
Garrett P. Lent

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File #: 190531

February 14, 2022

***VIA ELECTRONIC FILING
VIA HAND DELIVERY***

Rosemary Chiavetta
Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

**Re: Application Of PPL Electric Utilities Corporation, Filed Pursuant To 52 Pa. Code Chapter 57 Subchapter G, For Approval To Rebuild The Existing Summit-Lackawanna #1 And #2 230 kV Transmission Lines Connecting The Summit 230-69 kV Substation And The Lackawanna 500-230-69 kV Substation In Lackawanna County, Pennsylvania
Docket No. A-2022**

Dear Secretary Chiavetta:

Enclosed, for filing on behalf of PPL Electric Utilities Corporation (“PPL Electric” or the “Company”), are the following:

1. Original of the Joint Application and Petition for Waiver (the “Application”) of PPL Electric in regards to the above-referenced matter; and
2. Original of the Attachments associated with the Application; and
3. A CD containing copies of the Application and Attachments.

The associated \$350.00 filing fee has been paid by Post & Schell, P.C. as of the time of filing.

Copies of the Application and accompanying Attachments are being served by certified mail, return receipt requested upon the parties indicated on the certificate of service.

Rosemary Chiavetta
February 14, 2022
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Upon Commission approval, construction of the project contemplated by this Application is scheduled to begin in April 2023.

If you have any questions concerning this matter, please contact me at the address or telephone numbers provided above.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Garrett P. Lent".

Garrett P. Lent

GPL/dmc
Enclosures

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

VIA CERTIFIED MAILING WITH RETURN RECEIPT

Bureau of Investigation and Enforcement
PA Public Utility Commission
Commonwealth Keystone Building
400 North Street 2nd Floor, F West
Harrisburg, PA 17120
Attn: Richard Kanaskie

PA Department of Environmental Protection
400 Market Street, 10th Floor
Rachel Carson State Office Building
Harrisburg, PA 17105-2063
Attn: Regional Permit Coordination Office

PA Department of Transportation
Commonwealth Keystone Building
400 North Street, 8th Floor
Harrisburg, PA 17120
Attn: Jason D. Sharp, Chief Counsel

PA Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Fl.
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Attn: Mr. Douglas C. McLearn, Chief

PA Department of Conservation
and Natural Resources
Rachel Carson State Office Building
PO Box 8767
400 Market Street
Harrisburg, PA 17105-8767
Attn: Rebecca Bowen

Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
Attn: Peter Sussenbach

Pennsylvania Fish and Boat Commission
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Bellefonte, PA 16823-9620
Attn: Christopher A. Urban

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555 Walnut Street
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Harrisburg, PA 17101-1923
Attn: Patrick Cicero

Office of Small Business Advocate
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Harrisburg, PA 17101
Attn: Steven C. Gray

U.S. Army Corps of Engineers
Baltimore District Corporate
Communication Office
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Baltimore, MD 21201
Attn: Planning Division

U.S. Fish and Wildlife Service
PA Field Office
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Attn: Lesa Lindsay

Lackawanna County Regional Planning
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123 Wyoming Avenue, 5th Floor
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ATTN: Brenda Sacco, Director

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Peckville, Pennsylvania 18452
ATTN: Christopher Paone, Borough
Manager

City of Scranton
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Scranton, Pennsylvania 18503
ATTN: Donald King, City Planner

Dickson City Borough
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Dickson City, Pennsylvania 18519
ATTN: Cesare Forconi, Borough Manager

Newton Township
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Clarks Summit, Pennsylvania 18411
ATTN: Douglas Pallman, Chairperson

Ransom Township
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ATTN: Dennis Macheska, Chairperson

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Date: February 14, 2022

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New Rochelle, Ny 10801

Stanley Jr And Elizabeth Solack
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Saint Michaels Cemetery
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Scranton, Pa 18509

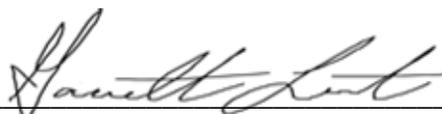
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Norfolk Southern Railway Company
4600 Deer Path Road
Harrisburg, Pa 17110
Attn: Alicia Ruscitto, Regional Real Estate
Manager


Garrett P. Lent

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application Of PPL Electric Utilities :
Corporation, Filed Pursuant To 52 Pa. Code :
Chapter 57 Subchapter G, For Approval To : Docket No. A-2022-_____
Rebuild The Existing Summit-Lackawanna :
#1 And #2 230 kV Transmission Lines :
Connecting The Summit 230-69 kV :
Substation And The Lackawanna 500-230- :
69 kV Substation In Lackawanna County, :
Pennsylvania :

**JOINT APPLICATION AND PETITION FOR WAIVERS OF
PPL ELECTRIC UTILITIES CORPORATION**

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

PPL Electric Utilities Corporation (“PPL Electric”) hereby files, pursuant to 52 Pa. Code §§ 5.43 and 57.72, this Joint Application and Petition for Waiver requesting the Pennsylvania Public Utility Commission’s (“Commission”) approval to rebuild the existing double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines connecting the Summit 230-69 kV Substation (“Summit Substation”) and the Lackawanna 500-230-69 kV Substation (“Lackawanna Substation”) in Lackawanna County, Pennsylvania (the “Summit-Lackawanna Project” or “Project”) and for waiver of certain of the Commission’s regulations governing review and approval of the siting and construction of high voltage electric transmission lines set forth at 52 Pa. Code §§ 57.71 *et seq.* The Summit-Lackawanna #1 and #2 230 kV Transmission Lines extend approximately five and a half miles from the existing Summit Substation in City of Scranton, Lackawanna County, to the existing Lackawanna Substation in Blakely Borough, Lackawanna County. This Project is required to address asset health conditions and reliability concerns related to the deteriorated condition of the COR-TEN® lattice towers on the Summit-Lackawanna #1 and

#2 230 kV Transmission Lines. Construction is scheduled to begin upon Commission approval of the Application to support the in-service date of April 2023.

In addition, as explained herein, waiver of certain of the Commission's regulations governing review and approval of the siting and construction of high voltage electric transmission lines is appropriate in this case because the Summit-Lackawanna Project consists of rebuilding an existing transmission line and does not involve the siting of any new facilities outside of the existing right-of-way ("ROW").¹

In support thereof, PPL Electric states as follows:

I. INTRODUCTION AND OVERVIEW

1. This Joint Application and Petition for Waivers is filed by PPL Electric, a public utility that provides electric distribution, transmission, and provider of last resort services in Pennsylvania subject to the regulatory jurisdiction of the Commission.

2. PPL Electric's address is as follows:

PPL Electric Utilities Corporation
Two North Ninth Street
Allentown, Pennsylvania 18101

3. PPL Electric's attorneys are:

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PPL Services Corporation
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David B. MacGregor (I.D. # 28804)
Garrett P. Lent (I.D. #321566)
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E-mail: dmacgregor@postschell.com

¹ See Section V *infra*. As explained below, PPL Electric has all necessary ROW to proceed with the rebuilding of this existing transmission line within the existing right of way. However, due to an ongoing dispute with one landowner, PPL Electric has filed one Application pursuant to 15 Pa.C.S. § 1511(c) to ensure that, to the extent a Court of Common Pleas determines PPL Electric's existing easement is invalid or insufficient and negotiations with the landowner should fail, PPL Electric has ROW necessary to maintain its existing transmission line facilities.

PPL Electric's attorneys are authorized to receive all notices and communications regarding this Joint Application and Petition for Waiver.

4. PPL Electric furnishes electric service to approximately 1.4 million customers throughout its certificated service territory, which includes all or portions of twenty-nine counties and encompasses approximately 10,000 square miles in eastern and central Pennsylvania. PPL Electric is a "public utility" and an "electric distribution company" as defined in Sections 102 and 2803 of the Pennsylvania Public Utility Code, 66 Pa.C.S. §§ 102, 2803. PPL Electric is also a "public utility" as defined by the Federal Power Act, 16 U.S.C. § 824(e), a transmission owner, and a member of PJM Interconnection, L.L.C. ("PJM").

5. PPL Electric owns approximately 5,000 miles of transmission lines operating at 69 kV (kilovolts) or higher, approximately 375 substations with a capacity of 10 MVA (megavolt amperes) or more, and approximately 43,000 miles of distribution lines operating at less than 69 kV.

6. This Application includes the following accompanying attachments:

- Attachment 1 Necessity Statement;
- Attachment 2 Engineering Description;
- Attachment 3 Description of Right-of-Way;
- Attachment 4 PPL Electric Design Criteria and Safety Practices;
- Attachment 5 Landowners And Agencies List; and
- Attachment 6 Code of Conduct and Eminent Domain Notices

7. This Application and accompanying Attachments, which are incorporated herein by reference, contain all the information required by 52 Pa. Code §§ 57.72(c), 69.3101, and 69.3107, except for the information required by subsections (7), (8), (10), and (11) of Section

57.72(c), which are inapplicable to the Summit-Lackawanna Project. Moreover, except with respect to the one (1) Condemnation Application being filed by PPL Electric, the information required by 52 Pa. Code §§ 69.3102 through 69.3106 is also inapplicable. As fully explained in Section VII of this Application, the information required by these Sections of the Commission's regulations is inapplicable to the Summit-Lackawanna Project because the Project is limited to rebuilding an existing line and does not involve the siting of any new facilities outside of the existing ROW.² Furthermore, a separate notice of filing is not necessary under Section 57.74(c), because each of the persons, agencies or entities that would otherwise receive the notice of filing is being served with a copy of this Application. PPL Electric therefore seeks waiver of these requirements pursuant to 52 Pa. Code §§ 5.43 and 57.72(e).

II. NEED FOR THE PROJECT

A. TRANSMISSION PLANNING

8. PPL Electric has a responsibility to provide transmission assets and maintain them in a manner that is safe, reliable, and resilient to meet the needs of the electric system and the service expectations of its customers. To meet this duty, PPL Electric applies its transmission asset management planning procedure, which includes system performance and condition assessments. These performance and condition assessments identify system needs and prioritize projects based on several variables such as equipment age, condition, maintenance schedule, and impact on system reliability and performance to ensure a reliable electric grid and reasonable service to its customers.

9. PPL Electric engages in proactive planning and action to ensure that its system operates safely and reliably. This allows PPL Electric to identify future reliability problems and

² See footnote 1 *supra*.

correct them before they occur. The system planning process is not designed to wait until a violation actually occurs before taking measures to resolve it. Rather, the system planning process is designed to prevent violations from occurring in the first place.

10. As explained in Attachment 1 – Necessity Statement, robust transmission planning enables the transmission system to supply electricity to all customer loads in a reliable and economical manner.

11. PJM is a Federal Energy Regulatory Commission (“FERC”) approved Regional Transmission Organization charged with ensuring the reliability of the electric transmission system under its functional control and coordinating the movement of electricity in all or parts of thirteen states and the District of Columbia, including most of Pennsylvania. PPL Electric, an owner of transmission facilities in Pennsylvania, is a member of PJM and actively participates in the PJM transmission planning process.

12. In order to ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan (“RTEP”) to ensure power continues to flow reliably to customers. The North American Electric Reliability Corporation (“NERC”), PJM, and transmission owner reliability criteria are used by PJM and the transmission owners to analyze the system and determine if specific transmission upgrade projects are needed to ensure long-term reliable electric service to customers. Attachment 1 to this Application contains a detailed description of PJM’s RTEP transmission planning process.

13. In accordance with the RP&P criteria, PPL Electric’s transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, or exceeding voltage tolerances. The transmission

system is required to have adequate capability so that it can be operated normally and can withstand unscheduled contingencies and other system conditions. A further description of PPL Electric's system planning process is provided in Attachment 1 to this Application.

14. For non-bulk electric system ("non-BES") reliability violations, the local transmission operator, in this case PPL Electric, is responsible for identifying the reliability violations and correcting any violations to meet its own reliability and planning guidelines. PPL Electric's TO Criteria address thermal, voltage, short circuit, and stability limits specific to the PPL Electric zone and also ensure compliance with NERC and PJM reliability criteria.

15. As explained in greater detail below and in Attachment 1 – Necessity Statement, this Project is necessary to resolve significant asset health condition concerns across the Summit-Lackawanna #1 and #2 230 kV Transmission Lines associated with the presence of pack-out rust in the existing COR-TEN® steel lattice towers and thereby resolve service reliability and safety risks associated with the potential failure of these structures. In addition, the Project is also required to comply with The Consolidated Transmission Owners Agreement ("TOA") Rate Schedule - FERC No. 42 (FERC ER10-2713-000).

16. The Project as proposed addresses these concerns in a cost-efficient manner, as compared to either a replacement alternative or a remediation and later replacement alternative. In particular, the Project as proposed avoids the substantial uncertainties surrounding potential remediation of the existing COR-TEN® steel lattice towers, avoids redundant inspection and/or additional remediation of these structures, and is the lowest cost alternative. Therefore, and for the reasons more fully explained below, the Commission should approve the Project as proposed.

B. EXISTING SYSTEM

17. The Summit Substation and Lackawanna Substation are connected by the existing double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines. This transmission line

system is approximately 5.5 miles long and is supported by 30 COR-TEN® lattice structures. These towers are designed and being used for double-circuit 230 kV operation. The Summit-Lackawanna #1 230 kV Transmission Line is one of the circuits on these towers, and the Summit-Lackawanna #2 230 kV Transmission Line is the other.

18. The double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines are in PPL Electric's Northeast Region and are part of a larger 230 kV transmission network that connects generation in this region to load throughout PPL Electric and the rest of PJM's footprint. This 230 kV network includes the Lackawanna-Paupack 230 kV, Summit-Stanton 230 kV, Jenkins-Stanton 230 kV, and Susquehanna-Jenkins 230 kV Transmission Lines, which all support bulk power flow and feed various 230-69 kV substations in the Northeast Region.

19. A map of the existing system configuration is provided as Figure 1-1 in Attachment 1 – Necessity Statement to this Application.

C. DEFINITION OF THE PROBLEM

20. The existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines are comprised of 30 weathering-steel COR-TEN® lattice structures spanning approximately 5.5 miles, which were originally constructed in the early 1970s. COR-TEN® lattice towers were commonly installed by the industry during this time because it was believed that the corrosion-resistant properties of weathering-steel would reduce future maintenance needs/costs. These towers had an expected service life of approximately 75 years at the time they were installed.

21. However, in 2013, PPL Electric hired a third-party contractor to perform an assessment of its 230 kV transmission lines under a steel structure capital maintenance program. The assessment identified that 126 of 131 surveyed structures (96%) had one or more structure legs rated Condition C (poor) or Condition D (very poor). Of those 126 structures, 25 had one or more structure legs that were identified as "priority," requiring immediate attention. In order to

extend the life of the asset and ensure no failures at the ground line, the 25 structures identified as “priority” received maintenance repairs in 2014, which included post leg, diagonal and base shoe repairs. Protective coating was applied to the remaining 101 COR-TEN® structures that rated Condition C or D but were not identified as “priority.” However, these remaining structures face constant asset health concerns due to the presence of pack-out rust.

22. The asset health concerns discovered by the 2013 assessment were heightened by the discovery of pack-out rust in the section joints of the subject COR-TEN® lattice towers. As explained in further detail in Attachment 1 – Necessity Statement, when the presence of pack-out rust becomes too severe, it can deform steel members and connecting hardware. Pack-out rust can also shear off bolts, cause loss of structural integrity, cause members to disconnect from the tower, and even result in tower failure. This now well-known inherent problem with COR-TEN® steel is also being seen in other infrastructure where two pieces of COR-TEN® Steel overlap at joints, such as those present on lattice towers³ and other steel structures such as steel bridges.

23. PPL Electric further verified the results of the 2013 assessment by contracting with several independent, non-affiliated inspection companies to conduct evaluations of COR-TEN® lattice towers to determine the overall condition of these towers on the PPL Electric Transmission System in 2019. The 2019 evaluations included inspection of 15 randomly selected COR-TEN® lattice towers across the PPL Electric Transmission System by three separate contractors.⁴ Review

³ See, e.g., *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of Carson-Rogers Road 500 kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00078, at pp. 2-3, 9-10 (Hearing Examiner Report dated March 10, 2017); *Application of Virginia Electric and Power Company For approval and certification of Cunningham-Dooms 500kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00020, at pp. 3-4 (Response of Dominion Virginia Power to Staff’s Supplemental Filing of March 30, 2017, filed April 13, 2017) (discussing the problems associated with “pack-out” rust on another utility’s COR-TEN® lattice tower structures).

⁴ Each contractor was asked to inspect 5 structures and prepare an engineering analysis of their condition, proposed remediation approach and estimated costs to remediate the identified structural defects.

of the three contractor reports revealed that over 90% of the joints at each structure exhibited visible pack-out in the connections. In addition, the review revealed that pack-out and section-loss was most prominent on the lower portions of the towers where there was higher likelihood of moisture build up.

24. Based on the prevalence of the observed deterioration, PPL Electric determined a more thorough and strategic evaluation was required to determine the full extent of the negative asset health impacts associated with COR-TEN® lattice towers. In early 2020, PPL Electric initiated a second more robust evaluation of the COR-TEN® lattice towers to determine the full extent of the deterioration on the transmission system. The details of this analysis are more fully detailed in Attachment 1 – Necessity Statement.

25. The results of the 2020 inspection program again confirmed the severity of deterioration identified during the 2019 inspection program, as follows:

- Over 90% of the joints showed visible pack-out in the connections, which is anticipated to worsen over time.
- The protective patina needed to protect the steel from corrosion did not properly develop at numerous members resulting in section-loss across the entire structure.
- Pack-out damage was typically more prevalent on lower sections of the tower except for some specific attachment points where severe pack-out was observed on higher sections.

26. Structural damage was found on several members from pack-out that ruptured bolts and split/deformed members.

27. Finally, in April 2021, PPL Electric contracted RTR Energy Solutions, Inc. (“RTR”) to perform a condition assessment on the Summit-Lackawanna #1 and #2 230 kV Transmission Lines. The details of the RTR April 2021 Assessment are set forth in Attachment 1 – Necessity Statement. Over a quarter of the structures received a “Severe” condition rating, with significant amounts of pack rust present, visibly bending the flat edge of the joint that was

originally bolted. None of the structures received a “Mild” rating. The majority of pack rust observed on each structure was found in the lower sections of the post leg where horizontal and diagonal members are bolted to the post leg. This assessment shows that the asset health conditions observed in the system-wide assessment are being exhibited on the specific structures targeted for replacement by the Project.

28. Based on the results of the inspection programs described above, it is clear that the issue with COR-TEN® lattice towers has accelerated the deterioration of these structures and has brought the assets to the end of their service life much sooner than would have been anticipated. At roughly 50 years of age, the COR-TEN® lattice towers that comprise the Summit-Lackawanna #1 and #2 230 kV Transmission Lines have exceeded their useful life and can no longer be relied upon to safely operate as designed.

29. Furthermore, these asset health concerns are particularly important as the Summit-Lackawanna #1 and #2 230 kV Transmission Lines are critical components of PPL Electric’s Bulk Transmission System and are required to serve local load to several critical customer facilities.

30. As explained in the Attachment 1 – Necessity Statement, if these transmission lines fail, it is expected that the service of approximately 31,875 customers would be impacted for the next contingency, including critical customers such as Williams Pipeline Compressor Station 605, Metropolitan Insurance, Clark Summit Sewer, Clark Summit State Hospital, and PA American Water.

31. Furthermore, as the topic of severe weather patterns becomes increasingly relevant, there is a need to take into consideration how changing weather patterns will impact the reliability of the existing COR-TEN® lattice structures. Over the last 20 years, PPL Electric has seen a trend of increasing storms per year within the PPL Electric service territory. With each storm comes

more exposure to extreme precipitation and wind events. If a tower is structurally compromised due to COR-TEN® pack-out and section loss, that wind event creates an increased risk of structural failure. With projected increases of more frequent and intense heat waves over the next century in the Northeast, the occurrence of more severe wind and precipitation events is expected to rise as well. This is evident in the storms associated with Hurricane Ida that hit the Northeast recently, as a storm of that strength would have been rare decades ago. Due to weather pattern changes, it is imperative to re-evaluate the COR-TEN® structures in the safest and most reliable way to protect against the pack rust issue in the joints of the structures and guard the transmission system from catastrophic failures of COR-TEN® towers.

32. At the October 2020 PJM TEAC meeting,⁵ PPL Electric presented its plan to address COR-TEN® needs on the 230 kV system. As part of this plan, PPL Electric also shared the need with PJM stakeholders to address COR-TEN® towers on the Summit-Lackawanna #1 and #2 230 kV Transmission Lines (need # PPL-2020-0001). The need # PPL-2020-0001 will be addressed by the Summit-Lackawanna #1 and #2 230 kV Transmission Line rebuild under supplemental project s2363.

D. THE PROJECT IS NEEDED TO ADDRESS THE ASSET HEALTH CONCERNS

33. The proposed Project will address the asset health needs associated with COR-TEN® lattice tower replacement, as well as improve overall reliability, safety, and system resiliency. It will also resolve reliability contingencies that would occur should the subject transmission lines fail. With respect to the COR-TEN® asset health condition, the Project will immediately and fully resolve the deteriorated condition of the existing structures on a long-term

⁵ Refer to slides at <https://www.pjm.com/~media/committees-groups/committees/teac/2020/20201006/20201006-item-09-ppl-supplemental.ashx>

basis by removing the existing COR-TEN® lattice towers and replacing them with steel monopoles. By rebuilding these structures, PPL Electric will resolve the existing COR-TEN® issue and avoid the possibility of the issue worsening and/or recurring with respect to these structures and developing into both a reliability and public safety issue.

34. Importantly, as explained in Attachment 1 – Necessity Statement, the Project as proposed also avoids the additional costs and uncertainties surrounding the alternative remediation solution contemplated PPL Electric. As noted therein, PPL Electric evaluated and rejected the remediation alternative because it carries substantial uncertainties regarding its immediate and long-term effectiveness to address the subject COR-TEN® lattice towers. There are few, if any, other examples of fully remediating substantially deteriorated COR-TEN® towers which PPL Electric could review to benchmark the effectiveness of this alternative against. Although remediation could potentially extend the life of the structures, it would, at a minimum, require that the remediation work be re-evaluated and potentially repeated every ten years after the initial remediation. In addition, the initial cost of remediation could be substantially greater than anticipated, and the cost of repeated remediation would result in additional O&M expense. The Project as proposed avoids these additional costs and uncertainties and proposes to rebuild the transmission lines in a cost-efficient manner to ensure the continued provision of safe and reliable service.

35. The approximate total cost of the entire Project is approximately \$16.2 million. On a total cost of service basis, the Proposed Solution is approximately 86% of the cost of Alternative 1 (i.e., replacing the existing structures) on a 45-year basis and 87% of the cost of Alternative 1 on 75-year basis. In addition, on a total cost of service basis, the Proposed Solution is approximately

92% of the cost of Alternative 2 (i.e., remediating the existing structures) on a 45-year basis and 58% of the cost of Alternative 1 on 75-year basis.

III. DESCRIPTION OF THE PROPOSED TRANSMISSION LINE

A. OVERVIEW OF THE PROPOSED PROJECT

36. In order to resolve the identified COR-TEN® lattice tower health condition, PPL Electric proposes to rebuild the Summit-Lackawanna #1 and #2 230 kV Transmission Lines. All the COR-TEN® lattice structures as well as the conductors at the 30 locations will be replaced.

37. The Summit-Lackawanna Project will extend approximately 5.5 miles from the existing Summit Substation in City of Scranton, Lackawanna County, to the existing Lackawanna Substation in Blakely Borough, Lackawanna County. A network of existing access roads or temporary roads will be utilized during construction of the rebuilt transmission lines.

38. A detailed map of the proposed Project, including the rebuilt structure locations, is provided in Figure 3-1 in Attachment 3 – Description of the Project Area.

39. There is currently no pending litigation regarding environmental matters related to the Project. However, as explained below, there is pending litigation regarding one parcel traversed by the existing ROW.

B. ENGINEERING DESCRIPTION

40. Connection between the Summit Substation and Lackawanna Substation involves a 5.5-mile-long section of the double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines. The existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines contain six 1590 kcmil⁶, 45/7 stranding, “Lapwing” ACSR⁷ conductor wires and two overhead ground wires

⁶ A kcmil is a thousand circular mils. A circular mil is the cross-sectional area of a wire one mil in diameter, where 1 kcmil = 0.5067 mm².

⁷ ACSR stands for aluminum conductor steel reinforced.

(“OHGW”). These wires are supported by a series of transmission line structures that include 30 COR-TEN® double-circuit steel lattice tower structures. Other existing structures involved in the Project include a two-pole turn structure (Grid numbers 56285-N-47521 and 56292-N-47513 (Structure 0)) located at the western end of the Project near the Summit Substation and four double-circuit monopole structures located at the eastern end near the Lackawanna Substation.

41. To rebuild the existing double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines, PPL Electric will: (i) replace 18 existing COR-TEN® steel lattice tower structures with 18 double-circuit long span suspension monopole structures; and (ii) replace 12 existing COR-TEN® steel lattice tower structures with 12 new double-circuit long span angle tension monopole structures. The proposed Summit-Lackawanna #1 and #2 230 kV Transmission Lines will consist of six 1590 kcmil, 54/19 stranding, “Falcon” ACSS⁸ conductors. The two OHGW will be removed and be replaced with 0.752-inch-diameter dual 48 count optical ground wires

42. The COR-TEN® lattice tower structures to be replaced extend consecutively between existing tower 56361-N-47567 (Structure 1) located adjacent to the two-pole turn structure near Summit Substation and tower 58514-N-49026 (Structure 30) located near the Lackawanna Substation. The two-pole turn structure and four monopole structures will not be replaced but will be upgraded with the new conductor and guide wires.

43. A detailed engineering description is provided in Attachment 2 – Engineering Description.

⁸ ACSS stands for aluminum conductor steel supported.

IV. HEALTH AND SAFETY

44. The proposed Project will not create any unreasonable risk of danger to the public health or safety.

45. The proposed lines will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable National Electrical Safety Code (“NESC”) minimum standards and all applicable legal requirements. Descriptions of the NESC standards, PPL Electric’s design criteria, and PPL Electric’s safety practices are provided in Attachment 4 to this Application.

46. Attachment 4 accompanying this Application also explains PPL Electric’s standards for Magnetic Field Management. Ground clearances for the proposed Project will be increased between approximately 3.0 and 7.0 feet higher than those required by the NESC standard in order to reduce the magnetic field exposure. The proposed rebuild of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines will continue to allow for double-circuit operation, which will allow for reverse phasing. A reduction in magnetic field exposure is anticipated due to the higher ground clearances and reverse phasing.

V. DESCRIPTION OF THE RIGHT-OF-WAY

47. The existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines are located in a corridor consisting of an approximately 325-foot-wide existing ROW. In addition to the existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines, the existing ROW contains another PPL Electric-owned transmission line, which parallels the northern side of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines.

48. New structures will be located in close proximity to existing structures where it is reasonably practical to do so. Where structures will be relocated, PPL Electric will discuss the proposed structure locations with the respective property owners. Further, the Project will involve

the same number of poles that currently comprise the Summit-Lackawanna #1 and #2 230 kV Transmission Lines.

49. As explained in Attachment 2 – Engineering Description, the existing COR-TEN® lattice tower structures range in height from between approximately 120-170 feet with an average structure height of approximately 144 feet. The proposed double-circuit monopole structures to replace the COR-TEN® lattice towers will range in height between approximately 110 and 165 feet with an average structure height of approximately 140 feet. As such, the proposed monopole structures will reduce the average height and ground impacts associated Summit-Lackawanna #1 and #2 230 kV Transmission Lines

50. Two aerial plot plans are provided at the end of Attachment 1 - Necessity Statement. Figure 1-1 depicts the location of the existing transmission facilities associated with this Project. Figure 1-2 depicts the location of the proposed transmission facilities associated with this Project.

51. The entire Project will be constructed entirely within the existing ROW currently occupied by the existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines or on the same PPL Electric fee-owned properties as the existing transmission lines. *See* 52 Pa. Code § 57.72(d)(1)(i). In addition, the facilities associated with the Project will be constructed upon the same structure alignment as the existing facilities. PPL Electric does not require any additional ROW for the construction of the Project. An aerial map is provided at the end of Attachment 3 – Project Area Description to this Application, which depicts the proposed line and associated structures.

52. However, PPL Electric is currently involved in a dispute with a property owner with respect to the existing easement that PPL Electric possesses regarding the existing transmission line ROW that traverses their property. PPL Electric acquired an easement to

construct, operate and maintain, and from time to time to reconstruct its electric lines on the subject property from the Lackawanna County Commissioners in 1969. The easement is recorded in Lackawanna County, and a Certificate of Filing made with the Commission and dated April 13, 1970, is also recorded. The existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines have also been located upon the subject property for over 50 years. Nevertheless, the current property owners have disputed PPL Electric's rights to construct, operate and maintain, and from time to time to reconstruct its electric lines on their property.

53. Therefore, simultaneous with this Application, PPL Electric has filed one (1) Condemnation Application pursuant to 15 Pa. C.S. § 1511(c) at Docket No. A-2019-3008652 for a finding and determination by the Commission, to the extent that any such finding and determination may be required, that the service to be furnished by PPL Electric through the exercise of the power of eminent domain for the rebuilding of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines associated with the Summit-Lackawanna Project is necessary or proper for the service, accommodation, convenience or safety of the public.⁹ This Condemnation Application is being filed to ensure that, to the extent a Court of Common Pleas determines PPL

⁹ Section 1511 of the Business Corporation Law of 1988 statutorily grants a public utility, such as PPL Electric, the power or authority to take and condemn property for the purpose of providing electricity to the public. *See* 15 Pa.C.S. § 1511(a)(3). However, before a public utility may seek to exercise the authority to condemn property for an aerial transmission line, it must obtain approval from the Commission pursuant to Section 1511(c), which provides, in pertinent part, as follows:

(c) The powers conferred by subsection (a) [for the running of aerial electric facilities] may be exercised to condemn property ... only after the Pennsylvania Utility Public Commission, upon application of the public utility corporation, has found and determined ... that the service to be furnished by the corporation through the exercise of those powers is necessary or proper for the service, accommodation, convenience or safety of the public.

15 Pa.C.S. § 1511(c). The Commission does not determine whether to grant a condemnation application on the basis of the legal authority, scope, validity, damages, or the willingness of a condemnee to negotiate.

Electric's existing easement is invalid or insufficient¹⁰ and negotiations with the landowner should fail, PPL Electric has the ROW necessary to maintain and rebuild its existing transmission line facilities.

54. Issues relating to the need for the Condemnation Application are interrelated with this Application. Pursuant to 52 Pa. Code § 57.75(i)(1), PPL Electric requests that this related proceeding be consolidated for hearings, if necessary, and decision. PPL Electric will file an appropriate motion to consolidate these proceedings once all docket numbers have been assigned.

VI. LAND USE AND ENVIRONMENTAL EVALUATION

55. As explained above, construction of the proposed Project will take place entirely within existing ROW. Therefore, it is anticipated that the proposed Summit-Lackawanna Project will have minimal incremental impacts on land use in the area.

56. PPL Electric will use and update previously established access roads for construction to the extent practical to further reduce interference with existing uses and minimize land use impacts. A detailed description of the route of each individual component of the Project can be found in Attachment 3.

57. The proposed Project will not affect any national parks, state parks, local parks, recreational areas, or natural landmarks. None of these features are located within the Project Area. The Project, where it spans State Route 11, crosses near to a 5-acre tract of the Pinchot State Forest. The next closest conserved properties are four additional separate tracts of the Pinchot State Forest located approximately 0.5 miles northwest of the Project. One tract is 137-acres, two

¹⁰ See *Shedlosky v. Pennsylvania Electric Co.*, Docket No. C-20066937 (Order entered May 28, 2008); see also *Anne E. Perrige v. Metropolitan Edison Co.*, Docket No. C-00004110 (Order entered July 11, 2003) (Commission had no jurisdiction to interpret the meaning of a written right-of-way agreement); *Samuel Messina v. Bell Atlantic-Pennsylvania, Inc.*, Docket No. C-00968225 (Order entered Sept. 23, 1998) (“The Commission has clearly stated in prior decisions that it is without subject matter jurisdiction to adjudicate questions involving trespass and whether or not utility facilities are located pursuant to valid easements or rights-of-way.” (citation omitted)).

tracts equal 1-acre, and one tract is less than 1 acre in size. State Game Lands #307 and Archibald Pothole State Park are located approximately 2.5 miles north of the Project.

58. PPL Electric conducted an online review of the Project Area and surrounding landscape through the Pennsylvania Historical and Museum Commission (“PHMC”) Cultural Resources Geographic Information System (“GIS”) site for this area. As described in Attachment 3, several State Historic Preservation Office (“SHPO”) listed or eligible properties were found within or close to the Project Area.

59. PPL Electric is in the initial stage of coordination with the PHMC for the modifications being made to the transmission lines. PPL Electric does not anticipate any impacts to these SHPO eligible or listed properties or any other PHMC related properties. PPL Electric will perform any reviews and field survey/sampling work required by the PHMC to avoid, minimize, and mitigate impacts to archaeological or historic architectural resources that may be located within the Project Area.

60. Two radio facilities are located approximately 0.25 miles north of the Project ROW, and are not anticipated to be impacted by the Project. The Project ROW also contains a cell tower near an existing structure. The use of this tower has been discontinued by the service provider and, therefore, the feature will be removed during construction of the Project. A Norfolk Southern railroad runs parallel to Route 11 and crosses the Project northeast of Structure 10. The Project proposes to use an existing stone road paralleling adjacent to the railroad as access to the ROW. No pipelines will be crossed by the proposed Project. A distribution line extends along the Project corridor between Structures 10 and 17. Furthermore, PPL Electric does not anticipate any interference with airport operations. However, PPL Electric will comply with any applicable

requirements of the Federal Aviation Administration and the Pennsylvania Department of Transportation, Bureau of Aviation.

61. No unique geological, scenic, or natural areas are located within the Project Area, according to the Pennsylvania Department of Conservation and Natural Resources (“PDCNR”).

62. Erosion and Sedimentation (“E&S”) control plans will be implemented for the Project to minimize the displacement of soils. These plans will require prior approval from the local county conservation districts, each of which will be served with this Application. National Pollutant Discharge Elimination System (“NPDES”) permits will also be required from the Pennsylvania Department of Environmental Protection (“PADEP”) as needed. During construction, PPL Electric will adhere to all conditions specified in the NPDES permit. Impacts to local soil resources are anticipated to be minimal.

63. The existing transmission lines span four National Hydrography Dataset waterways that will remain in place after the Project construction activities have occurred. The waterways crossed by the Project include Leggetts Creek, Clover Hill Creek, an Unnamed Tributary (“UNT”) to the Lackawanna River, and Hull Creek. Leggetts Creek is a south flowing tributary to Lackawanna River. Clover Hill Creek, UNT to Lackawanna River, and Hull Creek are southeast flowing tributaries to the Lackawanna River. Leggetts Creek, the UNT to Lackawanna River, and Clover Hill Creek are within the Leggetts Creek Watershed (HUC-020501070105); and Hull Creek is within the Grassy Island Creek-Lackawanna River Watershed (HUC-020501070106). All waterways are within the Upper Susquehanna-Lackawanna Watershed in the Susquehanna River Basin. Leggetts Creek and the UNT to Lackawanna River have a PADEP Chapter 93 Designated Use Stream Classification of Trout Stocked Fishes, Migratory Fishes (“MF”). Clover Hill Creek and Hull Creek have a PADEP Chapter 93 Designated Use Stream Classification of

Cold-Water Fishes, MF. None of the waterways have a PADEP Chapter 93 Existing Use Stream Classification. Leggetts Creek is listed by the Pennsylvania Fish and Boat Commission (“PFBC”) as Natural Trout Reproduction. None of the other waterways have a PFBC designated listing.

64. No direct impacts to the waterways are anticipated by the Project activities. An E&S control plan will be developed to address stormwater control in all watershed areas crossed by the Project. PPL Electric will obtain all approvals and permits necessary for the construction of the Project and will comply with any conditions placed on those permits.

65. PPL Electric also reviewed the U.S. Fish and Wildlife Service’s (“USFWS”) National Wetlands Inventory (“NWI”). The Project crosses four NWI features; two Riverine Upper Perennial (R3UBH) stream habitats (Leggetts Creek and the UNT to Lackawanna River) and two Riverine Unknown Perennial (R5UBH) stream habitats (Clover Hill Creek and Hull Creek). No impacts to these NWI features are anticipated by the proposed Project activities.

66. The NWI only provides a general overview of the potential wetlands that may be located within an area. For federal and state permitting purposes, the wetlands and waterways within the Project Area have been delineated, surveyed, and illustrated according to regulatory standards. This information is being used to minimize wetland and waterway impacts where feasible. Additionally, PPL Electric will avoid impacts to wetlands and waterways where possible by aerially spanning these features.

67. In addition, the National Flood Hazard Layer for Lackawanna County, Pennsylvania was obtained through the Federal Emergency Management Agency (“FEMA”) Flood Map Service Center website and analyzed for 100-year floodplains within the Project Area and surrounding landscape. Based on review of this data, the Project spans the 100-year floodplain and the FEMA floodway for Leggetts Creek, which is located between State Route 11 and

Interstate 81. The Project also spans the 100-year floodplain for Hull Creek, which is located adjacent to State Route 347. No impacts to any floodways or floodplain areas are anticipated by the proposed Project activities.

68. Vegetative cover in the Project Area consists mostly of upland forest, scrub-shrub, or fallow mountain habitat. The existing transmission line ROW has previously been cleared of woody vegetation and no extensive tree clearing is anticipated along the ROW corridor. Tree trimming will be necessary along several off-ROW access roads to improve conditions for the movement of vehicles and supplies. If vegetation management is required in this specific location, PPL Electric will apply its “Specifications for Transmission Vegetation Management LA-79827” to minimize potential impacts.

69. Based on review of the *Natural Areas Inventory of Lackawanna County, Pennsylvania*, published by The Nature Conservancy in 1998 and updated in 2003, the Project is located near three Pennsylvania Natural Heritage Program identified natural areas. Natural areas identified in these documents generally focus on sites that provide habitat conditions for threatened and endangered plant or animal species. The West Mountain Summit, located at the northwest end of the Project, is a site where threatened and rare plant species have been documented. The other sites are two separate Bell Mountain Outcrops, located in the southeast portion of the Project Area. These two sites are geologically significant and are potential habitat for special concern plant species.

70. PPL Electric completed a Pennsylvania Natural Diversity Inventory (“PNDI”) for the Project on March 15, 2021. The PNDI reviews evaluate the databases of the United States Fish and Wildlife Service (“USFWS”), Pennsylvania Fish and Boat Commission (“PFBC”), Pennsylvania Game Commission (“PGC”), and the PDCNR. The PFBC anticipated no impacts

with the Project. The PGC deferred any potential impacts to federally listed species to the USFWS, which is requiring further review for this Project. The PDCNR also identified several plant species that may be present in the Project Area.

71. PPL Electric will continue to consult with the jurisdictional agencies regarding potential impacts to protected species, complete all required surveys, obtain all necessary approvals and permits for Project construction, and comply with conditions placed on those permits.

VII. PETITION FOR WAIVER

A. LEGAL STANDARD FOR WAIVER

72. Section 5.43 of the Commission's regulations allows a party to petition for waiver of the Commission's regulations. Pursuant to Section 57.72(e) of the Commission's regulations, one or more of the Commission's siting requirements may be waived. Section 57.72(e) provides as follows:

The Commission or the presiding officer may -- upon the petition of any party, upon the Commission's own motion, or upon the presiding officer's own motion -- waive one or more or all of the requirements in this subchapter. The petition shall clearly state the requirement sought to be waived and the reasons therefor.

52 Pa. Code § 57.72(e). Additionally, Section 35.8 of the General Rules of Administrative Practice and Procedure allows a concerned party to petition an agency for waiver of a regulation. 1 Pa. Code § 35.18.

73. The Commission has granted requests for waivers of its siting regulations in similar circumstances where the project being proposed would be located within the existing ROW.¹¹ *See*

¹¹ But for the dispute regarding PPL Electric's easement traversing one of the properties described in Section V *supra*, it is clear that PPL Electric's proposed Summit-Lackawanna Project would qualify for filing as a Letter of Notification pursuant to 52 Pa. Code § 57.72(d)(1)(i), because the proposed rebuild of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines is located entirely within an existing transmission line ROW and will not substantially alter this ROW.

Re Pennsylvania Power and Light Company, Docket No. E-81768002, 1981 Pa. PUC LEXIS 39 (August 21, 1981) (granting waiver of the Commission's siting regulations for construction of transmission line that would be located within existing ROW and on property of customer to be served where there would be minimal environmental impact and no substantial risk to public health or safety); *Re Metropolitan Edison Company*, Docket No. P-80070232, 1981 Pa. PUC LEXIS 56 (June 19, 1981) (granting waiver of the Commission's siting regulations for construction of a second transmission line that would be located within an existing ROW where transmission line was already present and construction of the new line would not substantially alter the ROW); *Petition of Philadelphia Electric Company for waiver of siting application requirements under 52 Pa. Code § 57.71 for the proposed Middletown-Morton 230 kV line*, Docket No. P-880293, 1988 Pa. PUC LEXIS 383 (April 20, 1988) (granting waiver of the siting regulations where use of established railroad ROW eliminated the need to acquire and clear new ROW and, thus, eliminated potential adverse environmental impacts and significantly reduced costs); *Letter of Notification of Pennsylvania Electric Company pursuant to 52 Pa. Code § 57.72(d) to install the East-Towanda Mansfield 115 kV Transmission Line Tap to the Tennessee Gas Pipeline Substation located in Troy Township, Bradford County, Pennsylvania*, Docket No. A-110400F0045 (February 6, 2006) (granting request for waiver of Commission's siting regulations because the proposed project was 2.6 miles long and was located along the ROW of an existing line and across the property of the sole customer to be served by the line); *cf. Petition for Waiver of Certain Provisions of the Pennsylvania Public Utility Commission's Regulations for Commission Review of Siting and Construction of Electric Transmission Lines Set Forth at 52 Pa. code § 57.71 et seq.*, Docket No. P-2012-228393, 2012 Pa. PUC LEXIS 566 (April 12, 2012) (denying request for waiver of the

Commission's siting regulations where proposed transmission line would parallel existing ROW but would require an additional 100 feet of width thereby altering the existing ROW).

74. The Commission has also waived the provisions of 52 Pa. Code § 57.75 (requiring hearing and notice) for an application that was simply a rebuild of an existing line. *Petition of West Penn for Waiver in connection with its Moshannon-Milesburg 230 kV transmission line*, Docket No. A-00103909 (April 30, 1982); *Re Pennsylvania Electric Company*, Docket No. A-00104088, 1982 Pa. PUC LEXIS 90 (June 10, 1982) (waiving hearing requirement for proposed line that would be located within the existing ROW and would not substantially alter the ROW thereby limiting impact of line on the environment).

B. WAIVER OF CERTAIN SITING REGULATIONS IS APPROPRIATE IN THIS CASE

75. Unlike many siting applications before the Commission, the Summit-Lackawanna Project involves rebuilding an existing line in place and does not require the acquisition of any new ROW or the siting and construction of transmission line facilities where such facilities do not currently exist. Thus, it is to be expected that some of the information required by the Commission's comprehensive siting regulations, in particular information pertaining to route selection, environmental analysis, will be inapplicable to the Project.

76. As explained herein, the information required by 52 Pa. Code §§ 57.72(c)(7), (8), (10), and (11) is inapplicable to the Summit-Lackawanna Project. In addition, waiver of 52 Pa. Code § 57.74(c), which requires that a "notice of filing and map of suitable detail showing the proposed rout of the proposed facility" be served upon specific agencies, persons and entities, is appropriate because each of the agencies, persons and entities required to be served with a notice of filing is being served with a copy of this Application, which contains the information required by this subsection. Moreover, except with respect to the one (1) Condemnation Application being

filed by PPL Electric, the information required by 52 Pa. Code §§ 69.3102 through 69.3106 is also inapplicable. It is not in the public interest for PPL Electric to incur the time and expense of providing the information required by these Sections of the Commission's regulations that are unrelated to the Project being proposed. Therefore, waiver of these regulations is appropriate and consistent with prior Commission decisions granting waiver of certain siting regulations for projects that will be rebuilt entirely within the existing ROW and will not substantially alter the ROW.

77. Section 57.72(c)(7) requires the applicant to provide:

(7) A description of studies which had been made as to the projected environmental impact of the HV line as proposed and of the efforts which have been and which will be made to minimize the impact of the HV line upon the environment and upon scenic and historic areas, including but not limited to impacts, where applicable, upon land use, soil and sedimentation, plant and wildlife habitats, terrain, hydrology and landscape.

52 Pa. Code § 57.72(c)(7). As explained in the Application, the Summit-Lackawanna Project is limited to rebuilding existing transmission lines located entirely within the ROW, which is currently dedicated to utility use and occupied by transmission lines. No portion of the Project will be located outside of the existing ROW, nor will the Project substantially alter the existing ROW. All replacement structures will be located in close proximity to and have heights similar to the existing structures, with lesser ground impacts as the new structures will be steel monopoles. Where practical, PPL Electric will use previously established access roads for construction to further reduce interference with existing land uses. For these reasons, any environmental impact is expected to be minimal and no environmental impact studies have been conducted. There is a presumption that high voltage transmission lines of two miles or less have minimal adverse environmental impact. *See Energy Conservation Council of Pennsylvania v. Pub. Util. Comm'n.*, 995 A.2d 465, 478-83 (Pa. Cmwlth. 2010). It is also reasonable to presume that a project limited

to rebuilding a line within the ROW will have minimal adverse impact because the line will not cross any new property that is not already traversed by an existing transmission line.

78. PPL Electric has conducted environmental studies within the existing corridor to support construction permitting. However, to undertake any further environmental studies for a Project of this nature that is expected to have very little environmental impact would be an unnecessary expenditure of resources. PPL Electric has not undertaken a siting analysis identifying alternative routes for this Project. Because the rebuilt line will be located entirely within the existing ROW and any land use and/or environmental impact is expected to be minimal, the time and expense of proceeding further under the siting regulations by undertaking additional environmental studies and evaluating alternative routes is not in the public interest. Moreover, the need for a siting study is obviated by the fact that any alternative route would require the location of transmission lines where none presently exist; in this regard, the existing ROW would have fewer environmental impacts and constitute the preferred ROW in comparison to other reasonable alternatives. Therefore, PPL Electric requests that the information required by Section 57.72(c)(7) be waived.

79. Section 57.72(c)(8) requires that the applicant provide:

(8) A description of the efforts of the applicant to locate and identify archaeologic, geologic, historic, scenic or wilderness areas of significance within 2 miles of the proposed right-of-way and the location and identity of the areas discovered by the applicant.

52 Pa. Code § 57.72(c)(8). This Section relates to identification of certain resources that exist within two miles of the proposed ROW. Because there is no new “proposed” ROW, the requirement is inapplicable on its face. Further, efforts to locate and identify these resources are not necessary in this case because the Summit-Lackawanna Project will not expand upon the existing ROW. For this reason, it is expected that there would be no new archaeologic, geologic,

historic, scenic or wilderness areas of significance within two miles of the ROW. PPL Electric has determined that the Project area contains no state lands, national parks, state parks, or local parks. Moreover, PPL Electric has evaluated within the existing ROW, and within 0.25 mile (1,320 feet) of the ROW, which were detailed in Section VI *supra* and further detailed in Attachment 3 – Project Area Description. Therefore, PPL Electric requests that the Commission waive the information required by Section 57.72(c)(8).

80. Section 57.72(c)(10) requires that the applicant provide:

(10) A general description of reasonable alternative routes to the proposed HV line, including a description of the corridor planning methodology, a comparison of the merits and detriments of each route, and a statement of the reasons for selecting the proposed HV line route

52 Pa. Code § 57.72(c)(10). Unlike many transmission line siting applications before the Commission, siting and route selection is not required for the Summit-Lackawanna Project. No alternative routes were considered for the Summit-Lackawanna Project because the Project involves rebuilding an existing line.¹² Thus, the route is already established, and siting is not an issue in this case. This Project does not involve constructing a new transmission line where multiple routes could be considered. Moreover, the rebuild of the existing line will not substantially alter the existing ROW. Therefore, PPL Electric requests that the Commission waive the information required by Section 57.72(c)(10).

81. Section 57.72(c)(11) requires that an applicant provide:

(11) A list of the local, State and Federal governmental agencies which have requirements which shall be met in connection with the construction or maintenance of the proposed HV line and a list of documents which have been or are required to be filed with those

¹² As explained in Section II of this Application, PPL Electric did consider alternative solutions to address the identified asset health condition problem that the Summit-Lackawanna Project is designed to resolve, and determined that the proposed Project is the optimal solution.

agencies in connection with the siting and construction of the proposed HV line.

52 Pa. Code § 57.72(c)(11). Due to the nature of Summit-Lackawanna Project as a rebuild project with minimal expected impacts to the surrounding environment and land use, PPL Electric expects that any new local, state, and federal agency requirements will be limited. While the information required by 57.72(c)(11) may be useful for evaluating the construction of new lines involving numerous agency requirements, such a requirement is unnecessary when the project being proposed does not involve acquisition of new ROW and will not substantially alter the existing ROW. Therefore, PPL Electric requests the Commission waive Section 57.72(c)(11)'s requirement to provide a list of all agency requirements that must be met in connection with the project and related documentation.

82. However, PPL Electric notes that it has coordinated with local, state, and federal agencies when necessary for the Summit-Lackawanna Project. *See* Section VI *supra*; *see also* Attachment 3 – Project Area Description. Specifically, PPL Electric has consulted with state and federal agencies to obtain information regarding endangered and threatened species in close proximity to the Project and will continue to consult with the jurisdictional agencies regarding potential impacts to protected species. PPL Electric is also serving the agencies it has coordinated with regarding the Project with a copy of the application. PPL Electric will obtain all approvals and permits necessary for the construction of the Project, and will comply with any conditions placed on those permits.

83. Section 57.72(c)(4) requires that an applicant provide:

(1)...the applicant shall serve a notice of filing and a map of suitable detail showing the proposed route of the proposed facility by registered or certified mail, return receipt requested, upon the following:

(i) The Secretary of the Department of Transportation, Room 1200 Transportation and Safety Building, Harrisburg, Pennsylvania 17120.

(ii) The Chairman of the Historical and Museum Commission, Post Office Box 1026, Harrisburg, Pennsylvania 17120.

(iii) Other local, State or Federal agencies designated in § 57.72(c)(11) (relating to form and content of application).

(iv) The persons, corporations and other entities designated in § 57.72(c)(4), unless they are served with a copy of the application under § 57.75(i) (relating to hearing and notice).

(2) The notice of filing shall contain a statement identifying the filing, the date on which the filing was or is to be made, a description of the proposed line, the design voltage, the number of route miles, the right-of-way width and the location of the proposed HV line within each township traversed and a statement that a copy of the application is available for public examination as provided in subsection (d).

52 Pa. Code § 57.74(c) (emphasis added). Waiver of this section of the Commission's regulations is being requested because each of the agencies, persons and entities required to be served with a notice of filing is being served with a copy of this Application, as evidenced by the Certificate of Service. This Application and the associated attachments contain a description of the proposed Project, its design voltage, the number of route miles, the width and location of the existing ROW, and a map depicting the location of the Project. Therefore, PPL Electric submits it is not necessary for the agencies, persons and entities set forth in Section 57.74(c) of the Commission's regulations to be served with a separate notice of filing.

84. The Commission has published interim guidelines for the filing of electric transmission line siting applications. *See* 52 Pa. Code §§ 69.3101—69.3107. Sections 69.3102 through 69.3106 of the Commission's regulations require information related to the utility's interactions with and notice to landowners (69.3102), applications for eminent domain authority

(69.3103), applications for exemption from municipal zoning standards (69.3104), route evaluation and siting (69.105), and 69.3106 (environmental filing requirements).

85. As described in Section V *supra*, PPL Electric has filed one (1) Condemnation Application, to the extent it is determined such approvals are needed, with respect to one property and, therefore, PPL Electric has complied with Sections 52.91, 69.3102 and 69.3103 of the Commission's regulations. A copy of the materials served by PPL Electric upon the subject landowner is attached hereto as Attachment 6 – Code of Conduct and Eminent Domain Notices. In addition, the Condemnation Application contains the information required by 69.3102 and 69.3103 of the Commission's regulations.

86. None of the information required by Sections 69.3101—69.3107 of the Commission's regulations otherwise pertains to the Summit-Lackawanna Project because the Project does not require acquisition of new ROW. No new property rights are required and no landowners will otherwise be affected. Furthermore, PPL Electric is not seeking exemption from municipal zoning standards.¹³ As explained above, no route selection or siting study was needed for the Project. Therefore, PPL Electric requests that the Commission waive the information required by Sections 69.3102 through 69.3105 of the Commission's regulations as inapplicable to the proposed Project.

87. Finally, Section 69.3106 of the Commission's regulations requires the following:

Applications for siting of electric transmission lines should include as part of the filing requirement under § 57.72(e)(7) the following information: A matrix or list showing all expected Federal, state and local government regulatory permitting or licensing approvals that may be required for the project at the time the application is filed, the issuing agency, approximate timeline for approval and current status. The applicant should provide an update on the status of the regulatory permitting/licensing approvals as the case progresses.

¹³ PPL Electric submits that this Project will not adversely impact local comprehensive plans and zoning ordinances. See 52 Pa. Code § 69.1101.

52 Pa. Code § 69.3106. Because the Project consists of rebuilding a line within the existing ROW, PPL Electric expects that any new local, state, and federal government regulatory permitting or licensing approvals will be limited. PPL Electric believes that the permit matrix required by Section 69.3106 is unnecessary for this Project due to the anticipated permits required being minimal as compared to the construction of a line involving new ROW. Therefore, PPL Electric requests that the Commission waive the information required by Section 69.3106 of the Commission's regulations.

VIII. NOTICE

88. PPL Electric has reached out to residents located immediately adjacent to PPL Electric's fee owned parcels and owners of properties that are crossed by the Line. Copies of the Application will be served upon landowners in accordance with 52 Pa. Code § 57.74. A list of the landowners impacted by this project is provided in Attachment 5.

89. PPL Electric has provided information regarding the Project to representatives of Blakely Borough, City of Scranton, Dickson City Borough, Newton Township, Ransom Township, Scott Township, and South Abington Township, all in Lackawanna County, Pennsylvania. These entities have not objected to the proposed Project. Copies of this Application will be served on the governmental agencies, municipalities, and other public entities and organizations in accordance with 52 Pa. Code § 57.74. A list of these entities and organizations is also provided in Attachment 5.

90. A copy of this Application is available for public examination in-person during ordinary business hours at PPL Electric Utilities Scranton Service Center and Customer Contact Center, 600 Larch Street, Scranton, PA 18509-2899, depending on COVID-19 precautions in effect at the time of filing. As soon as practicable after the filing of this Application, PPL Electric

will publish notice in newspaper(s) of general circulation in the area of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines. This notice will: (a) note the filing with the Commission; (b) provide brief description of the Project and its location; and (c) provide any additional information as directed by the Commission. PPL Electric also requests that the Commission publish notice of this Application in the Pennsylvania Bulletin.

91. PPL Electric will provide such additional forms of notice as may be directed by the Commission.

IX. CONCLUSION

WHEREFORE, PPL Electric Utilities Corporation respectfully requests (1) Pennsylvania Public Utility Commission approval to rebuild the existing double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines connecting the Summit 230-69 kV Substation and the Lackawanna 500-230-69 kV Substation in Lackawanna County, Pennsylvania, as explained herein, and (2) Pennsylvania Public Utility Commission permission to waive information required by certain of the Commission's siting regulations as explained above.

Respectfully submitted,



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Date: February 14, 2022

Attorneys for PPL Electric Utilities Corporation

VERIFICATION

I, JOSEPH B. LOOKUP, being the Director of Asset Management at PPL Services Corporation, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect PPL Electric Utilities Corporation to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 02/14/2022


Joseph B. Lookup (Feb 14, 2022 13:02 EST)
Joseph B. Lookup

ATTACHMENT 1

SUMMIT-LACKAWANNA #1 AND #2 230 kV COR-TEN® REBUILD PROJECT

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1.0 INTRODUCTION

PPL Electric Utilities Corporation (“PPL Electric”) is requesting Pennsylvania Public Utility Commission (“PUC” or “the Commission”) approval to rebuild the existing double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines connecting the Summit 230-69 kV Substation (“Summit Substation”) and the Lackawanna 500-230-69 kV Substation (“Lackawanna Substation”) in Lackawanna County, Pennsylvania (“Project”)¹.

This Project is required to address reliability concerns related to the deteriorated condition of the COR-TEN® lattice towers on the Summit-Lackawanna #1 and #2 230 kV Transmission Lines. In addition, the Project is also required to comply with:

- The Consolidated Transmission Owners Agreement (“TOA”) Rate Schedule - FERC No. 42 (FERC ER10-2713-000), which requires transmission systems to “[b]e kept in place and maintained in good operating condition in accordance with Good Utility Practice and principles, guidelines and standards of the applicable Regional Reliability Council and NERC.”

The Project is necessary for PPL Electric to avoid violating its obligations under the TOA to maintain its transmission facilities in good operating condition and avoid public safety concerns caused by failed assets. The Project is one of several essential PPL Electric projects designed to address a system-wide concern related to the structural reliability of COR-TEN® lattice towers on its bulk transmission system. As explained below, the existence of “pack-out rust”² in many of the joints of the subject lattice towers diminishes structural integrity and increases the risk of system failures that could negatively impact public safety and affect approximately 31,875 PPL Electric customers. The Project is necessary to avoid these risks and provide the best solution to immediately address the identified asset health issues on a long-term basis.

¹ For a complete list of municipalities and counties crossed by the Project, please refer to the Letter of Notification, Attachment 5.

² “Pack-out rust” or “pack rust” is a form of localized corrosion typical of steel components that develop a crevice into an open atmospheric environment, which results in rust packing between conjoined steel components. As described in herein and in Attachment 2, pack-out rust accelerates the deterioration of asset health and can result in shearing off bolts, loss of structural integrity, members disconnecting from lattice towers, and tower failure.

Moreover, in order for PPL Electric’s transmission facilities to be considered in good operating condition, they must be maintained in a manner consistent with the standards of the North American Electric Reliability Corporation (“NERC”), Reliability First Corporation, and Good Utility Practice as defined by the TOA.

Subject to the Commission’s approval, construction will begin in April 2023 to support an in-service date of August 2023. PPL Electric will continue to own, operate, and maintain the rebuilt 230 kV transmission lines. The total estimated cost of this Project, as described below, is approximately \$16.2 million, and the cost for the Project will be paid by PPL Electric.³

2.0 BACKGROUND

PPL Electric has a responsibility to provide transmission assets and maintain them in an adequate, efficient, safe, reliable, and reasonable manner to meet the needs of the electric system and the expectations of its customers. To achieve this, PPL Electric applies its Transmission Asset Management Procedure as part of its system performance and condition assessment process. These performance and condition assessments identify system needs and prioritize projects based on several variables such as equipment age, condition, maintenance schedule, and impact on system reliability and asset performance to ensure a reliable electric grid and service to its customers.

The transmission system is the backbone of the electric grid. Failure to maintain the system in accordance with Good Utility Practice and reliability practices and standards can decrease overall transmission system reliability and increase the risk of customer outages.

³ The estimated cost was developed using averages of recent costs for similar projects and without an in-depth analysis of field investigations. The cost is subject to change as the constructability of the Project, sequence of construction, and other factors that may affect cost are identified and analyzed as the Project progresses.

3.0 TRANSMISSION SYSTEM PLANNING PROCESS

The nation’s interconnected transmission system (“Transmission Grid”) serves as the backbone for safe and reliable delivery of large amounts of electricity from generating stations over substantial distances to customers served by transmission and local distribution systems. It is critical that the Transmission Grid be planned and designed to ensure reliable electric service is provided under all loading conditions or when certain elements of the Transmission Grid are out of service (system contingencies) due to planned or unplanned outages.

Robust transmission planning enables the transmission system to supply electricity to all customer loads in a reliable and economical manner. This system planning process ensures that both the Bulk Electric System (“BES”)⁴ and non-Bulk Electric System (non-BES)⁵ are planned and constructed so that:

- They can accommodate forecasted system flows during summer and winter peak load;
- They can adequately serve each customer’s need regarding capacity, voltage, and reliability for all load levels throughout the daily load cycle;
- They can sustain probable contingencies and disturbances with minimal customer service interruptions; and
- They are in conformance with NERC, PJM Interconnection, LLC (“PJM”), and the Transmission Owner’s reliability criteria for all normal and emergency operating conditions.

PJM is a Federal Energy Regulatory Commission (“FERC”)-approved Regional Transmission Organization (“RTO”) charged with ensuring the reliability of the electric transmission system under its functional control (100 kV and above), and coordinating the movement of electricity in all or parts of thirteen states and the District of Columbia, including Pennsylvania. To ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan

⁴ Includes transmission facilities operated at voltages of 100 kV or higher.

⁵ Includes transmission facilities operated at voltages less than 100 kV.

(“RTEP”)⁶ to identify system reinforcements that are required to, among other things, meet the NERC Reliability Standards, PJM reliability planning criteria, and Transmission Owner reliability criteria.

PPL Electric’s Transmission Asset Management Procedure involves identifying system needs and determining the best available solution to address those needs. This process includes asset evaluation, asset condition and system risk assessments, analysis of alternative solutions, and project initiation and scheduling. System needs are identified based on the overarching goals of reducing outage frequency and duration, improving system reliability, decreasing system maintenance cost, and maintaining operational flexibility to ensure safe and reliable electric service of the transmission system and to PPL Electric’s customers.

When transmission owning utilities (including PPL Electric) set up PJM as an RTO, they agreed to bind themselves to maintaining their existing transmission systems using Good Utility Practice. The TOA is an agreement among (1) individual Transmission Owners operating within the PJM Region and (2) between the Transmission Owners and PJM. The TOA facilitates the planning and operation of the Transmission Grid within the PJM region and establishes the rights and responsibilities of each party to the TOA. Section 4.6 of the TOA requires that transmission systems “[b]e kept in place and maintained in good operating condition in accordance with Good Utility Practice and principles, guidelines and standards of the applicable Regional Reliability Council and NERC.” The Project is required to fulfill PPL Electric’s obligations under the TOA.

⁶ PJM’s RTEP process is currently set forth in Schedule 6 of PJM’s Amended and Restated Operating Agreement (“Schedule 6”). Schedule 6 governs the process by which PJM’s members rely on PJM to prepare an annual regional plan for the enhancement and expansion of the transmission facilities to ensure long-term, reliable electric service consistent with established reliability criteria. In addition, Schedule 6 addresses the procedures used to develop the RTEP, the review and approval process for the RTEP, the obligation of transmission owners to build transmission upgrades included in the RTEP, and the process by which interregional transmission upgrades will be developed.

4.0 THE NEED FOR THE PROJECT

4.1 Existing System

The Summit Substation and Lackawanna Substation are connected by the double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines. This transmission line system is approximately 5.5 miles long and is supported by 30 COR-TEN® lattice structures. These towers are designed and being used for double-circuit 230 kV operation. The Summit-Lackawanna #1 230 kV Transmission Line is one of the circuits on these towers, and the Summit-Lackawanna #2 230 kV Transmission Line is the other.

The double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines are in PPL Electric's Northeast Region and are part of a larger 230 kV transmission network that connects generation in this region to load throughout PPL Electric and the rest of PJM's footprint. This 230 kV network includes the Lackawanna-Paupack 230 kV, Summit-Stanton 230 kV, Jenkins-Stanton 230 kV, and Susquehanna-Jenkins 230 kV Transmission Lines, which all support bulk power flow and feed various 230-69 kV substations in the Northeast Region. As noted below, if these transmission lines fail, it is expected that the service of approximately 31,875 customers would be impacted for the next contingency, including critical customers such as Williams Pipeline Compressor Station 605, Metropolitan Insurance, Clark Summit Sewer, Clark Summit State Hospital, and PA American Water.

A map of the existing system configuration is provided as Figure 1-1.

4.2 Project Need

This Project is needed to address asset health concerns that are being accelerated by increased incidences of pack-out rust associated with COR-TEN® lattice towers. The subject lattice towers had an expected service life of 75 years and were installed in the early 1970s. The subsequent discovery of increased incidences of pack-out rust associated with COR-TEN® lattice towers has accelerated the rate at which these towers were expected to reach end-of-life, and, in some cases, the towers have deteriorated and are continuing to deteriorate beyond the point where they can safely operate as designed and cannot be reasonably or cost effectively remediated.

4.2.1 Asset Health

There are approximately 236 circuit miles containing COR-TEN® lattice structures or approximately 1,284 structures across PPL Electric’s Transmission System that it currently anticipates will need to be addressed in order to resolve asset health concerns similar to those identified below.⁷

Originally constructed in 1970, the existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines have 30 weathering-steel COR-TEN® lattice structures spanning approximately 5.5 miles. COR-TEN® lattice towers were commonly installed by the industry during this time because it was believed that the corrosion-resistant properties of weathering-steel would reduce future maintenance needs/costs.

In 2013, PPL Electric utilized a third-party contractor to perform an assessment of the COR-TEN® lattice structures on its 230 kV transmission lines under a steel structure capital maintenance program. The program evaluated the ground-line of the steel structures, performing minor excavation around the base of the structure and assessing the condition of the steel, and then applying a protective coating to the exposed steel. No joints or members above the base of the structure were included in this assessment. The assessment identified that 126 of 131 COR-TEN® structures (96%) had one or more structure legs rated Condition C (poor) or Condition D (very poor). Of those 126 structures, 25 had one or more structure legs that were identified as “priority”, requiring immediate attention. In order to extend the life of the asset and ensure no failures at the ground line, the 25 structures identified as “priority” received maintenance repairs in 2014, which included post leg, diagonal and base shoe repairs. Protective coating was applied to the remaining 101 COR-TEN® structures that rated Condition C or D but were not identified as “priority”. However, these remaining structures face constant asset health concerns due to the presence of pack-out rust. Ongoing inspections conducted since 2014 have confirmed that these structures are continuing to degrade.

⁷ PPL Electric anticipates that addressing the currently anticipated COR-TEN® projects associated with the 230 kV system (approx. 1112 of the identified structures) will cost approximately \$562 million in total. However, these estimates are preliminary in nature and subject to change. PPL Electric is also currently evaluating one other transmission line asset that includes 172 COR-TEN® lattice structures, but it has not yet developed a cost estimate for the remediation or replacement of these structures.

These asset health concerns were further heightened by the discovery of pack-out rust in the section joints of the COR-TEN® lattice towers. In particular, the protective surface coating of weathering steel that provides resistance to atmospheric corrosion, known as the patina, did not form properly on the structure joints and members due to moisture trapped between the joints. The trapped moisture prevented completion of the required wetting and drying cycle needed to form the patina. Over time, this has led to the formation of pack-out rust within the joints of connecting tower members and section-loss in the steel members and joints. When the pack rust becomes too severe, it can deform steel members and connecting hardware. It can shear off bolts, cause loss of structural integrity, cause members to disconnect from the tower, and even result in tower failure. PPL Electric is experiencing pack-out rust failures on its transmission line system, which are a leading indicator of ultimate structure failure as outlined above. Over the past few years, PPL Electric has encountered multiple instances of COR-TEN® tower members becoming detached, broken, and deformed/corroded to failure due to severe pack-out rust. Failures of this nature on a transmission tower create emergent safety and reliability concerns which must be proactively addressed.

This now well-known inherent problem with COR-TEN® steel is also being seen in other infrastructure where two pieces of COR-TEN® steel overlap at joints, such as those present on lattice towers⁸ and other steel structures such as bridges. The presence of pack-out rust on COR-TEN® structures and its negative impacts on asset health have diminished the expected service life of these structures from 75 to 50 years. As these structures were installed approximately 50 years ago, they have effectively reached end-of-life.⁹ No manufacturer’s warranty currently exists for remediation of the COR-TEN® lattice towers. After a reasonable investigation, PPL Electric is not aware of whether a manufacturer’s warranty was in existence at the time the structures were installed.

⁸ See, e.g., *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of Carson-Rogers Road 500 kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00078, at pp. 2-3, 9-10 (Hearing Examiner Report dated March 10, 2017); *Application of Virginia Electric and Power Company For approval and certification of Cunningham-Dooms 500kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00020, at pp. 3-4 (Response of Dominion Virginia Power to Staff’s Supplemental Filing of March 30, 2017, filed April 13, 2017) (discussing the problems associated with “pack-out” rust on another utility’s COR-TEN® lattice tower structures).

⁹ New steel structures that will be installed under the Project have an anticipated service life of 75 years.

To better understand the heightened asset health concerns associated with COR-TEN® steel, PPL Electric contracted with independent, non-affiliated inspection companies to conduct evaluations of COR-TEN® lattice towers to determine the overall condition of these towers on the PPL Electric Transmission System in 2019. The 2019 evaluations included inspection of 15 randomly selected COR-TEN® lattice towers across the PPL Electric Transmission System by three separate contractors.¹⁰ Review of the three contractor reports revealed that over 90% of the joints at each structure exhibited visible pack-out in the connections. In addition, the review revealed that pack-out and section-loss was most prominent on the lower portions of the towers where there was higher likelihood of moisture build up. The contractors' estimates to remediate each tower ranged from \$140,000 to \$240,000 per tower depending on the contractor's proposed remediation approach and extent of remediation recommended. For the sake of any analysis associated with the remediation option, a cost of \$183,891 per structure was utilized, which is the average of the 3 remediation costs received from contractors.

Based on the prevalence of observed deterioration on the COR-TEN® lattice towers across the PPL Electric Transmission System and the estimated per-tower cost to rehabilitate, PPL Electric determined that a more thorough and strategic evaluation was needed to determine the full extent of the deterioration of COR-TEN® lattice towers across its system.

In early 2020, PPL Electric initiated a second, more robust evaluation of the COR-TEN® lattice towers to determine the full extent of the deterioration on the transmission system. PPL Electric's Data Analytics Team developed a strategic approach that utilized advanced statistical analysis and modeling to comprehensively determine the overall condition of the COR-TEN® lattice towers in a cost-efficient manner. The statistical analysis determined that inspection of 192 randomly selected COR-TEN® towers would provide a statistically significant representation of all 1,284 COR-TEN® towers on the PPL Electric system with a 90% confidence level and 5% confidence interval. To assist with the analysis, PPL Electric contracted with AmpJack, an independent consultant, to complete an inspection of 192 randomly selected COR-TEN® towers and classify the observed condition.

¹⁰ Each contractor was asked to inspect 5 structures and prepare an engineering analysis of their condition, proposed remediation approach and estimated costs to remediate the identified structural defects.

The inspection of 192 randomly selected COR-TEN® towers performed by AmpJack included a field-based visual overhead inspection of each structure from the ground, taking measurements of pack-out at each joint and section-loss at each member on the lower section of each structure, visual observations of pack-out and section loss for the higher sections of the towers, and visual observations of the damage at attachment points. The measured values of each joint and member rated according to guidelines provided by PPL Electric using both the measured and visual observations (A-Good, B-Fair, C-Poor, D-Severe and F-Priority). This approach is consistent with the method used by Osmose, an essential asset inspection service company, in grading steel structure corrosion in applications across the country. The results of the AmpJack overall structure ratings are summarized in Table 1-1 below:

TABLE 1-1: Structure Rating Summary

Overall Structure Rating			
Class	Condition	Structure Count	Percent
A	Good	0	0.0%
B	Fair	0	0.0%
C	Poor	95	49.5%
D	Severe	88	45.8%
F	Priority	9	4.7%

The results of the 2020 inspection program confirmed the severity of deterioration identified during the 2019 inspection program as follows:

- Over 90% of the joints showed visible pack-out in the connections, which is anticipated to worsen over time.
- The protective patina needed to protect the steel from corrosion did not properly develop at numerous members resulting in section-loss across the entire structure.
- Pack-out damage was typically more prevalent on lower sections of the tower except for some specific attachment points where severe pack-out was observed on higher sections.
- Structural damage was found on several members from pack-out that ruptured bolts and split/deformed members.

The accelerated deterioration of the asset health of the COR-TEN® lattice towers that are the subject of the Project revealed by 2019 and 2020 inspection programs has been further corroborated by a recent study prepared by RTR Energy Solutions, Inc. (“RTR”) in October 2021. RTR was contracted to perform a condition assessment on the Summit-Lackawanna #1 and #2 230 kV Transmission Lines. The assessment consisted of all 30 COR-TEN® lattice towers on this line. The scope of the assessment included a visual inspection of each selected structure from the ground. Each joint of the structure was reviewed to determine if pack rust was present. The structure condition was noted as either Mild, Moderate or Severe using the following classification:

- **Mild** Condition Rating: <25% of total joints contain pack rust.
- **Moderate** Condition Rating: >25% & <50% of total joints contain pack rust.
- **Severe** Condition Rating: >50% of total joints contain pack rust.

A summary of the results of the inspection are represented in Table 1-2 below:

TABLE 1-2: Structure Condition Rating Summary

Condition	Structure Count
Mild	0
Moderate	22
Severe	8
Total	30

The majority of pack rust observed on each structure was found in the lower sections of the post leg where horizontal and diagonal members are bolted to the post leg. However, pack rust was observed in joints all the way up some towers. Structures classified as Severe with significant amounts of pack rust present had visible bending on the flat edge of the joint that was originally bolted. Based on the inspection results, the average structure is rated as “Moderate” having over 40% of their total joints containing pack rust, indicating that those structures are on the more

critical end of the spectrum for that condition rating. The remaining structures on the Summit-Lackawanna #1 and #2 230kV line are rated as “Severe”, with greater than 50% of the joints on these structures exhibiting pack-out rust. This assessment shows that the asset health conditions observed in the system-wide assessment are being exhibited on the specific structures targeted for replacement by the Project.

Based on the results of the inspection programs described above, it is clear that the poor performance of the protective patina on the COR-TEN® lattice towers has accelerated the deterioration of these structures and has brought the assets to the end of their service life much sooner than would have been anticipated. At roughly 50 years of age, the COR-TEN® lattice towers that comprise the Summit-Lackawanna #1 and #2 230 kV Transmission Lines have exceeded their useful life and can no longer be relied upon to safely operate as designed. The proposed rebuild addresses the safety issues resulting from the presence of pack-out rust (e.g., structures failing due to deteriorated joints at the arms or legs). Possible shearing of bolts, members disconnecting from lattice towers, or complete tower failure pose a major safety risk to both the public and PPL Electric employees. PPL Electric has determined to address these safety risks now, rather than at a later date, in order to avoid these risks increasing.

These asset health concerns are also important as the Summit-Lackawanna #1 and #2 230 kV Transmission Lines are a critical component of PPL Electric’s Bulk Transmission System and are required to serve local load to several critical customer facilities. If these transmission lines were to fail due to COR-TEN® issues, the following reliability issues would likely occur:

A) Failure of Summit-Lackawanna #1 and #2 230 kV Transmission Lines and:

- Loss of Stanton-Summit #3 & #4 230 kV Transmission Lines will result in up to 171 mega-watts (“MW”) of load drop resulting in approximately 31,875 customers losing service. The load at the Summit 230-69 kV Substation is served by the Summit-Lackawanna #1 & #2 and Stanton-Summit #3 & #4 230 kV Transmission Lines. Failure of either tower line will put Summit’s Substation load at risk for the next contingency. Critical facilities including Williams Pipeline Compressor Station 605, Metropolitan Insurance, Clark Summit Sewer, Clark Summit State Hospital, and PA American Water will be impacted by this outage.

As the topic of severe weather patterns becomes increasingly relevant, there is a need to take into consideration how changing weather patterns will impact the reliability of the existing COR-TEN® lattice structures. Over the last 20 years, PPL Electric has seen a trend of increasing storms per year within the PPL Electric service territory. With each storm comes more exposure to extreme precipitation and wind events. If a tower is structurally compromised due to COR-TEN® packout and section loss, that wind event creates an increased risk of structural failure. With projected increases of more frequent and intense heat waves over the next century in the Northeast, the occurrence of more severe wind and precipitation events is expected to rise as well. This is evident in the storms associated with Hurricane Ida that hit the Northeast recently, as a storm of that strength would have been rare decades ago. Due to drastic weather pattern changes, it is imperative to re-evaluate the COR-TEN® structures in the safest and most reliable way to protect against the pack rust issue in the joints of the structures and guard the transmission system from catastrophic failures of COR-TEN® towers.

At the October 2020 PJM TEAC meeting,¹¹ PPL Electric presented its plan to address COR-TEN® needs on the 230 kV system. As part of this plan, PPL Electric also shared the need with PJM stakeholders to address COR-TEN® towers on the Summit-Lackawanna #1 and #2 230 kV Transmission Lines (need # PPL-2020-0001). The need # PPL-2020-0001 will be addressed by the Summit-Lackawanna #1 and #2 230 kV Transmission Line rebuild under supplemental project s2363, which will be completed at an estimated cost of \$16.2 Million.

5.0 ALTERNATIVES

PPL Electric evaluated three potential solutions to address the degrading health of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines. The following three alternatives were considered and compared based upon their ability to resolve the asset health conditions identified by PPL Electric and upon a 45-year and 75-year cost of service basis¹²:

¹¹ Refer to slides at <https://www.pjm.com/~media/committees-groups/committees/teac/2020/20201006/20201006-item-09-ppl-supplemental.ashx>

¹² PPL Electric is providing this comparison based upon a 45-year cost of service basis, due to the Commission's routine data requests for a 45-year cost of service analysis in prior LON proceedings. PPL Electric notes that it does

- (1) Alternative 1 – Replace all structures on the Summit-Lackawanna #1 and #2 230 kV Transmission Lines;
- (2) Alternative 2 – Remediate all structures on the Summit-Lackawanna #1 and #2 230 kV Transmission Lines; and
- (3) Alternative 3 – Full Rebuild of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines (“Proposed Solution”).

The Proposed Solution is necessary to address the COR-TEN® asset health condition described above. Although PPL Electric evaluated replacement and remediation options, these alternatives present substantial uncertainties regarding their immediate and long-term effectiveness to address the COR-TEN® issue. As explained herein, the health and safety risks associated with the assets’ advanced age and degree of deterioration are so great that replacement and remediation would fail to adequately address their poor health conditions. For these reasons, the replacement and remediation alternatives were rejected as neither prudent nor reasonable.

Furthermore, the Proposed Solution is the most cost-effective. To estimate the total cost of each alternative over both a 45-year and 75-year period (the expected service life of a new steel structure), cost-of-service calculations for the revenue requirement were completed on a per-structure basis.¹³ A summary of this analysis is presented in Table 1-3 below. Based upon this analysis, PPL Electric determined that Alternative 3 – Full Rebuild most efficiently addresses the asset health conditions of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines.

not utilize a stand-alone cost of service calculation for individual projects, and does not prepare a cost of service analysis for rebuild projects in its regular course of business. However, PPL Electric has prepared this line-specific calculation in anticipation of data requests from the Commission. PPL Electric used its current transmission rate for these calculations and notes that it cannot predict what its transmission rate will be in the future. The Company’s transmission rate, and the calculations provided in the spreadsheet, are subject to change. Furthermore, PPL Electric submits that it is reasonable and appropriate to consider the 75-year cost of service for this project, as the expected life of the steel structures at issue is 75 years.

¹³ Because all COR-TEN® lattice structures on the system are of a similar design and vintage, doing the cost of service calculation on a per structure basis allows for a determination of the most cost-effective option for any COR-TEN® structure on the system regardless of the total line length. It is assumed that the cost of service calculation could be extrapolated across the total number of structures on a given line with a similar result. The revenue requirement is the total cost that the customers would be charged based on calculations that include a combination of operations and maintenance (“O&M”) expense, depreciation, and return on capital.

Therefore, as explained in Section 6.0, PPL Electric has proposed Alternative 3 as the solution in this proceeding.

5.1 Alternative 1 – Structure Replacement

The first alternative considered by PPL Electric to address the poor health condition of the weathering steel COR-TEN® lattice towers on these lines was to replace each of the lattice structures. This alternative would include replacing the existing weathering-steel lattice towers with new standard structures. The estimated replacement cost is approximately \$435,331/structure. This option would also require PPL Electric to replace the conductors with new conductors in 2026 when it has reached its end-of-life at an additional \$192,789/structure. In addition, there would be ongoing O&M costs for the remainder of the service life of the transmission lines.

5.2 Alternative 2 – Structure Remediation

The second alternative considered by PPL Electric to address the poor health condition of the weathering steel COR-TEN® lattice towers on these lines was to remediate the entire lattice tower line, which would include replacing badly damaged members with galvanized steel members, installing new hardware and spacers, and cleaning pack-out from affected joints. The average estimated cost of remediation is approximately \$183,891/structure. This alternative was rejected by PPL Electric due to substantial uncertainties regarding its immediate and long-term effectiveness to address the COR-TEN® issue.¹⁴ Although remediation could extend the life of the structures, it would, at a minimum, require re-evaluation and possible subsequent remediation every 10 years following the initial remediation. Moreover, the health and safety risks associated with the assets' advanced age and degree of deterioration are so great that remediation would fail to adequately address their poor health conditions.

¹⁴ The contractors that provided the cost estimate have never performed a full weathering-steel COR-TEN® lattice tower remediation before. And, moreover, it is PPL Electric's understanding that complete remediation of COR-TEN® lattice towers has never been undertaken by another electric utility. Given the lack of industry experience with remediation, PPL Electric cannot adequately benchmark the efficacy and costs of this alternative. Rebuilding the subject transmission lines, as proposed by the Project, would avoid these potential unknown risks and costs.

Subsequent remediation work would be treated as an O&M expense. However, after 30 years, the structures will have to be replaced with new structures. Further, remediation would not address all underlying issues, ultimately requiring additional, duplicative projects.

For the reasons stated above, it is not reasonable or prudent to pursue Alternative 2. Remediation would fail to address the underlying COR-TEN® asset health conditions on a long-term basis and is a less cost-efficient option.

5.3 Alternative 3 – Full Rebuild

The third alternative considered by PPL Electric is to fully rebuild the existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines. Replacing the existing lattice towers with monopoles will improve performance by increasing clearances and improving lightning performance. The estimated rebuild cost is approximately \$540,483/structure.

Although the full rebuild cost per structure is higher than the replacement and remediation options, the revenue requirements over both a 45 and 75-year period¹⁵ are lower (as shown in Table 1-3) due to lower O&M expense and fully replacing the affected structures (as opposed to attempting to add more useful life to those structures via remediation), which makes the rebuild a more cost-effective solution. Rebuilds are also less risky than remediation due to factors such as lack of remediation experience, lack of evidence for long-term remediation effectiveness, and risk of returning pack-out rust. The structure replacement option would continue to have ongoing O&M expense with the additional need to return in 2026 to re-conductor the line for an additional \$192,789/structure. When compared to the remediation or replacement options, the full rebuild option has advantages in both cost-effectiveness and lower risk, making full rebuild the best long-term solution.

¹⁵ The 16.2 million is the total estimated upfront cost of the Project, including design and construction. To evaluate total cost-of-service, the calculation must factor in all lifecycle costs associated with that asset over the analysis window (i.e., 45 years). The Project lifecycle costs include 1) annual depreciation expense over the 45-year window, 2) annual Return on Capital over the 45-year window, and 3) O&M expense for minor repairs at year 45. Those costs will make up the total revenue requirement that is entered annually on the FERC Form 1 formula rate.

TABLE 1-3: Cost of Service of Evaluated Options

Project Scope	45 Year Cost of Service (\$M)	75 Year Cost of Service (\$M)
Replace Structures on Summit-Lackawanna #1 and #2 230 kV Transmission Lines	\$55.0	\$66.4
Remediate Structures on Summit-Lackawanna #1 and #2 230 kV Transmission Lines	\$51.5	\$100.2
Full Rebuild of Summit-Lackawanna #1 and #2 230 kV Transmission Lines	\$47.5	\$57.8

6.0 PROPOSED SOLUTION

To resolve COR-TEN® lattice tower health condition, PPL Electric proposes to rebuild the existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines. All the COR-TEN® lattice structures as well as the conductor at the 30 locations will be replaced.

The Proposed Solution will improve overall reliability, safety and system resiliency by resolving the asset health needs associated with COR-TEN® lattice tower replacement. The transmission line rebuild solution was deemed to be the most cost-effective solution to address these needs.

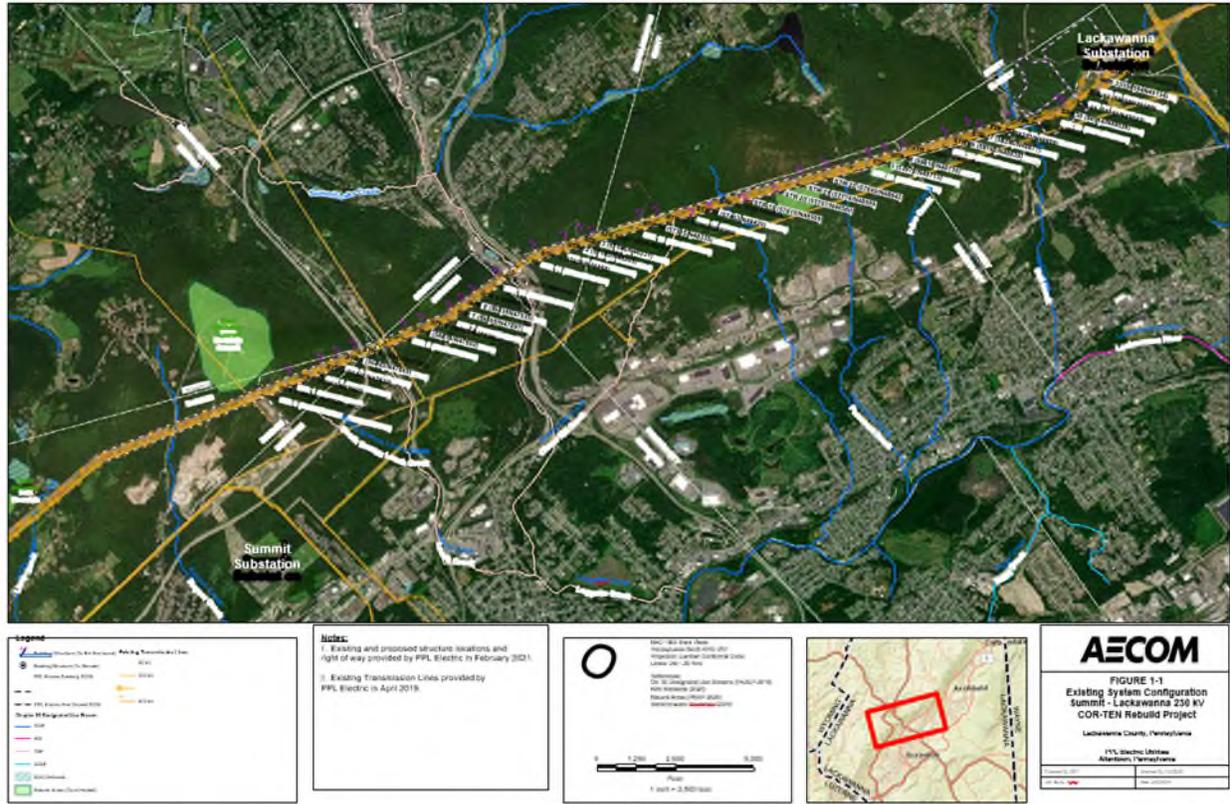
Importantly, the Proposed Solution also avoids excess costs and uncertainties surrounding the remediation solution contemplated in Alternative 2. As noted above, if PPL Electric were to remediate the existing COR-TEN® lattice towers, further routine inspections would be required to identify any new pack-out rust growth requiring additional corrective action. The remediation effort could provide a short-term extension of life, but ultimately these towers will still need to be replaced to permanently address the issue of pack-out rust since structural integrity of the COR-TEN® steel will become too compromised to remediate. In this regard, Alternative 2 does not represent an alternative that effectively addresses the structural issues associated with the COR-TEN® lattice towers. Moreover, PPL Electric is unaware of another project that has undergone full weathering-steel COR-TEN® lattice tower remediation. As such, the recurring costs of remediation could be even greater than anticipated and are unlikely to successfully mitigate the risk. The Proposed Solution avoids these excess costs and uncertainties, efficiently rebuilds the transmission lines to ensure the continued provision of safe and reliable service and resolves the additional reliability concerns identified herein.

On a total cost of service basis, the Proposed Solution is approximately 86% of the cost of Alternative 1 (i.e., replacing the existing structures) on a 45-year basis and 87% of the cost of Alternative 1 on 75-year basis. In addition, on a total cost of service basis, the Proposed Solution is approximately 92% of the cost of Alternative 2 (i.e., remediating the existing structures) on a 45-year basis and 58% of the cost of Alternative 2 on 75-year basis.

The approximate cost of the entire transmission line rebuild Project is \$16.2 Million.

A map of the proposed system alignment is provided as Figure 1-2.

Figure 1-1: Existing System Configuration



ATTACHMENT 2

SUMMIT-LACKAWANNA #1 AND #2 230 kV COR-TEN® REBUILD PROJECT

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1.0 INTRODUCTION

As explained in **Attachment 1**, PPL Electric Utilities Corporation (“PPL Electric”) is requesting Pennsylvania Public Utility Commission (“PUC” or “the Commission”) approval to rebuild the existing double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines connecting the Summit 230-69 kV Substation (“Summit Substation”) and the Lackawanna 500-230-69 kV Substation (“Lackawanna Substation”) in Lackawanna County, Pennsylvania (“Project”).

The proposed transmission line system will be designed according to, and generally exceed, all National Electrical Safety Code (“NESC”) standards. Design specifications and safety rules adhered to by PPL Electric are included as **Attachment 4**.

2.0 DESCRIPTION OF THE EXISTING AND PROPOSED LINES AND STRUCTURES

Connection between the Summit Substation and Lackawanna Substation involves a 5.5-mile-long section of the double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines. The existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines contain six 1590 kcmil¹, 45/7 stranding, “Lapwing” ACSR² conductor wires and two overhead ground wires (“OHGW”). These wires are supported by a series of transmission line structures that include 30 COR-TEN® double-circuit steel lattice tower structures. Other existing structures involved in the Project include a two-pole turn structure (Grid numbers 56285-N-47521 and 56292-N-47513 (Structure 0)) located at the western end of the Project near the Summit Substation and four double-circuit monopole structures located at the eastern end near the Lackawanna Substation, which include the following:

- 58540-N-49041 (Structure 31)
- 58568-N-49089 (Structure 32)
- 58594-N-49134 (Structure 33)
- 58617-N-49173 (Structure 34)

¹ A kcmil is a thousand circular mils. A circular mil is the cross-sectional area of a wire one mil in diameter, where 1 kcmil = 0.5067 mm².

² ACSR stands for aluminum conductor steel reinforced.

Due to the corrosion and development of pack rust³ on these COR-TEN® lattice tower structures, PPL Electric proposes to replace them with steel monopole structures. The COR-TEN® lattice tower structures to be replaced extend consecutively between existing tower 56361-N-47567 (Structure 1) located adjacent to the two-pole turn structure near Summit Substation and tower 58514-N-49026 (Structure 30) located near the Lackawanna Substation. The two-pole turn structure and four monopole structures will not be replaced but will be upgraded with the new conductor and guide wires. A detailed map of the Project alignment is provided as **Figure 3-1 in Attachment 3**.

The existing COR-TEN® lattice tower structures range in height from between approximately 120 and 170 feet with an average structure height of approximately 144 feet. The proposed double-circuit monopole structures to replace the 30 COR-TEN® lattice towers will range in height between approximately 110 and 165 feet with an average structure height of approximately 140 feet. **Table 2-1** provides a summary of the number and heights of the existing and proposed structures.

Table 2-1: Existing and New Transmission Line Structures

Transmission Line	No. of Existing Structures	Existing Structure Height Range (feet)	Proposed No. of New Structures	Proposed Structure Height Range (feet)	Applicable Framing/ Specifications
SUMMIT-LACKAWANNA #1 and #2 230 kV	30	120-170	30	110-165	7-009-061 7-009-064
Total	30		30		

Figures 2-1 and 2-2 depict typical structure types that will be used for the Summit-Lackawanna #1 and #2 230 kV Transmission Lines, which include the following:

- Install approximately 18 new double-circuit long span suspension structures (**Figure 2-1**).
- Install approximately 12 new double-circuit long span angle tension structures (**Figure 2-2**).

³ “Pack-out rust” or “pack rust” is a form a localized corrosion typical of steel components that develop a crevice into an open atmospheric environment, which results in rust packing between conjoined steel components. As described in herein and in Attachment 1, pack-out rust accelerates the deterioration of asset health and can result in shearing off bolts, loss of structural integrity, members disconnecting from lattice towers, and tower failure.

The existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines will be offset approximately 50 feet off center from the existing COR-TEN® lattice towers as a safety precaution. This lateral shift will move the Summit-Lackawanna #1 and #2 230 kV Transmission Lines to the north and closer to the existing 500 kV structures that share the 325-foot-wide right-of-way (“ROW”) corridor that extends through the Project area between Structure 0 and the Lackawanna Substation. PPL Electric has designed the proposed transmission line system so that it fits entirely within the existing ROW.⁴

The proposed Summit-Lackawanna #1 and #2 230 kV Transmission Lines will consist of six 1590 kcmil, 54/19 stranding, “Falcon” ACSS⁵ conductors. The two OHGW will be removed and be replaced with 0.752-inch-diameter dual 48 count optical ground wires. The minimum conductor-to-ground clearance will be 25.5 feet which occurs at a normal maximum thermal conductor temperature of 250°C (482°F). The design minimum conductor clearances and conductor thermal ratings for the reconstructed lines are noted in **Tables 2-2 and 2-3**.

Table 2-2: Design for Minimum Conductor Clearance for 1590 kcmil 54/19 Stranding ACSS

Condition	Transmission Double-Circuit Design Clearance-to-Ground
PPL Heavy Ice (1” ice, 32°F / 0°C)	25.5’
Max Operating Temperature (250°C / 482°F)	25.5’
PPL Blowout (15psf, 60°F / 16°C)	25.5’

Table 2-3: Conductor Thermal Rating 1590 kcmil 54/19 Stranding Falcon ACSS - 200°C Normal Maximum Conductor Temperature (250°C Emergency)

Condition	Ambient Temperature (°C)	Wind Speed (Ft./sec)	Ampacity (Amps)
Summer Normal	35	0	2344

⁴ As explained in the Application, PPL Electric possesses sufficient rights-of-way to construct the Project within the existing transmission line right-of-way that is currently occupied by the existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines. However, PPL Electric has simultaneously filed a single condemnation application associated with one property to the extent that a court of common pleas reaches a contrary determination with respect to the Company’s property rights.

⁵ ACSS stands for aluminum conductor steel supported.

Winter Normal	10	0	2506
Summer Emergency	35	2.53	3074
Winter Emergency	10	2.53	3201

Figure 2-1: Typical 230 kV Long Span Double-Circuit Steel Pole Structure

	7-009-061	Revision: 0
	230kV Long Span Double Circuit Steel Pole	Effective Date: 3/18/2016
	0° to 1° Suspension Structure	Sheet 1 of 1

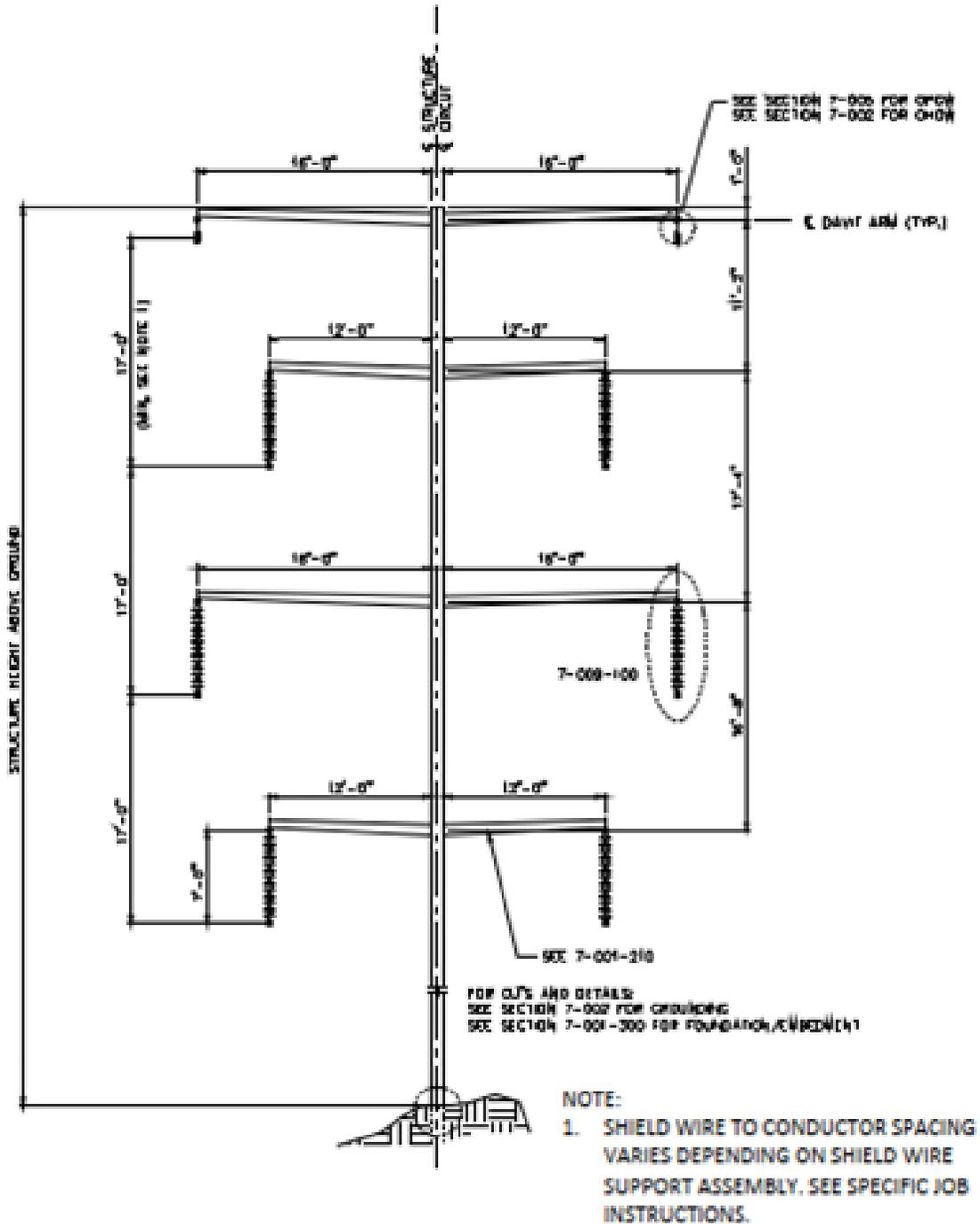


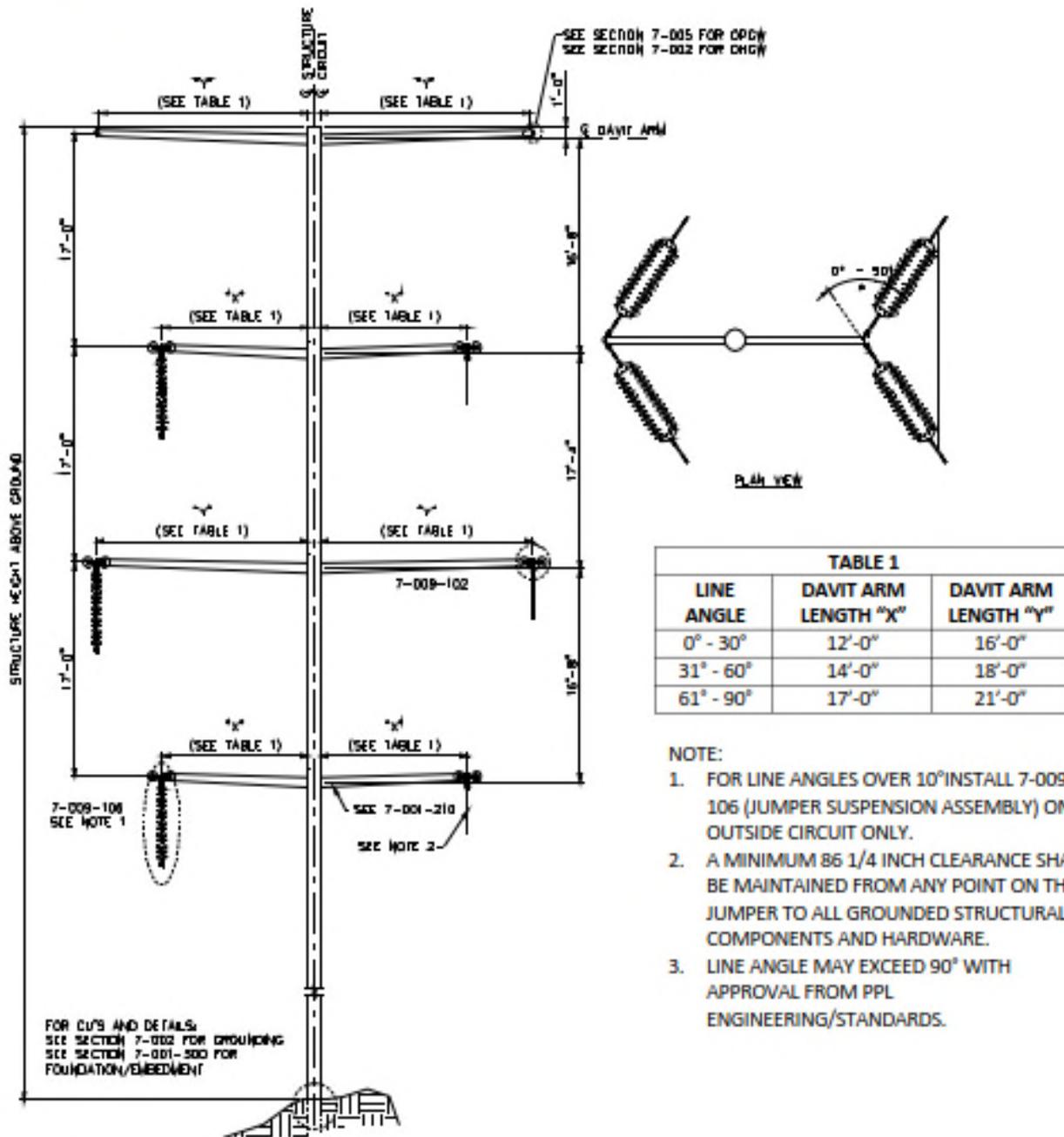
Figure 2-2: Typical 230 kV Long Span Double-Circuit Steel Pole Angle Tension on Arm Structure



7-009-064

230kV Long Span Double Circuit Steel Pole
 0° To 90° Angle Tension on Arm Structure

Revision: 0
 Effective Date: 3/18/2016
 Sheet 1 of 1



ATTACHMENT 3

SUMMIT-LACKAWANNA #1 AND #2 230 kV COR-TEN® REBUILD PROJECT

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1.0 INTRODUCTION

PPL Electric Utilities Corporation (“PPL Electric”) is requesting Pennsylvania Public Utility Commission (“PUC” or “the Commission”) approval to rebuild an approximately 5.5-mile section of the existing double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines connecting a two-pole turn structure near the Summit 230-69 kV Substation (“Summit Substation”) and the Lackawanna 500-230-69 kV Substation (“Lackawanna Substation”) in Lackawanna County, Pennsylvania.

The rebuilt double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines will require the replacement of 30 existing COR-TEN® lattice towers that will be constructed in the same right-of-way (“ROW”) or on the same PPL Electric fee-owned properties as the existing transmission lines.¹ The centerline alignment, however, is being shifted 50-feet to the north toward the center of the ROW to account for construction safety concerns. The existing ROW is approximately 325 feet wide and contains another PPL Electric-owned transmission line that parallels the northern side of the Summit-Lackawanna #1 and #2 230 kV Transmission Lines. A network of existing access roads or temporary roads will be utilized during construction of the rebuilt transmission lines. A detailed map of the proposed rebuild for the double-circuit Summit-Lackawanna #1 and #2 230 kV Transmission Lines and associated structures are provided in **Figure 3-1**.

From the two-pole turn structure near the Summit Substation, the Project travels northeast across forested mountains in a generally direct alignment to the Lackawanna Substation as shown in **Figure 3-1**. Narrow areas of concentrated commercial and residential development are spanned at the three stream valleys crossed along the way. The ROW for the Project is further described below:

- From Structure 0, the rebuilt 230 kV line will extend northeast approximately 0.95 mile (5,010 feet) across the southwest facing slope of West Mountain and over the Leach Creek valley to Structure 5 on the adjacent mountainside (Sheets 1 and 2, Structures 0 to 5 in

¹ As explained in the Application, PPL Electric possesses sufficient rights-of-way to construct the Project within the existing transmission line right-of-way that is currently occupied by the existing Summit-Lackawanna #1 and #2 230 kV Transmission Lines. However, PPL Electric has simultaneously filed a single condemnation application associated with one property to the extent that a court of common pleas reaches a contrary determination with respect to the Company’s property rights.

Figure 3-1). Interstate-476 (Pennsylvania Turnpike) and State Route 307 are crossed while spanning the valley, which also contains moderately dense residential development. Structure 0 will not be replaced, but the five COR-TEN® structures along this segment will be replaced with two long span suspension monopole structures (7-009-061) and three long span angle tension monopole structures (7-009-064). All of these structures are located entirely on ROW maintained by PPL Electric.

- From Structure 5, the Project continues to the northeast for approximately 0.93 mile (4,910 feet) across the southwest facing slope of a mountain and over the Leggetts Creek valley to Structure 11 on the west side of Bell Mountain (Sheets 2 and 3, Structures 6 to 11 in **Figure 3-1**). State Route 11 and Interstate-81 are crossed while spanning the valley, which also contains moderately dense commercial development. The six COR-TEN® structures along this segment will be replaced with two long span suspension monopole structures (7-009-061) and four long span angle tension monopole structures (7-009-064). All of these structures are located entirely on ROW maintained by PPL Electric.
- From Structure 11, the Project continues to the northeast for approximately 3.30 miles (17,425 feet) across the southwest facing slope of Bell Mountain and over the Hull Creek valley to Structure 30 on the adjacent mountain side (Sheets 3 to 7, Structures 12 to 30 in **Figure 3-1**). State Route 347 is crossed while spanning the valley, which also contains moderately dense residential development. The nineteen COR-TEN® structures along this segment will be replaced with fourteen long span suspension monopole structures (7-009-061) and five long span angle tension monopole structures (7-009-064). Structures 19, 20, and 30 are located on PPL Electric fee-owned property, and the remaining structures are located on ROW maintained by PPL Electric.
- From Structure 30, the Project continues northeast for approximately 0.36 mile (1,910 feet) to Structure 34 located outside the Lackawanna Substation (Sheet 7, Structures 31 to 34 in **Figure 3-1**). Structures 31 to 34 are existing steel monopoles that will not be replaced but will be modified with new conductor and ground wires. These structures are located on PPL Electric fee-owned property.

2.0 LAND USE

PPL Electric evaluated the existing land uses on the PPL Electric owned properties, within the existing ROW, and within 0.25 mile (1,320 feet) of the ROW (“Project Area”). This broader Project Area was reviewed to provide a sense of the landscape in which the Project is located. Land uses were determined based on the 2019 National Land Cover Data.

Two radio facilities are located approximately 0.25 miles north of the Project ROW. One facility is located on the shoulder slope of West Mountain around Structure 1 and the second facility is located on the summit of Bell Mountain around Structure 15. These two radio facilities are not anticipated to be impacted by the Project. Structure 11 contains a cell tower whose use has been discontinued by the service provider; the feature will be removed during construction of the Project. A Norfolk Southern railroad runs parallel to Route 11 and crosses the Project northeast of Structure 10. The Project proposes to use an existing stone road paralleling adjacent to the railroad as access to the ROW. No pipelines will be crossed by the proposed Project. A distribution line extends along the Project corridor between Structures 10 and 17.

There are two active airports close to the Project: the Wilkes-Barre Scranton International Airport approximately 8.2 miles south and the Reed Airport-2PA3 approximately 11.4 miles southeast of the Project. PPL Electric does not anticipate any interference with airport operations because the Project is in an area where there are existing electrical facilities. However, PPL Electric will comply with any applicable requirements of the Federal Aviation Administration and the Pennsylvania Department of Transportation, Bureau of Aviation.

Conserved Lands

The proposed Project will not affect any national parks, state parks, local parks, recreational areas, or natural landmarks. None of these features are located within the Project Area. The Project, where it spans State Route 11, crosses near to a 5-acre tract of the Pinchot State Forest. The next closest conserved properties are four additional separate tracts of the Pinchot State Forest located approximately 0.5 miles northwest of the Project. One tract is 137-acres, two tracts equal 1-acre,

and one tract is less than 1 acre in size. State Game Lands #307 and Archibald Pothole State Park are located approximately 2.5 miles north of the Project.

3.0 CULTURAL RESOURCES

An online review of the Project Area and surrounding landscape was conducted through the Pennsylvania Historical and Museum Commission (“PHMC”) Cultural Resources Geographic Information System site. The two State Historic Preservation Office (“SHPO”) eligible properties found within and close to the Project Area include:

- Glenwood Mausoleum is located approximately 0.5 miles northwest of where the Project spans Interstate-476 (Pennsylvania Turnpike).
- Delaware, Lackawanna & Western Railroad crosses the Project southwest of Route 11.

PPL Electric is in the initial stage of coordination with the PHMC for the modifications being made to the transmission lines. This coordination will be required to receive permits to construct the Project and will be conducted in the near future. PPL Electric does not anticipate any impacts to SHPO eligible properties or any other PHMC related properties. PPL Electric will perform any reviews and field survey/sampling work required by the PHMC to avoid, minimize, and mitigate impacts to archaeological or historic architectural resources that may be located within the Project Area.

4.0 NATURAL FEATURES

Unique Natural Features

No unique geological, scenic, or natural areas are located within the Project Area, according to the Pennsylvania Department of Conservation and Natural Resources (“PDCNR”).

Soils

The Project traverses along backslopes and ridges, and crosses over valley drainageways through the West and Bell Mountains. Topography ranges from approximately 1700-1900 feet above sea level (“abs”) at the backslopes and ridges to 1050-1300 abs within the valley drainageways. The soils present within the Project Area consist of steep rock outcrop complexes, and flaggy or channery loams and silt loams on gentle to moderately sloped ridge and valley landforms.

Erosion and Sedimentation (“E&S”) control plans will be developed and implemented for the Project to minimize the displacement of soils. These plans will require prior approval from the local county conservation districts. National Pollutant Discharge Elimination System (“NPDES”) permits will also be required from the Pennsylvania Department of Environmental Protection (“PADEP”) as needed. During construction, PPL Electric will adhere to all conditions specified in the NPDES permit. Impacts to local soil resources are anticipated to be minimal.

Waterways

The existing transmission lines span four National Hydrography Dataset waterways that will remain in place after the Project construction activities have occurred. The waterways crossed by the Project include Leggetts Creek, Clover Hill Creek, an Unnamed Tributary (“UNT”) to the Lackawanna River, and Hull Creek. Leggetts Creek is a south flowing tributary to Lackawanna River. Clover Hill Creek, UNT to Lackawanna River, and Hull Creek are southeast flowing tributaries to the Lackawanna River. Leggetts Creek, the UNT to Lackawanna River, and Clover Hill Creek are within the Leggetts Creek Watershed (HUC-020501070105); and Hull Creek is within the Grassy Island Creek-Lackawanna River Watershed (HUC-020501070106). All waterways are within the Upper Susquehanna-Lackawanna Watershed in the Susquehanna River Basin. Leggetts Creek and the UNT to Lackawanna River have a PADEP Chapter 93 Designated Use Stream Classification of Trout Stocked Fishes, Migratory Fishes (“MF”). Clover Hill Creek and Hull Creek have a PADEP Chapter 93 Designated Use Stream Classification of Cold-Water Fishes, MF. None of the waterways have a PADEP Chapter 93 Existing Use Stream Classification. Leggetts Creek is listed by the Pennsylvania Fish and Boat Commission (“PFBC”) as Natural

Trout Reproduction. None of the other waterways have a PFBC designated listing. No direct impacts to the waterways are anticipated by the Project activities.

An E&S control plan will be developed to address stormwater control in all watershed areas crossed by the Project. PPL Electric will obtain all approvals and permits necessary for the construction of the Project and will comply with any conditions placed on those permits.

Wetlands

Based on review of the U.S. Fish and Wildlife Service’s (“USFWS”) National Wetlands Inventory (“NWI”), the Project crosses four NWI features. Two Riverine Upper Perennial (R3UBH) stream habitats (Leggetts Creek and the UNT to Lackawanna River) and two Riverine Unknown Perennial (R5UBH) stream habitats (Clover Hill Creek and Hull Creek). No impacts to these NWI features are anticipated by the proposed Project activities.

The NWI only provides a general overview of the potential wetlands that may be located within an area. For federal and state permitting purposes, the wetlands and waterways within the Project Area have been delineated, surveyed, and illustrated according to regulatory standards. This information is being used to minimize wetland and waterway impacts where feasible. Additionally, PPL Electric will avoid impacts to wetlands and waterways where possible by aerially spanning these features.

100-year Floodplains

The National Flood Hazard Layer for Lackawanna County, Pennsylvania was obtained through the Federal Emergency Management Agency (“FEMA”) Flood Map Service Center website and analyzed for 100-year floodplains within the Project Area and surrounding landscape. Based on review of this data, the Project spans the 100-year floodplain and the FEMA floodway for Leggetts Creek, which is located between State Route 11 and Interstate 81. The Project also spans the 100-

year floodplain for Hull Creek, which is located adjacent to State Route 347. No impacts to any floodways or floodplain areas are anticipated by the proposed Project activities.

Vegetation

Vegetative cover in the Project Area consists mostly of upland forest, scrub-shrub, or fallow mountain habitat. The existing transmission line ROW has previously been cleared of woody vegetation and no extensive tree clearing is anticipated along the ROW corridor. Tree trimming will be necessary along several off-ROW access roads to improve conditions for the movement of vehicles and supplies. If vegetation management is required in this specific location, PPL Electric will apply its “Specifications for Transmission Vegetation Management LA-79827” to minimize potential impacts.

5.0 THREATENED AND ENDANGERED SPECIES

Natural Areas Inventory

Based on review of the *Natural Areas Inventory of Lackawanna County, Pennsylvania*, published by The Nature Conservancy in 1998 and updated in 2003, the Project is located near three Pennsylvania Natural Heritage Program identified natural areas. Natural areas identified in these documents generally focus on sites that provide habitat conditions for threatened and endangered plant or animal species. The West Mountain Summit, located at the northwest end of the Project, is a site where threatened and rare plant species have been documented. The other sites are two separate Bell Mountain Outcrops, located in the southeast portion of the Project Area. These two sites are geologically significant and are potential habitat for special concern plant species.

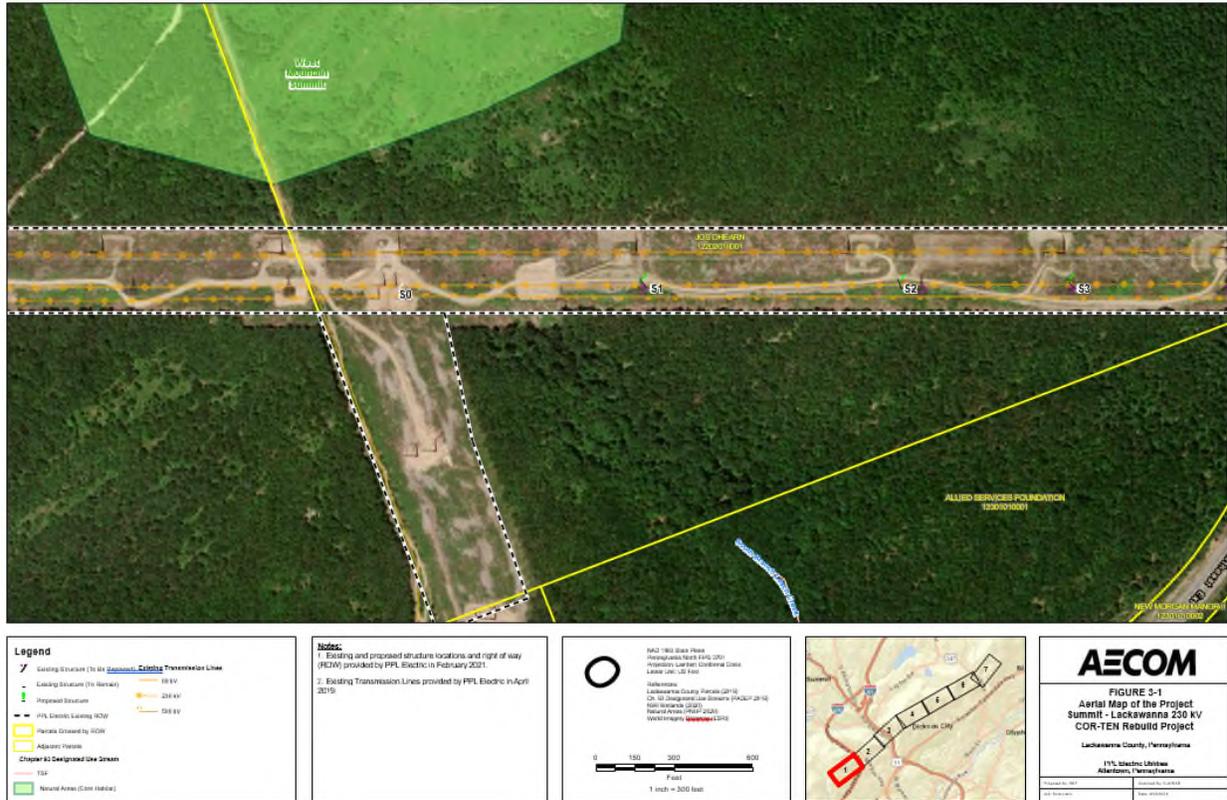
Threatened and Endangered Species

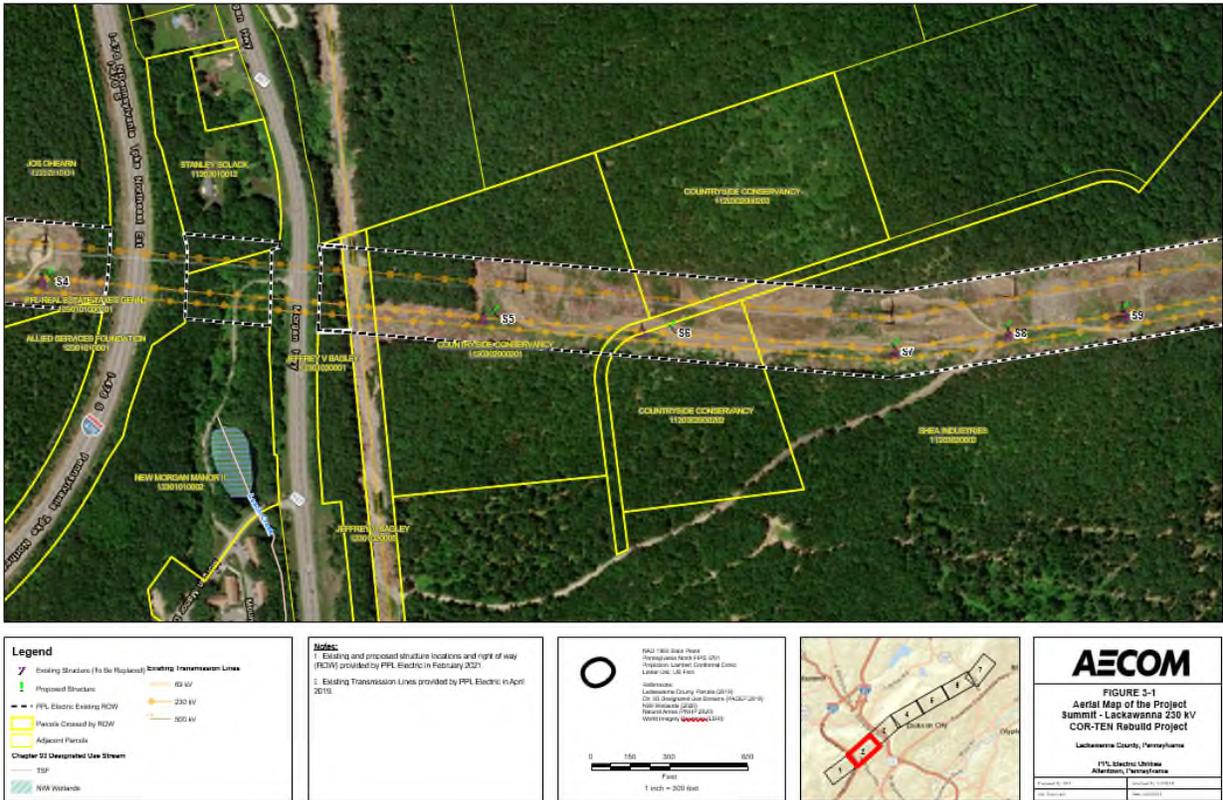
A Pennsylvania Natural Diversity Inventory was run for the Project on March 15, 2021 to assess the potential presence of threatened and endangered species and/or special concern species. Specific agencies reviewing the Project included the following:

- Pennsylvania Game Commission (“PGC”),
- PFBC,
- PDCNR; and
- USFWS.

The PFBC anticipated no impacts with the Project. The PGC deferred any potential impacts to federally listed species to the USFWS. Further coordination with the USFWS identified the federally listed species of concern to be the northern long-eared bat (*Myotis septentrionalis*), which may be using the surrounding forested areas for roosting. Information was provided to USFWS that documented the limited forest impact anticipated for the Project. USFWS concluded the Project would not have an impact on the northern long-eared bat or its habitat. The PDCNR also identified several plant species of concern that may be present in the Project Area. Surveys conducted in the Project Area identified one shrub species of concern that is located along an off-ROW access road. Potential impacts to this shrub will be avoided through the installation of protective fencing around the shrub and slightly shifting the alignment of the road away from this area. These protective measures were present to PDCNR who concluded that the Project would have no effect on the plant species of concern if the avoidance measures are implemented. PPL Electric currently has all necessary approvals from the jurisdictional agencies regarding potential impacts to protected species. PPL Electric will also secure all necessary permits for Project construction and comply with conditions placed on those permits.

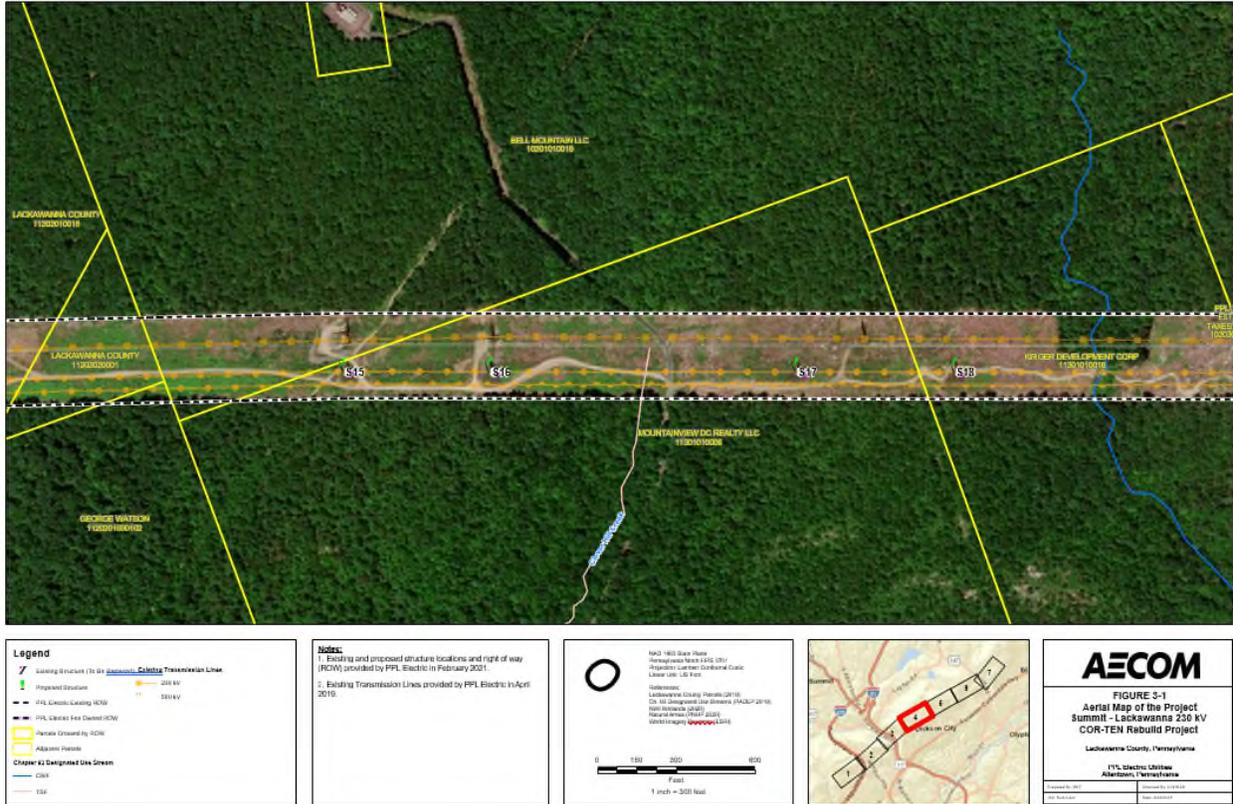
Figure 3-1: Aerial Map of the Project







<p>Legend</p> <ul style="list-style-type: none"> Existing Structure (To Be Replaced) Existing Transmission Lines Proposed Structure PPL Electric Existing ROW Parcels Covered by ROW Adjacent Parcels Chapter 32 Designated Use Stream TWP R/W Waterline 	<p>Notes:</p> <ol style="list-style-type: none"> Existing and proposed structure locations and right of way (ROW) provided by PPL Electric in February 2021 Existing Transmission Lines provided by PPL Electric in April 2019. 	<p>NAID 1818 Base Plan Aerial Imagery from 2019 Projected Lambert Coordinate Data Lapse: 4/11/2020</p> <p>Delaware Lacksawanna County Parcel (2019) Co. 03 Designated Use Stream (2020) (2019) Parcels Covered by ROW Natural Areas (2021) (2020) Waterways (2020) (2019)</p> <p>0 100 200 300 Feet 1 inch = 300 feet</p>		<p>AECOM</p> <p>FIGURE 3-1 Aerial Map of the Project Summit - Lackawanna 230 kV COR-TEN Rebuild Project</p> <p>Lackawanna County, Pennsylvania</p> <p>PPL Electric Utilities Allentown, Pennsylvania</p> <table border="1"> <tr> <td>DATE: 04/11/2020</td> <td>PROJECT: 230KV</td> </tr> <tr> <td>DRAWN BY: JLD</td> <td>CHECKED BY: JLD</td> </tr> </table>	DATE: 04/11/2020	PROJECT: 230KV	DRAWN BY: JLD	CHECKED BY: JLD
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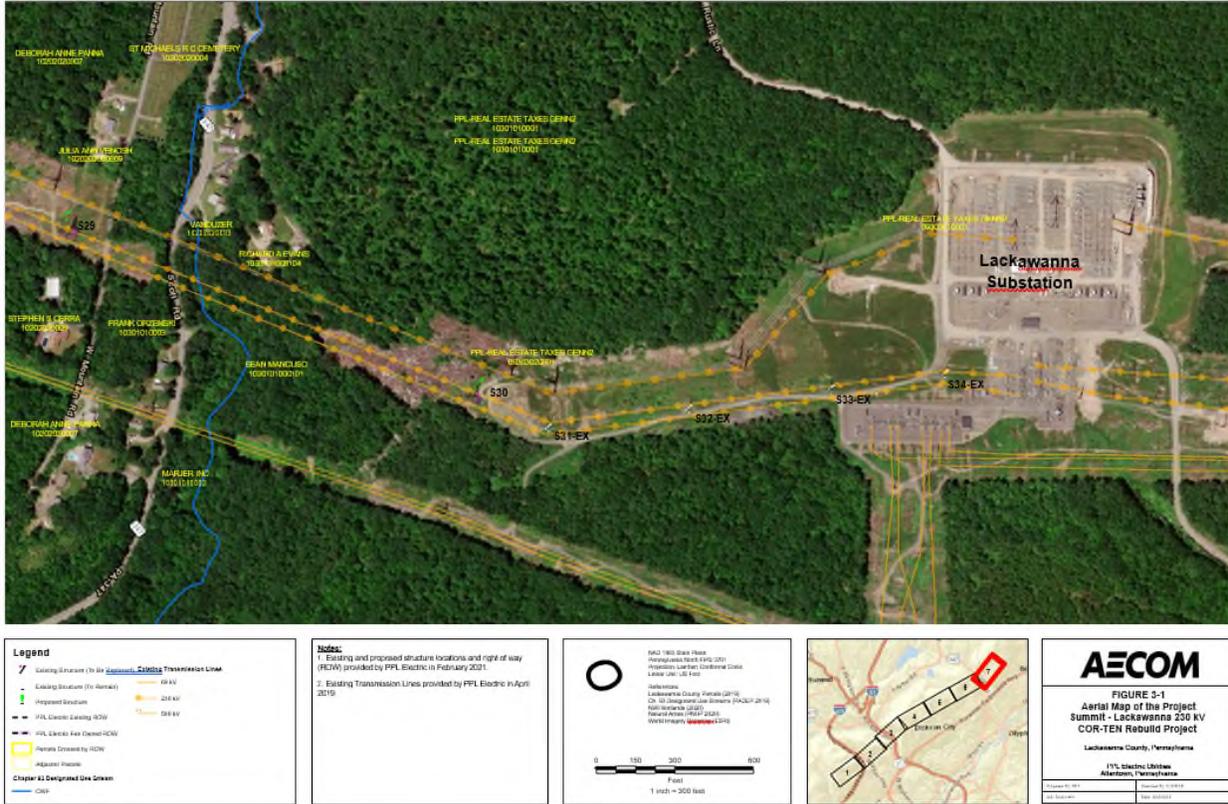




<p>Legend</p> <ul style="list-style-type: none"> Existing Structure (To be Rebuilt) Existing Transmission Line Proposed Structure PPL Electric Existing ROW PPL Electric New Proposed ROW Property Owned by PPL Adjacent Property Chapter 62 Designated Line Stream Creek Rebuild Areas (Class 10000) 	<p>Notes:</p> <ol style="list-style-type: none"> 1. Existing and proposed structure locations and right of way (ROW) provided by PPL Electric in February 2021. 2. Existing Transmission Lines provided by PPL Electric in April 2018. 	<p>NAE 1802 Data Sheet Average section from 2.05 (20) Chapter 62 ROW Combined Code Lower Line: 10 Feet</p> <p>Coordinates: Lackawanna County, Pennsylvania Co. 10, Township 10N, Range 10W North to Center 1000 West to Center 1000 Section Number 1000000000</p> <p>0 100 200 300 400 Feet 1 inch = 200 feet</p>		<p>AECOM</p> <p>FIGURE 3-1 Aerial Map of the Project Summit - Lackawanna 230 kV COR-TEN Rebuild Project</p> <p>Lackawanna County, Pennsylvania</p> <p>PPL Electric Utilities Allentown, Pennsylvania</p> <table border="1"> <tr> <td>Prepared by: 001</td> <td>Checked by: 001/002</td> </tr> <tr> <td>001/002</td> <td>001/002</td> </tr> </table>	Prepared by: 001	Checked by: 001/002	001/002	001/002
Prepared by: 001	Checked by: 001/002							
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<p>Legend</p> <ul style="list-style-type: none"> Existing Structure (To Be Replaced) Proposed Structure PPL Electric Existing ROW Parcels Crossed by ROW Adjacent Parcels NW Wetlands Natural Areas (Core Habitat) <p>Existing Transmission Lines</p> <ul style="list-style-type: none"> 69 kV 230 kV 500 kV 	<p>Notes:</p> <ol style="list-style-type: none"> 1. Existing and proposed structure locations and right of way (ROW) provided by PPL Electric in February 2021. 2. Existing Transmission Lines provided by PPL Electric in April 2019. 	<p>Scale:</p> <p>1 inch = 300 feet</p>		<p>AECOM</p> <p>FIGURE 3-1 Aerial Map of the Project Summit - Lackawanna 230 kV COR-TEN Rebuild Project</p> <p>Lackawanna County, Pennsylvania PPL Electric Utilities Allentown, Pennsylvania</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">Created by: [Name]</td> <td style="font-size: small;">Checked by: [Name]</td> </tr> <tr> <td style="font-size: small;">Date: [Date]</td> <td style="font-size: small;">Scale: [Scale]</td> </tr> </table>	Created by: [Name]	Checked by: [Name]	Date: [Date]	Scale: [Scale]
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ATTACHMENT 4

SUMMIT-LACKAWANNA #1 AND #2 230 kV COR-TEN® REBUILD PROJECT

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1.0 DESIGN CONSIDERATIONS

PPL Electric Utilities Corporation’s (“PPL Electric”) new and rebuilt transmission lines are designed according to, and generally exceed, all National Electric Safety Code (“NESC”) minimum standards. The NESC is a set of rules guiding safety standards during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements. PPL Electric has developed design specifications and safety rules which meet or surpass all requirements specified by the NESC.

The NESC includes loading requirements and clearances for the design, construction, and operation of power lines. The “loads” on conductors and supporting structures are the mechanical forces that develop from the weight of the conductors, the weight of ice on the conductors, plus wind pressure on the conductors and supporting structures. Loading requirements are the loads on the conductors and structures that are anticipated assuming certain ice and wind conditions. Loading requirements always contain “safety factors” to allow for unknown or unanticipated contingencies. The clearances and loading requirements contained in the NESC are designed to maintain public safety. The NESC specifies strength and loading rules based on three different “grades of construction” for conductors and supporting structures:

- Grade B – This grade of construction provides the highest margin of safety and is required when the pole supports spans that cross limited access highways, railroads, and waterways.
- Grade C – This grade of construction is most common and provides a basic margin of safety. It is often utilized for the typical power and joint-use distribution pole.
- Grade N – This is the lowest grade of construction and is most often used for emergency and temporary construction.

PPL Electric designs all its transmission lines for Grade B construction. The use of Grade B design and construction translates to higher levels of structural reliability and safety to withstand the environmental conditions of ice and/or wind loading.

PPL Electric’s rigorous design standards are further incorporated into the parameters utilized to account for ice and wind loadings on the wires and structure. Structure loading and line designs must accommodate a variety of operating conditions as different ice and wind combinations can

impact the conductor sags and tensions of the line. PPL Electric’s transmission lines are designed to exceed NESC requirements by accounting for additional load cases due to various ice and wind loading conditions beyond what is required by NESC. This means that PPL Electric lines are designed to operate safely and reliably during extreme inclement weather. In addition, PPL Electric design standards include a clearance to ground buffer in excess of NESC required clearances to account for construction and design tolerances and the filling or grading of land within the right of way by property owners. This buffer also significantly reduces the risk of a property owner inadvertently contacting a transmission line. This has occurred on PPL Electric’s system in the past and higher clearances minimize the likelihood of future occurrences.

TABLE 4-1: 69 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	19.2 Ft.	22.2 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	19.2 Ft.	22.2 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	15.2 Ft.	22.2 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	27.2 Ft.	30.2 Ft.

TABLE 4-2: 138 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	20.6 Ft.	23.6 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	20.6 Ft.	23.6 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	16.6 Ft.	23.6 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	28.6 Ft.	31.6 Ft.

TABLE 4-3: 230 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	22.5 Ft.	25.5 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	22.5 Ft.	25.5 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	18.5 Ft.	25.5 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	30.5 Ft.	33.5 Ft.

TABLE 4-4: 500 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	28.4 Ft.	31.4 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	28.4 Ft.	31.4 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	24.4 Ft.	31.4 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	36.4 Ft.	39.4 Ft.

A relay protection system is also used on PPL Electric’s transmission lines to protect public safety, as well as the equipment on the transmission system. The purpose of relay protection is to automatically de-energize the line in the unlikely event that the line or supporting structure fails and the line contacts the ground.

2.0 PERIODIC MAINTENANCE PROGRAM ON ALL TRANSMISSION LINES

To ensure continued public safety and integrity of service, a periodic maintenance and inspection program is implemented for every transmission line. The program is administered using helicopter patrols, with supplemental foot patrols as needed. Helicopter patrols are performed on all lines on a predetermined frequency, depending on voltage level. The two-man helicopter crew flies parallel

to and above the line so that the observer can look for signs of line damage or deterioration and observe clearances between vegetation and conductors. The observations are included in a report that is forwarded to the appropriate department for corrective action.

3.0 PERSONNEL SAFETY RULES

Overall, PPL Electric designs and constructs projects with high regard to both public and employee safety and follows or exceeds all codes and requirements. The following are a few examples of PPL Electric's safety rules that demonstrate its dedication to employee and contractor safety:

- Procedures have been developed to allow work to be performed on energized facilities in a safe manner. When lines or apparatus are removed from service to be worked on, the Energy Control Process system is applied. This system provides that a red tag must be physically placed on the control handle of the de-energized equipment.
- The red tag may be removed only after proper authorization to energize the equipment has been received.
- Various other tags are used for limited operations and informational purposes.
- Employees or contractors will not apply or remove a tag or change the status of tagged equipment unless authorized.
- Temporary safety grounds are used on de-energized facilities for employee lineman safety during maintenance, construction, or reconstruction work. Safety grounds are wires connecting the de-energized facility to an electrical ground. If the facility should be energized, the safety grounds will divert the current directly to ground and reduce the likelihood of personal injury.
- Before applying grounds, a voltage test is performed to confirm that the line is de-energized. The voltage test device is checked before and after use to assure reliability.
- Poles or structures are inspected and examined for structural integrity before climbing. If there is any reason to believe that a pole is unsafe, it is stabilized before work is performed. Appropriate safety gear in the form of body belts, safety straps, hard hats, gloves, etc., is worn by linemen during line work activity.

4.0 MAGNETIC FIELD MANAGEMENT PLAN

PPL Electric’s Magnetic Field Management Program is applied to new and reconstructed transmission line projects. Although there is no current scientific evidence demonstrating that magnetic fields cause any adverse health effects or pose a health or safety threat to the public, PPL Electric has established a policy to design its new and rebuilt transmission lines to reduce magnetic fields. To lower magnetic field exposures, the program generally prescribes the use of a line design that provides ground clearances higher than the required minimum NESC ground clearance and reverse phasing of new double-circuit lines where it is feasible to do so at low or no cost. The implementation of additional modifications to reduce magnetic field levels is considered, provided those modifications can be made at low or no cost and will not interfere with the operation of the line.

The program will be applied to this Project and designed with clearances that are at least three feet higher than NESC standards.

ATTACHMENT 5

SUMMIT-LACKAWANNA 230 kV REBUILD PROJECT

STATE AGENCIES

Pennsylvania Bureau of Investigation and Enforcement
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
2nd Floor, Room-N201
Harrisburg, Pennsylvania 17120
Attn: Richard Kanaskie

Pennsylvania Department of Environmental Protection
400 Market Street
10th Floor Rachel Carson State Office Building
Harrisburg, Pennsylvania 17101
Attn: Regional Permit Coordination Office

Pennsylvania Department of Transportation
Keystone Building
400 North Street, Fifth Floor
Harrisburg, Pennsylvania 17120
Attn: Jason D. Sharp, Chief Counsel

Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, Pennsylvania 17120-0053
Attn: Mr. Douglas C. McLearen, Chief

Pennsylvania Department of Conservation and Natural Resources
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17105-8767
Attn: Rebecca Bowen, Ecological Services Section Chief

Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, Pennsylvania 17110-9797
Attn: Peter Sussenbach, Director, Bureau of Wildlife Habitat Management

Pennsylvania Fish and Boat Commission
450 Robinson Lane
Bellefonte, Pennsylvania 16823-9620
Attn: Christopher A. Urban, Chief, Natural Diversity Section

Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923
Attn: Patrick Cicero, Acting Consumer Advocate

Pennsylvania Office of Small Business Advocate
555 Walnut Street
1st Floor Forum Place
Harrisburg, Pennsylvania 17101
Attn: Steven Gray, Small Business Advocate

FEDERAL AGENCIES

U.S. Army Corps of Engineers
Baltimore District Corporate Communication Office
2 Hopkins Plaza
Baltimore, Maryland 21201
Attn: Planning Division

U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Rd, Suite 101
State College, Pennsylvania 16801
Attn: Lesa Lindsay

COUNTY AGENCIES

Lackawanna County Conservation District
1038 Montdale Road, Suite 109
Scott Township, Pennsylvania 18447
ATTN: Jerry Stiles, District Manager

Lackawanna County Regional Planning Commission
Lackawanna County Government Center
123 Wyoming Avenue, 5th Floor
Scranton, Pennsylvania 18503
ATTN: Brenda Sacco, Director

MUNICIPALITIES

Blakely Borough
1439 Main Street
Peckville, Pennsylvania 18452
ATTN: Christopher Paone, Borough Manager

City of Scranton
340 North Washington Avenue
Scranton, Pennsylvania 18503
ATTN: Donald King, City Planner

Dickson City Borough
901 Enterprise Street
Dickson City, Pennsylvania 18519
ATTN: Cesare Forconi, Borough Manager

Newton Township
1528 Newton Ransom Boulevard
Clarks Summit, Pennsylvania 18411
ATTN: Douglas Pallman, Chairperson

Ransom Township
2435 Hickory Lane
Ransom Township, Pennsylvania 18411
ATTN: Dennis Macheska, Chairperson

Scott Township
1038 Montdale Road
Scott Township, Pennsylvania 18447
ATTN: Michael Giannetta, Chairperson

South Abington Township
104 Shady Lane Road
PO Box 259
Chinchilla, Pennsylvania 18410
ATTN: David O'Neill, Township Manager

LANDOWNERS

ABINGTON REGIONAL WASTE 200 NORTEHRN BOULEVARD SOUTH ABINGTON, PA 18411	ALLIED SERVICES FOUNDATION 475 MORGAN HIGHWAY SCRANTON, PA 18508-2605
JEFFERY V. BAGLEY PO BOX 301 HILLTOWN, PA 18927	AUGUST W. AND DIANA M. BAKER 178 EAST PINE STREET DUNMORE, PA 18512
BELL MOUNTAIN LLC 17 FILLMORE PLACE BROOKLYN, NY 11211	BELL MOUNTAIN LAND DEVELOPMENT 7 OAKWOOD DRIVE SCRANTON, PA 18504
PS BANK 76 CHRUCH STREET, POBOX 217 WYALUSING, PA 18853	COMMONWEALTH OF PENNSYLVANIA 400 MARKET STREET, 7 TH FLOOR HARRISBURG, PA 17105
STEPHEN S. AND VALARIE A. CERRA 176 WEST MOUNTAIN ROAD OLYPHANT, PA 18447-9786	RICHARD A. AND ETHEL EVANS 37 EAST MOUNTAIN ROAD BLAKELY, PA 18447
COUNTRYSIDE CONSERVANCY PO BOX 55 LAPLUME, PA 18440	ANGELO GUZZI JR 819 NEPOLT ST POTTSVILLE, PA 17901
KNEPH REAL ESTATE HOLDINGS II 14 TIFFANY DRIVE SCRANTON, PA 18505	LACKAWANNA COUNTY 123WYOMING AVENUE, 2 ND FLOOR, SUITE 254 SCRANTON, PA 18503
SEAN AND STEVEN MANCUSO 1180 GINO MERLI DRIVE PECKVILLE, PA 18452	MARJER INC PO BOX 252 PECKVILLE, PA 18452

JOSEPH P. MARTINI PO BOX 346 HAMLIN, PA 18427	DIANA MOLINARO AND DEBORAH PANNA 410 BRIAN DRIVE CLARKS SUMMIT, PA 18411
MOUNTAINVIEW DC REALTY LLC 859 ENTERPRISE STREET DICKSON CITY, PA 18519	NEW MORGAN MANOR II LP 608 EAST LANCASTER AVENUE, SUITE 235 WYNNEWOOD, PA 19096
JOSEPH OHEARN JR AND MARY L. CUSMA 503 MAIN STREET AURORA, NY 13026	FRANK ORZENSKI 143-37 38 TH AVENUE 7L FLUSHING, NY 11354
DEBORAH A. PANNA 301 WEST GROVE STREET CLARKS SUMMIT, PA 18411	82 LAKE AVENUE LLC 60 WHITE OAK STREET, APT 1E NEW ROCHELLE, NY 10801
STANLEY JR AND ELIZABETH SOLACK 495 MORGAN HIGHWAY CLARKS SUMMIT, PA 18411	SAINT MICHAELS CEMETERY 300 WYOMING AVENUE SCRANTON, PA 18503
CHRISTOPHER J. SPEICHER 1710 MADISON AVENUE SCRANTON, PA 18509	JULIA A. VENOSH 116 WEST MOUNTAIN ROAD OLYPHANT, PA 18447
VANDUZER FAMILY TRUST 1750 SCOTT ROAD C/O J & L VANDUZER BLAKELY, PA 18447	PAUL ZONTANOS SCOTT ROAD, RR 1 SCRANTON, PA 18504
GEORGE AND ALICE WATSON 505 HIGH STREET SCRANTON, PA 18508	NORFOLK SOUTHERN RAILWAY COMPANY 4600 DEER PATH ROAD HARRISBURG, PA 17110 ATTN: Alicia Ruscitto, Regional Real Estate Manager

ATTACHMENT 6

FL&B

FITZPATRICK
LENTZ & BUBBA
ATTORNEYS AT LAW

jsdamico@flblaw.com

January 31, 2022

VIA EMAIL ONLY

Richard L. Huffsmith, Esquire
28 East Tioga Street
Tunkhannock, PA 18657
richard.huffsmith@gmail.com

VIA EMAIL ONLY

Richard Williams, Esquire
Hourigan Kluger Quinn PC
600 Third Avenue
Kingston, PA 18704
rwilliams@hkqlaw.com

**Re: August Baker and Diana Baker, his wife v. PPL Electric Utilities Corporation and T&D Power, Inc.
Lackawanna County CCP No. 15-CV-4264**

Dear Counsel:

In my continuing efforts to be as transparent as possible, I am providing you, as counsel for the Bakers, a copy of a set of documents issued by PPL Electric in connection with the planned reconstruction of the 230 kV line across the right-of-way. The attached packet was sent by PPL Electric to the Bakers per Pennsylvania Public Utility Commission Regulations. We certainly already understand your clients' position in the underlying litigation. As you know, we are simply at loggerheads, but this project is too important for the provision of reliable service in the area not to move forward.

I also note that I had previously advised you that core boring is planned to take place sometime this winter and that is still the case.

I am also following up on the Joint Motion for Stipulation to Bifurcate Trial. I prepared one based upon my exchanges with Rich Williams. On November 16, 2021, Rich Huffsmith asked we send the document to him in Microsoft Word for revisions and we promptly did so, but we have not received anything back to review.

I was hopeful we were moving in the direction to get to a resolution, regardless of what that might be. However, since it appears to have again stalled, I am asking you to revisit that Motion/Stipulation and provide feedback. Parallel to our litigation efforts, PPL Electric is taking steps to ensure this project moves forward; thus, the attached packet.

Very truly yours,
Joseph S. D'Amico, Jr.
Joseph S. D'Amico, Jr.

JSD/emh
Attachment

cc: Benjamin Nicolosi, Esquire, via email (banicolosi@mdwgc.com)

Chad Huber
Sr. Right of Way Specialist

PPL Electric Utilities
2 N. 9th Street, GENN4
Allentown, PA 18101
Tel. 610.774.6610



January 26, 2022

August W. & Diana M. Baker
178 E. Pine Street
Dunmore, PA 18512

RE: Summit - Lackawanna Transmission Line
Parcel #: 10203010005

Dear August w. & Diana M. Baker,

PPL Electric Utilities Corporation (PPL Electric) is planning to rebuild the Summit - Lackawanna 230 kV transmission line in your area. I am notifying you of this proposed project as required by the Pennsylvania Public Utility Commission since we will be rebuilding the transmission line on your property.

Enclosed are notices required by the Pennsylvania Public Utility Commission that provide important information regarding eminent domain, right-of-way maintenance practices, and land agent conduct. Also enclosed is PPL's Internal Practices for Dealing with the Public on Power Line Projects. The Pennsylvania Public Utility Commission's regulations require that PPL provide you with this information at least 15 days in advance of our discussions. For your convenience, I have also enclosed information on electromagnetic fields and a brochure on vegetation management, as well as a glossary of real estate terms.

If you have any questions or concerns, please feel free to contact me at 610-774-6610 or email: CMHuber@pplweb.com.

I kindly request that you sign, in the space provided, on the following page to indicate that you have received this information.

Sincerely,

Chad Huber

Chad Huber
Sr. Right of Way Specialist
PPL Electric Utilities

I acknowledge receiving the information referred to in the letter above and understand that it does not obligate me in any way.

Date _____

Phone _____

Attachments: Disclosure of Eminent Domain Power
 Notification of Right-of-Way Maintenance Practices
 Internal Practices for Dealing with the Public on Power Line Project
 Notification Regarding Land Agent Practices
 Information on Electromagnetic Fields
 Brochure on Vegetation Management
 Glossary of Real Estate Terms

**DISCLOSURE of
EMINENT DOMAIN POWER**

The Pennsylvania Public Utility Commission requires PPL Electric Utilities Corporation to give you the following information:

PPL Electric Utilities Corporation (PPL) is planning to rebuild the Summit - Lackawanna 230 kV transmission line. Since a field survey and detailed engineering have not been completed, the physical dimensions of the proposed lines and the type and height of supporting structures to be used cannot be precisely determined at this time. However, based on past experience it is expected that the structures will average 110 to 165 feet in height. There may be isolated physical conditions that would require either higher or lower structures than those mentioned above. At this time, we do not know the number of structures to be placed on any properties. PPL currently plans to utilize the existing 325 foot right of way to accommodate the 230 kV transmission line. This right of way also contains the Susquehanna – Roseland 500kV transmission line.

Since the route could affect your property, a representative of the utility will contact you in the near future to discuss the utility's plans as they may affect your property. In order to better prepare you for these discussions and to avoid possible misunderstandings, we want to take this opportunity to inform you of your legal rights and the legal rights of PPL Electric Utilities Corporation with regard to this project. You have the right to have legal counsel represent you in these negotiations. You do not have to sign any agreement without the advice of counsel. If you do not know an attorney, you may contact your local bar association.

MUST YOU ACCEPT AN OFFER MADE BY THE UTILITY FOR YOUR PROPERTY?

No. You may refuse to accept it. However, the utility has the power to take property by eminent domain, subject to the approval of the Public Utility Commission, for the construction of transmission lines if the utility is unable to negotiate an agreement to buy a right of way. If your property is condemned, you must be paid "just compensation". "Just compensation" has been defined by the courts in Pennsylvania as the difference between the fair market value of your property before condemnation, unaffected by the condemnation, and the fair market value of your remaining property after condemnation, as affected by the condemnation.

CAN THE UTILITY CONDEMN YOUR HOUSE?

The company cannot condemn your house or a reasonable "curtilage" around your house. Generally, "curtilage" includes the land or buildings within 100 meters of your house which are used for your domestic purposes. However, the 100 meters limit does not automatically extend beyond the homeowner's property line.

DO YOU HAVE A RIGHT TO A PUBLIC HEARING WHEN THE UTILITY SEEKS TO CONDEMN YOUR PROPERTY?

Yes. When an electric utility seeks to have your property condemned, the utility must first apply to the Pennsylvania Public Utility Commission for a certificate finding the condemnation to be necessary or proper for the service, accommodation, convenience, or safety of the public. The Commission will then hold a public hearing. As the landowner whose property may be condemned, you are a party to the proceeding and may retain counsel, present evidence, and/or testify yourself in opposition to the application for a certificate. If you wish to testify at the public hearing, you should make your intention known by letter to Secretary, Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, PA 17120.

If the Commission approves the utility's application for a certificate finding the condemnation in the public interest, then the utility may proceed before the local Court of Common Pleas to condemn your land. If the Commission denies the utility's application, the utility cannot condemn your land. If you retain an attorney to represent you before the Commission, you must do so at your own expense.

The Commission will not decide how much money you should receive if your land is condemned. The only issue the Commission will decide is whether the condemnation serves the public interest. If the Commission approves the utility's application for condemnation, the amount of money to which you are entitled will be determined by a local Board of View of the Court of Common Pleas. However, you may at any time make an agreement with the utility as to the amount of damages you are to be paid.

**NOTIFICATION of
RIGHT-OF-WAY MAINTENANCE
PRACTICES**

The Pennsylvania Public Utility Commission requires that PPL Electric Utilities Corporation give you the following information on the right of way maintenance practices for the 230 kV line:

The methods currently used by PPL Electric Utilities Corporation are set forth in PPL Electric Utilities Corporation "Program for Vegetation Management", which will be made available to you for your inspection upon request. If you wish further information concerning right of way maintenance methods, you may contact the person named on the cover letter. You may discuss with this person, either before or during negotiation of the right of way agreement, these methods and any other questions you may have about right of way maintenance.

Once a utility has constructed an electric transmission line on a right of way across your land, the utility must maintain the right of way free of tall growing trees and brush which might impair the reliability of electric service, the safety of the line, and access to the line or its towers. The utility or its contractors may remove and control tall growing trees and brush by several methods: hand cutting of trees, limbs and brush; mechanical cutting with chain saws or motorized cutting machines or application of herbicides. The utility must confine its maintenance activities to the approved right of way across your land, except where tall growing trees or brush or their root systems grow into the right of way from adjoining land and constitute a threat to the electric transmission line and its structures.

If you believe that the maintenance method(s) used by the company would raise problems with your use of your land adjacent to the right of way, it is your responsibility as the landowner to bring this to the attention of the utility before you sign the right of way agreement.

The utility company has the responsibility to maintain its right of way, and regular maintenance must occur. Although you as the landowner cannot determine whether or not maintenance will occur, your right of way agreement may specify certain conditions on the performance of the maintenance program which are important to you. These conditions can be part of the negotiations between you and the utility company for your land, since a right of way agreement is a legal contract between a landowner and a utility company. It is important for you to understand also that the maintenance methods used by the utility company may change over time as the costs of maintenance or the methods of performing maintenance change. You may want to specify in your right of way agreement that the utility company inform you of changes in its maintenance methods or in the maintenance schedule for your land.

The provisions of the right of way agreement are enforceable in the local Court of Common Pleas. The right of way agreement cannot be enforced by the Pennsylvania Public Utility Commission. Any claims for damages resulting from improper maintenance of the right of way must be settled with the utility, its contractors, or in the local Court of Common Pleas at your own expense. The Commission cannot award damages for violations of the right of way agreement.

**INTERNAL PRACTICES
for
DEALING WITH THE PUBLIC ON POWER LINE PROJECT**

PPL Corporation has a long-standing commitment to conducting business in an honest and ethical manner. Consistent with expectations for our employees and representatives laid out in the PPL Standards of Conduct and Integrity, and the Standards of Conduct and Integrity for Suppliers, PPL Electric Utilities Corporation's employees, contractors and agents who interact with members of the public (including landowners along proposed rights of way) in activities such as planning, real estate and right-of-way transactions, siting, and construction of power lines and other facilities will:

- Act with integrity at all times.
- Treat people courteously and in a professional manner.
- Be forthright and honest in all actions and communications.
- Comply with applicable laws and regulations.
- Seek to avoid conflicts of interest.
- Accept responsibility for actions and decisions.
- Be responsible stewards of the environment.
- Place a high priority on the safety of the public and our representatives and employees.

**NOTIFICATION REGARDING
LAND AGENT PRACTICES**

PPL Electric Utilities Corporation is planning to rebuild the Summit - Lackawanna transmission line. Since the route could affect your property, a representative from PPL Electric Utilities Corporation will contact you in the near future to discuss the utility's plans as they may affect your property.

The Pennsylvania Public Utility Commission requires PPL Electric Utilities Corporation to provide you the following contact information for concerns regarding the practices of the land agents acting on behalf of PPL Electric Utilities Corporation in connection with the reconstruction of the 230 kV transmission line:

Law Bureau
Pennsylvania Public Utility Commission
400 North Street, 3rd Floor, 4 North
Harrisburg, PA 17120
717-787-5000

Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, PA 17101-1923
Phone: 717-783-5048 or toll free 800-684-6560 (PA
only) Fax: 717-783-7152
Email: consumer@paoca.org

GLOSSARY of REAL ESTATE TERMS

ABSTRACT OF TITLE: The condensed history of ownership to a particular parcel of real estate, consisting of a summary of ownership from a given time to the present owner.

ACRE: A measure of land equal to 43,560 square feet.

APPRAISAL: An estimate of the value of property; the process through which conclusions of property value are reached.

APPRECIATION: An increase in the worth or value of a property.

CHAIN OF TITLE: A history of ownership of a particular property (see abstract of title).

CONDEMNATION: A judicial or administrative proceeding to exercise the power of eminent domain through which private property is taken for public use.

CONDUCTOR: The wire which carries electric energy.

CONVEYANCE: A transfer of property ownership.

DEED: A written document that, when executed and delivered, conveys title to or an interest in real estate.

DEED RESTRICTIONS: Clauses in a deed limiting the use of the property.

DEPRECIATION: A loss of value in property.

EASEMENT: A right to use the land of another for a specific purpose (e.g., as a right of way for utilities.)

EGRESS: The right to exit a tract of land.

EMINENT DOMAIN: The right of a government, municipal body or public utility to acquire property for public use. (See condemnation)

ENCROACHMENT: An intrusion, such as a house, sign, wall or fence, that intrudes on another's property or right of way.

FAIR MARKET VALUE: The highest price which a willing buyer would pay and the lowest price a willing seller would accept.

FEE OR FEE SIMPLE: The complete and absolute ownership of real estate.

GRANT: The transfer of property rights through a legal document.

GRANTEE: One who acquires property or any property rights from another person.

GRANTOR: One who transfers property or any property rights to another person.

INGRESS: The right to enter a tract of land.

KV: Kilovolt or 1000 volts (138 kV = 138 x 1000)

LIEN: A claim against real or personal property for satisfaction of a debt.

METES-AND-BOUNDS DESCRIPTION: The legal description of a parcel of land that begins at a well-marked point and follows the boundaries, using directions and distances.

MONUMENT: A fixed natural or artificial object used to establish real estate boundaries.

OPTION: The right to purchase a certain property at stated terms, price and time.

RECORDING: The act of entering documents in the Recorder of Deeds office established in each county.

RIGHT OF WAY: Used interchangeably with the word easement. (See easement)

SURVEY: A process of scientifically measuring the quantity and location of a parcel of land.

TAX MAP: Maps used by the county Tax Assessment office showing the locations of properties.

TITLE: Evidence of ownership of land.

ZONING: Regulations pertaining to the use of land and/or buildings.

EMF and Health Information

FACT SHEET

What is EMF?

"EMF" is an abbreviation for "electric and magnetic fields" and "electromagnetic fields." Power lines, appliances, and home wiring all produce electric and magnetic fields. "EMF" is also often used by people as shorthand for just "magnetic fields," which some people are concerned about, so that is what "EMF" refers to here.

Is EMF "radiation" like medical X-rays or ultraviolet sunlight?

No. Radiation from medical X rays and from the ultraviolet part of sunlight is strong enough to damage DNA. EMF from power lines, appliances, and home wiring is not.

What are the EMF levels from common sources? (in milligauss)

Examples of EMF Sources*	
Coffee makers	7
Electricity distribution line – upper level of typical average	20
Dishwashers	20
500 kV electricity transmission line -- typical average at end of right of way	30
Electricity distribution line -- typical maximum above underground line	40
Florescent lights	40
Electricity distribution line -- typical maximum under overhead line	70
Blenders	70
500 kV electricity transmission line -- typical average under line	87
Toasters	100
Hair dryers	300
Can openers	600

* People typically change activities and locations during a day, so we are exposed to a variety of sources of EMF and a wide range of field levels. In the table above, field levels are taken from the U.S. National Institute of Environmental Health Sciences (NIEHS) EMF Questions & Answers, pages 33-35 (median level at 6 inches from appliances), page 36 (distribution lines), and page 37 (transmission lines). As noted by NIEHS, field levels of transmission lines can approximately double during peak loads, which occur about 1% of the time.

What conclusions have public health authorities reached about whether EMF causes health effects?

The EMF health research has been examined by governmental public health authorities and public health organizations in over 160 reports. The World Health Organization has examined the reports on the research and says on its website:

"Based on a recent in-depth review of the scientific literature, the World Health Organization concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields."

(<http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html>, section 2, "Conclusions from scientific research.")

Q. Are there any exposure limits for EMF in Pennsylvania?

A. Pennsylvania has not adopted any electric or magnetic field exposure limits.

Q. What is PPL Electric Utilities doing about EMF?

A. PPL Electric Utilities has a magnetic field management program to design and build new lines when practicable in ways that reduce magnetic fields at low or no cost to our customers. For example, the options we will consider for new lines include:

- Reversing the phases of new overhead double-circuit transmission lines, which can result in some cancellation of magnetic fields from the line and lowers the magnetic fields at the edge of the right of way.
- Building new transmission and distribution lines higher than previous designs because the level of magnetic fields at ground level will be lower.

Magnetic field management is considered in the process we use to site new facilities, balancing cost and function with land use and environmental concerns.

Q. Where can I get additional information on EMF?

A. This guide contains detailed information on EMF. More information is also available at the PPL Electric Utilities website at www.PPLElectric.com/EMF. If you would like to speak with someone at PPL Electric Utilities about EMF, please call 1-800-DIAL-PPL (1-800-342-5775).

Vegetation management is critical to electric reliability

Millions of people served by PPL Electric Utilities depend on having reliable power for their homes and businesses. Effective vegetation management along high-voltage transmission lines is a critical part of maintaining that reliability.

PPL Electric Utilities operates thousands of miles of high-voltage transmission lines. Our vegetation management program is designed to promote the safe and reliable operation of the electric grid while making sure that we are sensitive to the concerns of property owners and our obligations to electric customers.



PPL Electric Utilities' right to do this work

The vegetation management work we do will depend on the specific rights we have for each property. We will be happy to discuss these rights with you in advance of any work.

To schedule a meeting with a PPL Electric Utilities representative, email us at PPLVegetationManagement@pplweb.com.

For further information, visit ppllectric.com/vegetation.



An award-winning program

PPL Electric Utilities is a proud recipient of the Tree Line USA award from the Arbor Day Foundation and the National Association of State Foresters.

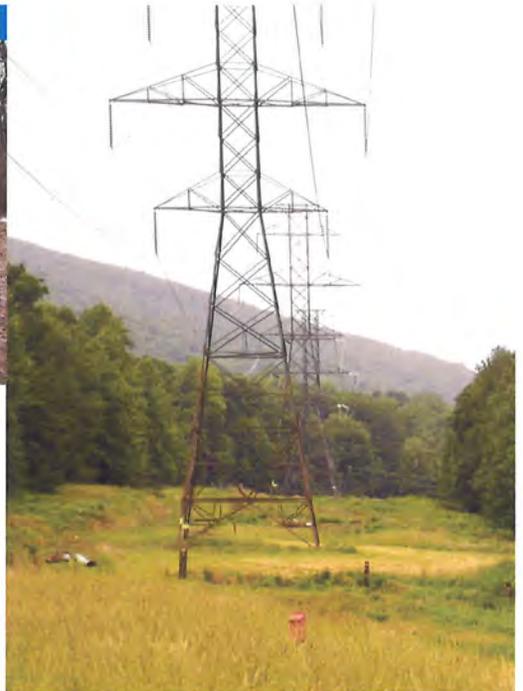
The groups seek to promote proper utility arboriculture and public education through annual worker training, quality tree care, tree planting and public education, energy conservation and collaboration with community groups. For information about planting the right tree in the right place, visit arborday.org.

PPL Electric Utilities works with state and local conservation, land management and environmental groups to advance common goals of electric reliability and environmental stewardship.



PPL Electric Utilities
ppllectric.com/vegetation

1/2019



Transmission Line Vegetation Management

Keeping your electric service reliable





We take a proactive approach to vegetation management

PPL trims and clears its transmission line rights of way in a much more comprehensive way than in the past. Coupled with investments in new poles, wires, equipment and technology, we've been able to substantially improve reliability for customers.

Our pledge to you

We maintain our transmission line rights of way according to a schedule that allows us to cover our entire system over a period of several years.

We know removing and trimming trees is not always popular, but it is the right thing to do on behalf of everyone who depends on the grid.

- We pledge to communicate with property owners well in advance of scheduled work.
- We pledge to work in a professional manner, and to work within the limits of the rights we have to perform this work on each property.
- We pledge to treat all property with care.
- We pledge to strike a careful balance between landowner concerns and the need to keep the grid safe and reliable.



Transmission Line Vegetation Management

Trees on other vegetation must be kept away from power lines. They are the top cause of storm-related power outages.

If trees get too close to power lines, the result can be a serious power outage. There is also the potential of a serious safety risk to you and to our employees.

We have an obligation to keep the grid safe and reliable and oversight is provided at both the state and federal levels.

Events like the Northeast Blackout of 2003 and the Halloween 2011 snowstorm involved prolonged outages caused by trees. Our vegetation management program is aimed at limiting the effects of trees on the grid.



Details of the work we will do

Reducing tree-related power outages is important everywhere, especially along transmission lines which carry high-voltage electricity over long distances.

When it comes to transmission line vegetation management, we view the rights of way in two main sections. The area directly under the wires, plus an additional 10 feet is called the wire zone. The rest of the right of way is called the border zone. What kind of vegetation is allowed in the rights of way depends on the voltage of the line, but in all cases it must be compatible with PPL's job to reduce the threat from trees and other vegetation.

Hazard trees – Sometimes, trees near the right of way fall into poor condition because of disease, storms or other factors. In order to prevent these trees from falling onto our lines, we remove them at no cost to the property owner. Those who decline the removal of a hazard tree could be liable for the cost of repairs to the power line due if it is damaged by the hazard tree.

Benefits to birds – Managing transmission line rights of way creates openings and edges that provide opportunities for native plants to grow and attract birds. According to the National Audubon Society, there are many birds that favor shrub lands and thrive along edge habitat.

Compatible species* –

SMALL TREES	LARGE SHRUBS	SMALL SHRUBS
Flowering Dogwood	Alder	Mountain Laurel
Redbud	Witch-hazel	American Yew
Hawthorn	Spicebush	Sweetfern
American Hornbeam	Common Chokecherry	Honeysuckle
Shadbush (Juneberry, Serviceberry)	Elderberry	Huckleberries
Eastern Red Cedar	Rhododendron	Blueberries
Northern White Cedar	Viburnum	Viburnum
Dwarf Willow	Dogwood	Meadowsweet
Deciduous Holly (Winterberry)	Smooth (Dwarf) Sumac	Wintergreen
	Staghorn Sumac	Trailing Arbutus
	Chokeberry	Blackberry
		Raspberry
		Hazlenut
		Scrub Oak

*This list is not all inclusive and is meant as a guide. Mature specimens of any species may be removed for operational, safety or reliability reasons.