

Subregional RTEP Committee – Mid-Atlantic FirstEnergy Supplemental Projects

October 17, 2024

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

Need Number: JCPL-2024-048

Process Stage: Need Meeting – 10/17/2024

Project Driver:

Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

System Performance Projects Global Factors

- System reliability/performance
- Substation/line equipment limits

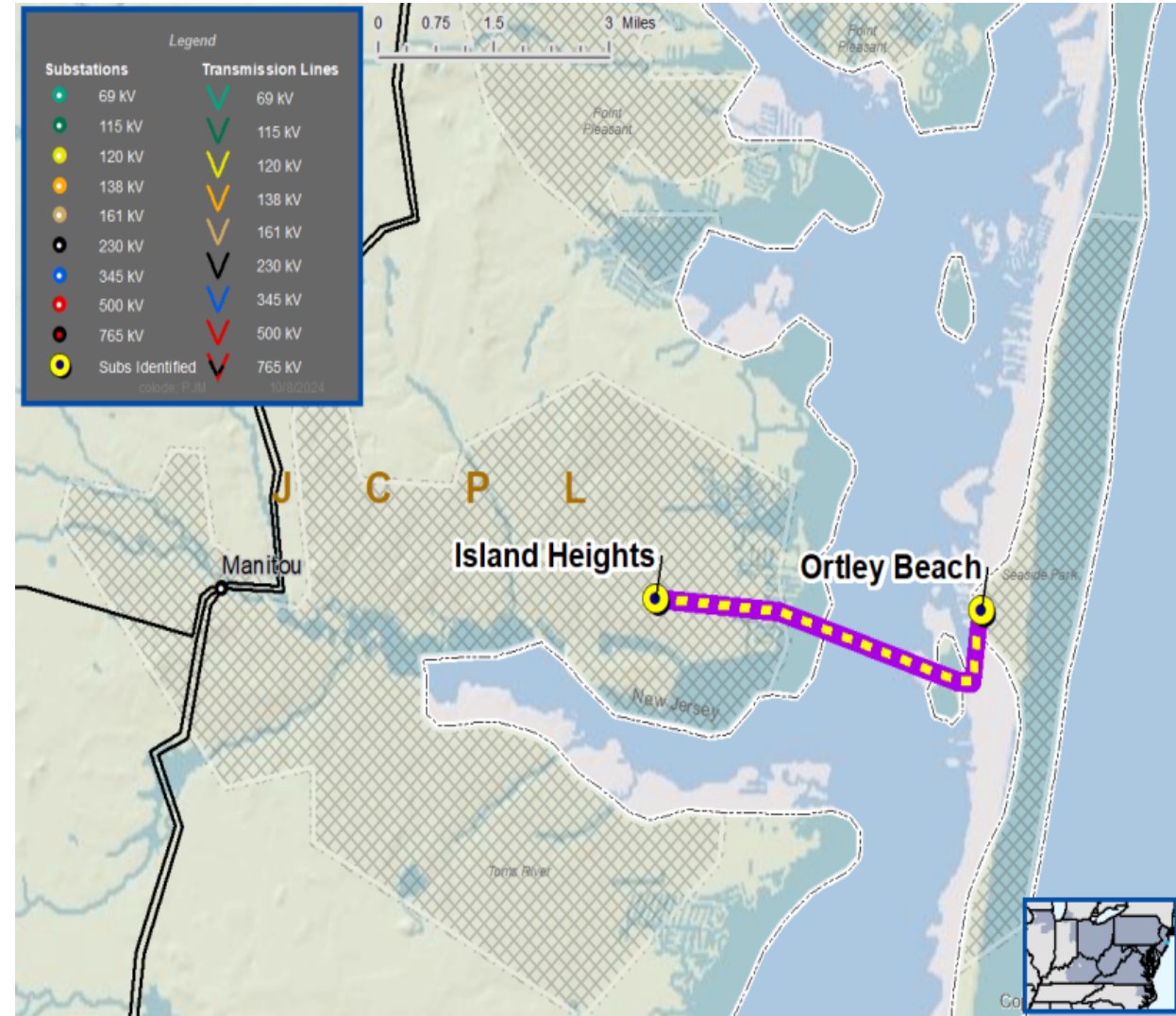
Substation Condition Rebuild/Replacement

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

Problem Statement:

- The existing Ortley Beach 34.5 kV breakers B7, B8, B9, Cap1, and Cap2 are over 50 years old and are approaching end of life.
- Replacement components are difficult to source leading to non-standard repairs.
- The circuit breakers require frequent maintenance to preserve the integrity of the oil and to replace parts on pneumatic systems.
- The lines are currently limited by terminal equipment.

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Need #	Transmission Line / Substation Locations	Existing Line Rating (MVA SN / SE / WN / WE)	Existing Conductor Rating (MVA SN / SE / WN / WE)
JCPL-2024-048	Ortley Beach – Island Heights V Tap 34.5 kV V126 Line	35 / 44 / 35 / 44	44 / 53 / 50 / 63
	Ortley Beach – Island Heights 34.5 kV N92 Line	51 / 67 / 51 / 76	55 / 67 / 63 / 79

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: JCPL-2024-034

Process Stage: Solution Meeting – 10/17/2024

Previously Presented: Need Meeting – 05/16/2024

Project Driver:

Customer Service

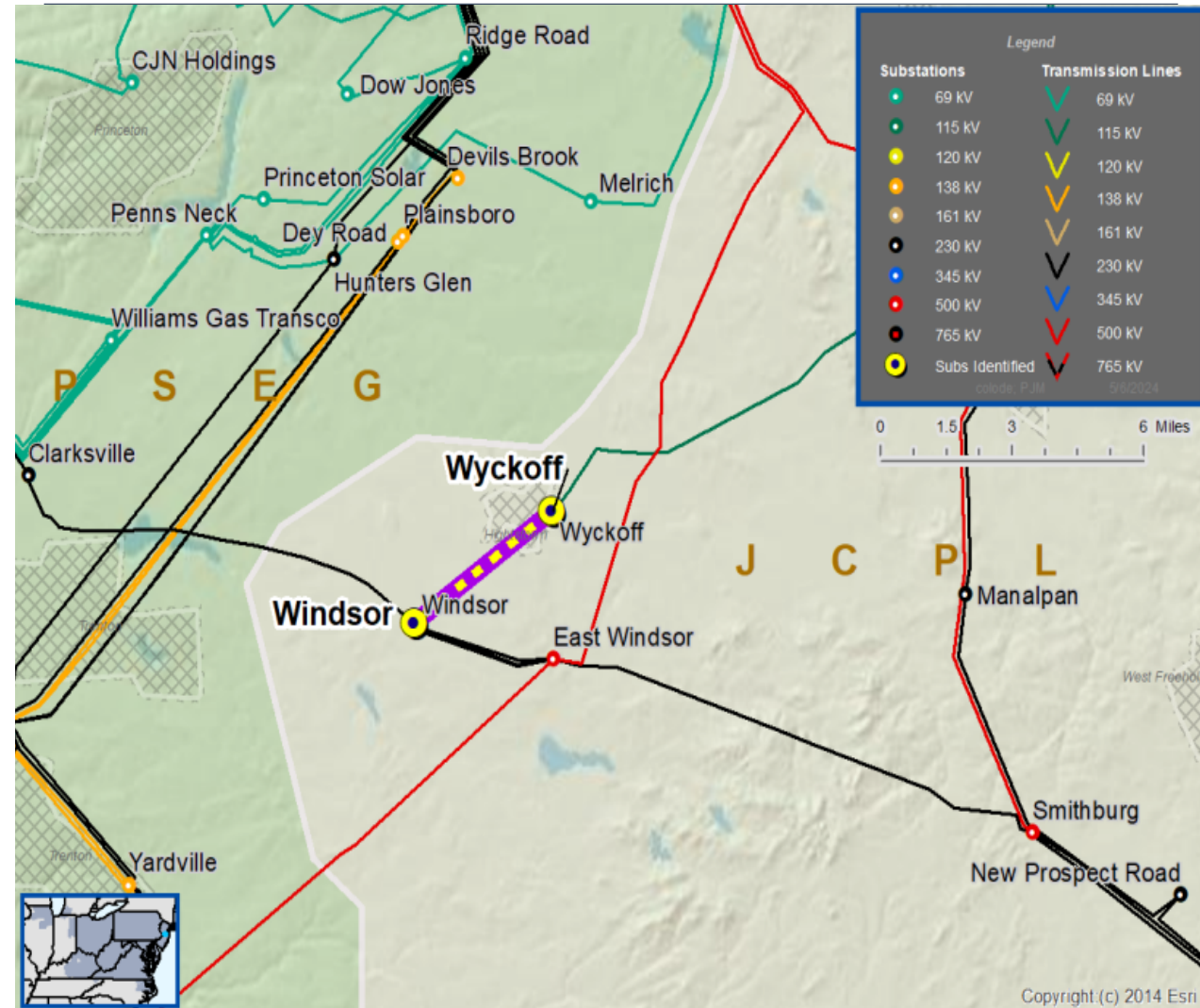
Specific Assumption Reference:

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 96 MVA near the Windsor – Wyckoff Street 34.5 kV M65 Line. The request is approximately two miles from Windsor Substation.

Requested in-service date is 03/04/2028



Need Number: JCPL-2024-034

Process Stage: Solution Meeting – 10/17/2024

Proposed Solution:

New 12-Breaker Substation

- Build a new 12-breaker, breaker-and-a-half substation
- Cut into the Windsor – Wyckoff Street M65 34.5 kV Line near structure #533 and construct approximately 1-2 spans of transmission line from the M65 line to the new FE substation.
- Cut into the Windsor – Wyckoff Street J136 34.5 kV Line near structure #53 and construct approximately two 1.2-mile transmission lines from the J136 line to the new FE substation.
- Install three new 34.5 kV breakers at Windsor Substation and build two 3.0-mile transmission lines from Windsor Substation to the new FE substation on shared structures.
- Build two spans of transmission line from the new substation to the POI with the Customer.
- Install two 34.5 kV revenue metering packages at customer substation
- Modify relay settings at Wyckoff Street, Windsor, Coke and McGraw Hill substations

Alternatives Considered:

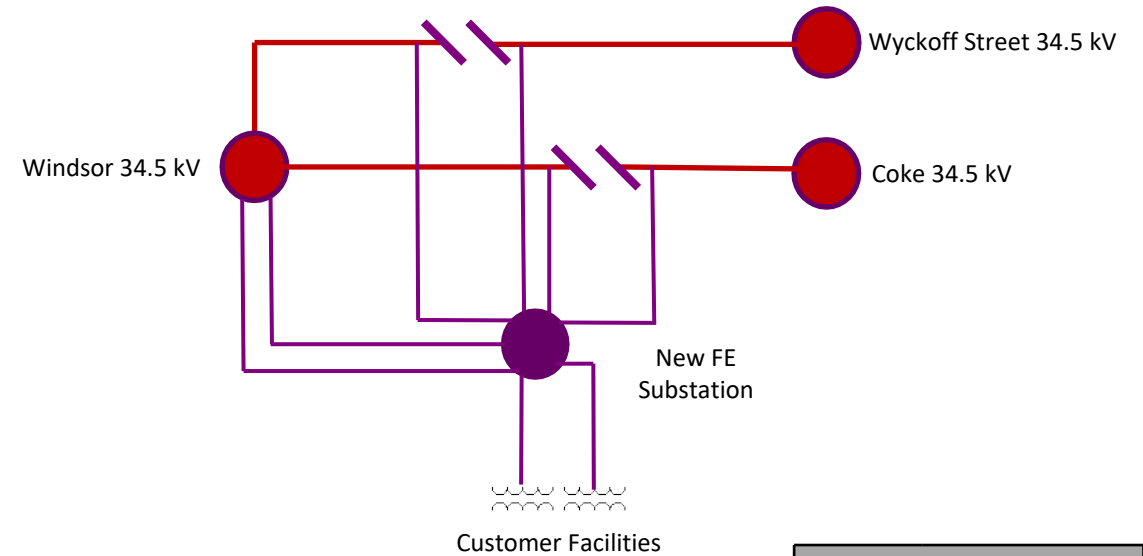
No other reasonable alternatives available due to the proximity to the Windsor Substation and existing 34.5 kV network lines.

Estimated Project Cost: \$54M

Projected In-Service: 7/24/2027

Status: Conceptual

Model: 2023 RTEP model for 2028 Summer (50/50)



Legend	
500 kV	
345 kV	
115 kV	
69 kV	
34.5 kV	
23 kV	
New	



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

10/07/2024 – V1 – Original version posted to pjm.com

10/8/2024 – V2 – Added maps for need JCPL-2024-048