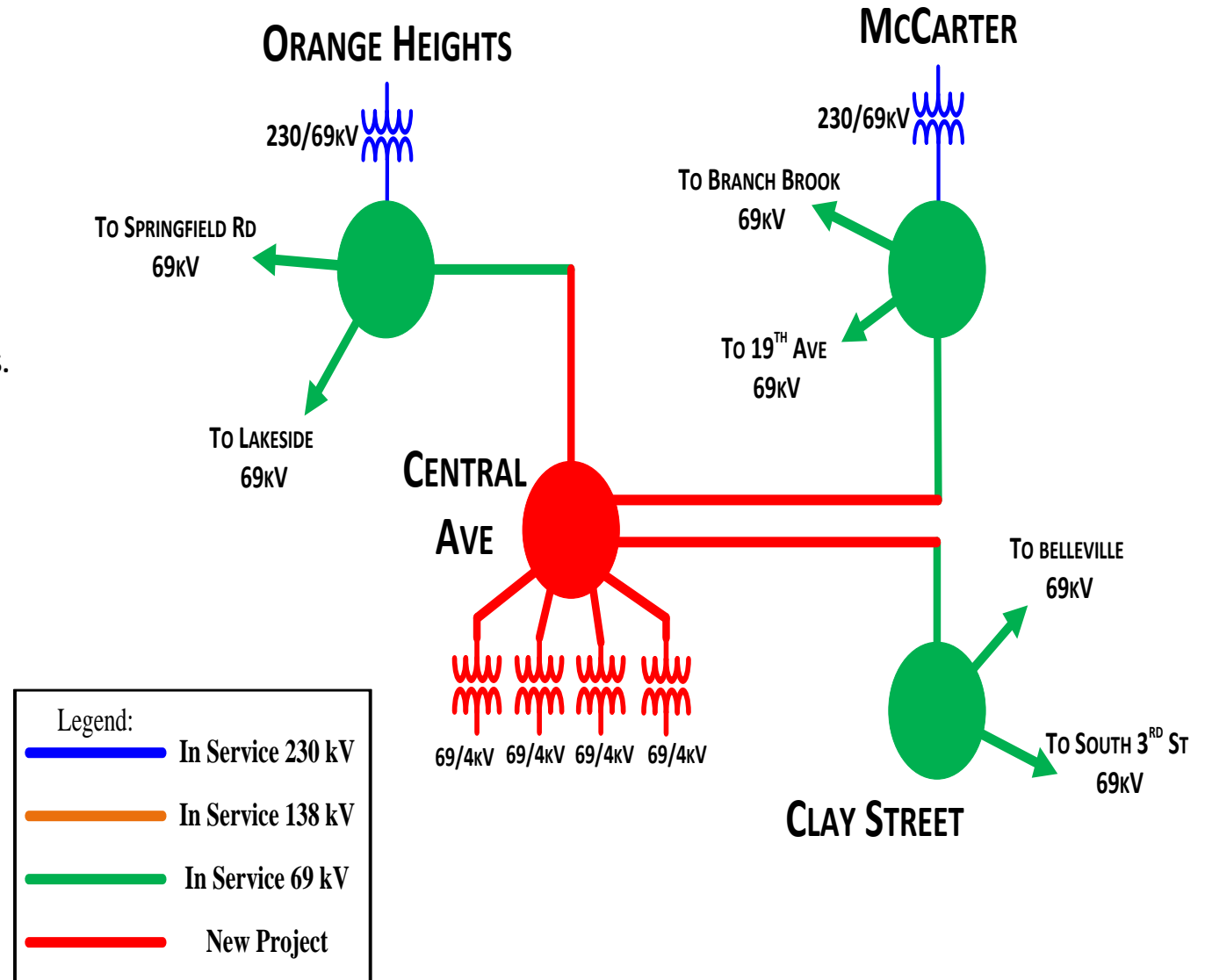
Selected Solution:

- New 69kV Station in Western Newark Area
 - Purchase Property to accommodate new construction.
 - Install a 69kV station with four (4) 69/4kV transformers.
 - Construct a 69kV network in Eastern Essex County Area via McCarter-Clay Street (overhead circuit).
 - Transfer Load and eliminate Central Avenue Substation.
 - **Estimated Cost:** \$34.3M

Projected In-Service: 05/2024

Supplemental Project ID: s2318

Project Status: Engineering & Planning



Revision History

8/31/2020 – V1 – Local Plan for s2276 posted to pjm.com

10/12/2020 – V2 – Added Local Plan for s2316, s2317 and s2318