BEFORE
THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter of Notification of PPL Electric Utilities Corporation Filed under 52 Pa. Code Chapter 57, Subchapter G, for approval to rebuild the existing double-circuit Stanton-Summit # 3 and # 4 230 kV transmission lines connecting the Stanton 230-69 kV substation and a two-pole turn structure that are respectively located in Luzerne and Lackawanna Counties, Pennsylvania.	:	A-2022-3037374

INITIAL DECISION

Before
Mark A. Hoyer
Deputy Chief Administrative Law Judge

And

Darlene Heep
Administrative Law Judge

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I. INTRODUCTION

A Letter of Notification to rebuild an existing transmission line within the same right-of-way is granted because the utility proved that the project is necessary to provide reliable and safe electricity service.

II. HISTORY OF THE PROCEEDINGS

On December 27, 2022, PPL Electric Utilities Corporation (PPL Electric or the Company) filed a Letter of Notification, or LON, for the reconstruction of the Stanton-Summit #3 and #4 230 kV Transmission Line (Stanton-Summit Line) connecting the Stanton 230 kV substation and a two-pole turn structure (the Project). In the LON, PPL Electric explained that the existing Stanton-Summit Lines were built in 1970 and are part of PPL Electric's 230 kV transmission system and feed the 230-69 kV substations in PPL Electric's northeast region. The Stanton substation is in Luzerne County, and the Summit substation is in Lackawanna County, Pennsylvania.

PPL Electric further explained in the LON that it seeks to rebuild the Stanton-Summit Line at an estimated cost of $36.8 Million. Specifically, the LON proposes replacing all Forty-Six COR-TEN lattice structures that currently support the Stanton-Summit Line.

On January 25, 2023, the Office of Consumer Advocate (OCA) filed a Notice of Intervention and Public Statement. On February 8, 2023, OCA filed a Formal Protest. On February 24, 2023, a notice was issued setting a prehearing conference for April 13, 2023.

On February 24, 2023 and March 3, 2023, notice of the prehearing conference and the subject matter of the LON were published in *The Scranton Times Tribune*. On February 26, 2023, and March 5, 2023, the prehearing conference notice and subject of the LON were published in *The Reading Eagle.* The publications advised that formal protests and motions to intervene must be filed on or before April 10, 2023.

On February 24, 2023, a prehearing conference order was issued to all parties and also to entities identified by PPL Electric as potentially affected by the project or required to be notified by the Commission's regulations. The Prehearing Conference took place as scheduled on April 13, 2023. An Evidentiary Hearing was set for an in-person hearing August 14–15, 2023.

On May 24, 2023, PPL Electric filed and served the Direct Testimonies of Joseph B. Lookup, PPL Director of Asset Management, and Christopher Szmodis, PPL Transmission Planning Supervisor. On July 20, 2023, OCA filed and served the revised Direct Testimony of OCA witness Rao Konidena. On August 3, 2023, PPL Electric filed and served the Rebuttal Testimonies of Mr. Lookup and Mr. Szmodis.

On August 9, 2023, Counsel for PPL Electric requested that the first day of Evidentiary Hearings, August 14, 2023, be cancelled. On August 11, 2023, a Hearing Cancellation Notice, cancelling the August 14, 2023 Evidentiary Hearing, was issued. Also on August 11, 2023, a Hearing Type Change Notice was issued, converting the August 15, 2023 in-person Evidentiary Hearing to a telephonic hearing.

On August 15, 2023, the telephonic evidentiary hearing was held as scheduled. During the hearing, both Parties' witnesses testified in accordance with their written testimony and were subject to cross-examination.

On September 15, 2023, the Parties filed Main Briefs. On September 18, 2023, OCA filed a revised Main Brief that included citations to the record evidence. On September 29, 2023, the Parties filed Reply Briefs.

On October 31, 2023, an Interim Order Closing the Record was issued.

III. FINDINGS OF FACT

A. Background

1. 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.

2. PPL Electric is a public utility that provides electric distribution, transmission, and provider of last resort services in Pennsylvania subject to the regulatory jurisdiction of the Commission.

3. 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, LLC (PJM).

4. PPL Electric proposes to rebuild the existing Stanton-Summit #3 and #4 230 kV Transmission Lines associated with the Stanton-Summit Project. The Stanton-Summit Project involves rebuilding the existing double circuit Stanton-Summit #3 and #4 Transmission Lines connecting the Stanton 230 kV Substation (Stanton Substation) and a two-pole structure (Structures 56275-N-4751(L)/56274-N-47518(R)) located approximately 1.4 miles north of the Summit 230-69 kV Substation that are respectively located in Luzerne and Lackawanna Counties, Pennsylvania.[1]

[1] PPL Electric St. No. 1, at p. 2.

B. Need For The Stanton-Summit Project

5. 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.[2]

6. PPL Electric applies its Transmission Asset Management Procedure as part of its system performance and condition assessment process.[3]

7. 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.[4]

8. System needs are identified using the Company's Transmission Asset Management Procedure 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.[5]

9. PPL Electric witness Mr. Joseph B. Lookup explained PPL Electric's role as a member of PJM.[6]

10. The Stanton-Summit Project is a Supplemental Project.[7]

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[2] PPL Electric St. No. 1, at p. 3.

[3] PPL Electric St. No. 1, at p. 3.

[4] PPL Electric St. No. 1, at p. 3.

[5] PPL Electric Exhibit No. JBL-1, at p. 4.

[6] PPL Electric St. No. 1, at pp. 4-5.

[7] PPL Electric St. No. 1, at p. 14.

11. Mr. Lookup explained that PPL Electric presented its plan to address COR-TEN® needs on the 230 kV system at the October 2020 PJM TEAC meeting.[8]

12. As a part of this presentation, the Company shared the need with PJM stakeholders to address COR-TEN® towers on the Stanton-Summit #3 and #4 230 kV Transmission Lines (need # [sic] PPL-2020-0006).[9]

13. The Stanton-Summit Project was developed consistent with the PPL Electric's comprehensive transmission planning process and was reviewed by PJM stakeholders and included in PJM's RTEP as project s2367.[10]

14. The Stanton-Summit Project addresses the substantial prevalence of pack-out rust in the existing COR-TEN® lattice towers that comprise the existing Stanton-Summit #3 and #4 230 kV Transmission Lines.[11]

15. The Stanton-Summit Project will rebuild the existing double-circuit Stanton-Summit #3 and #4 230 kV Transmission Lines.[12]

16. The existing transmission lines are approximately 7.7 miles long and connect the Stanton Substation and Summit Substation.[13]

17. All the COR-TEN® lattice structures as well as the conductor at the 46 locations will be replaced.[14]

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[8] PPL Electric St. No. 1, at p. 14.

[9] PPL Electric St. No. 1, at p. 14.

[10] PPL Electric St. No. 1, at p. 14.

[11] PPL Electric St. No. 1, at p. 10.

[12] PPL Electric St. No. 1, at p. 12; PPL Electric Exhibit JBL-1, at p. 16.

[13] PPL Electric St. No. 1, at p. 5.

[14] PPL Electric St. No. 1, at p. 12; PPL Electric Exhibit JBL-1, at p. 2.

18. The weathering-steel lattice towers that comprise the Stanton-Summit #3 and #4 230 kV Transmission Lines were originally constructed in the early 1970s.[15]

19. 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.[16]

20. These towers had an expected service life of approximately 75 years at the time they were installed.[17]

21. 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.[18]

22. The third-party contractor assessment identified that 126 of 131 COR-TEN® structures (96%) inspected as a part of this assessment had one or more structure legs rated Condition C (poor) or Condition D (very poor); relatedly, twenty-five of those structures had one or more legs that were identified as "priority" and required immediate attention, and protective coating was applied to the 101 other non-priority structures.[19]

23. The asset health concerns revealed by the 2013 inspection were further heightened by the discovery of pack-out rust in the section joints of the COR-TEN® lattice towers.[20]

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[15] PPL Electric St. No. 1, at p. 6; PPL Electric Exhibit JBL-1, at p. 6.

[16] PPL Electric Exhibit JBL-1, at p. 6.

[17] PPL Electric St. No. 1, p. 6; PPL Electric Exhibit JBL-1, at p. 5.

[18] PPL Electric St. No. 1, at p. 7. PPL Electric explains the evaluation performed by the third-party contractor in greater detail in Attachment 1 – Necessity Statement. *See* PPL Electric Exhibit JBL-1, at p. 6.

[19] PPL Electric St. No. 1, at p. 7.

[20] PPL Electric Exhibit JBL-1, at p. 6 (emphasis added).

24. The negative impacts of pack-out rust on COR-TEN® structures have diminished the expected service life of the existing COR-TEN® lattice towers that comprise the Stanton-Summit #3 and #4 230 kV Transmission Lines from 75 to 50 years.[21]

25. These COR-TEN® structures have effectively reached end-of-life.[22]

26. PPL Electric subsequently contracted three additional independent, non-affiliated inspection companies to conduct evaluations of COR-TEN® lattice towers and determine the overall condition of these towers on the PPL Electric Transmission System in 2019.[23]

27. The contractors' reports revealed that "over 90% of the joints at each structure exhibited visible pack-out [rust] in the connections."[24]

28. In addition, the reports showed that pack-out rust and section-loss was most prominent on the lower portions of the towers where there was higher likelihood of moisture build up.[25]

29. Another evaluation of COR-TEN® lattice towers was initiated in early 2020 to determine the full extent of the deterioration on the transmission system.[26]

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[21] PPL Electric Exhibit JBL-1, at p. 7.

[22] PPL Electric Exhibit JBL-1, at p. 7.

[23] PPL Electric St. No. 1, at p. 7. The details of how these inspections were performed are explained in Attachment 1 – Necessity Statement. PPL Electric Exhibit JBL-1, at p. 8.

[24] PPL Electric St. No. 1, at p.

[25] PPL Electric St. No. 1, at p. 8.

[26] PPL Electric St. No. 1, at p. 8.

30. PPL Electric's Data Analytics Team used a statistical analysis and model to comprehensively determine the overall condition of the COR-TEN® lattice towers in a cost-efficient manner.[27]

31. The results of the 2020 inspection program confirmed the severity of deterioration noted during the 2019 inspection.[28]

32. PPL Electric retained RTR Energy Solutions, Inc. (RTR) to prepare a condition assessment of the Stanton-Summit #3 and #4 230 kV Transmission Lines in October 2021.[29]

33. RTR's assessment analyzed each joint of all 46 structures that comprise this transmission line.[30]

34. Each structure was then assessed with a condition rating of "Mild" (less than 25% of total joints contain pack rust), "Moderate" (more than 25% but less than 50% of total joints contain pack rust), or "Severe" (more than 50% of total joints contain pack-out rust).[31]

35. The majority of the pack-out rust was observed in the lower sections of the post legs where horizontal and diagonal members are bolted to the post leg.[32]

36. No structures were in "Mild" condition and "the average percentage of total joints containing pack-out rust is approximately 46%. This shows that the average structure

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[27] PPL Electric St. No. 1, at p. 8.

[28] PPL Electric St. No. 1, at p. 8.

[29] PPL Electric St. No. 1, at p. 9.

[30] PPL Electric St. No. 1, at p. 9.

[31] PPL Electric St. No. 1, at pp. 9-10; PPL Electric Exhibit JBL-1, at p. 10.

[32] PPL Electric Exhibit JBL-1, at p. 10.

that is classified as moderate in the assessment is very close to being considered 'severe' and the condition of the structures on the line are overall more severe"[33]

37. At roughly 50 years of age, the COR-TEN® lattice towers that comprise the Stanton-Summit #3 and #4 230 kV Transmission Lines have exceeded their useful life and can no longer be relied upon to safely operate as designed.[34]

38. 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.[35]

39. Mr. Lookup explained that "if these transmission lines fail, it is expected that the service of approximately 34,968 customers would be impacted for the next contingency."[36]

40. Customers impacted would include "customers such as Williams Pipeline Compressor Station 605 and Metropolitan Insurance."[37]

41. The risks of structure failure increase where a wind event impacts a structurally compromised COR-TEN® lattice tower.[38]

42. The Project will immediately and fully resolve the deteriorated condition of the existing structures on a long-term basis by removing the existing COR-TEN® lattice towers and replacing them with steel monopoles.[39]

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33 PPL Electric Exhibit JBL-1, at p. 10.

34 PPL Electric St. No. 1, at p. 10; PPL Electric Exhibit JBL-1, at p. 11.

35 PPL Electric St. No. 1, at p. 10; PPL Electric Exhibit JBL-1, at p. 11.

36 PPL Electric St. No. 1, at p. 11; *see also* PPL Electric Exhibit JBL-1, at p. 5.

37 PPL Electric St. No. 1, at p. 11; *see also* PPL Electric Exhibit JBL-1, at p. 5.

38 PPL Electric Exhibit JBL-1, at p. 11.

39 PPL Electric St No. 1, at p. 11.

43. 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.[40]

44. PPL Electric evaluated three potential solutions to address the degrading health of the Stanton-Summit #3 and #4 230 kV Transmission Lines.[41]

45. The first alternative PPL Electric considered was to replace each of the existing COR-TEN® lattice towers with new standard lattice tower structures.[42]

46. The second alternative considered by PPL Electric 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 rust from affected joints.[43]

47. The proposed rebuild is more cost-effective and less risky than the remediation alternative.[44]

48. Concerns regarding (1) the lack of full-remediation experience with COR-TEN® lattice towers, (2) the lack of evidence of the long-term remediation effectiveness for COR-TEN® lattice towers, and (3) the possible return of pack-out rust in the joints of remediated COR-TEN® lattice tower structures, are fully avoided by the proposed rebuild contemplated by the Project.[45]

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[40] PPL Electric Exhibit JBL-1, at pp. 12-13.

[41] PPL Electric Exhibit JBL-1, at pp. 12-13.

[42] PPL Electric Exhibit JBL-1, at p. 14.

[43] PPL Electric Exhibit JBL-1, at p. 14.

[44] PPL Electric Exhibit JBL-1, at p. 15.

[45] PPL Electric Exhibit JBL-1, at pp. 14-15.

49. The proposed rebuild option avoids the ongoing O&M expense and additional, eventual reconductoring costs associated with the replacement alternative.[46]

50. The Project has the additional benefit of improving performance by increasing clearances and improving lightning performance by replacing the existing lattice towers with monopoles.[47]

51. OCA acknowledges that the need for the Project is an "asset health issue" and a "public safety issue."[48]

52. PPL Electric evaluated the alternatives proffered by OCA.[49]

53. None of the alternatives advanced by OCA are feasible or reasonable for PPL Electric to pursue. [50]

54. The use of dynamic line ratings (DLR) is not a technology that affects the standard steady-state load-flow analysis and is not feasible or reasonable, nor an appropriate alternative to the Stanton-Summit Project as proposed.[51]

55. Upgrading the existing Stanton-Summit #3 and #4 230 kV Transmission Lines to a 500 kV transmission line would simply add unneeded capacity at substantial additional cost and would require substantial changes to PPL Electric's existing facilities.[52]

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[46] PPL Electric Exhibit JBL-1, at p. 15.

[47] PPL Electric Exhibit JBL-1, at p. 15.

[48] OCA St. No. 1, at p. 8.

[49] PPL Electric St. No. 2-R, at pp. 5-6.

[50] PPL Electric St. No. 2-R, at pp. 5-6.

[51] PPL Electric St. No. 2-R, at p. 9.

[52] PPL Electric St. No. 2-R, at pp. 11-12. This alternative was withdrawn by OCA in its Main Brief. *See* OCA M.B., p. 1, footnote 1.

56. Undergrounding some or all of the Stanton-Summit #3 and #4 230 kV Transmission Lines would be substantially more costly, result in incremental ROW and environmental impacts, and would increase the difficulty and expense of performing maintenance and addressing outages.[53]

57. Installation of a battery energy storage system (BESS) would target a non-existent concern, be substantially more expensive, would fail to comply with NERC Standard TPL-001, would require the acquisition of additional land at the Summit Substation, and would add operational complexity as compared to the Project as proposed.[54]

58. Demand Response (DR) and Distributed Energy Resources (DER) cannot replace the need for a transmission line.[55]

59. Removal of the Stanton-Summit #3 and #4 230 kV Transmission Lines from service would result in low-voltage violations and overload violations that could not be resolved through DR and DER under NERC Standard TPL-001.[56]

C. The Stanton-Summit Project Will Not Create An Unreasonable Risk Of Danger To The Health And Safety Of The Public

60. The rebuilt Stanton-Summit #3 and #4 230 kV Transmission Lines associated with the Stanton-Summit Project will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable NESC minimum standards and all applicable legal requirements.[57]

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[53] PPL Electric St. No. 2, at p. 9; PPL Electric St. No. 2-R, at pp. 17-19.

[54] PPL Electric St. No. 2-R, at pp 21-24. This alternative was withdrawn by OCA in its Main Brief. *See* OCA M.B., p. 1, footnote 1.

[55] OCA St. No. 1, at p. 42. This alternative was withdrawn by OCA in its Main Brief. *See* OCA M.B., p. 1, footnote 1.

[56] PPL Electric St. No. 2-R, at p. 28.

[57] PPL Electric St. No. 1, at p. 16; PPL Electric Exhibit JBL-4, at p. 1.

61. PPL Electric designs and constructs projects with high regard to both public and employee safety and follows or exceeds all codes and requirements.[58]

62. PPL Electric's safety rules include procedures to allow work to be performed on energized facilities in a safe manner, including specific tagging procedures; the use of temporary safety grounds on de-energized facilities for employee lineman safety during maintenance, construction, or reconstruction work; pre-grounding voltage tests to confirm a line is de-energized; pre-climbing inspection of pole and/or structure integrity; and the required use of appropriate safety gear.[59]

63. PPL Electric has taken electric and magnetic field (EMF) mitigation into account.[60]

64. 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.[61]

65. The proposed rebuild of the Stanton-Summit #3 and #4 230 kV Transmission Lines is planned to allow for double-circuit operation, which will allow for reverse phasing.[62]

66. A reduction in magnetic field exposure is anticipated due to the higher ground clearances and reverse phasing.[63]

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[58] PPL Electric Exhibit JBL-4, at p. 4.

[59] PPL Electric Exhibit JBL-4, at pp. 4-5.

[60] PPL Electric St. No. 1 at pp. 16-17; *see also* PPL Electric Exhibit JBL-4, at p. 5.

[61] PPL Electric St. No. 1 at pp. 16.

[62] PPL Electric St. No. 1 at pp. 16.

[63] PPL Electric St. No. 1 at pp. 16-17.

D. The Stanton-Summit Project Is In Compliance With Statutes And Regulations Providing For The Protection Of Natural Resources

67. The Stanton-Summit Project is planned to be constructed entirely within the existing rights-of-way currently occupied by the existing Stanton-Summit #3 and #4 230 kV Transmission Lines.[64]

68. The Project facilities are planned to be rebuilt upon the same structure alignment as the existing facilities.[65]

69. PPL Electric conducted an online review of the Project Area and surrounding landscape through the Pennsylvania Historical and Museum Commission State Historic and Archaeological Resources Exchange site.[66]

70. No State Historic Preservation Office (SHPO) listed or eligible properties are crossed by the Stanton-Summit Project.[67]

71. The Bedell-Courtright Farmstead (SHPO Resource Number 2011RE00513) borders the north side of the ROW along Ransom Road in the central portion of the Project Area. No effect to this resource is anticipated by the proposed Project activities.[68]

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[64] PPL Electric Exhibit JBL-3, at p. 1.

[65] PPL Electric Exhibit JBL-3, at p. 1.

[66] PPL Electric St. No. 1, at pp. 18-19.

[67] PPL Electric St. No. 1, at p. 19.

[68] PPL Electric St. No. 1, at p. 19.

72. No national parks, state parks, local parks, recreational areas, or natural landmarks will be affected by the Project, because none are located in the Project Area.[69]

73. No federal or state designated unique geological, scenic, or natural areas will be affected by the Project, because none are located within the Project Area.[70]

74. PPL Electric completed a Pennsylvania Natural Diversity Inventory (PNDI) for the Project and, while certain endangered or threatened plant species were identified, the plant species of concern was found in a location that will not be affected by Project activities. PPL Electric will continue to consult with the Pennsylvania Department of Conservation and Natural Resources.[71]

75. PPL Electric must obtain all required permits for Project construction and must comply with any and all conditions placed on such permits.[72]

E. The Stanton-Summit Project Will Have Minimal Adverse Environmental Impacts

76. The Stanton-Summit Project does not require a siting and route selection analysis because the Project involves rebuilding an existing transmission line located entirely within existing ROW.[73]

77. No conditions were imposed for the Stanton-Summit Project by any permitting agencies related to environmental concerns.[74]

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69 PPL Electric St. 1, at p. 18.

70 PPL Electric St. No. 1, at p. 19.

71 PPL Electric St. No. 1, at pp. 20-21.

72 PPL Electric Exhibit JBL-3, at pp. 6, 8.

73 PPL Electric St. No. 1, at p. 22.

74 PPL Electric St. No. 1, at p. 23.

78. The Stanton-Summit Project will have minimum environmental impacts compared to any greenfield transmission line construction alternative because the Project is to take place entirely within the Company's existing ROW.[75]

IV. DISCUSSION

A. Legal Standards

1. Burden of Proof

The proponent of a rule or order in any Commission proceeding has the burden of proof.[76] PPL Electric has the burden of proving that the proposed project meets all the relevant statutory and regulatory requirements by a preponderance of the evidence.[77] Additionally, any finding of fact necessary to support an adjudication of the Commission must be based upon substantial evidence, which is such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.[78] More is required than a mere trace of evidence or a suspicion of the existence of a fact sought to be established.[79]

While PPL Electric ultimately has the burden of proof to show that the rebuild Project is needed, OCA bears the burden of proof as to the reasonableness of its suggested alternatives to the Project, as well as the burden of proof to show that the Commission should

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[75] PPL Electric St. No. 1, at p. 22.

[76] 66 Pa.C.S. § 332.

[77] Energy Conservation Council of Pa. v. Pa. Pub. Util. Comm'n, 25 A.3d 440 (Pa. Cmwlth. 2011)(Energy Conservation Council II); Energy Conservation Council of Pa. v. Pa. Pub. Util. Comm'n, 995 A.2d 465 (Pa. Cmwlth. 2010)(Energy Conservation Council I).

[78] *Id.*

[79] Norfolk & W. Ry. v. Pa. Publ. Util. Comm'n, 413 A.2d 1037 (Pa. 1980).

require additional analysis of its purported alternatives on the part of PPL Electric beyond what the Commission's regulations require.[80]

As discussed in detail below, we find that PPL Electric has met its burden of proof and approve the Project as proposed.

2. Legal Standards for the Approval of Transmission Lines

To prevail, a utility must establish that the upgraded or additional transmission line is "needed" in order to furnish the adequate facilities mandated by Section 1501 of the Code, 66 Pa.C.S. § 1501.[81] The Commonwealth Court has held that a transmission line should not be approved unless the electric utility proposing the line demonstrates that the line is "necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public."[82] This standard is also stated in Section 1501 of the Code. In applying this standard, the Commonwealth Court determined that the Commission should consider the "electric power needs of the public, the state of the available technology and the available alternatives." [83]

An electric utility can demonstrate that there is "a need" for a transmission line project under 52 Pa. Code § 57.76(a)(1) where the project resolves violations of the utility's internally developed planning and reliability criteria.[84]

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[80] *See* 66 Pa.C.S. § 332(a); *NRG Energy, Inc. v. Pa. Pub. Util. Comm'n*, 233 A.3d 936, 950-951 (Pa. Cmwlth. 2020), *appeal denied*, 244 A.3d 346 (Pa. 2021) ("If NRG did not bear a burden to present something to support its methodology, it would be difficult, if not impossible, for [utility] to respond with evidence explaining why the alternative should not be accepted").

[81] *See, e.g., Application of Trans-Allegheny Interstate Line Company*, Docket Nos. A-2010-2187540, and A-2010-2187542 (Order entered March 15, 2012); 2012 WL 961232 (Pa.P.U.C.).

[82] *Pa. Power & Light Co. v. Pa. Pub. Util. Comm'n*, 696 A.2d 248, 250 (Pa. Cmwlth. 1997)

[83] *Id.* (quoting 52 Pa. Code § 57.76).

[84] See *Hess v. Pa. Pub. Util. Comm'n*, 107 A.3d 246 (Pa. Cmwlth. 2014); Application of PPL Electric Utilities Corporation filed Pursuant to 52 Pa. Code Chapter 47, Subchapter G, for Approval of the Siting and Construction of the North Lancaster Honey Brook # 1 & # 2 138/69 kV Transmission Lines in Lancaster County, Pennsylvania, Docket No. A-2014-2430565, (Order entered Apr. 23, 2015) ("PPL North Lancaster-Honey Brook") (holding that a project which alleviates violations of an electric utility's own planning criteria provides sufficient evidence to support a finding of need).

If an applicant establishes that the proposed project is necessary and proper within the meaning of Section 1501, then the Commission must determine whether the route selected is appropriate in terms of location, safety, health and environmental impacts, and costs. This determination must be made by examining the application with reference to Sections 57.75 and 57.76 of the Commission's Regulations which state specific criteria which must be considered.

An application for approval of the siting and construction of a HV transmission line will be granted if the Commission finds and determines the following:

> (1) That there is a need for the high voltage transmission line.
>
> (2) That the high voltage transmission line will not create an unreasonable risk of danger to the health and safety of the public.
>
> (3) That the high voltage transmission line is in compliance with applicable statutes and regulations providing for the protection of the natural resources of the Commonwealth.
>
> (4) That the high voltage transmission line will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives.[85]

These regulations were promulgated to meet the requirement for consideration of environmental impacts mandated by Article I, Section 27 of the Pennsylvania Constitution, and to apply the three-part test enunciated in *Payne v. Kassab*, 312 A.2d 86 (Pa. Cmwlth. 1973), which implements the Constitutional requirements.[86] In determining whether a proposed transmission line having environmental impacts should be approved, the *Payne v. Kassab* three-part test requires the consideration of the following: (1) Was there compliance with all applicable statutes and regulations relevant to the protection of the Commonwealth's

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[85] 52 Pa. Code § 57.76(a).

[86] *See, e.g., Id.* at 21-22.

environment; (2) Does the record demonstrate a reasonable effort to reduce the environmental incursion to a minimum; (3) Does the environmental harm which would result from the challenged decision or action so clearly outweigh the benefits to be derived therefrom that to proceed further would be an abuse of discretion.[87]

B. Description of the Project

PPL Electric proposes to rebuild the existing double-circuit Stanton-Summit #3 and #4 230 kV Transmission Lines connecting the Stanton 230 kV Substation (Stanton Substation) and a two-pole turn structure (Structures 56275-N-47514(L)/56274-N47518(R)) located approximately 1.4 miles north of the Summit 230-69 kV Substation (Summit Substation) that are respectively located in Luzerne and Lackawanna Counties, Pennsylvania (the "Stanton-Summit Project" or the "Project").[88] The proposed Project addresses reliability, asset health and safety concerns related to the deteriorated condition of the COR-TEN® lattice towers of PPL Electric's Stanton-Summit #3 and #4 230 kV Transmission Lines.

The Project contemplates the replacement and rebuilding of these existing COR-TEN® lattice towers to address structural reliability concerns associated with the experience of "pack-out rust"[89] in many of the joints of the subject lattice towers. The experience of pack-out rust in the joints of the subject towers has accelerated asset health concerns and the rate at which the subject towers were expected to reach end-of-life. The Project is proposed to address asset

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[87] *Payne v. Kassab*, 312 A.2d at 94; *See Application of PPL Electric Utilities Corporation filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for approval of the siting and construction of transmission lines associated with the Northeast-Pocono Reliability Project in Portions of Luzerne, Lackawanna, Monroe, and Wayne Counties, Pennsylvania*, Docket No. A-2012-2340872 (Opinion and Order entered Jan. 9, 2014).

[88] PPL Electric filed the "Letter Of Notification Of PPL Electric Utilities Corporation, Filed Pursuant To 52 Pa. Code Chapter 57 Subchapter G, For Approval To Rebuild The Existing Double-Circuit Stanton-Summit #3 And #4 230 kV Transmission Lines Connecting the Stanton 230 kV Substation And A Two-Pole Turn Structure That Are Respectively Located In Luzerne And Lackawanna Counties, Pennsylvania" (the "Letter of Notification" or "LON").

[89] "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. PPL Electric St. 1, at p. 6, n.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. *Id.*

health conditions and reliability concerns related to the deteriorated condition of the COR-TEN® lattice towers on the Stanton-Summit #3 and #4 230 kV Transmission Lines. The prevalence of "pack-out rust" 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 service to approximately 34,968 PPL Electric customers. The Project would immediately and fully resolve the deteriorated condition of the existing structures on a long-term basis by removing the existing COR-TEN® lattice towers and replacing them with steel monopoles. The Project will also resolve reliability contingencies that would occur should the subject transmission lines fail.

C. Need for the Project

According to PPL Electric, the proposed Stanton-Summit Project is needed to address asset health and public safety concerns resulting from the prevalence of pack-out rust in the 46 existing COR-TEN® lattice towers that comprise the Stanton-Summit #3 and #4 Transmission Lines. Moreover, the Project immediately and permanently resolves this need in a cost-effective manner compared to other alternatives. PPL Electric M.B., p. 13.

PPL Electric asserts that the record evidence demonstrates that the Project is required to immediately and permanently address asset health and public safety concerns related to the deteriorated condition of the COR-TEN® lattice towers that make up the existing Stanton-Summit #3 and #4 230 kV Transmission Lines. The deteriorated condition of these structures is due to the prevalence of pack-out rust, which has been analyzed in detail by PPL Electric. Importantly, 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. According to PPL Electric, based on several analyses, including specific evaluations of the lattice towers at issue, PPL Electric has demonstrated that the prevalence of pack-out rust in the existing COR-TEN® lattice towers that comprise the Stanton-Summit #3 and #4 230 kV Transmission Lines has accelerated the deterioration of these structures and brought the assets

to the end of their service life much sooner than would have been anticipated. PPL Electric M.B., p. 13.

OCA does not contest PPL's findings that the pack-out rust issue has caused degradation of the existing steel lattice structures to the extent that these structures are no longer suitable for continued use. *See* OCA M.B., p. 4, footnote 2. OCA still argues that PPL Electric has failed to establish a need for the Project.

OCA questions the need for the Project through four primary arguments. First, OCA disputes the PJM process applicable to supplemental projects, like the instant Project.[90] Second, OCA argues that the Commission should require PPL Electric to seek a retirement review for the Stanton-Summit #3 and #4 230 kV Transmission Lines.[91] Third, OCA asserts that DLR technology in conjunction with the retirement of the Stanton-Summit #3 and #4 230 kV Transmission Lines could be a viable alternative to the Project.[92] Fourth, OCA claims an underground alternative should be explored if the Commission determines the Project is needed.[93] PPL Electric R.B., pp. 4-5.

In its Main Brief, OCA abandoned three other alternatives to the Project that it had previously proposed. Originally, OCA proposed the use of DLR technology, an undergrounding option, a battery storage option, and the recognition of demand response and aggregation of distributed energy resources as alternatives to the complete rebuild Project. OCA abandoned the battery storage option, and the recognition of demand response and aggregation of distributed energy resources in its Main Brief. OCA M.B., p. 1, footnote 1.

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90 OCA M.B., Section V.B.1.

91 OCA M.B., Section V.B.2.

92 OCA M.B., Section V.B.3.

93 OCA M.B., Section V.B.4.

In its Main Brief, OCA raised a new alternative that PPL Electric seek retirement review of the Stanton-Summit #3 and #4 Transmission Lines in lieu of the Project. *See* OCA M.B., pp. 15-20.

OCA's four arguments in opposition to the Project will now be discussed followed by an Analysis and Conclusion regarding whether PPL Electric established a need for the proposed Project. With respect to the alternative options advanced by OCA, OCA has the burden of proof.

1. PJM's Supplemental Projects Review

OCA explains that PJM's Regional Transmission Expansion Plan (RTEP) process has three (3) transmission project categories: 1) Baseline; 2) Network; and 3) Supplemental. Rebuilding the Stanton-Summit Line falls under the third category – Supplemental Projects, because these projects are "supplemental" to the Baseline reliability projects.[94] OCA M.B., p. 13.

According to OCA, unlike baseline RTEP projects, Supplemental projects, such as this one proposed by PPL Electric, are not required to go through the FERC Order 1000 required Competitive Planning Process at PJM.[95] As discussed by PPL Electric witness Lookup, supplemental projects are not subject to competition.[96] For supplemental projects, a Transmission Owner (TO) like PPL Electric has the sole right to own and build a supplemental project in its own service territory. OCA M.B., p. 13.

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[94] OCA St. 1 at 12.

[95] OCA St. 1 at 15.

[96] PPL St. 1-R at 18.

For supplemental projects, PJM does not evaluate potential alternatives.[97] PJM does take note of the projected costs of supplemental projects but does not consider cost caps as part of its review process.[98] In other words, according to OCA, PJM does not evaluate the "need" for supplemental projects as PJM is only concerned as to whether the rebuild will harm the reliability of the transmission system. OCA M.B., pp. 13-14.

Although PJM does not directly offer comments or suggestions as to supplemental projects that are brought before it for review, PJM does host a Transmission Expansion Advisory Committee (TEAC) that has the ability to review projects and provide comments and/or alternatives.[99] There are several opportunities for TEAC members to review and comment.[100] OCA M.B., p. 14. No alternatives or comments were made regarding the Project during TEACH review. OCA M.B., p. 15.

OCA points out that, as part of the PJM review, PPL Electric did submit cost estimates for the Project. PPL Electric witness, Mr. Lookup, confirmed the original estimate that was presented to PJM was $21 million, and at the time of filing this LON the estimate is now $37 million.[101] According to OCA, although PJM apparently collects cost information, there are no cost limitations or cost caps imposed by PJM.[102] OCA M.B., p. 15.

OCA asserts that PJM's review of supplemental projects is limited to a "do no harm" study. PJM does not provide alternatives, as the review and comment process for potential alternatives is left to the TEAC. At least as to this Project, PJM also does not limit or impose cost caps. OCA submits that it is important for the Commission to have a clear

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97 OCA St. 1 at 17.

98 Tr. at 39-42.

99 OCA St. 1 at 12-14.

100 OCA St. 1 at 12-13.

101 Tr. at 41-42.

102 Tr. at 39-40.

understanding of what PJM does and does not do as to supplemental projects in order to ensure that PPL Electric's proposed Project is appropriately considered within the rubric of Pennsylvania laws, Commission regulations and past decisions. OCA M.B., p. 15.

PPL Electric argues that OCA's attempt to challenge PJM's processes is outside the scope of this proceeding.[103] PPL Electric asserts that OCA witness Mr. Konidena admitted that a request for the Commission to seek to change PJM's process with respect to its evaluation of supplemental projects "would be beyond the scope of this proceeding."[104] PPL Electric R.B., p. 8.

PPL Electric contends that, even if OCA's concerns with the PJM process were within the scope of this single LON involving a single utility's proposal to rebuild one double-circuit transmission line, these concerns do not provide any grounds upon which to deny the Project. According to PPL Electric, OCA witness Mr. Konidena confirmed that PPL Electric had complied with both PJM's and the Commission's existing processes to review the Project.[105] PPL Electric R.B., p. 8.

PPL Electric opines that OCA's specific concern that supplemental projects are not required to go through Federal Energy Regulatory Commission (FERC) Order 1000 Competitive Planning Process is a red-herring.[106] While OCA appears to be concerned that competition in the bidding for a supplemental project could decrease costs, OCA presented no evidence that shows any such cost savings could or would be achieved for the Project if it was subject to FERC Order 1000 competitive bidding. Moreover, PPL Electric witness Mr. Joseph B. Lookup explained at hearing that PPL Electric "competitively bid[s] all our work."[107] PPL Electric, R.B., p. 8.

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103 PPL Electric M.B., Section V.B.3.b.

104 Tr. at 102-103.

105 Tr. at 105-106.

106 OCA M.B., at 13.

107 Tr. at 46.

PPL Electric also argues that OCA's concern that PJM does not evaluate potential alternatives as a part of the supplement process also lacks merit.[108] According to PPL Electric, it thoroughly evaluated a number of alternatives to the Project and determined that the Project as proposed was the most reasonable solution to addressing the subject asset health and public safety needs.[109] PPL Electric R.B., p. 9.

PPL Electric asserts that OCA's further concern that no stakeholders participated in the review and comment process hosted by PJM's TEAC is also unavailing.[110] OCA argues that no stakeholder comments or alternatives were submitted during the TEAC process for the Project or other recent PPL Electric letters of notification.[111] However, PPL Electric points out that it evaluated alternatives prior to submitting the LON to the Commission for review. Moreover, OCA specifically participated in this proceeding before the Commission to advance various alternatives to the Project. According to PPL Electric, OCA's participation in the proceeding belies its concerns regarding a lack of stakeholder participation and submission of alternatives before PJM. PPL Electric R.B., p. 9.

Finally, OCA appears to insinuate that, because PJM does not include cost limitations or cost caps on supplemental Projects, the Commission should reject or further examine PPL Electric's cost estimate for the Project.[112] PPL Electric notes that the Commission regularly requires PPL Electric to submit updated, actual cost information regarding its transmission projects as a condition of approval. PPL Electric asserts that it complies with this requirement and will do so to the extent the Commission conditions the Project's approval in this manner in this proceeding.

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108 OCA M.B., at 13-14.

109 *See* Section III.A.1, *supra*; *see also* PPL Electric M.B., Sections V.B.2.c., V.B.3.d.v.

110 OCA M.B., at 14-15.

111 OCA M.B., at 14-15.

112 OCA M.B., at 15.

The undersigned agree with PPL Electric regarding OCA's argument raising concerns in this proceeding about the PJM supplemental project review process. OCA submits that it is important for the Commission to have a clear understanding of what PJM does and does not do as to supplemental projects in order to ensure that PPL Electric's proposed Project is appropriately considered within the rubric of Pennsylvania laws, Commission regulations and past decisions. OCA M.B., p. 15. PJM's review of supplemental projects is not relevant here. What is relevant is that PPL Electric establishes a need for the Project pursuant to Commission regulations and applicable law.

2. Retirement review for the Stanton-Summit #3 and #4 230 kV Transmission Lines

OCA next argues that the Commission should require PPL Electric to seek a retirement review for the Stanton-Summit #3 and #4 230 kV Transmission Lines and report the findings of this review to the Commission.[113] PPL Electric R.B., p. 10. According to OCA, PPL Electric has failed to prove that there is a need for this Project at this time. A retirement review from PJM would show what reinforcements or additions to the grid, if any, would be required should the Stanton-Summit Line be retired. Without this information for comparison to PPL Electric's proposal here, OCA concludes that the Commission should reject this LON. OCA M.B., p. 20.

OCA agrees something must be done as the current tower structures are no longer suitable for continued use. According to OCA, the question is whether the current Stanton-Summit Line is actually needed, and whether PPL has reasonably investigated retiring the line. OCA M.B., pp. 15-16.

According to OCA, the record is clear that even though PPL Electric identified this pack-out rust issue at least 10 years ago, and there is a process at PJM to gauge the effects on the grid of possibly retiring a transmission line, PPL Electric never sought that

[113] OCA M.B., Section V.B.2.

review or analysis from PJM. OCA submits that the record evidence in this case shows that it would have been prudent for PPL Electric to explore this option. OCA M.B., p. 17.

OCA asserts that the Stanton-Summit Line could lose both of the 230 kV lines and no system overloads would occur, and no customers would experience an outage. At the hearing, PPL Electric witness Mr. Smodis confirmed this was correct – both lines could fail and no overloads would occur. [114] On further questioning, Mr. Smodis confirmed that overloads would only occur on the next contingency, in other words, the Stanton-Summit Line would have to completely fail and then another transmission line or asset would also fail or be out of service at the same time.[115] OCA M.B., pp. 17-18.

OCA also points out that PPL Electric witness Mr. Lookup testified that the Stanton-Summit Line could fail completely, and no customers would lose service. A customer outage would only occur if both of the 230 kV lines failed and another transmission line or other asset failed or was completely out of service at the same time. [116] OCA M.B., p. 18.

In its argument for consideration of a retirement option, OCA cites the case of *Letter of Notification of PPL Electric Utilities, for Approval to Rebuild the Existing Breinigsville-Alburtis 500 kV Transmission Line in Lower Macungie and Upper Macungie Townships, Lehigh County, Pennsylvania*," Docket No. A-2017-2635709 (Order entered Aug. 3, 2018) (the "*2018 PPL LON*")[117], for the following:

> Under the Commission's siting regulations at 52 Pa. Code § 57.71 *et seq*., the Company must establish a clear need for the Project. PPL Electric has not adequately proven the need for a reasonable likelihood that the alleged events leading to an outage event are likely to occur, nor has it demonstrated that the proposed solution is an efficient and cost-effective choice relative to other alternatives. (Footnotes omitted).

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114 Tr. at 77.

115 Tr. at 77-79.

116 Tr. at 32-34.

117 OCA MB, at 18-19.

OCA M.B., p. 18.

OCA further cites the *2018 PPL LON* as support for its concerns about whether alternatives and costs were considered. From the *2018 PPL LON*, OCA cited the following:

> This Commission has a responsibility to ensure that substantial investments are prudently made, particularly those filed as supplemental projects. Because this is a supplemental project, no other third party like PJM has performed a cost benefit analysis or assessed alternatives. Moreover, PPL Electric has filed a vastly disproportionate number of such supplemental projects. As of August 30, 2017, the Company was responsible for $2.9 Billion of the $3.1 Billion to be spent on supplemental projects in Pennsylvania, or 93% of such spending. According to our annual Rate Comparison Report, PPL Electric's transmission rates have increased 175% since January 31, 2006, with almost all of that increase starting in 2013. Between 2013 and 2018, PPL Electric's transmission rates increased 19% each year. While this history and inventory of past and future transmission project costs do not have a direct relevance to the particular circumstances to this proposed project, *they do highlight the need for further scrutiny by all interested parties to ensure the requirements of 52 Pa. Code § 57.72(5) and 52 Pa. Code § 57.76(a)(4) are met, particularly for supplemental projects, and that electric distribution companies in Pennsylvania are expected to provide more information to justify these expenditures going forward*. (footnotes omitted).[118]

OCA M.B., pp. 18-19.

PPL Electric disagrees with and argues against OCA's advocacy for consideration of a retirement study. PPL Electric asserts that such a study is not supported or necessary here. First, OCA did not raise this proposal until its Main Brief. While OCA witness Mr. Konidena testified that PJM would need to perform a retirement study to determine if

[118] *2018 PPL LON* at 7 (emphasis added).

certain alternatives could be implemented,[119] at no point did he specifically propose or recommend that the Commission order PPL Electric to submit to such a study before PJM. PPL Electric argues that OCA's attempt to advance this proposal for the first time in its brief (i.e., after the record has closed) is improper and would deprive PPL Electric of an opportunity to present evidence in response to it.[120] For this reason alone, PPL contends that OCA's retirement study proposal should be rejected. PPL Electric, R.B., p. 10.

Second, according to PPL Electric, OCA's proposal disregards undisputed record evidence that any retirement of the existing Stanton-Summit #3 and #4 230 kV Transmission Lines would result in violations of NERC requirements. PPL Electric witness Mr. Szmodis explained this fact in his rebuttal testimony,[121] and in responses to discovery requests.[122] OCA witness Mr. Konidena further confirmed that not complying with NERC standards was "not good utility practice" and would result in PPL Electric being fined,[123] and made clear that he performed no analysis of reliability impacts of any alternative he advanced in testimony, and that such analysis was outside the scope of his engagement in this matter.[124] Indeed, OCA presented no evidence that the Stanton-Summit #3 and #4 230 kV Transmission Lines are not needed. Rather, PPL Electric asserts that the only evidence of record demonstrates that the retirement of these lines would violate NERC standards and subject PPL Electric to fines. PPL Electric, R.B., pp. 10-11.

Third, PPL Electric contends OCA's assertion that "the Stanton-Summit Line could fail completely, and no customers would lose service" misrepresents the issue.[125] PPL

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119 OCA St. 1, at p. 29.

120 *See Hess v. Pa. Pub. Util. Comm'n*, 107 A.3d 246, 265-266 (Pa. Cmwlth. 2014), *appeal denied*, 117 A.3ds 1282 (Pa. 2015) ("*Hess*")

121 PPL Electric St. 2-R, at p. 13-14.

122 OCA Cross Exhibit 1; OCA Cross Exhibit 2.

123 Tr. 113-114 (OCA witness Mr. Konidena admitting that it would not be good utility practice for an electric utility to violate NERC standards "because there will be fines."); *see also* PPL Electric M.B., at 30.

124 *See* Tr. 116.

125 OCA M.B., at 18.

Electric has not contended that a failure of the Stanton-Summit #3 and #4 230 kV Transmission Lines alone would result in a loss of service to customers. Rather, these lines are required to avoid violations of NERC transmission planning standards that require PPL Electric to study and plan its transmission system. These planning standards require PPL Electric to plan for scenarios where aspects of the bulk transmission system are taken out of service (e.g., for maintenance) to ensure that the loss of other facilities does not result in disruptions on the transmission grid. By arguing that these lines can be taken out of service and that these lines are not needed because loss of them alone would not result in a loss of service, PPL Electric submits OCA essentially argues that PPL Electric should violate NERC Standard TPL-001 and be fined for doing so. PPL Electric, R.B., p. 11.

Fourth, OCA attempts to rely upon the Commission's Order entered August 3, 2018 in the "*2018 PPL LON*".[126] However, PPL Electric asserts there are a number of problems with OCA's reliance upon this order. PPL Electric, R.B., p. 11.

According to PPL Electric, chief among these problems is the fact that the analysis from pages 6 and 7 of the *2018 PPL LON* cited by OCA makes clear that the Commission's consideration of alternatives is conducted under 52 Pa. Code § 57.76(a)(4).[127] However, PPL Electric points out that OCA has made abundantly clear in its testimony and its Main Brief that it is not addressing 52 Pa. Code § 57.76(a)(4). PPL Electric, R.B., pp. 11-12.

PPL Electric also explains that OCA ignores the fact that the *2018 PPL LON* was appealed,[128] and that the parties to this appeal ultimately reached an agreement that would

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[126] OCA M.B., at 18-19.

[127] OCA M.B., at 18 (quoting *2018 PPL LON*, at 6, which specifically held that PPL Electric has not demonstrated the proposed solution is an efficient and cost-effective choice relative to other alternatives under 52 Pa. Code § 57.76(a)(4)) and 19 (quoting *2018 PPL LON*, at 7, which includes the same reasoning and citation to Section 57.76(a)(4)).

[128] PPL Elec. Utils. Corp. v. Pa. Pub. Util. Comm'n, No. 1194 CD 2018 (Pa. Cmwlth. 2018).

resolve the appeal.[129] Specifically, the parties agreed that PPL Electric would file a full siting application and petition for waiver for the subject transmission line project at a new docket number.[130] PPL Electric made this filing at Docket No. A-2019-3007945, the Commission entered an order approving the filing on August 14, 2019,[131] and the appeal at No. 1194 CD 2018 was discontinued.[132] According to PPL Electric, as a part of its approval of this transmission line project at Docket No. A-2019-3007945, the Commission specifically found that PPL Electric had demonstrated a need for the project.[133] PPL Electric argues that OCA's attempt to ignore the subsequent history and further review of this specific project undermines its reliance on the *2018 PPL LON*. PPL Electric, R.B., p. 12.

Moreover, according to PPL Electric, it must be noted that PPL Electric's filing at Docket No. A-2019-3007945 included an alternatives analysis that reviewed a number of alternatives not originally considered in the *2018 PPL LON*.[134] The Commission specifically recognized that PPL Electric included an analysis of several additional alternatives and determined the project proposed "[was] the most effective, least cost, long-term solution for the reliability and safety issues."[135] Similar to these prior proceedings, PPL Electric submits that it has considered alternatives to the instant Project both prior to submitting the LON and during the course of this proceeding, and determined that the Project is the most reasonable solution to resolve the subject asset health and public safety issues. PPL Electric, R.B., pp. 12-13.

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[129] No. 1194 CD 2018, Application for Stay dated December 12, 2018. A copy of this status report is attached hereto as Appendix A.

[130] No. 1194 CD 2018, Application for Stay dated December 12, 2018.

[131] See Application of PPL Electric Utilities Corporation, for Approval to Rebuild Approximately Six Miles of the Breinigsville-Alburtis 500 kV Transmission Line in Lower Macungie and Upper Macungie Townships, Lehigh County, Pennsylvania; Petition for Waiver of Certain Provisions of the 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. A-2019-3007945 (Order entered Aug. 14, 2019) ("Breinigsville-Alburtis Order").

[132] No. 1194 CD. 2018, discontinued on September 9, 2019.

[133] Breinigsville-Alburtis Order, at pp. 17-19.

[134] *Compare* Attachment 1 – Necessity Statement at Docket No. A-2017-2635709, *with* Attachment 1 – Necessity Statement at Docket No. A-2019-3007945.

[135] Breinigsville-Alburtis Order, at p. 17.

Related to its reliance on the *2018 PPL LON*, OCA also relies on *Hess v. Pennsylvania Public Utility Commission* , 107 A.3d 246(Pa. Cmwlth. 2014), to support its argument that the Project is not needed. Specifically, OCA cites *Hess* and contends that "[n]ecessity can be found when a proposed transmission line provides lower prices or improved reliability."[136] However, PPL Electric argues OCA reads *Hess* out of context and ignores other precedent. PPL Electric, R.B., p. 13.

Specifically, according to PPL Electric, the Commonwealth Court in *Hess* rejected the assertion by certain protestants to a transmission line project that a utility must demonstrate a project is "absolutely required."[137] The Commonwealth Court then went on to explain that the Commission has found necessity to exist in a number of circumstances, including as an example, "such as improvement to the reliability of service or lower prices."[138] Indeed, PPL Electric asserts that the Commission can determine necessity exists under any circumstances where an HV transmission line project is shown to be "necessary or proper for the accommodation, convenience, and safety of [the utility's] patrons, employees and the public."[139] Moreover, PPL Electric highlights the fact that the Commission has approved other letters of notification to address this same need on other parts of PPL Electric's system.[140] PPL Electric, R.B., p. 13.

Here, PPL Electric contends it has shown that the Project is needed because it is necessary or proper to immediately address an undisputed asset health and public safety need. OCA's arguments to the contrary should be rejected. PPL Electric, R.B., p. 13.

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136 OCA M.B., at 27 (citing *Hess*, 107 A.3d at 260).

137 *Hess*, 107 A.3d at 260 (rejecting the "absolute necessity standard").

138 *Hess*, 107 A.3d at 260.

139 *Pa. Power & Light Co. v. Pa. Pub. Util. Com'n*, 696 A.2d. 248 (Pa. Cmwlth. 1997); *see also Breinigsville-Alburtis Order*, at pp. 16-18 (citing authorities and types of evidence that can be advanced to demonstrate a project is needed).

140 PPL Electric M.B., at 8, n. 25 (citing the Commission's order approving other projects to rebuild existing COR-TEN® HV transmission lines impacted by pack-out rust).

With respect to OCA's argument that PPL Electric should seek a retirement review for the Stanton-Summit #3 and #4 230 kV Transmission Lines and report the findings of this review to the Commission at this time, the undersigned conclude such a study is not a necessary prerequisite to consideration of the Project proposed by PPL Electric. In addition, the undersigned agree with PPL Electric that OCA did not propose this option during discovery, in testimony or at the evidentiary hearing. This option was first fleshed out in OCA's Main Brief. PPL Electric was precluded from addressing this option during its presentation of evidence in this case.

We are also in agreement with PPL Electric that the Stanton-Summit Line lines are required to avoid violations of NERC transmission planning standards that require PPL Electric to study and plan its transmission system. These planning standards require PPL Electric to plan for scenarios where aspects of the bulk transmission system are taken out of service (e.g., for maintenance) to ensure that the loss of other facilities does not result in disruptions on the transmission grid. PPL Electric, R.B., p. 11.

3. Use of DLR Technology Option Study

Dynamic Line Ratings (DLR) is a blanket term for the many different technologies and methodologies for determining conductor thermal ratings in a more-dynamic fashion using improved, more granular, or real time data.[141] PPL Electric Witness Szmodis explained, "DLR is a technology that allows a transmission owner to set conductor ratings based upon real time values. An example of some of these real time values are ambient temperature and wind speed. These values are incorporated into determine (sic) the rating of the transmission line conductor."[142] According to the U.S. Department of Energy,

> [t]he objective of all DLR systems is to help system operators determine, accurately and reliably, the prevailing current

[141] U.S. Department of Energy, *Dynamic Line Rating*, 4 (June 2019). https://www.energy.gov/oe/articles/dynamic-line-rating-report-congress-june-2019.

[142] PPL Electric St. 2-R at 9.

> carrying capacity limits of transmission lines to relax constraints based on thermal considerations. In some cases, the consideration of seasonal or monthly ratings may help defer some infrastructure investments made for economic reasons or increase the utilization of existing lines. DLR also has the benefit of improving reliability and resilience by providing grid operators with enhanced situational awareness of individual assets, enabling greater flexibility. DLR can be applied in a variety of circumstances and voltage classes, but is particularly well suited to manage congestion on older lines, such as those at 115, 138, and 230 kV. While new lines may be designed to avoid a thermal limit, use of DLR can still be beneficial by providing situational awareness and supporting asset management. [143]

OCA M.B., pp. 20-21.

OCA Witness Konidena testified that PPL Electric's alternatives to its proposed rebuild are primarily transmission asset-related alternatives, transmission structure replacement and remediation. OCA St. 1 at 22. Mr. Konidena added, "[d]ue to the 'asset health' needs designation, not transmission congestion, PPL Electric did not evaluate other possible alternatives like Dynamic Line Ratings. The Commission should require PPL Electric to evaluate all options to reduce consumer costs irrespective of the need designation."[144] OCA M.B., p. 21.

According to OCA, in certain situations, the use of DLR technology can replace the need to build new transmission lines. PPL Electric has used DLR technology for this same purpose, as PPL Electric's own documents provide, "$250,000 DLR solution instead of an estimated $50 million line rebuild."[145] OCA M.B., p. 21.

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[143] U.S. Department of Energy, *Dynamic Line Rating*, 5 (June 2019). https://www.energy.gov/oe/articles/dynamic-line-rating-report-congress-june-2019. (citation omitted).

[144] OCA St. 1 at 23.

[145] OCA Cross Exhibit 6 at 3, "DLR from the Utility Perspective."

OCA asserts that PPL Electric has previously installed DLR technology to address congestion issues. Specifically, PPL Electric installed DLR on the Juniata and Susquehanna lines to address network congestion.[146] According to PPL Electric, "DLR has been installed on circuits that would benefit from the allowance of additional load increase: Juniata – Cumberland 1 230kV, Susquehanna – Harwood 1 & 2 230 kV."[147] PPL Electric has experience using DLR technology. OCA M.B., p. 22.

According to OCA, DLR can be used for more than just to address congestion issues, as OCA witness Konidena testified "[i]n addition to reduced transmission congestion, DLRs provide increased transfer capacity[148] and resiliency benefits,[149] and PPL does not need to schedule an outage on existing transmission lines to install sensors unlike transmission options discuss below." [150] OCA asserts that if PPL Electric used DLRs on existing transmission lines, some of the lines could be loaded much lighter to the point that they might not even be needed.[151] . Mr. Konidena concludes, "[t]hus, before approving this project, or as a condition of approval if the Commission determined that the rebuild is needed, the PUC should require PPL to provide a complete study on how the use of DLR technology may impact the need for the planned rebuilds of PPL's 230kV system."[152] OCA M.B., pp. 22-23.

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146 *See* OCA St. 1 at 26; PPL Response to OCA I-7.

147 *Id.*

148 Unlocking the Queue with Grid-Enhancing Technologies, Brattle presentation, February 1, 2021, "DOE/ONCOR study indicates DLR transfer capability to be 5 to 25% higher than SLR." SLR is Static Line Rating. https://watt-transmission.org/wp-content/uploads/2021/02/Brattle__Unlocking-the-Queuewith-Grid-Enhancing-Technologies__Final-Report_Public-Version.pdf90.pdf

149 "DLR technology can identify additional capacity on transmission lines, potentially relieving congestion and creating economic efficiencies. Such technology can also enhance system resilience by providing enhanced real-time monitoring of transmission assets." https://www.pjm.com/-/media/library/reportsnotices/2022-rtep/2022-rtep-report.ashx

150 OCA St. 1 at 26 (footnotes in original).

151 OCA St. 1 at 26.

152 OCA St. 1 at 26.

OCA argues that utilizing DLR technology is more cost effective than building new transmission infrastructure. According to OCA, based on the evidence, the complete loss of the Stanton-Summit Line, followed by the next "contingency" would lead to heavier loads being placed on the surrounding transmission assets. OCA contends that the use of DLR technology on these other lines could help to reduce that loading. OCA M.B., p. 23.

To be clear, OCA agrees with PPL Electric that the current condition of the Stanton-Summit Line is untenable. OCA submits that PPL Electric should be directed to seek an analysis from PJM where the Stanton-Summit Line would be removed from the grid and then model the use of DLR technology on other transmission lines to see the effects. OCA asserts that PPL Electric has been studying this pack-out rust issue for over 10 years, surely some additional time for a PJM analysis and a more complete record for the Commission to review is reasonable in this matter. OCA M.B., p. 23.

According to PPL Electric, OCA's position with respect to DLR is at odds with the record evidence, is an attempt to shift OCA's burden to PPL Electric,[153] and should be rejected by the Commission. Moreover, PPL Electric contends that OCA's recommendation that the Commission require PPL Electric to evaluate DLR as an alternative to the Project is redundant, as PPL Electric has done so throughout the course of this proceeding.[154] PPL Electric R.B., p. 14.

DLR is a potential solution to transmission congestion.[155] According to PPL Electric, if the Project were a project driven by congestion concerns, then OCA's recommendations regarding DLR might merit further investigation. However, as made abundantly clear throughout PPL Electric's Direct and Rebuttal Testimony, by OCA witness Mr. Konidena's own admission, and throughout PPL Electric's Main Brief, the primary drivers

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153 *See* PPL Electric M.B., at 5-6 ("Thus, while PPL Electric has the burden of proof to show that the Project is needed, the OCA bears the burden of proof as to the reasonableness of its suggested alternatives to the Project, as well as the burden of proof to show that the Commission should require additional analysis of its purported alternatives on the part of PPL Electric beyond what the Commission's regulations require.")

154 *See* PPL Electric St. 2, at pp. 11-12; PPL Electric St. 2-R, at pp. 8-10.

155 OCA MB, at 21; OCA St. 1, at p. 26.

for the Project are asset health and public safety concerns. This is fully detailed in Section (V)(B) of the Company's Main Brief. PPL Electric witness Mr. Szmodis detailed why DLR is not a legitimate alternative to the Project as proposed, explaining:

> DLR is used to reduce real-time power-flow congestion on the electric system. It is not a technology that affects the standard steady-state load-flow analysis because you can not rely on a possible increase in conductor rating due to DLR during an electrical system event. OCA witness Mr. Konidena suggests that the widespread employment of DLR will allow PPL Electric to retire existing HV transmission lines. This is simply not true, and to my knowledge DLR has not been utilized in the manner suggested by Mr. Konidena anywhere in the nation. While DLR may be able to slow the need for additional transmission investments to address congestion issues, it cannot act as a substitute for facilities. Moreover, the Project is not driven by a need to address or remediate any congestion issues, rather, its primary driver is related to asset health concerns. Installation of DLR would not address the asset-health concerns, thus, it is not an appropriate alternative.[156]

PPL Electric R.B., pp. 14-15.

Additionally, as explained by PPL Electric witness Mr. Lookup, pack-out rust exists in every one of the 46 COR-TEN® lattice structures that comprise the Stanton-Summit #3 and #4 230 kV Transmission Lines.[157] The prevalence of pack-out rust in the joints of each of these structures can "deform steel members and connecting hardware … shear off bolts, cause loss of structural integrity, cause members to disconnect from the tower" and can "even result in tower failure."[158] PPL Electric R.B., p. 15.

PPL Electric points out that OCA does not dispute the asset health and public safety needs driving the Project. According to PPL Electric, OCA, without support, contends

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156 PPL Electric St. 2-R, at pp. 9-10.

157 PPL Electric M.B., at 19; PPL Electric Exhibit JBL1, at p. 10.

158 PPL Electric M.B., at 19-20; PPL Electric Exhibit JBL-1, at p. 7.

that the use of DLR technology is "more cost-effective" than building new transmission infrastructure.[159] Assuming, *arguendo*, that this contention is true, PPL Electric asserts it is irrelevant to the Commission's determination in this proceeding. The Stanton-Summit Project is not building new transmission infrastructure. It is rebuilding existing transmission infrastructure that is undisputedly failing due to the prevalence of pack-out rust. PPL Electric R.B., p. 15.

The Project seeks to rebuild existing transmission lines, not construct new ones. PPL Electric asserts that OCA's recommendation in its Main Brief appears to be at odds with its position in direct testimony, where Mr. Konidena suggested that the Commission "should require PPL to provide a complete study on how the use of DLR technology may impact the need for the planned rebuilds of PPL Electric's 230 kV system."[160] PPL Electric R.B., p. 16.

PPL Electric argues that DLR is neither feasible nor reasonable here, and is not an appropriate alternative for the Project. PPL Electric submits that OCA's recommendation that the Commission require PPL Electric to study the same, in the face of record evidence, PPL Electric's previous analysis of DLR, and the obvious unresponsiveness of DLR to the Project's need, should be rejected. PPL Electric R.B., p. 16.

The undersigned agree with PPL Electric's position with respect to DLR and a DLR study. PPL Electric addressed OCA's DLR study option as well as its retirement study option in this proceeding (the retirement study option was addressed in PPL Electric's Reply Brief since it was first raised by OCA in its Main Brief) and these options are not appropriate here given the asset health need identified by PPL Electric for the rebuild Project. OCA is concerned about the cost of the Project and cost effectiveness. These concerns are legitimate and will be discussed below in the "5. Need-Analysis and Conclusion" section of this decision.

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159 OCA M.B., at 23.

160 OCA St. 1, at p. 26.

4. Undergrounding Stanton-Summit Line Option

OCA contends that even though PPL Electric has experience with undergrounding transmission lines, PPL Electric failed to conduct an analysis evaluating whether undergrounding is a viable alternative in this LON due to cost considerations.[161] PPL Electric did agree, however, that undergrounding the line would resolve the current concerns over the asset health of the Stanton-Summit Line.[162] OCA M.B., p. 24.

According to OCA Witness Konidena, there are two reasons why undergrounding of the Stanton – Summit Line might be a better long-term option for consumers. First, with undergrounding, there is no possible rusting issue that PPL Electric experienced with the overhead transmission lines.[163] As PPL Electric explained, "Under normal circumstances, underground transmission lines do not face rusting issues. This is due to the underground transmission lines not being exposed to weather elements."[164] PPL Electric noted that the existing Stanton - Summit Line experienced the COR-TEN® rust issue, reducing the asset life from 75 to 45 years.[165] Second, undergrounding ensures that the transmission investment is not exposed to weather elements, possibly increasing the life of the asset. [166] PPL Electric stated that due to recent weather patterns and storms experienced over the past 20 years, the overhead transmission towers are exposed to extreme precipitation and wind events. [167] More specifically, in the LON, PPL Electric explains,

> [f]urthermore, as the topic of severe weather patterns becomes increasingly relevant, there is a need to consider how changing

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161 OCA St. 1 at 31.

162 OCA St. at 31; PPL Response to OCA III-12.

163 OCA St. 1 at 31.

164 OCA St. 1 at 31; PPL response to OCA III-2.

165 OCA St. 1 at 31.

166 OCA St. 1 at 31.

167 OCA St. 1 at 31-32

> 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.

LON at 9. In sum, Mr. Konidena believes that undergrounding could improve the overall health of PPL's 230 kV system. [168] OCA M.B., pp. 24-25.

PPL Electric witness Lookup testified that undergrounding is cost prohibitive and not reasonable in this instance. PPL St. 1-R at 7. PPL Electric witness Smodis also testified that underground facilities can take more time to address outages and also would increase land disturbance. [169] OCA M.B., p. 25.

Notwithstanding PPL Electric's opposition to undergrounding, OCA asserts that the record is clear that PPL Electric agrees underground facilities are less likely to suffer outages from extreme weather events. Further, PPL Electric raised the issue of the ever-increasing threat of extreme weather and the effect that weather could have on above-ground facilities. [170] OCA M.B., p. 25.

In OCA's view, it seems unreasonable to compare only the upfront costs of building a transmission line, when the total cost of ownership to ratepayers has not been studied and is thus unknown. As OCA witness Konidena testified:

> [w]hile it is true that initial estimates of undergrounding are higher compared to the overhead transmission lines, PPL should look at the overall cost of undergrounding, including but not limited to the customer interruption costs due to repeated weather related forced outages. Specifically, PPL should evaluate the total costs of ownership as it applies to the ratepayers who would be paying for this Project and are served

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168 OCA St. 1 at 32.

169 PPL St. 2-R at 7

170 LON at 9.

> by PPL's transmission system. According to the National Centers or Environmental Information, part of the National Oceanic and Atmospheric Administration ("NOAA"), Pennsylvania experienced 24 Severe Storms in the past 5 years (2018-2023) with a total disaster cost of $2.0 - $5.0 Billion. PPL stated it experienced '27 sustained outages' on the 230 kV system in the last 5 years. There are undoubtedly economic costs that ratepayers must absorb when there is a power outage, such as lost business productivity, work hours, and many other costs that go beyond just looking at the construction costs alone.[171]

OCA M.B., p. 26.

In sum, OCA argues that the Commission cannot fairly compare the underground option without knowing the actual economic cost and impact for customers should an outage occur. PPL Electric has not studied this issue. OCA submits that, should the Commission find that the Stanton-Summit Line is needed, PPL Electric should be required to provide a study as to the consumer costs of outages in order for the Commission to make a fair evaluation of the available alternatives. OCA M.B., p. 26.

PPL Electric argues that OCA's undergrounding option should be rejected. PPL Electric asserts that the Company comprehensively evaluated and addressed undergrounding all or a portion of the Stanton-Summit #3 and #4 Transmission Lines. This was detailed in Section (V)(B)(d)(iii) of the Company's Main Brief. However, as PPL Electric witness Mr. Szmodis explained, "[i]t is preferred to build a transmission line above-ground when the requisite rights of way (ROW) are owned and acquirable."[172] This is the case for the Project as proposed. The reasons for this are several. PPL Electric R.B., p. 17.

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171 OCA St. 1 at 32 (footnotes omitted).

172 PPL Electric M.B., at 47; PPL Electric St. 2, at p. 8.

According to PPL Electric, undergrounding (1) is substantially more costly,[173] (2) would result in incremental ROW and environmental impacts,[174] and (3) would increase the difficulty and expense of performing maintenance and addressing outages.[175] PPL Electric opines that while there may be reliability benefits associated with undergrounding, they are negligible[176] in this circumstance and offset by the fault identification and maintenance issues identified by Mr. Szmodis.[177] Furthermore, OCA witness Mr. Konidena did not actually analyze the reliability impacts of this alternative. PPL Electric M.B., p. 47.

According to PPL Electric, OCA appears to premise this recommendation on weatherization and rusting concerns.[178] However, despite being the proponent of this alternative, OCA presented no testimony or evidence as to whether these concerns would be present after the Project, as proposed, is completed. Critically, OCA did not contend that the new monopole structures proposed to replace the 46 existing COR-TEN® lattice structures supporting the Stanton-Summit #3 and #4 Transmission Lines would experience the same pack-out rust issue as the existing COR-TEN® structures. Indeed, PPL Electric asserts that the opposite is true and was explained in PPL Electric's Necessity Statement: "[r]ebuilds 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."[179] PPL Electric R.B., pp. 17-18.

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[173] PPL Electric St. 2, at p. 8 (comparing the $14.8-$24 million per mile cost of underground a 69 kV transmission project to the $3-$5 million per mile cost of constructing an overhead 230 kV transmission line).

[174] PPL Electric St. 2, at p. 9; PPL Electric St. 2-R, at p. 17.

[175] PPL Electric St. 2-R, at p. 18.

[176] PPL Electric St. 2-R, at pp. 18-19.

[177] PPL Electric St. 2-R, at pp. 18-19.

[178] OCA M.B., at 23-24.

[179] *See* Exhibit No. JBL-1, at p. 15.

PPL Electric explains that undergrounding all or a portion of the Stanton-Summit #3 and #4 Transmission Lines is substantially more costly than the Project as proposed.[180] OCA does not dispute this fact in its Main Brief, nor did Mr. Konidena dispute the same in his Direct Testimony. In fact, Mr. Konidena conceded that if an alternative to a transmission line rebuild was more expensive than the rebuild itself without offsetting benefits – as is the case here – it would be unreasonable compared to the rebuild.[181] Therefore, according to PPL Electric, under OCA's own reasoning, the undergrounding alternative should be rejected. PPL Electric R.B., p. 18.

In these circumstances, PPL contends, the undergrounding alternative presented by OCA is not a reasonable alternative to the proposed rebuild Project. OCA has not presented any evidence to rebut PPL Electric's assertions that the pack-out rust and weatherization issues and concerns present on the existing COR-TEN® lattice structures encompassed by the Project will be resolved by the Project as proposed, nor has the OCA disputed that undergrounding the Stanton-Summit #3 and #4 Transmission Lines would be substantially more costly than the Project. Further, OCA ignores the fact that PPL Electric, throughout the course of this proceeding, has evaluated and rejected undergrounding all or a portion of the Stanton-Summit #3 and #4 230 kV Transmission Lines, for the specific circumstances and reasons noted above and explained in its Main Brief. As such, PPL Electric requests that OCA's recommendation for the Commission to order PPL Electric to "explore" an undergrounding option with respect to the Summit #3 and #4 230 kV Transmission Lines should be rejected. PPL Electric R.B., pp. 18-19.

The undersigned agree that an undergrounding option instead of the proposed Project would not be a viable alternative because PPL Electric established that undergrounding (1) is substantially more costly,[182] (2) would result in incremental ROW and environmental

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[180] PPL Electric M.B., at 47; PPL Electric St. 2, at p. 8 (comparing the $14.8 million-$24 million per mile cost of undergrounding a 69 kV transmission project to the $3-$5 million per mile cost of constructing an overhead 230 kV transmission line.

[181] Tr. at 114.

[182] PPL Electric St. 2, at p. 8 (comparing the $14.8-$24 million per mile cost of underground a 69 kV transmission project to the $3-$5 million per mile cost of constructing an overhead 230 kV transmission line).

impacts,[183] and (3) would increase the difficulty and expense of performing maintenance and addressing outages.[184] OCA's proposal that, should the Commission find that the Stanton-Summit Line is needed, PPL Electric should be required to provide a study as to the consumer costs of outages in order for the Commission to make a fair evaluation of the available alternatives, is rejected.

5. Need – Analysis and Conclusion

Above, the undersigned considered the alternatives advanced by OCA in lieu of the Project proposed by PPL Electric. We will now discuss the need for the proposed Project. This discussion will be divided into three parts. First, whether the Project is necessary to resolve significant asset health and public safety concerns related to the existing 46 tower structures on the Stanton-Summit Transmission Line. Second, whether the Project is necessary to prevent violations of NERC reliability standards and maintain reliable transmission service during planned and unplanned outages. And lastly, whether the Project resolves the needs identified by PPL Electric on a more efficient and cost effective basis than the alternatives evaluated by the Company prior to filing of the LON with the Commission.

First, we address whether the Project is necessary to resolve significant asset health and public safety concerns related to the existing 46 tower structures on the Stanton-Summit Transmission Line. Based on several analyses, including specific evaluations of the lattice towers at issue, the undersigned agree that PPL Electric has demonstrated that the prevalence of pack-out rust in the existing COR-TEN® lattice towers that comprise the Stanton-Summit #3 and #4 230 kV Transmission Lines has accelerated the deterioration of these structures and brought the assets to the end of their service life much sooner than would have been anticipated. PPL Electric M.B., pp. 13-14.

[183] PPL Electric St. 2, at p. 9; PPL Electric St. 2-R, at p. 17.

[184] PPL Electric St. 2-R, at p. 18.

In this proceeding, OCA's challenge is limited to its claim that PPL Electric has not satisfied the need requirement required of 52 Pa. Code § 57.76(a)(1).[185] OCA does not dispute the condition of the towers sought to be replaced by PPL Electric. Rather, it claims that PPL Electric has not satisfied the need requirement of 52 Pa. Code § 57.76(a)(1) because the existing PJM processes do not provide a robust evaluation of potential alternatives and thus do not adequately protect Pennsylvania ratepayers.

PPL Electric retained RTR Energy Solutions, Inc. (RTR) to prepare a condition assessment of the Stanton-Summit #3 and #4 230 kV Transmission Lines in March 2022.[186] RTR's assessment analyzed each joint of all 30 structures that comprise this transmission line.[187] Each structure was then assessed with a condition rating of "Mild" (less than 25% of total joints contain pack-out rust), "Moderate" (more than 25% but less than 50% of total joints contain pack-out rust), or "Severe" (more than 50% of total joints contain pack-out rust).[188] PPL Electric M.B., p. 28.

While pack-out rust was observed in joints all the way up some towers, the majority was observed in the lower sections of the post legs where horizontal and diagonal members are bolted to the post leg.[189] Moreover, none of the structures were in "Mild" condition and "[o]ut of the 40 structures classified as 'moderate', the average percentage of total joints containing pack[-out] rust is approximately 46%."[190] This analysis showed that "the average structure that is classified as moderate in the assessment is very close to being

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185 OCA St. 1, at p. 7 (testifying that the OCA "do[es] not believe that PPL Electric has satisfied the need requirement for their proposed Project." (emphasis added)); *see also* PPL Electric St. 1-R, at p. 4; PPL Electric Exhibit JBL-1R; PPL Electric Cross Exhibit 6.

186 PPL Electric St. 1, at p. 9.

187 PPL Electric St. 1, at p. 9.

188 PPL Electric St. 1, at p. 9; PPL Electric Exhibit 1, at p. 52.

189 PPL Electric Exhibit JBL-1, at p. 10.

190 PPL Electric Exhibit JBL-1, at p. 10.

considered 'severe' and the condition of the structures on the line are overall more severe."[191] PPL Electric M.B., pp. 28-29.

The undersigned conclude that PPL Electric has demonstrated that the existing COR-TEN® lattice towers have deteriorated and have been brought 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 Stanton-Summit #3 and #4 230 kV Transmission Lines have exceeded their useful life and can no longer be relied upon to safely operate as designed.[192] Due to the prevalence of pack-out rust in these lowers, there is an increased risk of (a) possible shearing of bolts, (b) members disconnecting from lattice towers, or (c) complete tower failure.[193] These conditions pose not only a significant asset health concern, but also a major safety risk to both the public and PPL Electric employees.[194] PPL M.B., p. 29.

Second, whether the Project is necessary to prevent violations of NERC reliability standards and maintain reliable transmission service during planned and unplanned outages.

According to PPL Electric, the asset health and public safety concerns identified are also important because a failure of the Stanton-Summit #3 and #4 230 kV Transmission Lines would likely result in reliability issues for PPL Electric's Bulk Transmission System.[195] PPL Electric witness, Mr. Lookup, explained that "if these transmission lines fail, it is expected that the service of approximately 34,968 customers would be impacted for the next

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191 PPL Electric Exhibit JBL-1, at p. 10.

192 PPL Electric Exhibit JBL-1, at p. 11.

193 PPL Electric Exhibit JBL-1, at p. 11.

194 PPL Electric Exhibit JBL-1, at p. 11.

195 PPL Electric Exhibit JBL-1, at p. 11.

contingency."[196] Customers impacted would include "Williams Pipeline Compressor Station 605 and Metropolitan Insurance."[197] PPL Electric M.B., p. 29.

PPL Electric witness, Mr. Szmodis, further elaborated on this need. Specifically, Mr. Szmodis identified both PPL Electric and PJM must "conduct load flow analysis according to NERC Standard TPL-001" when evaluating a specific need and potential solutions to that need.[198] Mr. Szmodis then explained that:

> The NERC Standard TPL-001 is a standard that all the electric utilities in the United States must abide by, and it lists out the type of contingencies that must be studied on a transmission system. These contingencies are taking pieces of equipment [out of] service, as an example, a transmission line, could be a generator, a transformer, and other pieces of equipment to ensure that the system does not have any overloads or voltage issues if some of these pieces of equipment are taken out of service.[199]

PPL Electric M.B., p. 30.

OCA's witness similarly admitted that PPL Electric must comply with this standard:

> Q. [ATTORNEY LENT] And transmission owners must also keep their assets in good condition to comply with NERC standards?
>
> A. [OCA WITNESS KONIDENA] Yes.
>
> …

196 PPL Electric St. 1, at p. 10-11; *see also* PPL Electric Exhibit JBL-1, at p. 11.

197 PPL Electric St. 1, at p. 10-11; *see also* PPL Electric Exhibit JBL-1, at p. 11.

198 PPL Electric St. 2-R at 13.

199 Tr. 86.

> Q. [ATTORNEY LENT] If a transmission owner did not comply with NERC standards, would you consider that good utility practice?
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> A. [OCA WITNESS MR. KONIDENA] If a transmission owner does not comply with the NERC standards, is it good utility practice? No, because there will be fines.[200]

PPL Electric M.B., p. 30 (emphasis added).

NERC Standard TPL-001 serves an important purpose.[201] This standard requires PPL Electric to plan for scenarios where aspects of the bulk transmission system are taken out of service (e.g., for maintenance) to ensure that the loss of other facilities does not result in disruptions on the transmission grid. PPL Electric M.B., p. 30.

PPL Electric showed that the increased relevance of severe weather, and changing weather patterns, will impact the reliability of the existing COR-TEN® lattice towers.[202] Specifically, the risks of failure increase where a wind event impacts a structurally compromised COR-TEN® lattice tower.[203] PPL Electric M.B., p. 31.

And lastly, the undersigned will discuss whether the Project resolves the needs identified by PPL Electric on a more efficient and cost effective basis than the alternatives evaluated by the Company prior to filing of the LON with the Commission.

PPL Electric evaluated three potential solutions to address the degrading health of the Stanton-Summit #3 and #4 230kV Transmission Lines.[204] The first alternative PPL Electric considered was to replace each of the existing COR-TEN® lattice towers with new

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200 Tr. 113-114 (emphasis added).

201 Tr. 86.

202 PPL Electric Exhibit JBL-1, at p. 12.

203 PPL Electric Exhibit JBL-1, at p. 12.

204 PPL Electric Exhibit JBL-1, at pp. 12-16.

standard lattice tower structures.[205] This alternative would have an initial replacement cost of $647,243 per structure.[206] However, this alternative would also require PPL Electric to replace the existing conductors in 2026 (i.e., when the conductors reached their end of life) at an additional $256,402 per structure.[207] Moreover, there would be ongoing incremental operations and maintenance (O&M) costs for these facilities for the remainder of their service lives.[208] PPL Electric M.B., pp. 31-32.

The second alternative considered by PPL Electric 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 rust from affected joints.[209] The average estimated cost of remediation is approximately $200,943/structure.[210] However, PPL Electric rejected this alternative due to substantial uncertainties regarding its immediate and long-term effectiveness to address the COR-TEN® issue.[211] The Company explained that:

> [t]he 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

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205 PPL Electric Exhibit JBL-1, at p. 13.

206 PPL Electric Exhibit JBL-1, at p. 14.

207 PPL Electric Exhibit JBL-1, at p. 14.

208 PPL Electric Exhibit JBL-1, at p. 14.

209 PPL Electric Exhibit 1, at p. 54.

210 PPL Electric Exhibit 1, at p. 55. As further explained in Attachment 1 – Necessity Statement, this figure was developed using an average of three contractors' estimated costs to remediate each tower, which ranged from $140,000 to $240,000. PPL Electric Exhibit 1, at p. 50.

211 PPL Electric Exhibit JBL-1, at p. 14.

> proposed by the Project, would avoid these potential unknown risks and costs.[212]

PPL Electric M.B. p. 32.

Furthermore, according to PPL Electric, while remediation could extend the life of the structures, re-evaluation (at a minimum) and possible subsequent remediation every 10 years following the initial remediation may be required.[213] In addition, PPL Electric asserts that 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 the poor asset health conditions.[214] Finally, PPL Electric explained that remediation would require additional O&M expense and would still require the structures to be replaced in 30 years, resulting in additional duplicative projects to resolve the COR-TEN®-related asset health concerns.[215] PPL Electric M.B., pp. 32-33.

The third alternative evaluated by PPL Electric (i.e., the Proposed Solution, the Stanton-Summit Project, or the Project) was to fully rebuild the existing Stanton-Summit #3 and #4 230kV Transmission Lines.[216] Importantly, PPL Electric asserts that the proposed rebuild is more cost-effective and much less risky than the remediation alternative.[217] In addition, according to PPL Electric, the concerns regarding (1) the lack of full-remediation experience with COR-TEN® lattice towers, (2) the lack of evidence of the long-term remediation effectiveness for COR-TEN® lattice towers, and (3) the possible return of pack-out rust in the joints of remediated COR-TEN® lattice tower structures, are fully avoided by the proposed rebuild contemplated by the Project.[218] Furthermore, the proposed rebuild option avoids the

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212 PPL Electric Exhibit JBL-1, at p. 14, n.16.

213 PPL Electric Exhibit JBL-1, at p. 14.

214 PPL Electric Exhibit JBL-1, at p. 14.

215 PPL Electric Exhibit JBL-1, at p. 14.

216 PPL Electric Exhibit JBL-1, at p. 15.

217 PPL Electric St. 1 at 12; PPL Electric Exhibit JBL-1, at p. 15.

218 PPL Electric Exhibit JBL-1, at p. 15.

ongoing O&M expense and additional, eventual reconductoring costs associated with the replacement alternative.[219] Finally, PPL Electric contends that the Project has the additional benefit of improving performance by increasing clearances and improving lightning performance by replacing the existing lattice towers with monopoles.[220] PPL Electric p. 33.

According to PPL Electric, the proposed Project is also more cost-effective than the identified alternatives on a long-term cost of service basis.[221] The approximate total cost of the entire Project is $36.8 million.[222] PPL Electric presented a cost-of-service comparison over a 45-year and 75-year period for the proposed Project, and the other two alternatives.[223] On a total cost-of-service basis, the Proposed Solution is approximately 88% of the cost of Alternative 1 (i.e., replacing the existing structures) on a 45-year basis and 95% of the cost of Alternative 1 on 75-year basis.[224] In addition, on a total cost-of-service basis, the Proposed Solution is approximately 89% of the cost of Alternative 2 (i.e., remediating the existing structures) on a 45-year basis and 57% of the cost of Alternative 2 on 75-year basis.[225] PPL Electric M.B., pp. 33-34.

The undersigned conclude that the Project is the best alternative to address the asset health concerns identified by PPL Electric which are not disputed by OCA. The Project is also the most cost-effective of the three alternatives considered by PPL Electric. The Project has less risk and uncertainty associated with it than the other two alternatives PPL Electric considered but decided not to pursue. PPL Electric has satisfied the need requirement set forth in the Commissions regulations at 52 Pa.Code § 57.76(a)(1). The Project addresses the asset

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219 PPL Electric Exhibit JBL-1, at p. 15.

220 PPL Electric Exhibit JBL-1, at p. 15.

221 PPL Electric St. 1, at p. 12.

222 PPL Electric Exhibit JBL-1, at p. 17.

223 PPL Electric Exhibit JBL-1, at p. 1.

224 PPL Electric Exhibit JBL-1, at p. 17.

225 PPL Electric Exhibit JBL-1, at p. 17.

health need in a cost-effective manner and also prevents reliability issues and potential violations of NERC Standard TPL-001 should the lines be out of service and the next contingency occurs. OCA has not met its burden of proof with respect to the alternatives it offered to the Project.

D. Whether the high voltage transmission line will create an unreasonable risk of danger to the health and safety of the public.

PPL Electric asserts that the Project will not create an unreasonable risk of danger to the health and safety of the public, stating that it will be designed, constructed, and maintained to ensure the health and safety of the public.

PPL Electric first notes that the rebuilt transmission lines associated with the Stanton-Summit Project will meet and exceed the NESC standards.[226] PPL Electric also references several Commission decisions where the Commission held that transmission lines that meet or exceed the NESC requirements do not create an unreasonable risk of danger to the health and safety of the public.[227]

PPL Electric also asserts that it designs and constructs projects with high regard to both public and employee safety and follows or exceeds all codes and requirements. Company safety rules include procedures to allow work to be performed on energized facilities in a safe manner, including specific tagging procedures; the use of temporary safety grounds on de-energized facilities for employee lineman safety during maintenance, construction, or reconstruction work; pre-grounding voltage tests to confirm a line is de-energized; pre-climbing inspection of pole and/or structure integrity; and the required use of appropriate safety gear.

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[226] PPL Electric St. 1, at p. 16.

[227] See, e.g., Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the Pennsylvania Portion of The Proposed Susquehanna-Roseland 500 kV Transmission Line, Docket Nos. A-2009-2082652 (Opinion and Order entered Feb. 12, 2010); Application of PP&L for Approval to Locate and Construct a 138 kV Transmission Line Between West Allentown and Salisbury Substations, Docket No. A-00104160 (Order entered July 20, 1984); Application of PP&L for Authorization to Locate and Construct its Hamlin 138 kV Electric Transmission Line, Docket No. A-00101826 (Order entered Apr. 16, 1981); Larken v. Phila. Elec. Co., 39 Pa.P.U.C. 777 (1961).

PPL Electric also states that although the Commission has found that electric and magnetic fields, or "EMF," from transmission lines do not pose a danger to the health and safety of the public,[228] PPL Electric has taken steps to mitigate EMF.[229] In the Project Proposal, 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.[230] Also, the proposed rebuild of the Stanton-Summit #3 and #4 230kV Transmission Lines will continue to allow for double-circuit operation, which PPL Electric witness Lookup testified would allow for reverse phasing.[231] He further stated that a reduction in magnetic field exposure is anticipated due to the higher ground clearances and reverse phasing.[232]

OCA did not address this issue or dispute PPL Electric's evidence on this issue. Based on the evidence presented, PPL Electric has established that the high voltage transmission lines in the Project will not create an unreasonable risk of danger to the health and safety of the public.

E. Whether the Project is in compliance with applicable statutes and regulations providing for the protection of the natural resources of the Commonwealth.

Under the Pennsylvania Constitution, the Commission is to evaluate whether a proposal to locate and construct high voltage transmission lines ensures the protection of the environment whenever the issue of damage to the environment is raised.[233] This requirement

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228 *Application of Pa. Power & Light Co.,* Docket No. A-110500F0196 (Final Order entered Dec. 15, 1994) ("Based on the extensive scientific evidence developed to date, which has been discussed in the preceding section, it is clear that EMF should not be regarded as a health hazard.").

229 PPL Electric St. 1, at pp. 16-17; *see also* PPL Electric Exhibit JBL-4, at p. 5.

230 PPL Electric St. 1, at pp. 16-17; *see also* PPL Electric Exhibit JBL-4, at p. 5.

231 PPL Electric St. 1, at pp. 16-17; *see also* PPL Electric Exhibit JBL-4, at p. 5.

232 PPL Electric St. 1, at pp. 16-17; *see also* PPL Electric Exhibit JBL-4, at p. 5.

233 Pa. Const. Art. I, § 27.

is satisfied when the Commission determines that the LON applicant has complied with all applicable statutes and regulations relevant to the protection of the environment.

The Commission's regulations require that a transmission line project "will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives." [234] In determining whether a proposed route will have minimum adverse environmental impacts, the Commission will consider the impact and the efforts that have been and will be made to minimize the impact, if any, of the proposed line upon the following: (i) land use; (ii) soil and sedimentation; (iii) plant and wildlife habitats; (iv) terrain; (v) hydrology; (vi) landscape; (vii) geologic areas; (ix) historic areas; (x) scenic areas; (xi) wilderness areas; and (xii) scenic rivers.[235] Further, the Commission will consider the availability of reasonable alternative routes in reaching a conclusion as to whether the proposed route will have minimum adverse environmental impacts. [236]

Under the Commission's Regulations, the Project must comply "with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth", and that "it will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives."[237] The Commission will consider the evidence of record that is relevant to potential environmental impacts of the Project.[238]

Article 1, Section 27 of the Pennsylvania Constitution, the Environmental Rights Amendment, protects the rights of Pennsylvanians to clean air, pure water, and the

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234 52 Pa. Code § 57.76(a)(4).

235 52 Pa. Code § 57.75(e)(3).

236 52 Pa. Code § 57.75(e)(4).

237 *See* 52 Pa. Code § 57.76 (a)(3-4).

238 *See* 52 Pa. Code § 57.75(e)(1-3).

preservation of the environment, while also requiring the Commonwealth to conserve and maintain the public's natural resources for the benefit of all Pennsylvanians. Article 1, Section 27 states in full:

> [t]he people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.[239]

These constitutional rights are the basis for the regulatory framework the Commission promulgated for the review of high-voltage transmission lines.[240]

OCA avers that pursuant to its enabling statutes, the Commission promulgated regulations setting forth the regulatory requirements for approval to construct high-voltage transmission facilities. The Commission's regulations were based on the *Payne v. Kassab,* 312 A.2d 86 (Pa. Cmwlth. 1973) standard, a now overruled interpretation of the Commonwealth's constitutional obligations under the Environmental Rights Amendment. Now, OCA argues, the Commission must ensure that its constitutional obligations are fulfilled and that its regulations are applied in a manner consistent with *Pennsylvania Environmental Defense Foundation v. Commonwealth of Pennsylvania, et al*., 161 A.3d 911 (Pa. 2017) (*PEDF*).

According to OCA, until recently, the Commonwealth's obligations in preserving the environment were further expressed in a three-part test established by the Commonwealth Court in the case of *Payne v. Kassab*, in which the Court stated:

> [t]he court's role must be to test the decision under review by a threefold standard:

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239 Pa. Const. Art. 1, § 27.

240 *See Re Proposed Electric Regulation*, 49 Pa.P.U.C. 709, 712 (Mar. 2, 1976).

> (1) Was there compliance with all applicable statutes and regulations relevant to the protection of the Commonwealth's public natural resources?
> (2) Does the record demonstrate a reasonable effort to reduce the environmental incursion to a minimum?
>
> (3) Does the environmental harm which will result from the challenged decision or action so clearly outweigh the benefits to be derived therefrom that to proceed further would be an abuse of discretion?[241]

The Commission, OCA continues, used identical language in its Orders promulgating the regulations for the review of high-voltage transmission lines.

However, OCA avers, in *PEDF*, the Supreme Court of Pennsylvania overturned this test stating "[t]he Payne I test, which is unrelated to the text of Section 27 and the trust principles animating it, strips the constitutional provision of its meaning." [242] In replacing the *Payne* standard, the Court outlined three principal contours of Article I, Section 27, which must guide any analysis. *Id.* As stated by the Court:

> [t]his constitutional provision grants two separate rights to the people of this Commonwealth. The first right is contained in the first sentence, which is a prohibitory clause declaring the right of citizens to clean air and pure water, and to the preservation of natural, scenic, historic and esthetic values of the environment. This clause places a limitation on the state's power to act contrary to this right, and while the subject of this right may be amenable to regulation, any laws that unreasonably impair the right are unconstitutional.
>
> The second right reserved by Section 27, set forth in its second sentence, is the common ownership by the people, including future generations, of Pennsylvania's public natural resources…In a statement offered to the General Assembly in connection with the proposed Environmental Rights Amendment, Professor Robert Broughton explained that the provision was initially drafted as "Pennsylvania's natural

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241 312 A.2d 86, 94 (Pa. Cmwlth.1973) (*Payne*).

242 *PEDF* at 930.

> resources, including the air, waters, fish, wildlife, and the public lands and property of the Commonwealth" but was revised to remove the enumerated list and thereby discourage courts from limiting the scope of natural resources covered.
>
> The third clause of Section 27 establishes a public trust, pursuant to which the natural resources are the corpus of the trust, the Commonwealth is the trustee, and the people are the named beneficiaries. The terms "trust" and "trustee" carry their legal implications under Pennsylvania law at the time the amendment was adopted. Notably, Professor Broughton explained that the Commonwealth's role was plainly intended to be that of a "trustee," as opposed to "proprietor." As a trustee, the Commonwealth must deal "with its citizens as a fiduciary, measuring its successes by the benefits it bestows upon all its citizens in their utilization of natural resources under law." Under Section 27, the Commonwealth may not act as a mere proprietor, pursuant to which it "deals at arms['] length with its citizens, measuring its gains by the balance sheet profits and appreciation it realizes from its resources operations."[243]

OCA asserts that the Court in *PEDF* corrects the approach taken when analyzing a governmental action that may infringe upon the environmental rights of Pennsylvanians. Composed of two separate principles, the *PEDF* decision first opines that that there is a prohibitory clause declaring the right of citizens to clean air and pure water, and to the preservation of the natural, scenic, historic, and esthetic values of the environment.[244] The second and third clauses create a trust wherein the public natural resources are the corpus of that trust, the Commonwealth the trustee, and Pennsylvanians the named beneficiaries.[245] Moreover, these constitutional obligations bind state and local government concurrently.[246] As such, the Commission's review of the proposed Project must follow the approach outlined

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243 *PEDF* at 931-32 (internal citations omitted).

244 *PEDF* at 931.

245 *Id.*

246 Frederick v. Allegheny Twp. Zoning Hearing Bd., 196 A.3d 677 (Pa. Cmwlth. 2018).

in the *PEDF* decision, as these constitutional obligations bind all government agencies, including the Pennsylvania Public Utility Commission.

Prior to the *PEDF* decision, OCA continues, the environmental harms from a project would need to outweigh its purported benefits in order to support a denial of such a project.[247] After *PEDF*, any governmental action that may infringe on the environmental rights of Pennsylvanians is questionable in the first instance.

OCA argues that the Commission should consider the potential natural and scenic value in removing almost eight miles of above-ground transmission lines and 46 separate transmission lattice structures, if a PJM evaluation would support that possibility. Further, OCA states, the Commission should also consider the long-term benefits of undergrounding this facility, consistent with its obligations under the *PEDF* decision, if an appropriate analysis determines that the Stanton-Summit line is needed.

PPL Electric acknowledges that although it is not an environmental permitting agency, the Commission is required to comply with the directives set forth in Article I, Section 27 of the Pennsylvania Constitution, *i.e.*, the Environmental Rights Amendment.[248] PPL Electric witness Mr. Joseph B. Lookup provided testimony regarding PPL Electric's analysis of environmental and land use impacts, which is contained in Attachment 3 – Description of Project Area.[249] PPL emphasis the following:

> - 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. Review of the National Conservation Easement Database and PA Conserved Lands websites notes that no conserved lands are crossed by the Project;[250]

247 *See Payne* at 94.

248 *PEDF*, 161 A.3d at 931.

249 *See generally* PPL Electric St. 1.

250 PPL Electric St. 1, at p. 18.

- No State Historic Preservation Office ("SHPO") listed or eligible properties are crossed by the Project but the Bedell-Courtright Farmstead (SHPO resource Number 2011RE00513) borders the north side of the ROW along Ransom Road in the central portion of the Project Area. No effect to this resource is anticipated by the proposed Project activities;[251]
- No unique geological, scenic, or natural areas are located within the Project Area;[252]
- A Pennsylvania Natural Diversity Inventory ("PNDI") was run for the Project on October 8, 2021, to assess the potential presence of threatened and endangered species and/or special concern species. Specific agencies reviewing the Project included the following:

    1. Pennsylvania Game Commission,

    2. Pennsylvania Fish and Boat Commission,

    3. Pennsylvania Department of Conservation and Natural Resources, and

    4. U.S. Fish and Wildlife Service.[253]

- PDCNR is the only agency that responded with potential threatened and endangered species concerns within the Project Area. Surveys for the identified plant species of concern were conducted in spring and fall 2022. The specific plant species identified by PDCNR were not found in the Project Area, but a different plant species of concern was found in a location that will not be affected by Project activities. PPL Electric will continue to consult with the PDCNR regarding avoidance of this protected species.[254]

While PPL Electric acknowledges that all transmission lines will have some impact to the natural and/or human environment, PPL Electric emphasizes that the Project is

[251] PPL Electric St. 1, at p. 18.

[252] PPL Electric St. 1, at p.19.

[253] PPL Electric St. 1, at pp. 20-21.

[254] PPL Electric St. 1, at pp. 20-21.

limited to rebuilding existing transmission lines located entirely within the ROW. Further, PPL Electric states, this ROW is currently dedicated to utility use and occupied by transmission lines. The Company contends that no portion of the Project will be located outside of the existing ROW, nor will the Project substantially alter the existing ROW. Furthermore, PPL Electric asserts, the Project will also decrease the maximum height and average height of towers,[255] and decrease the ground impacts of the structures comprising the Stanton-Summit #3 and #4 230 kV Transmission Lines.[256]

PPL Electric further argues that 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. The Project work within the existing ROW will have fewer environmental impacts than the proposed alternatives.

PPL Electric also reiterates that the Company has committed to obtain all required permits prior to construction of the Project, and will comply with any and all conditions placed on such permits by those agencies that have appropriate jurisdiction over environmental matters.[257] It is PPL Electric's assertion that, as a general matter, the Commission has found compliance with the applicable environmental statutes and regulations where the applicant agrees to obtain any and all environmental permits necessary prior to construction and to comply with any conditions on those permits during construction.[258]

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[255] PPL Electric St. 1, at pp. 15-16; *See also* PPL Electric Exhibit JBL-2. 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.

[256] PPL Electric St. 1, at pp. 15-16. The existing COR-TEN® lattice towers have a wider base than the proposed steel monopoles.

[257] PPL Electric St. 1, at p. 6; PPL Electric Exhibit JBL-3, at pp. 3-7.

[258] PPL Electric references the following: Application of Pennsylvania Electric Company For Approval to Locate and Construct the Bedford North-Osterburg East 115 kV HV Transmission Line Project Situated in Bedford and East St. Clair Townships, Bedford County, Pennsylvania, Docket No. A-2011-2247862 (Opinion and Order entered June 7, 2012); Application of Trans-Allegheny Interstate Line Company for the Approval to Locate, Construct, Operate and Maintain Certain High Voltage Electric Transmission Line Facilities and to Exercise the Power of Eminent Domain to Construct and to Install the Proposed Aerial Electric Transmission Line Facilities Along the Proposed Route, Being a 138 kV Transmission Line and Related Facilities Collectively, the Osage-Whiteley Line Facilities or Project, in Portions of Dunkard Township, Perry Township, and

Finally, at no point during this matter did OCA contend that the Project was or is in violation of applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth. In this regard, PPL Electric's evidence regarding 52 Pa. Code § 57.76(a)(3) is undisputed.

Therefore, PPL Electric pleads, the Commission should find that PPL Electric has demonstrated the Project complies with applicable statutes and regulations providing for the protection of the natural resources of the Commonwealth, pursuant to 52 Pa. Code § 57.76(a)(3) and *PEDF*.

OCA's argument has some merit. Ostensibly, undergounding all or part of the Project would have less of an aesthetic environmental effect at its location, providing more "natural and scenic value."[259] PPL states that it considered underground facilities but determined that it (1) is substantially more costly, comparing the $14.8–$24 million mile cost of underground a 69 kV transmission project versus $3–$5 million per mile cost of constructing an overhead 230kV transmission line,[260] (2) would result in incremental ROW and environmental impacts,[261] and (3) would increase the difficulty and expense of performing maintenance and addressing outages.[262] PPL witness Szmodis testified that any reliability benefits associated with undergrounding are negligible in the context of this Project and would be offset by the fault identification and maintenance issues.[263]

Whiteley Township, Greene County in Southwestern Pennsylvania, Docket No. A-2010-2187540 (Opinion and Order entered Mar. 15, 2012); Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the Pennsylvania Portion of The Proposed Susquehanna-Roseland 500 kV Transmission Line, Docket No. A-2009-2082652 (Opinion and Order entered Feb. 12, 2010).

259 OCA Main Brief at 31.

260 PPL Electric St. 2, at p. 8

261 PPL Electric St. 2, at p. 9; PPL Electric St. 2-R, at p. 17.

262 PPL Electric St. 2-R, at p. 18.

263 PPL Electric St. 2-R, at pp. 18-19.

The current line to be replaced is already above ground and underground facilities would cost three times as much, which would be passed on to ratepayers. Moreover, PPL Electric demonstrated that the Project would be in compliance with applicable statutes and regulations that protect natural resources of the Commonwealth, and that underground facilities, while desirable, are not required for the Project to be in compliance.

F. Whether The Project Will Have Minimum Adverse Environmental Impacts

PPL Electric asserts that the Project will have minimum adverse environmental impacts. PPL Electric further asserts that a utility is not required to conduct a siting study or to evaluate alternative routes for an HV transmission line project that is the subject of a Letter of Notification.[264]

PPL Electric notes that the Project involves the construction of an HV Transmission Line that is less than 8 miles in length,[265] and that will be constructed within an existing electric transmission ROW.[266] PPL Electric's witness Mr. Lookup testified:

> [T]he proposed rebuild Project is to take place entirely within the Company's existing ROW where the Stanton-Summit #3 and #4 230 kV Transmission Lines are already located. Thus, a rebuild within the same ROW containing existing structures will have minimum environmental impacts compared to any greenfield transmission line construction alternative, or any other alternative that would require new construction outside of the existing ROW. As such, an analysis of alternative routes would be redundant, at best.[267]

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[264] *See* 52 Pa. Code § 57.72(d)(4).

[265] PPL Electric St. 1, at pp. 5-6 ("The Project proposes to rebuild approximately 7.7 miles of existing double-circuit 230 kV transmission lines that connect the Stanton Substation and Summit Substation, i.e., the Stanton-Summit #3 and #4 230 kV Transmission Lines.").

[266] PPL Electric St. 1, at p. 22.

[267] PPL Electric St. 1, at p. 22.

He further stated that:

> PPL Electric's environmental evaluation of the project area included identification and identification of impacts to cultural resources, unique geological, scenic, natural areas, wetlands, waterways, and threatened or endangered species as explained above. Moreover, it is important to emphasize that because the proposed Project does not contemplate development outside of the existing HV transmission line ROW, all else being equal, it will result in fewer environmental impacts than alternatives that involve greenfield construction of transmission infrastructure where none currently exists.[268]

As noted by Mr. Lookup, none of the permitting agencies that address environmental matters imposed conditions on the Project.[269] OCA did not contest this testimony or address this issue in its briefs. There is no evidence showing that the Project will have other than minimum adverse Environmental Impacts in accordance with 52 Pa. Code § 57.76(a)(4).

V. CONCLUSIONS OF LAW

1. PPL Electric Utilities Corporation bears the burden of proof for its proposed Project. 52 Pa. Code § 332.

2. PPL Electric Utilities Corporation has established by sufficient evidence that there is a need for the Project. 52 Pa. Code § 57.76(a)(1).

3. PPL Electric Utilities Corporation has established by sufficient evidence that the Project will not create an unreasonable risk of danger to the health and safety of the public. 52 Pa. Code § 57.76(a)(2).

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[268] PPL Electric St. 1, at pp. 22-23.

[269] PPL Electric St. 1, at p. 23.

4. PPL Electric Utilities Corporation has established by sufficient evidence that the Project follows applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth. 52 Pa. Code § 57.76(a)(3).

5. PPL Electric Utilities Corporation has established by sufficient evidence that the Project will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives. 52 Pa. Code § 57.76(a)(4).

6. The Office of Consumer Advocate has not met its burden of proving that the alternatives to the Project it advanced in this proceeding are reasonable or negate the need PPL Electric Utilities Corporation has established for the Project. 66 Pa.C.S. § 332(a).

ORDER

THEREFORE,

IT IS ORDERED:

1. The Letter of Notification of PPL Electric Utilities Corporation filed pursuant to 52 Pa.Code Chapter 57 Subchapter G, for Approval to Rebuild the Existing Double-Circuit Stanton-Summit #3 and #4 230 kV Transmission Lines Connecting the Stanton 230 kV Substation and a Two-Pole Turn Stricture That Are Respectively Located in Luzerne and Lackawanna Counties, Pennsylvania filed at Docket No. A-2022-3037374, is approved.

2. That the Protest of the Office of Consumer Advocate is denied.

3. That PPL Electric Utilities Corporation shall comply with any and all permit requirements from any agency or entity from which a permit is required in order to site and construct the high-voltage transmission line referred to as the Project.

4. That the Docket at A-2022-3037374 be marked closed.

Date: January 22, 2024

/s/
Mark A. Hoyer
Deputy Chief Administrative Law Judge

/s/
Darlene Heep
Administrative Law Judge