

Transmission Expansion Advisory Committee Supplemental Projects

PPL Transmission Zone

Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Need Number: PPL-2026-0029

Process Stage: Solution Meeting 09/08/2026

Previously Presented: Need Meeting 04/07/2026

Project Driver: Customer Service

Specific Assumption References:

PPL 2026 Annual Assumptions

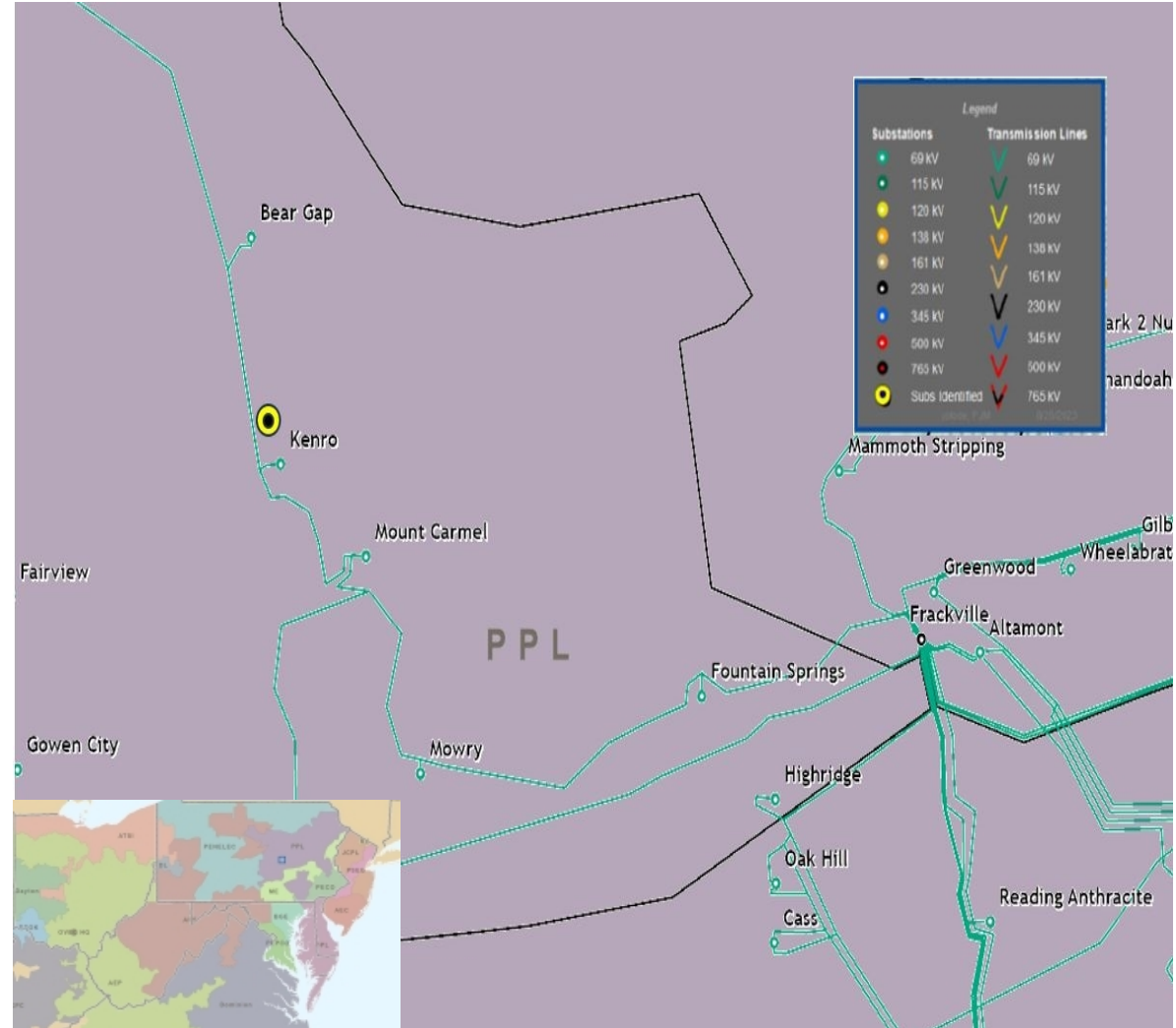
Problem Statement:

A customer has submitted a request to have their facility served from a 230kV source near Mt Carmel, PA. The total facility load is approximately 2,000 MW (2033). The requested in-service date is 06/2028.

Initial In-Service 2028 Load: 290 MW

Projected 2029 Load: 500 MW

Projected 2031 Load: 1,250 MW





PPL Transmission Zone M-3 Process

Natalie 500-230kV Substation

Need number(s): PPL-2026-0029

Process Stage: Solution Meeting 09/08/2026

Proposed Solution:

Natalie 230kV Yard

- Install nine bays of new BAAH 230kV switchyard with two 144 MVAR Capacitor banks and one 200+/-MVAR STATCOM
- Estimated Cost: \$116 M

Bifurcate Montour/Columbia – Frackville 230kV Lines

- Bifurcate the Montour/Columbia - Frackville 230kV lines into the new Natalie 230kV switchyard (~6 miles)
- Estimated Cost: \$58.5 M

Montour-Columbia 230kV Line

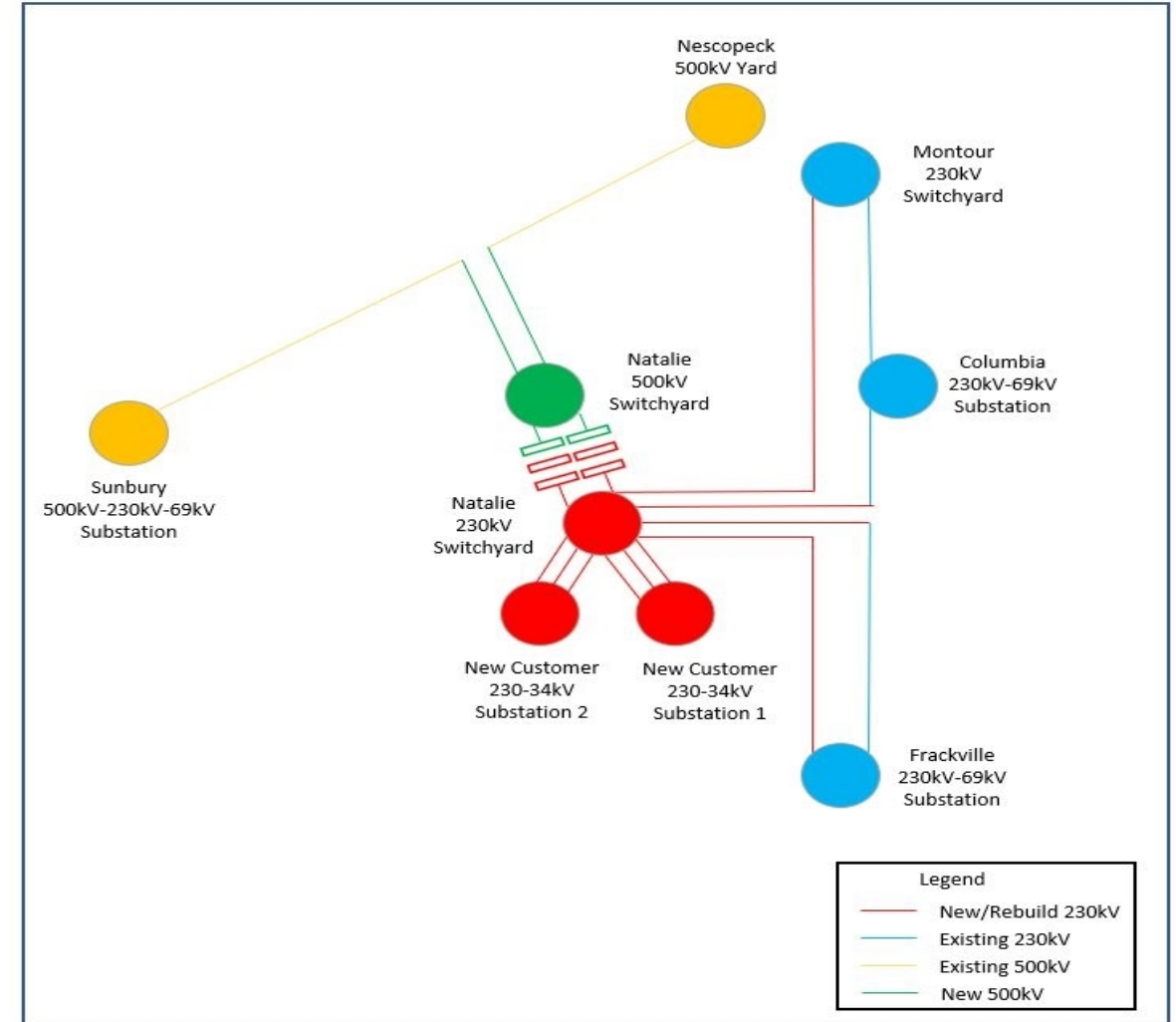
- Add the second circuit to the existing MONT-COLU 230kV line from Montour to Columbia (10.6 miles)
- Estimated Cost: \$10.5 M

Frackville-Columbia 230kV Line

- Add the second circuit to the existing FRAC-COLU 230kV line from Frackville to Columbia (26.5 miles)
- Estimated Cost: \$26.5 M

Natalie 230kV Customer Lead Lines

- Install two sets of three 230kV lead lines from Natalie 230kV switchyard to the customer substations
- Estimated Cost: \$10 M



Need number(s): PPL-2026-0029

Proposed Solution: Continued from previous slide...

Natalie 500kV Yard

- Install four bays of a 500kV yard at Natalie with two 500-230kV (750MVA) Transformers
- Estimated Cost: \$88 M

Bifurcate Sunbury – Susquehanna (Nescopeck) 500kV Line

- Bifurcate Sunbury - Susquehanna (Nescopeck) 500kV line into the new Natalie 500kV yard (~10.5 miles)
- Estimated Cost: \$92 M

Montour 230kV Yard

- Install a 230kV line terminal for the new Montour-Natalie line.
- Estimated Cost: \$0.5 M

Frackville 230kV Yard

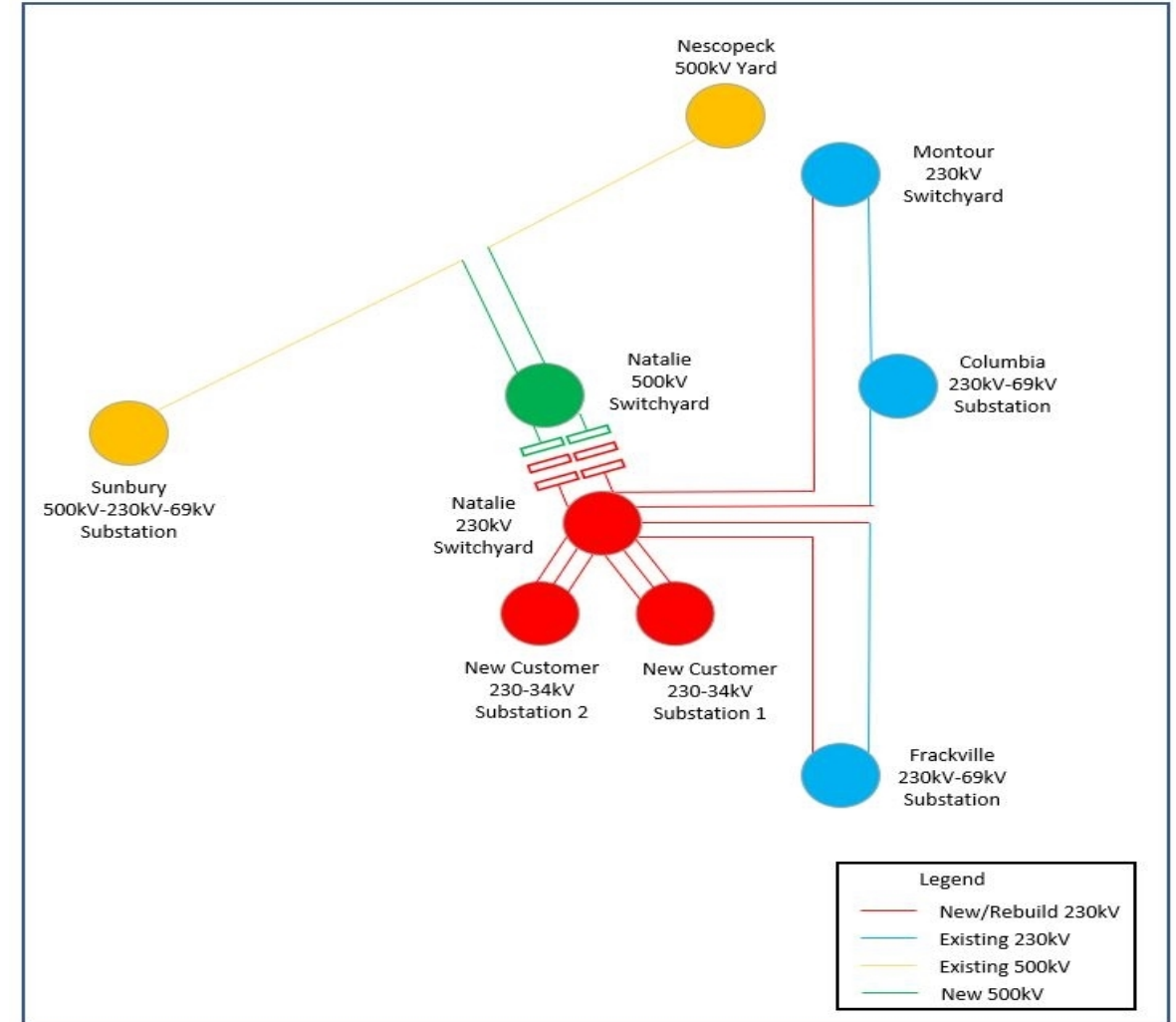
- Install a 230kV line terminal and one 230kV breaker for the new Frackville-Natalie #2 line
- Estimated Cost: \$3.5 M

Upgrade Columbia 230kV Substation

- Upgrade bus and bay conductor
- Estimated Cost: \$2.5 M

PPL Transmission Zone M-3 Process

Natalie 500-230kV Substation



Need number(s): PPL-2026-0029

Continued from previous slide...

Ratings MVA (SN/SE/WN/WE):

Natalie 230kV Yard

- All new 230 kV Breaker
 - Before Proposed Solution: N/A kA
 - After Proposed Solution: 63 kA

Bifurcate Montour/Columbia – Frackville 230kV Lines

- Before Proposed Solution: 647/742/801/903
- After Proposed Solution: 1245/1431/1475/1640

Montour-Columbia 230kV Line

- Before Proposed Solution: N/A
- After Proposed Solution: 1245/1431/1475/1640

Frackville-Columbia 230kV Line

- Before Proposed Solution: N/A
- After Proposed Solution: 1245/1431/1475/1640

Natalie 230kV Customer Lead Lines

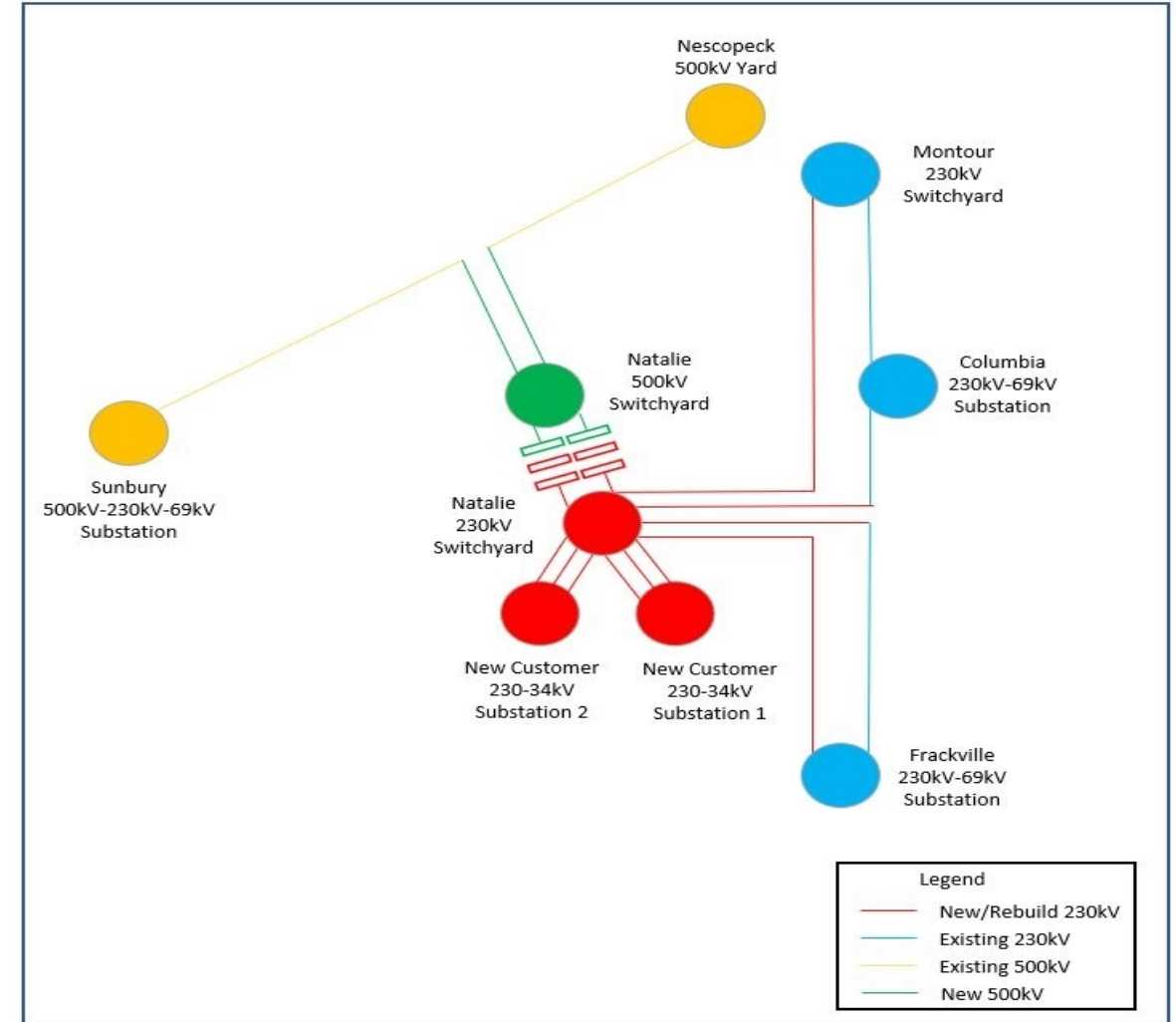
- Before Proposed Solution: N/A
- After Proposed Solution: 933/1079/998/1143

Natalie 500kV Yard

- T1 & T2 500-230-12.5kV Transformer

PPL Transmission Zone M-3 Process

Natalie 500-230kV Substation



Need number(s): PPL-2026-0029

Ratings MVA (SN/SE/WN/WE): Continued from previous slide...

- Before Proposed Solution: N/A
- After Proposed Solution: 890/1167/1114/1200
- All New 500 kV Breaker
 - Before Proposed Solution: N/A kA
 - After Proposed Solution: 63 kA

Bifurcate Sunbury – Susquehanna (Nescopeck) 500kV Line

- Before Proposed Solution: 2707/3112/3207/3566
- After Proposed Solution: 2939/3507/3618/4421

Montour 230kV Yard

Frackville 230kV Yard

- Frackville CB3T 230 kV Breaker
 - Before Proposed Solution: N/A kA
 - After Proposed Solution: 63 kA

Upgrade Columbia 230kV Substation

Alternatives Considered:

Bifurcate FRAC-COLU, install Natalie 230kV yard, add second MONT-COLU-FRAC circuit. Install the 500-230kV Substation near Catawissa and extend double circuit 230kV lines to Natalie switchyard. Estimated cost \$420M.

Transmission Cost Estimate: \$408 M

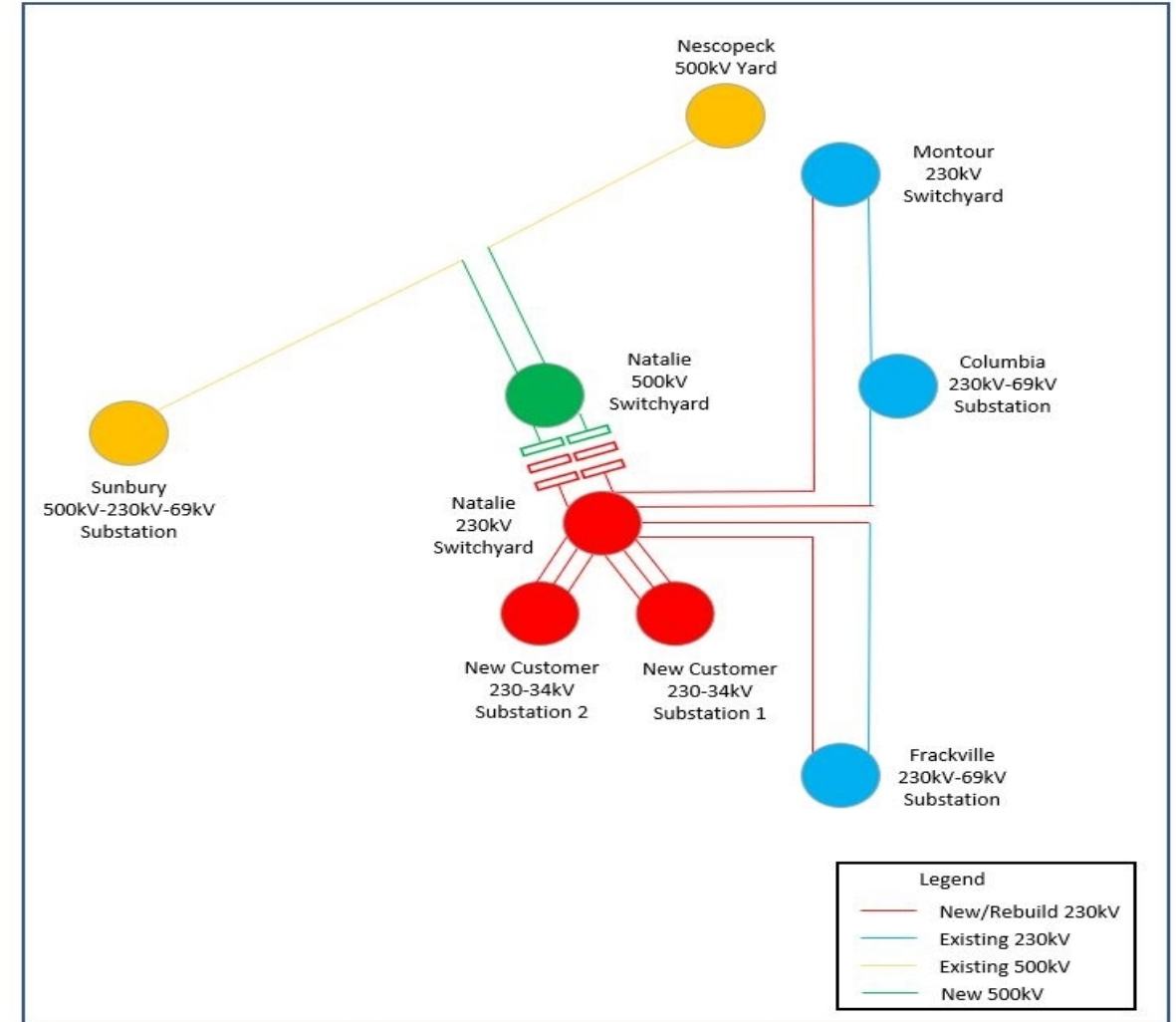
Projected In-Service: 12/30/2029

Project Status: Project Development

Model: 2030

PPL Transmission Zone M-3 Process

Natalie 500-230kV Substation





PPL Transmission Zone M-3 Process Bressler 230kV Switchyard

Need Number: PPL-2026-0037

Process Stage: Solution Meeting 09/08/2026

Previously Presented: Need Meeting 06/02/2026

Project Driver: Customer Service

Specific Assumption References:

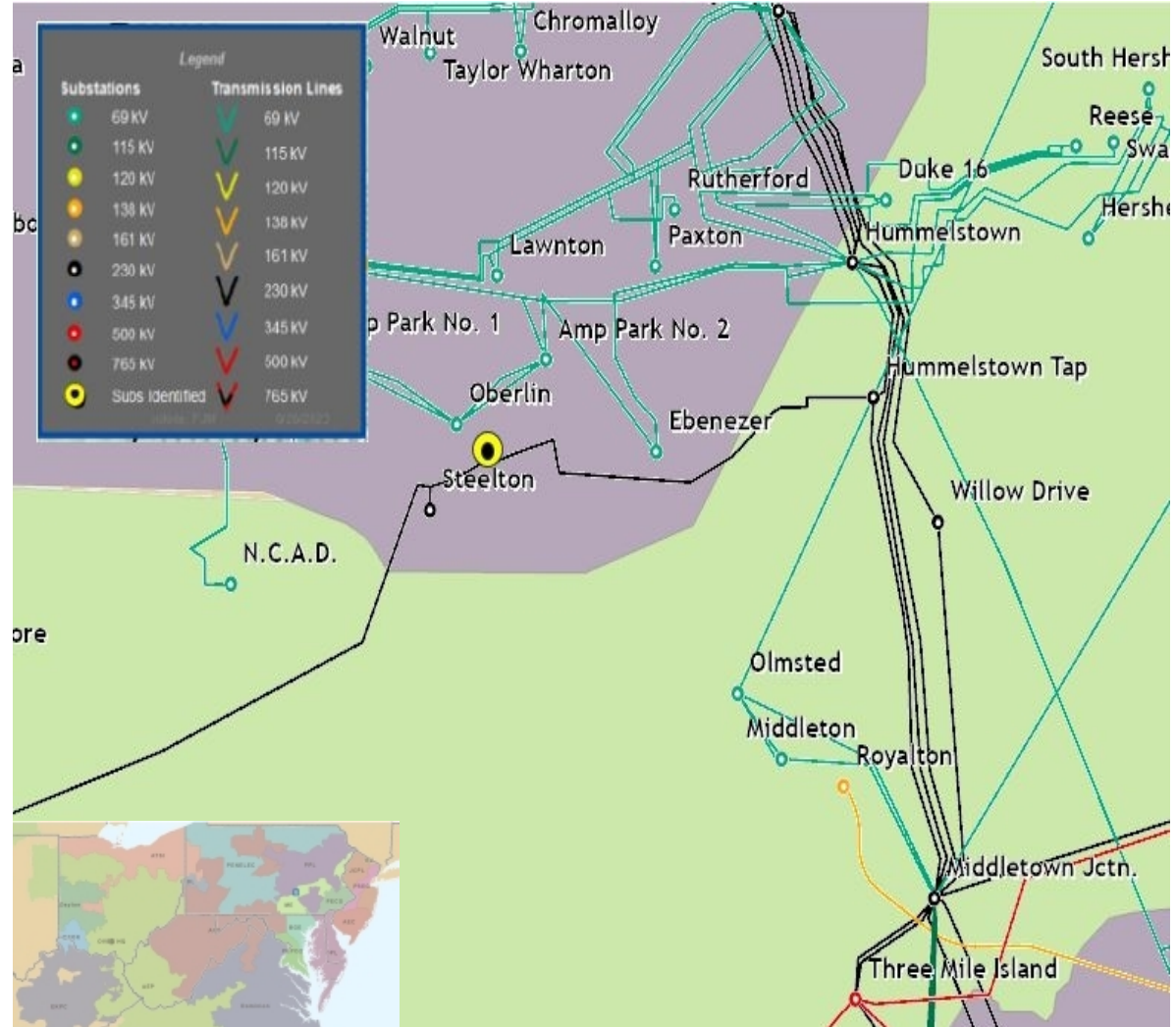
PPL 2026 Annual Assumptions

Problem Statement:

A customer has submitted a request to have their facility served from a 230kV source near Harrisburg, PA. The total facility load is approximately 900 MW (2031). The requested in-service date is 03/2029.

Projected 2029 Load: 225 MW

Projected 2031 Load: 900 MW



Need number(s): PPL-2026-0037

Process Stage: Solution Meeting 09/08/2026

Proposed Solution:

Bressler 230kV Switchyard

- Install a seven bay BAAH 230kV switchyard with a 125MVAR Capacitor bank
- Estimated Cost: \$45 M

Highspire - Steelton 230kV Line

- Bifurcate the Highspire - Steelton 230kV line and terminate at the new Bressler 230kV switchyard. Extend lines approximately 0.3 miles into the new Bressler 230kV switchyard
- Estimated Cost: \$4.5 M

Bressler Customer 230kV Lead Lines

- Install two sets of three 230kV lead lines from Bressler 230kV switchyard to the customer substations
- Estimated Cost: \$4.5 M

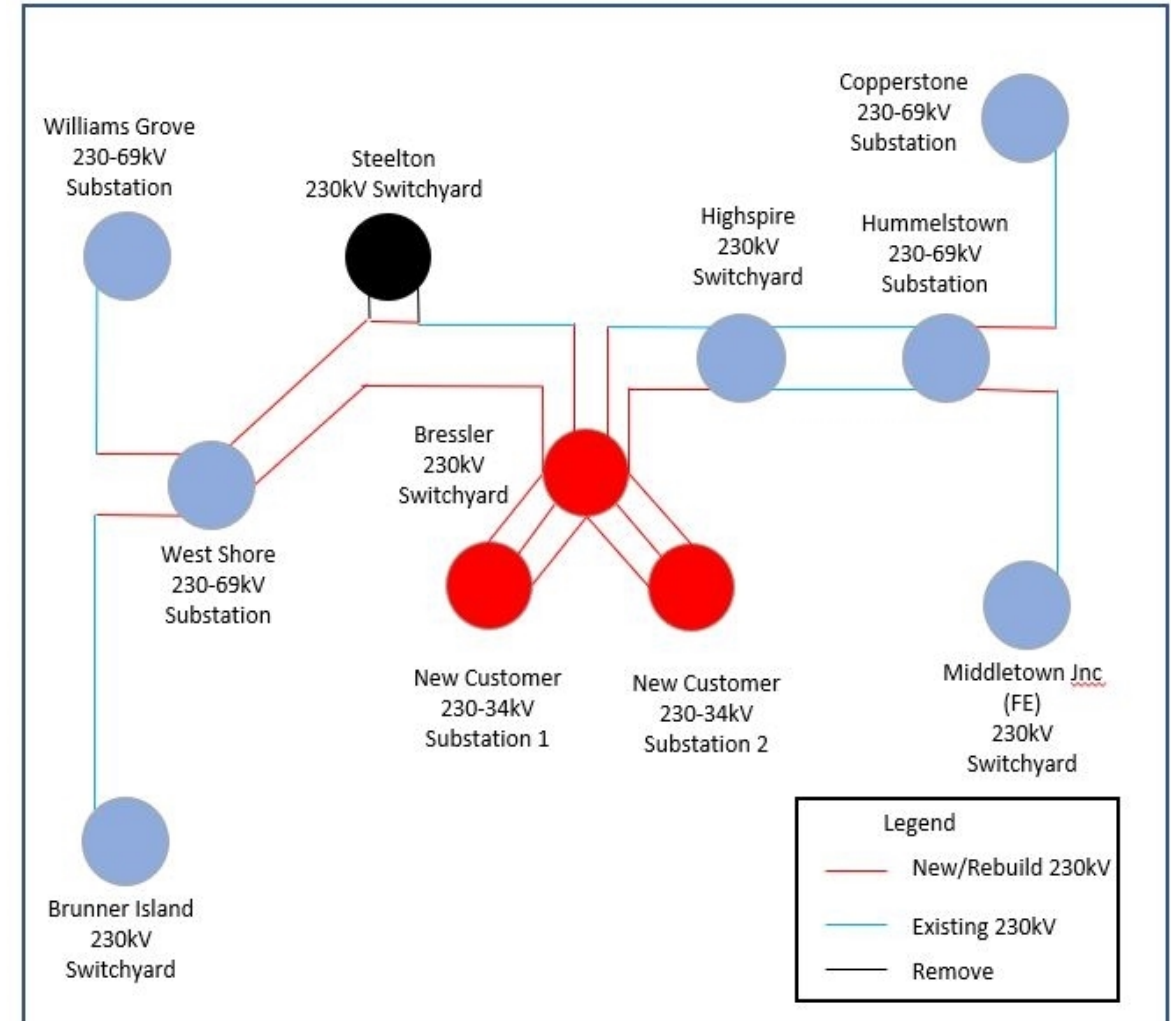
West Shore - Steelton 230kV Line

- Rebuild the existing West Shore - Steelton 230kV Line to double circuit 230kV from West Shore to Steelton (12.2 miles)
- Estimated Cost: \$86 M

Highspire - Steelton 230kV Line Second Circuit

PPL Transmission Zone M-3 Process

Bressler 230kV Switchyard



Need number(s): PPL-2026-0037

Proposed Solution: Continued from previous slide...

- Add the second circuit to the Highspire - Steelton 230kV from Steelton to Highspire (1.5 miles)
- Estimated Cost: \$1.5 M

West Shore 230kV Yard

- Install three 230kV line terminals with three new 230kV breakers
- Estimated Cost: \$10.5 M

Brunner Island – Williams Grove 230kV Line

- Bifurcate the Brunner Island - Williams Grove 230kV line and terminate at the West Shore 230kV yard. Extend lines approximately 0.1 miles into the West Shore 230kV yard
- Estimated Cost: \$3.5 M

Hummelstown 230kV Yard

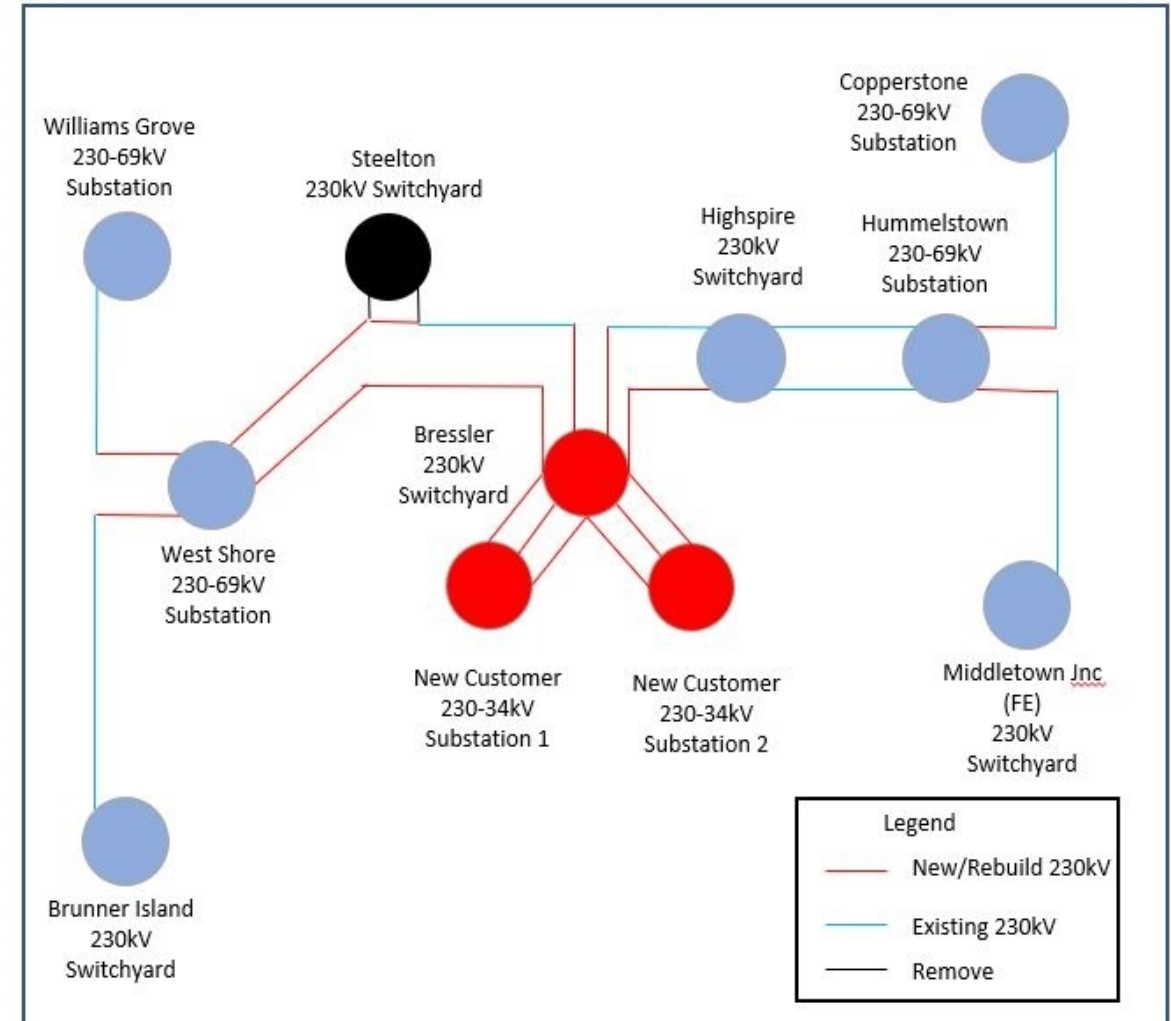
- Expand Hummelstown 230kV yard and install two new DBDB 230kV bays
- Estimated Cost: \$8 M

Middletown Inc – Copperstone 230kV Line

- Bifurcate the Middletown Inc - Copperstone 230kV line and terminate at the Hummelstown 230kV yard. Extend lines approximately 0.2 miles into the Hummelstown 230kV yard
- Estimated Cost: \$4 M

PPL Transmission Zone M-3 Process

Bressler 230kV Switchyard



Need number(s): PPL-2026-0037

Proposed Solution: Continued from previous slide...

Steelton 230kV Switchyard

- The remaining load at Steelton is to be transferred to distribution. Switchyard will be retired as the bus and bay conductor limit the line ratings.
- Estimated Cost: \$1.5 M

Ratings MVA (SN/SE/WN/WE):

Bressler 230kV Switchyard

- All new 230 kV Breaker
 - Before Proposed Solution: N/A kA
 - After Proposed Solution: 63 kA

Highspire - Steelton 230kV Line

- Before Proposed Solution: 268/398/391/527
- After Proposed Solution: 1245/1431/1475/1640

Bressler Customer 230kV Lead Lines

- Before Proposed Solution: N/A
- After Proposed Solution: 933/1079/998/1143

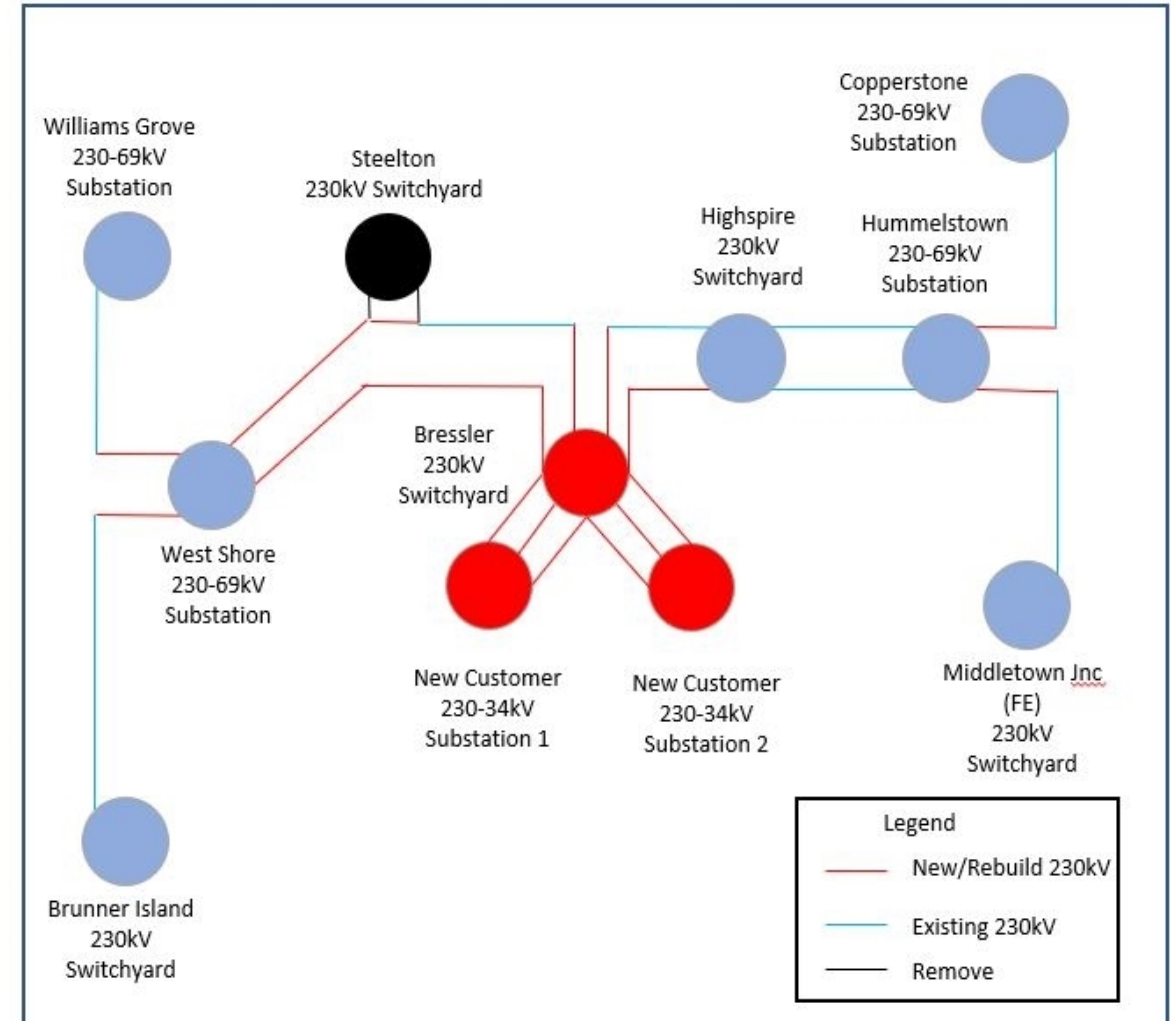
West Shore - Steelton 230kV Line

- Before Proposed Solution: 647/801/746/903
- After Proposed Solution: 1245/1431/1475/1640

Highspire - Steelton 230kV Line Second Circuit

PPL Transmission Zone M-3 Process

Bressler 230kV Switchyard



Need number(s): PPL-2026-0037

Ratings MVA (SN/SE/WN/WE): Continued from previous slide...

- Before Proposed Solution: N/A
- After Proposed Solution: 1331/1629/1533/1822

West Shore 230kV Yard

- 2E, 3W, & 4W 230 kV Breaker
 - Before Proposed Solution: N/A kA
 - After Proposed Solution: 63 kA

Brunner Island – Williams Grove 230kV Line

- Before Proposed Solution: 647/801/746/903
- After Proposed Solution: 647/801/746/903

Hummelstown 230kV Yard

- All New 230 kV Breaker
 - Before Proposed Solution: N/A kA
 - After Proposed Solution: 63 kA

Middletown Inc – Copperstone 230kV Line

- Before Proposed Solution: 647/801/746/903
- After Proposed Solution: 647/801/746/903

Steelton 230kV Switchyard

Alternatives Considered:

No functional alternatives as the customer site is immediately adjacent to the HIGH-STEE 230kV line.

Transmission Cost Estimate: \$169 M

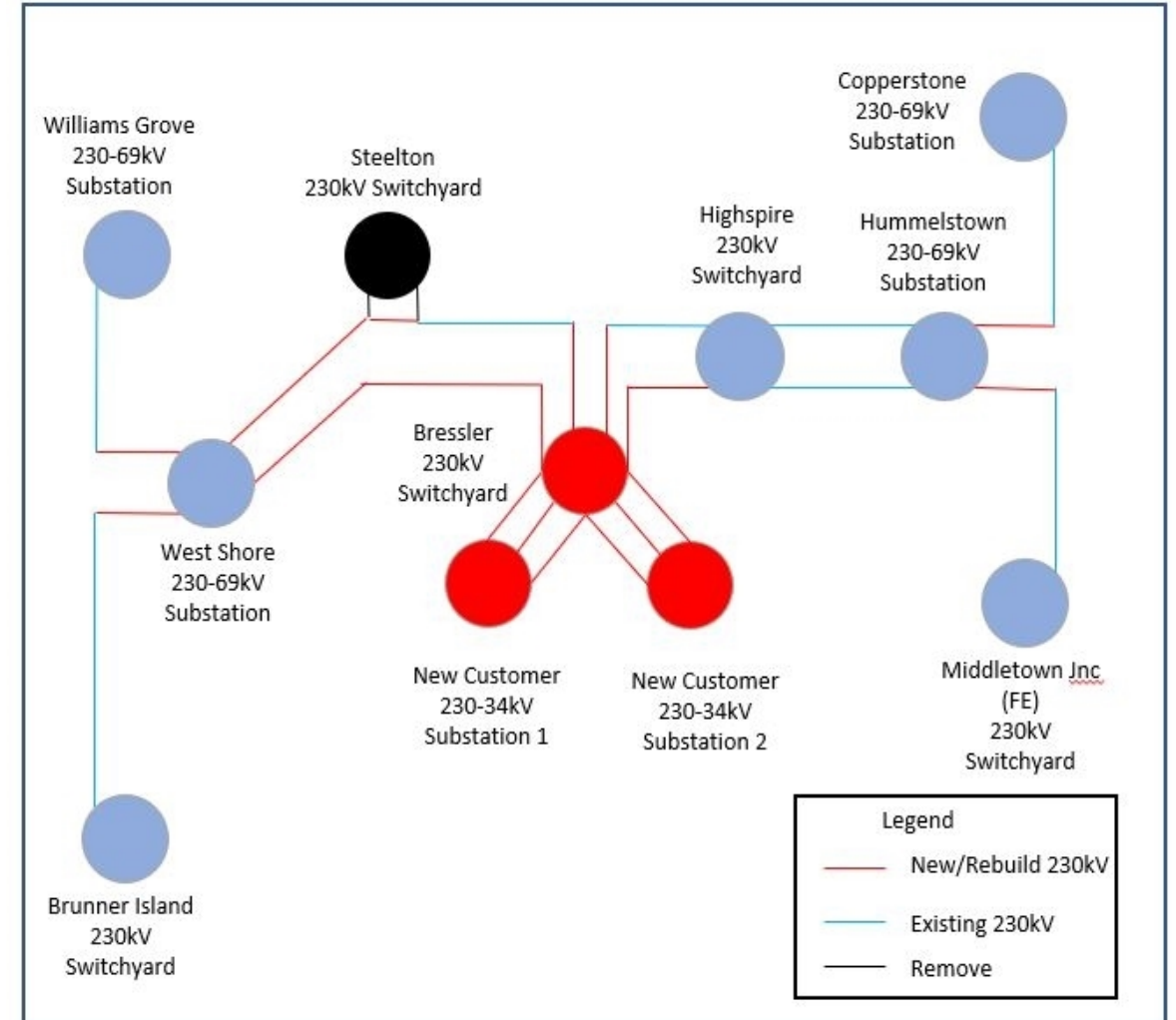
Projected In-Service: 03/31/2029

Project Status: Project Development

Model: 2030

PPL Transmission Zone M-3 Process

Bressler 230kV Switchyard





PPL Electric Utilities

Need number(s): PPL-2026-0037

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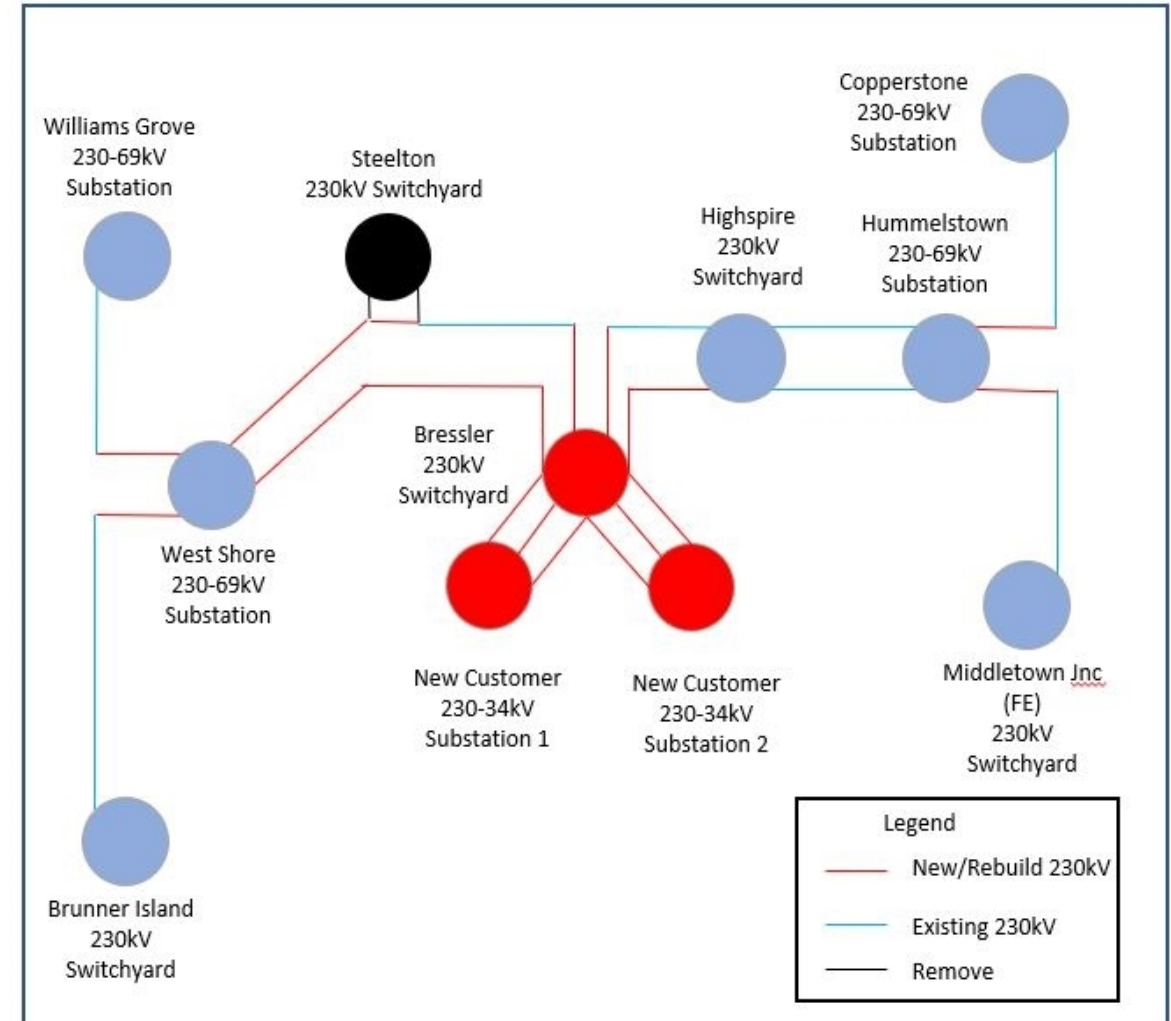
Transmission Cost Estimate: \$169 M

Projected In-Service: 03/31/2029

Project Status: Project Development

Model: 2030

PPL Transmission Zone M-3 Process Bressler 230kV Switchyard



Revision History

08/28/2026 – V1 – Posted to pjm.com