Post & Schell P.C.
ATTORNEYS AT LAW

17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
717-731-1970 Main
717-731-1985 Main Fax
www.postschell.com

Garrett P. Lent
Associate

glent@postschell.com
717-612-6032 Direct
717-731-1979 Direct Fax
File #: 213790

August 11, 2025

VIA ELECTRONIC FILING

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

Re: **Letter Of Notification Of PPL Electric Utilities Corporation, Filed Pursuant To 52 Pa. Code Chapter 57 Subchapter G, For Approval To Build Approximately 1.5 Miles Of New Single Circuit 230 kV Transmission Line To Connect the Existing Susquehanna 230 kV Switchyard to the Existing Customer-Owned 230-69 kV Substation, To Build A New Single Circuit 0.2-Mile-Long 500 kV Transmission Line From the Susquehanna 500 kV Switchyard To An Existing Customer-Owned Substation, and To Build A New Double Circuit 0.4-Mile-Long 230 kV Transmission Line From The Susquehanna T10 230 kV Switchyard To A New Customer Owned 230-34 kV Substation Located in Luzerne County, Pennsylvania**
Docket No. A-2025-_____

Dear Secretary Homsher:

Attached for filing is the Letter of Notification of PPL Electric Utilities Corporation for Approval to Build Approximately 1.5 Miles of New Single Circuit 230 kV Transmission Line to Connect the Existing Susquehanna 230 kV Switchyard to the Existing Customer-Owned 230-69 kV Substation, to Build a New Single Circuit 0.2-Mile-Long 500 kV Transmission Line from the Susquehanna 500 kV Switchyard to an Existing Customer-Owned Substation, and to Build a New Double Circuit 0.4-Mile-Long 230 kV Transmission Line from the Susquehanna T10 230 kV Switchyard to a New Customer Owned 230-34 kV Substation Located in Luzerne County, Pennsylvania .

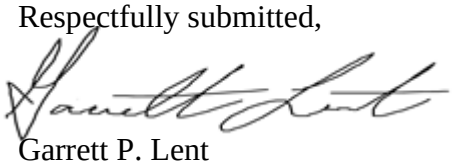
As indicated on the Certificate of Service, copies of the Letter of Notification are being served by certified mail, return receipt requested, upon the involved governmental agencies, municipalities and property owners. Construction of the Project will commence upon the Commission's approval

of this filing, with an estimated construction start date of October 2025 with an anticipated in-service date of December 2025. To meet the projected in-service dates, PPL Electric is seeking the Commission's decision by no later than the public meeting currently scheduled for September 25, 2025.

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

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

Respectfully submitted,



Garrett P. Lent

GPL/dmc
Enclosures

cc: Deb Backer (*via email; w/attachments*)
Jordan Van Order (*via email; w/attachments*)
Certificate of Service

CERTIFICATE OF SERVICE

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

VIA CERTIFIED MAIL: RETURN RECEIPT REQUST

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

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

Pennsylvania Department of Transportation
Keystone Building
400 North Street, Ninth Floor
Harrisburg, Pennsylvania 17120
Attn: Jeffrey Spotts, Chief Counsel

Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, Pennsylvania 17120-0093
Attn: Ms. Emma Diehl, Division Manager

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

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

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

Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923
Attn: Darryl A. Lawrence, Interim Acting Consumer Advocate

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

U.S. Army Corps of Engineers
Baltimore District
2 Hopkins Plaza
Baltimore, Maryland 21201
Attn: Public Affairs Office

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

Luzerne County Conservation District
325 Smiths Pond Rd
Shavertown, Pennsylvania 18708
ATTN: Josh Longmore, Executive Director

Luzerne County Planning Commission
Luzerne County Courthouse
200 N River Street
Wilkes-Barre, Pennsylvania 18711
ATTN: N. Brian Caverly, Luzerne County Planning Commission Chair

Salem Township
38 Bomboy Lane
Berwick, Pennsylvania 18603
ATTN: Ernest Ashbridge III, Chairman

Conyngham Township
10 Pond Hill Mtn. Road
Mocanaqua, Pennsylvania 18655
ATTN: Edward Whitebread, Chairman

Cumulus Data LLC
600 Hamilton St
Allentown, Pa
18101-2130

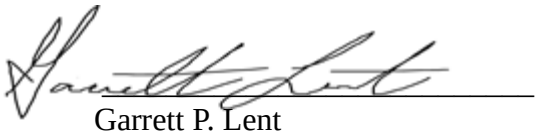
Cumulus Real Estate Holdings LLC
Marc A Jackson Real Estate & Property Management
600 Hamilton St
Allentown, Pa
18101-2130

Susquehanna Data LLC
600 Hamilton St
Allentown, Pa
18101-2130

Susquehanna Nuclear LLC
600 Hamilton St
Allentown, Pa
18101-2130

Norfolk Southern Railway Co
Taxation Department
650 W Peachtree St NW
Atlanta, Ga
30308-1925

Dated: August 11, 2025



Garrett P. Lent

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter Of Notification Of PPL Electric Utilities Corporation, Filed Pursuant To 52 Pa. Code Chapter 57 Subchapter G, For Approval To Build Approximately 1.5 Miles Of New Single Circuit 230 kV Transmission Line To Connect the Existing Susquehanna 230 kV Switchyard to the Existing Customer-Owned 230-69 kV Substation, To Build A New Single Circuit 0.2-Mile-Long 500 kV Transmission Line From the Susquehanna 500 kV Switchyard To An Existing Customer-Owned Substation, and To Build A New Double Circuit 0.4-Mile-Long 230 kV Transmission Line From The Susquehanna T10 230 kV Switchyard To A New Customer Owned 230-34 kV Substation Located in Luzerne County, Pennsylvania	:	Docket No. A-2025-_____

LETTER OF NOTIFICATION

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

PPL Electric Utilities Corporation ("PPL Electric") hereby files this Letter of Notification pursuant to Section 57.72(d)(1)(vi) of the Pennsylvania Public Utility Commission's ("Commission") regulations, 52 Pa. Code § 57.72(d)(1)(vi) to: (1) build approximately 1.5 miles of new single circuit 230 kV transmission line ("SUSQ – SS01 230 kV Line") that is needed to connect the existing Susquehanna 230 kV Switchyard to the existing customer owned "SS01" 230-69 kV substation; (2) build a new single circuit 0.2-mile-long 500 kV transmission line ("SUSQ – SS02 500 kV Line") from the Susquehanna 500 kV Switchyard to the existing customer owned "SS02" 500-69 kV substation; and (3) build a new double circuit 0.4-mile-long 230 kV

transmission line ("SU10 – SS0X #1 & #2 230 kV Lines") from the Susquehanna T10 230 kV Switchyard to a new customer owned "SS0X" 230-34 kV substation. In addition to these new overhead high-voltage ("HV") transmission lines, PPL Electric also plans to: (1) re-terminate the existing Sunbury – Susquehanna #1 230 kV line ("SUNB – SUSQ 230 kV Line") at the Susquehanna 230 kV Switchyard; (2) raise three spans of the existing Susquehanna – Transformer 21 230 kV line ("SUSQ – T21 230 kV Line"); and (3) re-terminate the existing Susquehanna T10 – Transformer 10 Tap 230 kV line ("SU10 – T10 230kV Line") at the Susquehanna T10 230 kV Switchyard. The modifications to these three existing lines are necessary to accommodate the proposed HV lines and will take place entirely upon existing PPL Electric right-of-way or customer and Susquehanna Steam Electric Station ("SSES") property where easements are being finalized.[1] Collectively, the siting and construction of the three new HV transmission lines, as well as the associated re-termination of existing transmission lines at the Susquehanna 230 kV Switchyard and raising of existing transmission lines, will be known as the "Susquehanna 230 kV and 500 kV Transmission Line Project" or "Project."

PPL Electric maintains that the proposed Project qualifies for use of a Letter of Notification because each of the component HV lines have a proposed route of two miles or less. In addition, the total line length of each of the component HV lines together is only 2.1 miles. Approval to site and construct each of these component HV transmission line could appropriately be sought in separate Letters of Notification; however, given that each of the component HV transmission lines serves the same customer and addresses the same need, PPL Electric has requested approval of all of these lines as a part of this Letter of Notification. To the extent that waiver of the Commission's regulations is required in order for the Project to proceed as a Letter of Notification—and PPL

[1] Although SESS is not PPL Electric's customer, PPL Electric notes that they are a third-party related to the customer that is specifically requesting PPL Electric to undertake the Project.

Electric submits that it is not—PPL Electric respectfully requests that the Commission waive 52 Pa. Code § 57.72(d)(1)(vi) and any additional waivers necessary to determine that the Project qualifies to proceed as a Letter of Notification because each of the component HV lines has a length of less than two miles.

As explained in greater detail below, this Project is needed to meet the electrical needs and demands of a new customer requesting transmission level service in Salem Township, Luzerne County, Pennsylvania. To meet the customer's needs, PPL Electric's system planners determined that extending new lines from the existing 230 kV and 500 kV switchyards is the optimal solution to serve the customer's requested load.

The Susquehanna 230 kV and 500 kV Transmission Line Project will be located in Conyngham and Salem Townships, Luzerne County, Pennsylvania. PPL Electric has provided information regarding this Project to all identified political subdivisions, and none of them have objected to the Project. Construction of the Project will commence upon the Commission's approval of this filing and proceed in four stages: (1) construction for raising the 3 spans of the existing SUSQ – T21 230 kV Line will begin in October 2025 to support an in-service date of December 2025; (2) construction to re-terminate the SUSQ – SS01 230 kV Line and SUNB – SUSQ 230 kV Line will begin in October 2025to support an in-service date of April 2026; (3) construction of the SUSQ – SS02 500 kV Line will begin in November 2026 to support an in-service date of April 2027; and (4) construction to re-terminate the SU10 – T10 230 kV Line and build the SU10 – SS0X #1 & #2 230 kV Line will begin in September 2027 to support an in-service date of April 2028. PPL Electric will own, operate, and maintain the new SUSQ – SS01 230 kV Line, SUSQ – SS02 500 kV Line, and SU10 – SS0X #1 & #2 230 kV Lines. The customer will construct, own, operate, and maintain its 230-69 kV, 500-69 kV, and 230-34 kV substations.

The total estimated cost of this Project, as described below, is approximately $30.2 Million, with the customer responsible for approximately $26.8 Million and PPL Electric responsible for approximately $3.4 Million. To meet the projected in-service dates, PPL Electric is seeking the Commission's decision by no later than the public meeting currently scheduled for September 25, 2025.

In support thereof, PPL Electric states as follows:

I. INTRODUCTION

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

2. PPL Electric's address is as follows:

PPL Electric Utilities Corporation
827 Hausman Road
Allentown, Pennsylvania 18104

3. PPL Electric's attorneys are:

Michael J. Shafer (I.D. # 205681)
PPL Services Corporation
645 Hamilton Street, Suite 700
Allentown, PA 18101
Phone: 610-774-2599
Fax: 610-774-4102
E-mail: mjshafer@pplweb.com

David B. MacGregor (I.D. # 28804)
Garrett P. Lent (I.D. #321566)
Megan E. Rulli (I.D. # 331981)
Post & Schell, P.C.
17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
Phone: 717-731-1970
Fax: 717-731-1985
E-mail: dmacgregor@postschell.com
glent@postschell.com
mrulli@postschell.com

PPL Electric's attorneys are authorized to receive all notices and communications regarding this Letter of Notification.

4. PPL Electric furnishes electric service to approximately 1.5 million customers throughout its certificated service territory, which includes all or portions of 29 counties and encompasses approximately 10,000 square miles in eastern and central Pennsylvania. PPL Electric is a "public utility" and an "electric distribution company" as defined in Sections 102 and 2803 of the Pennsylvania Public Utility Code, 66 Pa.C.S. §§ 102, 2803.

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

6. The Susquehanna 230 kV, Susquehanna T10 230 kV, and 500 kV Switchyards are part of PPL Electric's 230 kV and 500 kV Bulk Electric network. These transmission switchyards are part of the path that transfers power from the Montour generating station, SSES, Hummel Station IPP, and Freedom IPP to eastern PA and into the greater PJM Bulk Electric System.

7. This Letter of Notification includes the following accompanying Attachments:

- Attachment 1 Necessity Statement;
- Attachment 2 Engineering Description;
- Attachment 3 Description of Project Area;
- Attachment 4 PPL Electric Design Criteria and Safety Practices; and
- Attachment 5 Landowners and Agencies List.

8. This Letter of Notification and accompanying Attachments, which are incorporated herein by reference, contain all the information required by 52 Pa. Code § 57.72(d)(4).

II. THE PROJECT

A. NEED FOR THE PROJECT

9. PPL Electric has a responsibility to provide transmission assets and maintain them in a manner that is safe, reliable, and resilient to meet the needs of the electric system and the

service expectations of its customers. To meet this duty, PPL Electric applies its transmission asset management planning procedure, which includes system performance and condition assessments. These performance and condition assessments identify system needs and prioritize projects based on several variables such as equipment age, condition, maintenance schedule, and impact on system reliability and performance to ensure a reliable electric grid and reasonable service to its customers.

10. As explained in greater detail below and in **Attachment 1 – Necessity Statement**, this Project is necessary to serve a prospective customer located in Salem Township, Luzerne County, Pennsylvania.

11. PPL Electric, as a public utility, has a general right and obligation to serve customers in its service territory, subject to the terms and conditions of its certificate of public convenience. Specifically, under Section 1501 of the Public Utility Code, PPL Electric:

> shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public.

66 Pa.C.S. § 1501 (emphasis added); *see also id.* § 1103(a). Section 2802(12) of the Public Utility Code further emphasizes that "[r]eliable electric service is of the utmost importance to the health, safety and welfare of the citizens of the Commonwealth. Electric industry restructuring should ensure the reliability of the interconnected electric system by maintaining the efficiency of the transmission and distribution system." *Id.* § 2802(12). Pennsylvania appellate courts and the Commission have further confirmed this obligation to serve. *See, e.g.*, *Pa. Gas Co. v. Pub. Serv. Comm'n*, 83 Pa. Super. 557, 565-66 (1924); *Philadelphia Transp. Co. v. Pa. PUC*, 37 A.2d 138, 147 (Pa. Super. 1944); *Application of Leatherstocking Gas Co., LLC, for Approval to Supply*

Natural Gas Serv. to the Pub. in N. Susquehanna Cnty., in the Twps. of Bridgewater, Forest Lake, Great Bend, Harmony, New Milford, and Oakland, and in the Boroughs of Great Bend, Hallstead, Lanesboro, Montrose, New Milford, Oakland and Susquehanna, Docket No. A-2011-2275595, 2012 Pa. PUC LEXIS 1391, at *22 (Order entered Aug. 30, 2012).

12. PPL Electric also has a duty to make line extensions in its service territory, in order to serve customers who request service. 52 Pa. Code § 57.19(b). PPL Electric serves customers taking service at 69 kV and above at its LP-5 rate class. LP-5 customers are required to pay for costs of upgrades necessary to serve their load per PPL Electric Retail Tariff, Rule 4 – (C).4.

13. With respect to this project, the prospective customer is requesting 230 kV and 500 kV electrical service with an in-service date of 2026 for the 230 kV SS01 connection, 2027 for the 500 kV SS02 connection, and 2028 for the 230 kV SS0X connection. The customer's initial load is 120 megawatts ("MW") and will increase in stages to approximately 1,440 MW by 2030. Due to the size of the requested load, the customer is most appropriately supplied from the 230 kV and 500 kV network.

14. Expedient initiation of adequate and reliable service to new high-load customers seeking to enter PPL Electric's system is critical for the Commonwealth of Pennsylvania's continued economic development. This interest is addressed by the Project. Moreover, high-load customers connecting to PPL Electric's Bulk Electric System ("BES") will ultimately reduce the transmission rates charged by PPL Electric to its other transmission level customers. The Project would further that interest and result in lower rates for other of PPL Electric's transmission level customers.

15. The Project as proposed addresses the prospective customer's high-load transmission service in a cost-efficient manner, as opposed to the alternatives evaluated by PPL

Electric, such as serving the customer from the Susquehanna 230 kV Switchyard located over two miles away. This is addressed at further length in **Attachment 1 – Necessity Statement**.

16. Additionally, the Project as proposed will produce net economic benefits for the Commonwealth of Pennsylvania, and for PPL Electric's other transmission level ratepayers, as explained in further length below. Therefore, and for the reasons more fully explained below, the Commission should approve the Project as proposed.

17. Finally, PPL Electric notes that the interconnection of this new customer which is the subject of this Letter of Notification will address and resolve the issues related to the proceeding pending before the Federal Energy Regulatory Commission ("FERC") at FERC Docket No. ER24-2172. *See PJM Interconnection, L.L.C.*, Docket No. ER24-2172-000. In that proceeding, PJM submitted for filing an amended Interconnection Service Agreement ("ISA") by and among PJM, SESS, and PPL Electric. The amended ISA at issue in that proceeding amends an existing ISA to increase from 300 MW to 480 MW the amount of co-located load provided for under the ISA, makes revisions to the treatment of the co-located load, and makes other changes. A number of interventions and protests were filed at the FERC docket and, at this time, it remains pending before the FERC.

1. Existing System

18. The Susquehanna 230 kV and Susquehanna T10 230 kV Switchyards are part of the 230 kV Bulk Electric network. The Susquehanna 230 kV and Susquehanna T10 230 kV Switchyards (near the SSES) serve as an interface to allow generation flow from central Pennsylvania to the Northeast and Eastern parts of Pennsylvania.

19. The Susquehanna 230 kV yard has lines to the Harwood 230-69 kV Substation (Carbon County), Sunbury 500-230-69 kV Substation (Snyder County), Susquehanna T10 230 kV

(Luzerne County), Glen Brook 230-69 kV Substation (Luzerne County), Palooka 230-69 kV Substation (Luzerne County), and Mountain 230-69 kV Substation (UGI Owned) (Luzerne County). The Susquehanna 230 kV Switchyard is also the injection point for the SSES Unit #1.

20. The Susquehanna T10 230 kV Switchyard has lines to the Glen Brook 230-69 kV Substation (Luzerne County), Susquehanna 230 kV Switchyard (Luzerne County), Mountain 230-69 kV Substation (UGI Owned) (Luzerne County) and SSES station service transformer T10.

21. The 230 kV network moves power from the generators to regional supply substations. At the regional supply substations, the 230 kV is stepped down to 69 kV and/or 138 kV. The distribution substations in the surrounding area are supplied via transmission lines operating at 69 kV or 138 kV.

22. The Susquehanna 500 kV Switchyard is part of the 500 kV Bulk Electric network. The Susquehanna 500 kV Switchyard serves as an interface to allow generation to flow from central Pennsylvania to the Northeast and Eastern parts of Pennsylvania and into New Jersey. The Susquehanna 500 kV yard has lines to the Shickshinny 500 KV Switchyard (Luzerne County), Sunbury 500-230-69 kV Substation (Snyder County), Wescosville 500-230-138-69 kV (Lehigh County), and has a 500-230 kV Transformer that feeds to the Susquehanna 230 kV Switchyard. The Susquehanna 500 kV Switchyard is also the injection point for the SSES Unit #2.

23. The 500 kV network moves power from the generators and between utilities to bulk supply substations. At the bulk supply substations, the 500 kV is stepped down to 230 kV and below to be distributed to supply customer load.

24. Data centers have been built at the SSES site and have tapped off the existing 230 kV and 500 kV generator lead lines. The customer's arrangement is considered a behind the meter ("BTM") arrangement, and consists of a 500-69 kV substation, a 230-69 kV substation, and a 230-

34 kV substation connected on the 69 kV and 34 kV side to serve the data center load. The customer has requested that their substation be served from PPL Electric's lines and to have their demand become network load. As network load, the customer will be metered and served as a typical PPL Electric large load customer.

25. A map of the existing system configuration is provided as **Figure 1-1** in **Attachment 1 – Necessity Statement.**

2. Identification of Need

26. This Project is needed serve a new prospective customer located in Salem Township, Luzerne County.

27. The prospective customer is requesting 230 kV and 500 kV electrical service with an in-service date of 2026 for the 230 kV SS01 connection, 2027 for the 500 kV SS02 connection, and 2028 for the 230 kV SS0X connection. The customer's initial load is 120 MW and will increase in stages to approximately 1,440 MW by 2030.

28. Due to the size of the requested load, the customer is most appropriately supplied from the 230 kV and 500 kV network.

29. Expedient initiation of adequate and reliable service to new high-load customers seeking to enter PPL Electric's system is critical for the Commonwealth of Pennsylvania's continued economic development. This interest is addressed by the Project.

30. Moreover, high-load customers connecting to PPL Electric's BES will ultimately reduce the transmission rates charged by PPL Electric to its other transmission level customers, as more fully explained in **Attachment 1 – Necessity Statement**. The Project would further that interest and result in lower rates for other of PPL Electric's transmission level customers.

B. THE PROPOSED PROJECT

31. To appropriately serve the prospective customer's initial load and limit impacts to the local community, PPL Electric proposes to utilize the existing Susquehanna 230 kV and 500 kV Switchyards to supply the customer's substations.

32. The existing Sunbury – Susquehanna #1 230 kV line will be re-terminated from Bay #1 to Bay #0 at Susquehanna 230 kV yard. The SUNB – SUSQ 230 kV Line will be re-terminated to allow the new SUSQ – SS01 230 kV Line to be terminated in Bay #1, which will eliminate the need for a 230 kV line crossing.

33. A new 230 kV line will be extended from Bay #1 at the Susquehanna 230 kV yard for approximately 1.5 miles. This new line will be designed for future double circuit configuration but will initially be built and operated as a single circuit 230 kV line. PPL Electric will seek approval from the Commission to reconfigure this line to operate as a double circuit 230 kV line when the addition of the second circuit becomes necessary. This new line will connect the existing Susquehanna 230 kV Switchyard to the existing customer-owned 230-69 kV substation (SS01). The route for this line lies entirely on SSES and the customer's property. The existing SUSQ – T21 230 kV Line will have three spans raised to allow for the undercrossing of the new SUSQ – SS01 230 kV Line.

34. The SU10 – T10 230 kV line will be re-terminated from Bay #2 to Bay #1 to allow the new SU10 – SS0X #2 230 kV line to be terminated in Bay #2 and this will eliminate the need for a 230 kV line crossing.

35. New 230 kV lines will be extended from the Susquehanna T10 230 kV yard bays #2 and #3 for approximately 0.4 miles as double circuit 230 kV transmission line. These two new 230 kV lines will connect the existing Susquehanna T10 230 kV Switchyard to the new customer-

owned 230-34 kV substation (SS0X). The route for this line lies entirely on SSES and the customer's property.

36. A new 500 kV line will be extended from the Susquehanna 500 kV yard Bay #2 for approximately 0.2 miles as single circuit 500 kV transmission line. This new line will connect the existing Susquehanna 500 kV Switchyard to the existing customer-owned 500-69 kV substation (SS02). The route for this line lies entirely on SSES and the customer's property.

37. The proposed solution will allow PPL Electric to provide safe and reliable transmission level service to the customer while maintaining reliability of the Bulk Electric System. Additionally, this solution is the least impactful option to landowners and the local community. A map of the proposed system alignment is provided as **Figure 1-2** in **Attachment 1 – Necessity Statement**.

38. This Project will serve the customer while meeting the minimum design standards set forth by PJM, as described in **Section 3.0 of Attachment 1 – Necessity Statement**.

39. PPL Electric serves customers taking service at 69 kV and above at its LP-5 rate class. LP-5 customers are required to pay for costs of upgrades necessary to serve their load per PPL Electric Retail Tariff, Rule 4 – (C).4. However, certain upgrades that also benefit other PPL Electric customers and/or the transmission grid may be excluded from the interconnecting customer's obligation and added to PPL Electric's transmission rate base. As such, it is PPL Electric's policy that upgrades to the networked BES made in connection with LP-5 customer interconnections will generally be excluded from the customer's obligation and be included in transmission rate bases. At a minimum, the cost of the customer's direct connection facilities is the sole responsibility of the connecting customer. Other upgrades, including PPL Electric substations/switchyards will be evaluated on a case-by-case basis to determine if the upgrades

provide benefits to other customers and/or the transmission grid. Examples of benefits to other customers that would cause an upgrade to be included in transmission rates includes, but is not limited to:

- Added system reliability;
- Increased capacity/lower congestion;
- Lower impedance;
- Improved asset condition of existing facilities;
- Service to multiple transmission customers and/or retail feeders;
- Increased resiliency and operational flexibility; and
- Expanded capacity for new generation flow and interconnections.

40. The estimated cost of the Project is $30.2 Million. Based on a review of the proposed system improvements derived from this Project, it was determined that PPL Electric is responsible for approximately $3.4 Million (11% of the total Project costs) and the customer is responsible for $26.8 Million (89% of the total Project costs).

III. HEALTH AND SAFETY

41. The proposed lines will not create any unreasonable risk of danger to public health or safety. The proposed lines will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable National Electrical Safety Code ("NESC") minimum standards and all applicable legal requirements. Descriptions of the NESC standards, PPL Electric's design criteria, and PPL Electric's safety practices are provided in **Attachment 4 – Design Criteria**.

42. **Attachment 4 – Design Criteria** also explains PPL Electric's standards for Magnetic Field Management. Ground clearances for the proposed Project will be at least three feet higher than those required by the NESC standard in order to reduce the magnetic field

exposure. The implementation of additional modifications to reduce magnetic field levels is considered, provided those modifications can be made at low or no cost and will not interfere with the operation of the line.

IV. DESCRIPTION OF THE RIGHT-OF-WAY

43. PPL Electric has designed the proposed transmission line system so that it fits entirely within existing PPL Electric ROW, the customer's property and SSES property. PPL Electric is working with the customer and SSES to finalize necessary easements. The Project will support the customer's facilities by extending new lines from the existing 230 kV and 500 kV switchyards to serve the customer's requested load.

44. The Susquehanna 230 kV and 500 kV Transmission Line Project will be located in Conyngham and Salem Townships, Luzerne County, Pennsylvania. PPL Electric has provided information about the proposed Project to representatives from Conyngham Township, Salem Township, and Luzerne County.

45. Development of the new SUSQ – SS01 230 kV Line will involve modifications to two existing transmission lines located near the Susquehanna 230 kV Switchyard, specifically the Sunbury-Susquehanna (SUNB – SUSQ) 230 kV line and the Susquehanna-Transformer 21 (SUSQ – TR21) 230 kV line.

46. The SUNB – SUSQ 230 kV Line exits the Susquehanna 230 kV Switchyard and extends south to Sunbury. The first two structures of this line will be replaced with new double circuit structures that will be used to support both the SUNB – SUSQ 230 kV Line and the initial section of the new SUSQ – SS01 230 kV line. The line will then be re-terminated from Bay #1 to Bay #0 to eliminate a 230 kV line crossing.

47. The SUSQ – T21 230 kV line extends west from the Susquehanna 230 kV Switchyard to SSES and will be paralleled by the new SUSQ – SS01 230 kV line. Closer to SSES, three existing structures on the SUSQ - T21 230 kV line will be replaced with taller structures to allow the new SUSQ – SS01 230 kV lines to cross under this system.

48. Development of the new SU10 – SS0X #1 & #2 230 kV Lines will involve modifications to one existing transmission line located near the Susquehanna T10 230 kV Switchyard specifically the Susquehanna T10 – Transformer 10 (SU10 – T10) Tap 230 kV Line.

49. The SU10 – T10 230 kV Line exits the Susquehanna T10 230 kV Switchyard to the south but then turns east and then north around the substation. The first structure will be removed and replaced approximately 50 feet to the east for this line to be re-terminated from Bay #2 to Bay #1 and eliminate a 230 kV line crossing.

50. Modifications to these three existing 230 kV transmission lines will involve the replacement of six (6) structures. None of the existing conductor or guide wires for these three transmission lines will be replaced.

51. Development of the new Susquehanna - SS02 (SUSQ - SS02) 500 kV transmission line will not involve modifications to any existing structures.

52. A detailed map of the Project alignment is provided as **Figure 3-1** in **Attachment 3**.

53. Development of the new SUSQ – SS01 230 kV Line will require the installation of twelve (12) 230 kV structures. These new structures in addition to the two (2) replacement structures along the SUNB - SUSQ 230 kV Line will be used to connect the new 230 kV line from the Susquehanna 230 kV Switchyard located on the east side of the Susquehanna River to the SS01 Substation located near the SSES on the west side of the river. PPL Electric has designed the

proposed transmission line system so that it fits entirely within existing PPL Electric right-of-way, SSES property, and the customer's property.

54. Development of the new double circuit SU10 – SS0X #1 & #2 230 kV Lines will require the installation of nine (9) 230 kV structures. Four (4) of the structures will consist of custom 3-pole structures to be used to cross under an existing 500 kV line. The nine (9) new structures will be used to connect the new 230 kV line from the Susquehanna T10 230 kV Switchyard located on the west side of the Susquehanna Power Plant to a new customer-owned 230-34 kV substation (SS0X) also located on the west side of the Susquehanna Power Plant.

55. The proposed SUSQ – SS01 230 kV Line will initially be a single circuit system that will consist of three (3) 1590 kcmil, "Falcon", 54/19 Stranding, ACSS[2] conductors. One (1) new 144-count optical guide wires ("OPGW") will also be installed.

56. The proposed SU10 – SS0X #1 & #2 230 kV lines will be built as a double circuit system that will consist of six (6) 1590 kcmil, "Falcon", 54/19 Stranding, ACSS conductors. Two (2) new 144-count OPGW will also be installed on this line.

57. The minimum conductor-to-ground clearance will be 25.5 feet, which occurs at the maximum thermal conductor temperature of 200°C. The design minimum conductor clearances and conductor thermal ratings for these lines are noted in **Tables 2-2 and 2-3** in **Attachment 2 – Engineering Description**.

58. Development of the new SUSQ – SS02 500 kV Line will require installation of two (2) 500 kV structures that will be used to connect the existing Susquehanna 500 kV Switchyard to a new customer substation (SS02) that will be located adjacent to the existing 500 kV Substation. The proposed SUSQ – SS02 500 kV Line will be a single circuit system that will consist of three

[2] ACSS stands for aluminum conductor steel supported

(3) triple bundle 1590 kcmil, "Falcon", 54/19 Stranding, ACSR[3] conductors. One (1) new 144-count OPGW will also be installed. These structures will be built on property owned by PPL Electric. The design minimum conductor clearances and conductor thermal ratings for the new lines are provided in **Tables 2-4 and 2-5** in **Attachment 2 – Engineering Description**.

59. The proposed transmission lines will be located entirely within PPL Electric existing ROW or within property owned in fee by SSES or the customer. All new structures will be located entirely within existing ROW or within property owned in fee by SSES or the customer.

60. A detailed aerial exhibit of the Project alignment is provided as **Figure 3-1 in Attachment 3 – Project Area Description**.

61. A more detailed description of the transmission line structures that will be rebuilt as a part of the Project is set forth in **Attachment 2 – Engineering Description**.

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

V. LAND USE AND ENVIRONMENTAL EVALUATION

63. The proposed Project will take place entirely within the existing ROW or within property owned in fee by SSES or the customer. Therefore, it is anticipated that the proposed Project will have minimal incremental impacts on land use in the area.

64. PPL Electric will use and update previously established access roads for construction to the extent practical to further reduce interference with existing uses and minimize

[3] ACSR stands for aluminum conductor steel reinforced

land use impacts. A detailed description of the route of each individual component of the Project can be found in **Attachment 3 – Project Area Description**.

65. PPL Electric evaluated the existing land uses on the PPL Electric owned properties, within the existing ROW, and within 0.25 mile of the Project centerline ("Project Area"). This broader Project Area was reviewed to provide a sense of the landscape in which the Project is located. Based on review of current aerial maps, land use in the Project Area is approximately 50% forest, 20% meadow/pasture lands, and 30% commercial development composed predominantly of the SSES and the Susquehanna 500/230 kV Substation.

66. No communication towers are located in the Project Area. The Project crosses two railroads. The North Shore Railroad is spanned by the Project approximately 0.5 miles east the SSES on the western side of the Susquehanna River, and the Norfolk Southern Railroad is spanned by the Project just west of the Susquehanna 230 kV Switchyard on the eastern side of the Susquehanna River. The Project does not cross any gas pipelines.

67. The closest active airport to the Project Area is the Hazleton Regional Airport, which is located approximately 10 miles from the Project Area. PPL Electric does not anticipate any interference with airport operations because the Project is located in an area where there are existing electrical facilities. However, PPL Electric will file any required documentation with the Federal Aviation Administration.

68. The proposed Project will not affect any national parks, state parks, local parks, or natural landmarks. The Susquehanna Riverlands Environmental Preserve will be spanned by the Project. This 1,200-acre property is located on the west shore of the Susquehanna River and provides walking trails and picnic areas for the general public. This preserve is also part of the Susquehanna Riverlands Important Bird Area, which includes portions of the east and west sides

of the river up and downstream of the Project Area. No additional recreational areas or natural landmarks were identified within 1 mile of the Project.

69. PPL Electric conducted an online review of the Project Area and surrounding landscape through the Pennsylvania Historical and Museum Commission ("PHMC") State Historic and Archaeological Resource Exchange site. State Historic Preservation Office ("SHPO") eligible and listed structures and districts that were found within or close to the Project Area are listed in **Table 3-1** of **Attachment 3 – Project Area Description**, which include four railroad historic district corridors that are spanned by the Project. PPL Electric is in the initial stage of coordination with the PHMC for the modifications being made to the transmission lines. This coordination will be required to receive permits to construct the Project and will be conducted in the near future. PPL Electric does not anticipate any impacts to SHPO listed or eligible structures or districts. PPL Electric will perform any reviews and field survey/sampling work required by the PHMC to avoid, minimize, and mitigate impacts to archaeological or historic architectural resources that may be located within the Project Area.

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

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

72. PPL Electric retained an environmental consultant to identify and delineate all waterways and wetlands within the project area. The existing transmission lines span one waterway that will remain in place after the Project construction activities have occurred. Review of the USGS mapping website indicated that the Project will aerially span the Susquehanna River and one unnamed tributary ("UNT") to Walker Run, which are listed in **Table 3-2** in **Attachment 3 – Project Area Description**.

73. The Project spans two Riverine, Unknown Perennial habitats, one Riverine, Intermittent habitat, one Riverine, Lower Perennial habitat, and one Palustrine, Unconsolidated Bottom, Semipermanently flooded, Excavated habitat. The Project is adjacent to one Palustrine, Permanently flooded, Excavated freshwater pond to the north on the western side of the Susquehanna River. No impacts to these National Wetlands Inventory ("NWI") features are anticipated by the proposed Project activities. The west side of the Project consists of two Palustrine, Emergent Wetland ("PEM"), Moss-lichen vegetation, Temporarily Flooded habitats and one Riverine, Unknown Perennial habitat. A structure is proposed within one of the NWI PEM wetlands along with an aerial transmission crossing by the Project. PPL Electric will avoid impacts to wetlands and streams where possible by aerially spanning these features.

74. PPL Electric will obtain all necessary permits from PADEP and the United States Army Corps of Engineers ("USACE") and will comply with all the terms and conditions placed on those permits. PPL Electric also will consult with the county conservation district, prepare any required soil erosion and sedimentation control plans, and obtain NPDES permits as discussed above and comply with any conditions placed on those permits.

75. The National Flood Hazard Layer for Luzerne County, Pennsylvania was obtained through the Federal Emergency Management Agency ("FEMA") Flood Map Service Center

website and analyzed for 100-year floodplains and regulatory floodway within the project area and surrounding landscape. Based on review of this data, the Project spans the FEMA 100-year floodplain located near the Susquehanna River. The spanned 100-year floodplains crossed by the Project are categorized as either Zone A or Zone AE. Several structures along the Project are located within the floodway of the Susquehanna River. No impacts to the floodplain areas are anticipated by the proposed Project activities. Coordination with PADEP may be required regarding the structures located in the FEMA floodway.

76. Vegetative cover in the project area primarily consists of maintained ROW corridors, riparian habitats, forested areas, and vegetation associated with residential/commercial development. The new ROW area for the transmission line will require vegetation clearing. PPL Electric will apply its "Specifications for Transmission Vegetation Management LA-79827" to minimize potential impacts.

77. A Pennsylvania Natural Diversity Inventory ("PNDI") was run for the Project on June 11, 2025, to assess the potential presence of threatened and endangered species and/or special concern species. The following agencies reviewed the Project: Pennsylvania Game Commission ("PGC"), Pennsylvania Fish and Boat Commission, DCNR, and United States Fish and Wildlife Service ("USFWS").

78. The USFWS requested that Project information be entered into the Information for Planning and Consultation (IPaC) tool to review the Project's potential effect on a federally listed species. Further coordination with the USFWS is anticipated.

79. The PGC also reported that a threatened sensitive species may be located in the vicinity of the Project and further review is necessary to resolve potential impacts. Further coordination with the PGC concluded that no impact to this species is anticipated.

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

VI. NOTICE

81. PPL Electric has provided information regarding the Project to representatives of Conyngham Township, Salem Township, Luzerne County Conservation District, and the Luzerne County Planning Commission. These entities have not objected to the proposed Project. Copies of the Letter of Notification will be served upon all state agencies, federal agencies, county agencies, municipalities, and landowners in accordance with 52 Pa. Code § 57.72(d)(3). A list of the same impacted or potentially impacted by this project is provided in **Attachment 5 – Agency and Landowner List**.

VII. LETTER OF NOTIFICATION

82. PPL Electric is proceeding by means of a Letter of Notification, instead of a full Application, pursuant to the Commission's regulations at 52 Pa. Code § 57.72(d)(1) (vi).

83. The proposed Project qualifies for use of a Letter of Notification because each of the component HV lines have a proposed route of two miles or less. In addition, the total line length of each of the component HV lines together is only 2.1 miles. Approval to site and construct each of these component HV transmission line could appropriately be sought in separate Letters of Notification; however, given that each of the component HV transmission lines serves the same customer and addresses the same need, PPL Electric has requested approval of all of these lines as

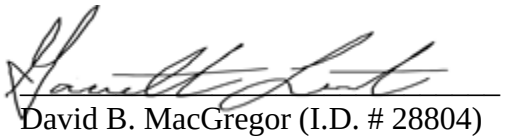
a part of this Letter of Notification. To the extent that waiver of the Commission's regulations is required in order for the Project to proceed as a Letter of Notification—and PPL Electric submits that it is not—PPL Electric respectfully requests that the Commission waive 52 Pa. Code § 57.72(d)(1)(vi) and determine that the Project qualifies to proceed as a Letter of Notification because each of the component HV lines has a length of less than two miles.

84. This Letter of Notification is filed on the date set forth below. As provided in 52 Pa. Code § 57.72(d)(5), the Commission will review and, by order, approve or disapprove this Letter of Notification. If the Commission approves this Letter of Notification, the proposed Project will be constructed as proposed herein without the formal application process set forth at 52 Pa. Code §§ 57.71, *et seq*.

VIII. CONCLUSION

WHEREFORE, PPL Electric Utilities Corporation respectfully requests that the Pennsylvania Public Utility Commission approve the proposed Susquehanna 230 kV and 500 kV Transmission Line Project located in Conyngham and Salem Townships, Luzerne County, Pennsylvania, that is explained above and in the Attachments hereto, by no later than the public meeting currently scheduled for September 25, 2025.

Respectfully submitted,



Michael J. Shafer (I.D. # 205681)
PPL Services Corporation
645 Hamilton Street, Suite 700
Allentown, PA 18101
Phone: 610-774-2599
Fax: 610-774-4102
E-mail: mjshafer@pplweb.com

David B. MacGregor (I.D. # 28804)
Garrett P. Lent (I.D. #321566)
Post & Schell, P.C.
17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
Phone: 717-731-1970
Fax: 717-731-1985
E-mail: dmacgregor@postschell.com
glent@postschell.com
mrulli@postschell.com

Date: August 11, 2025

Attorneys for PPL Electric Utilities Corporation

ATTACHMENT 1

SUSQUEHANNA 230 kV AND 500 kV TRANSMISSION LINE PROJECT

TABLE OF CONTENTS

List of Figures

1.0 INTRODUCTION

PPL Electric Utilities Corporation ("PPL Electric") is requesting Pennsylvania Public Utility Commission ("PUC" or "Commission") approval to (1) build approximately 1.5 miles of a new single circuit 230 kV transmission line ("SUSQ – SS01 230 kV Line") that is needed to connect the existing Susquehanna 230 kV Switchyard to the existing customer owned "SS01" 230-69 kV substation; (2) build a new single circuit 0.2-mile-long 500 kV transmission line ("SUSQ – SS02 500 kV Line") from the Susquehanna 500 kV Switchyard to the existing customer owned "SS02" 500-69 kV substation ; and (3) build a new double circuit 0.4-mile-long 230 kV transmission line ("SU10 – SS0X #1 & #2 230 kV Lines") from the Susquehanna T10 230 kV Switchyard to a new customer owned "SS0X" 230-34 kV substation (the "Project"). In addition to these new overhead high-voltage ("HV") transmission lines, PPL Electric also plans to:

- Re-terminate the existing Sunbury – Susquehanna #1 230 kV line ("SUNB – SUSQ 230 kV Line") at the Susquehanna 230 kV Switchyard;
- Raise three spans of the existing Susquehanna – Transformer 21 230 kV line ("SUSQ – T21 230 kV Line"); and
- Re-terminate the existing Susquehanna T10 – Transformer 10 Tap 230 kV line ("SU10 – T10 230kV Line") at the Susquehanna T10 230 kV Switchyard located.

Collectively, the siting and construction of the three new HV transmission lines, as well as the associated re-termination of existing transmission lines at the Susquehanna 230 kV and Susquehanna T10 230 kV Switchyards and raising of an existing transmission lines, will be known as the "Susquehanna 230 kV and 500 kV Transmission Line Project" or "Project." The Susquehanna 230 kV and 500 kV Transmission Line Project will be located in Conyngham and Salem Townships, Luzerne County, Pennsylvania. PPL has designed the proposed transmission line system so that it fits entirely within existing PPL Electric right-of-way ("ROW"), the customer's property and Susquehanna Steam Electric Station ("SSES") property. PPL Electric is working with the customer and SSES to finalize necessary easements.

As explained in greater detail below, this project is needed to meet the electrical needs and demands of a new customer requesting transmission level service in Salem Township, Luzerne County, Pennsylvania. To meet the customer's needs, PPL Electric's system planners determined that extending new lines from the existing 230 kV and 500 kV switchyards is the optimal solution to serve the customer's requested load. As such, PPL Electric herein seeks Commission approval for re-terminating the SUNB – SUSQ 230 kV Line, raising 3 spans of the existing SUSQ – T21 230 kV Line, installing the SUSQ – SS01 230 kV Line from the Susquehanna 230 kV Switchyard to the customer owned SS01 230-69 kV substation, installing the SUSQ – SS02 500 kV Line from the Susquehanna 500 kV Switchyard to the customer owned SS02 500-69 kV substation, re-terminating the SU10 – T10 230 kV line, and installing the SU10 – SS0X #1 & #2 230 kV Lines from the Susquehanna T10 230 kV Switchyard to the new customer owned SS0X 230-34 kV substation.

The Project is required to comply with:

- The PPL Electric Utilities Corporation General Tariff to provide non-discriminatory service to a customer facility at 69 kV or above service at the LP-5 rate schedule.
- PPL Electric's general right and obligation to serve customers in its service territory, subject to the terms and conditions of its tariffs and their certificate of public convenience.[1]

The Project as proposed represents the optimal solution that allows PPL Electric to serve the customer's load. Additionally, the addition of this customer's load has the potential to significantly lower other customers' transmission rates. PPL Electric estimates that the addition of 1 gigawatt of load has the potential to reduce other customers' transmission charges by 10%.

Subject to the Commission's approval, construction for each aspect of the Project is anticipated to occur as follows:

[1] *See, e.g.*, 66 Pa.C.S. §§ 1103, 1501, 2802(12); 52 Pa. Code §§ 57.19; *Popowsky v. Pa. PUC*, 910 A.2d 38, 48-56 (Pa. 2006); *Pa. Gas Co. v. Pub. Serv. Comm'n*, 83 Pa. Super. 557, 565-66 (1924); *Philadelphia Transp. Co. v. Pa. PUC*, 37 A.2d 138, 147 (Pa. Super. 1944); *Application of Leatherstocking Gas Co., LLC, for Approval to Supply Natural Gas Serv. to the Pub. in N. Susquehanna Cnty., in the Twps. of Bridgewater, Forest Lake, Great Bend, Harmony, New Milford, and Oakland, and in the Boroughs of Great Bend, Hallstead, Lanesboro, Montrose, New Milford, Oakland and Susquehanna*, Docket No. A-2011-2275595, 2012 Pa. PUC LEXIS 1391, at *22 (Order entered Aug. 30, 2012).

- Construction for raising the 3 spans of the existing SUSQ – T21 230 kV Line will begin in October 2025 to support an in-service date of December 2025[2];

- The SUSQ – SS01 230 kV Line and SUNB – SUSQ 230 kV Line re-termination construction will begin in November 2026 to support an in-service date of April 2026[3];

- The SUSQ – SS02 500 kV Line construction will begin in July 2026 to support/t an in-service date of April 2027;

- The SU10 – T10 230kV line re-termination and the SU10 – SS0X #1 & #2 230 kV Line construction will begin in September 2027 to support an in-service date of April 2028.

PPL Electric will own, operate, and maintain the new SUSQ – SS01 230 kV Line, SUSQ – SS02 500 kV Line, and SU10 – SS0X #1 & #2 230 kV Lines. The customer will construct, own, operate, and maintain their 230-69 kV, 500-69 kV, and 230-34 kV substations. The total estimated cost of this Project, as described below, is approximately $30.2 Million. The customer is responsible for approximately $26.8 Million and PPL Electric is responsible for approximately $3.4 Million.

2.0 BACKGROUND

PPL Electric has a right and obligation to provide retail electric service in a manner that is adequate, efficient, safe, reliable, and reasonable to meet the needs of the electric system and the expectations of its customers.

PPL Electric is a public utility that provides electric service to approximately 1.5 million customers throughout 29 central and eastern Pennsylvania counties. The Susquehanna 230 kV, Susquehanna T10

[2] Raising the SUSQ-T21 230 kV Line must be completed prior to the installation of the SUSQ-SS01 230 kV Line to allow for adequate electrical clearance. The SUSQ-SS01 230 kV Line will be installed during the Talen Unit # 1 maintenance outage scheduled for spring 2026. The SUSQ-T21 230 kV Line cannot be taken out of service during the Unit # 1 maintenance outage because it is utilized as an electrical tie between the Susquehanna 500 kV and Susquehanna 230kV Switchyards. Prompt approval is requested to meet service obligations to the customer and work around outage constraints at the SSES.

[3] Installation of the SUSQ-SS01 230 kV Line is utilizing the Talen Unit # 1 outage to complete the de-energization of the existing behind-the-meter service to the customer SS01 230-69 kV substation. Talen Unit # 1 typically comes offline every 2 years for maintenance. The next opportunity to complete this work would not be until 2028.

230 kV, and 500 kV switchyards are part of PPL Electric's 230 kV and 500 kV Bulk Electric network. These transmission switchyards are part of the path that transfers power from the Montour generating station, SSES, Hummel Station IPP, and Freedom IPP to eastern PA and into the greater PJM Bulk Electric System.

3.0 TRANSMISSION SYSTEM PLANNING PROCESS

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

Robust Transmission Planning assures that the transmission system can supply electricity to all customer loads in a manner that is reliable and economical. This System Planning process ensures that both the Bulk Electric System ("BES")[4] and non-Bulk Electric System ("non-BES")[5] are planned and constructed so that:

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

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

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

PJM is a Federal Energy Regulatory Commission ("FERC")-approved Regional Transmission Organization ("RTO") charged with ensuring the reliability of the electric transmission system under its functional control (100 kV and above) and coordinating the movement of electricity in all or parts of thirteen states and the District of Columbia, including Pennsylvania.[6]

New load customers are covered under Attachment M-3 Procedure of the OATT.[7] PPL Electric submits to PJM and presents the supplemental project assumptions and methodology yearly at the PJM Subregional Regional Transmission Expansion Planning (RTEP) December meeting.[8] The supplemental project driver of "Customer Service" is used for new customer requests. PPL Electric submits the project need information to PJM detailing the requested load amount, location, and requested in-service date. PPL Electric then presents the need at the next TEAC (>200 kV) or Subregional-RTEP (<200 kV) meeting. At a subsequent meeting, PPL Electric presents the proposed solution to serve the requested load. PPL Electric provides the solution files to PJM including changes to the network model, contingency changes, and short-circuit model changes. PJM then studies the proposed solution to ensure that the changes do no harm (DNH test) to the system by creating overloads, voltage violations, or other criteria violations. PPL Electric will include in the solution any upgrades that are required to serve the customer load in the DNH case year. When the project passes the DNH test a supplemental project number is assigned and PPL Electric submits the project into the local plan. The project then is added into the RTEP model in the next case creation cycle. Any customer load increases above the DNH harm case year will be included in the PPL Electric's Load Forecast submission to PJM. The load increases are then incorporated into the RTEP case creation. Any overloads, voltage violations, or other criteria violations caused by the increase of load on PPL Electric's system are then resolved through the PJM Competitive Planning Process.

[6] As more fully explained in the Letter of Notification, PPL Electric notes that this Letter of Notification, if approved, would resolve the issues involved in the proceeding pending before FERC at FERC Docket No. ER ER24-2172.

[7] PJM OPEN ACCESS TRANSMISSION TARIFF: https://www.pjm.com/directory/merged-tariffs/oatt.pdf

[8] PPL 2024 Annual M-3 Project Assumptions and Methodology: https://www.pjm.com/-/media/committees-groups/committees/srrtep-ma/2023/20231213/20231213-item-05---2024-ppl-planning-assumptions.ashx

4.0 THE NEED FOR THE PROJECT

4.1 Existing System

The Susquehanna 230 kV and Susquehanna T10 230 kV Switchyards are part of the 230 kV Bulk Electric network. The Susquehanna 230 kV and Susquehanna T10 230 kV Switchyards (near the SSES) serve as an interface to allow generation flow from central Pennsylvania to the Northeast and Eastern parts of Pennsylvania. The Susquehanna 230 kV Switchyard has lines to the Harwood 230-69 kV Substation (Carbon County), Sunbury 500-230-69 kV Substation (Snyder County), Susquehanna T10 230 kV (Luzerne County), Glen Brook 230-69 kV Substation (Luzerne County), Palooka 230-69 kV Substation (Luzerne County), and Mountain 230-69 kV Substation (UGI Utilities, Inc. ("UGI") Owned) (Luzerne County). Susquehanna T10 230 kV Switchyard has lines to the Glen Brook 230-69 kV Substation (Luzerne County), Susquehanna 230 kV Switchyard (Luzerne County), Mountain 230-69 kV Substation (UGI Owned) (Luzerne County) and SSES station service transformer T10. The Susquehanna 230 kV Switchyard is also the injection point for the SSES Unit #1. The 230 kV network moves power from the generators to regional supply substations. At the regional supply substations, the 230 kV is stepped down to 69 kV and/or 138 kV. The distribution substations in the surrounding area are supplied via transmission lines operating at 69 kV or 138 kV.

The Susquehanna 500 kV Switchyard is part of the 500 kV Bulk Electric network. The Susquehanna 500 kV Switchyard (near the SSES) serves as an interface to allow generation to flow from central Pennsylvania to the Northeast and Eastern parts of Pennsylvania and into New Jersey. The Susquehanna 500 kV yard has lines to the Shickshinny 500 KV Switchyard (Luzerne County), Sunbury 500-230-69 kV Substation (Snyder County), Wescosville 500-230-138-69 kV (Lehigh County), and has a 500-230 kV Transformer that feeds to the Susquehanna 230 kV Switchyard. The Susquehanna 500 kV Switchyard is also the injection point for the SSES Unit #2. The 500 kV network moves power from the generators and between utilities to bulk supply substations. At the bulk supply substations, the 500 kV is stepped down to 230 kV and below to be distributed to supply customer load.

Data centers have been built at the SSES site and have tapped off the existing 230 kV and 500 kV generator lead lines. This is considered a behind the meter ("BTM") arrangement. The customer's arrangement consists of a 500-69 kV substation, a 230-69 kV substation, and a 230-34 kV substation connected on the 69 kV and 34 kV side to serve the data center load. The customer has requested that

their substation be served from PPL Electric's lines and to have their demand become network load. As network load, the customer will be metered and served as a typical PPL Electric large load customer pursuant to the LP-5 rate schedule of PPL Electric's Commission-approved tariff.

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

4.2 Project Need

The customer is located in Salem Township, Luzerne County and is requesting 230 kV and 500 kV electrical service with an in-service date of 2026 for the 230 kV SS01 connection, 2027 for the 500 kV SS02 connection, and 2028 for the 230 kV SS0X connection. The customer's initial load is 120 megawatts ("MW") and will increase in stages to approximately 1,440 MW by 2030. The existing customer facilities will be served by the SUSQ – SS01 230 kV Line and SUSQ – SS02 500 kV Line. The customer's future facility will be served by the SU10 – SS0X #1 & #2 230 kV Lines. The total facility load will be split among all three of the customer substations (SS01, SS01, and SS0X). Due to the size of the requested load, the customer is most appropriately supplied from the 230 kV and 500 kV network.

5.0 ALTERNATIVES

PPL Electric performed a comprehensive analysis to identify feasible and cost-effective solutions to best serve the customer, while minimizing impacts upon the local environment and surrounding community.

PPL Electric evaluated the following alternatives to serve the customer at 230 kV:

1) The existing customer SS01 230-69 kV substation is located on the east side of the SSES site. Constructing a 230 kV tap off an existing PPL Electric owned line is not allowed by PPL Electric standards; therefore, the customer substation needs to be served from a 230 kV station. The Susquehanna T10 230 kV and Susquehanna 230 kV Switchyards are the closest 230 kV sources to the customer substation. The distance from the Susquehanna T10 230 kV Switchyard is similar to that of the proposed solution but would require three 500 kV under-crossings. These under-crossings present additional design complications and increased cost implications not presented by the proposed solution. Therefore, the new SUSQ – SS01 230 kV Line will be extended from the Susquehanna 230 kV Switchyard and represents the least cost solution.

2) The customer's proposed SS0X 230-34 kV substation is located approximately 0.4 miles south of the existing Susquehanna T10 230 kV Switchyard. The next closest 230 kV yard would be the Susquehanna 230 kV Switchyard which is over two miles away. Therefore, serving the customer's new substation from the Susquehanna T10 230 kV Switchyard represents the least cost solution.

PPL Electric evaluated the following alternatives to serve the customer at 500 kV:

3) As the existing customer-owned 500-69 kV substation is located immediately adjacent to the PPL Electric owned Susquehanna 500 kV Switchyard there are limited reasonable alternatives. Constructing a 500 kV tap off an existing PPL Electric owned line is not allowed by PPL Electric standards; therefore, the customer substation needs to be served from a 500 kV station. The next closest 500 kV yard is the Shickshinny 500 kV Switchyard which is over two miles away. A new 500 kV line from Shickshinny 500 kV Switchyard would require new ROW to be acquired and create additional impacts to landowners. Utilizing the existing Susquehanna 500 kV Switchyard to supply the new 500 kV line to serve the customer's 500-69 kV substation represents the least cost solution.

6.0 PROPOSED SOLUTION

To appropriately serve the customer's load and limit impacts to the local community, PPL Electric proposes to utilize the existing Susquehanna 230 kV and 500 kV Switchyards to supply the customer substations. The existing Sunbury – Susquehanna #1 230 kV line will be re-terminated from Bay #1 to Bay #0 at Susquehanna 230 kV yard. The SUNB – SUSQ 230 kV Line is being re-terminated to allow the new SUSQ – SS01 230 kV Line to be terminated in Bay #1 and this will eliminate the need for a 230 kV line crossing. A new 230 kV line will be extended from Bay #1 at the Susquehanna 230 kV yard for approximately 1.5 miles, and designed as a double circuit 230 kV transmission line, which will initially be operated as a single circuit initial line. PPL will seek the necessary approvals for the addition of the second circuit in the future when it is needed. This new line will connect the existing Susquehanna 230 kV Switchyard to the existing customer-owned 230-69 kV substation (SS01). The route for this line is less than 2 miles in length and lies entirely on SSES and the customer's property. The existing SUSQ – T21 230 kV Line will have three spans raised to allow for the undercrossing of the new SUSQ – SS01 230 kV Line.

The SU10 – T10 230 kV line is being re-terminated from Bay #2 to Bay #1 to allow the new SU10 – SS0X #2 230 kV line to be terminated in Bay #2 and this will eliminate the need for a 230 kV line crossing. New 230 kV lines will be extended from the Susquehanna T10 230 kV yard bays #2 and #3 for approximately 0.4 miles as double circuit 230 kV transmission line. These two new 230 kV lines will connect the existing Susquehanna T10 230 kV Switchyard to the new customer-owned 230-34 kV substation (SS0X). The route for this line is less than 2 miles in length and lies entirely on SSES and the customer's property.

A new 500 kV line will be extended from the Susquehanna 500 kV yard Bay #2 for approximately 0.2 miles as single circuit 500 kV transmission line. This new line will connect the existing Susquehanna 500 kV Switchyard to the existing customer-owned 500-69 kV substation (SS02). The route for this line is less than 2 miles in length and lies entirely on SSES and the customer's property.

The proposed solution will allow PPL Electric to provide safe and reliable service to the customer while maintaining reliability of the BES. Additionally, this solution is the least impactful option to landowners and the local community as it will be located entirely within existing ROW or on property owned by SSES or the customer. The Project was presented to PJM on May 6, 2025, and is in the DNH process. Upon completion of the DNH analysis PJM will assign the supplemental number. A map of the proposed system alignment is provided as **Figure 1-2**.

Figure 1-1: Existing System Configuration

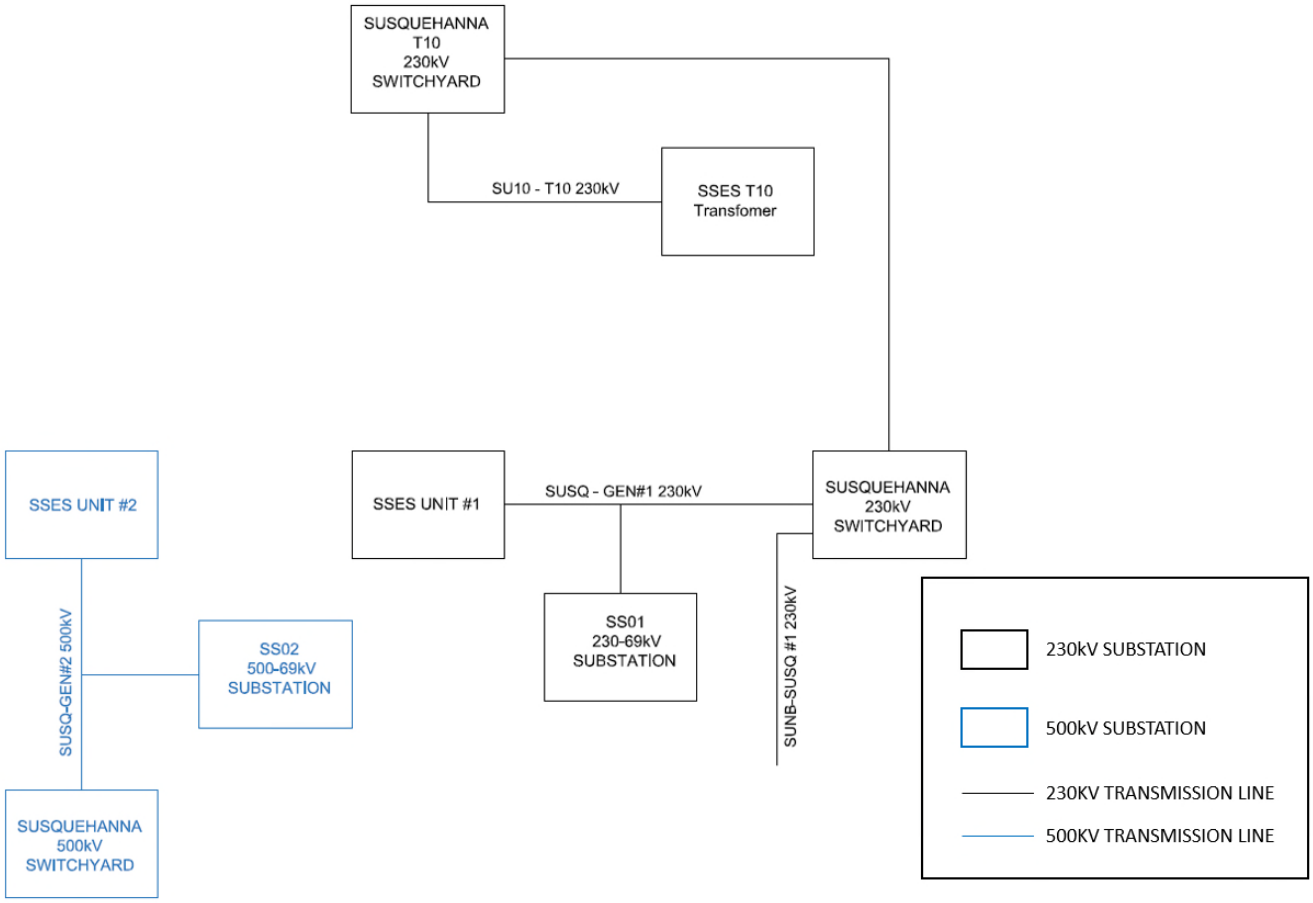
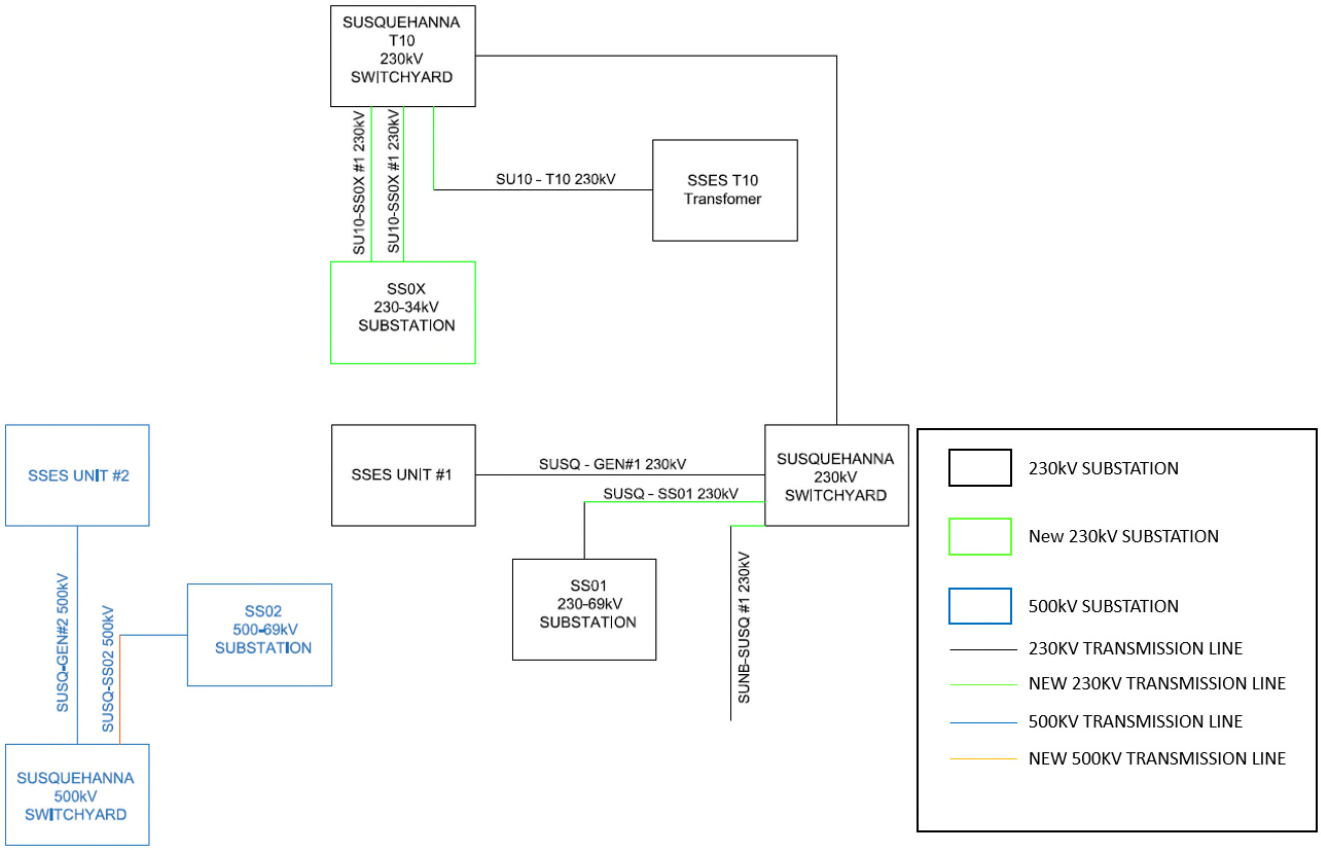


Figure 1-2: Proposed System Configuration



ATTACHMENT 2

SUSQUEHANNA 230 kV AND 500 kV TRANSMISSION LINE PROJECT

TABLE OF CONTENTS

List of Tables

List of Figures

1.0 INTRODUCTION

As explained in **Attachment 1**, PPL Electric Utilities Corporation ("PPL Electric") is requesting Pennsylvania Public Utility Commission ("PUC" or "Commission") approval to: (1) build approximately 1.5 miles of new single circuit 230 kV transmission line ("SUSQ – SS01 230 kV Line") that is needed to connect the existing Susquehanna 230 kV Switchyard to the existing customer owned "SS01" 230-69 kV substation; (2) build a new single circuit 0.2-mile-long 500 kV transmission line ("SUSQ – SS02 500 kV Line") from the Susquehanna 500 kV Switchyard to the existing customer owned "SS02" 500-69 kV substation (the "Project"); and (3) build a new double circuit 0.4-mile-long 230 kV transmission line ("SU10 – SS0X #1 & #2 230 kV Lines") from the Susquehanna T10 230 kV Switchyard to a new customer owned "SS0X" 230-34 kV substation. In addition to these new overhead high-voltage ("HV") transmission lines, PPL Electric also plans to:

- Re-terminate the existing Sunbury – Susquehanna #1 230 kV line ("SUNB – SUSQ 230 kV Line") at the Susquehanna 230 kV Switchyard;
- Raise three spans of the existing Susquehanna – Transformer 21 230 kV line ("SUSQ – T21 230 kV Line"); and
- Re-terminate the existing Susquehanna T10 – Transformer 10 Tap 230 kV line ("SU10 – T10 230 kV Line") at the Susquehanna T10 230 kV Switchyard.

Collectively, the siting and construction of the three new HV transmission lines, as well as the associated re-termination of existing transmission lines at the Susquehanna 230 kV Switchyard and raising of existing transmission lines, will be known as the "Susquehanna 230 kV and 500 kV Transmission Line Project" or "Project." The Susquehanna 230 kV and 500 kV Transmission Line Project will be located in Conyngham and Salem Townships, Luzerne County, Pennsylvania. PPL has designed the proposed transmission line system so that it fits entirely within existing PPL Electric right-of-way ("ROW"), the customer's property and Susquehanna Steam Electric Station ("SSES") property. PPL Electric is working with the customer and SSES to finalize necessary easements.

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

2.0 DESCRIPTION OF THE EXISTING AND PROPOSED LINES AND STRUCTURES

Development of the new SUSQ – SS01 230 kV Line will involve modifications to two existing transmission lines located near the Susquehanna 230 kV Switchyard specifically the Sunbury-Susquehanna (SUNB – SUSQ) 230 kV line and the Susquehanna -Transformer 21 (SUSQ – TR21) 230 kV line.

1. The SUNB – SUSQ 230 kV Line exits the Susquehanna 230 kV Switchyard and extends south to Sunbury. The first two structures of this line will be replaced with new double circuit structures that will be used to support both the SUNB – SUSQ 230 kV Line and the initial section of the new SUSQ – SS01 230 kV line. The line will then be re-terminated from Bay #1 to Bay #0 to eliminate a 230 kV line crossing.
2. The SUSQ – T21 230 kV line extends west from the Susquehanna 230 kV Switchyard to the Susquehanna Power Plant and will be paralleled by the new SUSQ – SS01 230 kV line. Closer to the Susquehanna Power Plant, three existing structures on the SUSQ - T21 230 kV line will be replaced with taller structures to allow the new SUSQ – SS01 230 kV lines to cross under this system.

Development of the new SU10 – SS0X #1 & #2 230 kV Lines will involve modifications to one existing transmission line located near the Susquehanna T10 230 kV Switchyard specifically the Susquehanna T10 – Transformer 10 (SU10 – T10) Tap 230 kV Line.

1. The SU10 – T10 230 kV Line exits the Susquehanna T10 230 kV Switchyard to the south but then turns east and then north around the substation. The first structure will be removed and replaced approximately 50 feet to the east for this line to be re-terminated from Bay #2 to Bay #1 and eliminate a 230 kV line crossing.

Modifications to these three existing 230 kV transmission lines will involve the replacement of six (6) structures. None of the existing conductor or guide wires for these three transmission lines will be replaced.

Development of the new Susquehanna - SS02 (SUSQ - SS02) 500 kV transmission line will not involve modifications to any existing structures.

A detailed map of the Project alignment is provided as **Figure 3-1 in Attachment 3**.

Table 2-1 provides a summary of the number and heights of the existing and proposed structures.

Table 2-1: Existing and New Transmission Line Structures

Transmission Line	No. of Existing Structures	Existing Structure Height Range (feet)	Proposed No. of New Structures	Proposed Structure Height Range (feet)	Applicable Framing/ Specifications
SUSQ – SS01 230 kV	0		12	50-135	7-009-001 7-009-004 7-009-005 CUSTOM
SUSQ – T21 230 kV	3	115-125	3	130-135	7-009-004 7-009-061
SUNB – SUSQ 230 kV	2	115-130	2	110-120	7-009-004 CUSTOM
SU10 – SS0X #1 & #2 230 kV	0		9	70-125	7-009-001 7-009-004 CUSTOM
SU10 – T10 230 kV	1	105	1	110	7-009-013
SUSQ – SS02 500 kV	0		2	175	7-010-014
Total	**6**		**29**		

Figure 2-1 - Figure 2-5 depict typical 230 kV structure types that will be used to modify the SUNB – SUSQ 230 kV, SUSQ – T21 230 kV, and SU10 – T10 #1 & #2 230 kV Lines, as well as construct the new SUSQ - SS01 230kV and SU10 – SS0X 230 kV Lines. These include the following:

- Install 7 new double circuit steel pole pole 0° to 1° suspension structures (**Figure 2-1**).
- Install 9 new double circuit steel pole 0° to 90° angle tension on arm structures (**Figure 2-2**).

- Install 1 new double circuit steel pole 0° to 90° angle tension on pole structure (**Figure 2-3**).[1]
- Install 2 new long span double circuit steel pole 0° to 1° suspension structures (**Figure 2-4**).
- Install 1 new single circuit steel pole 0° to 90° angle tension structure (**Figure 2-5**).
- Install 3 new custom monopole structures – two to be located on the SUSQ – SS01 230 kV Line and one on the SUNB – SUSQ 230 kV Line.
- Install 4 new 3-pole custom structures to extend the new SU10 – SS0X #1 & #2 230 kV Lines under an existing 500 kV line.

Development of the new SUSQ – SS01 230 kV Line will require the installation of twelve (12) 230 kV structures. These new structures in addition to the two (2) replacement structures along the SUNB - SUSQ 230 kV Line will be used to connect the new 230 kV line from the Susquehanna 230 kV Switchyard located on the east side of the Susquehanna River to the SS01 Substation located near the Susquehanna Steam Electric Station ("SSES")on the west side of the river. The structures will be designed for future double circuit configuration but initially built and operated as a single circuit system. PPL will seek the necessary approvals for the addition of the second circuit in the future when it is needed. PPL Electric has designed the proposed transmission line system so that it fits entirely within existing PPL Electric right-of-way, SSES property, and the customer's property. PPL is working with the customer and SSES to finalize necessary easements.

Development of the new double circuit SU10 – SS0X #1 & #2 230 kV Lines will require the installation of nine (9) 230 kV structures. Four (4) of the structures will consist of custom 3-pole structures to be used to cross under an existing 500 kV line. The nine (9) new structures will be used to connect the new 230 kV line from the Susquehanna T10 230 kV Switchyard located on the west side of the SSES to a new customer-owned 230-34 kV substation (SS0X) also located on the west side of the SSES.

[1] This structure was designed as a two-pole structure, but only one of the poles will be built for the single circuit operation of the SUSQ-SS01 230 kV Line. If the need arises for a second circuit and future PUC approval is received, the second pole of this two-pole structure design would be installed.

The proposed SUSQ – SS01 230 kV Line will be a single circuit system that will consist of three (3) 1590 kcmil, "Falcon", 54/19 Stranding, ACSS[2] conductors. One (1) new 144-count optical guide wires ("OPGW") will also be installed.

The proposed SU10 – SS0X #1 & #2 230 kV lines will be built as a double circuit system that will consist of six (6) 1590 kcmil, "Falcon", 54/19 Stranding, ACSS conductors. Two (2) new 144-count OPGW will also be installed on this line.

The minimum conductor-to-ground clearance will be 25.5 feet, which occurs at the maximum thermal conductor temperature of 200°C. The design minimum conductor clearances and conductor thermal ratings for these lines are noted in **Tables 2-2 and 2-3**.

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

Condition	Transmission Double Circuit Design Clearance-to-Ground
Heavy Ice (1" ice at 0°C ambient temperature)	25.5ft
Predicted Extreme Thermal Load (200°C conductor temperature)	25.5ft
Predicted Blowout (15 psf, 16°C ambient temperature)	25.5ft

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

Condition	Ambient Temperature (°C)	Wind Speed (Ft./sec)	Ampacity (Amps)
Summer Normal	35	0	2345
Winter Normal	10	0	2507
Summer Emergency	35	2.533	2710
Winter Emergency	10	2.533	2871

Development of the new SUSQ – SS02 500 kV Line will require installation of two (2) 500 kV structures that will be used to connect the existing Susquehanna 500 kV Switchyard to a new customer substation (SS02) that will be located adjacent to the existing 500 kV Substation. The

[2] ACSS stands for aluminum conductor steel supported

proposed SUSQ – SS02 500 kV Line will be a single circuit system that will consist of three (3) triple bundle 1590 kcmil, "Falcon", 54/19 Stranding, ACSR[3] conductors. One (1) new 144-count OPGW will also be installed. These structures will be built partially on existing PPL ROW and all on property owned the SSES. PPL is working with the SSES to finalize the necessary additional easement. The design minimum conductor clearances and conductor thermal ratings for the new lines are noted in **Tables 2-4 and 2-5**.

Figure 2-6 depicts the typical 500 kV structure type that will be used to construct the new SUSQ - SS02 500 kV Line, which is describes as follows:

- Install 2 new 500 kV tension on pole vertical framing (0° to 90° Line Angle) structures (**Figure 2-6**).

Table 2-4: Design for Minimum Conductor Clearance for Triple Bundle 1590 kcmil 54/19 Stranding Falcon ACSR

Condition	Transmission Double Circuit Design Clearance-to-Ground
Heavy Ice (1" ice at 32°F ambient temperature)	31.4ft
Predicted Extreme Thermal Load (392°F conductor temperature)	31.4ft
Predicted Blowout (15 psf, 60°F ambient temperature)	31.4ft

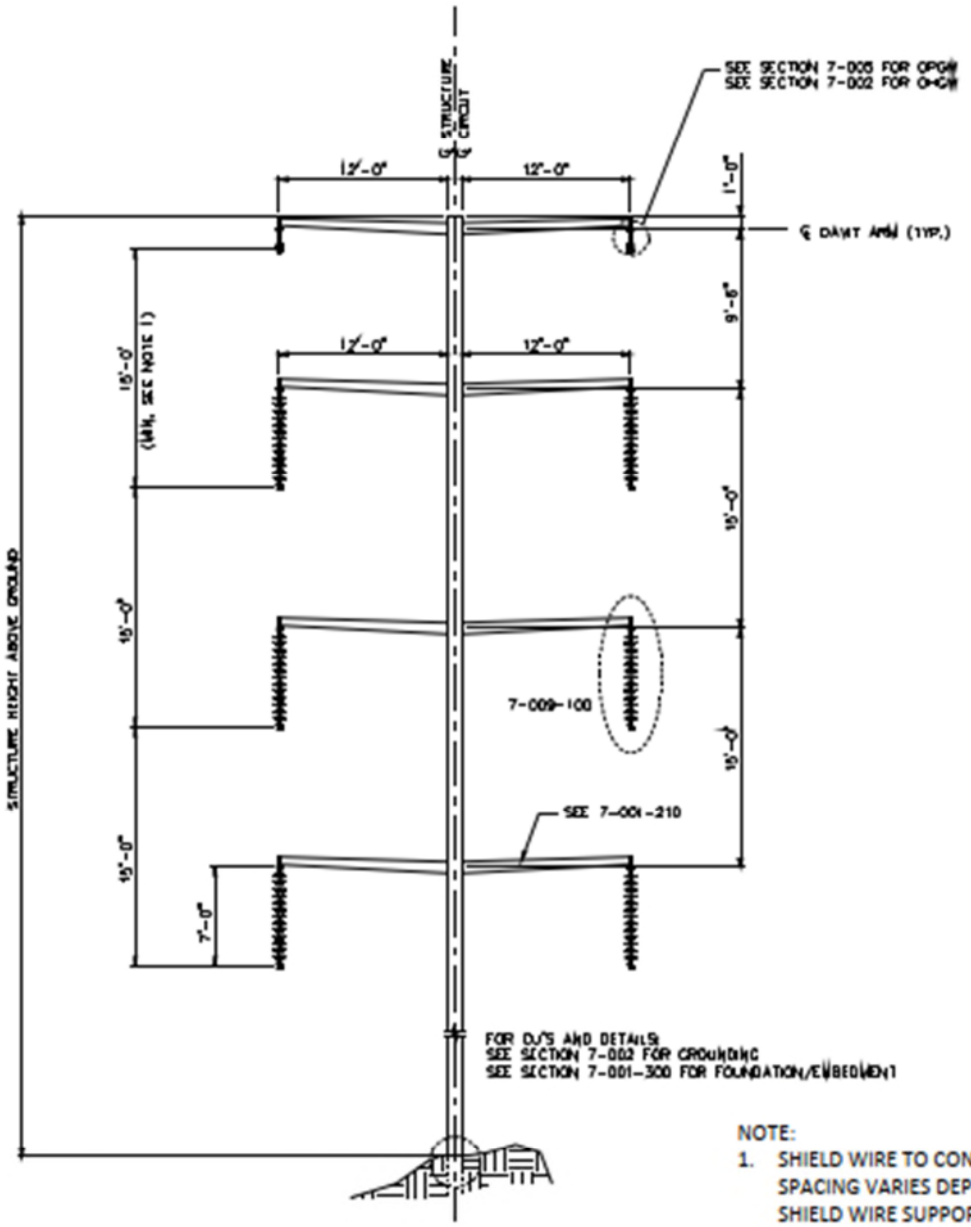
Table 2-5: Conductor Thermal Rating Triple Bundle 1590 kcmil 54/19 Stranding Falcon ACSR – 125°C Normal Maximum Conductor Temperature

Condition	Ambient Temperature (°C)	Wind Speed (Ft./sec)	Ampacity (Amps)
Summer Normal	35	0	5014
Winter Normal	10	0	5774
Summer Emergency	35	2.533	6190
Winter Emergency	10	2.533	6969

[3] ACSR stands for aluminum conductor steel reinforced

Figure 2-1: Typical 230 kV Double Circuit Steel Pole 0° to 1° Suspension Structure

ppl Electric Utilities	**7-009-001** 230kV Double Circuit Steel Pole 0° to 1° Suspension Structure	Revision: 0 Effective Date: 3/18/2016 Sheet **1** of **1**



NOTE:
1. SHIELD WIRE TO CONDUCTOR SPACING VARIES DEPENDING ON SHIELD WIRE SUPPORT ASSEMBLY. SEE SPECIFIC JOB INSTRUCTIONS.

REV	Date	Sponsor	Reviewer	Transmission Construction Standards PPL Electric Utilities Corporation
0	3/18/16	MSD	SDS	
				Approved T. P. Hinson Manager Standards

Figure 2-2: Typical 230 kV Double Circuit Steel Pole 0° to 90° Angle Tension on Arm Structure

PPL Electric Utilities	**7-009-004** 230kV Double Circuit Steel Pole 0° To 90° Angle Tension on Arm Structure	Revision: 0 Effective Date: 3/18/2016 Sheet 1 of 1

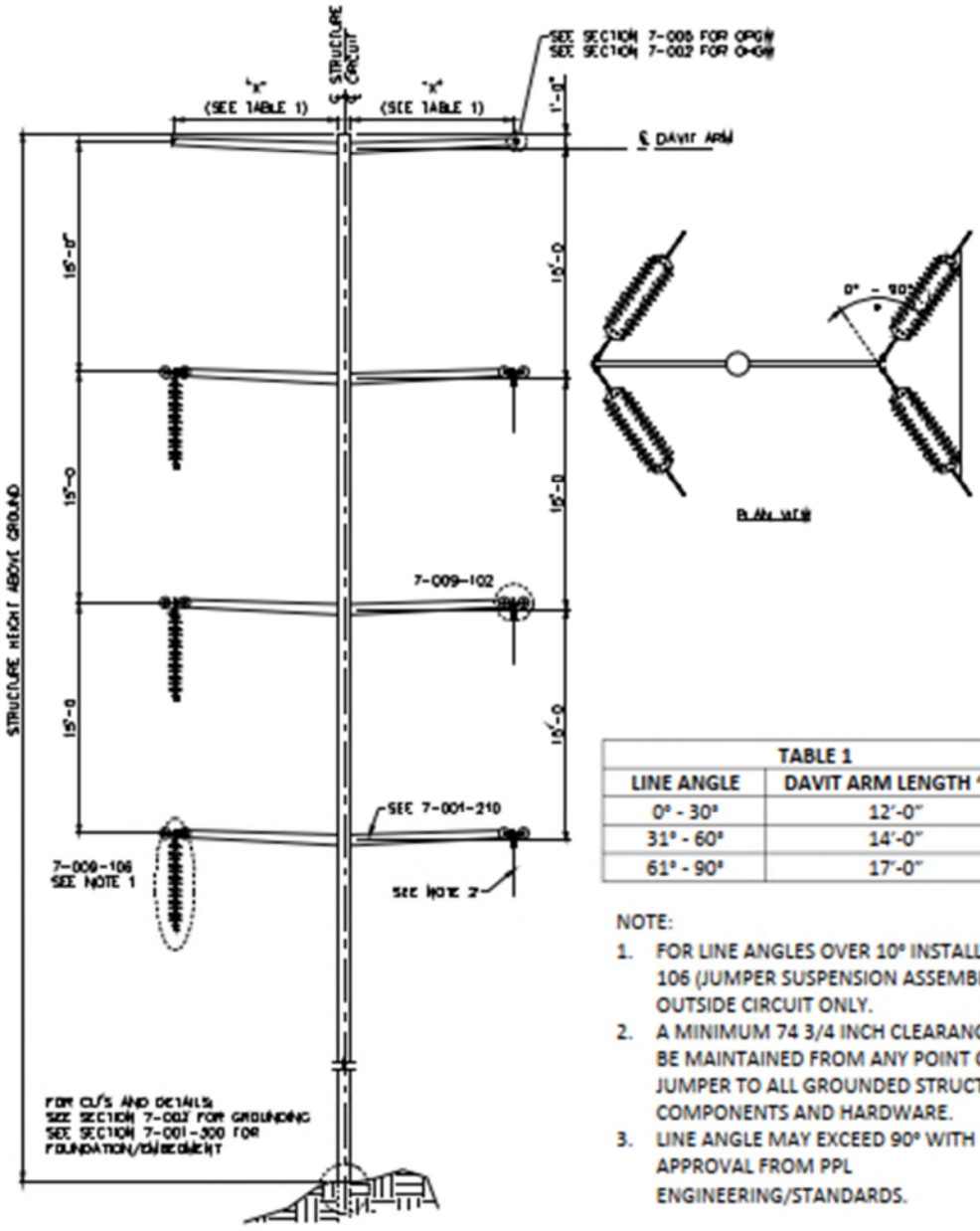


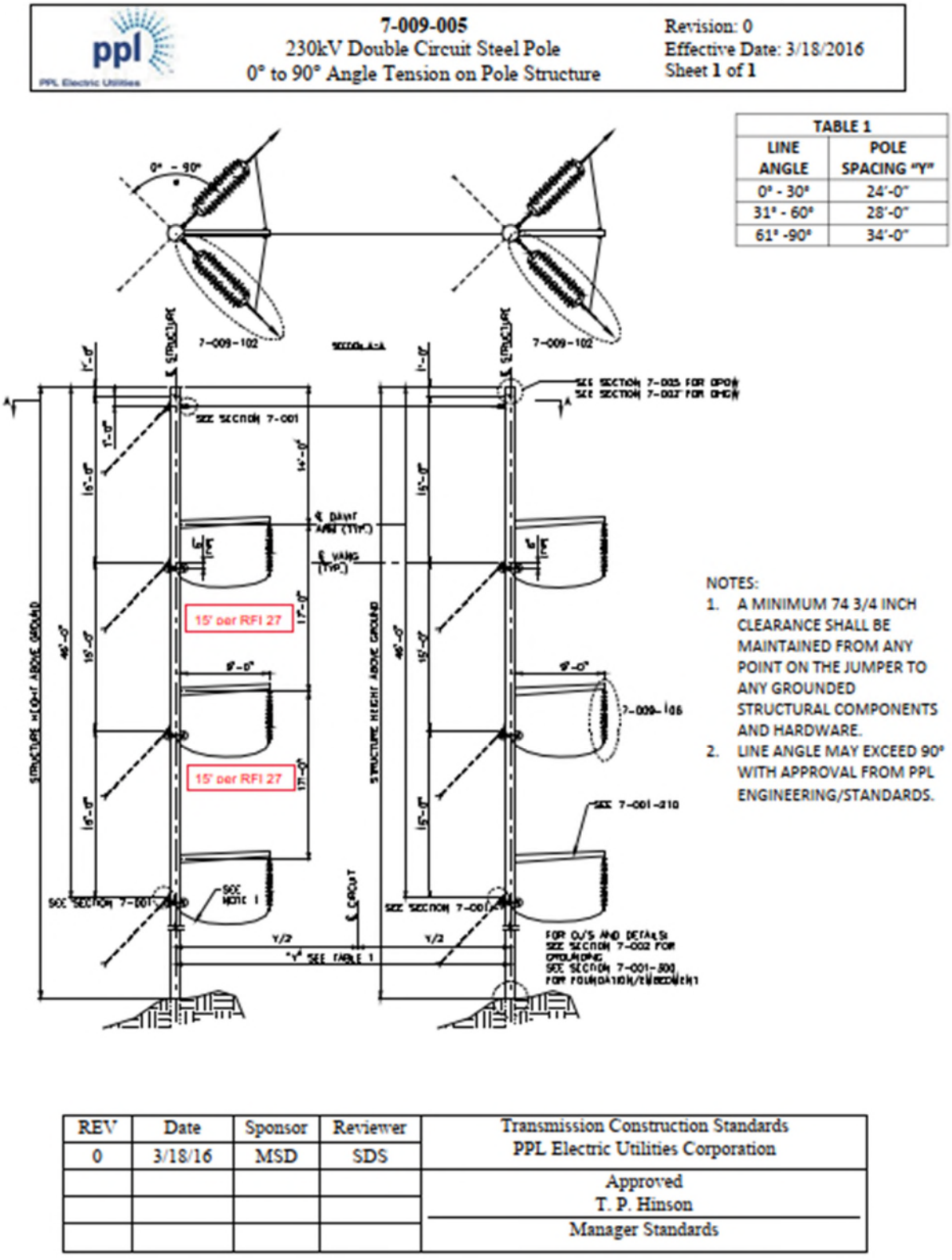
TABLE 1	
LINE ANGLE	**DAVIT ARM LENGTH "X"**
0° - 30°	12'-0"
31° - 60°	14'-0"
61° - 90°	17'-0"

NOTE:

1. FOR LINE ANGLES OVER 10° INSTALL 7-009-106 (JUMPER SUSPENSION ASSEMBLY) ON OUTSIDE CIRCUIT ONLY.
2. A MINIMUM 74 3/4 INCH CLEARANCE SHALL BE MAINTAINED FROM ANY POINT ON THE JUMPER TO ALL GROUNDED STRUCTURAL COMPONENTS AND HARDWARE.
3. LINE ANGLE MAY EXCEED 90° WITH APPROVAL FROM PPL ENGINEERING/STANDARDS.

REV	Date	Sponsor	Reviewer	Transmission Construction Standards PPL Electric Utilities Corporation
0	3/18/16	MSD	SDS	
				Approved T. P. Hinson Manager Standards

Figure 2-3: Typical 230 kV Double Circuit Steel Pole 0° to 90° Angle Tension on Pole Structure



REV	Date	Sponsor	Reviewer	Transmission Construction Standards PPL Electric Utilities Corporation
0	3/18/16	MSD	SDS	
				Approved T. P. Hinson Manager Standards

Figure 2-4: Typical 230 kV Long Span Double Circuit Steel Pole 0° to 1° Suspension Structure

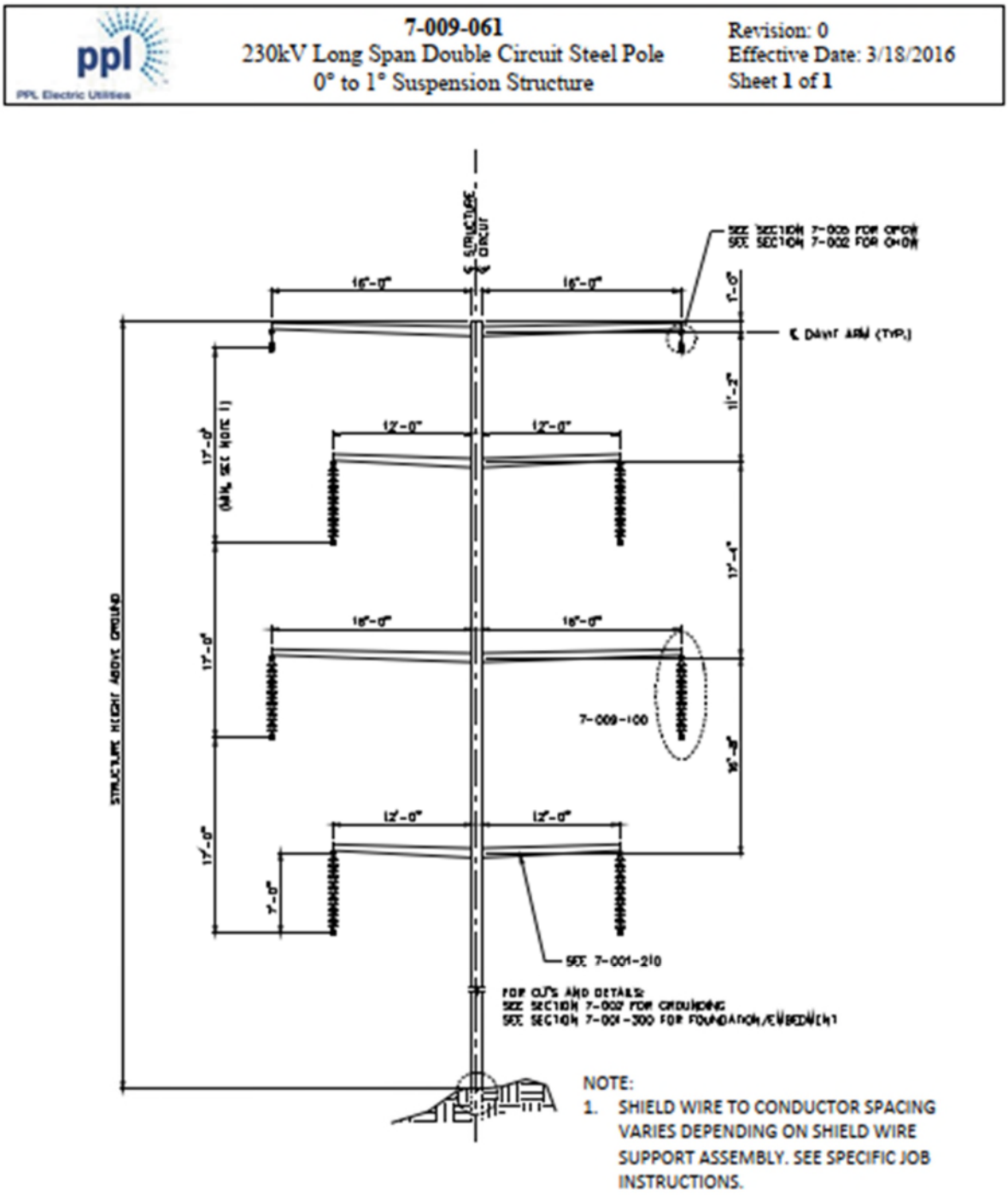
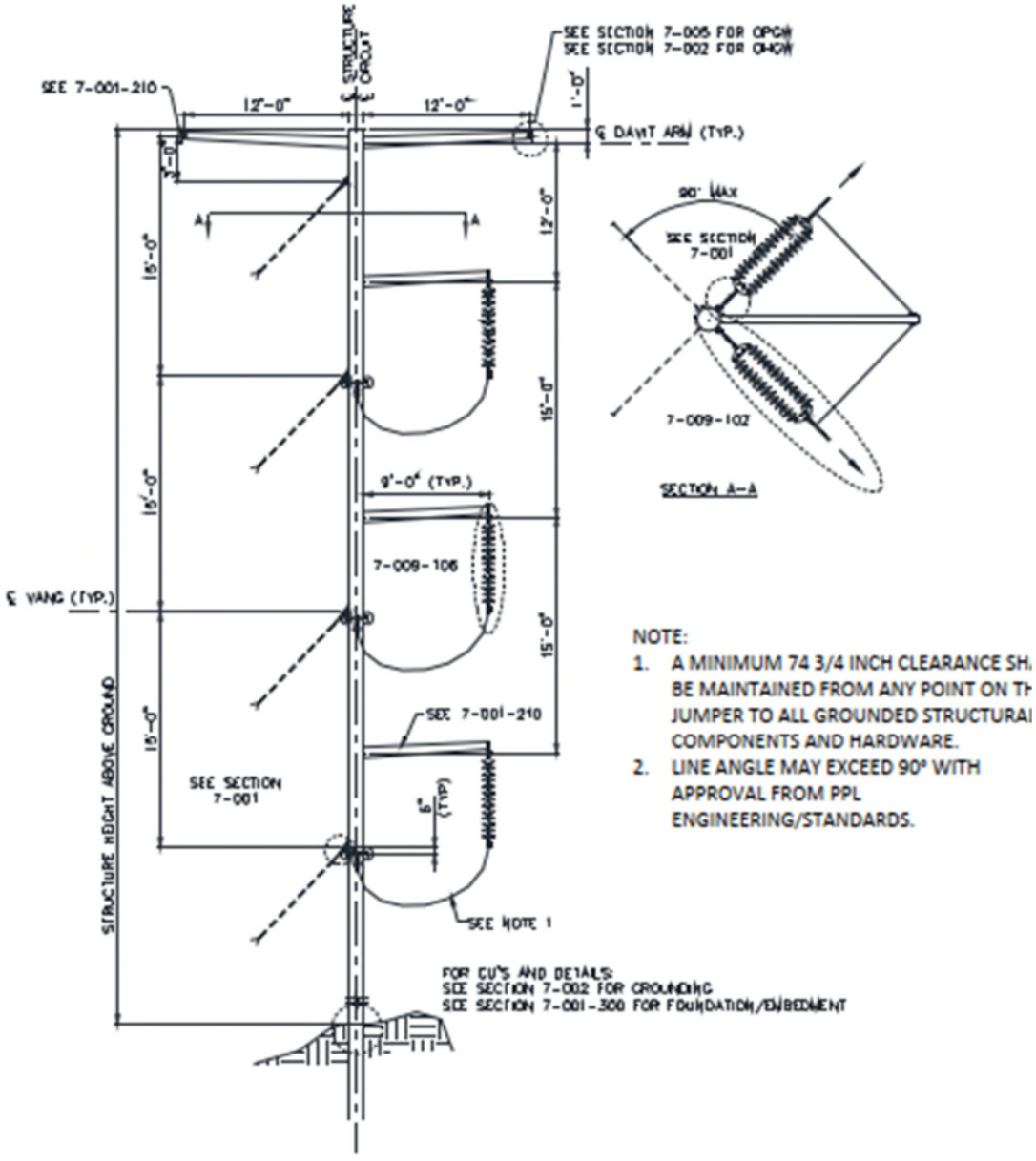


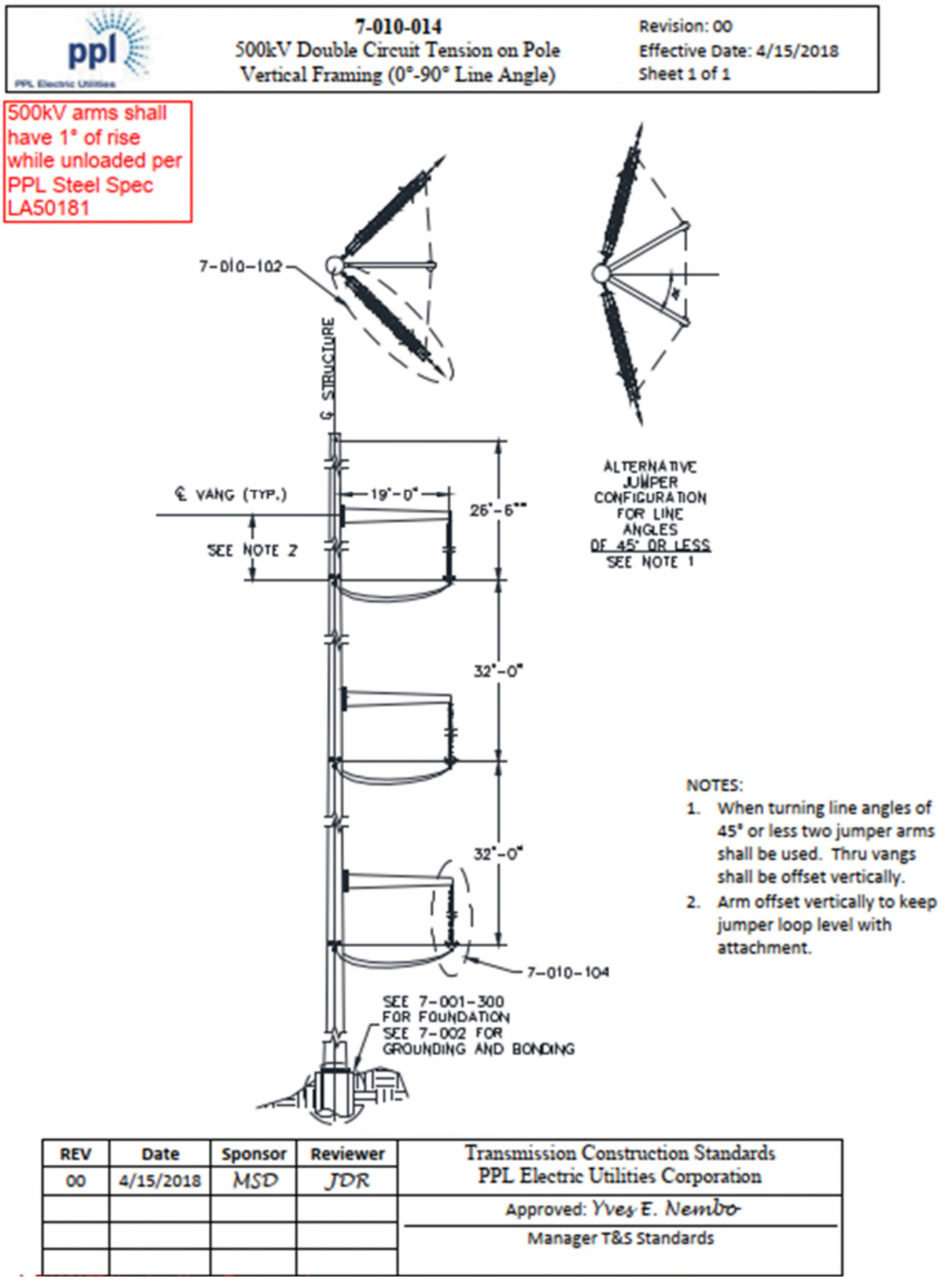
Figure 2-5: Typical 230 kV Single Circuit Steel Pole 0° to 90° Angle Tension Structure

PPL Electric Utilities	**7-009-013** 230kV Single Circuit Steel Pole 0° to 90° Angle Tension on Pole Structure	Revision: 0 Effective Date: 3/18/2016 Sheet **1** of **1**



REV	Date	Sponsor	Reviewer	Transmission Construction Standards PPL Electric Utilities Corporation
0	3/18/16	MSD	SDS	
				Approved T. P. Hinson
				Manager Standards

Figure 2-6: Typical 500 kV Double Circuit Tension on Pole Vertical Framing (0° to 90° Line Angle)



ATTACHMENT 3

SUSQUEHANNA 230 kV AND 500 kV TRANSMISSION LINE PROJECT

TABLE OF CONTENTS

List of Tables

List of Figures

1.0 INTRODUCTION

As explained in **Attachment 1**, PPL Electric Utilities Corporation ("PPL Electric") is requesting Pennsylvania Public Utility Commission ("PUC" or "Commission") approval to (1) build approximately 1.5 miles of new single circuit 230 kV transmission line ("SUSQ – SS01 230 kV Line") that is needed to connect the existing Susquehanna 230 kV Switchyard to the existing customer owned "SS01" 230-69 kV substation; (2) build a new single circuit 0.2-mile-long 500 kV transmission line ("SUSQ – SS02 500 kV Line") from the Susquehanna 500 kV Switchyard to the existing customer owned "SS02" 500-69 kV substation (the "Project"); and (3) build a new double circuit 0.4-mile-long 230 kV transmission line ("SU10 – SS0X #1 & #2 230 kV Lines") from the Susquehanna T10 230 kV Switchyard to a new customer owned "SS0X" 230-34 kV substation. In addition to these new overhead high-voltage ("HV") transmission lines, PPL Electric also plans to:

- Re-terminate the existing Sunbury – Susquehanna #1 230 kV line ("SUNB – SUSQ 230 kV Line") at the Susquehanna 230 kV Switchyard;
- Raise three spans of the existing Susquehanna – Transformer 21 230 kV line ("SUSQ – T21 230 kV Line"); and
- Re-terminate the existing Susquehanna T10 – Transformer 10 Tap 230 kV line ("SU10 – T10 230kV Line") at the Susquehanna T10 230 kV Switchyard.

Collectively, the siting and construction of the three new HV transmission lines, as well as the associated re-termination of existing transmission lines at the Susquehanna 230 kV Switchyard and raising of existing transmission lines, will be known as the "Susquehanna 230 kV and 500 kV Transmission Line Project" or "Project." The Susquehanna 230 kV and 500 kV Transmission Line Project will be located in Conyngham and Salem Townships, Luzerne County, Pennsylvania. PPL Electric has designed the proposed transmission line system so that it fits entirely within existing PPL Electric right-of-way ("ROW"), the customer's property and Susquehanna Steam Electric Station ("SSES") property. PPL Electric is working with the customer and SSES to finalize necessary easements. A network of existing access roads or temporary roads will be utilized during construction of the Project. Detailed maps of the proposed Project are provided in **Figure 3-1**.

SUSQ – SS01 230 kV Line and SUNB – SUSQ 230 kV Line

From the customer owned SS01 230-69 kV substation, the SUSQ – SS01 230 kV Line travels in a southeasterly direction across predominately forested and agricultural land before turning east towards the Susquehanna 230 kV Switchyard. The SUSQ – SS01 230 kV Line intersects with the SUNB-SUSQ 230 kV Line before entering the Susquehanna 230 kV Switchyard, as shown in **Figure 3-1**. The ROW for this section of the Project is further described below:

- From Structures 1A at the SS01 230-69 kV substation, the Project will extend east and southeast approximately 0.13 miles (696 feet) to Structure 4A (Sheet 3, Structures 1A to 4A in Figure 3-1). This section involves one single circuit steel pole tension structure (7-009-013), two double circuit steel pole tension structures (7-009-004), and one single circuit steel pole custom dead-end structure (CUSTOM). These structures are located on SSES property where easements are being finalized. Land use is predominately industrial area due to the proximity of the SSES.
- From Structure 4A, the Project continues southeast approximately 0.04 miles (221 feet) under the SUSQ – T21 230 kV Line to Structure 5A then turns to continue east approximately 1.0 miles (5,358 feet) to Structure 12 (Sheets 3 to 5, Structures 5A to 12 in Figure 3-1). This section involves one single circuit steel pole custom dead-end structure (CUSTOM), three double circuit steel pole tension structures (7-009-004), and four long span double circuit steel pole suspension structures (7-009-061). The land use of this section is predominantly agricultural and forested land with crossings of two railroads and the Susquehanna River. These structures are located entirely on ROW maintained by PPL Electric.
- From Structure 12, the Project continues southeast approximately 0.26 miles (1,353 feet) to Structure 14 and the Susquehanna 230 kV Switchyard through forested and agricultural land (Sheet 5, Structures 13 to 14 in Figure 3-1). This section of the SUSQ – SS01 230 kV Line intersects with the SUNB – SUSQ 230 kV Line where two new double circuit structures (CUSTOM and 7-009-004) will replace the existing structures and be used to support both the SUNB – SUSQ 230 kV Line and a section of the new SUSQ – SS01 230 kV Line. These structures are located entirely on ROW maintained by PPL Electric.

SUSQ – SS02 500 kV Line

From the Susquehanna 500 kV Switchyard, the SUSQ – SS02 500 kV Line travels easterly towards the customer owned SS02 500-69 kV substation, as shown in **Figure 3-1.** The ROW for this section is further described below:

- From Structure 500-1 north of the Susquehanna 500 kV Switchyard, the Project extends east approximately 0.06 miles (321 feet) to Structure 500-2 before turning southeast to enter the SS02 500-69 kV Substation (Sheet 2, Structures 500-1 to 500-2 in Figure 3-1). The line involves two single-circuit tension pole structures (7-010-014). These structures are located partially on ROW maintained by PPL Electric and partially on SSES property where easements are being finalized. Land use is predominately industrial area due to the proximity of the SSES.

SU10 – SS0X #1 & #2 230 kV Lines

From the Susquehanna T10 230 kV Switchyard, the SU10 – SS0X #1 & #2 230 kV Lines travel westerly towards the new customer owned SS0X 230-34 kV substation, as shown in **Figure 3-1.** The ROW for this section is further described below:

- From Structures P1-1 and P2-1, the Project extends south and west approximately 0.4 miles (2,137 feet) through forested land to Structure P1-7 the customer-owned SS0X 230-34 kV substation (Sheet 1, Structures P1-1 and P2-1 to P1-7 in Figure 3-1). The line involves three double circuit steel pole suspension structures (7-009-001), two double circuit steel pole tension structures (7-009-004), and four custom 3-pole structures (CUSTOM). These structures are located partially on ROW maintained by PPL Electric and partially on customer and SSES property where easements are being finalized.

SUSQ – T21 230 kV Line

The section of the SUSQ – T21 230 kV Line being raised begins a few spans outside of the SSES and extends east towards the Susquehanna 230 kV Switchyard, as shown in **Figure 3-1.** The ROW for this section is further described below:

- From new Structure 10N55, the Project extends east approximately 0.14 miles (734 feet) to Structure 83N59 (Sheet 3, Structures 10N55 to 83N59 in Figure 3-1). The line involves replacing 3 existing structures with one long span double circuit steel pole tension structure

(7-009-004) and two long span double circuit steel pole suspension structures (7-009-061). These structures are located entirely on ROW maintained by PPL Electric and are surrounded by industrial and forested land.

SU10 – T10 230kV Line

The SU10 – T10 230kV Line initially exits the Susquehanna T10 230 kV Switchyard to the south before wrapping around to the east and extending north towards the SSES, as shown in **Figure 3-1.** The ROW for this section is further described below:

- Structure P3-1 will replace an existing structure and support the re-termination of the SU10 – T10 230kV Line. This work will involve one single circuit steel pole tension structure (7-009-013). The structure is located entirely on ROW maintained by PPL Electric and is surrounded by industrial land.

2.0 LAND USE

PPL Electric evaluated the existing land uses on the PPL Electric owned properties, within the existing ROW, and within 0.25 mile (1,320 feet) of the Project centerline ("Project Area"). This broader Project Area was reviewed to provide a sense of the landscape in which the Project is located. Based on review of current aerial maps, land use in the Project Area is approximately 50% forest, 20% meadow/pasture lands, and 30% commercial development composed predominantly of the Susquehanna Steam Electric Station ("SSES"), and the Susquehanna 500/230 kV Substation.

No communication towers are located in the Project Area. The Project crosses two railroads. The North Shore Railroad is spanned by the Project approximately 0.5 miles east the SSES on the western side of the Susquehanna River, and the Norfolk Southern Railroad is spanned by the Project just west of the Susquehanna 230 kV Switchyard on the eastern side of the Susquehanna River. The project does not cross any gas pipelines.

The closest active airport relative to the Project Area is the Hazleton Regional Airport, which is located east of Route 81 in Hazleton and approximately 10 miles from the Project Area. PPL Electric does not anticipate any interference with airport operations because the Project is located

in an area where there are existing electrical facilities. However, PPL Electric will comply with any applicable requirements of the Federal Aviation Administration and the Pennsylvania Department of Transportation, Bureau of Aviation.

Conserved Lands

The proposed Project will not affect any national parks, state parks, local parks, or natural landmarks. The Susquehanna Riverlands Environmental Preserve will be spanned by the Project. This 1,200-acre property is located on the west shore of the Susquehanna River and provides walking trails and picnic areas for the general public. This preserve is also part of the Susquehanna Riverlands Important Bird Area, which includes portions of the east and west sides of the river up and downstream of the Project Area.

3.0 CULTURAL RESOURCES

An online review of the Project Area and surrounding landscape was conducted through the Pennsylvania Historical and Museum Commission ("PHMC") State Historic and Archaeological Resource Exchange site. State Historic Preservation Office ("SHPO") eligible and listed structures and districts that were found within or close to the Project Area are listed in Table 3-1.

Table 3-1: Cultural Resources Located in the Project Area

Resource Name	Resource Type	Eligibility	Location
Lackawanna and Bloomsburg Railroad	District	Not Eligible	West of Susquehanna River
North & West Branch Railroad	District	Not Eligible	East of Susquehanna River
Philadelphia & Erie Railroad	District	Not Eligible	East of Susquehanna River
Delaware, Lackawanna & Western Railroad	District	Eligible	West of Susquehanna River
North Branch of the Pennsylvania Canal	Above Ground	Eligible	West of Susquehanna River
House at 29 Bell Bend Road	Above Ground	Undetermined	West of Susquehanna River
Susquehanna and Tioga Turnpike	Above Ground	Not Eligible	West of Susquehanna River
Panetta's Car Mart	Above Ground	Undetermined	West of Susquehanna River

Resource Name	Resource Type	Eligibility	Location
MelRoe's Family Restaurant	Above Ground	Undetermined	West of Susquehanna River
215 Salem Boulevard	Above Ground	Undetermined	West of Susquehanna River
North Side of Klines Road	Above Ground	Undetermined	West of Susquehanna River

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

4.0 NATURAL FEATURES

Unique Natural Features

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

Soils

The Project Area consists of the Susquehanna River valley, a forested hill to the east, and flatter land to the west that are spanned by the Project. Topography changes range from approximately 500 feet above sea level ("asl") at the Susquehanna River crossing to approximately 700 feet asl at the Susquehanna 500 kV Switchyard. Soils present within the Project Area consist of mainly silt loams with varying sizes of rock fragments.

Erosion and Sedimentation ("E&S") control plans will be developed and implemented for the Project to minimize the displacement of soils. These plans will require prior approval from the local county conservation districts. National Pollutant Discharge Elimination System ("NPDES") permits will also be required from the Pennsylvania Department of Environmental Protection

("PADEP") as needed. During construction, PPL Electric will adhere to all conditions specified in the NPDES permit. Impacts to local soil resources are anticipated to be minimal.

Waterways

The existing transmission lines span one waterway that will remain in place after the Project construction activities have occurred. Review of the USGS mapping website indicated that the Project will aerially span one (1) named stream and one (1) unnamed tributary ("UNT") which are listed in Table 3-2. The Project Area is located predominantly within the City of Berwick-Susquehanna River watershed (USGS Hydrologic Unit Code ("HUC") 020501070307) and slightly within the Little Wapwallopen Creek watershed (HUC 020501070304). Both of these watersheds flow towards the Susquehanna River, which flows south to the Chesapeake Bay.

The named stream in the Project Area, the Susquehanna River, has a designation of Warm Water Fishes ("WWF"), Migratory Fishes ("MF"). UNTs to the Susquehanna River have a designation of Cold Water Fishes ("CWF"), MF. One of the new 230 kV lines will span the Susquehanna River and an UNT to the Susquehanna River, but no direct impact to these stream features are anticipated by the Project activities. The western side of the Project Area includes an UNT to Walker Run, which has a designation of CWF, MF. One of the new 230 kV lines will span the UNT to Walker Run, but no direct impact to this stream feature is anticipated by the Project activities**.**

Table 3-2: Named Streams Crossed by the Project

Stream Name	Chapter 93 Designated Stream Classification	Watershed Name	Special PFBC Designation
Susquehanna River	WWF, MF	Salem Creek-Susquehanna River	NO
UNT to Walker Run	CWF	Salem Creek-Susquehanna River	NO

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

Wetlands

Based on review of the U.S. Fish and Wildlife Service's ("USFWS") National Wetlands Inventory ("NWI"), near the Susquehanna River crossing, the Project spans two Riverine, Unknown Perennial (R5UBH) habitats, one Riverine, Intermittent (R4SBC) habitat, one Riverine, Lower Perennial (R2UBH) habitat, and one Palustrine, Unconsolidated Bottom, Semi-permanently flooded, Excavated (PUBFx) habitat. The Project is adjacent to one Palustrine, Permanently flooded, Excavated (PUBHx) freshwater pond to the north on the western side of the Susquehanna River. No impacts to these NWI features are anticipated by the proposed Project activities.

The west side of the Project consists of two Palustrine, Emergent Wetland, Moss-lichen vegetation, Temporarily Flooded (PEM5A) habitats and one Riverine, Unknown Perennial (R5UBH) habitat. A structure is proposed within one of the NWI PEM wetlands along with an aerial transmission crossing by the Project.

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

100-year Floodplains

The National Flood Hazard Layer for Luzerne County, Pennsylvania was obtained through the Federal Emergency Management Agency ("FEMA") Flood Map Service Center website and analyzed for 100-year floodplains within the Project Area and surrounding landscape. Based on review of this data, the Project spans the FEMA 100-year floodplain located near the Susquehanna River. The spanned 100-year floodplains crossed by the Project are categorized as either Zone A or Zone AE. Zone A areas are subject to inundation by the 1-percent-annual-chance flood event using approximate methodologies and no Base Flood Elevations ("BFE") determined. Zone AE areas are subject to inundation by the 1-percent-annual-chance flood event using detailed methods and with BFEs established for the location. The Project will also span a FEMA Zone AE floodway

area. Several structures along the Project are located within the floodway of the Susquehanna River. No impacts to the floodplain areas are anticipated by the proposed Project activities. Coordination with PADEP may be required regarding the structures located in the FEMA floodway.

Vegetation

Vegetative cover in the Project Area consists of routinely maintained ROW corridors, riparian habitats, forested areas, and vegetation associated with residential/commercial development. The new ROW area for the transmission line will require vegetation clearing. PPL Electric will apply its "Specifications for Transmission Vegetation Management LA-79827" to minimize potential impacts.

5.0 THREATENED AND ENDANGERED SPECIES

Natural Areas Inventory

Based on review of the *Natural Areas Inventory of Luzerne County, Pennsylvania*, published by The Nature Conservancy in 2006, the Project extends through one Pennsylvania Natural Heritage identified natural area. Between the SSES and the Susquehanna River, the Project crosses the Susquehanna Riverlands, which consists of aquatic and riparian habitats along the Susquehanna River corridor. Natural areas identified in these documents generally focus on sites that provide habitat conditions for threatened and endangered plant or animal species.

Threatened and Endangered Species

A Pennsylvania Natural Diversity Inventory ("PNDI") was run for the Project on June 11, 2025, to assess the potential presence of threatened and endangered species and/or special concern species. Specific agencies reviewing the Project included the following:

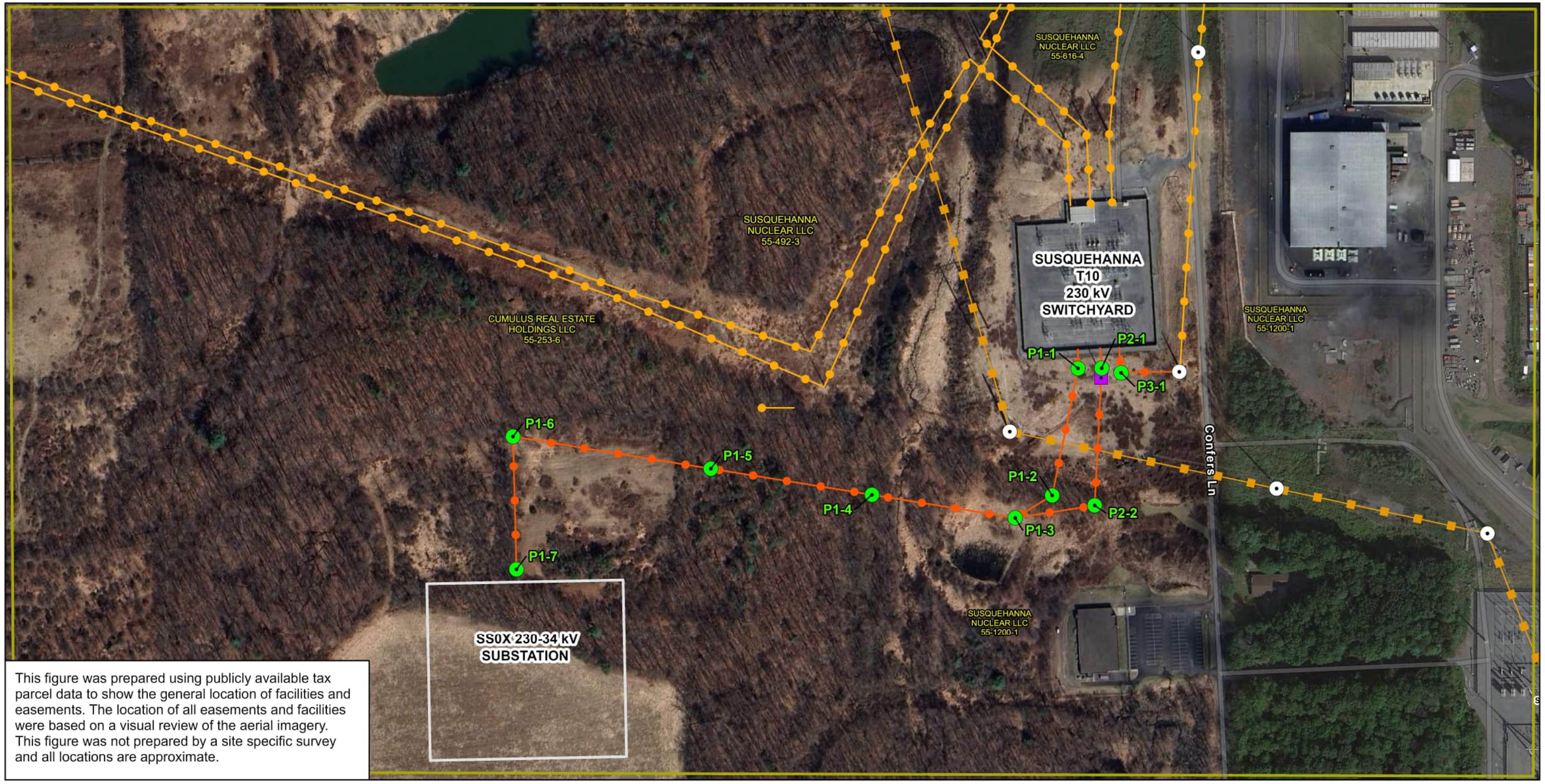
- Pennsylvania Game Commission ("PGC"),
- Pennsylvania Fish and Boat Commission ("PFBC"),
- Pennsylvania Department of Conservation and Natural Resources ("PDCNR"), and
- United States Fish and Wildlife Service ("USFWS").

The USFWS requested that Project information be entered into the Information for Planning and Consultation (IPaC) tool to review the Project's potential effect on a federally listed species. Further coordination with the USFWS is anticipated.

Along this section of the Project, the PGC also reported that a threatened sensitive species may be located in the vicinity of the Project and further review is necessary to resolve potential impacts. Further coordination with the PGC concluded that no impact to this species is anticipated.

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

Figure 3-1: Aerial Map of the Project



This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were based on a visual review of the aerial imagery. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Existing Structure (To Remain)
- Proposed Structure
- Existing Structure (To Be Replaced)
- Proposed Substation Site
- New 230kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line

Notes:

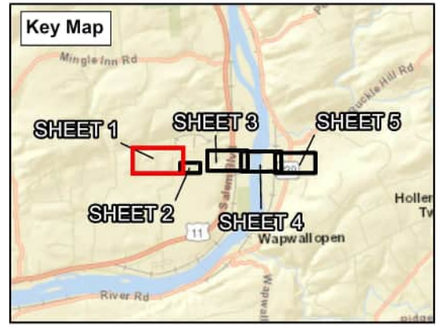
1.Existing and Proposed Structures provided by PPL Electric Utilities (PPL EU) in March and April 2025.

2. Existing ROW and proposed substation location provided by PPL EU in June 2025.

NAD 1983 StatePlane_Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
NWI Wetlands (2025)
National Flood Hazard Layer (NFHL) (FEMA 2024)
Natural Heritage Areas (NHA) (PNHP 2020)
NHD Flowline (USGS 2025)
0.5 foot Orthoimagery (PEMA 2021)

0 200 400
Feet

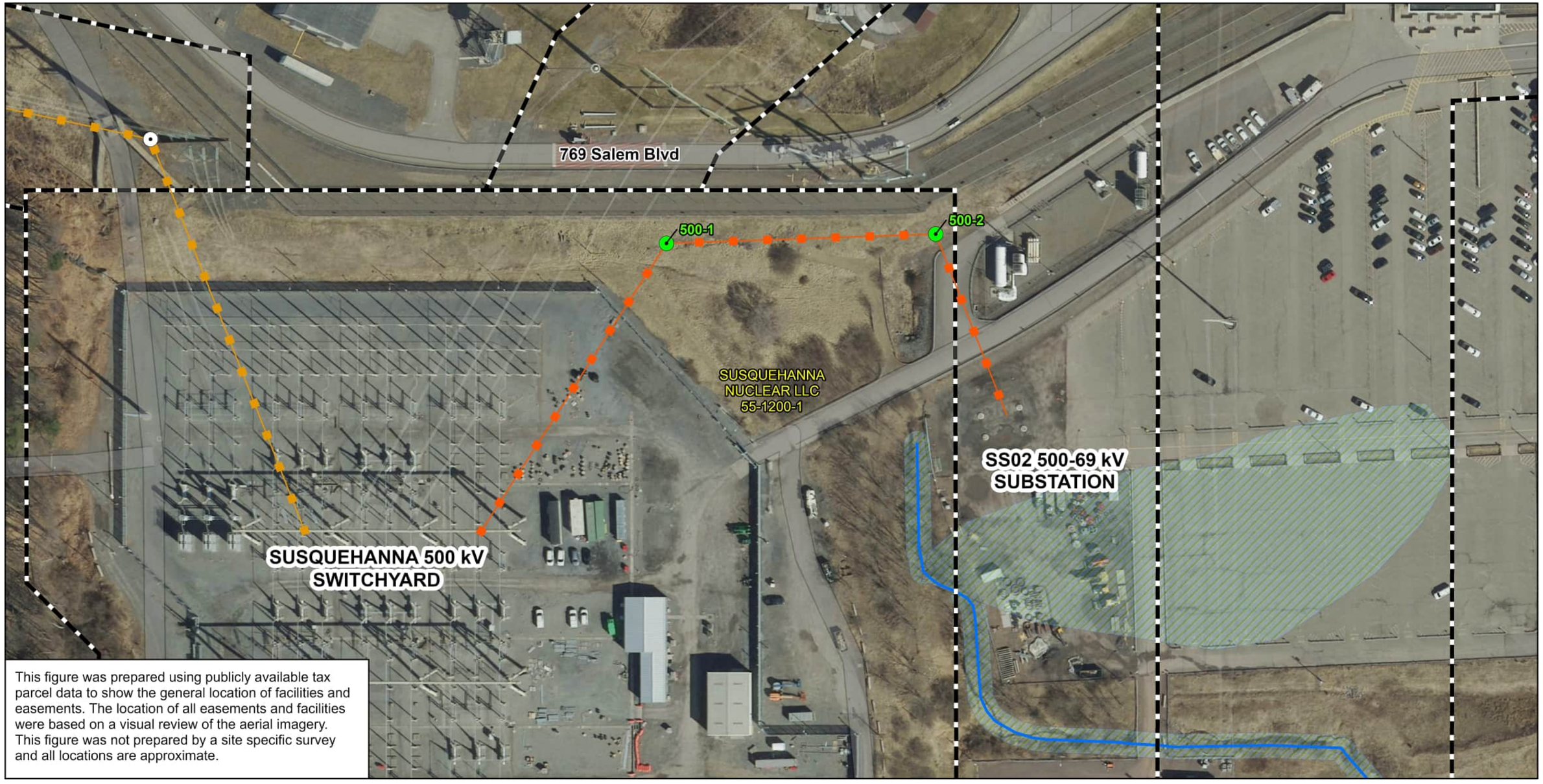


ppl PPL Electric Utilities AECOM

FIGURE 3-1
PPL Susquehanna 230kV and 500kV Transmission Line Project
Sheet 1 of 5

Luzerne County, Pennsylvania

Prepared By: GIB	Checked By: RB
Job: 60750277	Date: 7/14/2025



This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were based on a visual review of the aerial imagery. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Existing Structure (To Remain)
- Proposed Structure
- Existing Structure (To Be Replaced)
- New 500kV Transmission Line
- Existing 500kV Transmission Line
- PPL EU 230kV ROW
- Parcel Boundary
- USGS Streams
- NWI Wetlands
- PA Municipalities

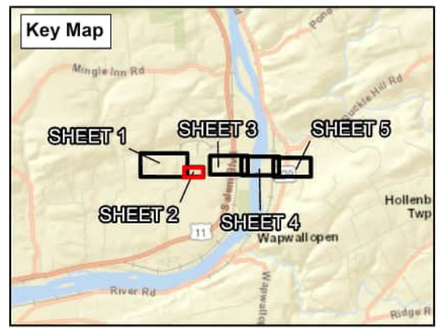
Notes:
1.Existing and Proposed Structures provided by PPL Electric Utilities (PPL EU) in March and April 2025.

NAD 1983 StatePlane_Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
NWI Wetlands (2025)
National Flood Hazard Layer (NFHL) (FEMA 2024)
Natural Heritage Areas (NHA) (PNHP 2020)
NHD Flowline (USGS 2025)
0.5 foot Orthoimagery (PEMA 2021)

0 100 200
Feet

Key Map

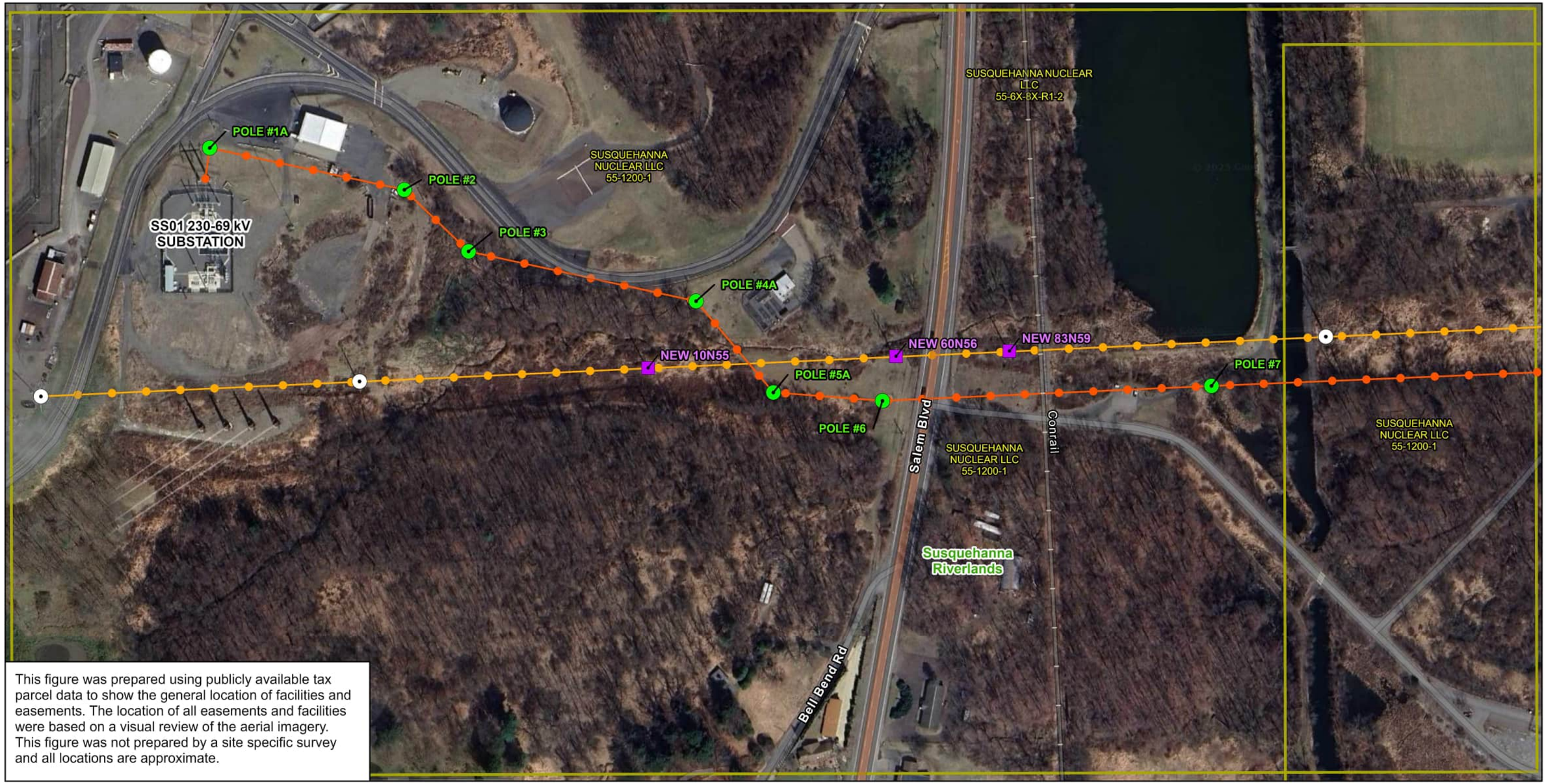


PPL Electric Utilities
AECOM

FIGURE 3-1
PPL Susquehanna
230kV And 500kV
Transmission Line Project
Sheet 2 of 5

Luzerne County, Pennsylvania

Prepared By: GIB	Checked By: RB
Job: 60750277	Date: 7/14/2025



This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were based on a visual review of the aerial imagery. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Existing Structure (To Remain)
- Proposed Structure
- Existing Structure (To Be Replaced)
- New 230kV Transmission Line
- Existing 230kV Transmission Line

Notes:

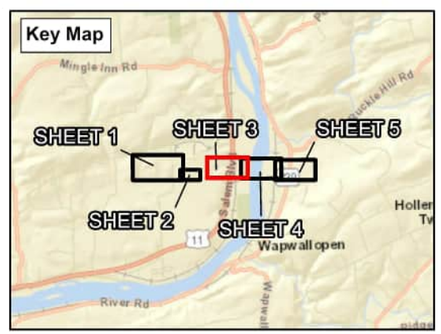
1.Existing and Proposed Structures provided by PPL Electric Utilities (PPL EU) in March and April 2025.

2. Existing ROW and proposed substation location provided by PPL EU in June 2025.

NAD 1983 StatePlane_Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
NWI Wetlands (2025)
National Flood Hazard Layer (NFHL) (FEMA 2024)
Natural Heritage Areas (NHA) (PNHP 2020)
NHD Flowline (USGS 2025)
0.5 foot Orthoimagery (PEMA 2021)

0 200 400
Feet

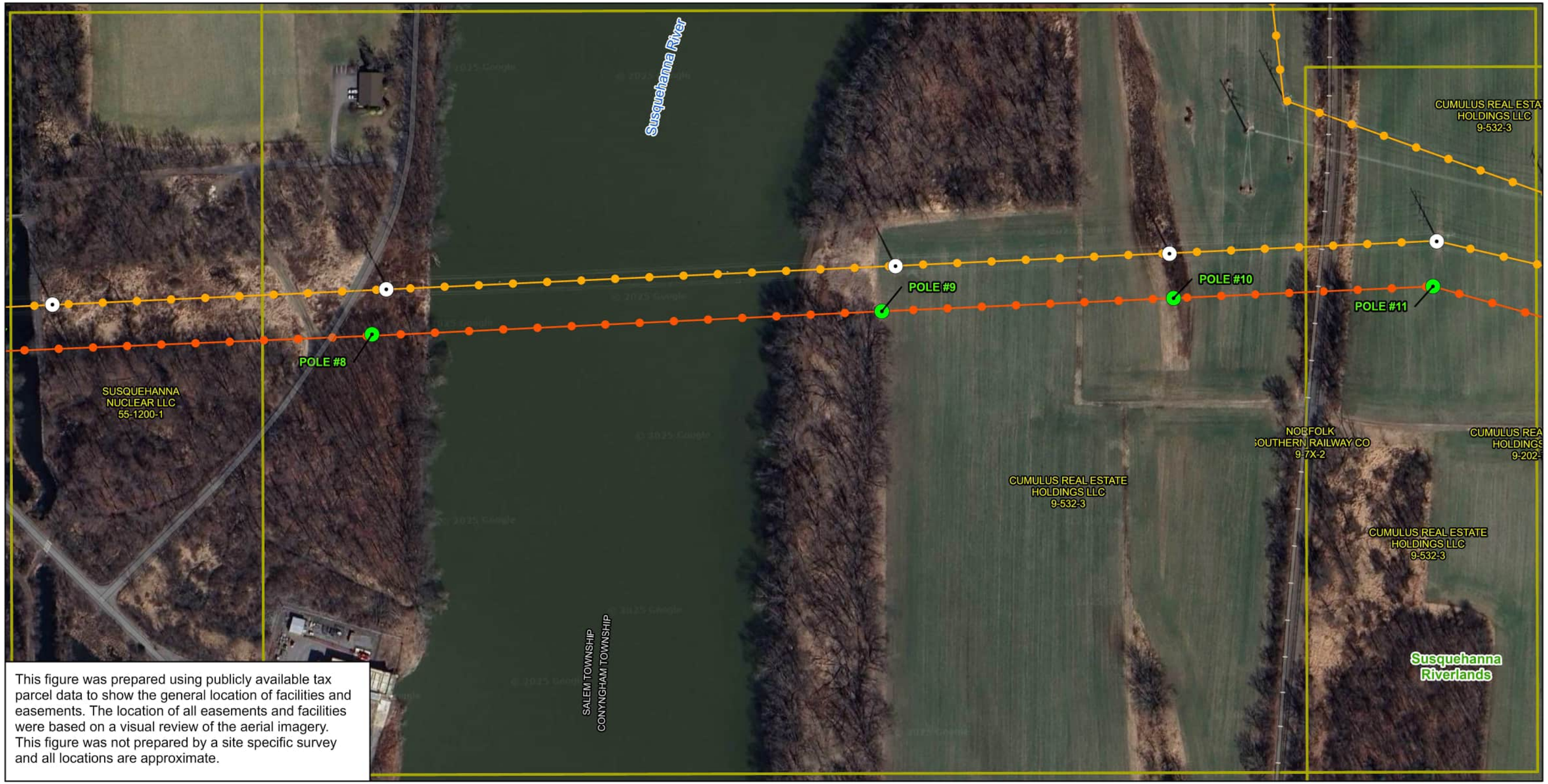


PPL Electric Utilities
AECOM

FIGURE 3-1
PPL Susquehanna 230kV and 500kV Transmission Line Project
Sheet 3 of 5

Luzerne County, Pennsylvania

Prepared By: GIB	Checked By: RB
Job: 60750277	Date: 7/14/2025



This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were based on a visual review of the aerial imagery. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Existing Structure (To Remain)
- Proposed Structure
- New 230kV Transmission Line
- Existing 230kV Transmission Line

Notes:

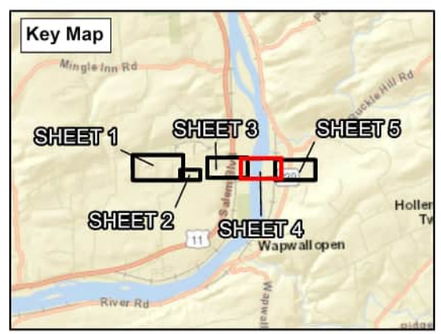
1.Existing and Proposed Structures provided by PPL Electric Utilities (PPL EU) in March and April 2025.

2. Existing ROW and proposed substation location provided by PPL EU in June 2025.

NAD 1983 StatePlane_Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
NWI Wetlands (2025)
National Flood Hazard Layer (NFHL) (FEMA 2024)
Natural Heritage Areas (NHA) (PNHP 2020)
NHD Flowline (USGS 2025)
0.5 foot Orthoimagery (PEMA 2021)

0 200 400
Feet

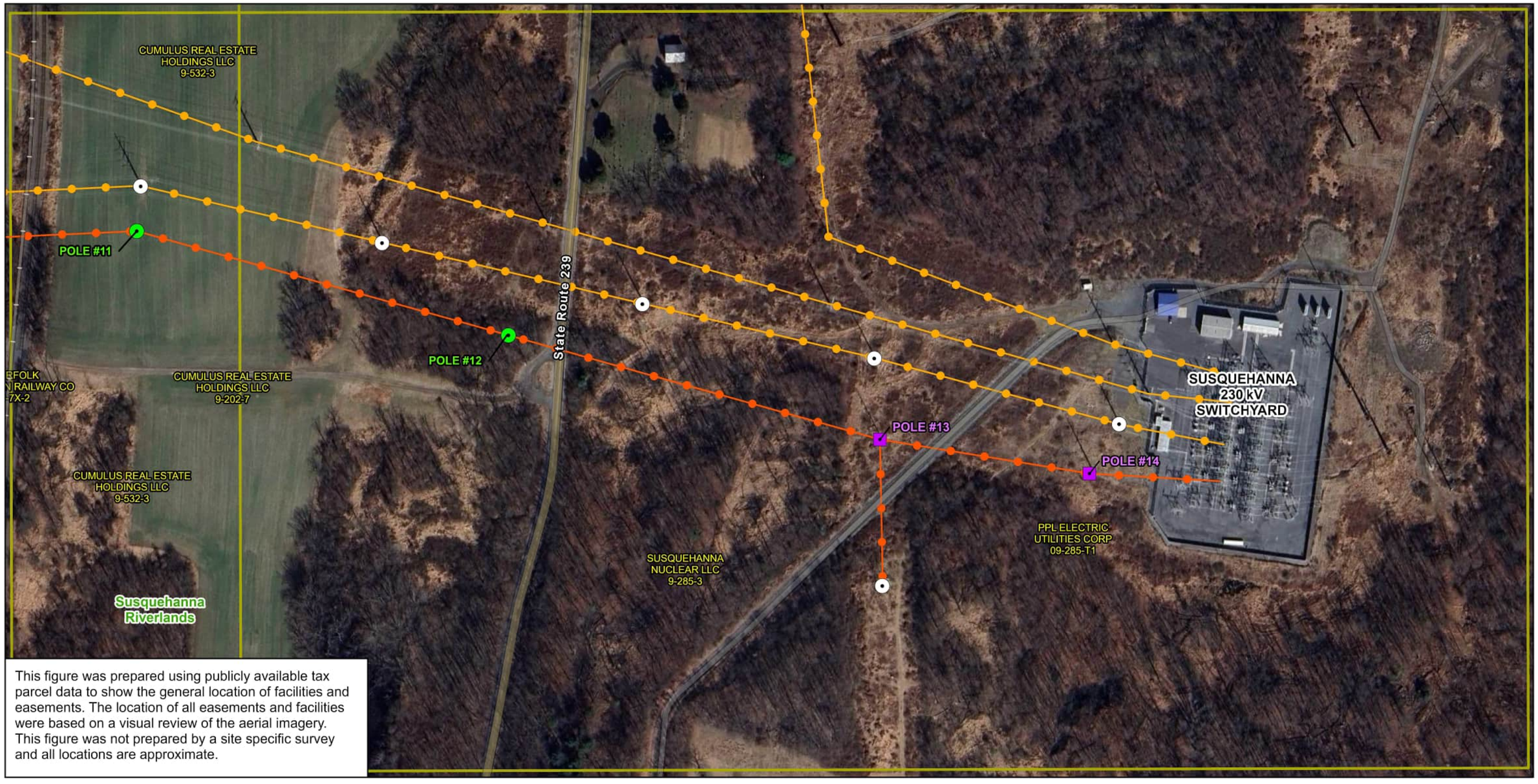


ppl Electric Utilities | AECOM

FIGURE 3-1
PPL Susquehanna 230kV and 500kV Transmission Line Project
Sheet 4 of 5

Luzerne County, Pennsylvania

Prepared By: GIB	Checked By: RB
Job: 60750277	Date: 7/14/2025



This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were based on a visual review of the aerial imagery. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Existing Structure (To Remain)
- Proposed Structure
- Existing Structure (To Be Replaced)
- New 230kV Transmission Line
- Existing 230kV Transmission Line

Notes:

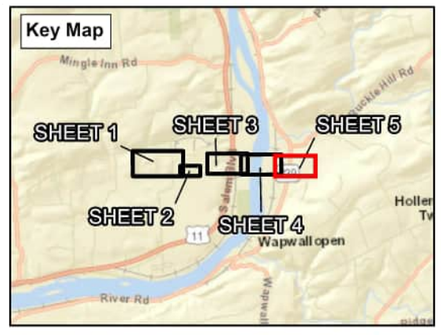
1.Existing and Proposed Structures provided by PPL Electric Utilities (PPL EU) in March and April 2025.

2. Existing ROW and proposed substation location provided by PPL EU in June 2025.

NAD 1983 StatePlane_Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
NWI Wetlands (2025)
National Flood Hazard Layer (NFHL) (FEMA 2024)
Natural Heritage Areas (NHA) (PNHP 2020)
NHD Flowline (USGS 2025)
0.5 foot Orthoimagery (PEMA 2021)

0 200 400
Feet



ppl Electric Utilities
AECOM

FIGURE 3-1
PPL Susquehanna 230kV and 500kV Transmission Line Project
Sheet 5 of 5

Luzerne County, Pennsylvania

Prepared By: GIB	Checked By: RB
Job: 60750277	Date: 7/14/2025

ATTACHMENT 4

SUSQUEHANNA 230 kV AND 500 kV TRANSMISSION LINE PROJECT

TABLE OF CONTENTS

List of Tables

1.0 DESIGN CONSIDERATIONS

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

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

The NESC specifies strength and loading rules based on three different "grades of construction" for conductors and supporting structures:

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

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

PPL Electric's rigorous design standards are further incorporated into the parameters utilized to account for ice and wind loadings on the wires and structure. Structure loading and line designs

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

TABLE 4-1: 69 kV Vertical Clearance to Ground

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

TABLE 4-2: 138 kV Vertical Clearance to Ground

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

TABLE 4-3: 230 kV Vertical Clearance to Ground

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

TABLE 4-4: 500 kV Vertical Clearance to Ground

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

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

2.0 PERIODIC MAINTENANCE PROGRAM ON ALL TRANSMISSION LINES

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

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

3.0 PERSONNEL SAFETY RULES

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

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

Appropriate safety gear in the form of body belts, safety straps, hard hats, gloves, etc., is worn by linemen during line work activity.

4.0 MAGNETIC FIELD MANAGEMENT PLAN

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

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

ATTACHMENT 5

SUSQUEHANNA 230 kV AND 500 kV TRANSMISSION LINE PROJECT

STATE AGENCIES

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

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

Pennsylvania Department of Transportation
Keystone Building
400 North Street, Ninth Floor
Harrisburg, Pennsylvania 17120
Attn: Jeffrey Spotts, Chief Counsel

Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, Pennsylvania 17120-0093
Attn: Ms. Emma Diehl, Division Manager

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

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

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

Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923
Attn: Darryl A. Lawrence, Interim Acting Consumer Advocate

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

FEDERAL AGENCIES

U.S. Army Corps of Engineers
Baltimore District
2 Hopkins Plaza
Baltimore, Maryland 21201
Attn: Public Affairs Office

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

COUNTY AGENCIES

Luzerne County Conservation District
325 Smiths Pond Rd
Shavertown, Pennsylvania 18708
ATTN: Josh Longmore, Executive Director

Luzerne County Planning Commission
Luzerne County Courthouse
200 N River Street
Wilkes-Barre, Pennsylvania 18711
ATTN: N. Brian Caverly, Luzerne County Planning Commission Chair

MUNICIPALITIES

Salem Township
38 Bomboy Lane
Berwick, Pennsylvania 18603
ATTN: Ernest Ashbridge III, Chairman

Conyngham Township
10 Pond Hill Mtn. Road
Mocanaqua, Pennsylvania 18655
ATTN: Edward Whitebread, Chairman

LANDOWNERS

CUMULUS DATA LLC 600 HAMILTON ST ALLENTOWN, PA 18101-2130	CUMULUS REAL ESTATE HOLDINGS LLC MARC A JACKSON REAL ESTATE & PROPERTY MANAGEMENT 600 HAMILTON ST ALLENTOWN, PA 18101-2130
SUSQUEHANNA DATA LLC 600 HAMILTON ST ALLENTOWN, PA 18101-2130	SUSQUEHANNA NUCLEAR LLC 600 HAMILTON ST ALLENTOWN, PA 18101-2130
NORFOLK SOUTHERN RAILWAY CO TAXATION DEPARTMENT 650 W PEACHTREE ST NW ATLANTA, GA 30308-1925	

VERIFICATION

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

Date: August 11, 2025

Joseph B. Lookup