

First Energy (JCP&L) Local Plan Submission for the 2021 RTEP

Need Number: JCPL-2020-006

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Previously Presented:

Need Meeting 8/13/2020

Solutions Meeting 9/10/2020

Project Driver:

Customer Service

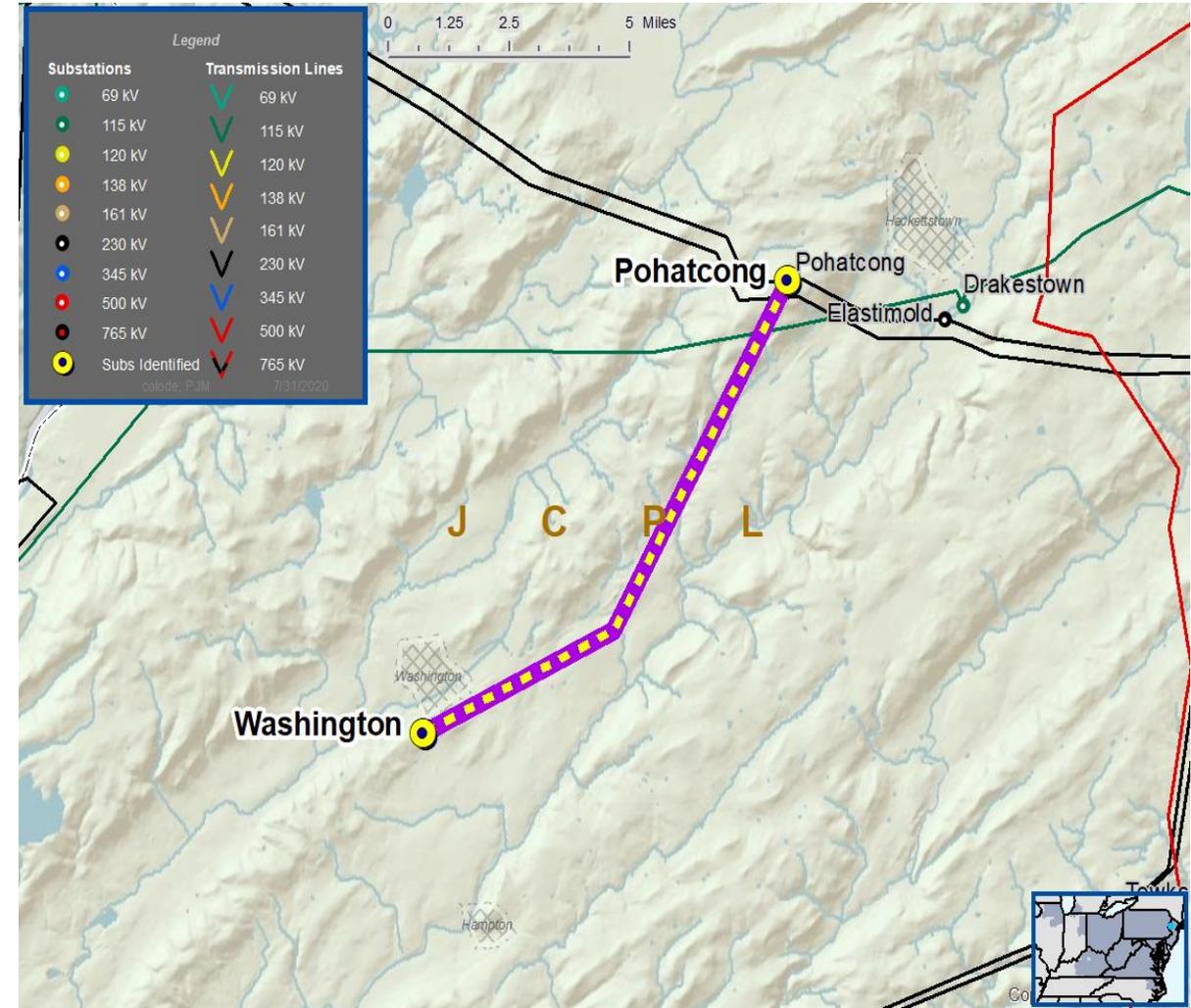
Specific Assumption Reference:

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 Temporary Connection – A customer requested temporary 34.5 kV service, anticipated load is 4 MW, location is near the Washington – Pohatcong 34.5 kV line.

Requested in-service date is September 2020.



Need Number: JCPL-2020-006

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Selected Solution:

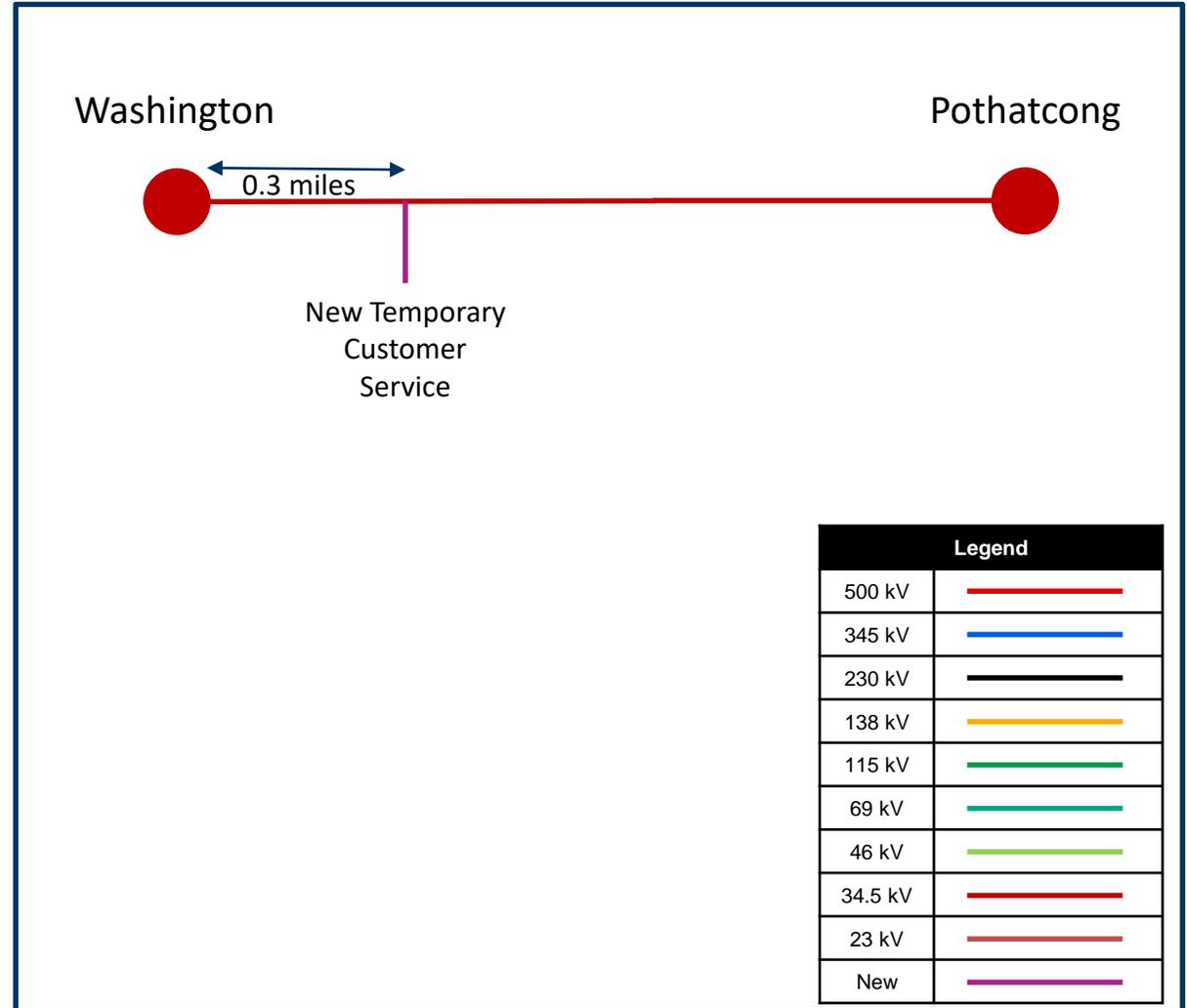
- Tap the Washington – Pohatcong 34.5 kV line approximately 0.3 miles from Washington substation and build a 34.5 kV line one span toward the proposed customer temporary service substation.

Estimated Project Cost: \$0.1M

Projected In-Service: 9/30/2020

Supplemental Project ID: s2358

Model: 2019 Series 2024 Summer RTEP 50/50



Need Number: JCPL-2020-007

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Previously Presented:

Need Meeting 8/13/2020

Solutions Meeting 9/10/2020

Project Driver:

Customer Service

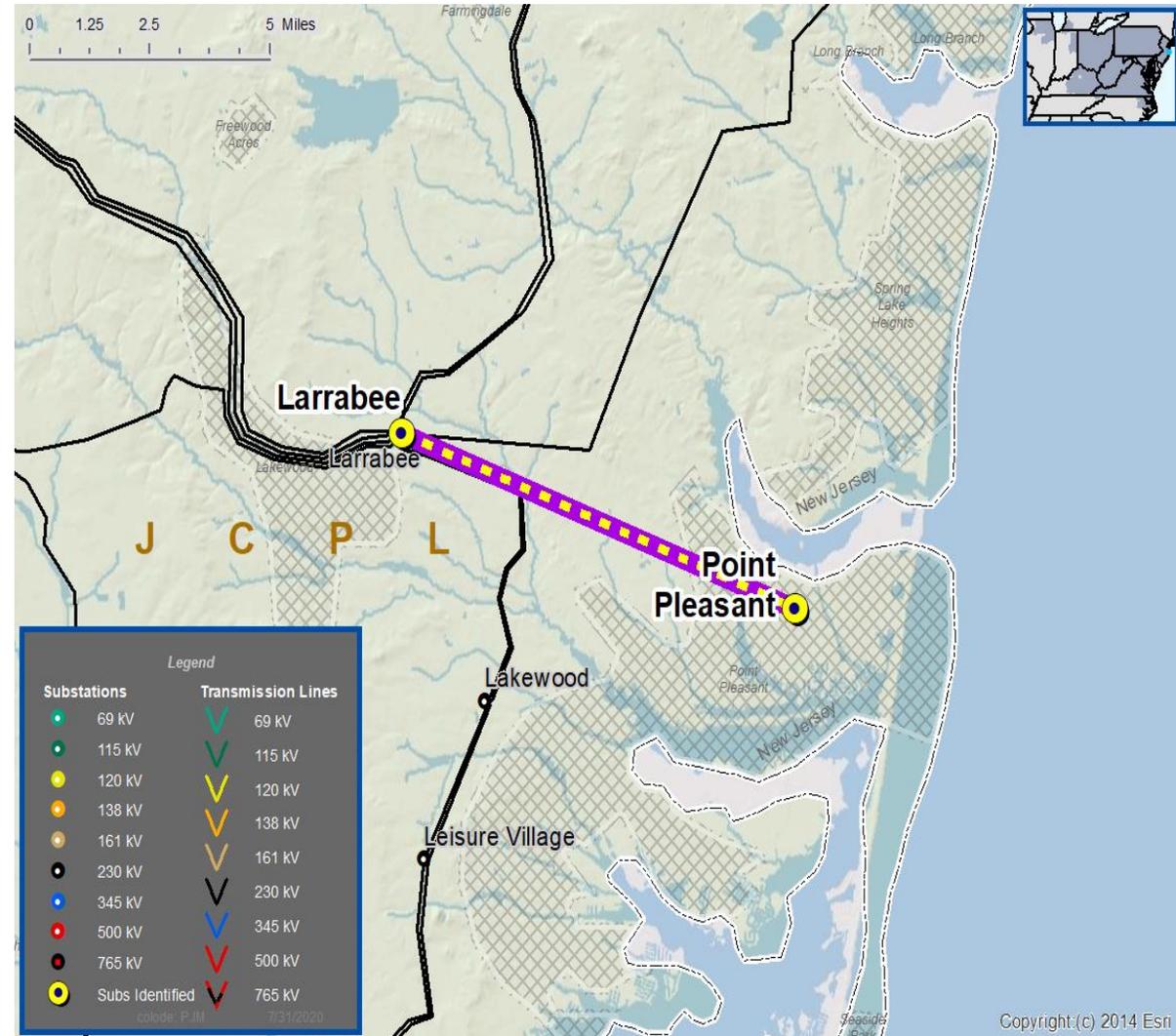
Specific Assumption Reference:

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 – An existing customer requested a second 34.5 kV service, anticipated load is 2 MW, location is near the Larrabee – Point Pleasant 34.5 kV line.

Requested in-service date is December 2020.



Need Number: JCPL-2020-007

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Selected Solution:

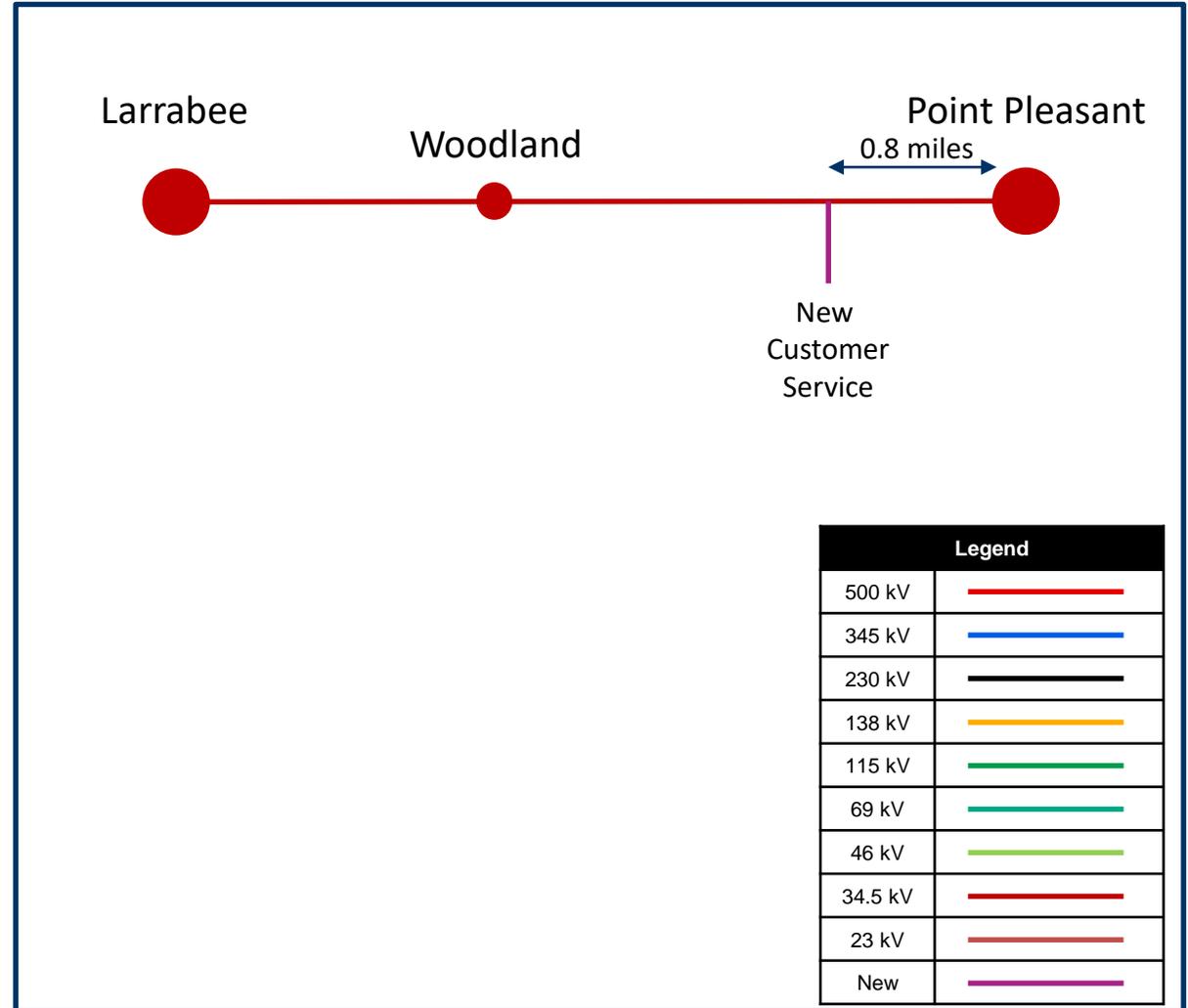
- Tap the Larrabee-Point Pleasant 34.5 kV line approximately 0.8 miles from Point Pleasant substation and build a 34.5 kV line one span toward the customer substation.
- Install two (2) 34.5 kV in-line switches on either side of the new customer tap connection
- Install one (1) 34.5 kV in-line switch on the line extension towards the customer substation

Estimated Project Cost: \$0.3M

Projected In-Service: 12/31/2020

Supplemental Project ID: s2359

Model: 2019 Series 2024 Summer RTEP 50/50



Need Number: JCPL-2020-008

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Previously Presented:

Need Meeting 8/13/2020

Solutions Meeting 9/10/2020

Project Driver:

Customer Service

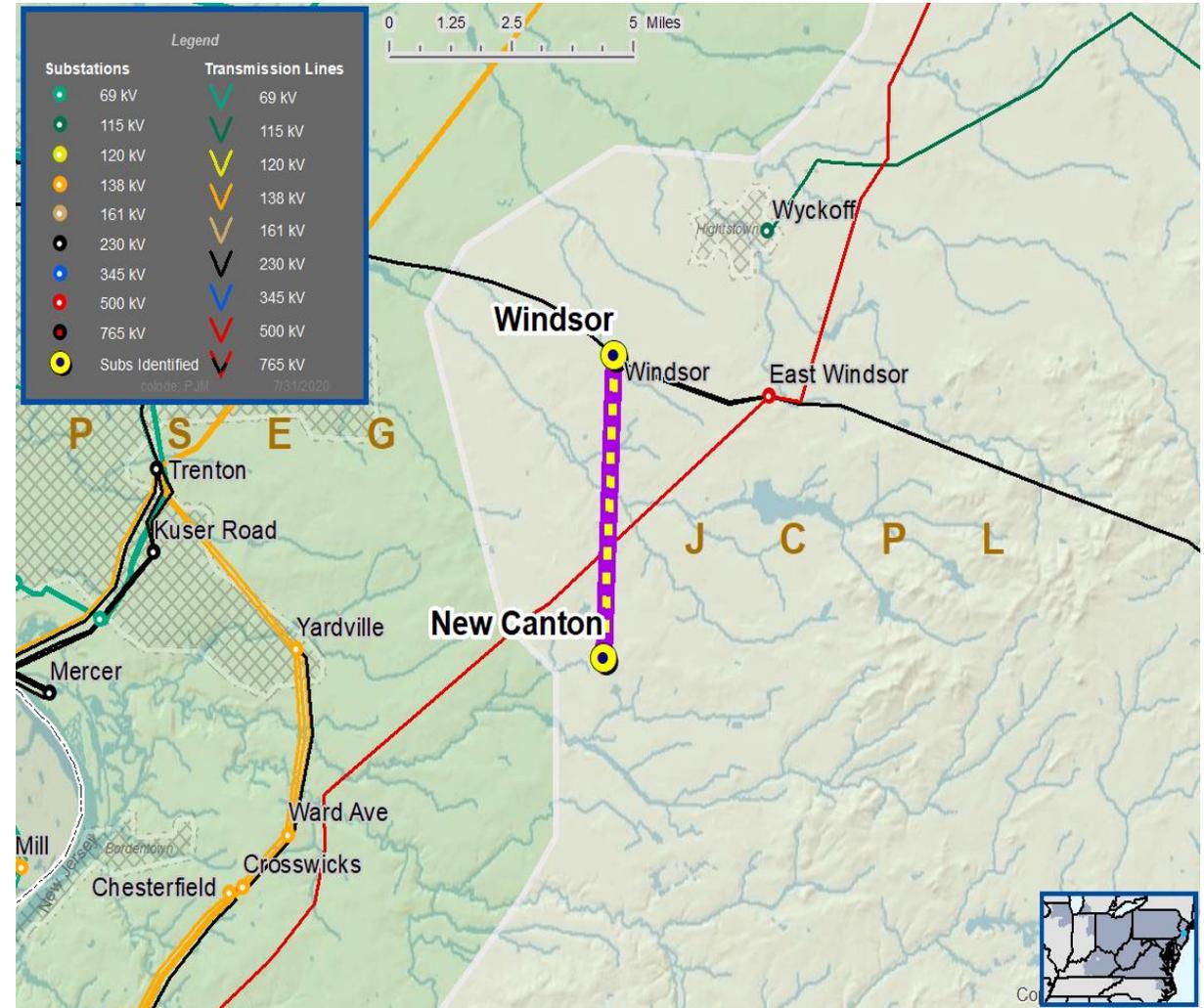
Specific Assumption Reference:

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 – An existing 12.5 kV customer requested 34.5 kV service, anticipated load is 1 MW with behind the meter generation (2.5 MW), location is near the Windsor – New Canton 34.5 kV line.

Requested in-service date is September 2020.



Need Number: JCPL-2020-008

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Selected Solution:

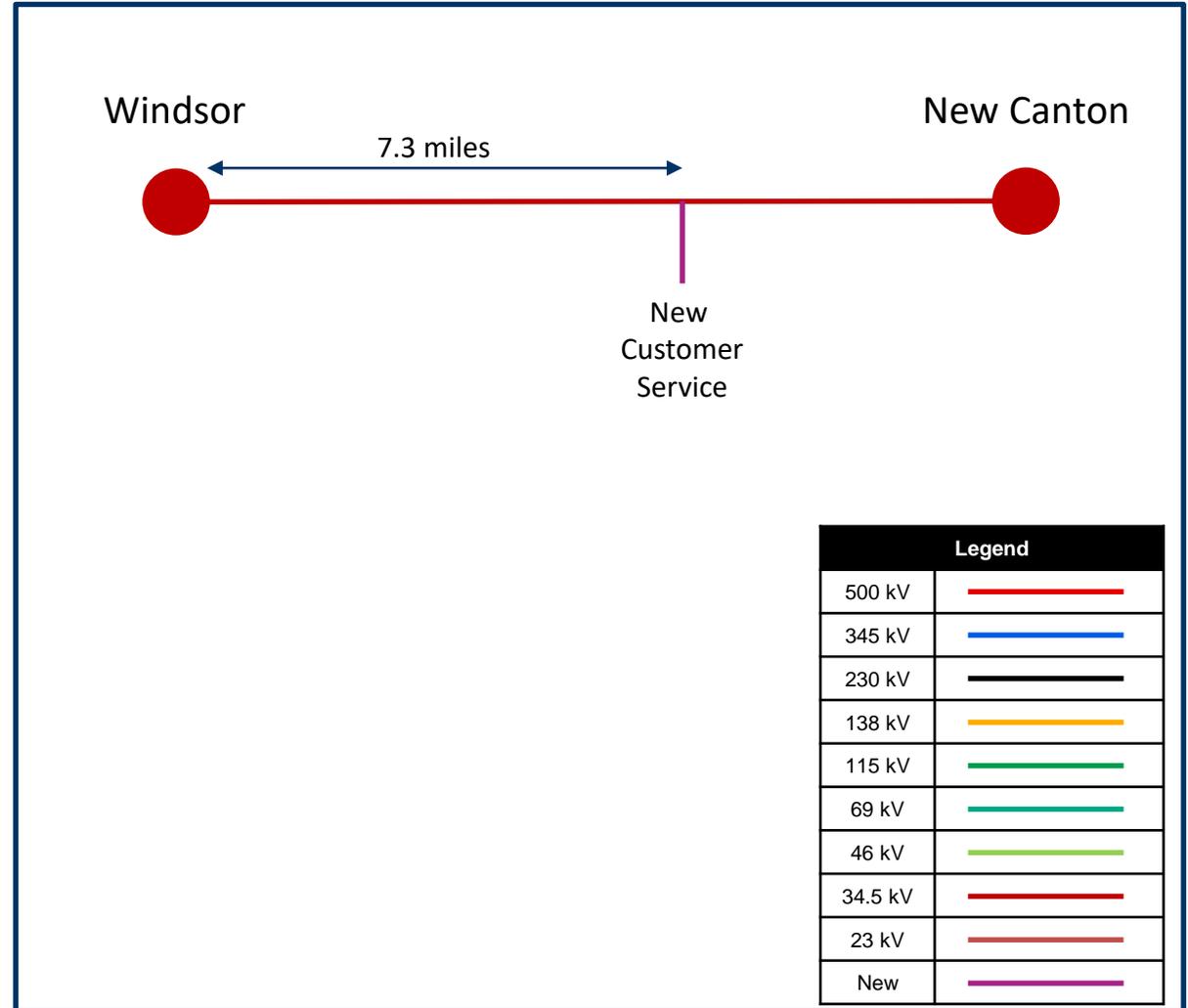
- Tap the Windsor-New Canton 34.5 kV line approximately 7.3 miles from Windsor substation and build a 34.5 kV line one span toward the proposed customer substation.
- Install one (1) 34.5 kV in-line switch on the line extension towards the customer substation

Estimated Project Cost: \$0.1M

Projected In-Service: 9/30/2020

Supplemental Project ID: s2360

Model: 2019 Series 2024 Summer RTEP 50/50



Need Number: JCPL-2019-015

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Previously Presented: Need Meeting 4/11/2019

Solution Meeting 5/11/2021

Project Driver:

*Equipment Material Condition, Performance and Risk
Operational Flexibility and Efficiency*

Specific Assumption Reference:

System Performance Projects Global Factors

- System reliability and performance
- Substation/line equipment limits
- Upgrade Relay Schemes
- Relay schemes that have a history of misoperation
- Obsolete and difficult to repair communication equipment (DTT, Blocking, etc.)
- Communication technology upgrades
- Bus protection schemes

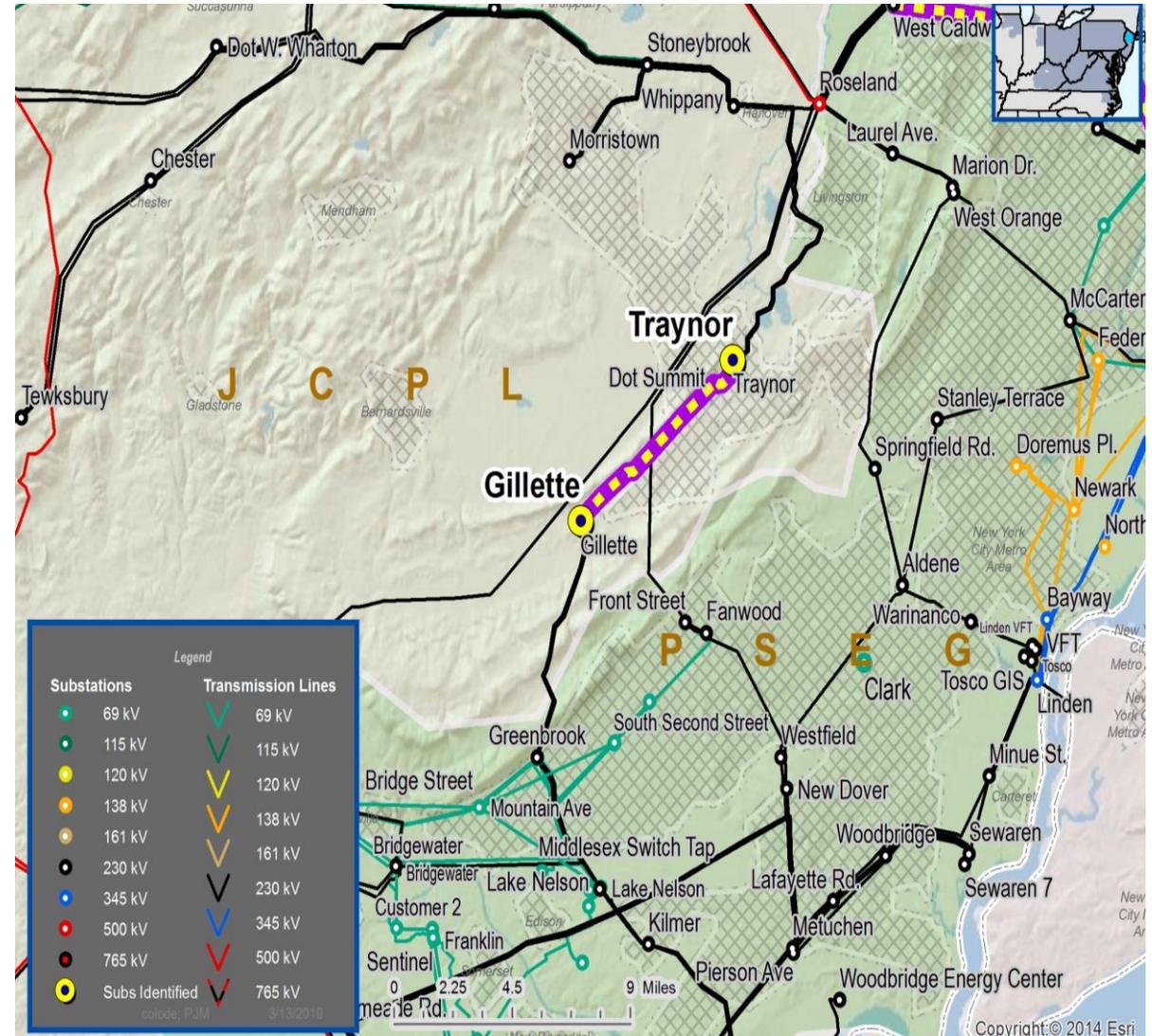
Problem Statement:

- FirstEnergy has identified protection schemes using a certain vintage of relays and communication equipment that have a history of misoperation.
- Proper operation of the protection scheme requires all the separate components perform adequately during a fault.
- In many cases the protection equipment cannot be repaired due to a lack of replacement parts and available expertise in the outdated technology.
- Transmission line ratings are limited by terminal equipment.

Transmission line ratings are limited by terminal equipment.

Gillette – Traynor 230 kV Line (substation conductor)

- Existing line rating: 678 / 813 MVA (SN / SE)
- Existing conductor rating: 709 / 869 MVA (SN / SE)



Need Number: JCPL-2019-015

Process Stage: Submission of Supplemental Project for Inclusion in the Local Plan 9/20/2021

Selected Solution:

Gillette 230 kV Substation:

- Replace line relaying, line trap, and CCVT.
- Replace substation conductor

Traynor 230 kV Substation:

- Replace line relaying, line trap, and CCVT.
- Replace substation conductor

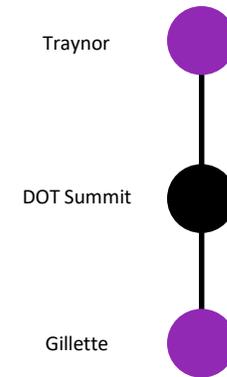
Transmission Line Ratings:

- Gillette – DOT Summit 230 kV Line
 - Before Proposed Solution: 678 / 802 MVA (SN/SE)
 - After Proposed Solution: 709 / 869 MVA (SN/SE)
- DOT Summit – Traynor 230 kV Line
 - Before Proposed Solution: 678 / 813 MVA (SN/SE)
 - After Proposed Solution: 709 / 869 MVA (SN/SE)

Estimated Project Cost: \$2M

Projected In-Service: 6/1/2021

Supplemental Project ID: s2565, s2565.1



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

Questions?



Revision History

9/20/2021 – V1 – Original version posted to pjm.com. Included s2358, s2359, s2360 and s2565