SRRTEP Committee: Mid-Atlantic PSE&G Supplemental Projects

January 18, 2024

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

PSE&G Transmission Zone M-3 Process
Plainfield Area

Need Number: PSEG-2023-0012

Process Stage: Solutions Meeting 01/18/2024

Previously Presented: Need Meeting 11/16/2023

Supplemental Project Driver:

- Customer Service

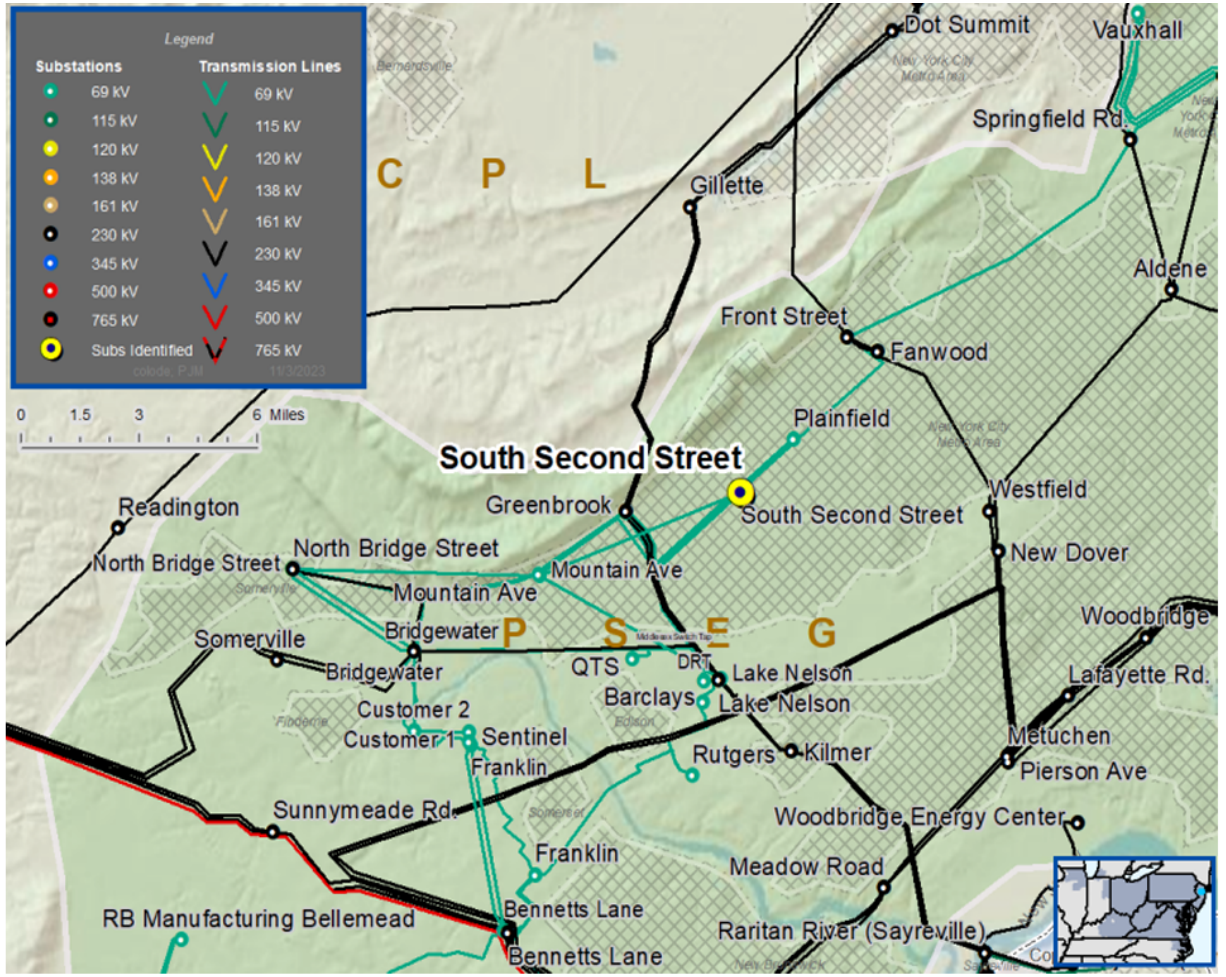
Specific Assumption Reference:

[PSE&G 2023 Annual Assumptions]

- Localized Load Growth & Contingency Overloads

Problem Statement:

- South Second Street Substation is a station in the Plainfield area with no additional station capacity.
  - South Second Street serves about 12,000 customers with a projected load of 66MVA in 2024.
  - The actual station capacity is 60.3MVA. Projected contingency overload is 109.5%.



Model: 2022 Series 2027 Summer RTEP 50/50

PSE&G Transmission Zone M-3 Process
Plainfield Area

Need Number: PSEG-2023-0012

Process Stage: Solutions Meeting 01/18/2024

Proposed Solution:

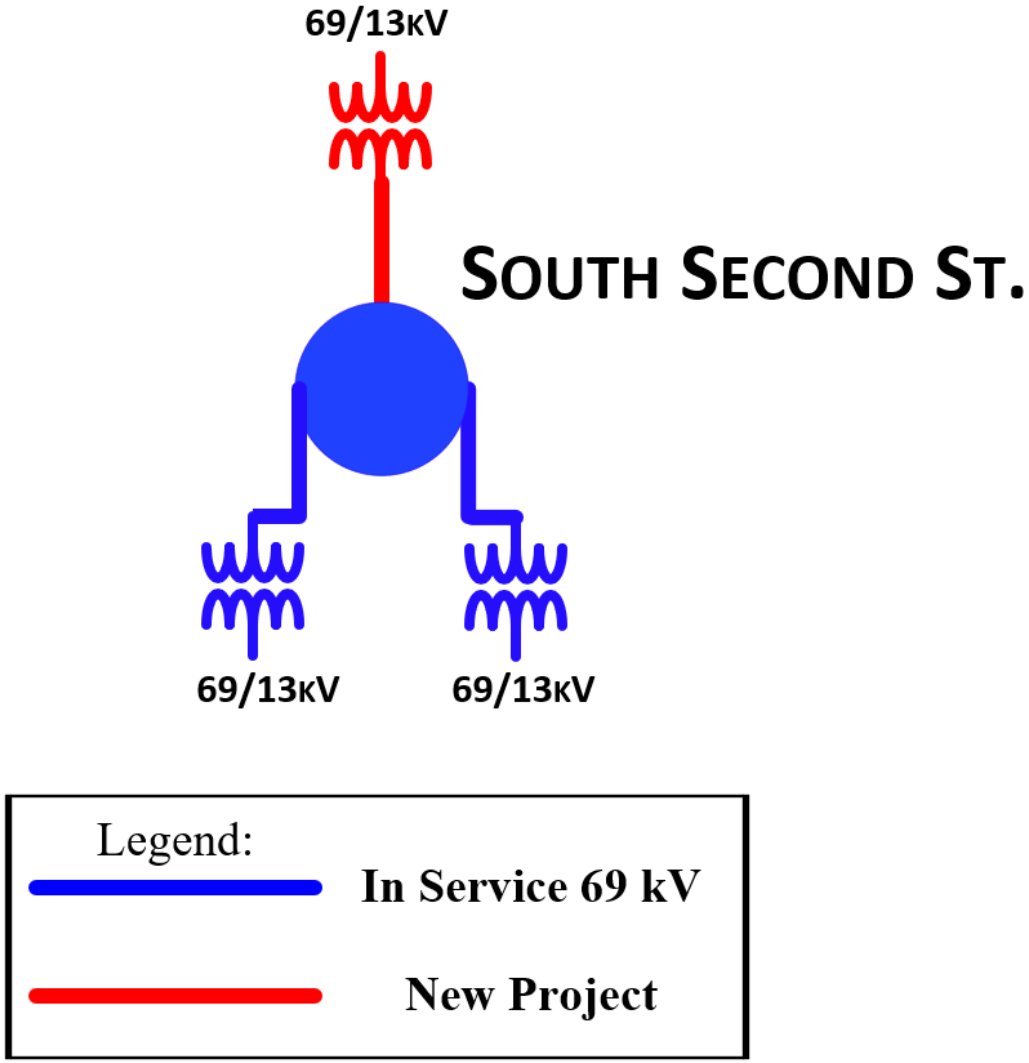
- Construct a third transformer at existing South Second St. Station
    - Install one (1) 69/13kV transformer.
    - Estimated Cost: $6.5M

Alternative Considered:

- Expand New Dover Substation
    - Construct second half 230/13kV station (additional two transformers) at existing New Dover Substation.
    - Anticipated projects costs would be greater than four times the cost of the proposed solution.

Projected In-Service: 12/2029

Project Status: Conceptual



Cost Update for s2318

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

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

Need Number: PSEG-2020-0004

Process Stage: Need Meeting 7/16/2020

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

PSE&G 2019 Annual Assumptions

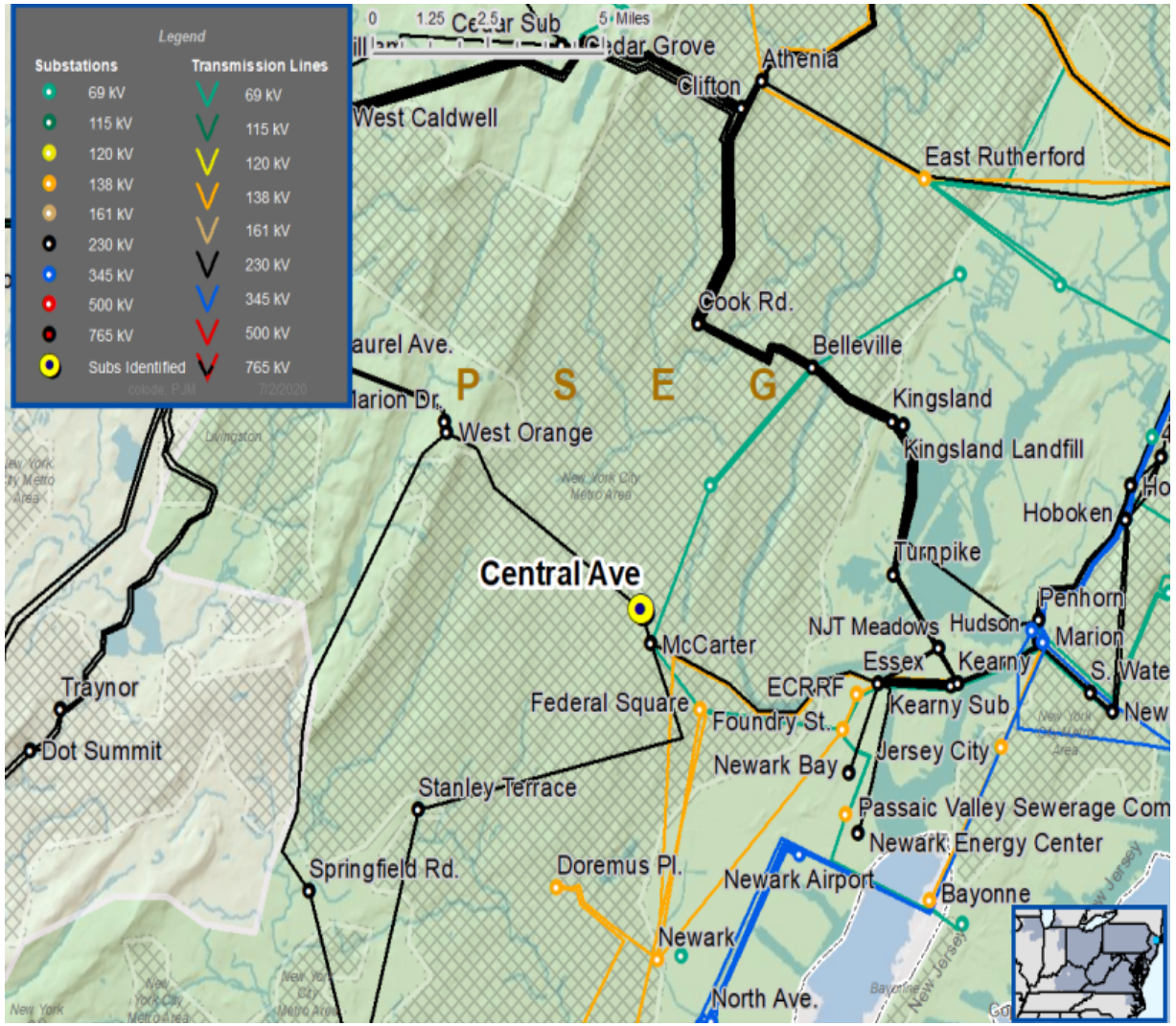
August 2017 26kV to 69kV PSE&G Presentation

- 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



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

Need Number: PSEG-2020-0004

Process Stage: Solutions Meeting 8/13/2020

Proposed Solution:

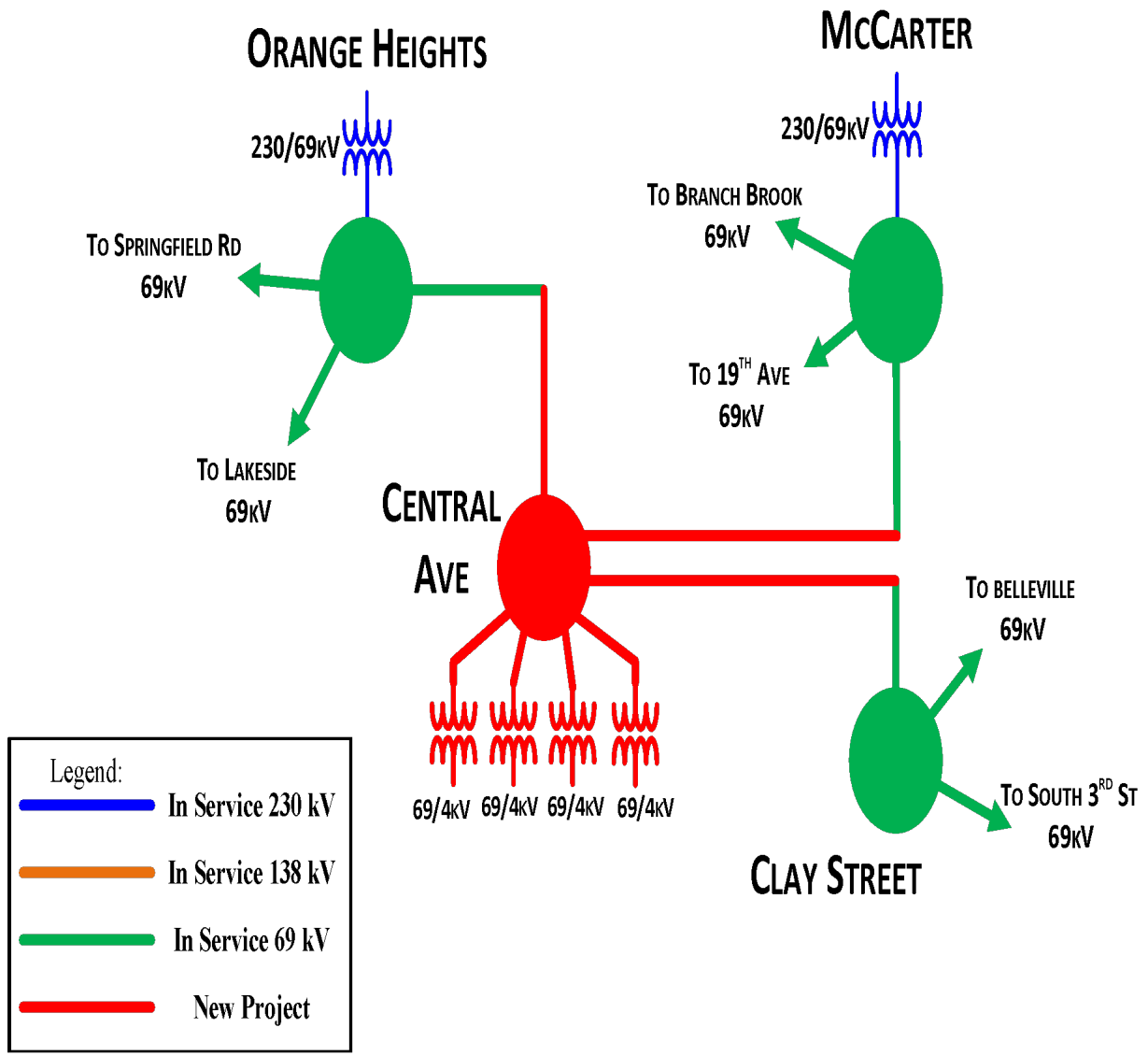
- New 69kV Station in Western Newark Area
  - Purchase Property to accommodate new construction.
  - Install a 69kV station with four (4) 69/4kV transformers.
  - Construct a 69kV network in Eastern Essex County Area via McCarter-Clay Street (overhead circuit).
  - Transfer Load and eliminate Central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

Alternatives Considered:

1. New 69kV Station in Western Newark Area
   - Purchase Property to accommodate new construction.
   - Install a 69kV station with four (4) 69/4kV transformers.
   - Construct an alternate 69kV network in Eastern Essex County Area via McCarter-Branch Brook (underground circuit).
   - Transfer Load and eliminate Central Avenue Substation.
   - **Estimated Cost:** $37.8M
2. New 69kV Substation at Central Avenue
   - The site of the existing Central Avenue substation was considered for a new 69/4kV station but was determined not feasible due to property constraints.

Projected In-Service: 05/2024

Project Status: Conceptual



Update to Solution for s2318

- **Estimated Cost:** ~~$34.3M~~ $85.2M
- **Projected In-Service:** ~~05/2024~~ 12/2026

- Updated Solution:
  - Purchase property directly adjacent to existing Central Ave substation.
  - Same electrical scope as previously selected solution.
- Reasons for Updated Solution:
  - Property originally identified by PSE&G to build an Air Insulated Switchgear ("AIS") station.
  - PSE&G was aware that the property was part of a redevelopment plan that includes an affordable housing requirement, but pursued the property with the intention of working with the City of Newark to modify the redevelopment plan so that an AIS station could be constructed.
  - The City was ultimately not willing to remove the affordable housing component of the redevelopment plan, thereby reducing the available space to construct an AIS station.
  - PSE&G cannot consider Original Alternative 1 on the prior slide because it also involves building AIS on the property originally identified by PSE&G.
  - A GIS station could only be constructed on the original property if additional property is purchased, but the total estimated cost of the project would be approximately $100M. This increased cost and inability to change the redevelopment plan led PSE&G to explore additional alternatives.
  - PSE&G is able to acquire new property directly adjacent to PSE&G's existing Central Ave station, which was not previously available and does not have redevelopment plan restrictions.
  - Updated estimated cost reflects new property purchase and GIS construction.
  - Updated projected in-service date reflects GIS equipment lead time, time required to pursue new property, redesign from AIS to GIS, and additional time for obtaining site plan approvals from the City.

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

01/x/2024 – V1 – Original version posted to pjm.com