PECO 2022
Submission of Supplemental Projects for Inclusion in the Local Plan

PECO Transmission Zone
220-10 (Whitpain – Buxmont) Relay Replacement

Need Number: PE-2020-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Previously Presented:

Need Meeting – TEAC – 3/10/20

Solution Meeting – TEAC – 11/2/21

Project Driver:

Equipment Material Condition, Performance, and Risk

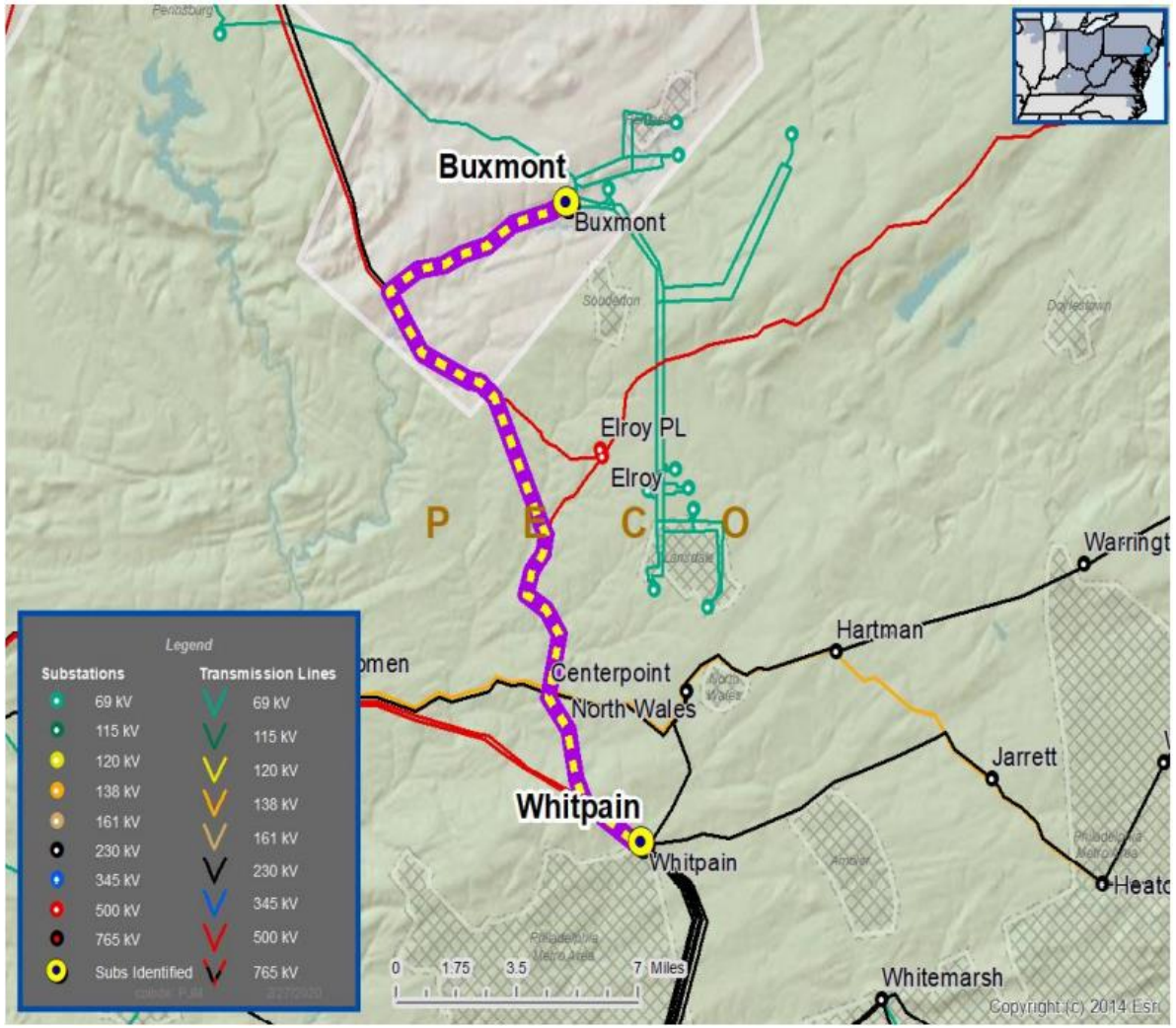
Specific Assumption Reference:

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

Problem Statement:

230kV tie line 220-10 (Whitpain[PECO] – Bucksmont[PPL] has obsolete relays

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



Need Number: PE-2020-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Selected Solution:

Upgrade relays, communication, metering & replace station conductor on 220-10 (Whitpain – Buxmont) line

- Before solution ratings: 418/519 MVA (SN/SE) [PECO portion]
  500/597 MVA (WN/WE) [PECO portion]
- After solution ratings: 463/578 MVA (SN/SE) [PECO portion]
  521/639 MVA (WN/WE) [PECO portion]

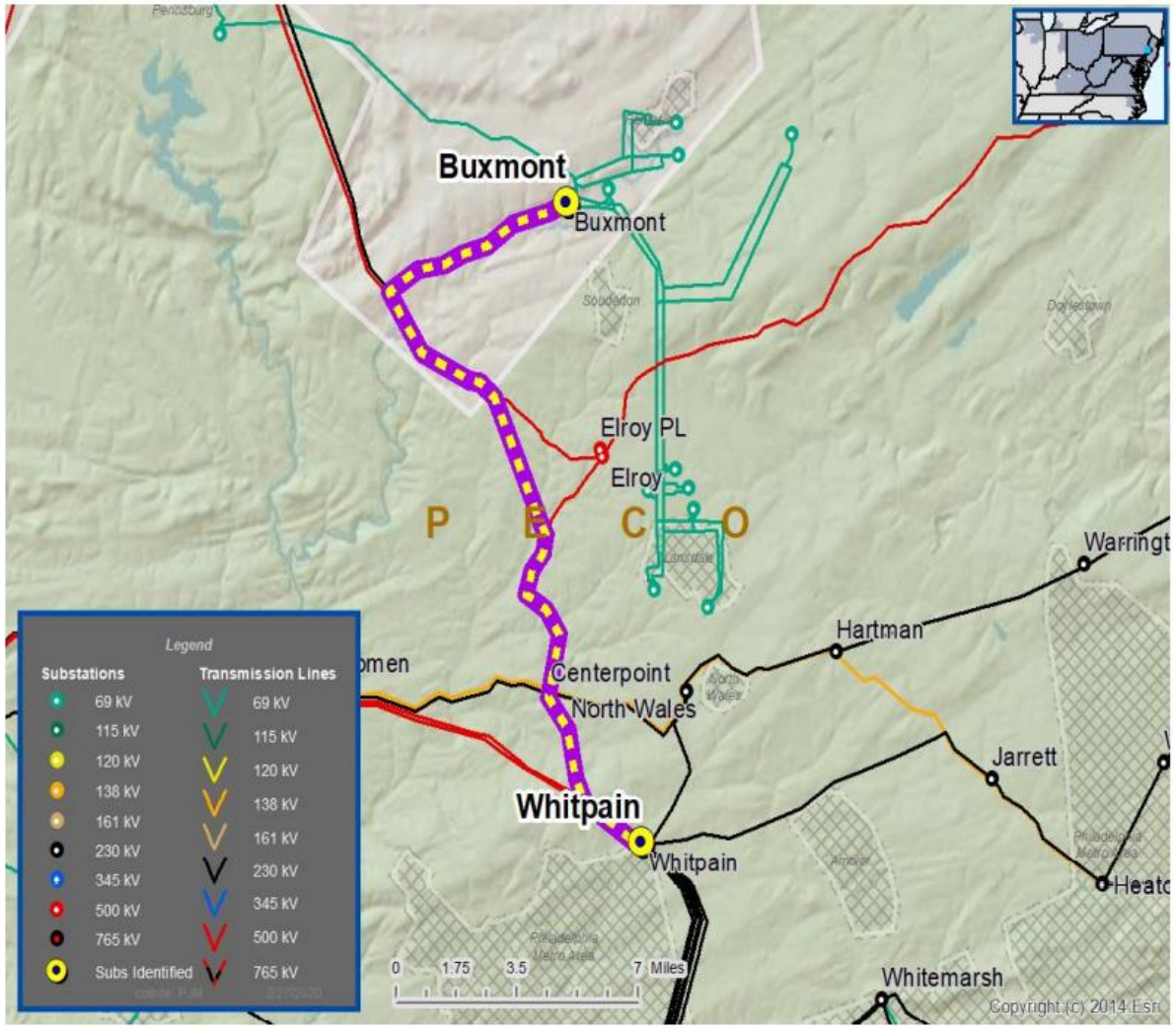
Estimated cost: $.5M

Projected In-Service: 11/2/21

Supplemental Project ID: s2673

Project Status: Under Construction

Model: 2026 RTEP



PECO Transmission Zone
220-52 (Whitpain – Jarrett) Relay Replacement

Need Number: PE-2020-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Previously Presented:

Need Meeting – TEAC – 3/10/20

Solution Meeting – TEAC – 11/2/21

Project Driver:

Equipment Material Condition, Performance, and Risk

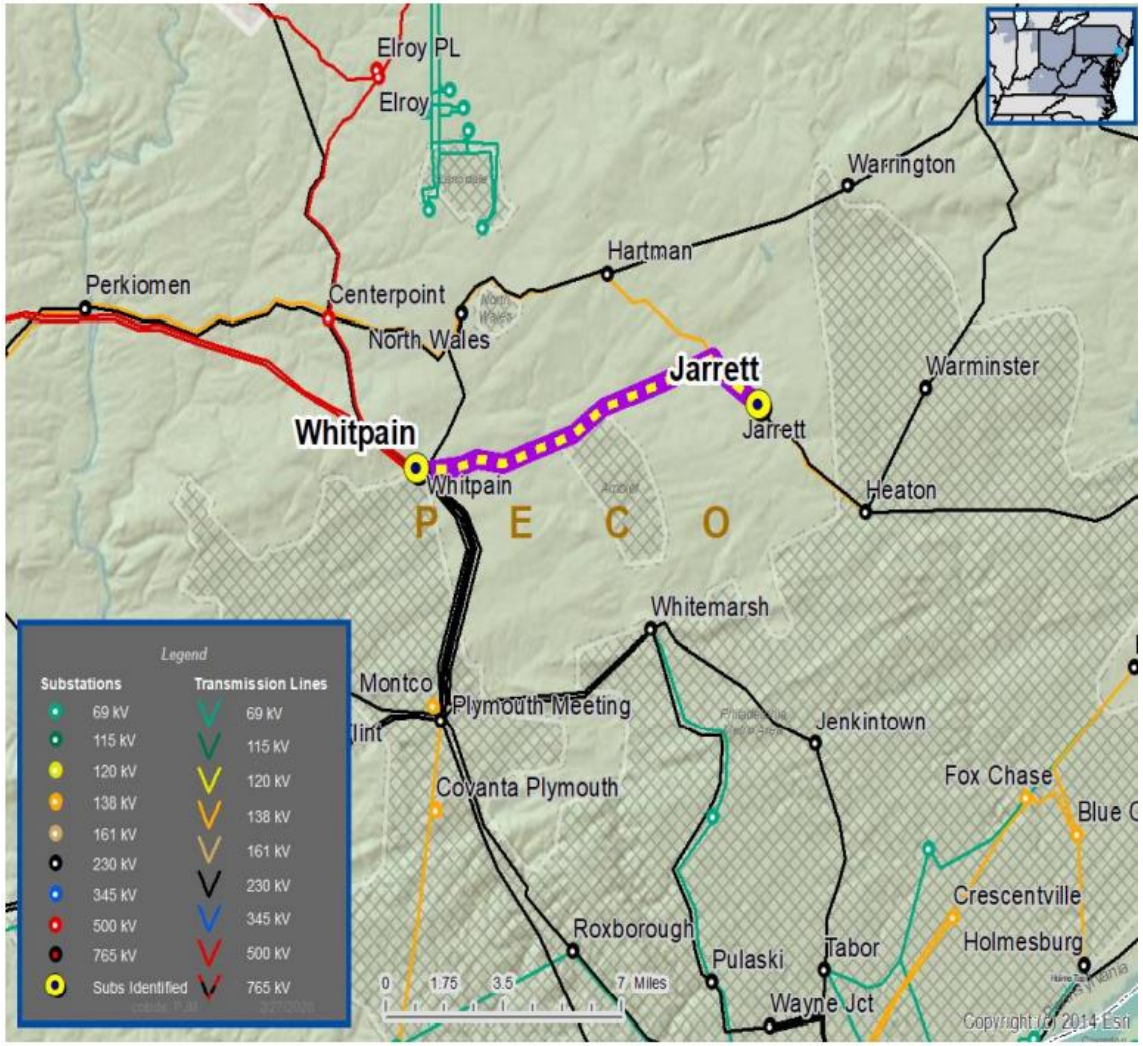
Specific Assumption Reference:

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

Problem Statement:

230kV line 220-52 (Whitpain – Jarrett) has obsolete relays

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



Need Number: PE-2020-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Selected Solution:

Upgrade relays, communication, metering & replace station conductor on 220-52 (Whitpain – Jarrett) line

- Before solution ratings: 812/964 MVA (SN/SE)
  893/1003 MVA (WN/WE)
- After solution ratings: 812/964 MVA (SN/SE)
  893/1036 MVA (WN/WE)

Estimated cost: $1.04M

Projected In-Service: 12/22/21

Supplemental Project ID: s2674

Project Status: Engineering

Model: 2026 RTEP

Need Number: PE-2021-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Previously Presented:

Need Meeting – TEAC – 10/5/2021

Solution Meeting – TEAC – 11/2/21

Project Driver:

Operational Flexibility and Efficiency

Specific Assumption Reference:

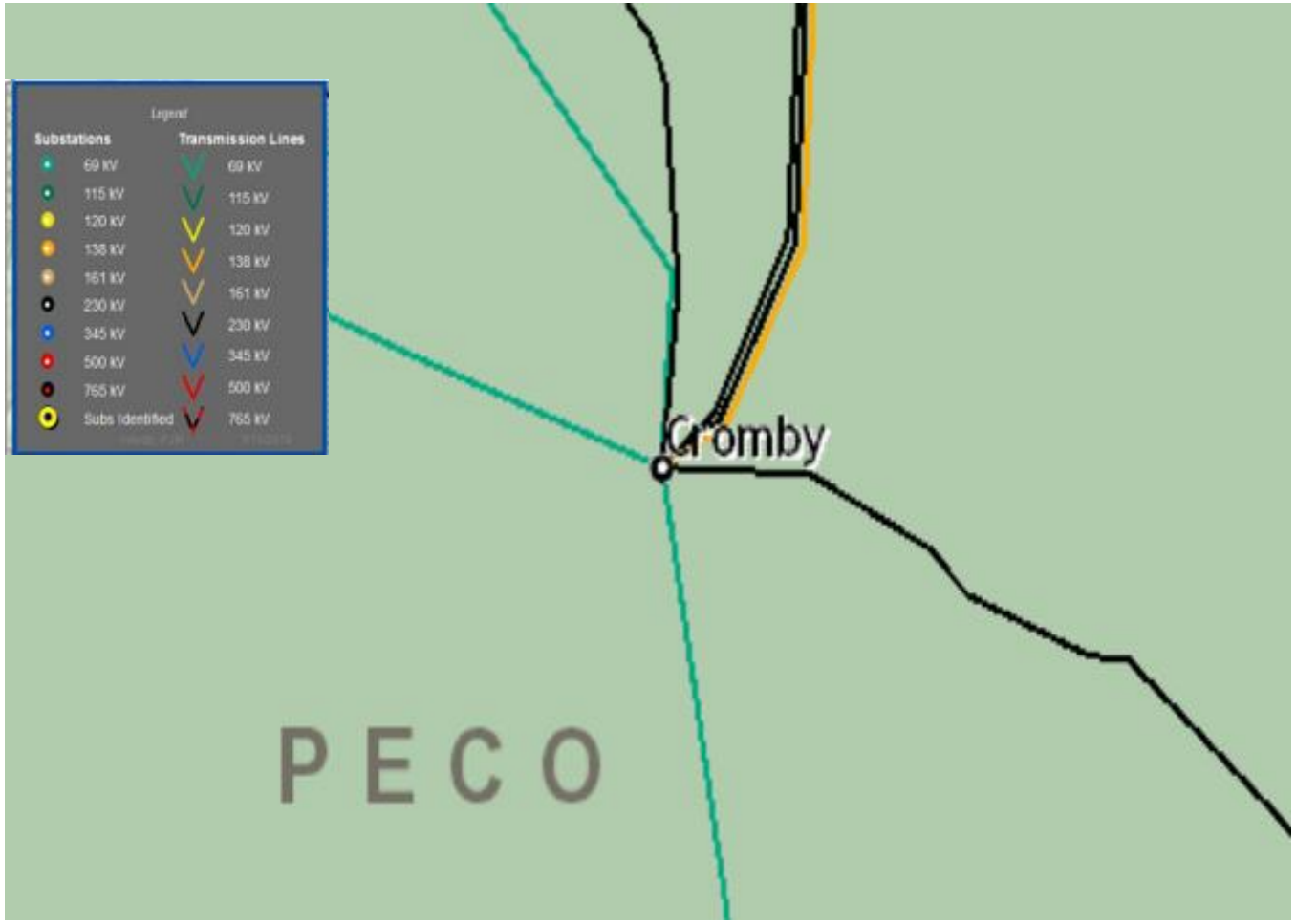
- Enhancing system functionality, flexibility, visibility, or operability
- Increasing system capacity

Problem Statement:

Cromby #5 230/69 kV transformer facility ratings were reduced on 3/13/21 as part of an internal review

- New SN/SE = 126 MVA / 156 MVA
- Previous SN/SE = 155 MVA / 194 MVA
- Difference SN/SE = -29 MVA (19%) / -38 MVA (20%)

PECO Operations is requesting that Cromby #5 230/69 kV facility be upgraded in an expedited fashion due to real time operations issues encountered during 2021 summer operations and in preparation for maintenance outages of facilities in the area.



Need Number: PE-2021-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Selected Solution:

Replace a piece of station cable on the 69 kV side of the Cromby #5 230/69 kV transformer facility

- Before solution ratings: 126/156 MVA (SN/SE)
  155/179 MVA (WN/WE)
- After solution ratings: 155/194 MVA (SN/SE)
  200/234 MVA (WN/WE)

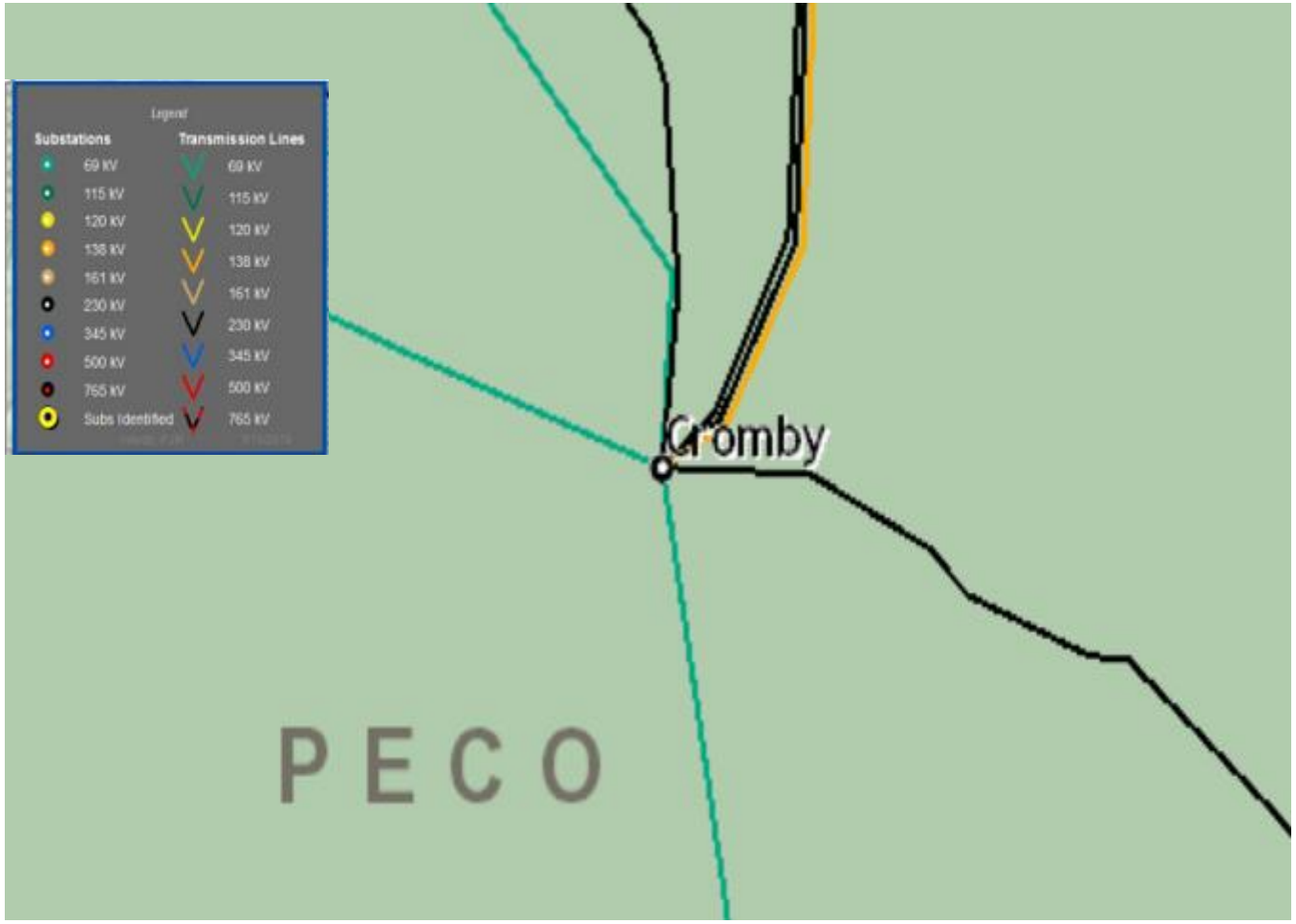
Estimated cost: $0.1M

Projected In-Service: 10/17/21

Supplemental Project ID: s2675

Project Status: Completed

Model: 2026 RTEP



PECO Transmission Zone
220-69 (Plymouth Meeting – Upper Merion) Relay Replacement

Need Number: PE-2021-006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Previously Presented:

Need Meeting – TEAC – 11/2/21

Solution Meeting – TEAC – 11/30/21

Project Driver:

Equipment Material Condition, Performance, and Risk

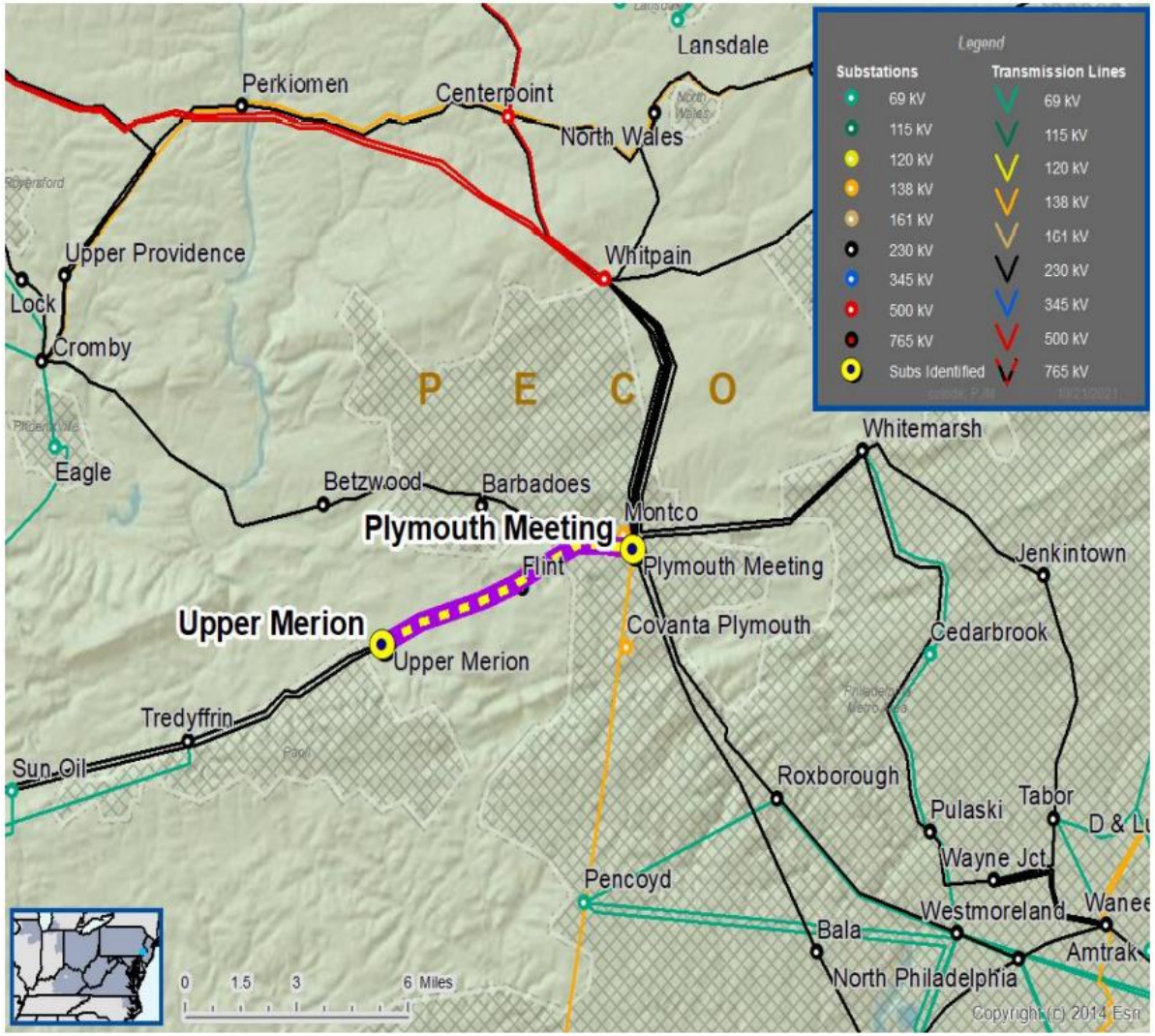
Specific Assumption Reference:

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

Problem Statement:

230kV line 220-69 (Plymouth Meeting – Upper Merion) has obsolete relays

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



Need Number: PE-2021-006

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 3/17/2022

Selected Solution:

Upgrade relays, communication, metering & removal of wave trap on 220-69 (Plymouth Meeting – Upper Merion) line

- Before solution ratings: 418/519 MVA (SN/SE)
  500/581 MVA (WN/WE)
- After solution ratings: 418/519 MVA MVA (SN/SE)
  513/597 MVA (WN/WE)

Estimated cost: $1.9M

Projected In-Service: 10/7/21

Supplemental Project ID: s2676

Project Status: Completed

Model: 2026 RTEP

PECO Transmission Zone
Chester 69 kV Circuit Breaker #60 Replacement

Need Number: PE-2021-007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Previously Presented:

Need Meeting – TEAC – 11/18/2021

Solution Meeting – TEAC – 1/20/2022

Project Driver:

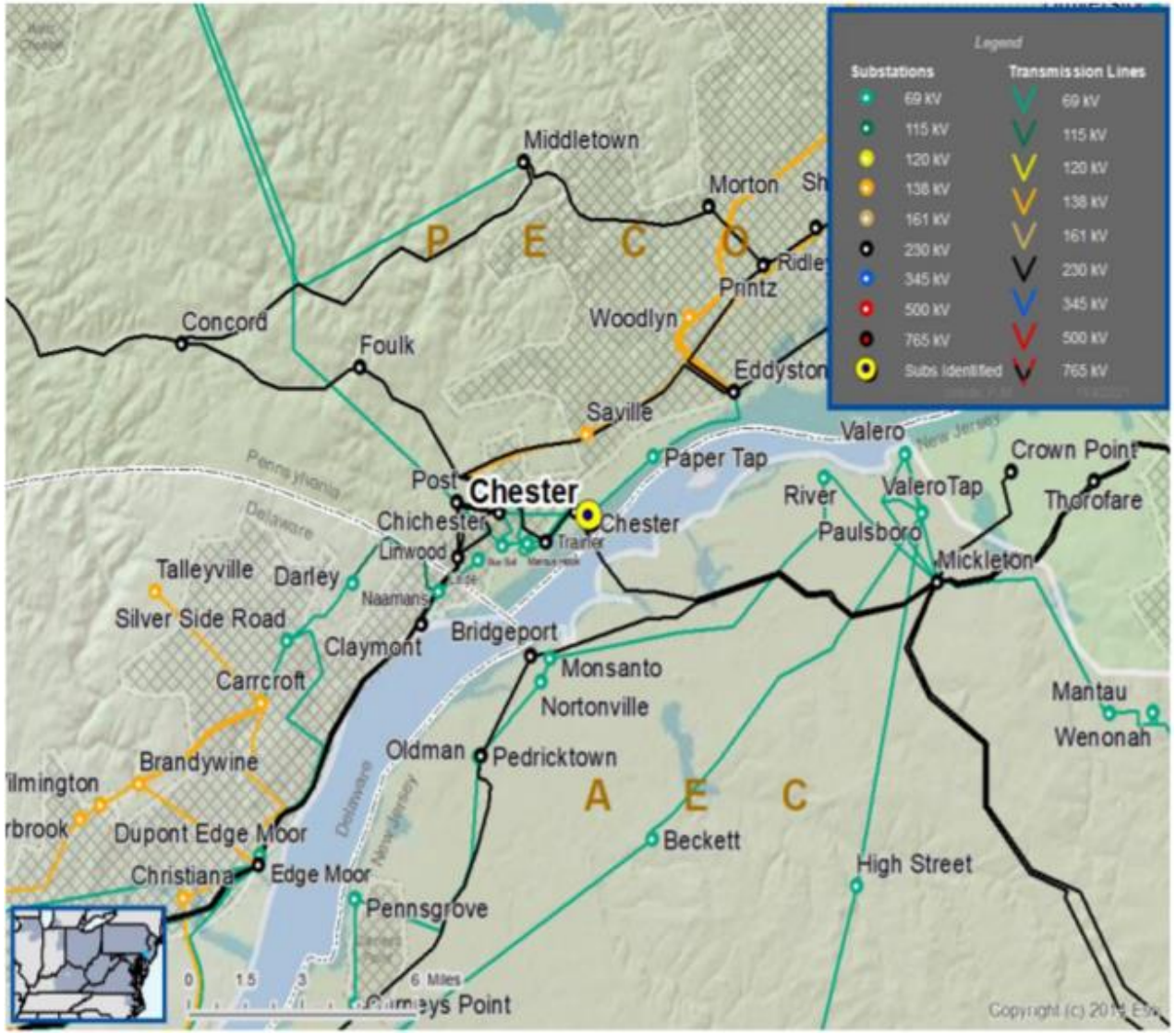
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

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

Problem Statement:

Chester 69kV circuit breaker #60 installed in 1957 is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: PE-2021-007

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Selected Solution:

Replace Chester 69 kV circuit breaker #60

- Before solution ratings: 2000A, 29kA [PECO portion]
- After solution ratings: 3000A, 40kA [PECO portion]

Estimated cost: $.65M

Projected In-Service: 12/23/2022

Supplemental Project ID: s2710

Project Status: Engineering

Model: 2026 RTEP

PECO Transmission Zone
Newlinville 230 kV Circuit Breaker #260 Replacement

Need Number: PE-2022-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Previously Presented:

Need Meeting – TEAC – 2/8/2022

Solution Meeting – TEAC – 3/8/2022

Project Driver:

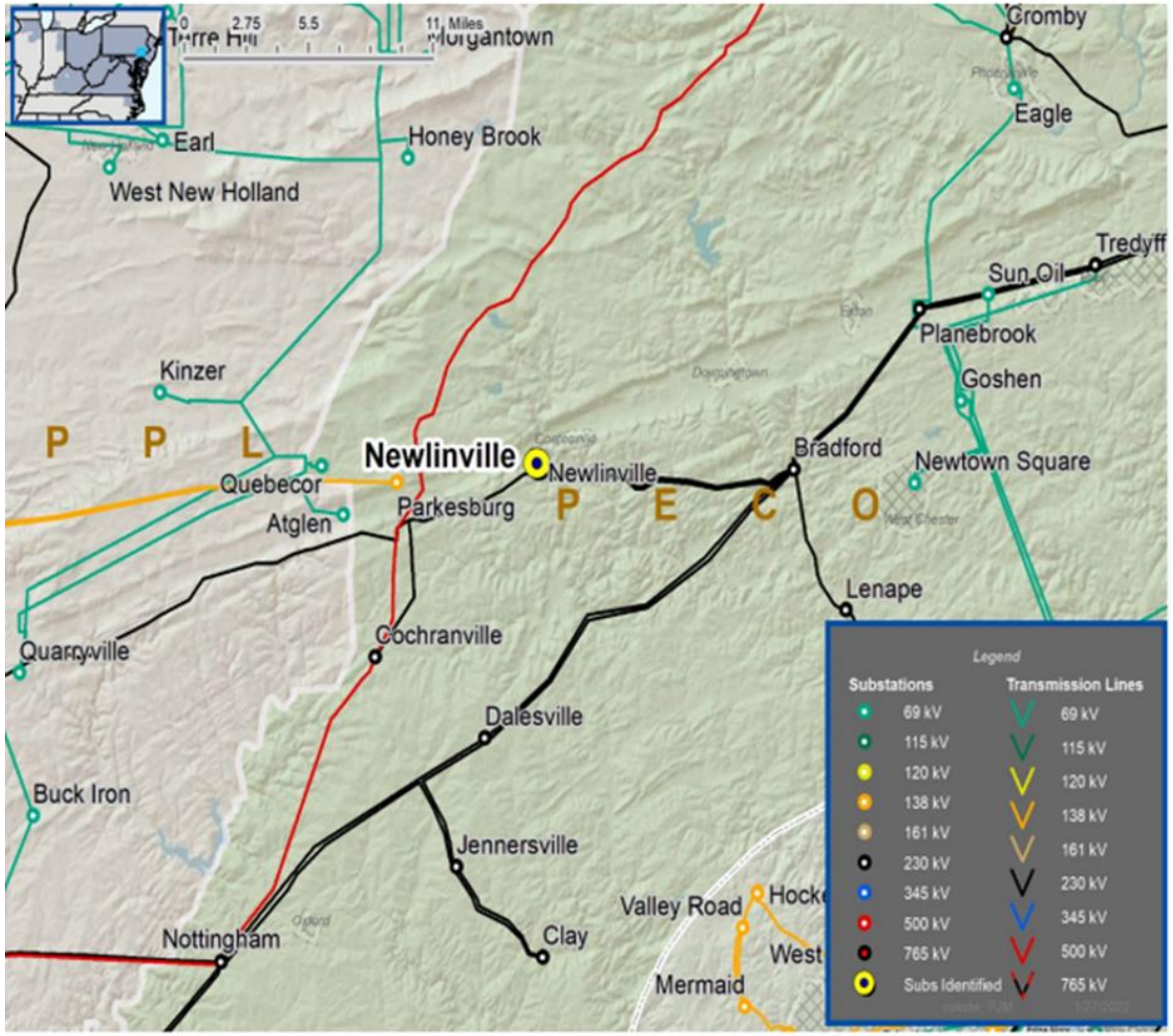
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

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

Problem Statement:

Newlinville 230 kV circuit breaker #260 installed in 1970 is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: PE-2022-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Selected Solution:

Replace Newlinville 230 kV circuit breaker #260

- Before solution ratings: 3000A, 45.2kA [PECO portion]
- After solution ratings: 3,000A and 63kA [PECO portion]

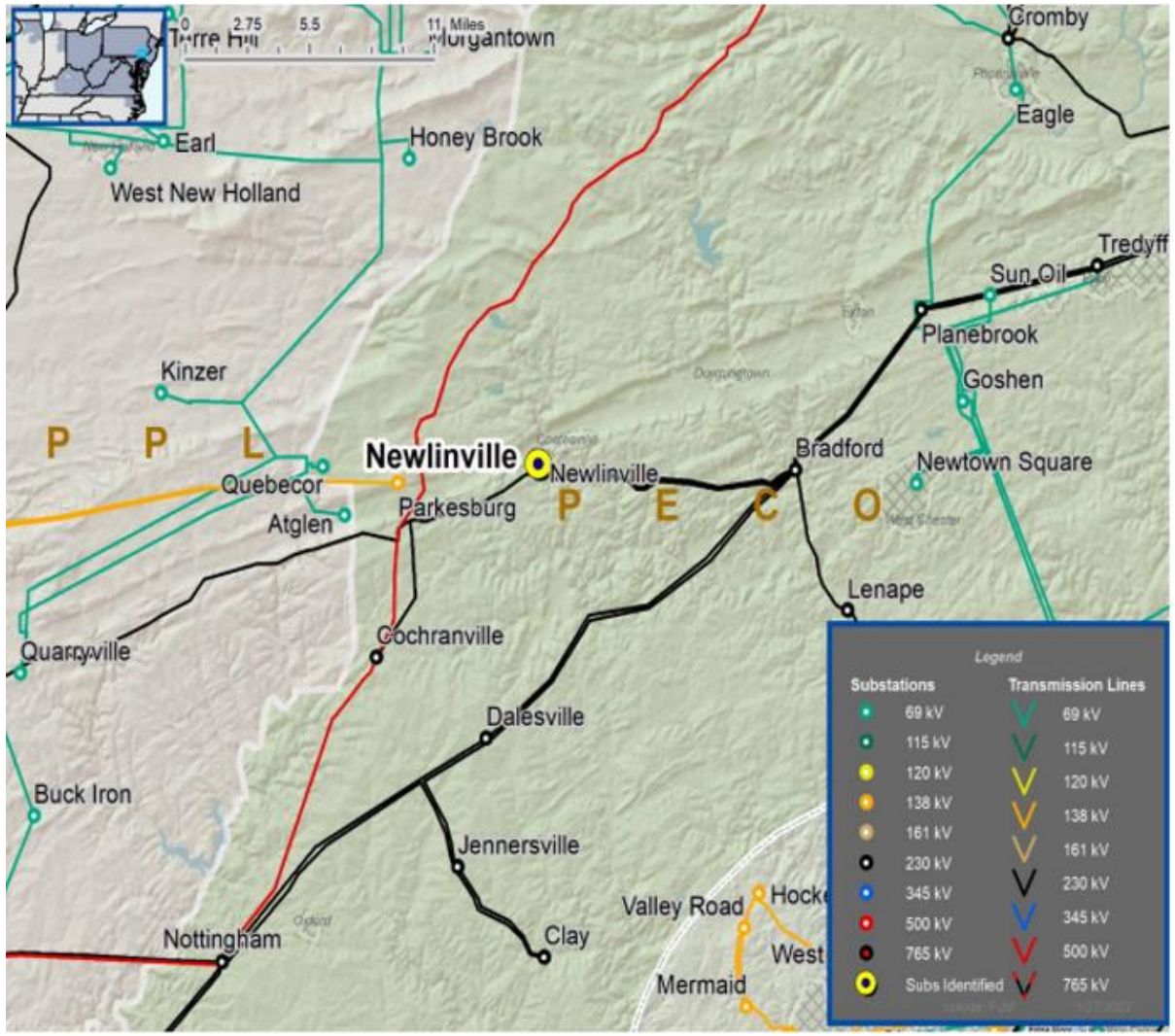
Estimated cost: $.78M

Projected In-Service: 4/1/2022

Supplemental Project ID: s2716

Project Status: Completed

Model: 2026 RTEP



Need Number: PE-2022-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Previously Presented:

Need Meeting – TEAC – 2/17/2022

Solution Meeting – TEAC – 3/17/2022

Project Driver:

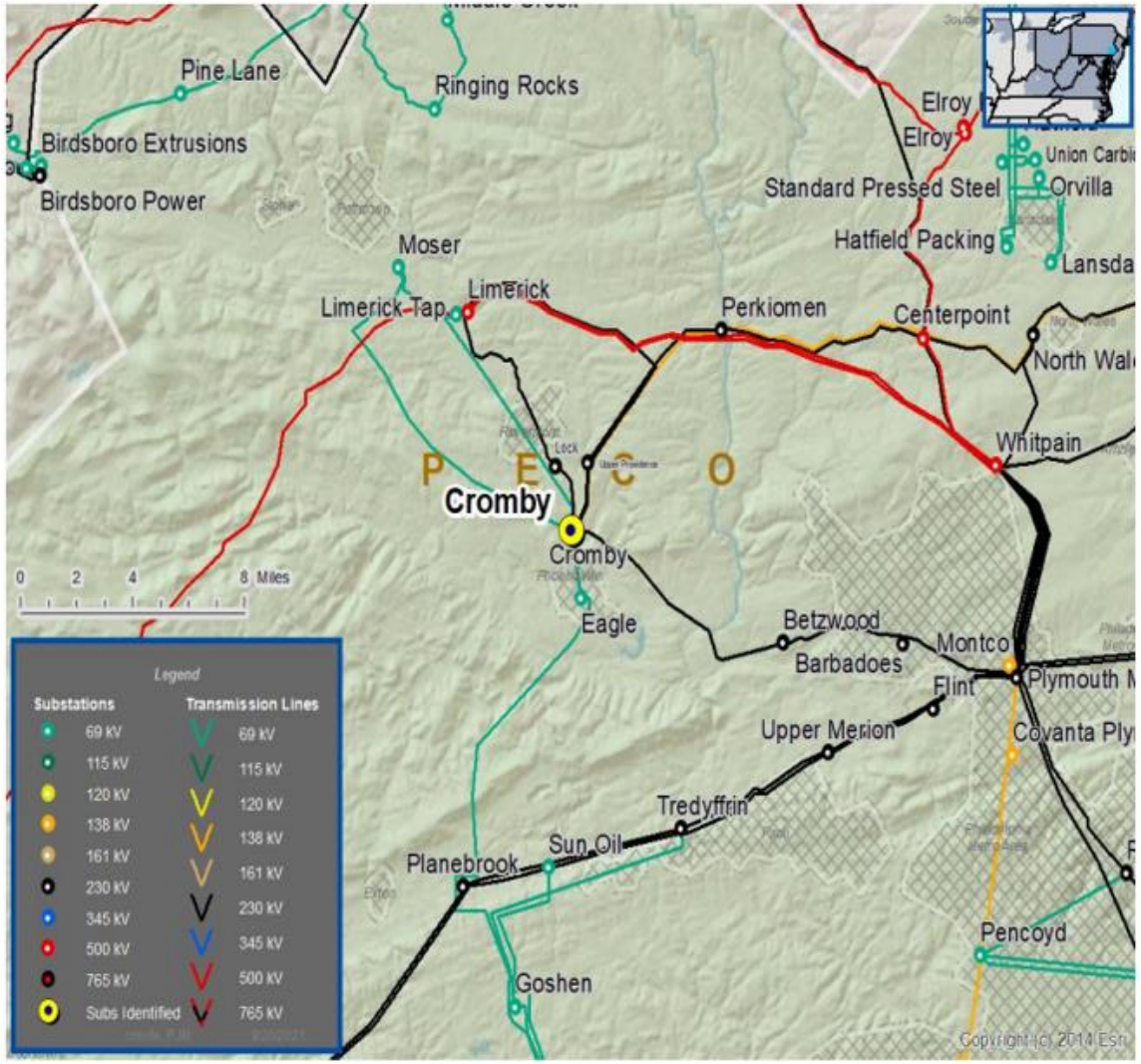
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:

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

Problem Statement:

Cromby 138 kV oil circuit breaker #370 installed in 1953 is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: PE-2022-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Selected Solution:

Replace Cromby 138 kV circuit breaker #370 and wire drops

- Before solution ratings: 1200A, 14.7kA [PECO portion]
- After solution ratings: 3,000A and 63kA [PECO portion]

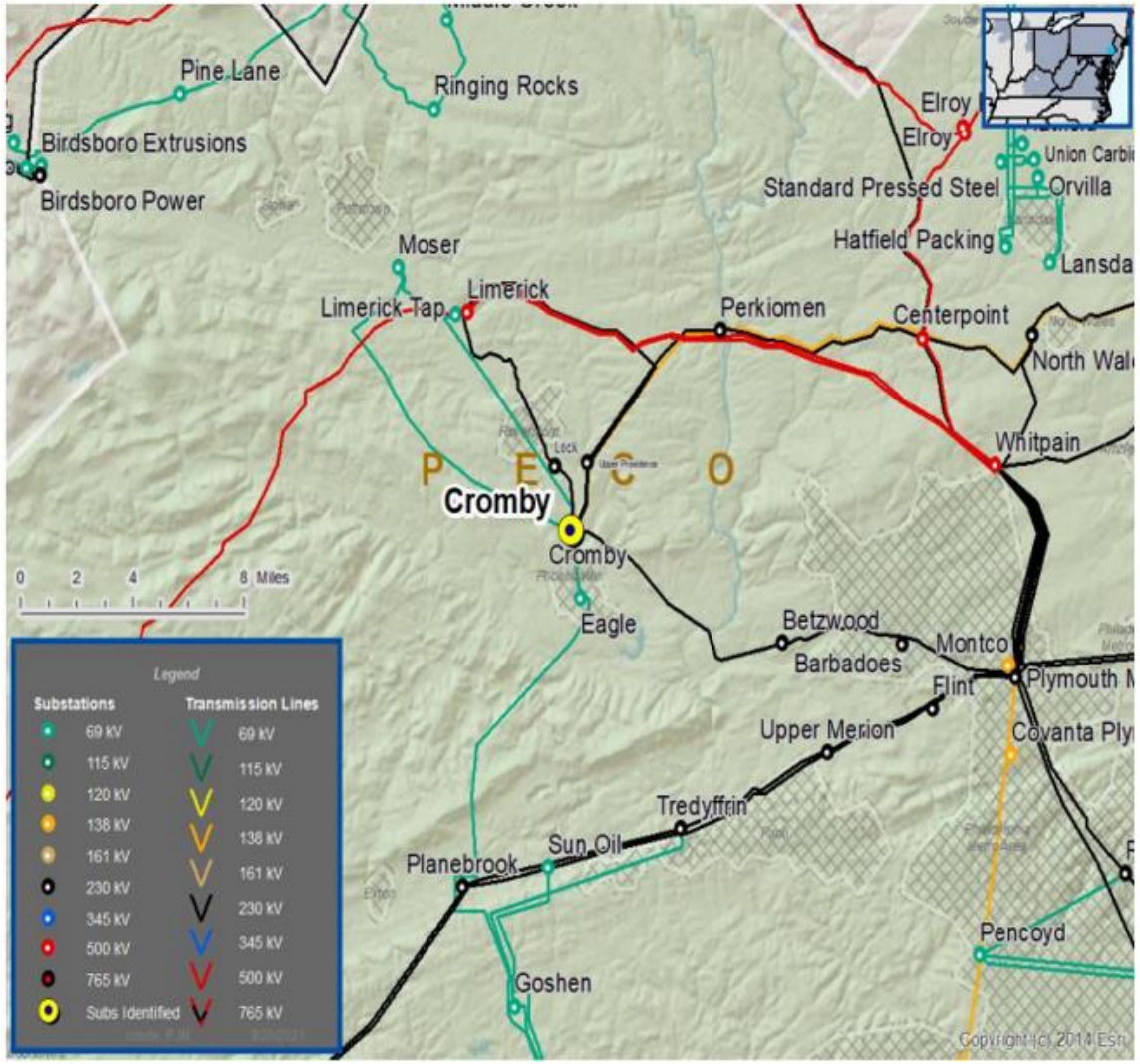
Estimated cost: $.65M

Projected In-Service: 9/23/2022

Supplemental Project ID: s2714

Project Status: Completed

Model: 2026 RTEP



PECO Transmission Zone
Bryn Mawr 3rd 138/13 kV Transformer

Need Number: PE-2022-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Previously Presented:

Need Meeting – TEAC – 3/17/2022

Solution Meeting – TEAC – 4/19/2022

Project Driver:

Customer Service

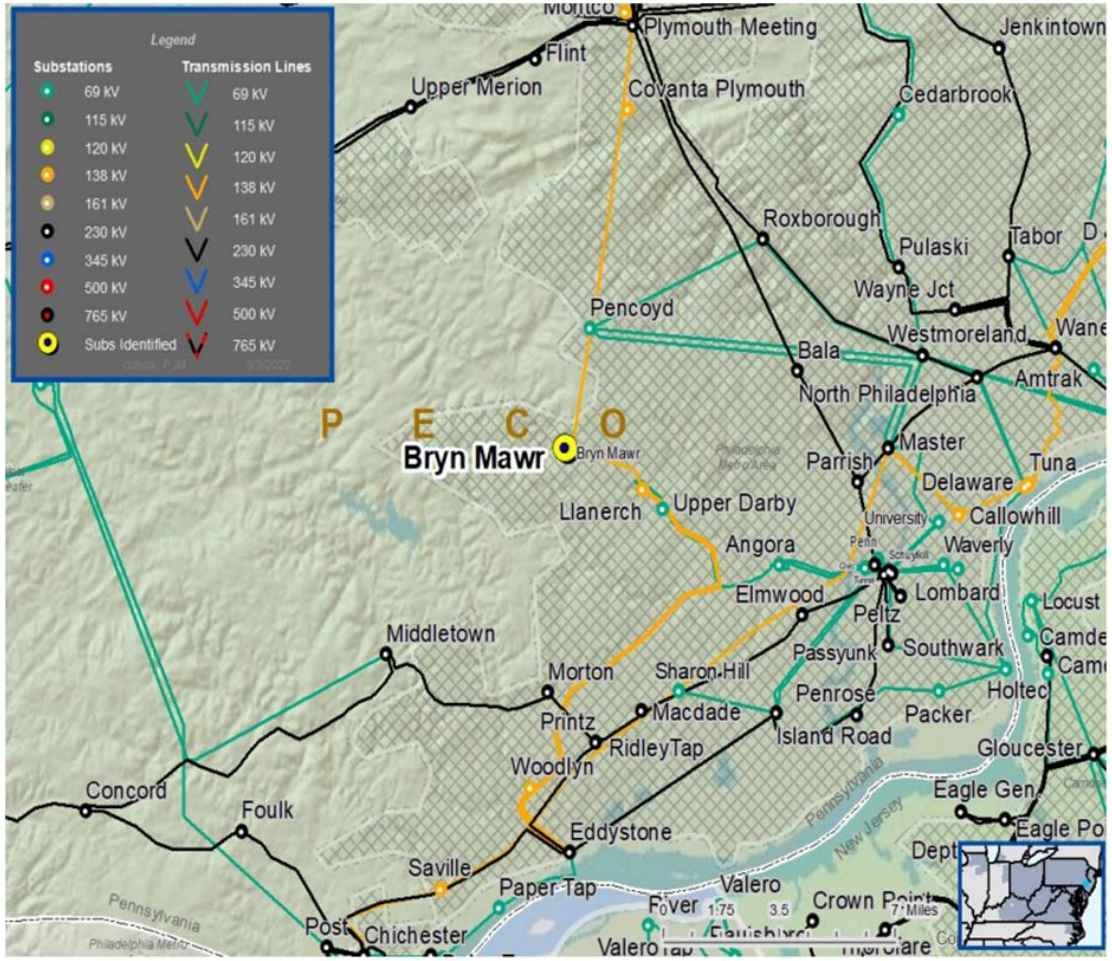
Specific Assumption Reference:

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

Problem Statement:

- Distribution Capacity Planning needs to increase transformer capacity at Bryn Mawr Substation in order to relieve nearby 13 kV substations and allow for the retirement of 34/4 kV units in the surrounding area. A total of approximately 22 MVA will be added to substation consisting of load transfers from other substations and some 34/4 kV unit retirements.

Existing load =	65 MVA
Added load =	22 MVA [Expected 6/1/25]
Total load =	87 MVA



Need Number: PE-2022-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 10/10/22

Selected Solution:

- Install 3rd Bryn Mawr 138/13 kV 62 MVA transformer with high side breaker
- Install two 3000A 63kA 138 kV breakers on the Bryn Mawr straight bus to create two double breaker bus ties
- Install two 3000A 63kA 138 kV line breakers on 130-35 & 130-36 lines at Bryn Mawr end
- Issue ratings for 130-42 Eddystone – Llanerch 138 kV line as a 2-section line

Before solutions ratings (MVA):	SN/SE	WN/WE
130-42 Eddystone - Llanerch	225/279	239/288
After solutions ratings (As a 2-segment line) (MVA):	**SN/SE**	**WN/WE**
130-42 Eddystone – Eddystone 50 Tap	310/388	406/468
130-42 Eddystone 50 Tap - Llanerch	225/279	239/288

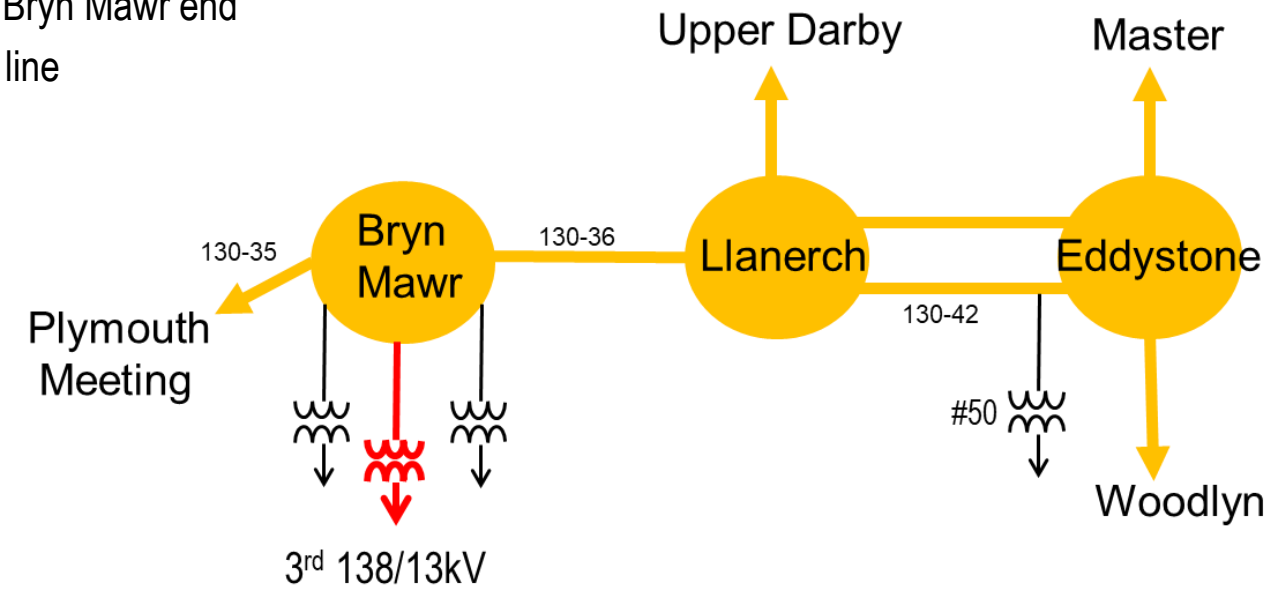
Estimated cost: $3M

Projected In-Service: 6/1/25

Supplemental Project ID: s2805

Project Status: Engineering

Model: 2026 RTEP



Revision History

3/17/2022 – V1 – Posted Local plan for s2673, s2674, s2675 and s2676

3/17/2022 – V2 – Posted Local plan for s2710, s2716, s2714 and s2730

11/16/2022 – V3 – replaced upgrade # for s2730 – new # is s2805