SRRTEP Committee: Mid-Atlantic PSE&G Supplemental Projects

August 13, 2020

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
Southern Passaic County Area

Need Number: PSEG-2020-0003

Process Stage: Solutions Meeting 8/13/2020

Previously Presented: Need Meeting 5/21/2020

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

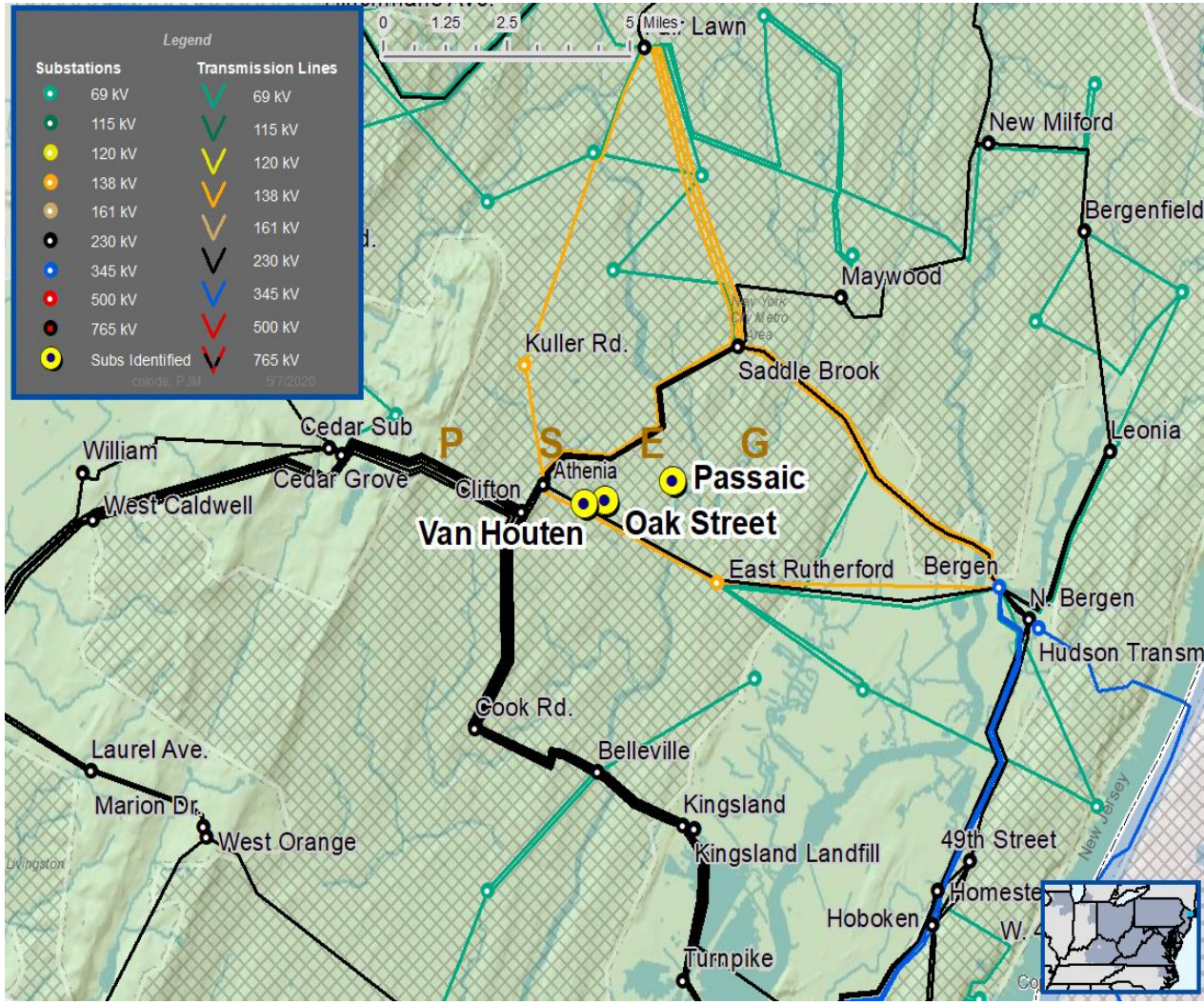
- Equipment Reliability and Condition Assessment
- Asset Risk Model

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



PSE&G Transmission Zone M-3 Process
Southern Passaic County Area

Need Number: PSEG-2020-0003

Process Stage: Solutions Meeting 8/13/2020

Proposed 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.

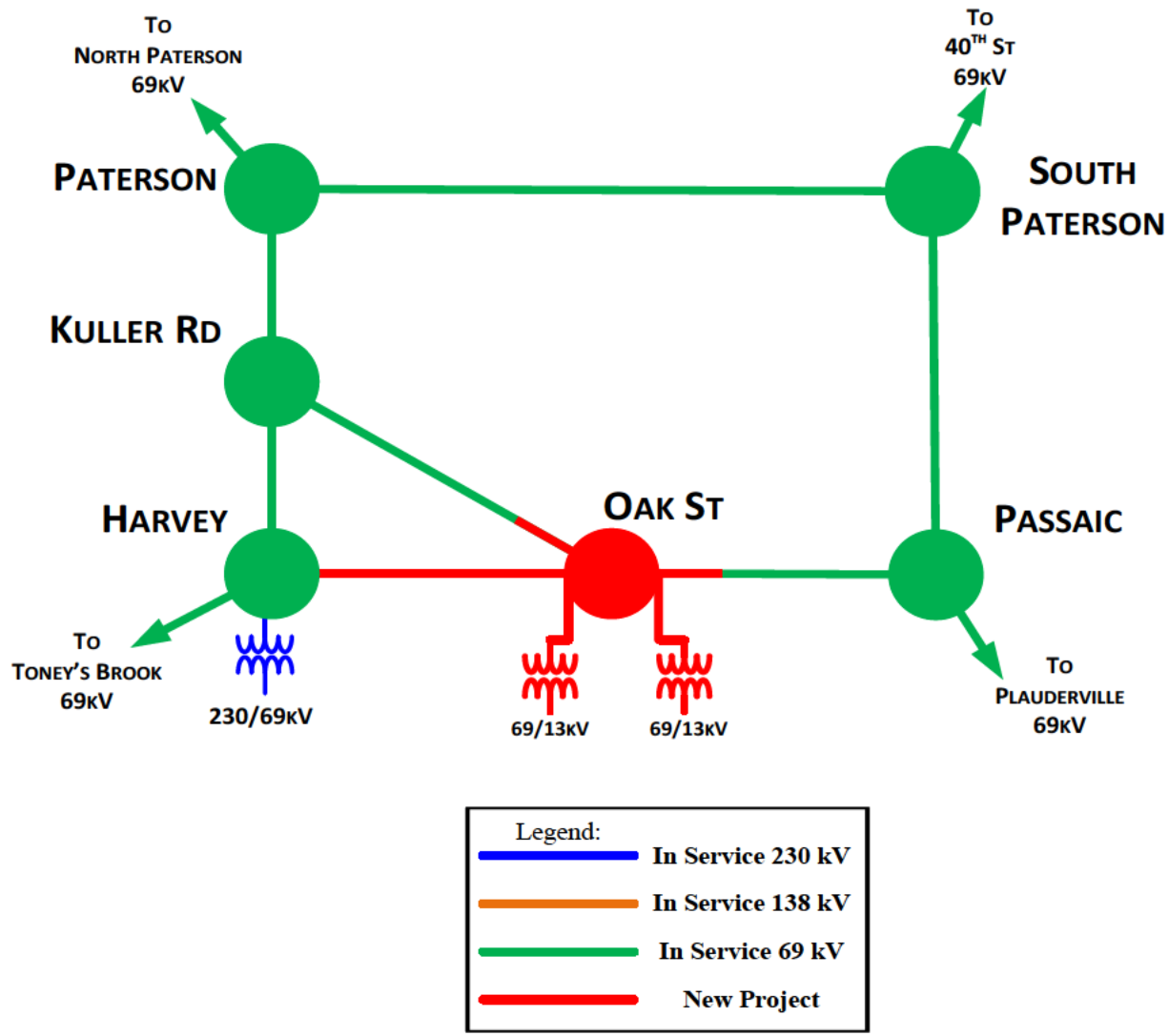
Alternatives Considered:

1. New 69/4kV Substation in Southern Passaic County Area
   - Purchase Property to accommodate new construction.
   - Install a 69kV station with three (3) 69/4kV transformers.
   - Construct a 69kV network in the Southern Passaic County Area.
   - Eliminate Oak Street Substation.
   - Does not facilitate future asset condition based retirements.
   - Does not provide capacity increase and same redundancy benefits as proposed solution.
   - **Estimated Cost:** $73.2M

2. New 69kV Substation at Oak Street
   - Insufficient space available for a new 69/13kV or 69/4kV station.

Projected In-Service: 09/2024

Project Status: Conceptual



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

Need Number: PSEG-2020-0004

Process Stage: Solutions Meeting 8/13/2020

Previously Presented: Need Meeting 7/16/2020

Supplemental Project Driver:

- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

PSE&G 2019 Annual Assumptions

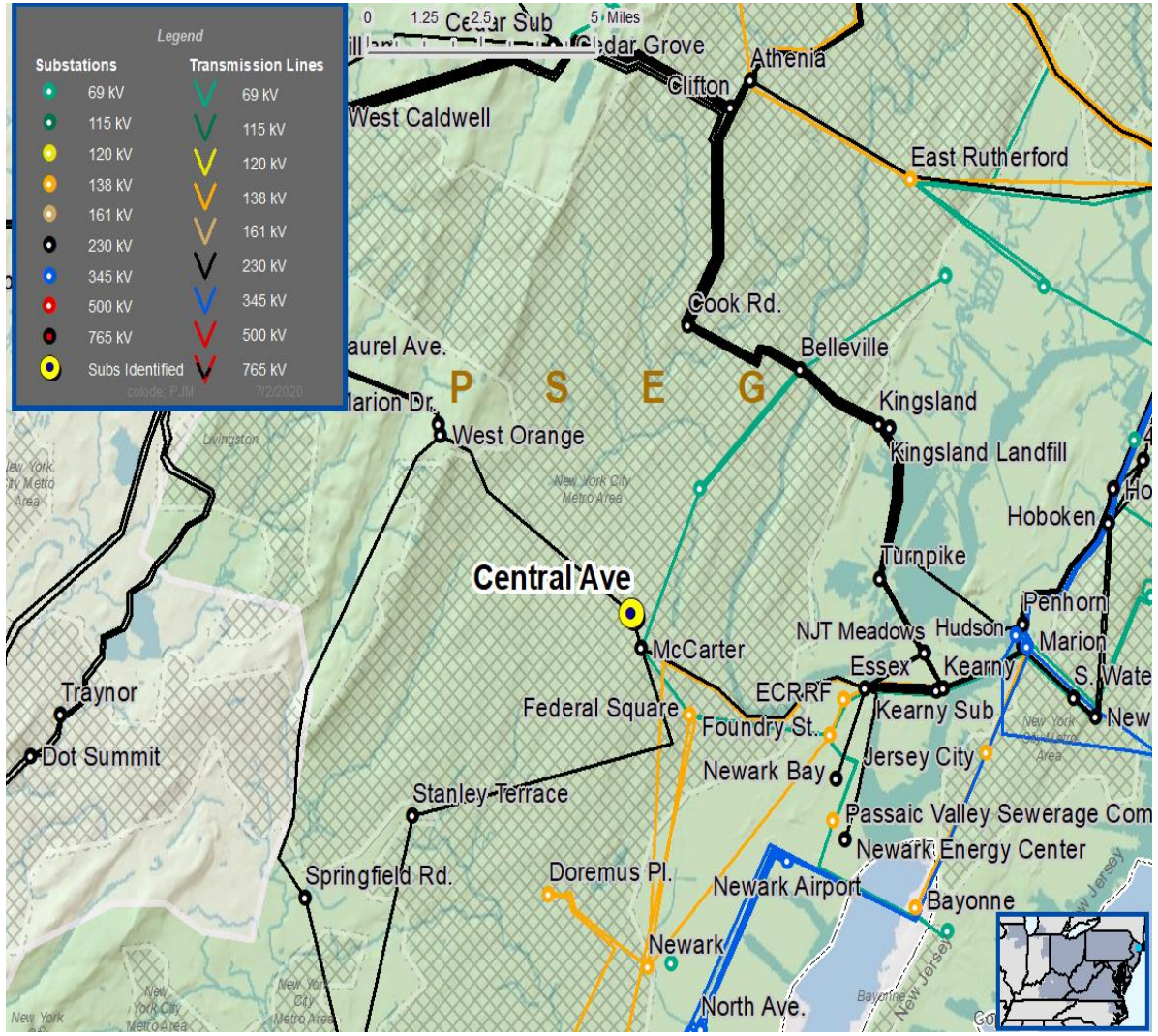
August 2017 26kV to 69kV PSE&G Presentation

- 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:

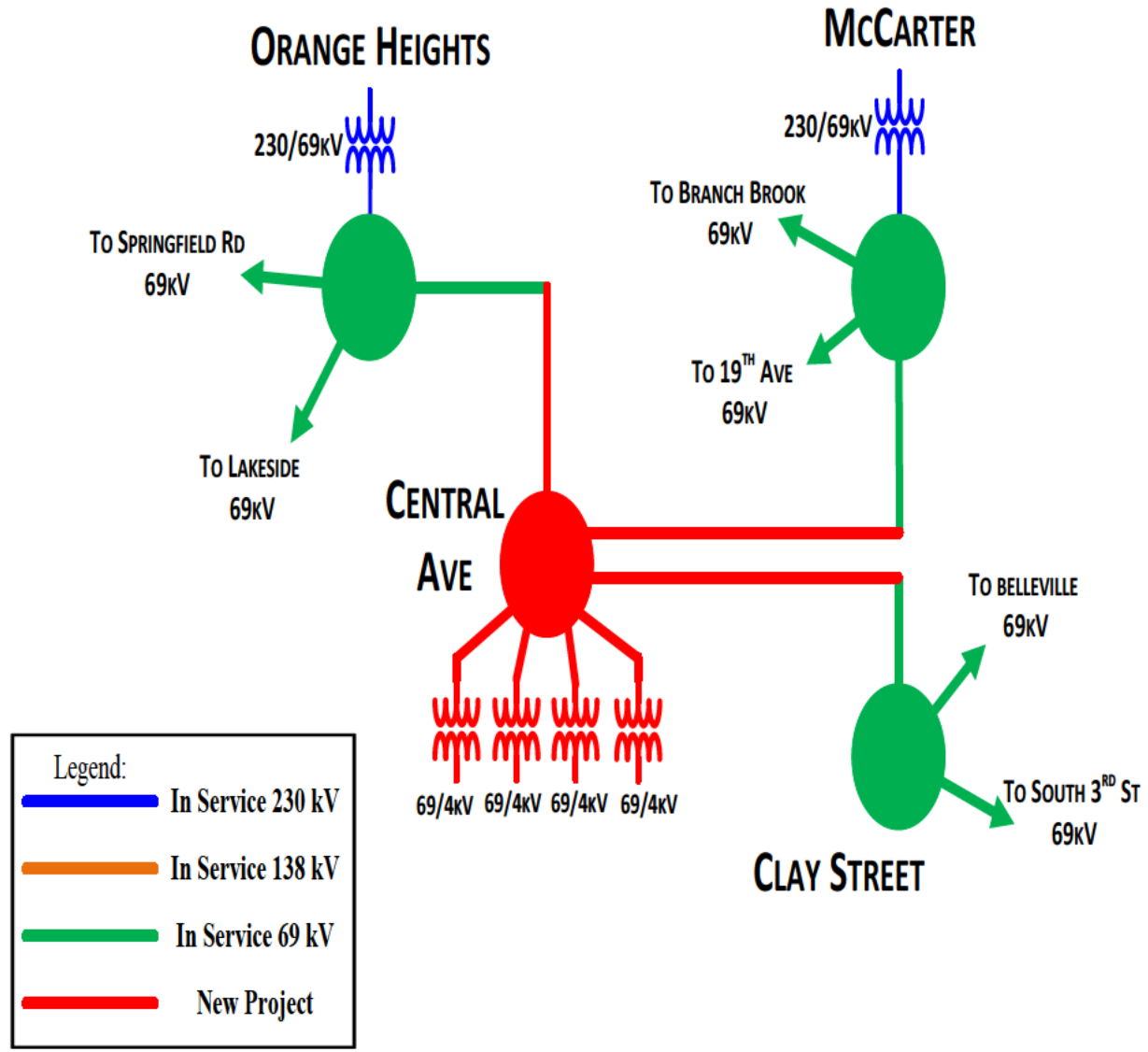
- New 69kV Station in Western Newark Area
  - Purchase Property to accommodate new construction.
  - Install a 69kV station with four (4) 69/4kV transformers.
  - Construct a 69kV network in Eastern Essex County Area via McCarter-Clay Street (overhead circuit).
  - Transfer Load and eliminate Central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



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

8/3/2020 – V1 – Original version posted to pjm.com