

# First Energy (JCP&L) Local Plan Submission for the 2020 RTEP

**Need Number:** JCPL-2020-001

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Previously Presented:**

Need Meeting 3/20/2020

Solutions Meeting 7/7/2020

**Project Driver:**

*Operational Flexibility and Efficiency*

**Specific Assumption Reference:**

*Global Factors*

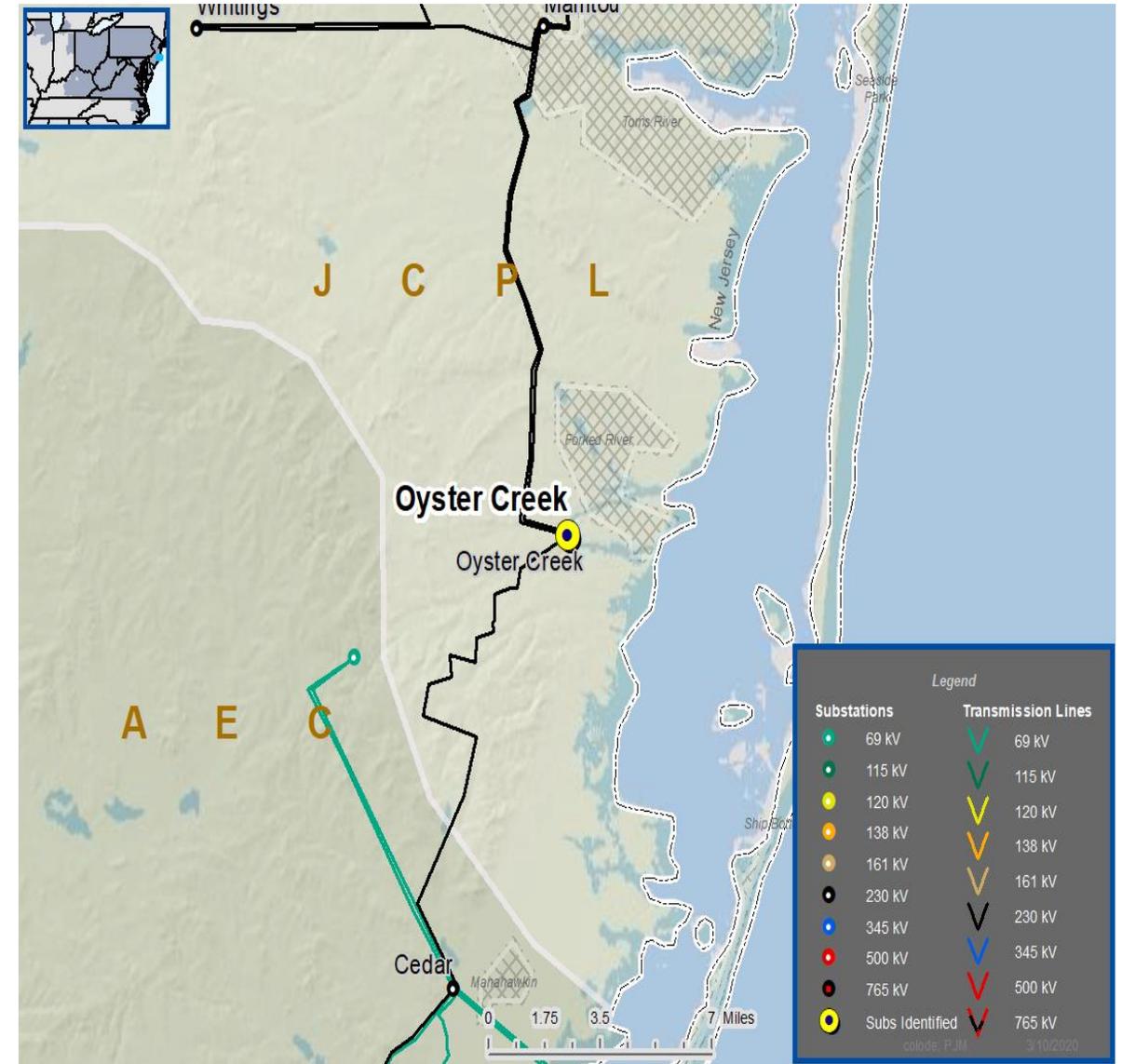
- System reliability and performance
- Reliability of Non-BES facilities
- Load at risk in planning and operational scenarios

*Add/Replace Transformers*

- System concerns related to loss of an existing transformer or other contingency scenarios at a specific voltage level(s)

**Problem Statement:**

Oyster Creek substation serves approximately 30,300 customers and 120 MW of load. Loss of the Oyster Creek #7 and #8 230-34.5 kV transformers results in a local voltage collapse with the Oyster Creek – Bamber Lake – Whittings (Q121) 34.5 kV line overloaded >125% of its 52 MVA SE rating.



**Need Number:** JCPL-2020-001

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Selected Solution:**

*Install one 230-34.5 kV Transformer at Oyster Creek*

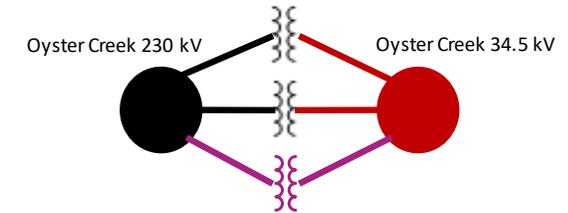
- Install one 230-34.5 kV 125 MVA Transformer.
- Extend the 230 kV bus and install two 230 kV breakers.
- Install two 34.5 kV breakers for connection to the 34.5 kV.

**Estimated Cost:** \$6.8 M

**Projected In-Service:** 6/1/2023

**Supplemental Project ID:** s2300

**Model:** 2019 RTEP Model for 2024



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	

**Need Number:** JCPL-2020-002

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Previously Presented:**

Need Meeting 6/16/2020

Solutions Meeting 7/16/2020

**Project Driver:**

*Customer Service*

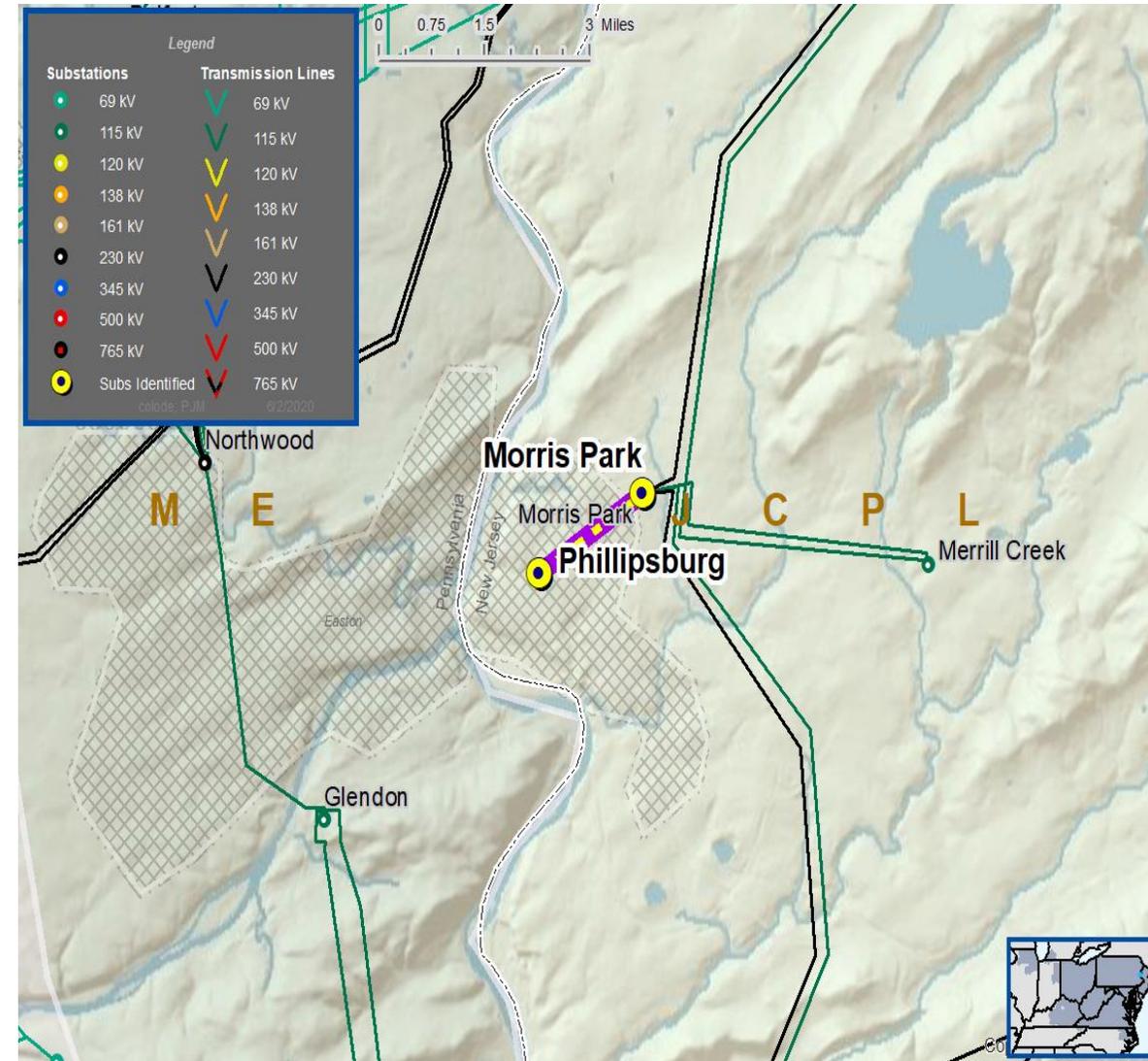
**Specific Assumption Reference:**

New customer connection request 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, anticipated load is 7 MW, location is near the Morris Park – Phillipsburg 34.5 kV line.

Requested in-service date is July 2020.



**Need Number:** JCPL-2020-002

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Selected Solution:**

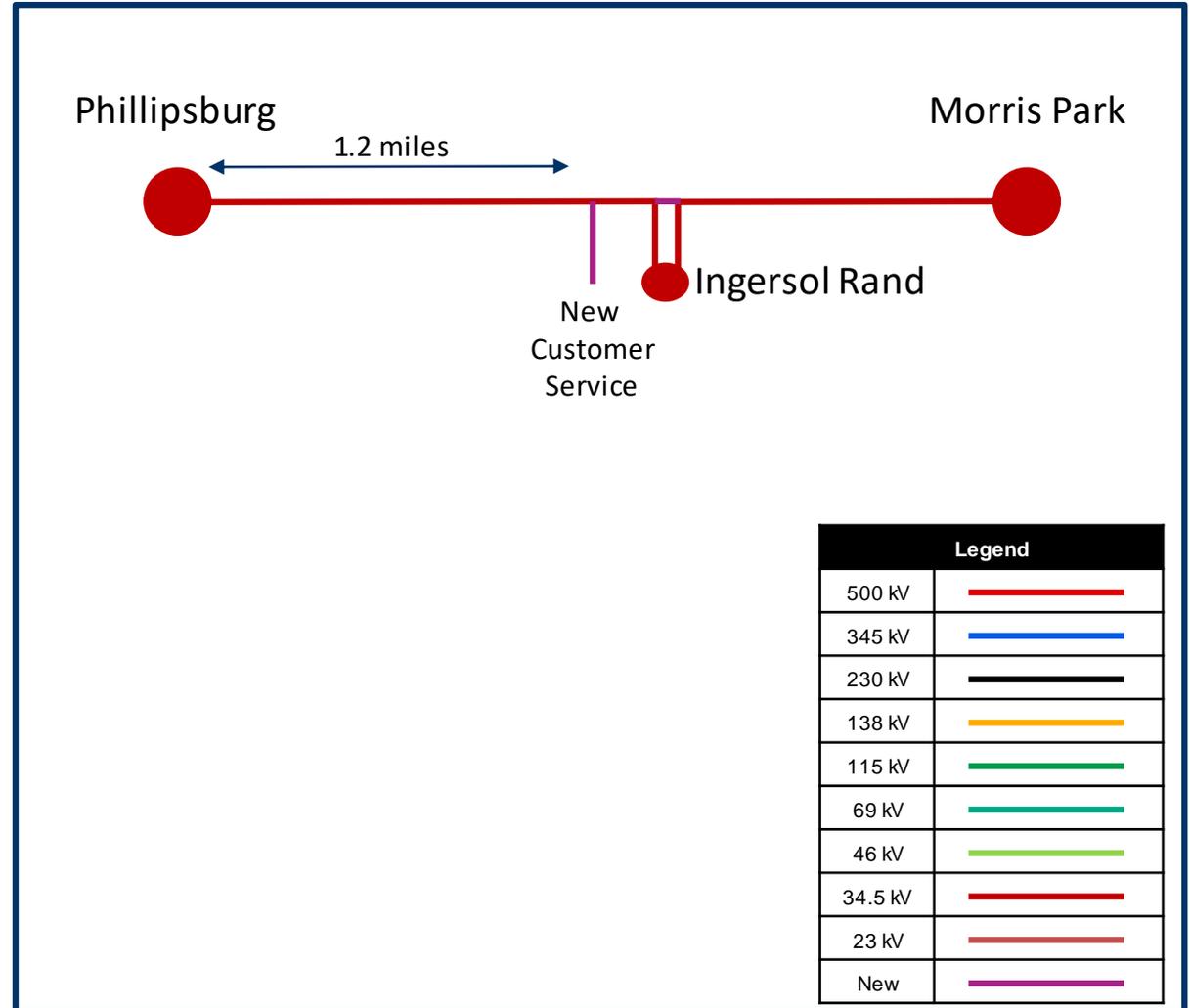
- Tap the Morris Park-Phillipsburg 34.5 kV line approximately 1.2 miles from Phillipsburg substation and build a 34.5 kV line one span toward the proposed customer substation.
- Disconnect the out-of-service customer owned 34.5 kV double circuit lines and jumper the 34.5 kV line at the tap location.
- Install two (2) 34.5 kV in-line switches on either side of the new customer tap connection
- Install one (1) 34.5 kV in-line switch on the line extension towards the customer substation

**Estimated Project Cost:** \$0.4M

**Projected In-Service:** 7/31/2020

**Supplemental Project ID:** s2308

**Model:** 2019 Series 2024 Summer RTEP 50/50



**Need Number:** JCPL-2020-003

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Previously Presented:**

Need Meeting 6/16/2020

Solutions Meeting 7/16/2020

**Project Driver:**

*Customer Service*

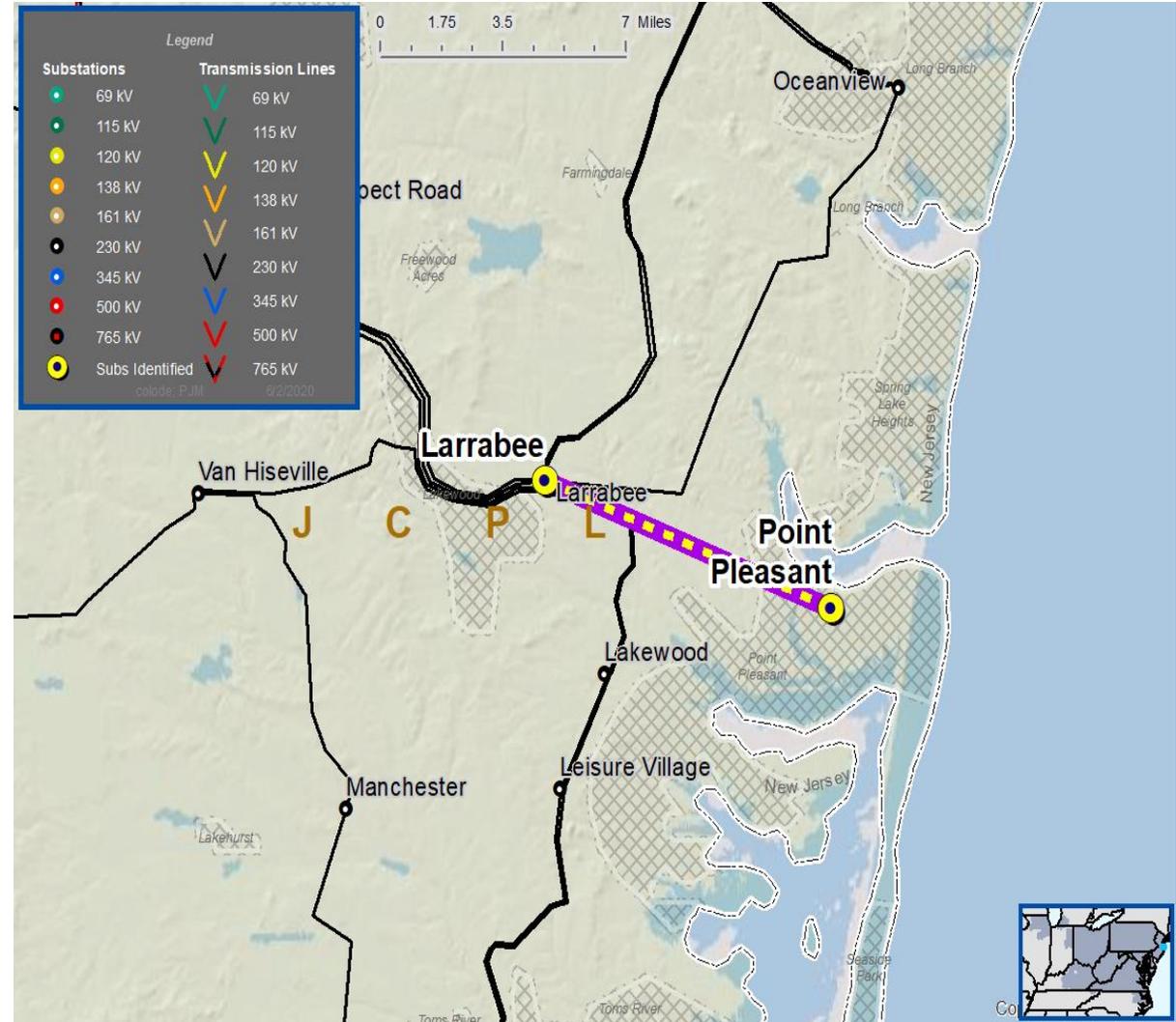
**Specific Assumption Reference:**

New customer connection request 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, anticipated load is 4 MW, location is near the Larrabee – Point Pleasant 34.5 kV line.

Requested in-service date is September 2020.



**Need Number:** JCPL-2020-003

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Selected Solution:**

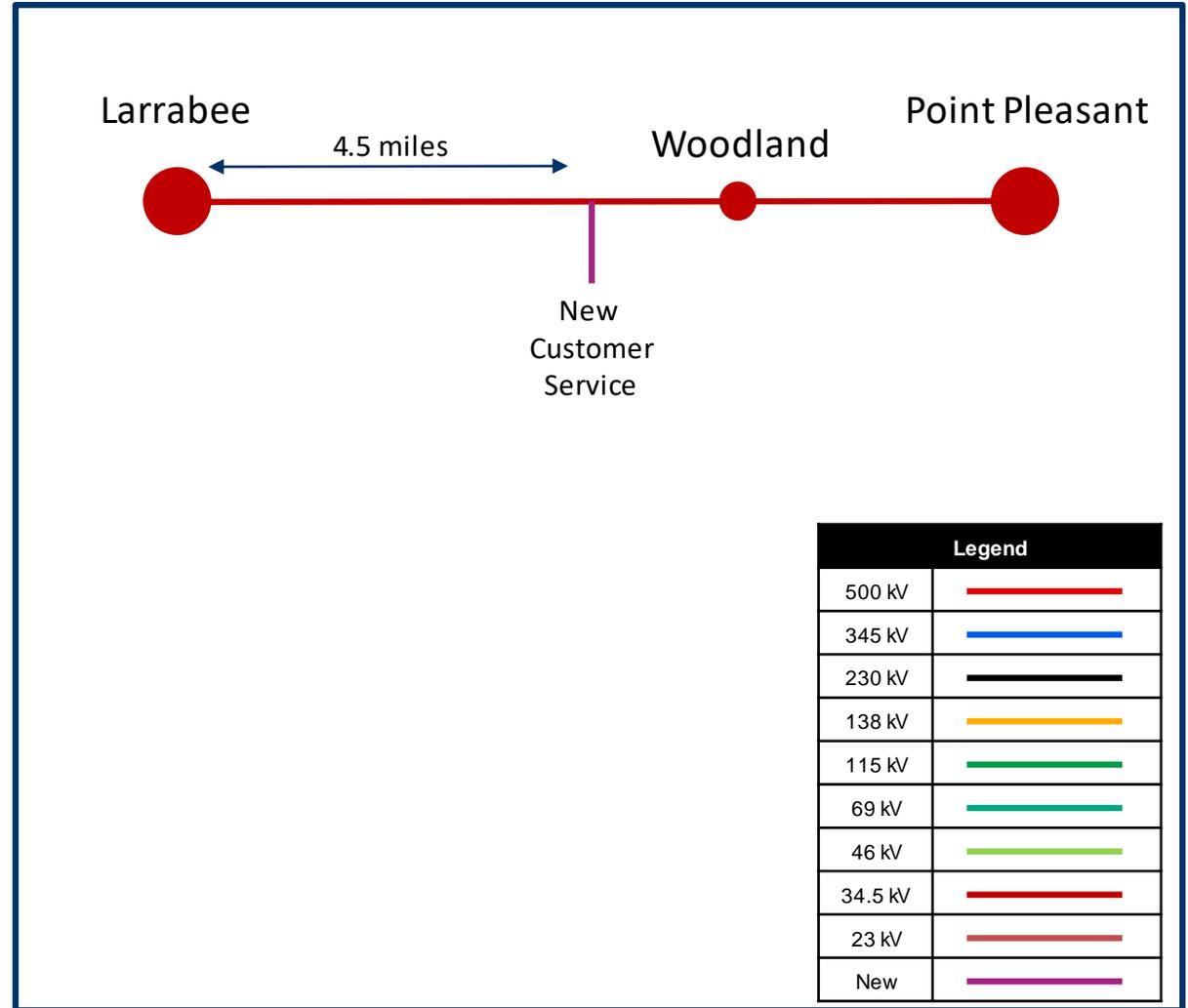
- Tap the Larrabee-Point Pleasant 34.5 kV line approximately 4.5 miles from Larrabee substation and build a 34.5 kV line one span toward the proposed customer substation.
- Install two (2) 34.5 kV in-line switches on either side of the new customer tap connection
- Install one (1) 34.5 kV in-line switch on the line extension towards the customer substation

**Estimated Project Cost:** \$0.4M

**Projected In-Service:** 9/1/2020

**Supplemental Project ID:** s2309

**Model:** 2019 Series 2024 Summer RTEP 50/50



**Need Number:** JCPL-2020-004

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Previously Presented:**

Need Meeting 7/7/2020

Solutions Meeting 8/4/2020

**Project Driver:**

*Customer Service*

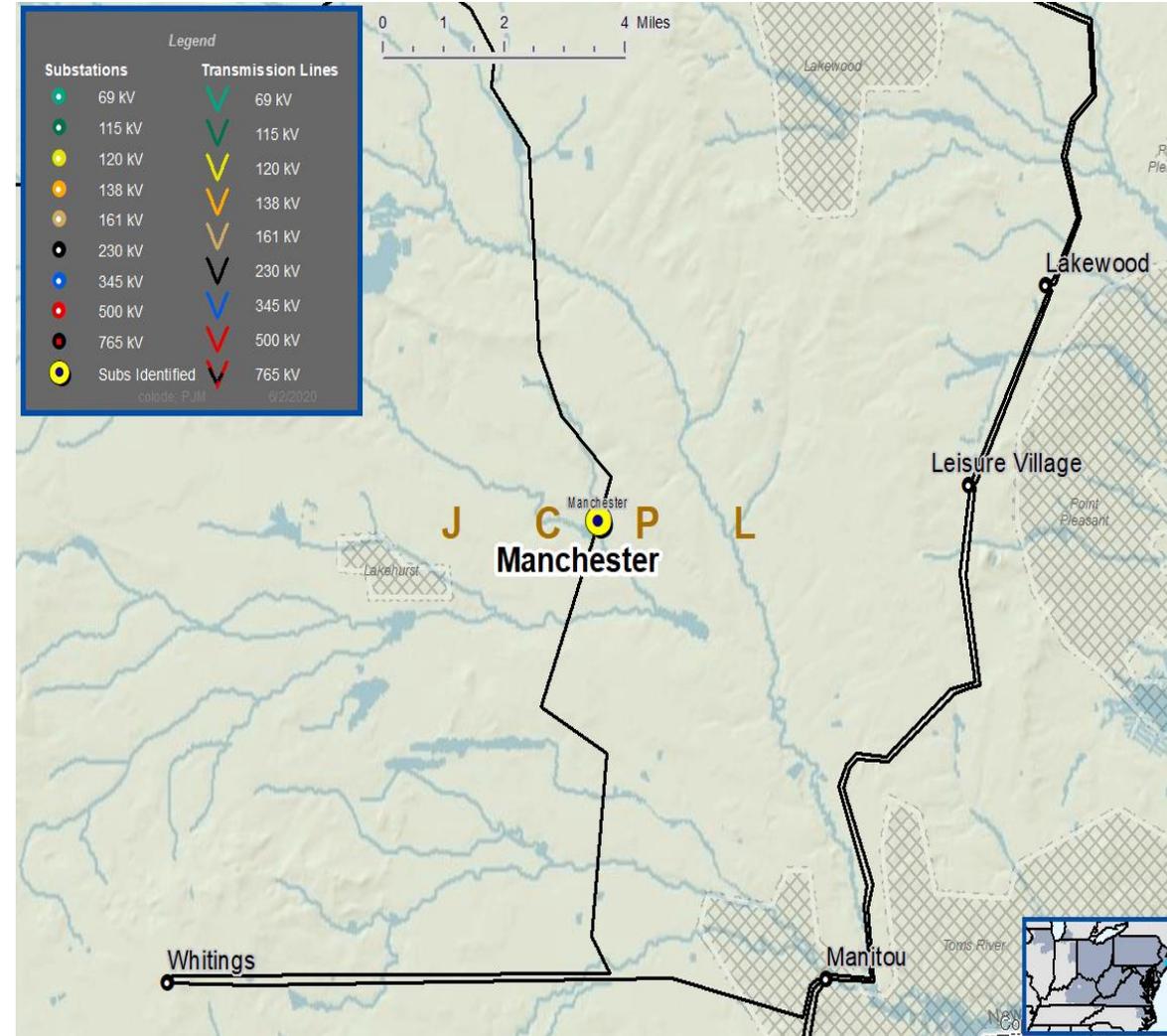
**Specific Assumption Reference:**

Customer connection request will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

**Problem Statement:**

Customer Connection – JCP&L Distribution requested to complete a 230 kV service connection in 2016 with an initial in-service date of June 2018. The anticipated load is 9 MW, location is at the existing Manchester 230-12.5 kV substation.

Requested in-service date is June 2020.



**Need Number:** JCPL-2020-004

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/16/2020

**Selected Solution:**

*Manchester 230-12.5 kV Transformer*

- Install 230 kV circuit breaker and associated equipment (switch, relaying, etc.) to feed the new 230-12.5 kV #2 transformer.
- Remove 34.5-12.5 kV Mobile transformer.

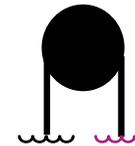
**Estimated Project Cost:** \$0.2 M

**Projected In-Service:** 8/31/2020

**Supplemental Project ID:** s2315

**Model:** 2019 RTEP Model for 2024

Manchester 230 kV



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	

# Questions?



# Revision History

10/16/2020 – V1 – Original version posted to pjm.com. Included S2300, S2308, S2309 and S2315