

Transmission Expansion Advisory Committee PPL Supplemental Projects

October 15, 2020

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

PPL Transmission Zone: Supplemental Manor-Millwood 230kV & Face Rock-Millwood 1 69kV

Need Number: PPL-2020-0003

Meeting Date: 10/15/2020

Process Stage: Solution

Need Slide Presented: 09/10/2020

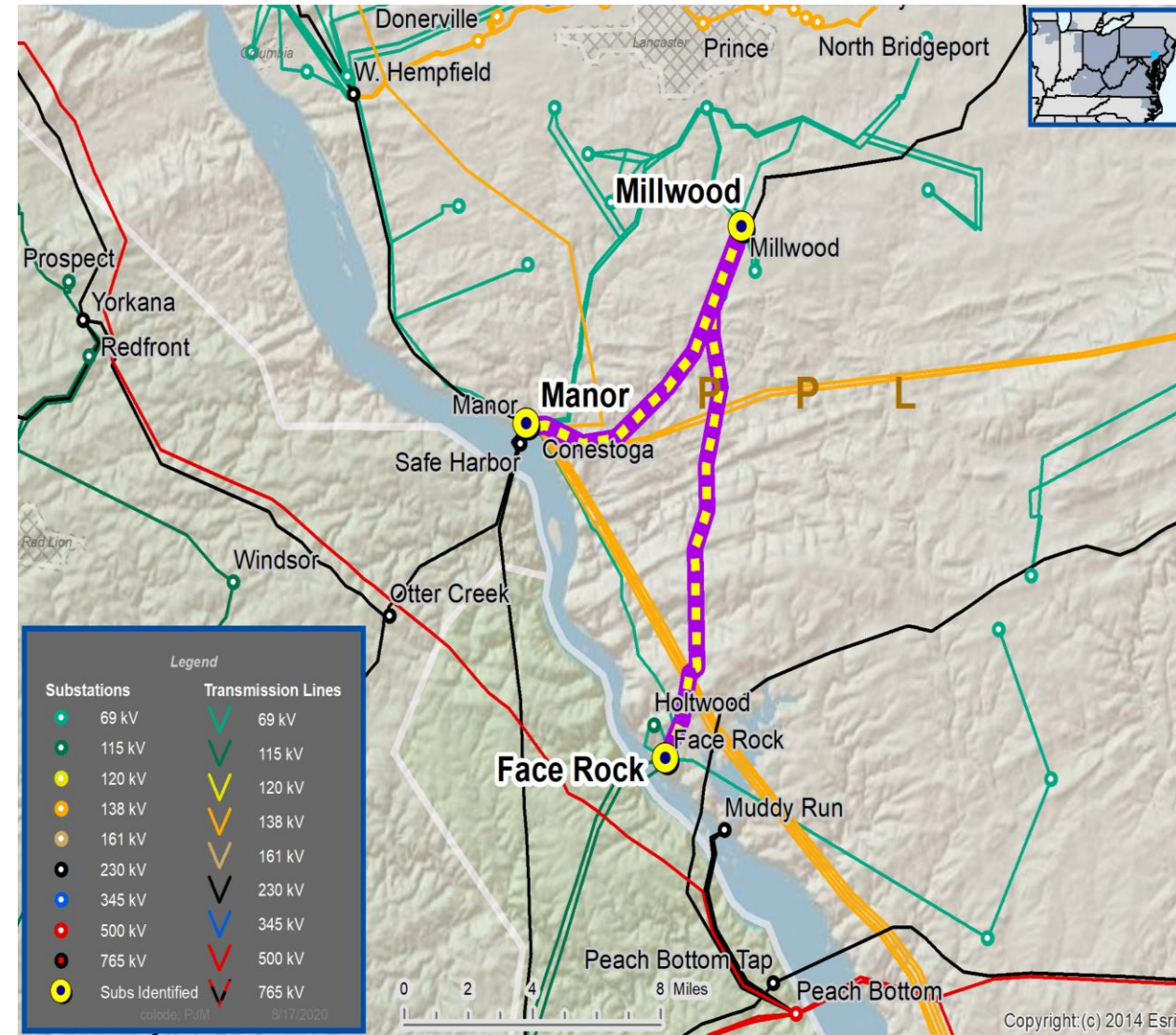
Supplemental Project Driver: Equipment Material Condition, Performance, and Risk.

Problem Statement:

- Over a 5.2 mile stretch of the Manor-Millwood 230kV line and Face Rock-Millwood 1 69kV line, there are 28 weathering steel Corten lattice towers that were installed in 1967.
- 83% of the structures on this line are Corten Towers.
- A third-party inspection and analysis was conducted on a statistically significant sample of 192 out of the 1284 Corten structures on the PPL system. All the towers inspected exhibited section loss on numerous members and over 90% of the joints had visible pack-out.
- The report rated all the Corten towers inspected in poor or worse condition and concluded that the towers require near-term mitigation.
- This is an important 230 kV circuit required to serve approximately 200 MW of local load. Absence of this line will cause a thermal violation for the next N-1 contingency.

Specific Assumption References:

[PPL 2020 Annual Assumptions](#)



PPL Transmission Zone: Supplemental Manor-Millwood 230kV & Face Rock-Millwood 1 69kV

Need Number: PPL-2020-0003

Process Stage: Solution Meeting 10/15/2020

Manor-Millwood 230kV & Face Rock-Millwood 1 69kV

Proposed Solution: Rebuild the 5.2-mile Corten tower section with steel monopoles and new conductor.

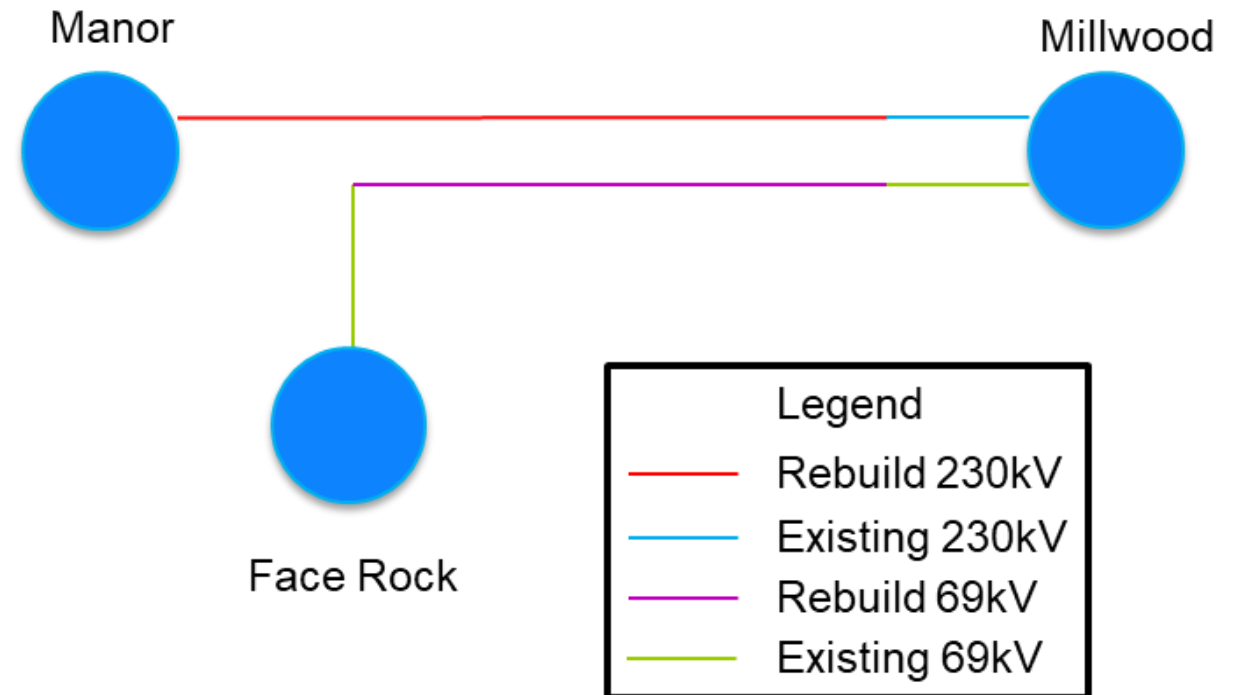
TO Alternative:

- Removal of the Circuits: Removal is infeasible due to this line serving approximately 200 MW of local load. Absence of this line will cause a thermal violation for the next N-1 contingency.
- Remediation of the towers: Not cost effective over the life of the asset

Estimated Project Cost: \$13.2M

Project IS Date: 12/31/2024

Project Status: Conceptual



PPL Transmission Zone: Supplemental Sunbury-Milton 230kV & Sunbury-Milton 69kV

Need Number: PPL-2020-0005

Meeting Date: 10/15/2020

Process Stage: Solution

Need Slide Presented: 09/10/2020

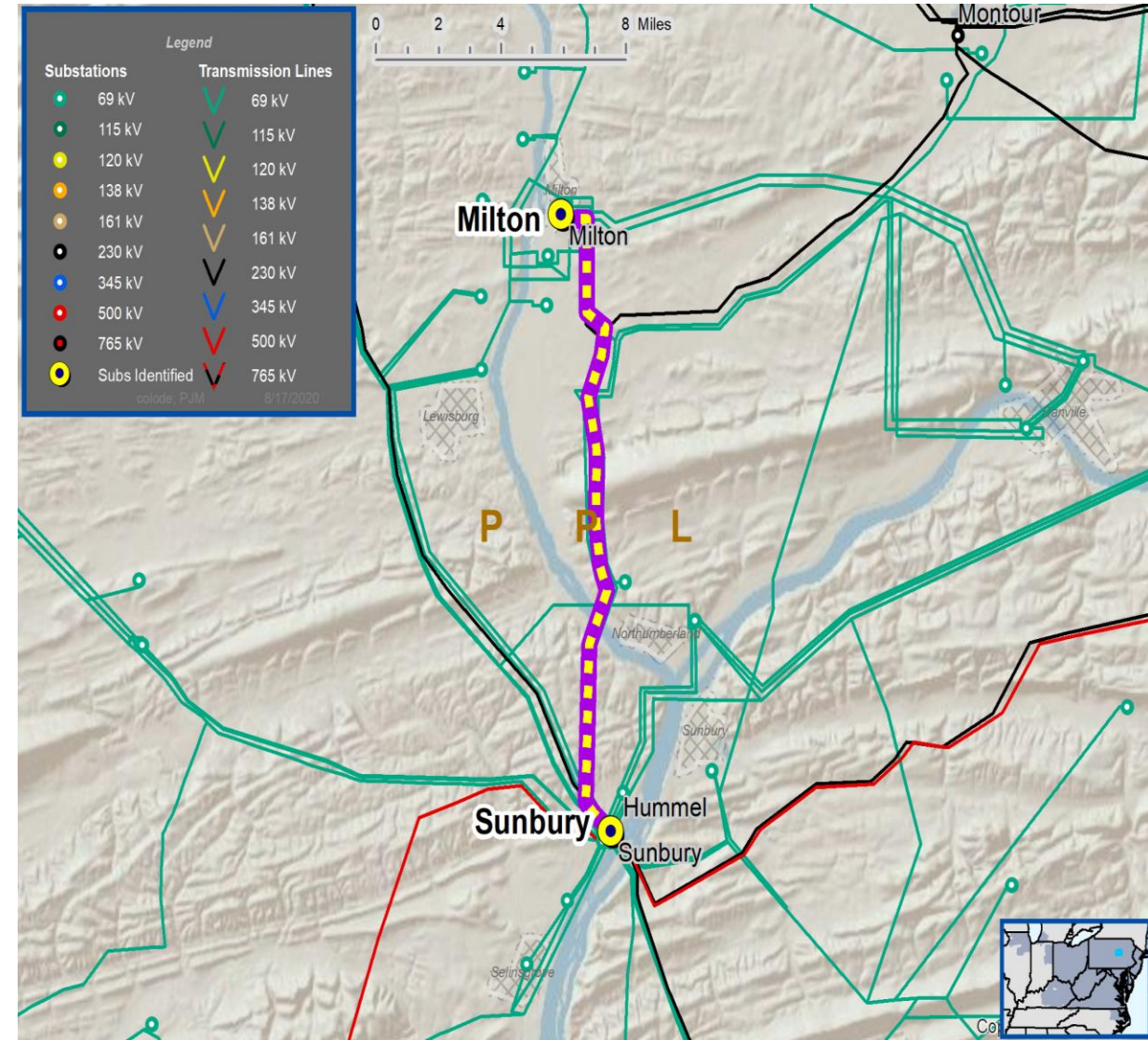
Supplemental Project Driver: Equipment Material Condition, Performance, and Risk.

Problem Statement:

- Over a 10.4 mile stretch of the Sunbury-Milton 230kV and Sunbury-Milton 69kV lines, there are 68 weathering steel Corten lattice towers that were installed in 1969.
- 99% of the structures on this line are Corten Towers.
- A third-party inspection and analysis was conducted on a statistically significant sample of 192 out of the 1284 Corten structures on the PPL system. All the towers inspected exhibited section loss on numerous members and over 90% of the joints had visible pack-out.
- The report rated all the Corten towers inspected in poor or worse condition and concluded that the towers require near-term mitigation.
- This is an important 230 kV circuit required to serve the local load. There will be several thermal violations and approximately 105 MW of local load will be out of power for the next N-1 contingency without this circuit.

Specific Assumption References:

[PPL 2020 Annual Assumptions](#)



PPL Transmission Zone: Supplemental Sunbury-Milton 230kV & Sunbury-Milton 69kV

Need Number: PPL-2020-0005

Process Stage: Solution Meeting 10/15/2020

Sunbury-Milton 230kV & Sunbury-Milton 69kV

Proposed Solution: Rebuild the entire 10.5-mile SUNB-MILT line with steel monopoles and new conductor. Project will be coordinated with S1106.

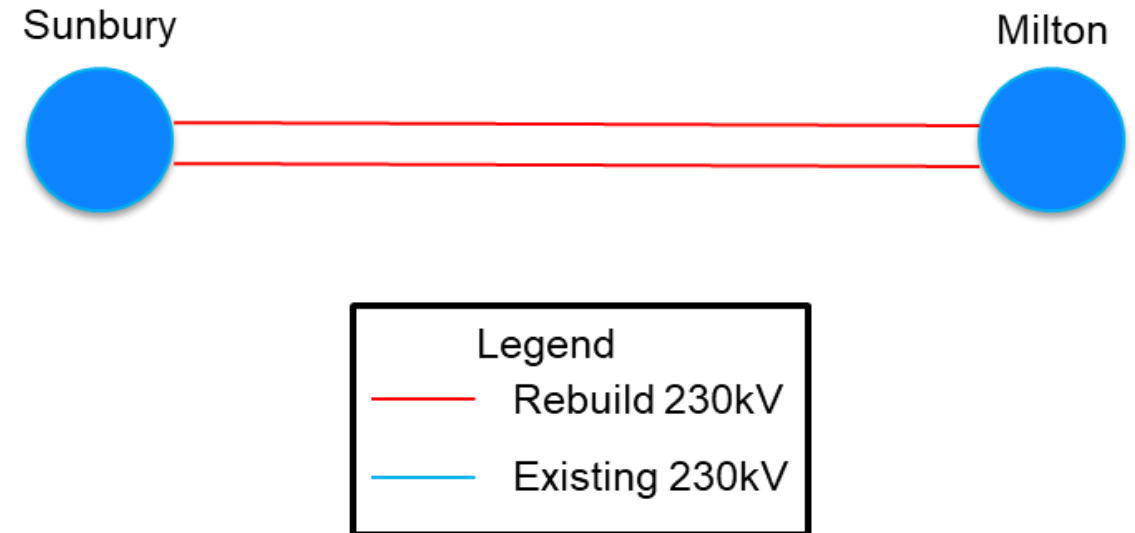
TO Alternative:

- Removal of the Circuits: Infeasible due to 105MW load drop
- Remediation of the towers: Not cost effective over the life of the asset

Estimated Project Cost: \$26.1M

Project IS Date: 12/31/2023

Project Status: Conceptual



PPL Transmission Zone: Supplemental South Akron-Millwood 230kV & Millwood-Strasburg tie 69kV

Need Number: PPL-2020-0008

Meeting Date: 10/15/2020

Process Stage: Solution

Need Slide Presented: 09/10/2020

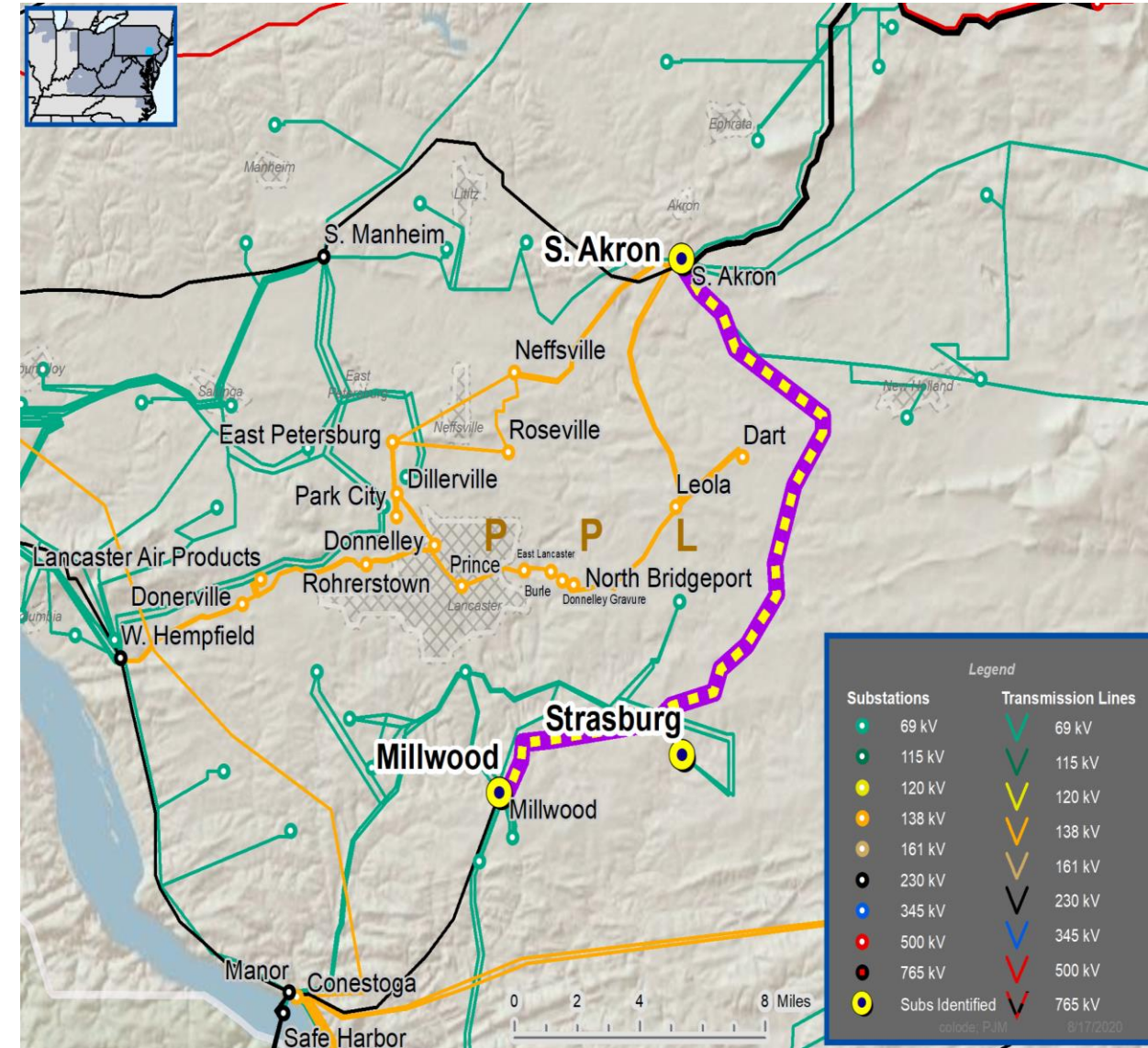
Supplemental Project Driver: Equipment Material Condition, Performance, and Risk.

Problem Statement:

- Over a 20.4 mile stretch of the South Akron-Millwood 230kV and the Millwood-Strasburg tie 69kV lines, there are 125 weathering steel Corten lattice towers that were installed in 1967.
- 97% of the structures on this line are Corten Towers.
- A third-party inspection and analysis was conducted on a statistically significant sample of 192 out of the 1284 Corten structures on the PPL system. All the towers inspected exhibited section loss on numerous members and over 90% of the joints had visible pack-out.
- The report rated all the Corten towers inspected in poor or worse condition and concluded that the towers require near-term mitigation.
- This is an important 230/69 kV circuit required to serve approximately 25 MW of local load. Absence of this circuit will cause several thermal and voltage violations in the area for the next N-1 contingency.

Specific Assumption References:

[PPL 2020 Annual Assumptions](#)



PPL Transmission Zone: Supplemental South Akron-Millwood 230kV & Millwood-Strasburg tie 69kV

Need Number: PPL-2020-0008

Process Stage: Solution Meeting 10/15/2020

South Akron-Millwood 230kV & Millwood-Strasburg tie 69kV

Proposed Solution: Rebuild the 20.4-mile Corten tower section with steel monopoles and new conductor.

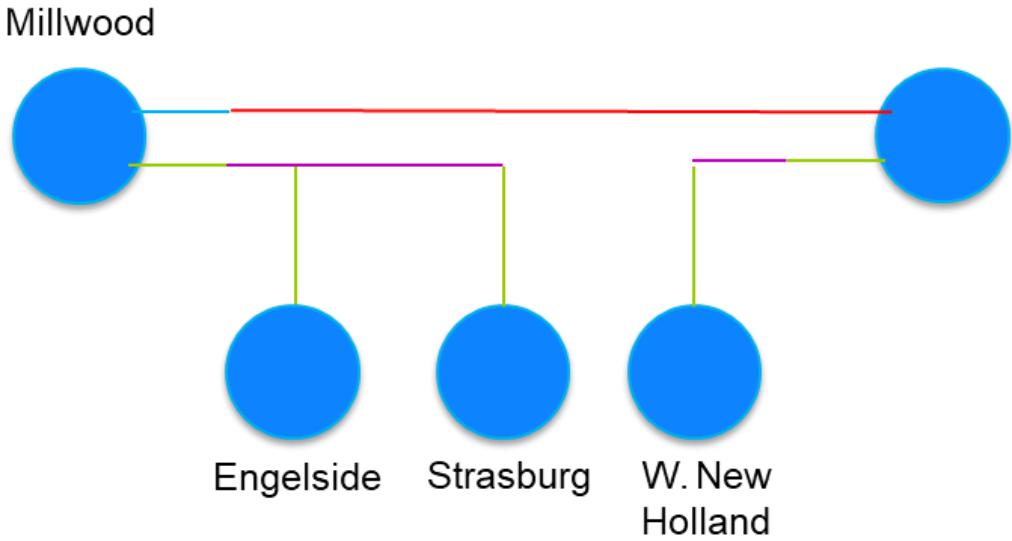
TO Alternative:

- Removal of the Circuits: Infeasible due to 25MW load drop
- Remediation of the towers: Not cost effective over the life of the asset

Estimated Project Cost: \$53.3M

Project IS Date: 12/31/2025

Project Status: Conceptual



Legend	
	Rebuild 230kV
	Existing 230kV
	Rebuild 69kV
	Existing 69kV

Questions?



Appendix

High level M-3 Meeting Schedule

Assumptions	Activity	Timing
	Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
	Stakeholder comments	10 days after Assumptions Meeting
Needs	Activity	Timing
	TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
	Stakeholder comments	10 days after Needs Meeting
Solutions	Activity	Timing
	TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
	Stakeholder comments	10 days after Solutions Meeting
Submission of Supplemental Projects & Local Plan	Activity	Timing
	Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
	Post selected solution(s)	Following completion of DNH analysis
	Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
	Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

10/5/2020 – V1 – Original version posted to pjm.com