

**PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, PA 17120**

Public Meeting held December 22, 2022

Commissioners Present:

Gladys Brown Dutrieuille, Chairman
Stephen M. DeFrank, Vice Chairman
Ralph V. Yanora
Kathryn L. Zerfuss
John F. Coleman, Jr.

Letter of Notification of PPL Electric Utilities Corporation for approval to reconstruct the South Akron-Millwood 230 kV Transmission Line located in East Lampeter, Pequea, Upper Leacock, West Earl, and West Lampeter Townships, Lancaster County, Pennsylvania

Docket Number:
A-2022-3034794

ORDER

BY THE COMMISSION:

On August 29, 2022, PPL Electric Utilities Corporation (PPL Electric), Utility Code 110500, filed a Letter of Notification (LON) pursuant to 52 Pa. Code § 57.72(d)(1)(i) of the Pennsylvania Public Utility Commission's (Commission) transmission line siting regulation. For the reasons expressed in this Order, the LON is approved.

Copies of the LON were served in accordance with Section 57.72(d)(3) and 57.74(b) & (c), 52 Pa. Code §§ 57.72(d)(3), 57.74(b) & (c), on the PA Department of Transportation, PA Department of Environmental Protection, PA Historical and Museum Commission, Lancaster County Commissioners, East Lampeter, Pequea, Upper Leacock, West Earl, and West Lampeter Townships, *et al.* No protests were filed. No hearings were held.

PPL Electric requests approval to reconstruct the South Akron-Millwood 230 kV Transmission Line (South Akron-Millwood) located in East Lampeter, Pequea, Upper Leacock, West Earl, and West Lampeter Townships, Lancaster County, Pennsylvania. The line connects the South Akron 230-69 kV Substation to the Millwood 230-69 kV Substation. PPL Electric states that the towers that comprise the South Akron-Millwood line are designed for double-circuit 230 kV operation, but one of the circuits is currently operated at 69 kV. PPL Electric notes that the reconstruction of the South Akron-Millwood transmission line will upgrade the conductors that comprise the circuit being operated at 69 kV to be designed for 230 kV operation. However, these 69 kV circuits will continue to be operated at 69 kV after the proposed rebuild. Application, Attachment 1, page 1, footnote 1.

PPL Electric states that the reconstruction of the South Akron-Millwood transmission lines is necessary to resolve significant asset health condition concerns across the transmission line associated with the presence of pack-out rust in the existing COR-TEN steel lattice towers. PPL Electric states that the South Akron-Millwood transmission line was constructed in 1967 and includes 125 weathering-steel COR-TEN steel lattice structures spanning approximately 20.4 miles of original construction. PPL Electric states that 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 and costs. PPL Electric further states that these towers had an expected service life of approximately 75 years at the time they were installed. Application ¶¶9, 16.

PPL Electric avers that independent field investigations and assessments were conducted in 2013 (2013 Assessment) and 2019 on PPL Electric's 230 kV system and in 2022 on the South Akron-Millwood line. The investigations and assessments were conducted by separate third party entities and revealed that the aging COR-TEN structures on the 230 kV system including the South Akron-Millwood transmission line facilities are showing signs of accelerated deterioration. PPL Electric also avers that based on the results of these assessments, 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. PPL Electric further avers that at roughly 55 years of age, the COR-TEN lattice towers that comprise the South Akron-Millwood transmission line have exceeded their useful life and can no longer be relied upon to safely operate as designed. Application ¶¶17, 19, & 24.

PPL Electric submits that 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. PPL Electric also submits that when the presence of pack-out rust becomes too severe, it can deform steel members and connecting hardware, it can also shear off bolts, cause loss of structural integrity, cause members to disconnect from the tower, and even result in tower failure. PPL Electric further submits that 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 towers. Application ¶18.

PPL Electric states that the accelerated deterioration of the asset health of the COR-TEN lattice towers has been further corroborated by a recent study prepared by RTR Energy Solutions, Inc. (RTR), in April 2022. PPL States that RTR was contracted to perform a condition assessment on the South Akron-Millwood transmission line. The sample set for the assessment consisted of all 125 lattice structures on the line, which would

represent a statistically significant sample set. PPL Electric states that of the structures evaluated, eight were determined to have a condition rating of “severe”, which indicates that greater than 50% of the existing structure’s joints contain pack-out rust. The remaining structures were classified as a condition rating of “moderate”, which indicates that 25% to 50% of the structure’s joints contain pack-out rust. PPL Electric further states that 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. Application, Attachment 1, pgs. 10-11.

PPL Electric avers that in order to resolve the identified COR-TEN lattice tower health conditions, it proposes to rebuild the existing South Akron-Millwood transmission line (South Akron-Millwood Project). PPL Electric states that the South Akron-Millwood Project consists of removing the existing COR-TEN transmission structures and existing conductor and rebuilding the South Akron-Millwood line. PPL Electric avers that it presented its plan to address COR-TEN needs on its 230 kV system at PJM Interconnection, LLC’s October 2020, Transmission Expansion Advisory Committee. PPL Electric states that the presentation included the reconstruction of the South Akron-Millwood line and was subsequently assigned supplemental project number s2369. Application ¶¶28-29.

PPL Electric states that, in addition to rebuilding the South Akron-Millwood transmission line, it considered two alternative solutions, structure replacement, and structure restoration. PPL Electric states that the estimated total cost of ownership over a 45-year period for the two alternative solutions is approximately \$245.7 million and \$258.1 million, respectively. Accordingly, PPL Electric submits that the two alternatives were rejected for a solution which addresses the aging infrastructure in a cost-effective manner. PPL Electric further states that the 45-year cost of the chosen solution is approximately \$228.1 million. Application, Attachment 1, Section 5.

PPL Electric states that it will remove the existing conductor and 125 COR-TEN structures and install new conductor supported on 127 new steel monopole structures. The existing structures range from approximately 120 feet in height to 165 feet in height and the new monopole structures will range from approximately 120 feet in height to 160 feet in height. The new transmission structures are anticipated to have a service life of approximately 75 years. Application ¶37, Attachment 1, page 8, footnote 10, and Attachment 2, page 2.

In its filing, PPL Electric states that the South Akron-Millwood Project has been designed and will be built within the existing right-of-way (ROW) of the South Akron-Millwood transmission line and that the ROW varies from approximately 125 feet in width to 285 feet in width. PPL Electric also states that the new structures will be located near the existing structures and that in instances where the structures will be relocated, the proposed locations will be discussed with the property owners. Application ¶¶35-36.

PPL Electric asserts that the South Akron-Millwood Project will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable PPL Electric and National Electrical Safety Code minimum standards and all applicable legal requirements. Application ¶33.

PPL Electric states that the total estimated cost for the South Akron-Millwood Project is approximately \$75.4 million and will be paid for by PPL Electric. Construction of the project is anticipated to commence in July 2023 with a proposed in-service date of September 2025. Application, Attachment 1, pg. 2.

Section 57.72 authorizes the abbreviated LON siting application process in lieu of an application for the following:

- (i) An HV line which is proposed to be located entirely on an existing transmission line right-of-way, so long as the size, character, design, or configuration of the proposed HV line does not substantially alter the right-of-way.
- (ii) An HV line which is proposed to be located entirely within a public road.
- (iii) An HV line which is proposed to be located entirely within applicant's existing transmission line right-of-way and the property of the sole customer to be served by the line, so long as the size, character, design, or configuration of the proposed HV line does not substantially alter the right-of-way.
- (iv) A line for which the voltage is proposed to be increased above its present levels so long as the size, character, design, or configuration of the proposed HV line does not substantially alter the right-of-way.
- (v) An HV line which is to be reconductored or reconstructed so long as the size, character, design, or configuration of the proposed HV line does not substantially alter the right-of-way.
- (vi) An HV line having a proposed route of 2 miles or less.

52 Pa. Code § 57.72(d).

We agree with PPL Electric that the formal PPL Electric Letter of Notification and manner in which it was filed conforms to the requirements of 52 Pa. Code § 57.72(d)(1)(i) because the South Akron-Millwood Project reconstructs the South Akron-Millwood transmission line in such a manner that it does not substantially alter the existing ROW.

Moreover, the Commission has reviewed the filing and does not find it to be inconsistent with the applicable law or Commission policy regarding transmission line siting and, therefore, to be in the public interest.

We also note that our approval of the Letter of Notification does not address the issues of accounting treatment, and cost recovery; **THEREFORE,**

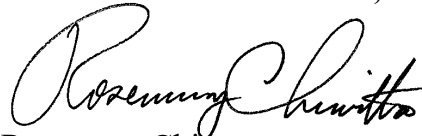
IT IS ORDERED:

1. That the Letter of Notification filed by PPL Electric Utilities Corporation for approval to reconstruct the South Akron-Millwood 230 kV Transmission Line located in East Lampeter, Pequea, Upper Leacock, West Earl, and West Lampeter Townships, Lancaster County, Pennsylvania, is hereby approved.

2. That upon completion of the subject project, PPL Electric Utilities Corporation shall file the final project cost with the Commission.

3. That upon completion of Ordering Paragraph 2, this proceeding at Docket No. A-2022-3034794 be closed.

BY THE COMMISSION,



Rosemary Chiavetta
Secretary

ORDER ADOPTED: December 22, 2022

ORDER ENTERED: December 22, 2022