

SRRTEP Committee: Mid-Atlantic PSE&G Supplemental Projects

January 14, 2021

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-2020-0012

Process Stage: Solutions Meeting 01/14/2021

Previously Presented: Need Meeting 11/18/2020

Supplemental Project Driver:

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

Specific Assumption Reference:

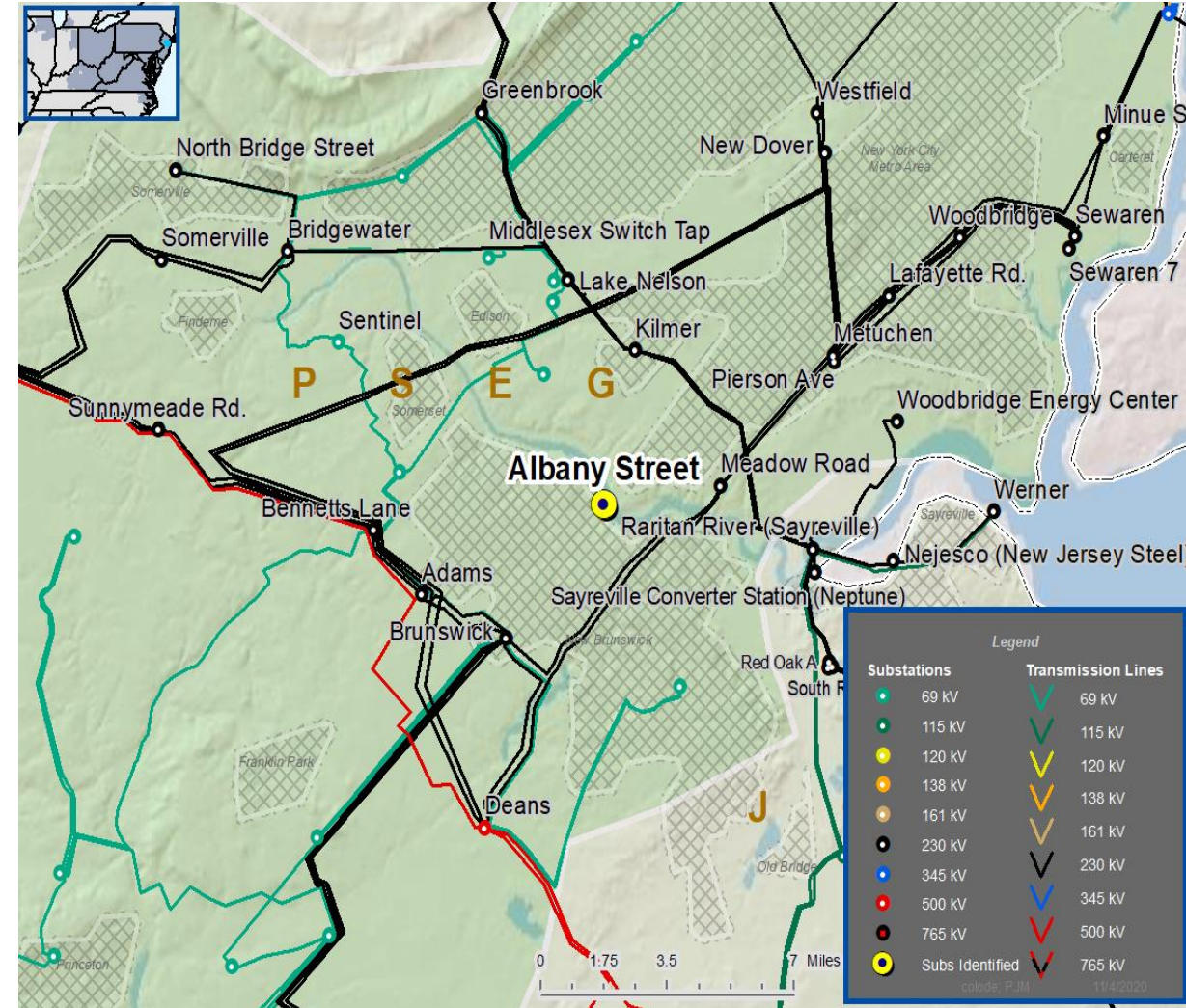
[PSE&G 2019 Annual Assumptions](#)

- 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: Solutions Meeting 01/14/2021

Proposed Solution:

- Eliminate Albany St Station & modify North Brunswick Area Station to pick up existing loads
 - Eliminate Albany St 26kV Station.
 - Expand North Brunswick Area Station with three (3) 69/26kV transformers.
 - **Estimated Cost:** \$29.2M

Ancillary Benefits:

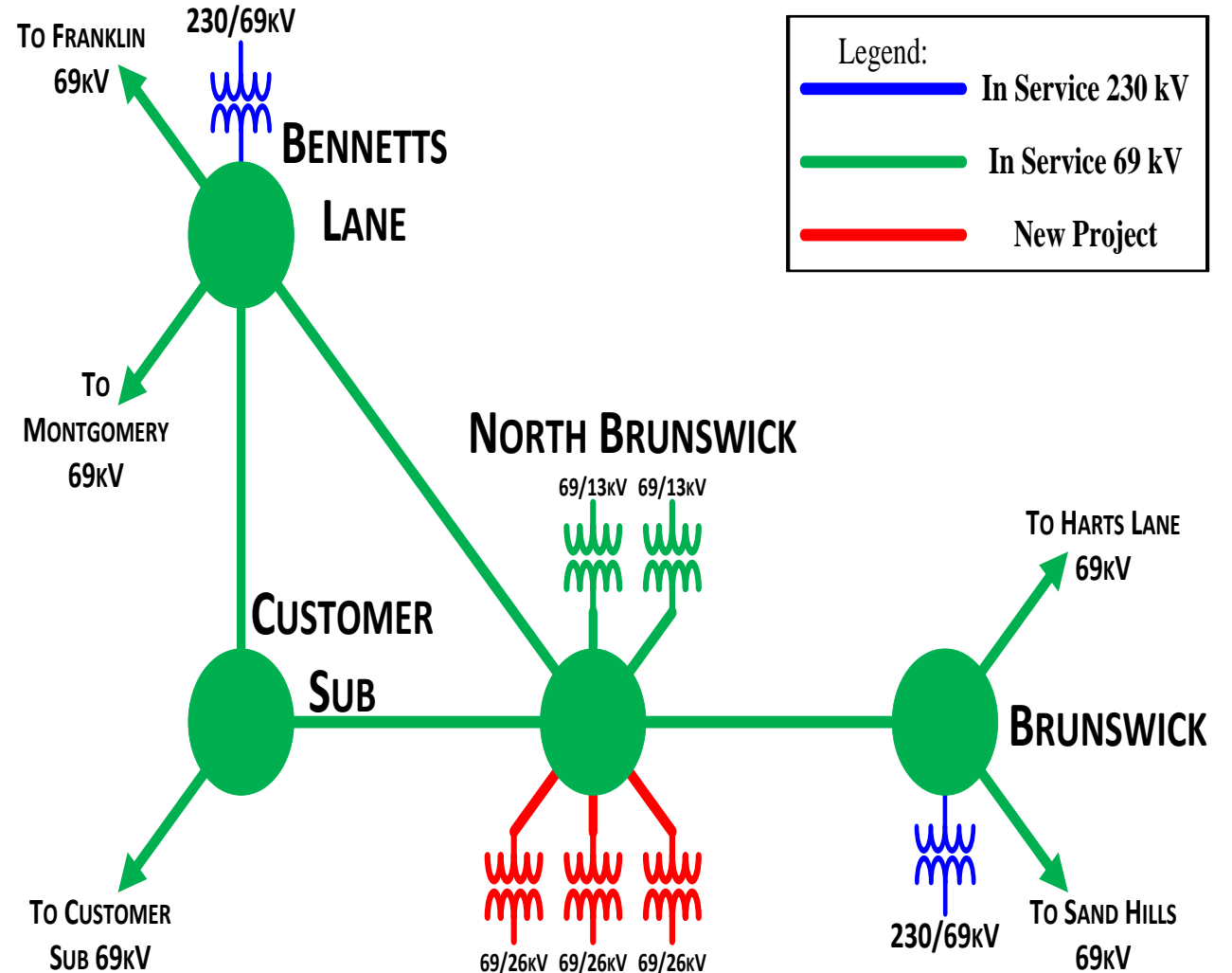
- Provides capacity increase.

Alternatives Considered:

1. New 69/26kV Switching Station at new location
 - Eliminate Albany St 26kV Station.
 - Construct a 69kV network between Brunswick, North Brunswick, and a customer Substation.
 - Property constraints - a viable property has not been located.
 - **Estimated Cost:** \$73.0M
2. Eliminate Albany St Station & Construct new 26kV Station at a new location
 - Property constraints - a viable property has not been located.
 - Rebuilding of the 26kV breaker station does not address customer service driver.

Projected In-Service: 05/2024

Project Status: Conceptual



Need Number: PSEG-2020-0013

Process Stage: Solutions Meeting 01/14/2021

Previously Presented: Need Meeting 11/18/2020

Supplemental Project Driver:

- Customer Service

Specific Assumption Reference:

[PSE&G 2019 Annual Assumptions](#)

- Localized Load Growth & Contingency Overloads

Problem Statement:

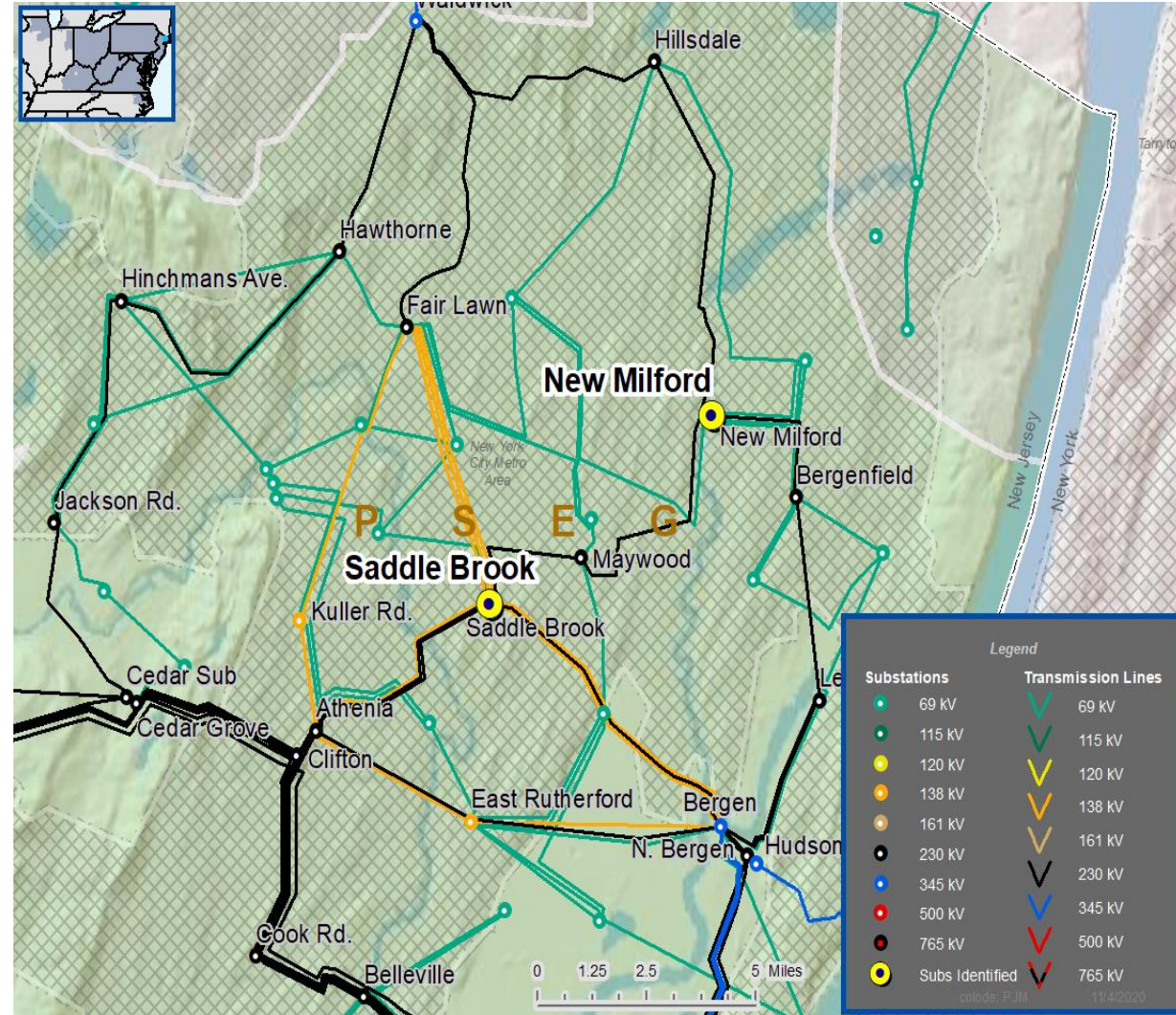
Saddle Brook 2H is a station in the Paramus area at capacity of 60 MVA.

- 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



PSE&G Transmission Zone M-3 Process Paramus Area

Need Number: PSEG-2020-0013

Process Stage: Solutions Meeting 01/14/2021

Proposed 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.
 - **Estimated Cost:** \$13.2M

Ancillary Benefits:

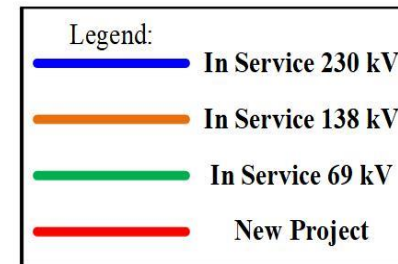
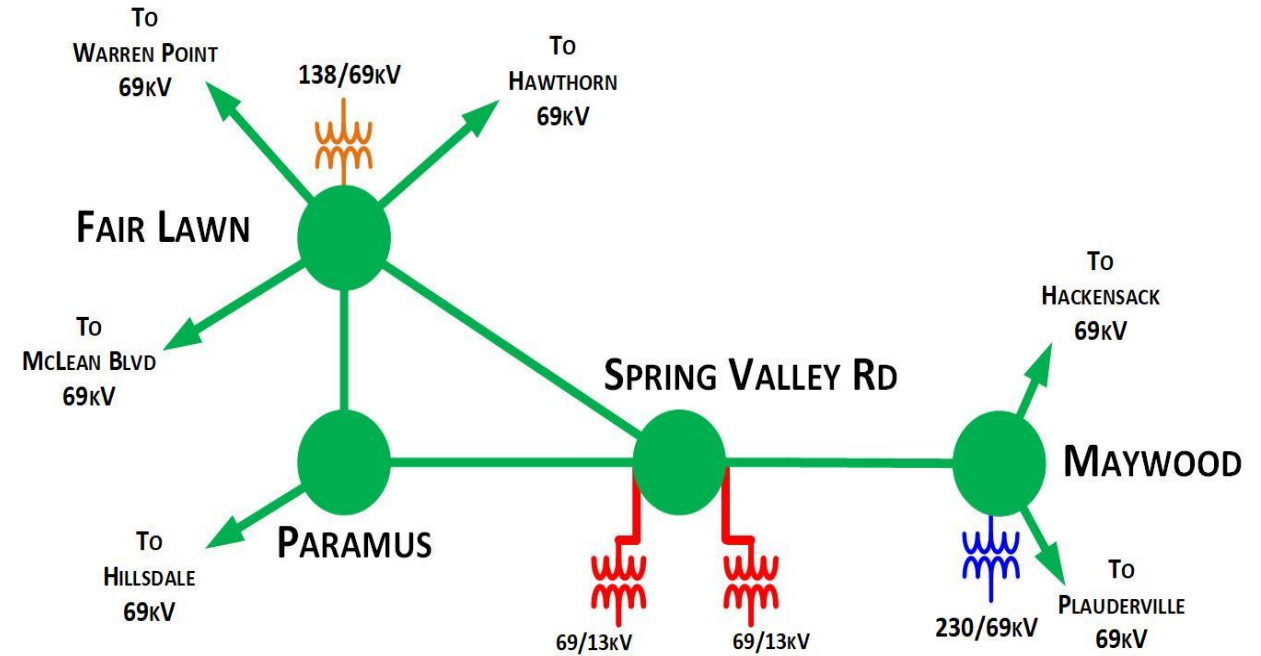
- Provides capacity increase and 13kV self healing loops.
- Facilitates future asset condition based retirements.

Alternatives Considered:

1. Construct a new 69/13kV substation in Paramus
 - Purchase property to accommodate new construction.
 - Install 69kV substation with two (2) 69/13kV transformers.
 - Station space requirements may not have enough buffer to be feasible.
 - **Estimated Cost:** \$55.7M
2. Construct a new 69/13kV substation at another location in Paramus
 - Purchase property to accommodate new construction.
 - Install 69kV substation with two (2) 69/13kV transformers.
 - Station space requirements may not have enough buffer to be feasible.
 - **Estimated Cost:** \$71.4M

Projected In-Service: 12/2024

Project Status: Conceptual



Project Update

Previously Presented: SRRTEP Mid Atlantic
08/24/2018

Process Stage: Project Update 01/14/2021

Project Scope Changes:

- A new property has been selected for the project.
- Circuit to Springfield Road de-scoped.
- Circuit to McCarter will now terminate at Central Ave.
 - Allows for the de-scoping of an additional GIS buildout at McCarter.

Revised Estimated Cost: \$167M

Projected In-Service: 12/2023

Project Status: Engineering



Previously Presented : 07/20/2018

Problem Statement:

Infrastructure Resilience: Orange Valley is a 26kV station currently below FEMA 100 year flood elevations and is at risk in case of a major storm event.

Equipment Material Condition, Performance and Risk: Station equipment at East Orange and Orange Valley 26kV supplied stations has been identified as being in poor condition and must be addressed. Both of these stations are Type C stations, which have metal clad buildings that rust and leak over time, causing bus failures. East Orange was installed in 1959 and serves over 21,000 customers and 34 MW of load. Orange Valley was installed in 1952 and serves over 7,000 customers and 16 MW of load.

Selected Solution:

Construct a 230/69/4kV station near the location of Orange Valley. (S1722)

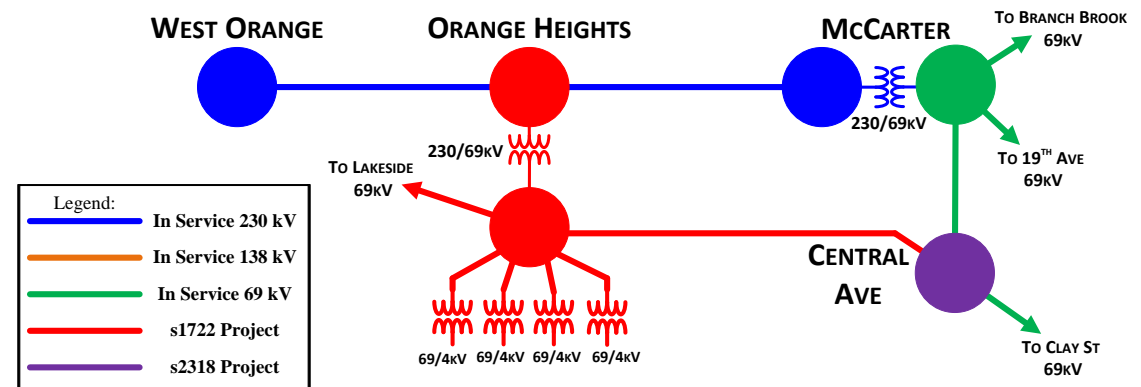
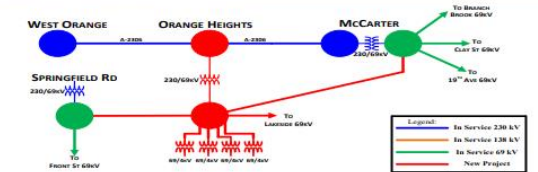
- Purchase new property near Orange Valley.
- Install a 230kV ring bus with one (1) 230/69kV transformer.
- Install a 69kV breaker-and-a-half bus with three (3) 69/4kV transformers.
- Construct a 69kV network between Lakeside, McCarter, Springfield Rd, and the new station.
- Enables retirement of Orange Valley and East Orange 26kV Substations

Estimated Project Cost: \$ 328M

Expected IS date: 10/31/2022

Status: Engineering

PSEG Transmission Zone: Supplemental Project
Orange Heights Switching Station



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

1/11/2020 – V1 – Original version posted to pjm.com