



PECO 2024

Submission of Supplemental Projects for Inclusion in the Local Plan

Need Number: PE-2023-009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/11/2024

Previously Presented:

Need Meeting 10/3/23

Solutions Meeting 10/31/23

Project Driver:

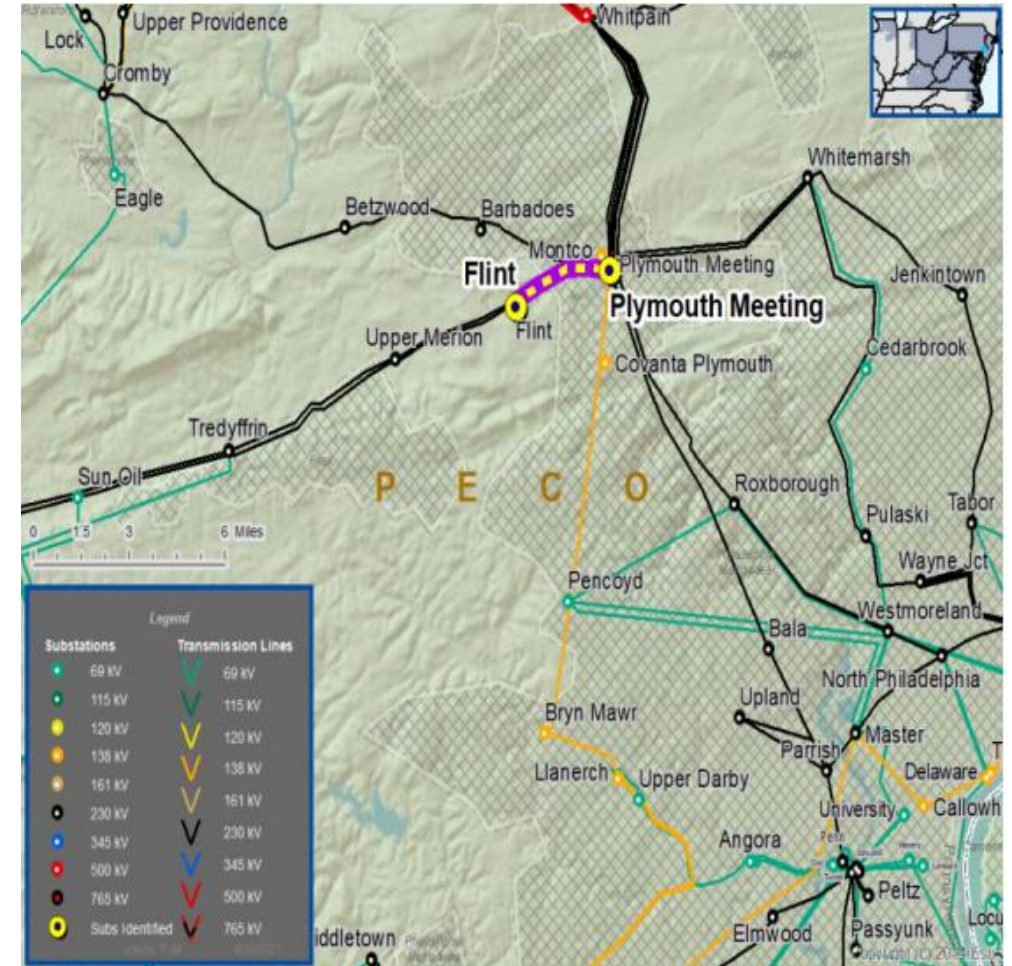
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

- The 230 kV line 220-47 Plymouth Meeting – Flint is a 2.5 mile line with 795 kcmil 30/19 ACSR conductor and 184 kcmil ACSR static wire that was constructed in 1927. This line is 96 years old and nearing end of useful life.
- There are 16 structures along this ROW, 13 of which that are the original steel lattice towers erected in 1927, which are showing signs of corrosion on the tower members, wear to vang plates, insulators, and insulator hardware.
- Inspections of the static and phase conductors identified that they were in poor condition and need to be replaced.



Need Number: PE-2023-009

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/11/2024

Proposed Solution:

- Rebuild approx. 2.5 miles with new dual circuit, weathering steel monopole structures and 959.6 kcmil ACSS conductor.
- Replace various substation equipment at Plymouth Meeting and Flint substations to make the conductor the limiting element.

Existing ratings (MVA):	SN/SE	WN/WE
220-47 Plymouth – Flint	418/519	518/597
New ratings (MVA):	SN/SE	WN/WE
220-47 Plymouth – Flint	762/884	799/922

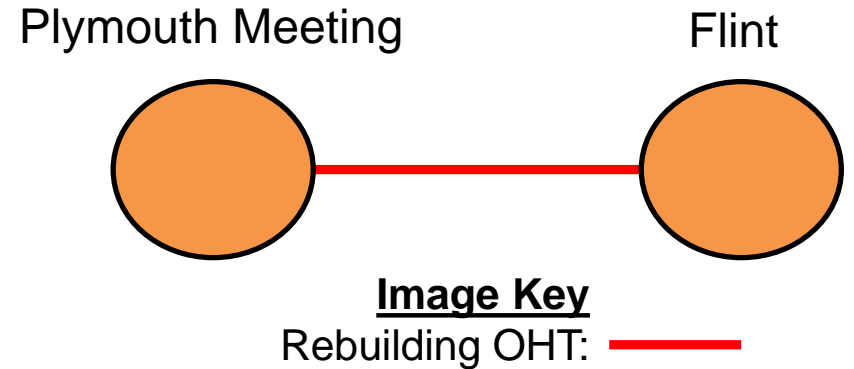
Estimated cost: \$18.2M

Projected In-Service: 12/31/25

Supplemental Project ID: s3185.1

Project Status: Engineering

Model: 2028 RTEP



Need Number: PE-2023-010

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/11/2024

Previously Presented:

Need Meeting 10/3/223

Solutions Meeting 10/31/23

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

Problem Statement:

- The 230 kV line 220-69 Plymouth Meeting – Upper Merion is a 4.5 mile line with 795 kcmil 30/19 ACSR conductor and 184 kcmil ACSR static wire that was constructed in 1927. This line is 96 years old and nearing end of useful life.
- There are 34 structures along this ROW, 25 of which that are the original steel lattice towers erected in 1927, which are showing signs of corrosion on the tower members, wear to vang plates, insulators, and insulator hardware.
- Inspections of the static and phase conductors identified that they were in poor condition and need to be replaced.



Need Number: PE-2023-010

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/11/2024

Proposed Solution:

- Rebuild approx. 4.5 miles with new dual circuit, weathering steel monopole structures and 959.6 kcmil ACSS conductor.
- Replace various substation equipment at Plymouth Meeting and Upper Merion substations to make the conductor the limiting element.

Existing ratings (MVA):	SN/SE	WN/WE
220-47 Plymouth – Flint	418/519	518/597
New ratings (MVA):	SN/SE	WN/WE
220-47 Plymouth – Flint	762/884	799/922

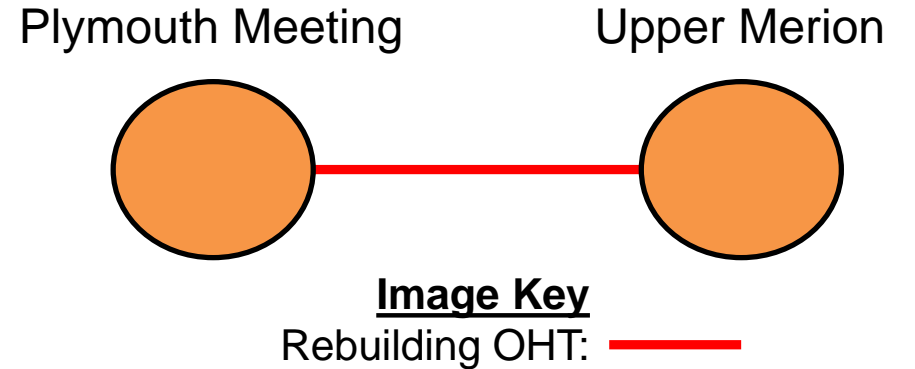
Estimated cost: \$29.2M

Projected In-Service: 12/31/25

Supplemental Project ID: s3186.1

Project Status: Engineering

Model: 2028 RTEP



Need Number: PE-2023-011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/11/2024

Previously Presented:

Need Meeting 10/31/2023

Solutions Meeting 1/9/24

Project Driver:

- Operational Flexibility and Efficiency

Specific Assumption Reference:

- Enhancing system functionality, flexibility, visibility, or operability
- Increasing system capacity
- Addressing recurring operational issues

Problem Statement:

- PJM issued a post contingency local load relief warning for the loss of the 220-52 Whitpain – Jarrett 230 kV line which would overload the 875 circuit breaker at Warrington 230 kV Bus Tie 7-8 facility.
- PECO Operations is requesting that the facility at Warrington be updated to alleviate the cause of the potential overload.



Need Number: PE-2023-011

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/11/2024

Proposed Solution:

- Replace existing 1590 ACSR station cable adjacent to breaker 875 within Warrington Bus Tie 7-8 Facility with new 2-2000 AAC station cable.

Existing ratings (MVA):	SN/SE	WN/WE
Warrington Bus Tie 7-8	563/702	700/808
New ratings (MVA):	SN/SE	WN/WE
Warrington Bus Tie 7-8	1217/1380	1418/1560

Estimated cost: \$20k

Projected In-Service: 3/8/2024

Supplemental Project ID: s3183.1

Project Status: Engineering

Model: 2028 RTEP



Need Number: PE-2024-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
9/27/2024

Previously Presented:

Needs Meeting 3/05/24

Solutions Meeting 6/04/24

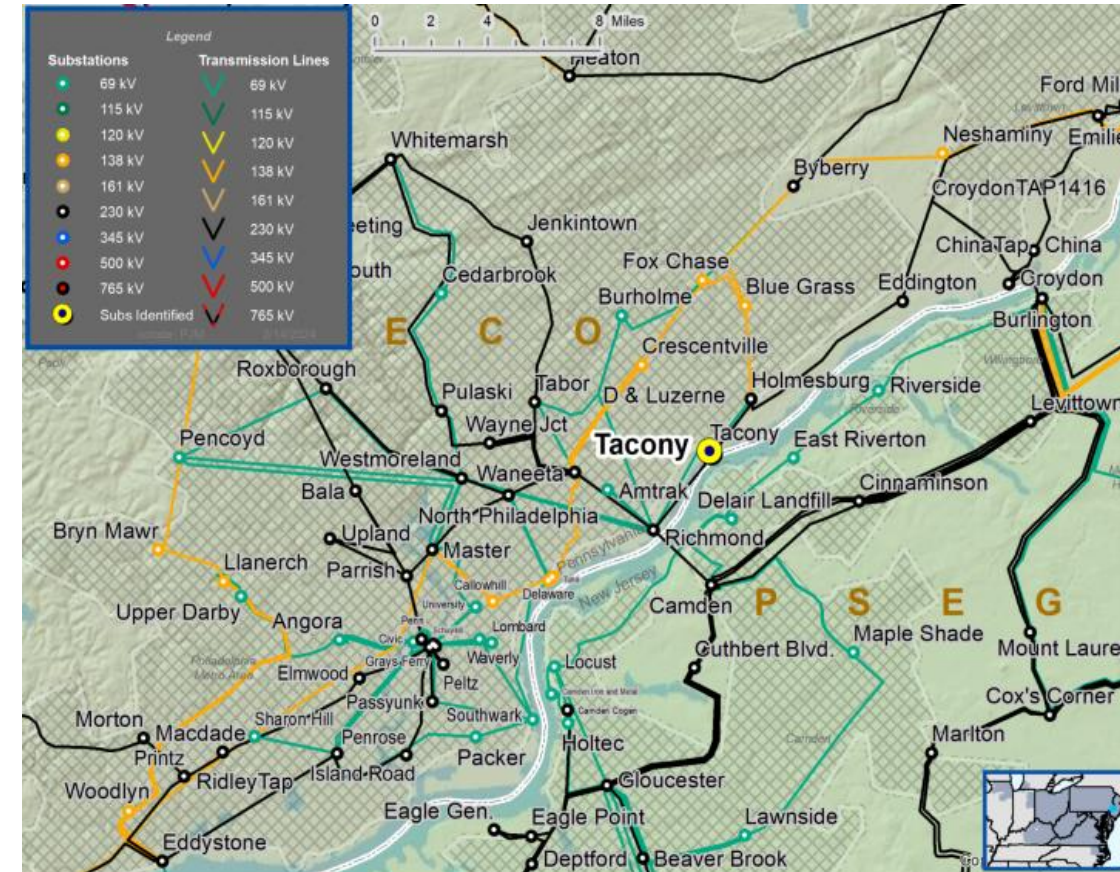
Project Driver: Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Programmatic review and/or replacement of breakers, relays, etc.
- Eliminating 69kV in areas with dense load pockets, stranded load, or where there have been capacity and reliability performance issues.

Problem Statement:

- The Tacony 69kV substation was originally constructed in 1928 and was built as a straight bus configuration fed from the 6605, Richmond to Tacony 69kV line and the 6606, Tacony to Holmesburg 69kV line
- Inspections of the transmission assets within the site show that they are in poor condition and no longer serviceable.
 - Oldest breakers at the station were manufactured in 1948 and use oil as the insulation medium.
 - Transmission bus structures show severe deterioration and don't meet current structural standards
- Remaining substation assets are no longer able to be repaired due to age and the overall structure being compromised
 - Switchgear house was manufactured in 1961 with all existing breakers from the mid 60's



Need Number: PE-2024-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan
9/27/2024

Proposed Solution:

- Rebuild Tacony 69kV substation to 230kV standards by cutting into the 220-56 Eddington/Holmesburg/Richmond 230kV line in and out of the substation
- Replace the existing 69-13kV 40MVA transformers with two new 230-13kV 62MVA units

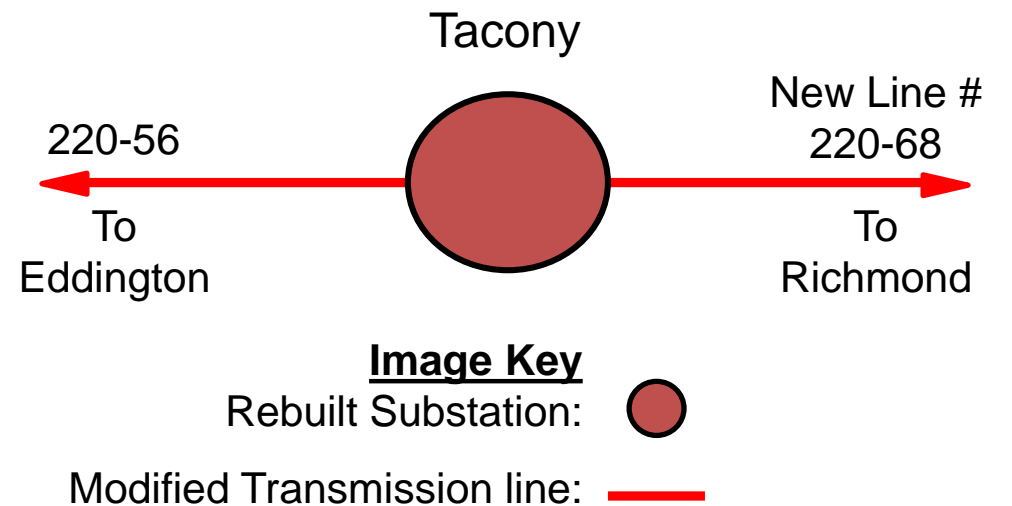
Estimated cost: \$17M

Projected In-Service: 12/31/27

Supplemental Project ID: s3383.1 & s3383.2

Project Status: Engineering

Model: 2028 RTEP



Need Number: PE-2024-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/27/2024

Previously Presented:

Need Meeting 3/05/2024

Solutions Meeting 6/04/24

Project Driver:

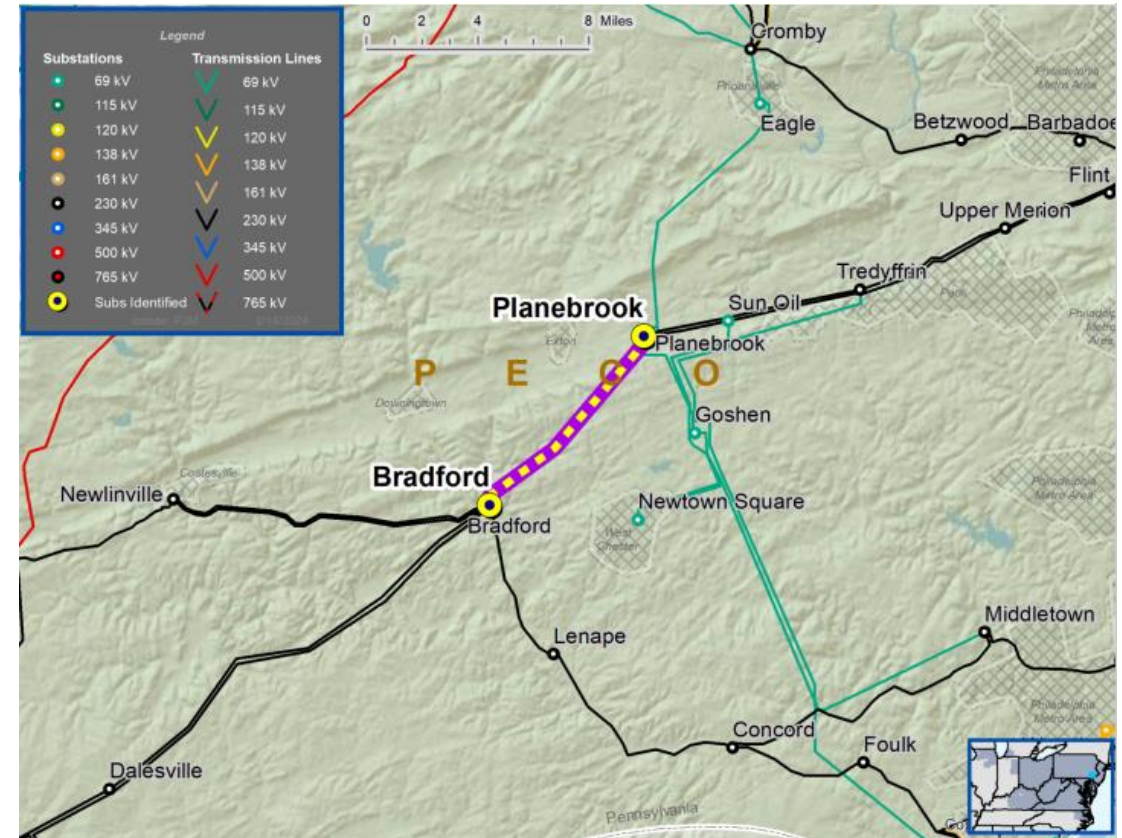
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

- The 230 kV line 220-31 Bradford – Planebrook is a 6.24 mile line with 795 kcmil 30/19 ACSR conductor and 184 kcmil ACSR static wire that was constructed in 1927. This line is 96 years old and nearing end of useful life.
- There are 33 structures along this ROW, 29 of which that are the original steel lattice towers erected in 1927 and are showing signs of corrosion on the tower members, wear to vang plates, insulators, and insulator hardware.
- Inspections of the static and phase conductors identified that they were in poor condition and need to be replaced.





Need Number: PE-2024-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/27/2024

Proposed Solution:

- Rebuild approx. 6.24 miles of the 220-31 Planebrook – Bradford 230kV line with new dual circuit, weathering steel monopole structures and 959.6 kcmil ACSS/TW conductor
- Replace various substation equipment at Planebrook and Bradford substations

Existing ratings (MVA):	SN/SE	WN/WE
220-31 Planebrook – Bradford	525/640	575/692
New ratings (MVA):	SN/SE	WN/WE
220-31 Planebrook – Bradford	762/884	799/922

Estimated cost: \$36M

Projected In-Service: 12/31/27

Supplemental Project ID: s3384.1

Project Status: Conceptual

Model: 2028 RTEP



Need Number: PE-2024-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/27/2024

Previously Presented:

Need Meeting 3/05/2024

Solutions Meeting 6/04/2024

Project Driver:

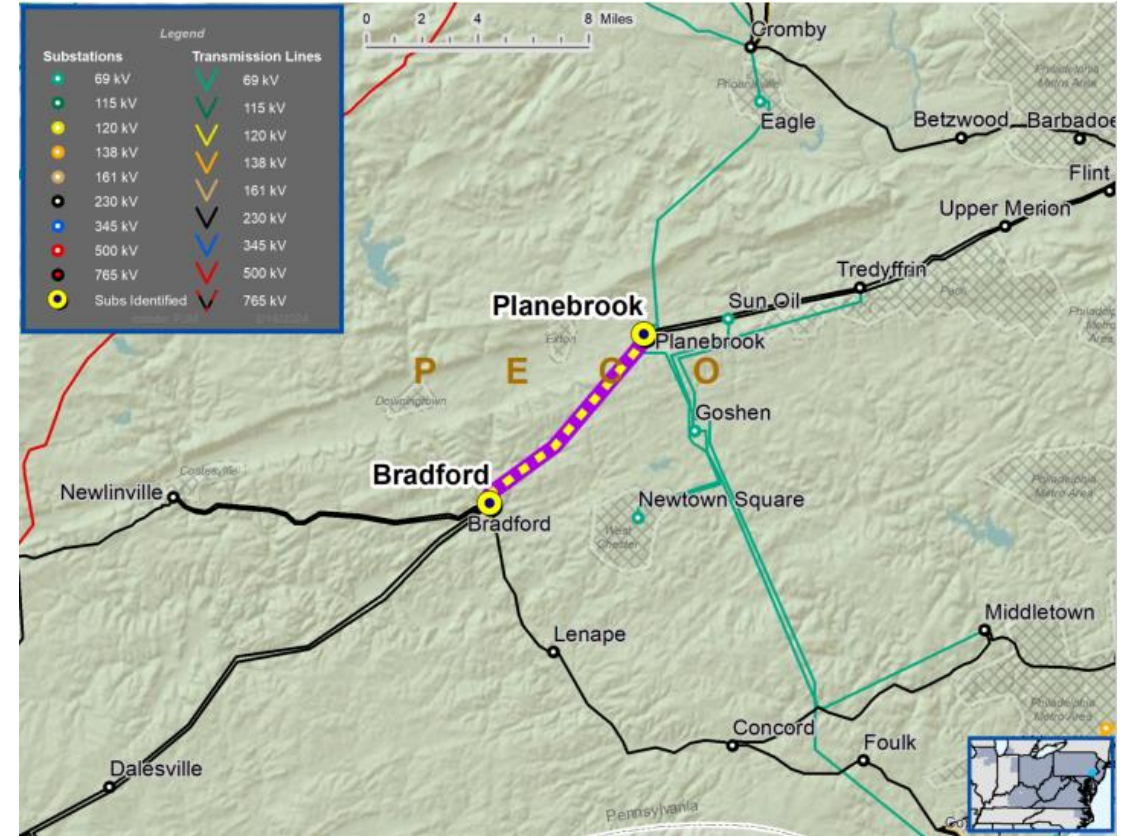
- Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

- The 230 kV line 220-02 Bradford – Planebrook is a 6.43 mile line with 795 kcmil 30/19 ACSR conductor and 184 kcmil ACSR static wire that was constructed in 1927. This line is 96 years old and nearing end of useful life.
- There are 33 structures along this ROW, 30 of which that are the original steel lattice towers erected in 1927 and are showing signs of corrosion on the tower members, wear to vang plates, insulators, and insulator hardware.
- Inspections of the static and phase conductors identified that they were in poor condition and need to be replaced.





Need Number: PE-2024-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/27/2024

Proposed Solution:

- Rebuild approx. 4.5 miles of the 220-02 Planebrook – Bradford 230kV line with new dual circuit, weathering steel monopole structures and 959.6 kcmil ACSS/TW conductor
- Replace various substation equipment at Planebrook and Bradford substations

Existing ratings (MVA):	SN/SE	WN/WE
220-02 Planebrook – Bradford	525/640	575/692
New ratings (MVA):	SN/SE	WN/WE
220-02 Planebrook – Bradford	762/884	799/922

Estimated cost: \$36M

Supplemental Project ID: s3385.1

Projected In-Service: 12/31/28

Project Status: Conceptual

Model: 2028 RTEP

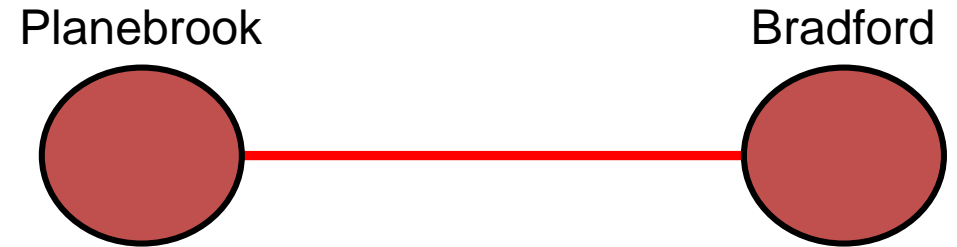


Image Key
 Rebuilding OHT: ———

04/11/2024 – V1- s3183.1,s3185.1,s3186.1 added to local plan

09/27/2024 – V2 – s3383.1-.2,s3384.1, and s3385.1