Subregional RTEP Committee – Mid-Atlantic
FirstEnergy Supplemental Projects

JCPL Transmission Zone

Needs

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

JCPL Transmission Zone M-3 Process
Montville, NJ/Riverdale Substation, NJ

Need Number: JCPL-2025-007

Process Stage: Need Meeting 12/11/2025

Project Driver:

Equipment Condition/Performance/Risk

Specific Assumption References:

System Performance Global Factors

- System reliability and performance
- Substation/line equipment limits

Line Condition Rebuild/Replacement

- Age/condition of wood pole transmission line structures

Problem Statement:

The Montville-Riverdale N118 34.5 kV Line was constructed approximately over 40 years ago and is approaching end of life. It is approximately 14 miles long with wood pole transmission line structures.

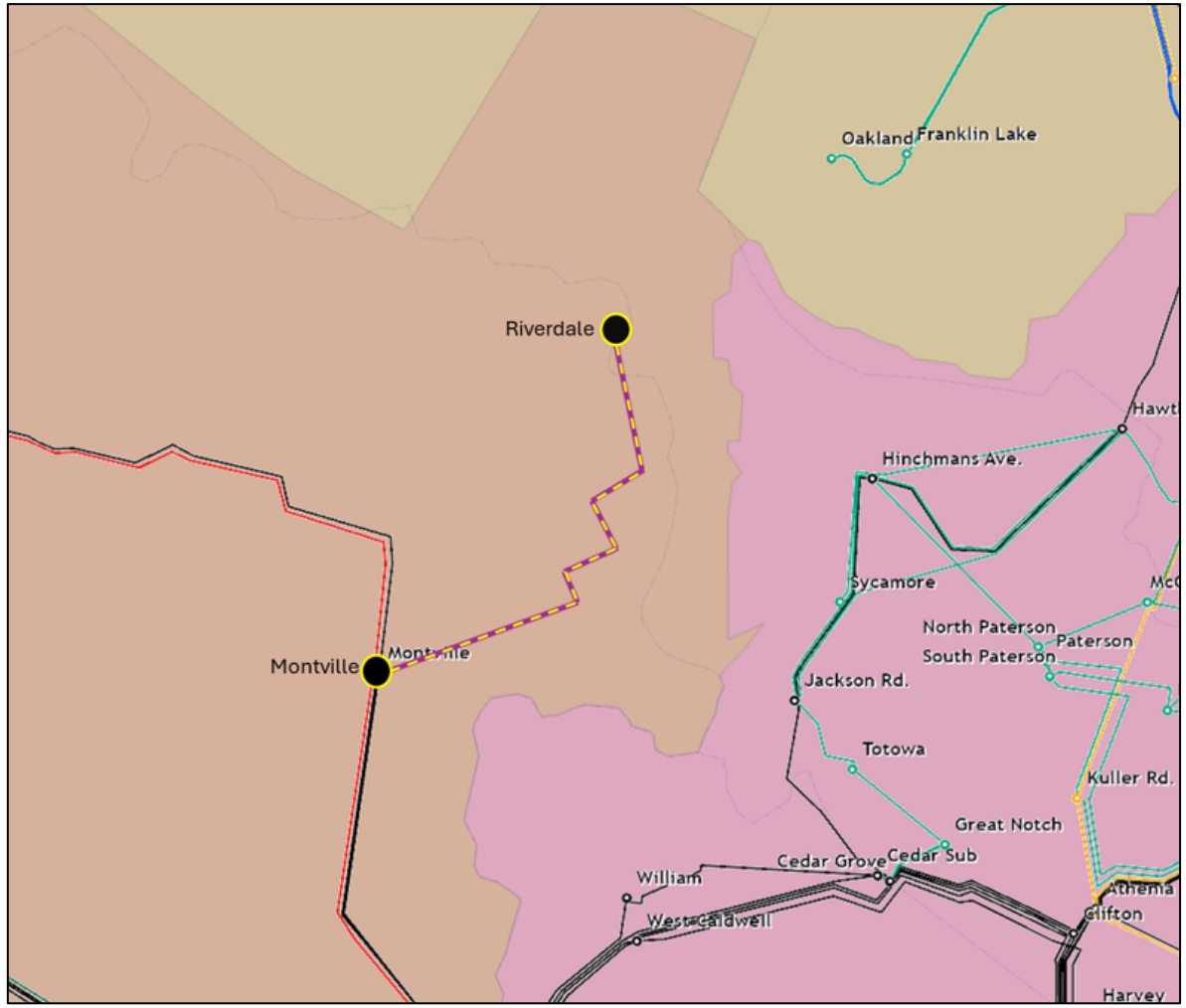
Per recent inspections, the line is exhibiting deterioration resulting in increased maintenance costs.

Inspection findings include:

- 2 structures require repairs due to deterioration.
- 61 structures require replacement due to deterioration and did not pass the wood pole sound test.
- 218 structures have no grounding wire or damaged grounding wires, pole damage, and/or woodpecker holes.
- 354 structures, including insulators and hardware have been in service over 40 years and have reached the end of their useful life.

Existing Transmission Line Ratings:

- 23 / 28 / 26 / 33 MVA (SN/SE/WN/WE)



JCPL Transmission Zone M-3 Process
Allenhurst Substation, NJ

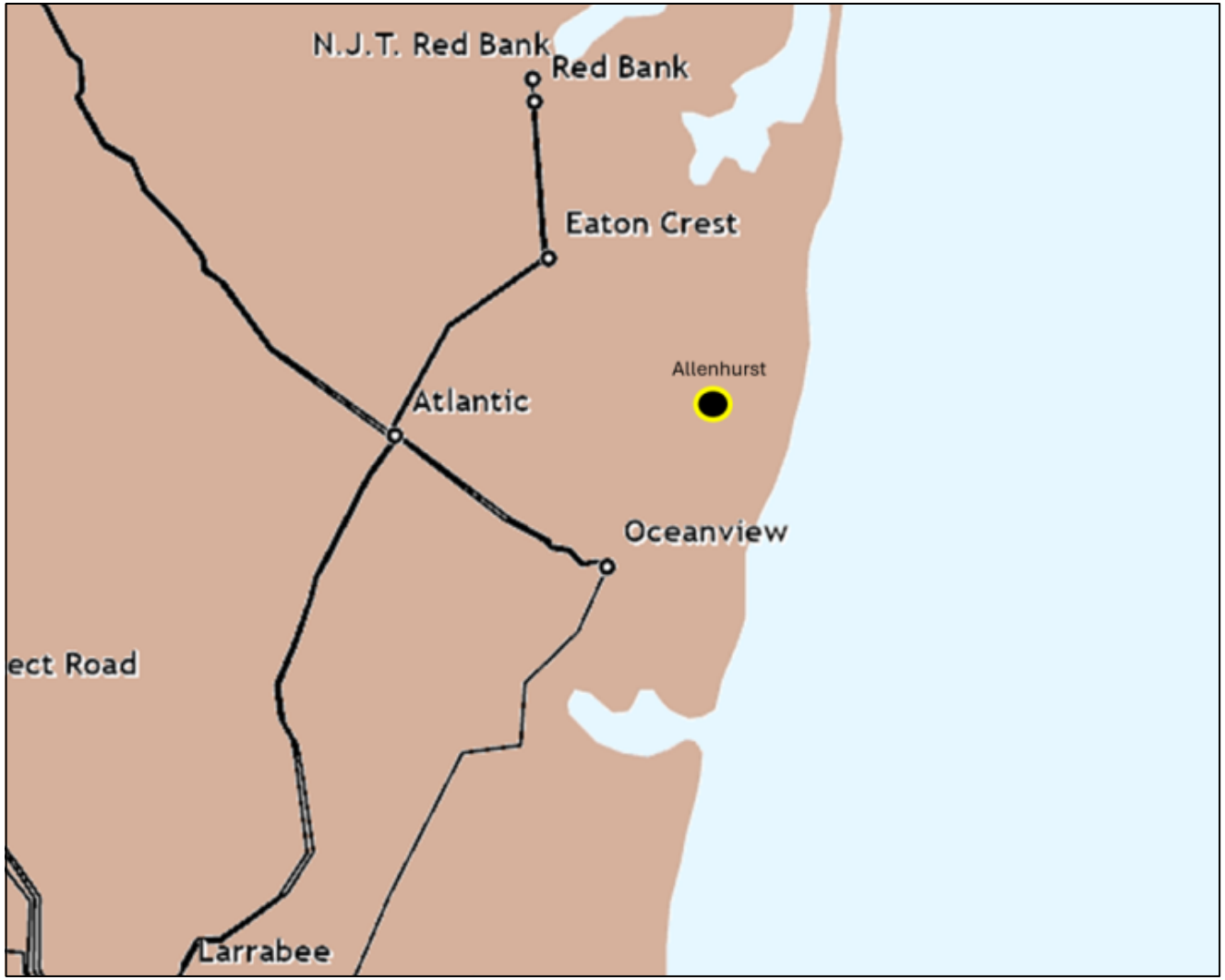
Need Number: JCPL-2025-008
Process Stage: Need Meeting 12/11/2025
Project Driver:
Equipment Condition/Performance/Risk
Specific Assumption References:
System Performance Global Factors
- System reliability/performance
- Substation/Line equipment limits

Substation Condition Rebuild/Replacement
- Age/condition of substation equipment
- Circuit breakers and other fault interrupting devices

Problem Statement:
The existing Allenhurst Substation 34.5 kV oil circuit breakers H216 and V-74, associated disconnect switches and protective relaying are over 50 years old and are approaching end of life. Replacement components are difficult to source leading to non-standard repairs.

The Allenhurst - Oceanview 34.5 kV H216 Line is currently limited by the terminal equipment.

Allenhurst - Oceanview 34.5 kV H216 Line
- Existing Transmission Line Ratings: 44 / 48 / 48 / 48 MVA (SN/SE/WN/WE)
- Existing Conductor Ratings: 55 / 67 / 63 / 79 MVA (SN/SE/WN/WE)



JCPL Transmission Zone M-3 Process
New Providence Substation, NJ

Need Number: JCPL-2025-009
Process Stage: Need Meeting 12/11/2025
Project Driver:
Equipment Condition/Performance/Risk
Specific Assumption References:
System Performance Global Factors

- System reliability/performance
- Substation/Line equipment limits

Substation Condition Rebuild/Replacement

- Age/condition of substation equipment
- Circuit breakers and other fault interrupting devices

Problem Statement:
The existing New Providence Substation 34.5 kV oil circuit breakers HJ and D1, associated bus and line side disconnect switches, and protective relaying are over 50 years old and are approaching end of life. Replacement components are difficult to source leading to non-standard repairs.

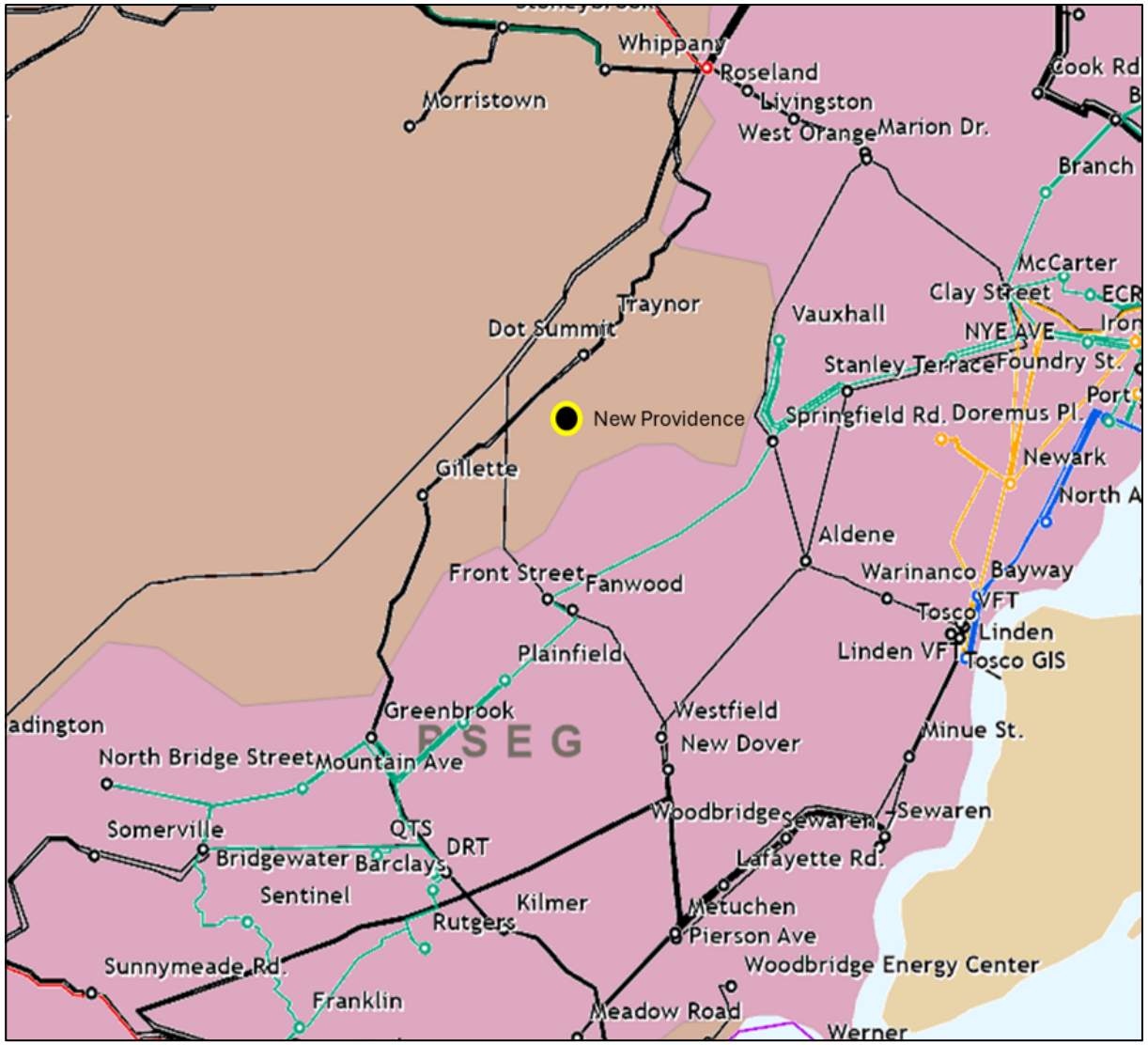
The lines are currently limited by terminal equipment.

CSC H Tap - New Providence 34.5 kV H112 Line

- Existing Transmission Line Ratings: 35 / 46 / 48 / 57 MVA (SN/SE/WN/WE)
- Existing Conductor Ratings: 41 / 50 / 48 / 60 MVA (SN/SE/WN/WE)

Air Reduction - New Providence 34.5 kV D108 Line

- Existing Transmission Line Ratings: 35 / 46 / 48 / 57 MVA (SN/SE/WN/WE)
- Existing Conductor Ratings: 41 / 50 / 48 / 60 MVA (SN/SE/WN/WE)



JCPL Transmission Zone M-3 Process
Morris Court Substation, NJ

Need Number: JCPL-2025-011

Process Stage: Need Meeting 12/11/2025

Project Driver:

Customer Service

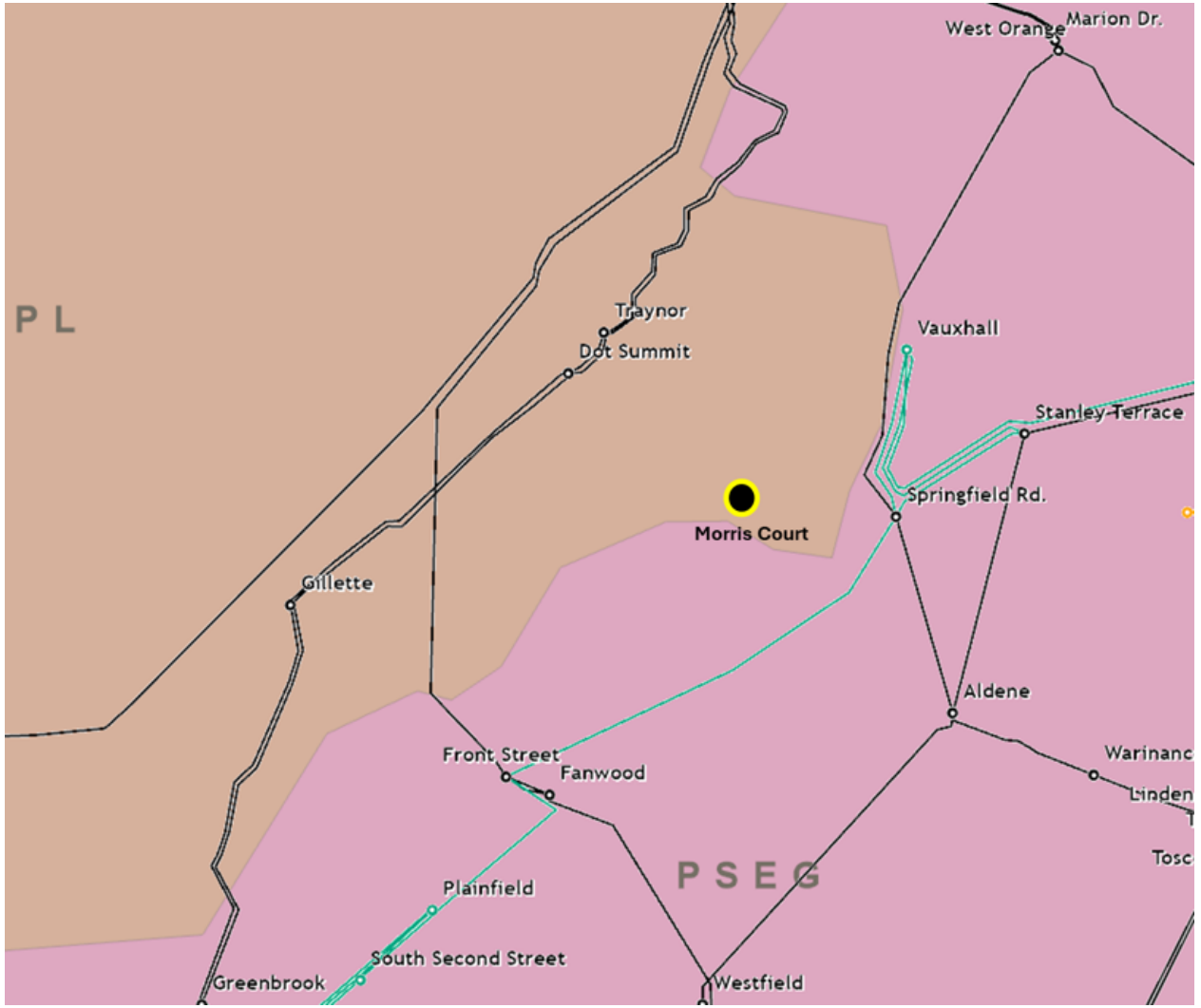
Specific Assumption References:

New customer connection requests will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

Problem Statement:

New Customer Connection - A customer requested 34.5 kV service for load of approximately 10 MW at Morris Court Substation.

Requested in-service date is 9/14/2026.



JCPL Transmission Zone M-3 Process
Manitou, NJ

Need Number: JCPL-2025-012

Process Stage: Need Meeting 12/11/2025

Project Driver:

Equipment Condition/Performance/Risk

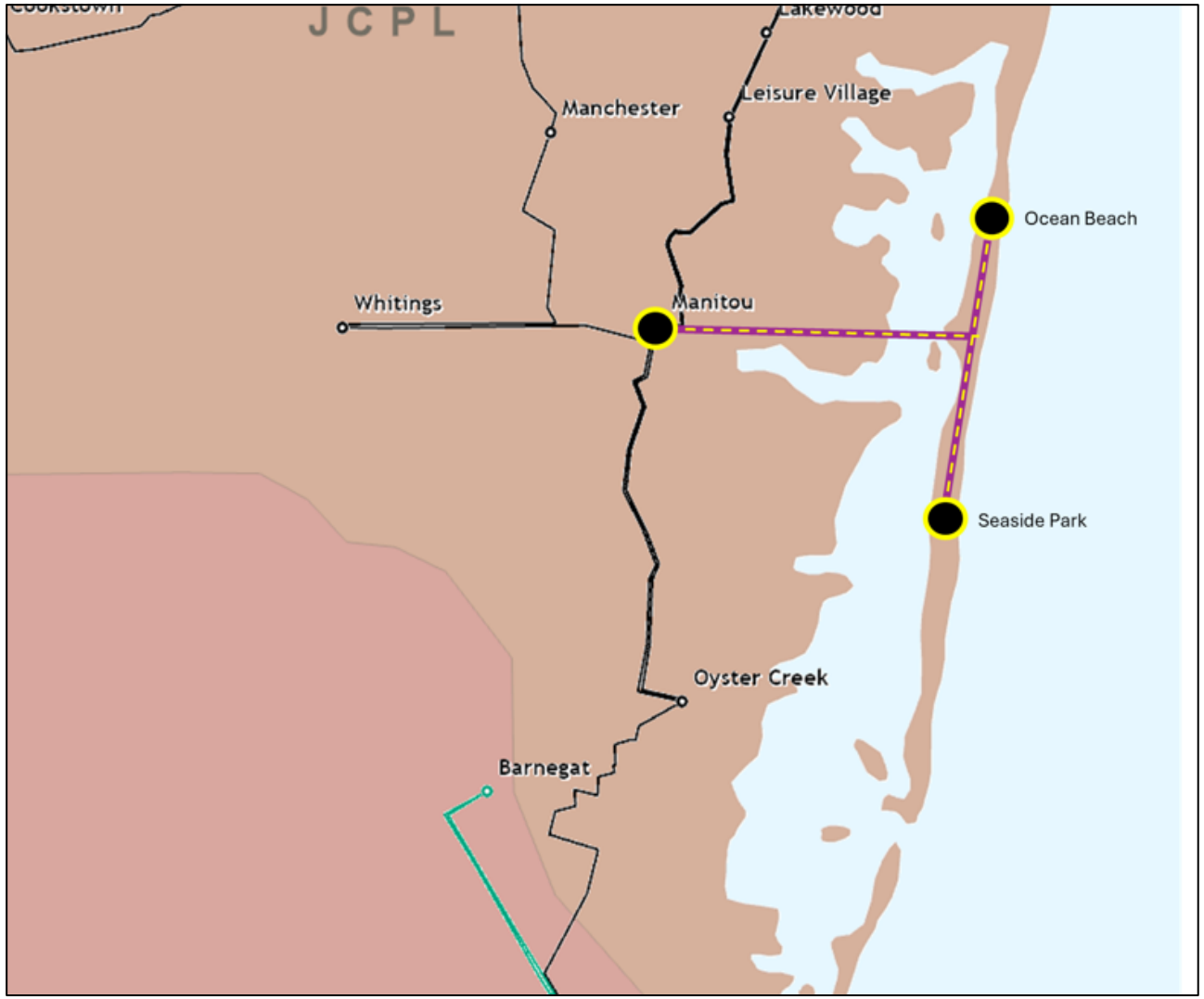
Specific Assumption References:

System reliability and performance

Problem Statement:

The Manitou - Ocean Beach - Seaside Park 34.5 kV D212 Line and Manitou - Ortley Beach 34.5 kV V126 Line both utilize under-bridge cables in duct for a one-mile section in Ocean County. The lines are susceptible to outages caused by incidents occurring on the bridge such as car accidents and fire and are difficult to maintain.

Over the past five years, there have been 22 unscheduled outages on the D212 34.5 kV line and 28 unscheduled outages on the V126 34.5 kV line.



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

JCPL Transmission Zone M-3 Process
Martinsville, NJ

Need Number: JCPL-2025-010

Process Stage: Solution Meeting SRRTEP-MA - 12/11/2025

Previously Presented: Need Meeting 11/13/2025

Project Driver:

Customer Service

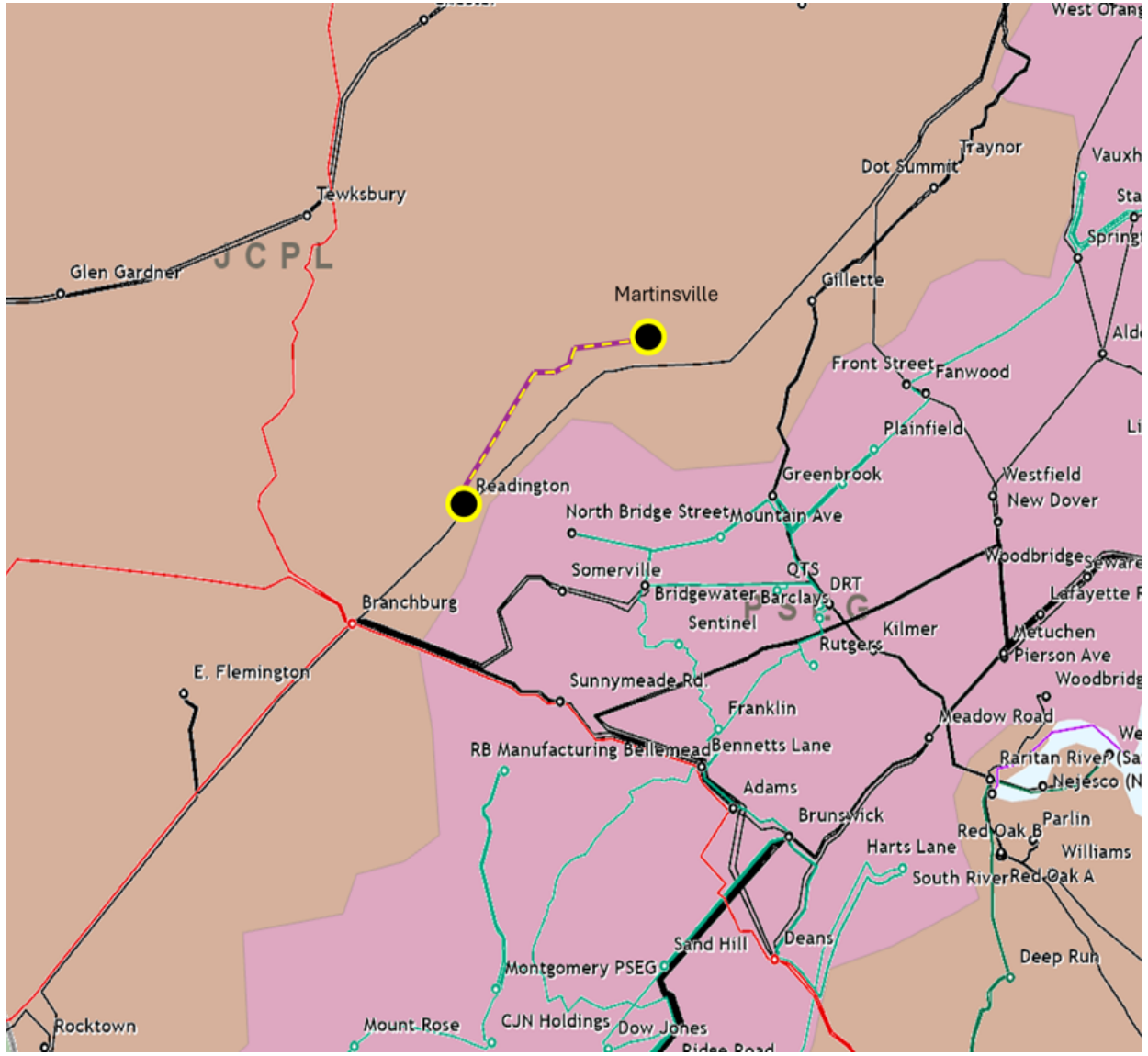
Specific Assumption References:

New customer connection requests will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

Problem Statement:

New Customer Connection - A retail customer requested 34.5 kV service for load of approximately 10 MW near the Martinsville - Readington 34.5 kV X778 Line. The request is approximately 0.5 miles from Martinsville Substation.

Requested in-service date is 1/25/2027.



JCPL Transmission Zone M-3 Process
Martinsville, NJ

Need number(s): JCPL-2025-010

Process Stage: Solution Meeting SRRTEP-MA - 12/11/2025

Proposed Solution:

- Construct approximately 0.01 miles 34.5 kV extension line from the Martinsville - Readington 34.5 kV X778 Line to the customer substation.
- Install three switches equipped with SCADA control.
- Adjust relay settings at Martinsville and Readington substations.
- Install revenue metering.

Alternatives Considered:

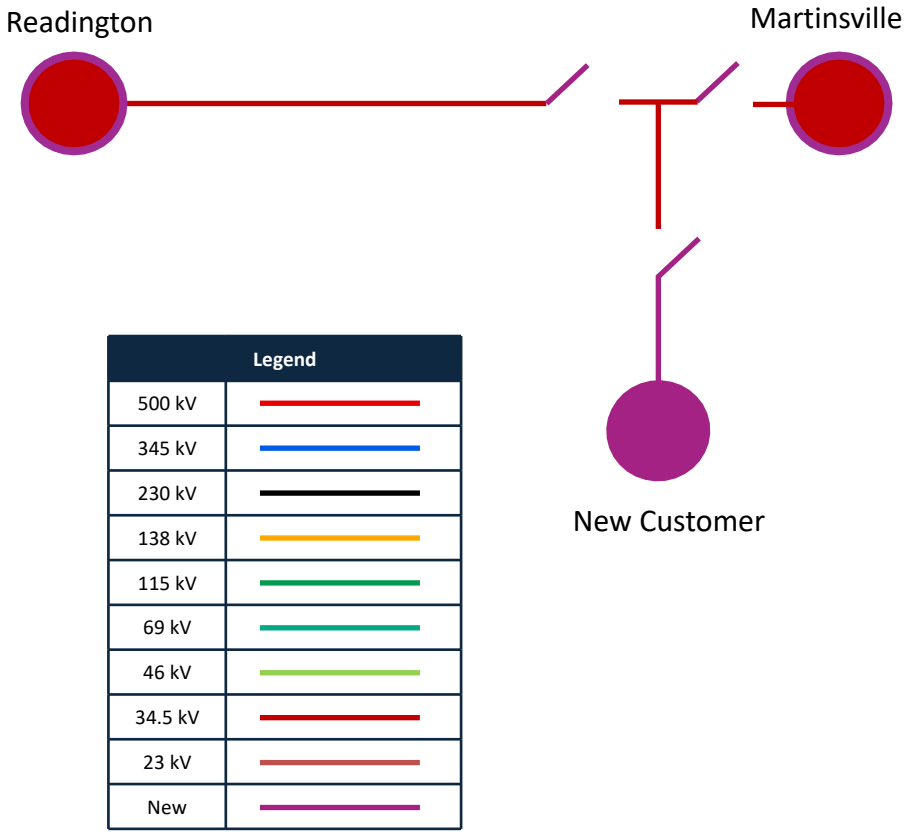
No reasonable alternatives to meet the customer's request due to the proximity to the Martinsville - Readington 34.5 kV X778 Line.

Estimate Project Cost: $1.08M

Projected In-Service: 06/01/2027

Project Status: Conceptual

Model: 2024 RTEP model for 2029 Summer (50/50)



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

12/1/2025 – V1 – Original version posted to pjm.com
12/2/2025 – V2 – Formatting Corrected