

# Transmission Expansion Advisory Committee PPL Supplemental Projects

September 1, 2020

# Needs

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 Summit-Lackawanna 1 & 2 230kV

**Need Number: PPL-2020-0001**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

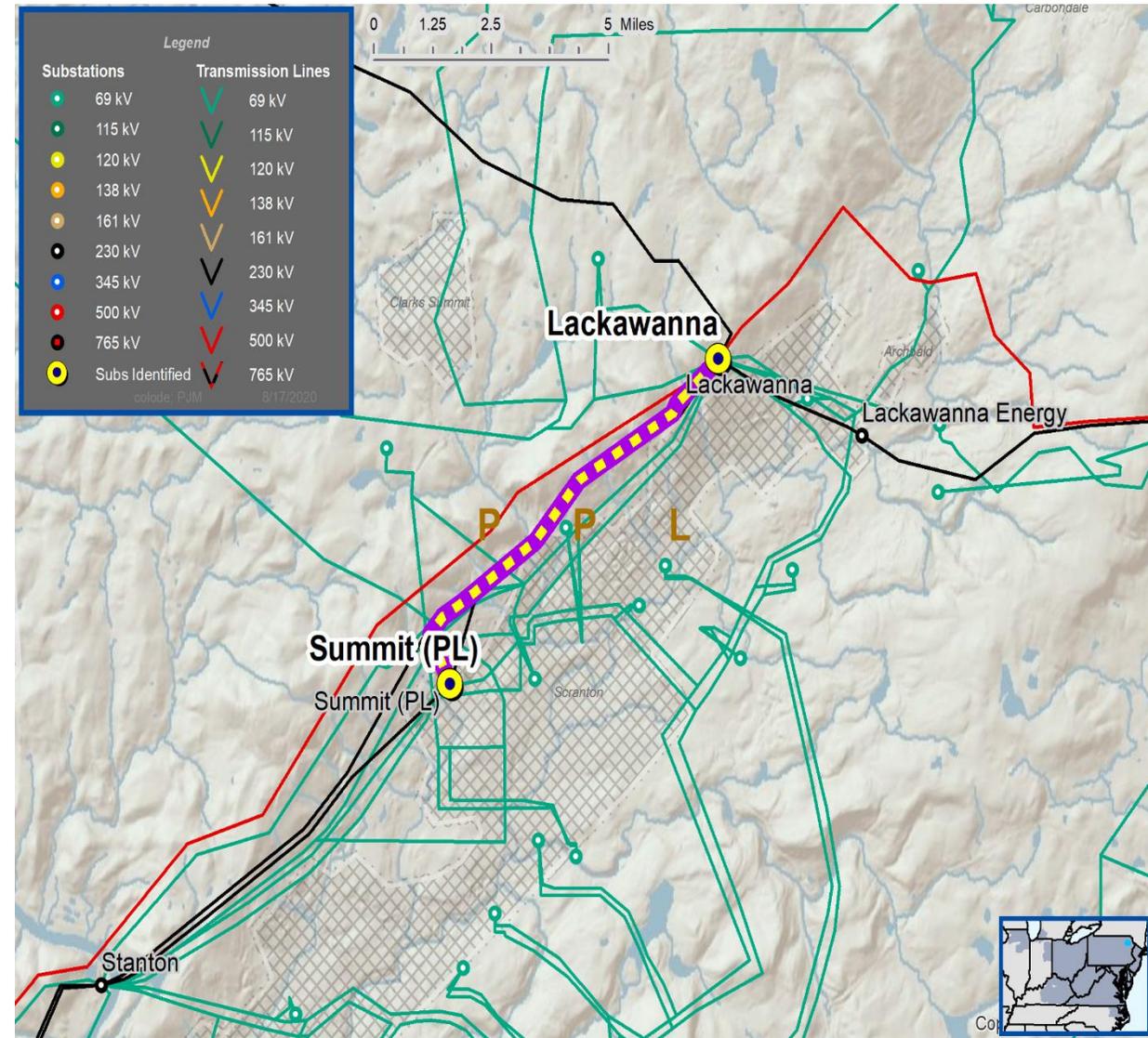
**Supplemental Project Driver: Equipment Material Condition, Performance, and Risk.**

## Problem Statement:

- Over a 5 mile stretch of the Summit-Lackawanna 1 & 2 230kV line, there are 30 weathering steel Corten lattice towers that were installed in 1970.
- 62% 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 175 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 Summit-Lackawanna 1 & 2 230kV

**Need Number: PPL-2020-0002**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

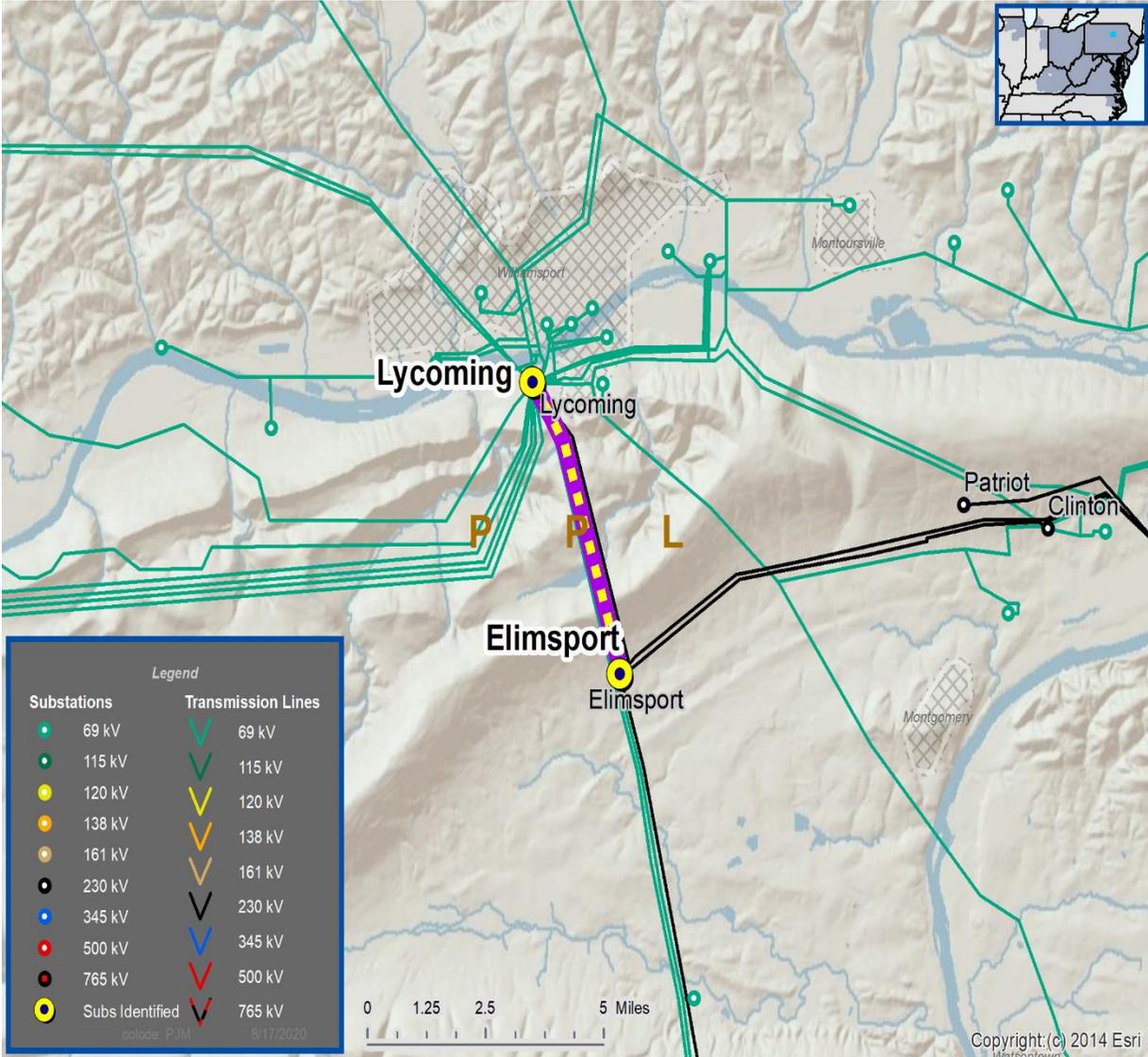
**Supplemental Project Driver: Equipment Material Condition, Performance, and Risk.**

**Problem Statement:**

- Over a 4.1 mile stretch of the Elimsport-Lycoming 2 & 3 230kV line, there are 25 weathering steel Corten lattice towers that were installed in 1971.
- 76% 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. Approximately 315 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 Manor-Millwood 230kV & Face Rock-Millwood 1 69kV

**Need Number: PPL-2020-0003**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

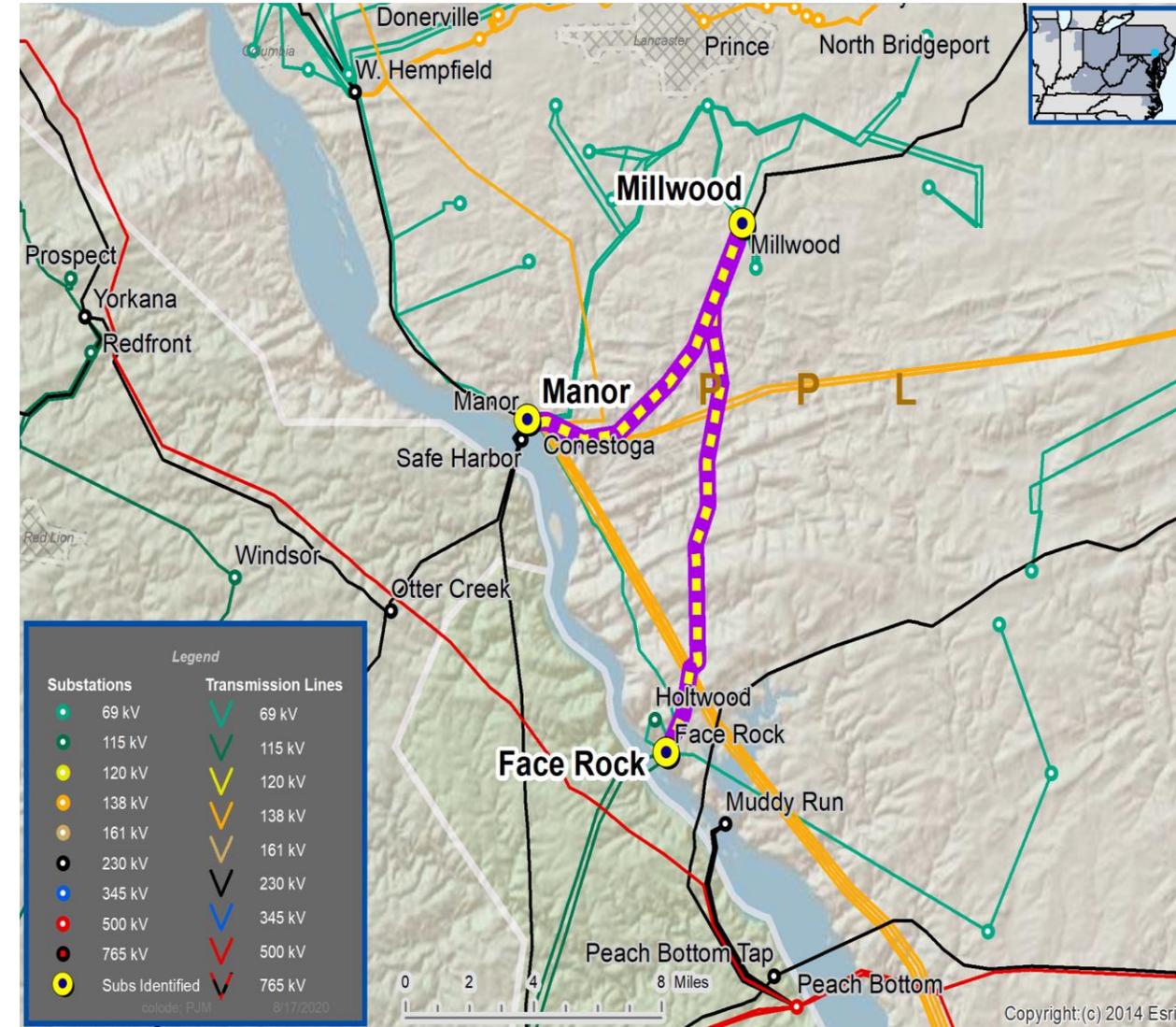
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**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 Montour-Milton 230kV

**Need Number: PPL-2020-0004**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

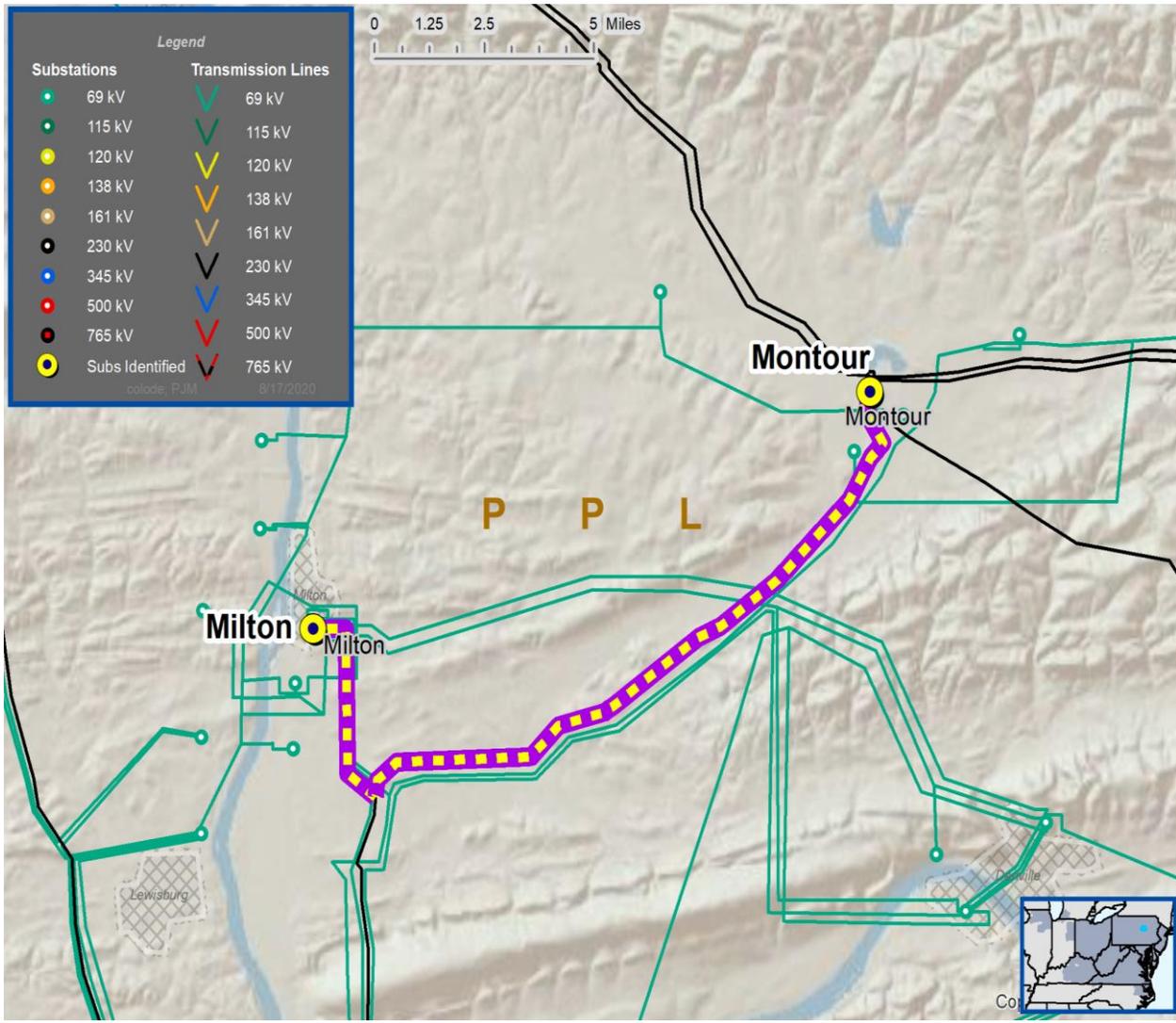
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**Problem Statement:**

- Over a 10.7 mile stretch of the Montour-Milton 230kV line, there are 63 weathering steel Corten lattice towers that were installed in 1971.
- 72% 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**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

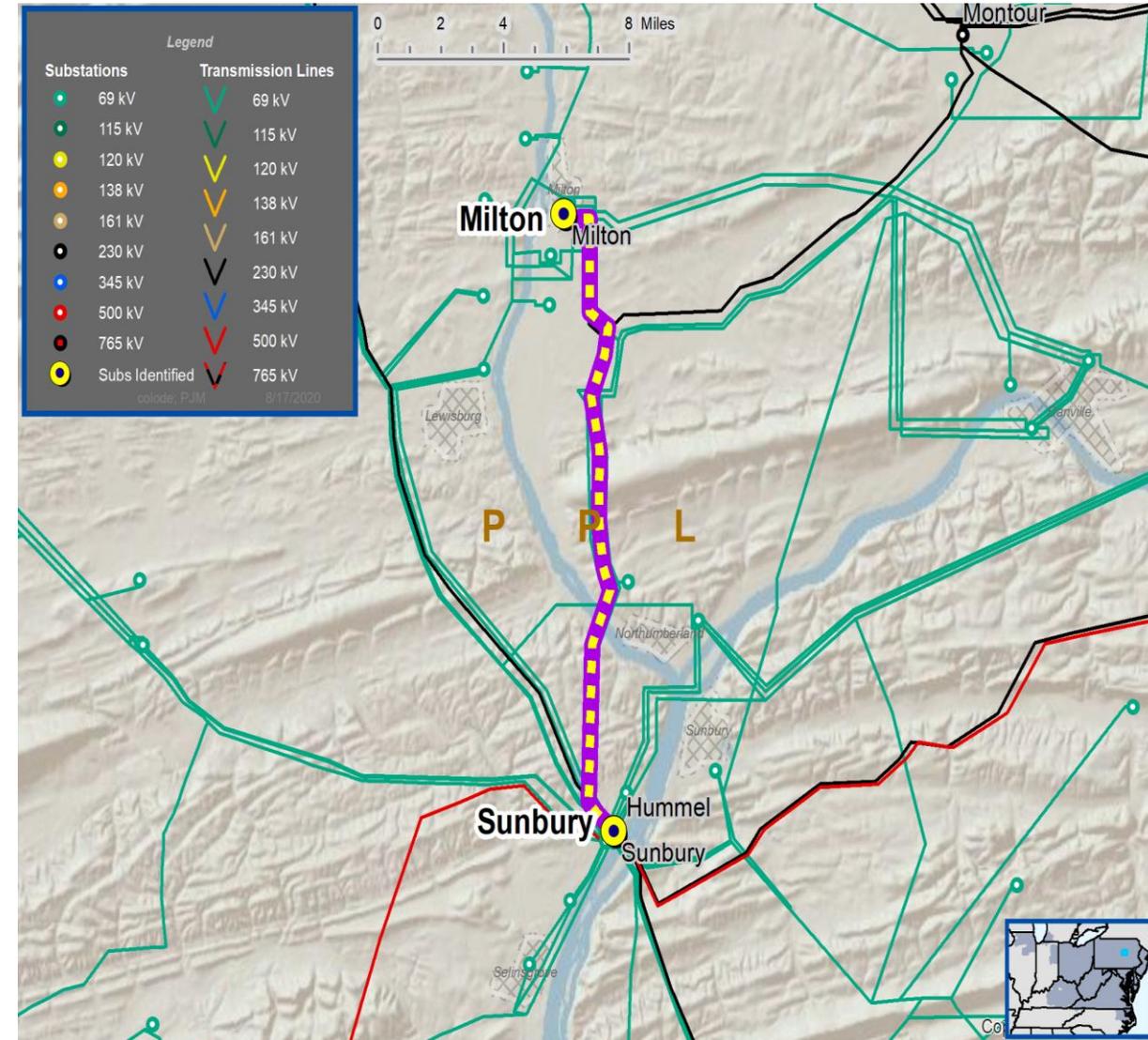
**Supplemental Project Driver: Equipment Material Condition, Performance, and Risk.**

**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 Stanton-Summit 3 & 4 230kV

**Need Number: PPL-2020-0006**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

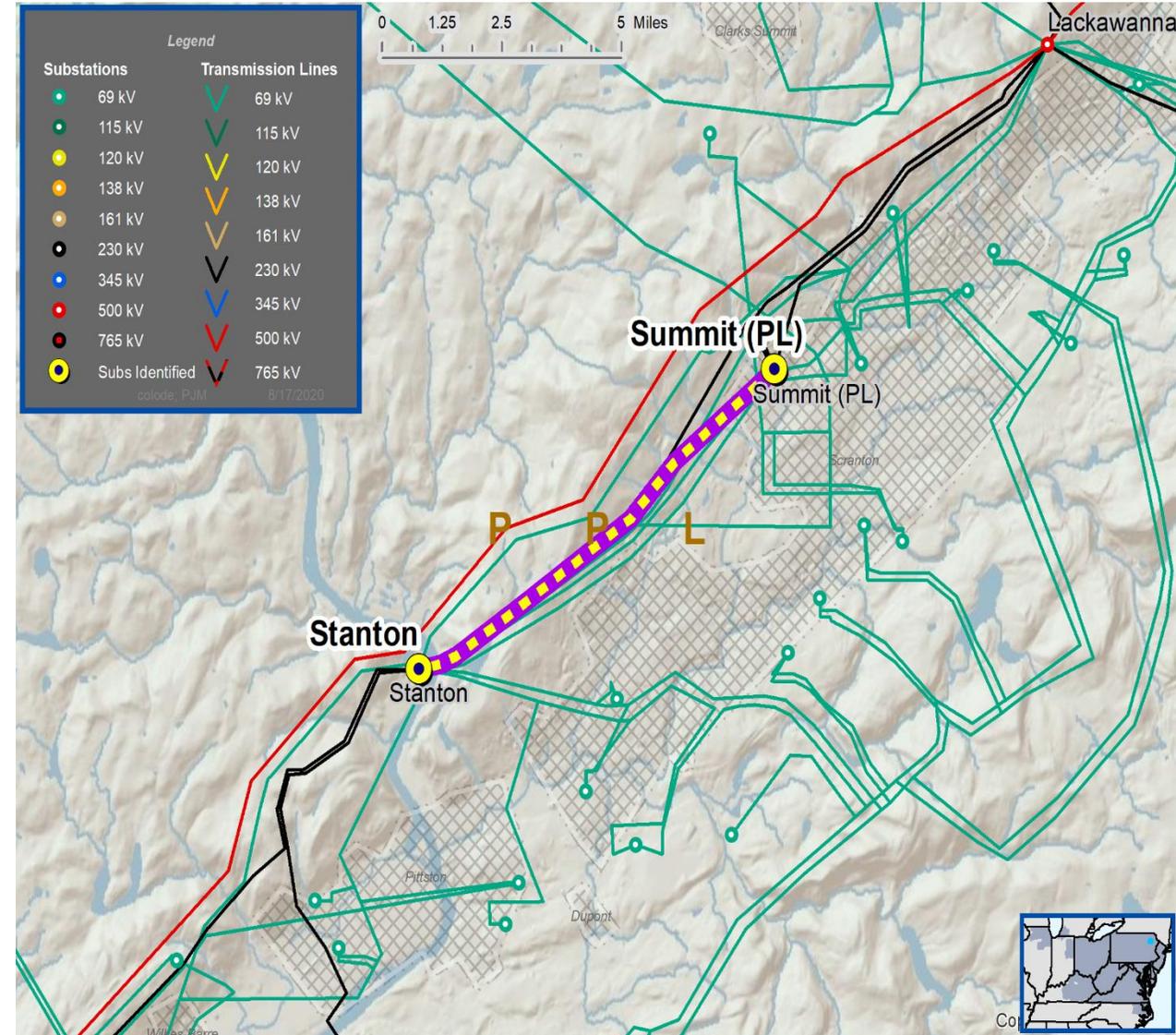
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**Problem Statement:**

- Over a 7.7 mile stretch of the Stanton-Summit 3 & 4 230kV lines, there are 46 weathering steel Corten lattice towers that were installed in 1970.
- 76% 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 thermal and voltage violations and approximately 175 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 Stanton-Summit 3 & 4 230kV

**Need Number: PPL-2020-0007**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

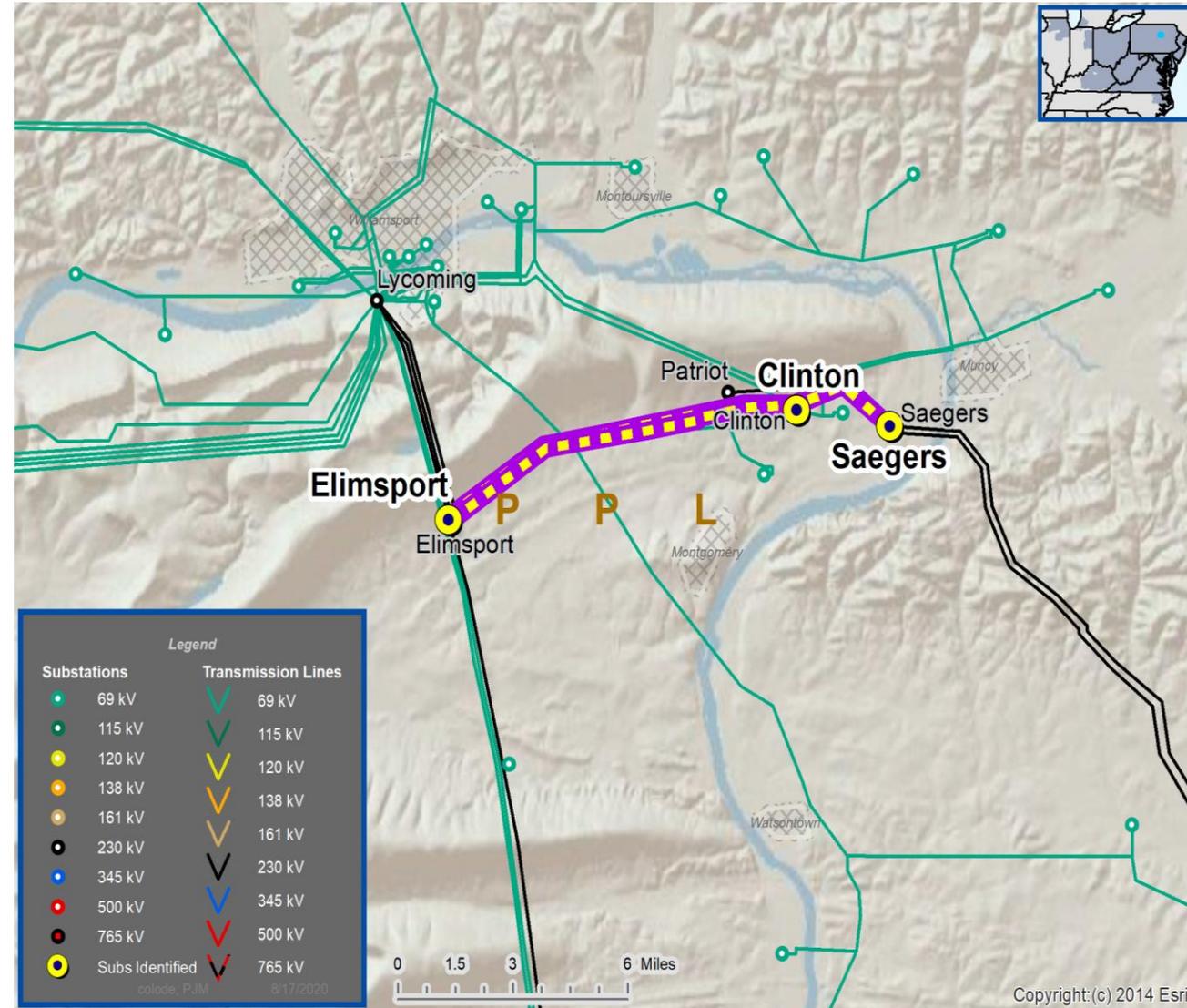
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**Problem Statement:**

- Over an 8.0 mile stretch of the Saegers-Elimsport and Clinton-Elimsport/Clinton-Saegers 230kV lines, there are 48 weathering steel Corten lattice towers that were installed in 1971.
- 69% 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. Approximately 465 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 South Akron-Millwood 230kV & Millwood-Strasburg tie 69kV

**Need Number:** PPL-2020-0008

**Meeting Date:** 9/1/2020

**Process Stage:** Need

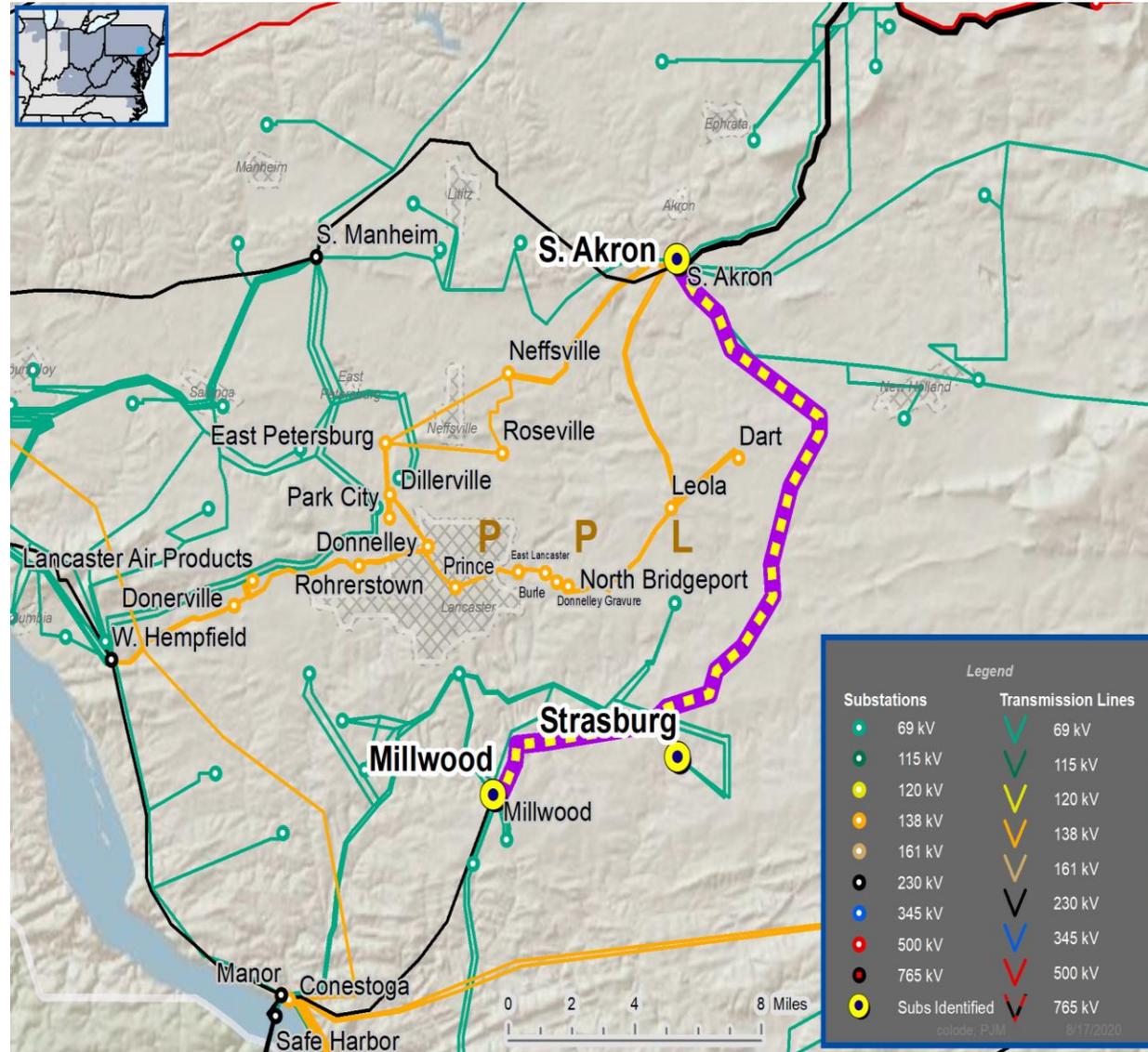
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**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-2020-0009

Montour-Saegers 1 & 2 230kV

Meeting Date: 9/1/2020

Process Stage: Need

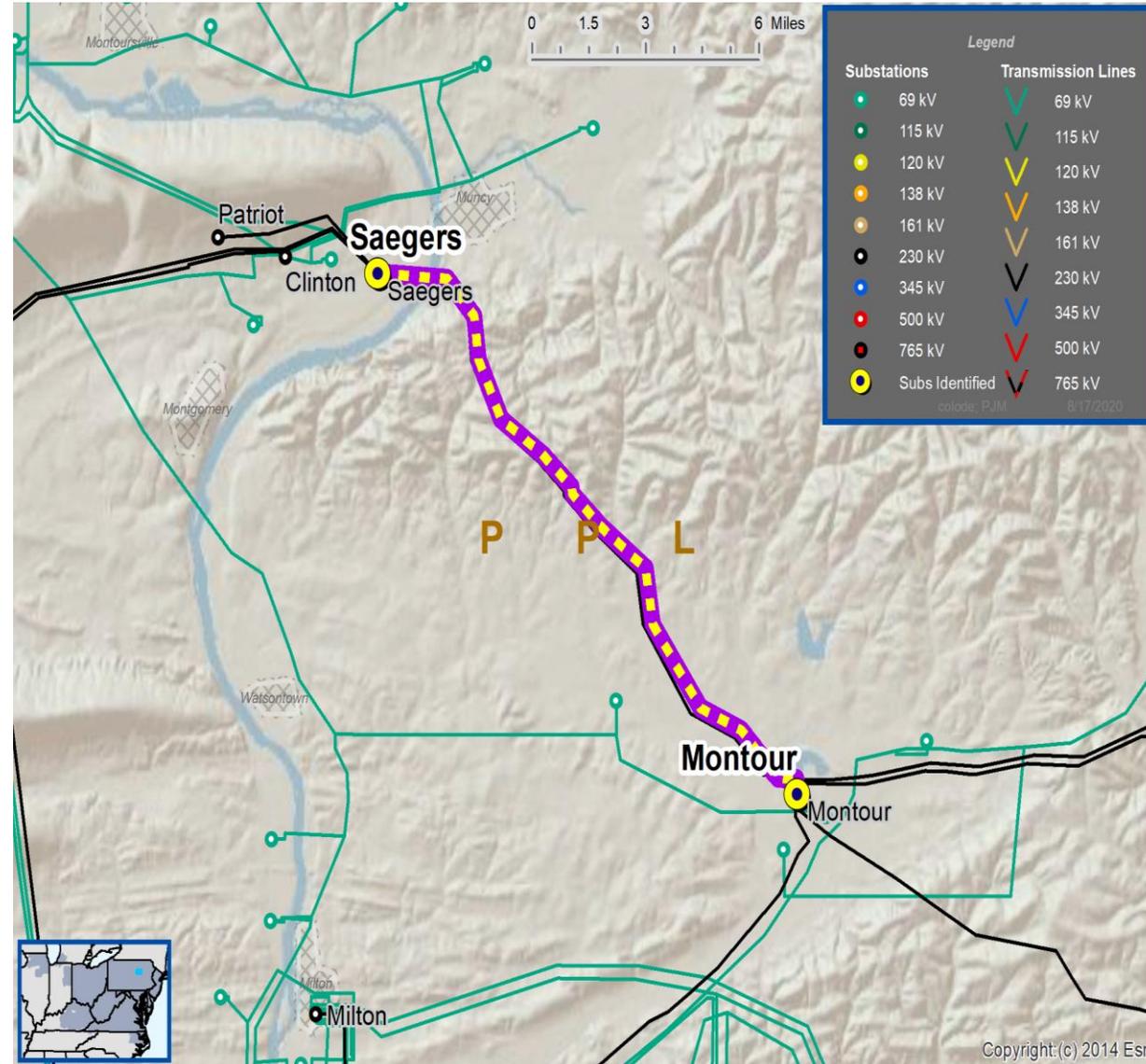
Supplemental Project Driver: Equipment Material Condition, Performance, and Risk.

### Problem Statement:

- Over a 6.2 mile stretch of the Montour-Saegers 1 & 2 230kV lines, there are 38 weathering steel Corten lattice towers that were installed in 1971.
- 35% 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. Approximately 465 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 Jenkins-Stanton & Mountain-Stanton 230kV

**Need Number: PPL-2020-0010**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

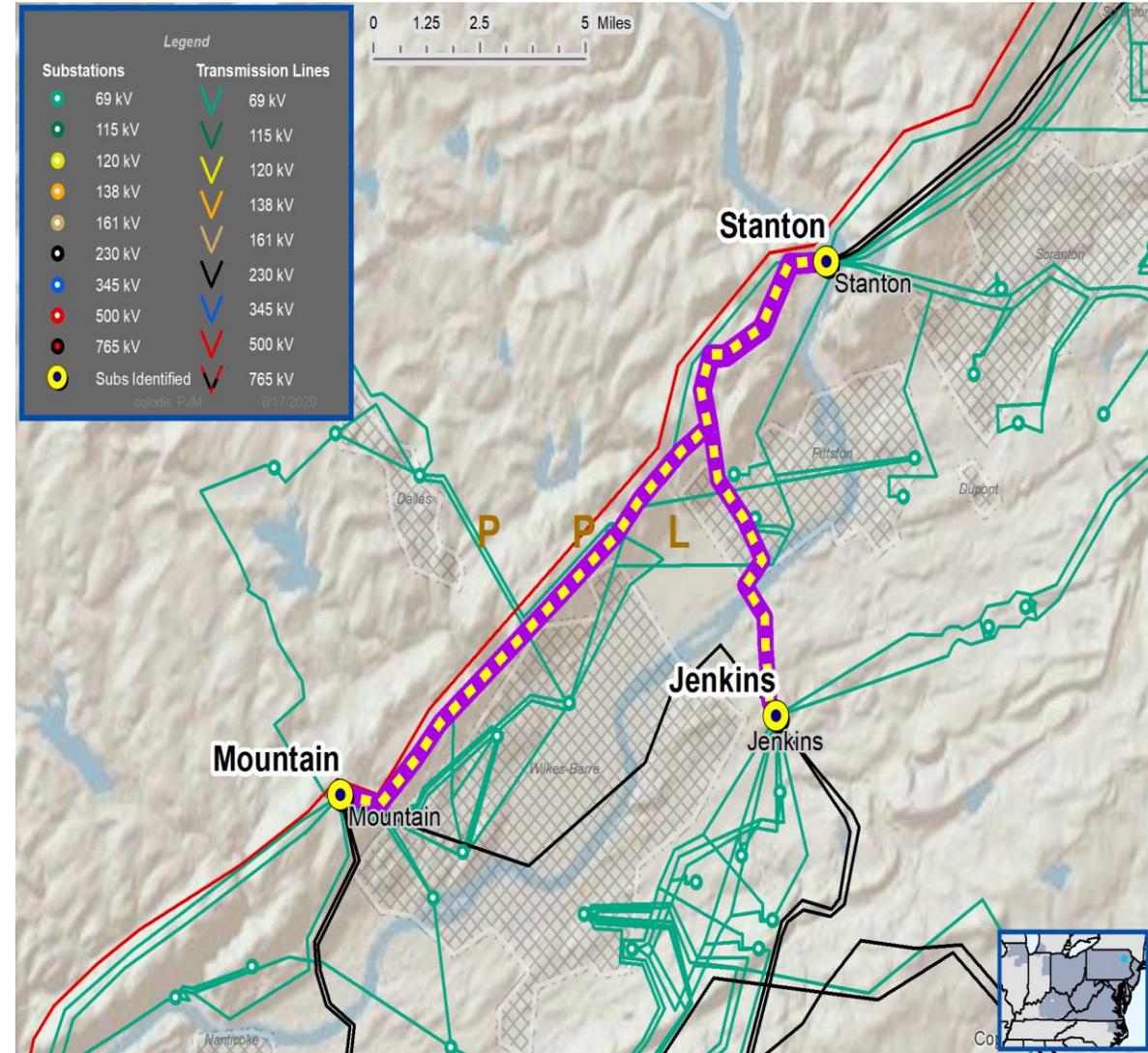
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**Problem Statement:**

- Over an 8.5 mile stretch of the Jenkins-Stanton and Mountain-Stanton 230kV lines, there are 49 weathering steel Corten lattice towers that were installed in 1972.
- 95% 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 thermal and voltage violations and approximately 175 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 Jenkins-Stanton & Mountain-Stanton 230kV

**Need Number: PPL-2020-0011**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

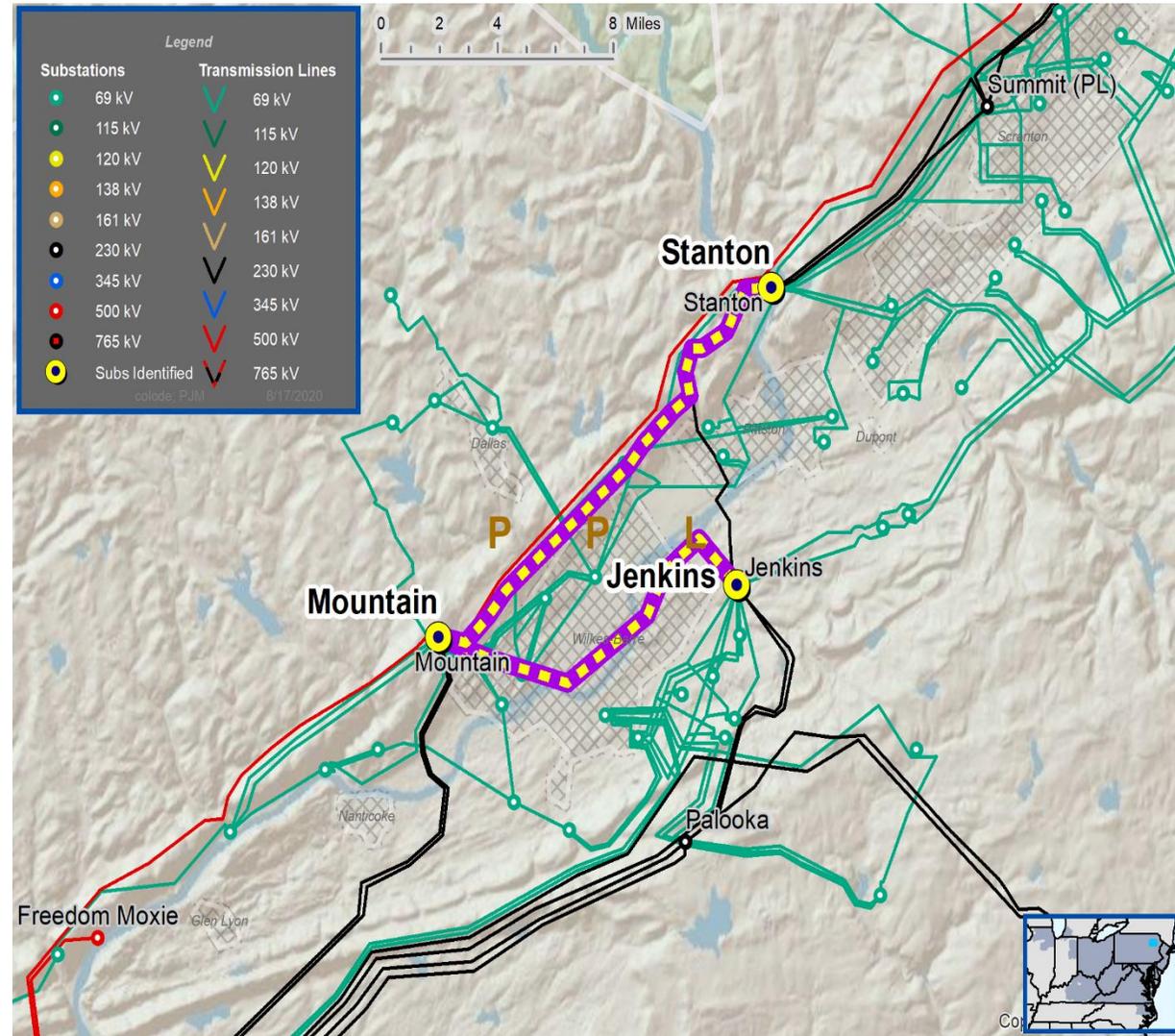
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

## Problem Statement:

- Over a 9.8 mile stretch of the Mountain-Stanton and Mountain-Jenkins 230kV lines, there are 55 weathering steel Corten lattice towers that were installed in 1972.
- 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 kV circuit required to serve the local load. Approximately 190 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 Jenkins-Stanton & Mountain-Stanton 230kV

**Need Number: PPL-2020-0012**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

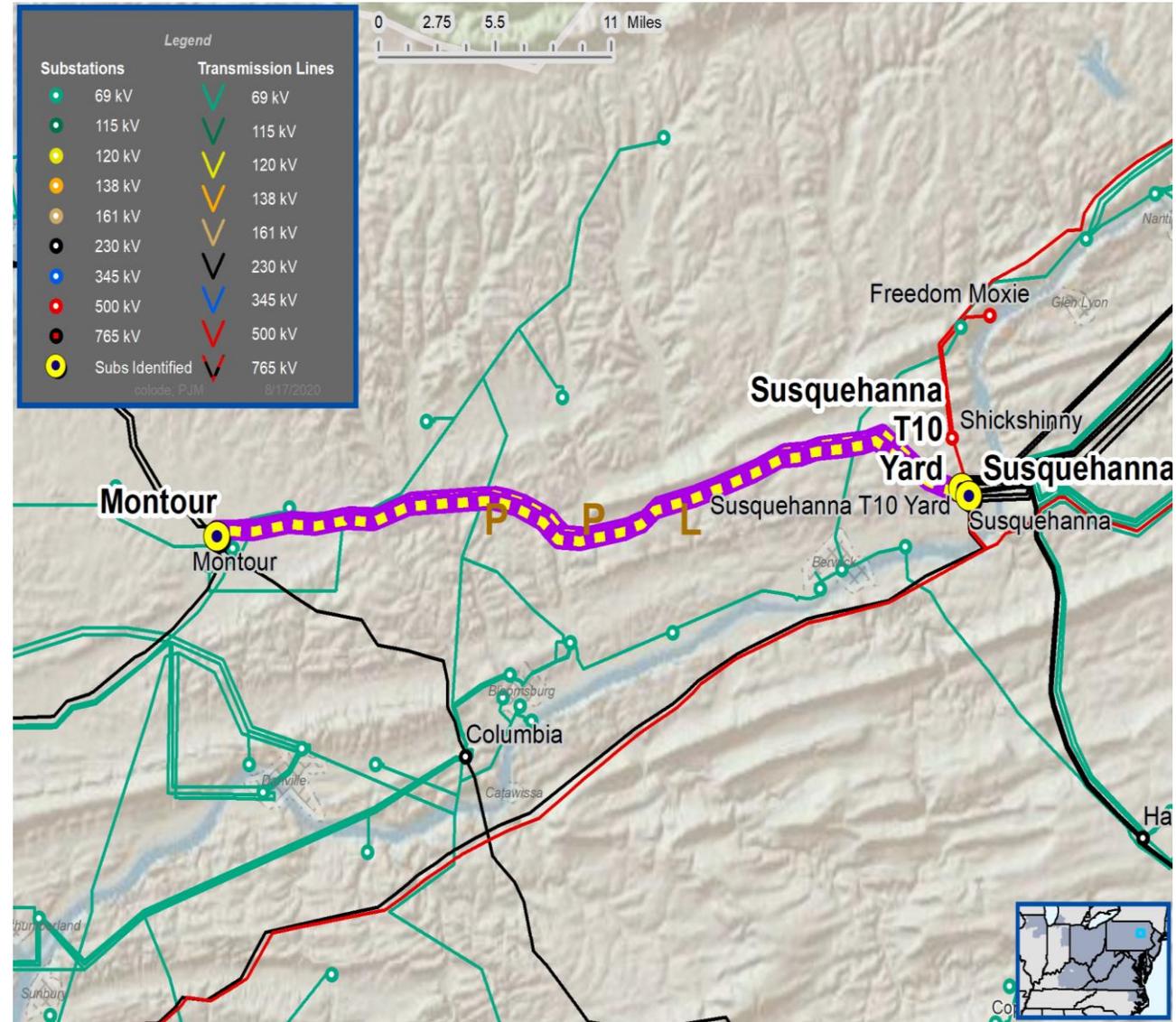
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**Problem Statement:**

- Over a 21.9 mile stretch of the Montour-Susquehanna and Montour-Susquehanna T10 230kV lines, there are 132 weathering steel Corten lattice towers that were installed in 1971.
- 74% 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 60 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 Jenkins-Stanton & Mountain-Stanton 230kV

**Need Number: PPL-2020-0013**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

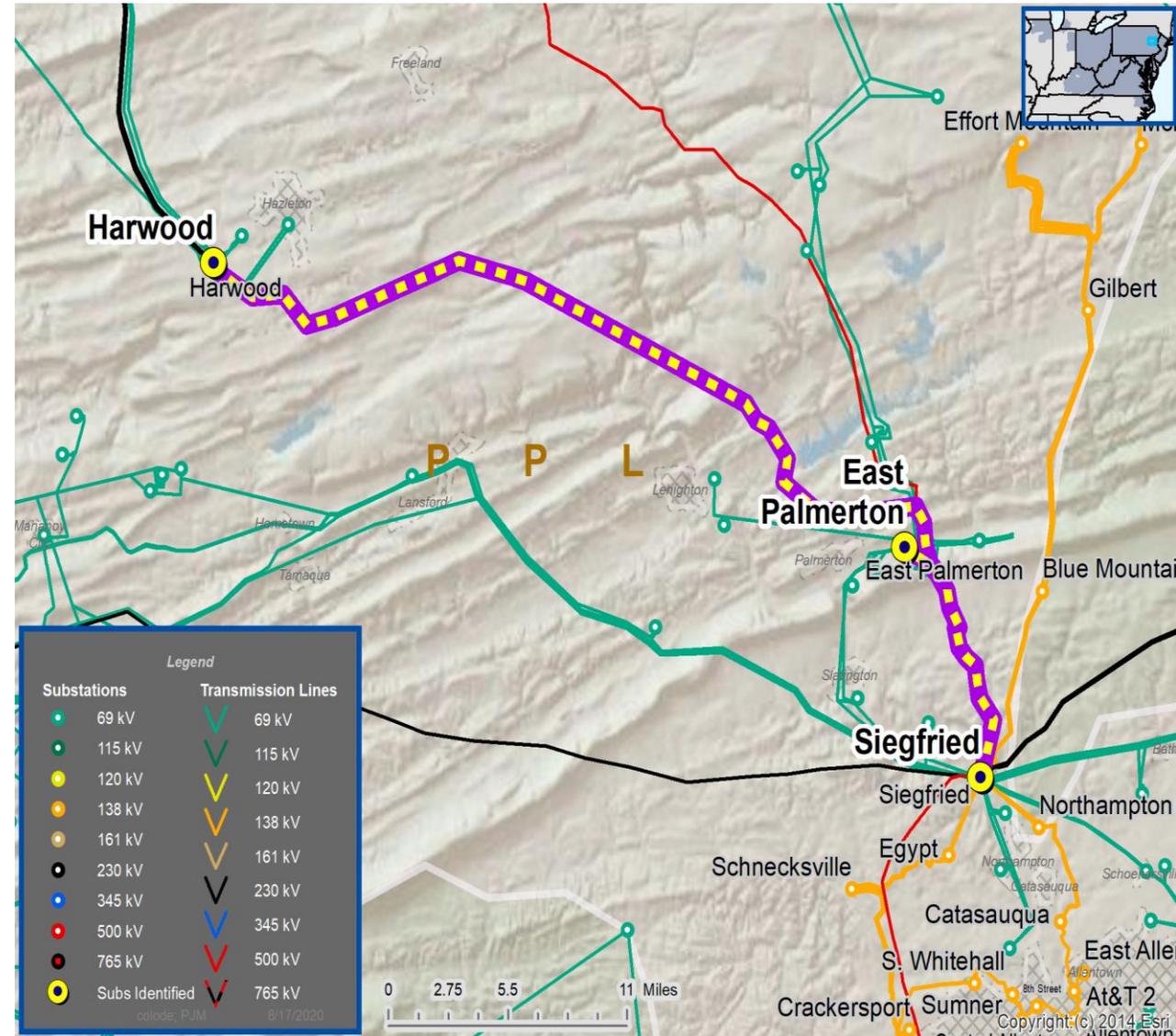
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

**Problem Statement:**

- Over a 38.0 mile stretch of the Siegfried-Harwood and Harwood-East Palmerton/Siegfried-East Palmerton 230kV lines, there are 221 weathering steel Corten lattice towers that were installed in 1969.
- 94% 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 a thermal violation and approximately 280 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 Montour-Columbia 230kV

**Need Number: PPL-2020-0014**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

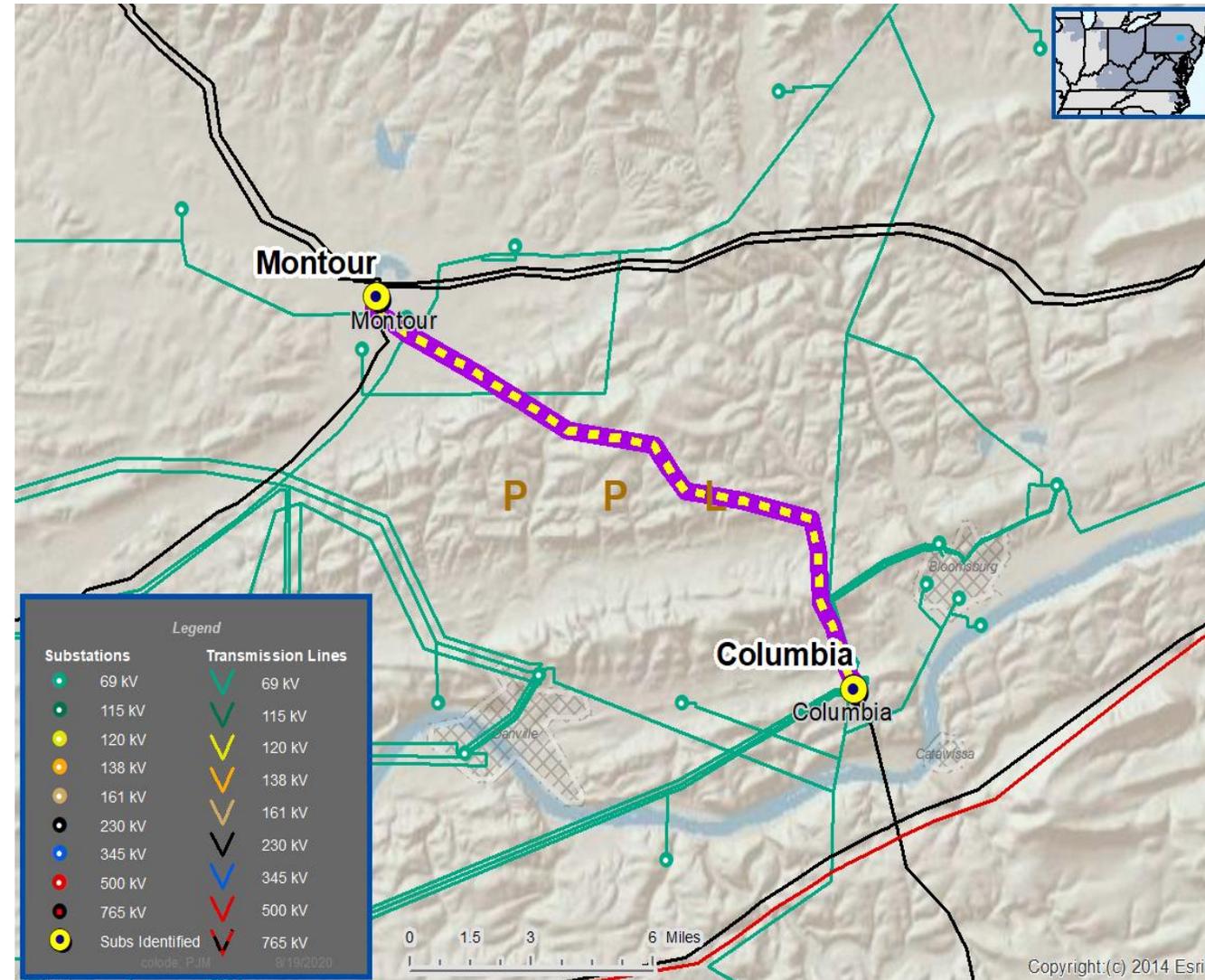
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

## Problem Statement:

- Over a 9.25 mile stretch of the Montour-Columbia 230kV line, there are 42 weathering steel Corten lattice towers that were installed in 1973.
- 86% 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 thermal & voltage violations and approximately 400 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 Frackville-Columbia 230kV

**Need Number: PPL-2020-0015**

**Meeting Date: 9/1/2020**

**Process Stage: Need**

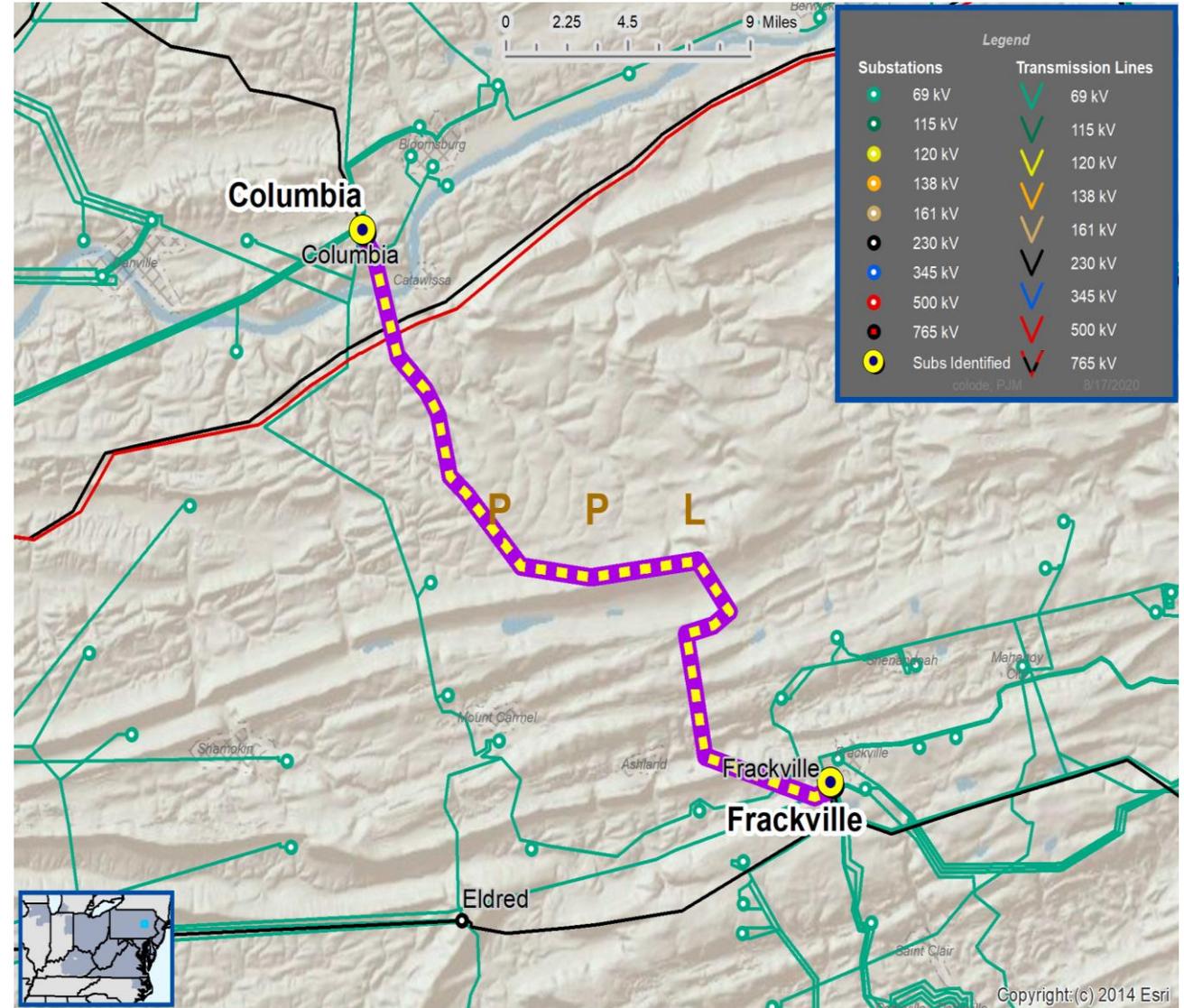
**Supplemental Project Driver:** Equipment Material Condition, Performance, and Risk.

## Problem Statement:

- Over a 25.9 mile stretch of the Frackville-Columbia 230kV line, there are 115 weathering steel Corten lattice towers that were installed in 1973.
- 93% 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. Approximately 245 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](#)



# 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

8/21/2020 – V1 – Original version posted to pjm.com