

PECO 2023
Submission of Supplemental Projects for
Inclusion in the Local Plan

Need Number: PE-2022-004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 1/18/2023

Previously Presented:

Need Meeting – TEAC – 7/12/2022

Solution Meeting – TEAC – 8/9/2022

Project Driver:

- Customer Service

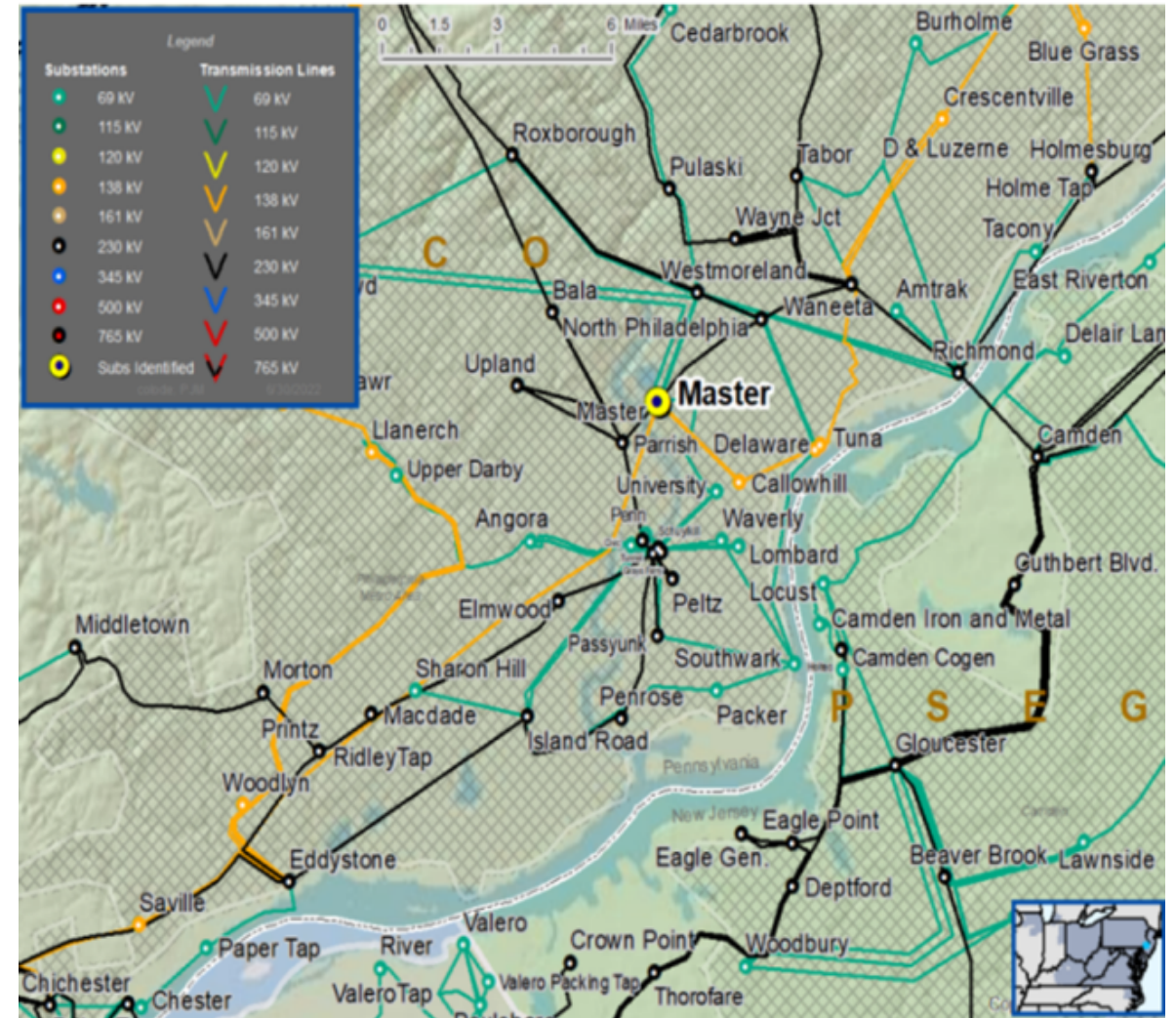
Specific Assumption Reference:

- System configuration changes due to new or expansion of existing distribution substations

Problem Statement:

- PECO Distribution Capacity Planning has submitted a request to add a 3rd 230/13 kV transformer at Master Substation. The transformer will provide capacity to relieve surrounding substations and provide capacity for growth.

Requested in-service date is 12/31/25.





PECO Transmission Zone Master 3rd 230/13 kV Transformer

Need Number: PE-2022-004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 1/18/2023

Proposed Solution:

- Install one 3000A 63kA 230 kV breaker on the Master straight bus to create a bus section for the 3rd Master 230/13 kV transformer to connect to
- Install 3rd Master 230/13 kV 62 MVA transformer with high side breaker

Estimated cost: Transmission portion is \$0.8M

Projected In-Service: 6/1/25

Supplemental Project ID: s2808

Project Status: Engineering

Model: 2026 RTEP



Need Number: PE-2022-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented:

Need Meeting 8/18/22

Solutions Meeting 9/15/22

Project Driver:

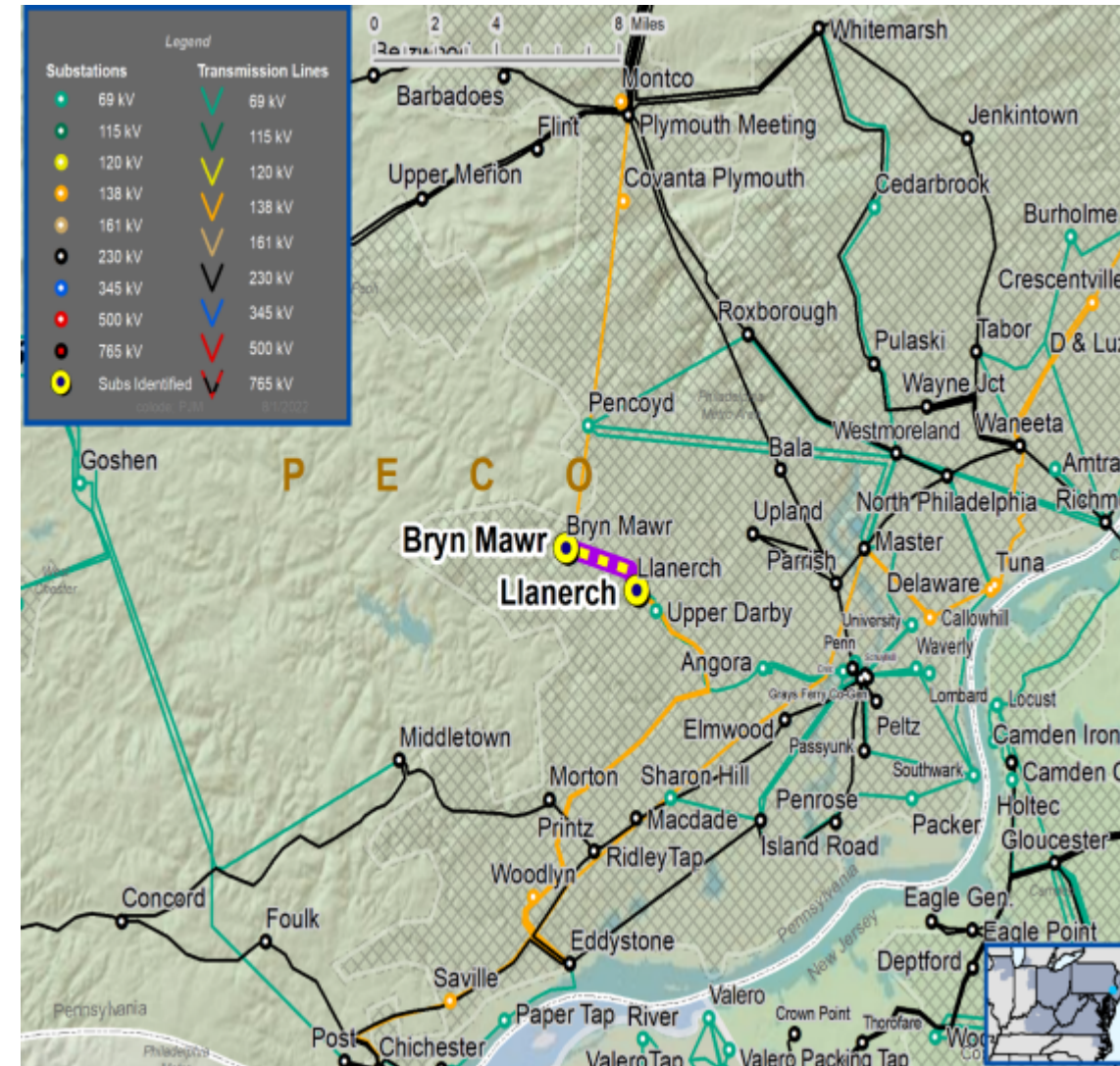
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, etc.

Problem Statement:

- The wood poles on the 130-36 (Bryn – Llanerch) 138 kV line were erected in 1959 and are 63 years old & are at end of life
- There are 62 structures on the line of which 45 structures are constructed of steel and 17 structures are constructed of wood on a 1-mile stretch
- The wood poles are exhibiting the following damage: pole top rot, woodpecker damage, severe splintering and cracked; also, cross arm & cross brace rot





Need Number: PE-2022-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Proposed Solution:

- Replace 17 wood structures on a 1-mile stretch with steel structures
- New structures will use 795 ACSR conductor for the rebuild portion of the line
- Replace the 477 ACSR OHT conductor to the UGT terminators at West Overbrook Terminal Yard with 1000 kcmil 37 strand AAC

<u>Existing ratings (MVA):</u>	SN/SE	WN/WE
130-36 Bryn – Llanerch	165/203	203/233
<u>New ratings (MVA):</u>	SN/SE	WN/WE
130-36 Bryn – Llanerch	193/248	217/274

Estimated cost: \$6.78M

Projected In-Service: 11/2/22

Supplemental Project ID: s2838

Project Status: Engineering

Model: 2027 RTEP

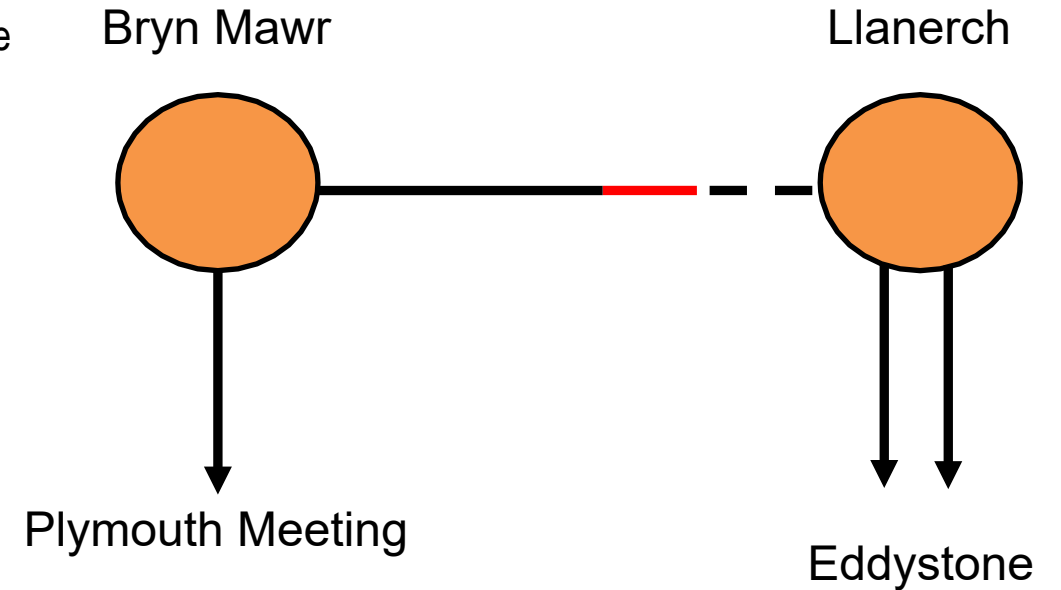


Image Key

- OHT:
- Rebuilding OHT:
- UGT:

Need Number: PE-2022-006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented:

Need Meeting 11/1/22

Solutions Meeting 12/6/22

Project Driver:

- Equipment Material Condition, Performance and Risk

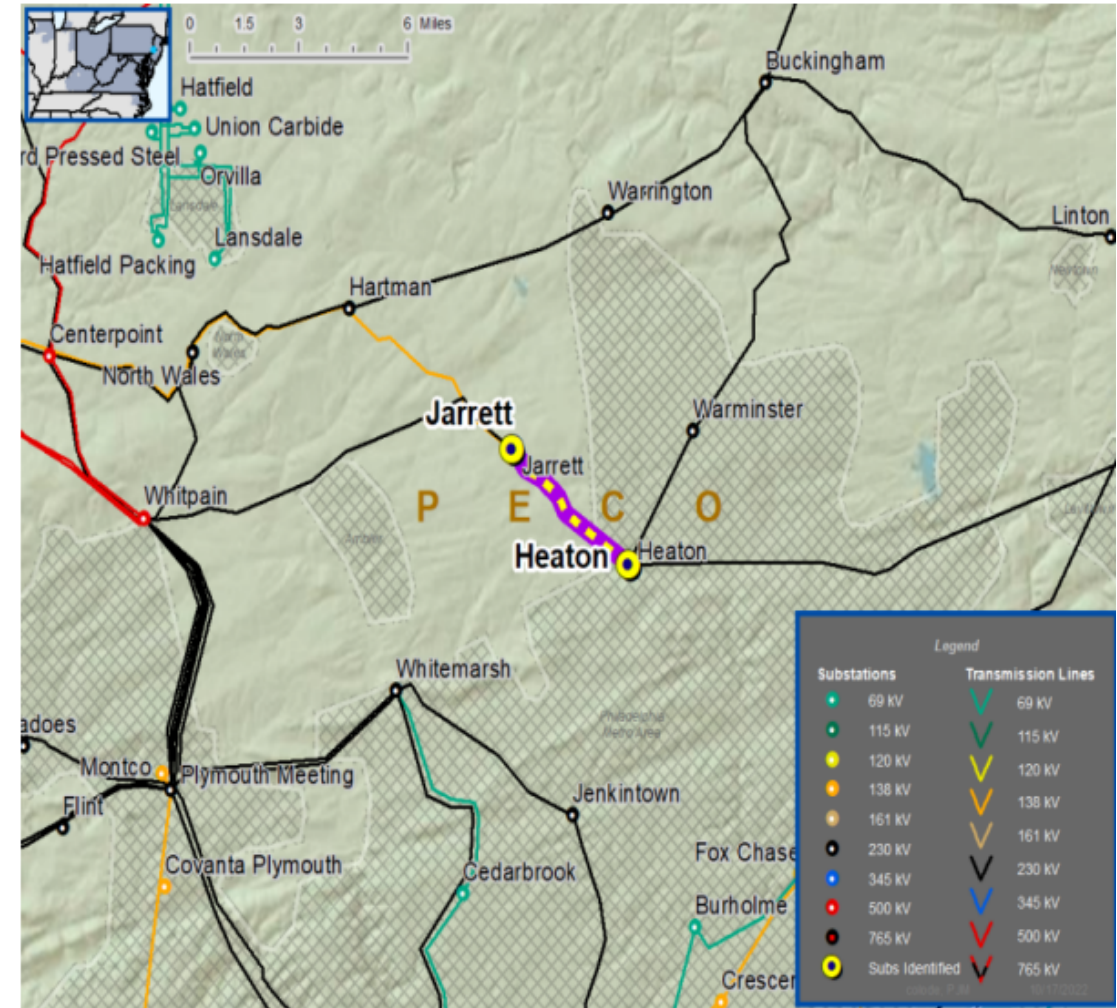
Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, etc.

Problem Statement:

230kV line 220-51 (Heaton – Jarrett) has obsolete relays

- It is becoming difficult to service existing electromechanical relays. They are being phased out of the system.





Need Number: PE-2022-006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Proposed Solution:

Upgrade relays, communication, metering & removal of wave trap on 220-51 (Heaton – Jarrett) line

<u>Existing ratings (MVA):</u>	SN/SE	WN/WE
220-51 Heaton – Jarrett	812/927	893/927
<u>New ratings (MVA):</u>	SN/SE	WN/WE
220-51 Heaton – Jarrett	812/965	893/1047



Estimated cost: \$1.77M

Projected In-Service: 4/1/2023

Supplemental Project ID: s2892

Project Status: Engineering

Model: 2027 RTEP

Need Number: PE-2023-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented:

Need Meeting 2/7/23

Solutions Meeting 3/7/23

Project Driver:

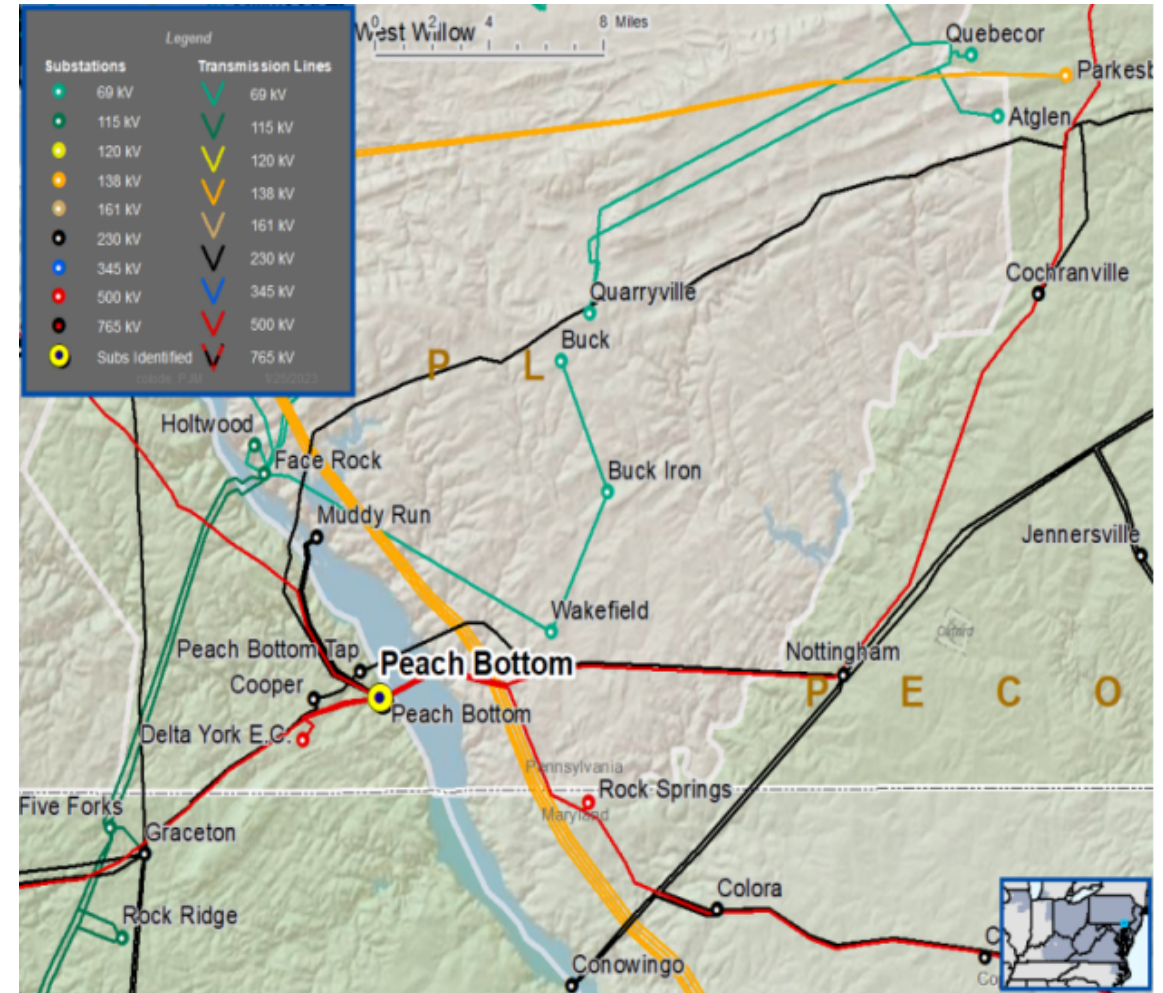
Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, etc.

Problem Statement:

- There are obsolete relays on Peach Bottom North Generating Unit #3. It is becoming difficult to service existing electromechanical relays.
- Peach Bottom #67 motor operated disconnect has lack of vendor support and has become obsolete.





Need Number: PE-2023-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
7/12/2023

Proposed Solution:

Upgrade primary & backup relays, communication, and replace #67 motor operated disconnect on Peach Bottom North Generating Unit #3

#67 MOD Ratings:

Existing rating 2500A, 70kA

New rating 4000A and 63kA

Existing ratings (MVA):	SN/SE	WN/WE
Peach-Bottom #3 GSU Lead	2477/2598	2598/2598
Proposed ratings (MVA):	SN/SE	WN/WE
Peach-Bottom #3 GSU Lead	2598/3016	2598/3118

Estimated cost: \$1.04M

Projected In-Service: 11/3/2023

Supplemental Project ID: s2899

Project Status: Engineering

Model: 2027 RTEP



Need Number: PE-2023-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented:

Need Meeting 2/7/23

Solution Meeting 3/7/2023

Project Driver:

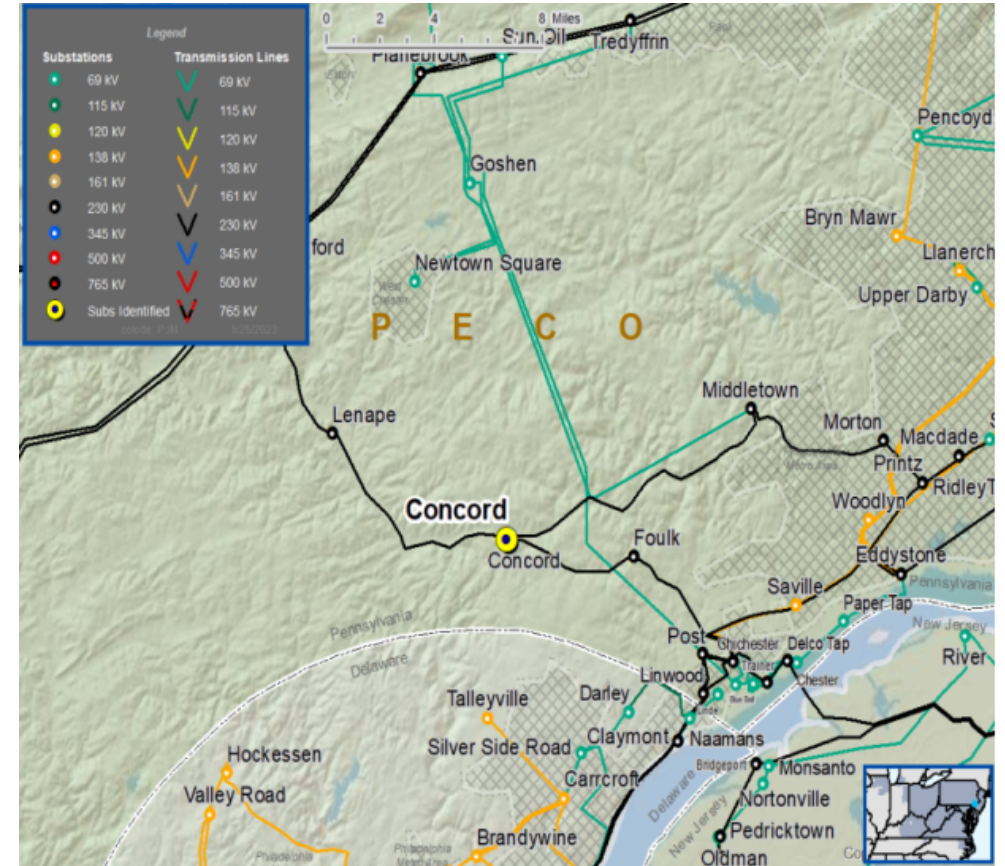
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, cables, etc.

Problem Statement:

Concord 230 kV circuit breaker #565, installed in 1974, is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: PE-2023-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Proposed Solution:

Replace Concord 230 kV circuit breaker #565

Existing rating 3000A, 50kA

New rating 3,000A and 63kA

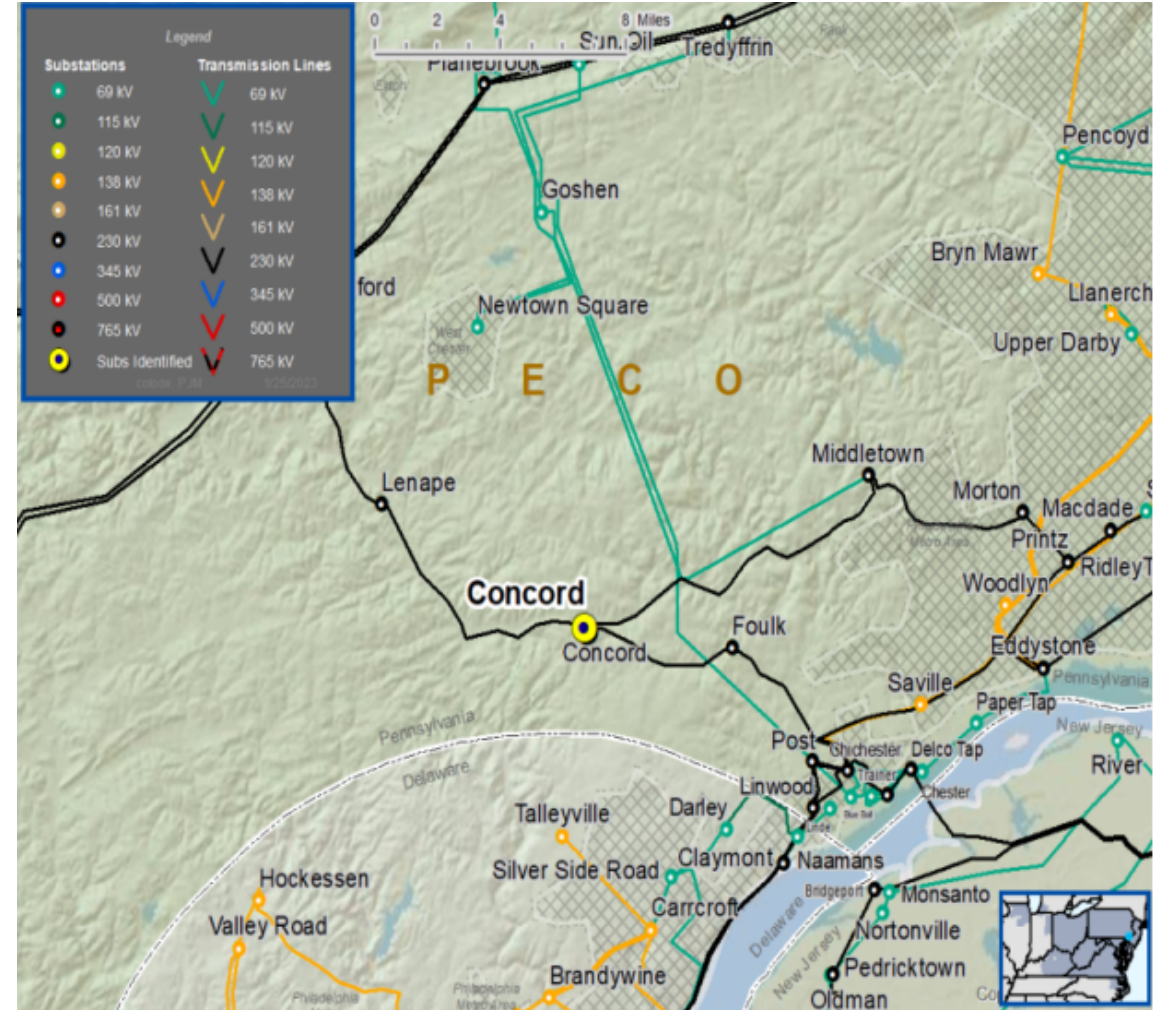
Estimated cost: \$0.85M

Projected In-Service: 11/11/2023

Supplemental Project ID: s2900

Project Status: Engineering

Model: 2027 RTEP



Need Number: PE-2023-004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented:

Need Meeting 2/7/23

Solution Meeting 3/7/2023

Project Driver:

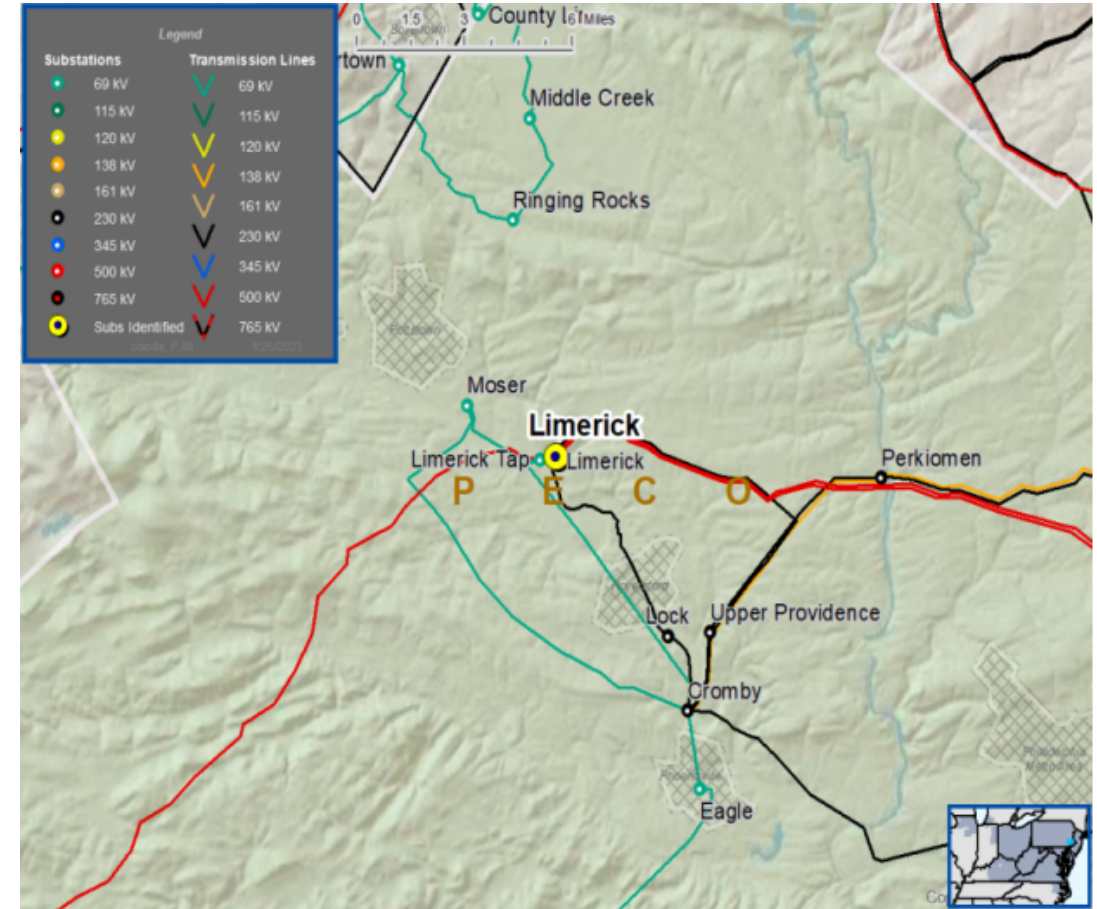
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, cables, etc.

Problem Statement:

Limerick 500 kV circuit breaker #355, installed in 1992, is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: PE-2023-004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Proposed Solution:

Replace Limerick 500 kV circuit breaker #355

Existing rating 3000A, 40kA

New rating 4000A and 63kA

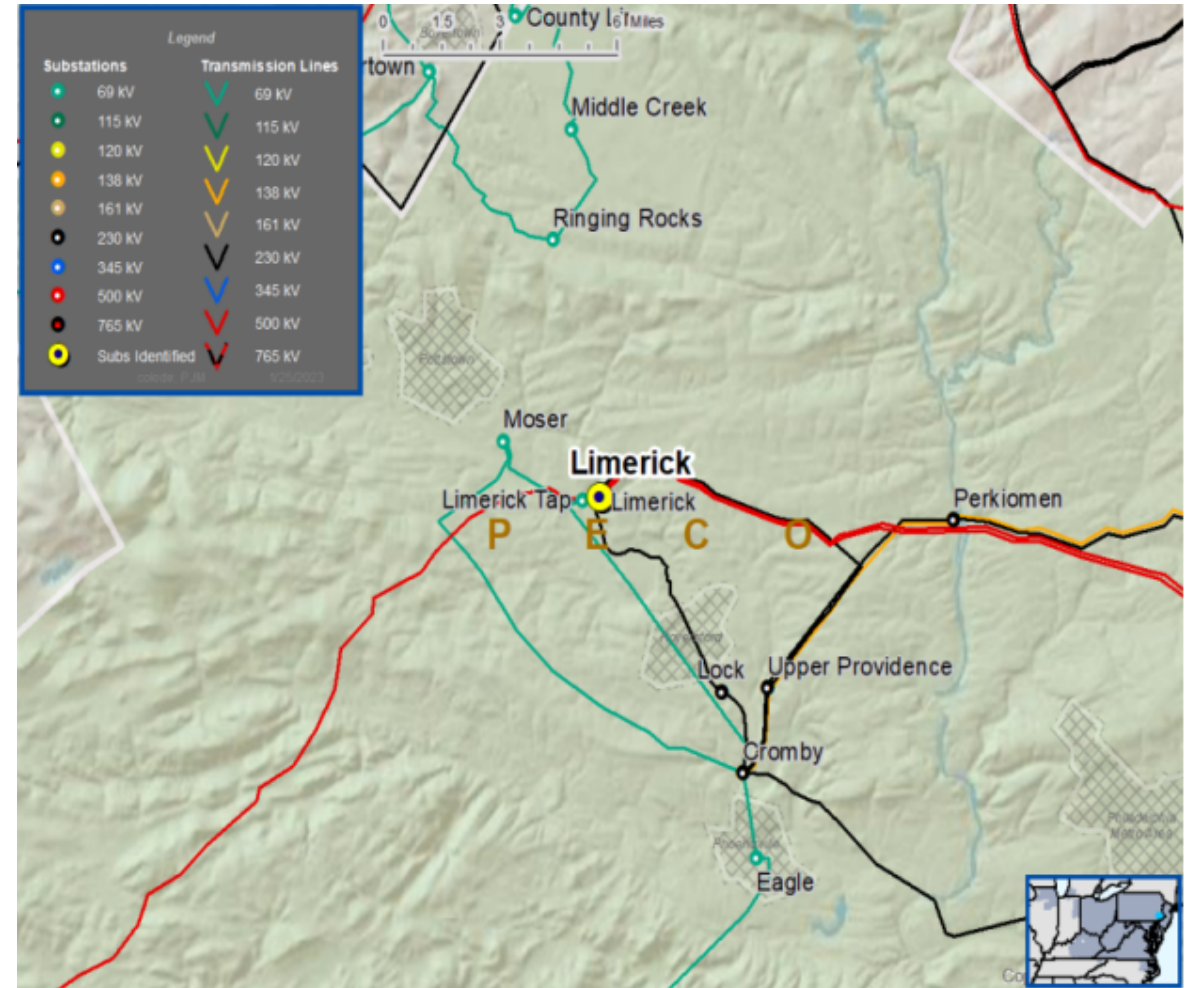
Estimated cost: \$0.78M

Projected In-Service: 05/1/2023

Supplemental Project ID: s2901

Project Status: Engineering

Model: 2027 RTEP



Need Number: PE-2023-006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented: Need Meeting 2/16/23

Solutions Meeting 3/16/23

Project Driver:

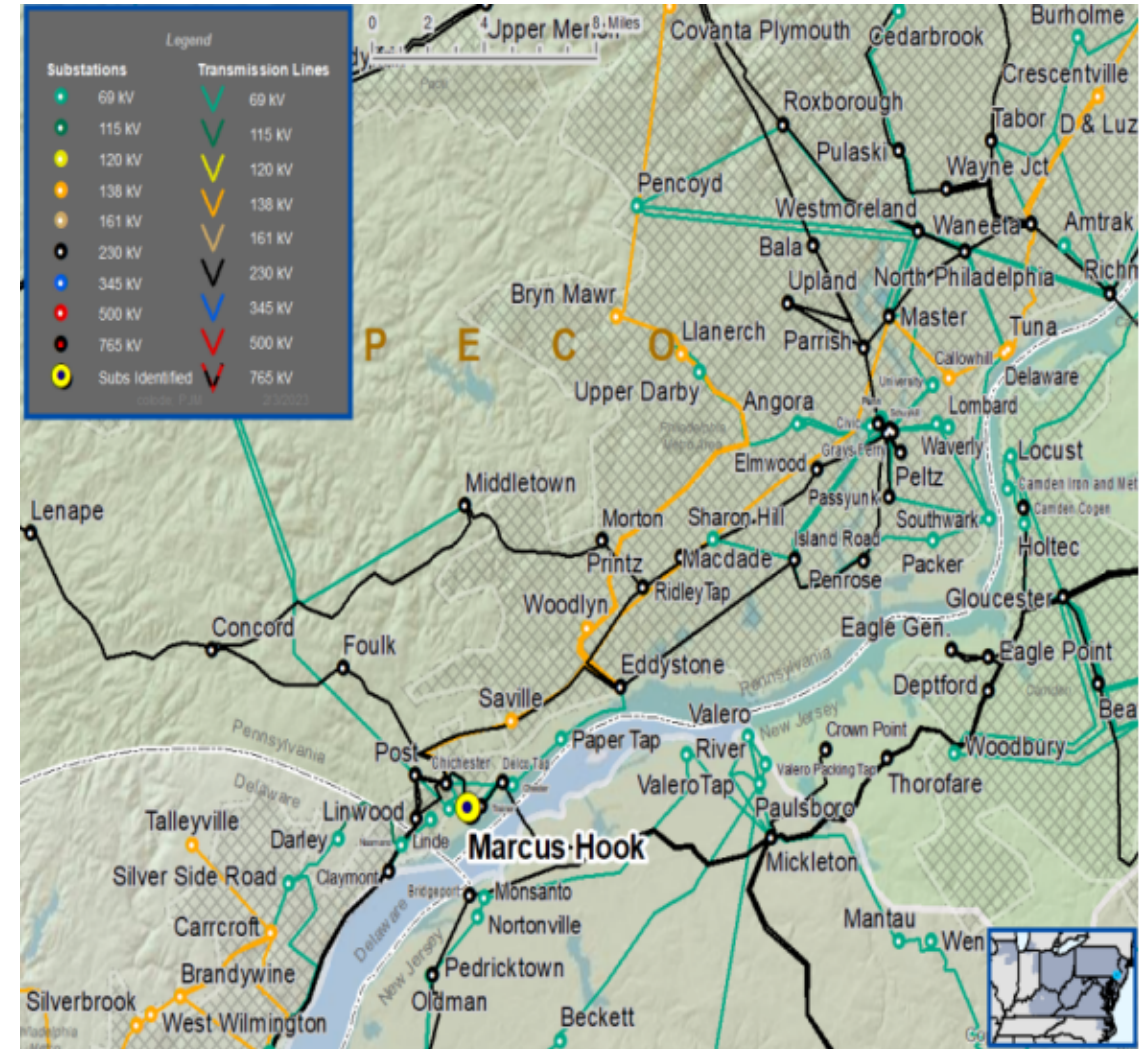
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, cables, etc.

Problem Statement:

Marcus Hook 69 kV oil circuit breaker #200, installed in 1956, is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: PE-2023-006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Proposed Solution:

Replace Marcus Hook 69 kV oil circuit breaker #200

Existing rating 2000A, 29kA

New rating 3000A and 40kA

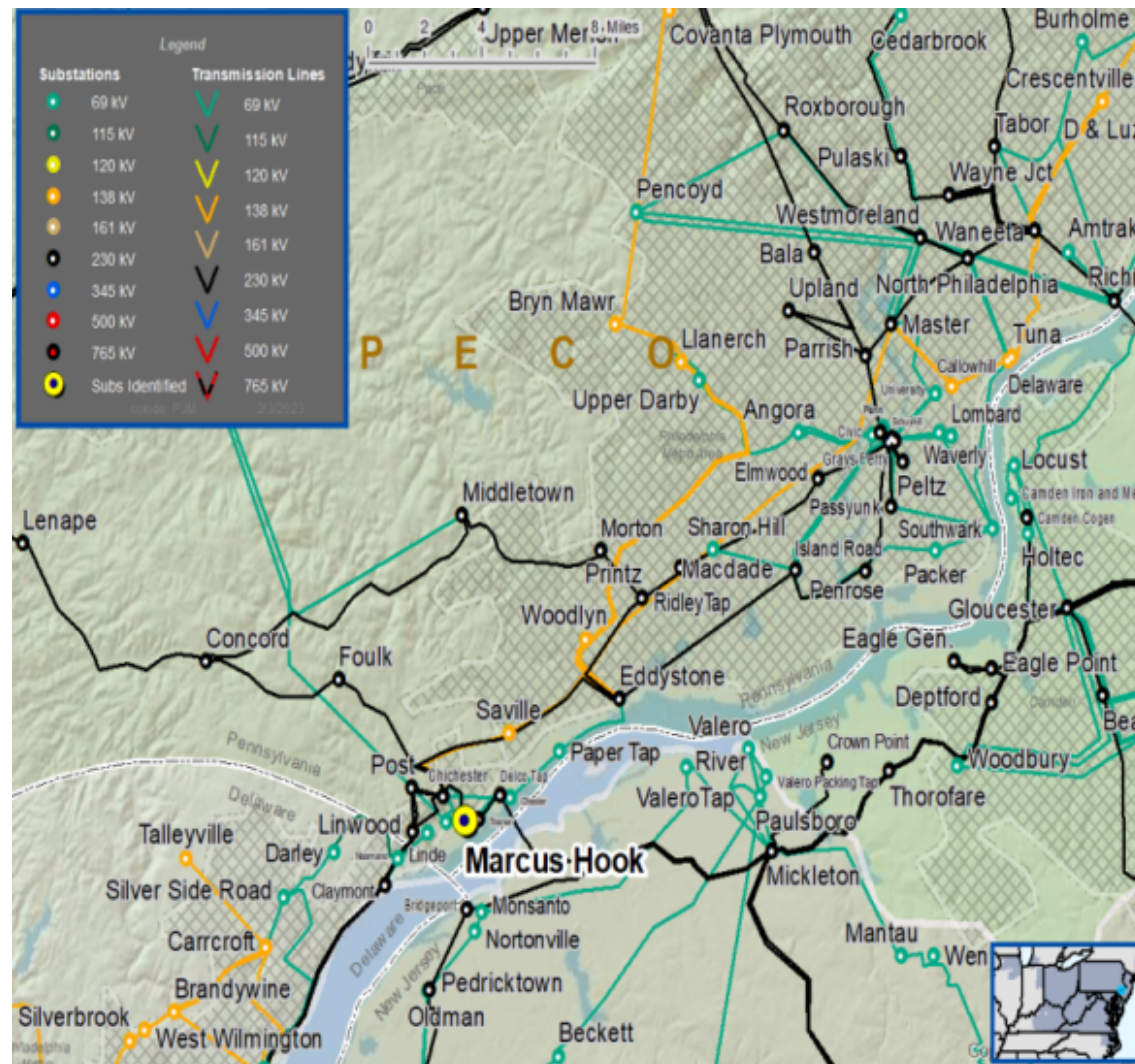
Estimated cost: \$0.59M

Projected In-Service: 09/17/2023

Supplemental Project ID: s2905

Project Status: Engineering

Model: 2027 RTEP



Need Number: PE-2023-007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented:

Need Meeting 2/16/23

Solution Meeting 3/16/2023

Project Driver:

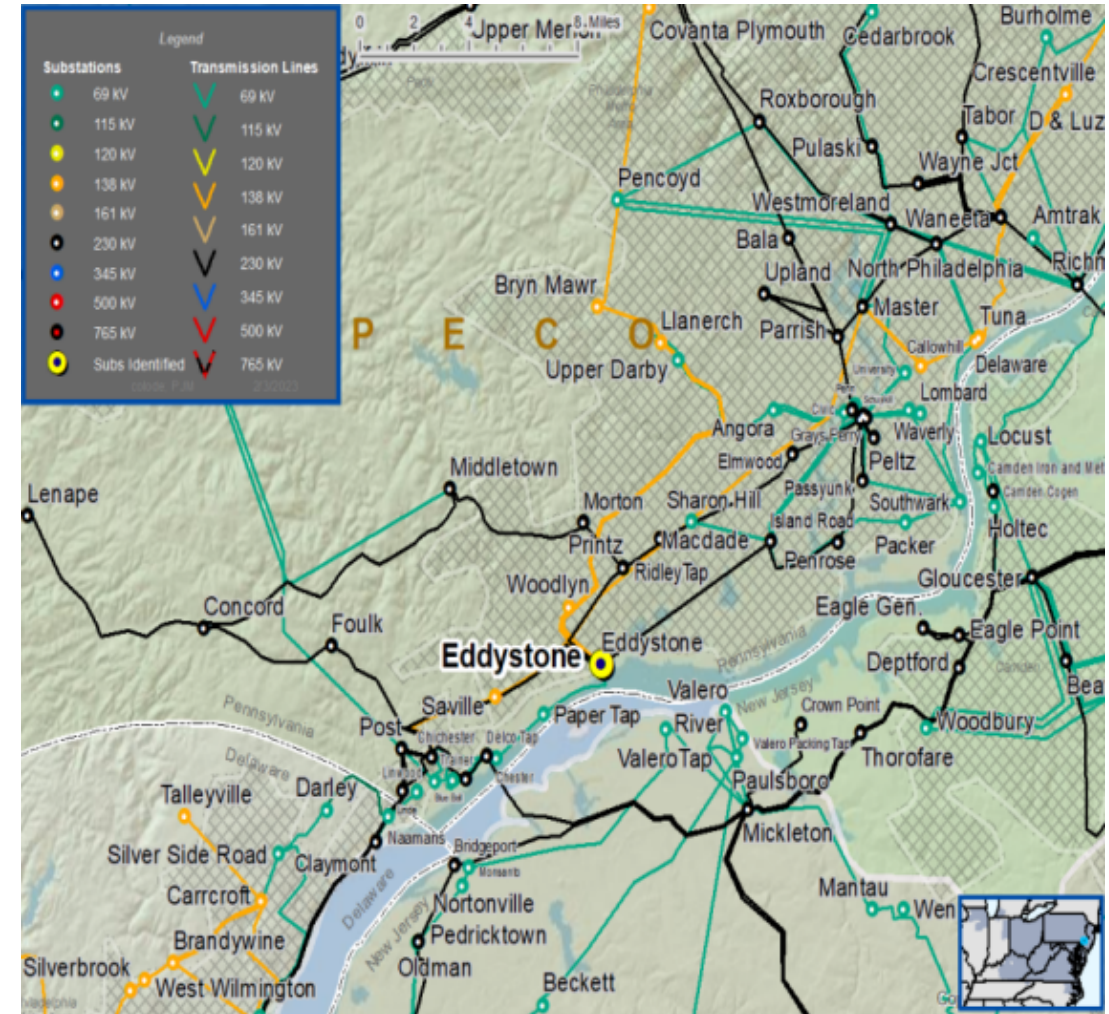
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, cables, etc.

Problem Statement:

Eddystone 138 kV oil circuit breaker #55, installed in 1958, is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: PE-2023-007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Proposed Solution:

Replace Eddystone 138 kV circuit breaker #55

Existing rating 1600A, 42kA

New rating 3,000A and 63kA

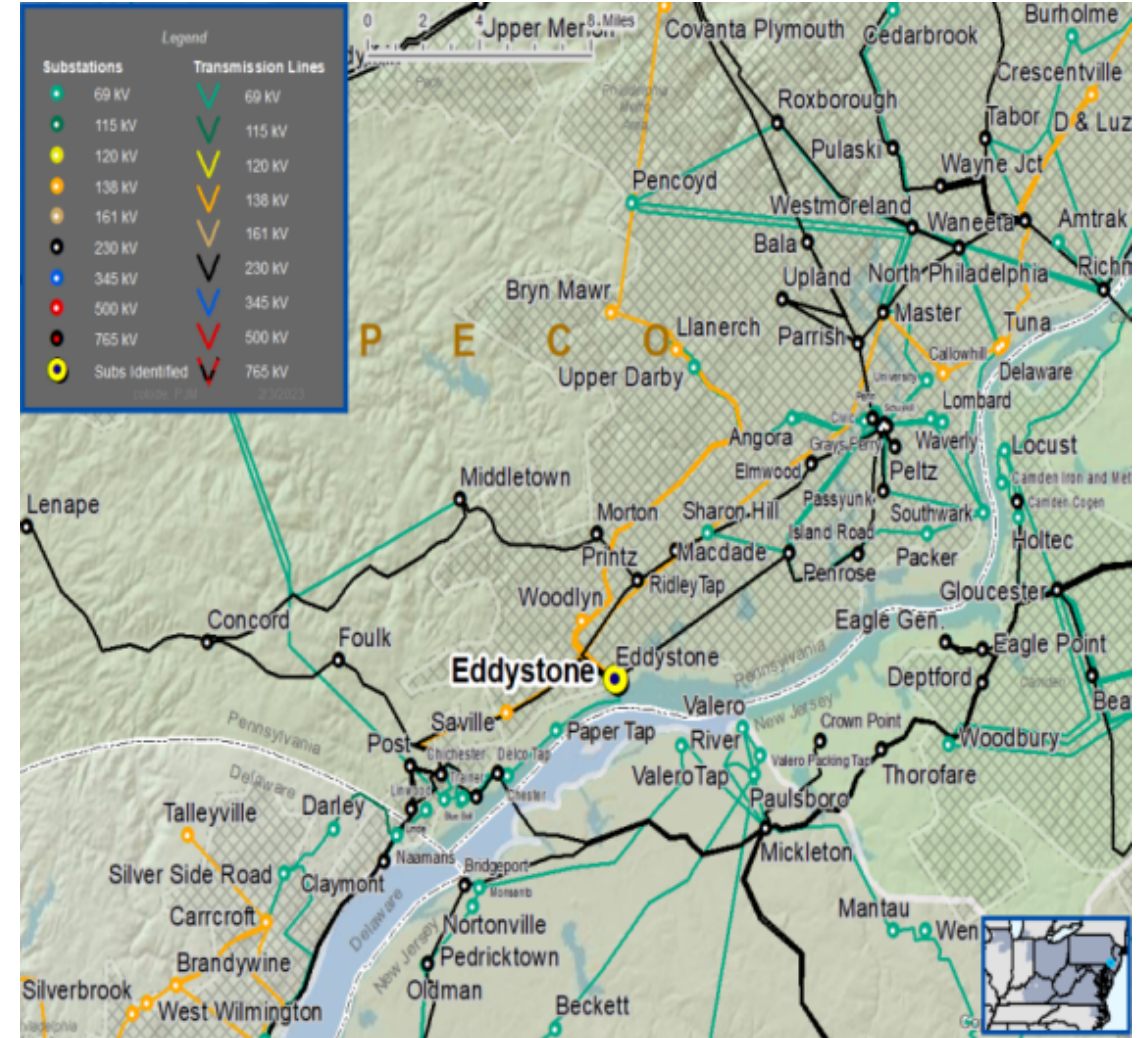
Estimated cost: \$0.85M

Projected In-Service: 12/1/2023

Supplemental Project ID: s2906

Project Status: Engineering

Model: 2027 RTEP



Plymouth Meeting 138 kV Circuit Breaker/Line 130-37 Relay Replacement

Need Number: PE-2023-008

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 7/12/2023

Previously Presented:

Need Meeting 2/16/23

Solution Meeting 3/16/2023

Project Driver:

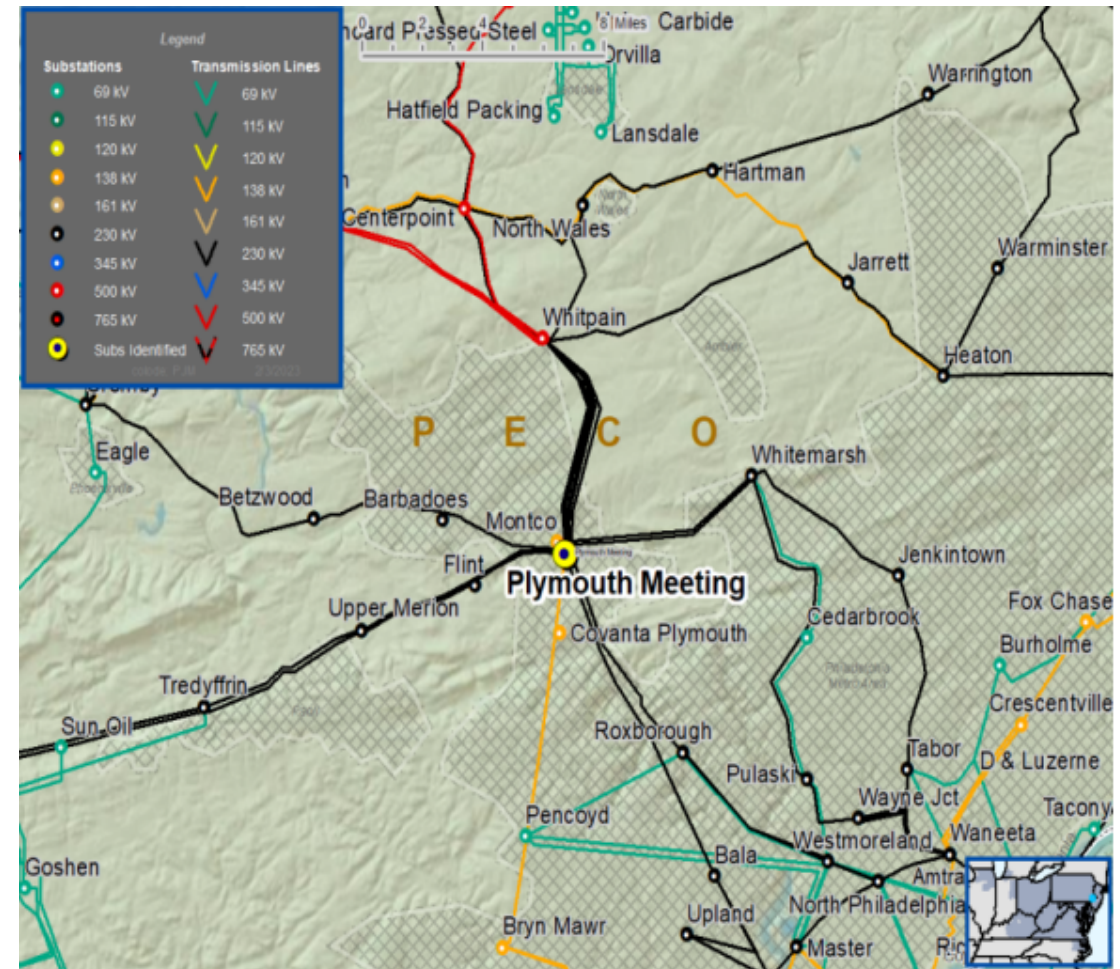
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Programmatic review and/or replacement of breakers, relays, wood poles, cables, etc.

Problem Statement:

- Plymouth Meeting 138 kV oil circuit breaker #375, installed in 1965 is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.
- 138kV line 130-37 (Plymouth Meeting – Cleveland Cliffs) has obsolete relays. They are being phased out of the system.





Plymouth Meeting 138 kV Circuit Breaker/Line 130-37 Relay Replacement

Need Number: PE-2023-008

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
7/12/2023

Proposed Solution:

Upgrade line relays, and communication on 138kV line 130-37 (Plymouth Meeting – Cleveland Cliffs), and replace #375 Circuit Breaker at Plymouth Meeting

Circuit Breaker #375 Ratings:

Existing rating 1600A, 42kA

New rating 3000A and 63kA

Estimated cost: \$0.65

Projected In-Service: 11/5/2023

Supplemental Project ID: s2907

Project Status: Engineering

Model: 2027 RTEP

Plymouth Meeting

Cleveland Cliffs



Revision History

1/18/2023 – V1 – Posted Local Plan for s2808

7/12/2023 – V2 – s2838, s2892, s2899, s2900, s2901, s2905-s2907 added