POST & SCHELL PC
ATTORNEYS AT LAW

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

John H. Isom

jisom@postschell.com
717-612-6032 Direct
717-731-1985 Fax
File #: 2507/140066

March 10, 2010

BY HAND

James J. McNulty
Secretary
PA Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
PO Box 3265
Harrisburg, PA 17105-3265

RE: Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code, Chapter 57, Subchapter G, for Approval of the Siting and Construction of the Appenzell #1 & #2 138 kV Taps in Jackson Township, Monore County, Pennsylvania - Docket No. A-2010-

Dear Secretary McNulty:

Enclosed, for filing, in the above-referenced proceeding are an original and six (6) copies of the Application of PPL Electric Utilities Corporation, together with seven (7) copies of the accompanying exhibits and appendices which are contained in a separately-bound volume.

As indicated on the enclosed certificate of service, copies of the Application and accompanying exhibits and appendices are being served by certified mail, return receipt requested upon involved land owners, governmental agencies and municipalities. If there are any questions concerning this matter, please contact me at the addresses or telephone numbers provided above.

Respectfully Submitted,

John H. Isom

JHI/jl
Enclosures
cc: Certificate of Service

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: APPLICATION OF PPL ELECTRIC UTILITIES CORPORATION FILED PURSUANT TO 52 PA CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE APPENZELL #1 & #2 138 KV TAPS IN JACKSON TOWNSHIP, MONROE COUNTY, PENNSYLVANIA	:	**Docket No. A-2010-_____**

APPLICATION OF PPL ELECTRIC UTILITES CORPORATION

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

I. INTRODUCTION AND OVERVIEW

1. The Applicant is PPL Electric Utilities Corporation ("PPL Electric"). Its address is:

Two North Ninth Street
Allentown, PA 18101

2. PPL Electric is a Pennsylvania corporation which supplies electric distribution, transmission and provider of last resort electric supply services pursuant to the regulatory jurisdiction of the Pennsylvania Public Utility Commission ("Commission") to approximately 1.4 million customers. Its service territory covers approximately 10,000 square miles in all or portions of twenty-nine counties in eastern and central Pennsylvania.

3. PPL Electric's attorneys are:

David B. MacGregor (ID # 28804)
Post & Schell, P.C.
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2808
Phone: 215-587-1197
Fax: 215-587-1444
E-mail: dmacgregor@postschell.com

John H. Isom (ID # 16569)
Post & Schell, P.C.
17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
Phone: 717-612-6032
Fax: 717-731-1985
E-mail:jisom@postschell.com

Paul E. Russell (ID # 21643)
PPL Electric Utilities Corporation
Two North Ninth Street
Allentown, PA 18101
Phone: 610-774-4254
Fax: 610-774-6726
E-mail:perussell@pplweb.com

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

4. This Application is filed pursuant to Chapter 57, Subchapter G of the Commission's regulations at 52 Pa. Code §§ 57.71–57.77, governing the siting and construction of high voltage transmission lines, and seeks Commission approval for the siting and construction of the Appenzell #1 and #2 138 kV Taps ("Appenzell Taps").

5. In conjunction with the proposed Appenzell Taps, PPL Electric proposes to construct the new 138-12 kV Appenzell Substation in Jackson Township, Monroe County. PPL Electric, by separate petition, that will be filed in the near future, will ask the Commission to find

that the control equipment building at that substation is reasonably necessary for the convenience or welfare of the public.

6. The proposed transmission line will be approximately 2.1 miles in length and will originate at the PPL Electric's Siegfried-Jackson #1 & #2 138 kV Transmission Line in Jackson Township, Monroe County and proceed to the proposed new Appenzell 138-12 kV Substation in Jackson Township, Monroe County. The Appenzell Taps will be built for double circuit 138 kV operation although, initially, only one circuit will be installed. The second circuit will be installed when appropriate to meet future growth.

7. The purposes of the total Project, which includes the Appenzell Taps, the proposed 138-12 kV Appenzell Substation and additional distribution facilities, are to improve the reliability of service in the Appenzell and Reeders area in south central Monroe County, which is one of PPL Electric's poorest performing areas and to reduce load on two distribution lines, the McMichaels 35-2 and Tannersville 57-1 12 kV lines.

8. In order to provide adequate and reliable service to the public, PPL Electric follows a system planning process that is designed to assure that its distribution and transmission systems are able to supply electricity to customers in a reliable and economic manner. PPL Electric distribution and transmission systems are designed to meet summer and winter peak conditions and provide service at acceptable voltage levels throughout the daily load cycle.

9. In order to meet these objectives, PPL Electric has adopted a defined set of planning standards. These standards are set forth in PPL Electric's Reliability Principles and Practices manual ("RP&P").

10. It is projected that the load on the Tannersville 57-1 12 kV line will exceed its normal planning guidelines by the fall of 2014.

11. Operating these lines beyond the planning ratings will overheat the lines and anneal the conductors which could result in an outage of the facilities. Further, exceeding normal planning guidelines violates the planning standards in the RP&P.

12. Further, PPL Electric's RP&P guidelines limit the number of customers served from a distribution line to 1,300. Presently, the McMichaels 35-2 12 kV distribution line serves more than 1,500 customers, and the Tannersville 57-1 12 kV line serves more than 2,200 customers.

13. The McMichaels 35-2 and Tannersville 57-1 12 kV lines are among PPL Electric's worst performing lines, based on the number and duration of outages.

14. In order to resolve these issues, PPL Electric has developed a plan to reinforce the distribution system in the area. The principal part of the plan, and the subject of this Application, requires construction of approximately 2.1 miles of new 138 kV transmission lines. This transmission line will supply the new Appenzell 138-12 kV Substation. The new Substation, in turn, will supply new 12 kV distribution lines. Load will be transferred from the existing Tannersville 138-12 kV Substation and McMichaels 138-12 kV Substation and from the McMichaels 35-2 and Tannersville 57-1 12 kV lines to the new Appenzell 138-kV Substation and distribution lines supplied by it.

15. The Project will improve reliability of service in the Appenzell and Reeders area because load on the McMichaels 35-2 and Tannersville 57-1 12 kV lines will be reduced. Load will be reduced because the Project will reduce the number of customers served from each line. Approximately 1,000 customers will be transferred from the Tannersville 57-01 12 kV line, which will reduce load by about 5 Megavolt Amperes ("MVA"). Similarly, approximately 600

customers will be transferred from the McMichaels 35-2 12 kV line which will reduce its load by about 3.5 MVA.

16. Further, the new Appenzell 138-12 kV Substation will reduce the overall length of the McMichaels 35-2 and Tannersville 57-1 12 kV distribution lines. As a result, the Project will eliminate the need to serve customers in the Appenzell area from a distribution line which runs through a heavily wooded area, thereby reducing outages resulting from damage caused by falling limbs and trees.

17. It is estimated that the total Project will cost approximately $4 million. Of this total, it is estimated that the overhead transmission facilities will cost approximately $2,285,000.

18. Construction of the Project is scheduled to begin in March, 2011 to meet an in-service date of November, 2011.

19. A detailed description of the Appenzell Taps is provided in accompanying Exhibit E, the Engineering Description.

20. Accompanying this Application is a separate three-ring binder containing Exhibits A through G and Appendices 1 through 8, which provide additional detailed information regarding the Appenzell Taps. Exhibit B explains the need for Appenzell Taps. Exhibit C explains the environmental setting of the Project. Exhibit D explains the development of alternative routes and the analysis that led to the selection of the proposed route. Exhibit E contains the engineering description of the Appenzell Taps. Exhibit F contains a list of the owners of lands that will be subject to rights-of-way and easements for the Appenzell #1 and #2 138 kV Taps. Exhibit G provides a list of the local, state and federal regulatory requirements applicable to the Appenzell #1 and #2 138 kV Taps.

21. This Application, including the accompanying Exhibits and Appendices, which are incorporated herein by reference, contains all of the information required by 52 Pa. Code § 57.72(c). In the near future, PPL Electric will file written direct testimony further explaining and supporting this Application.

II. DESCRIPTION OF THE PROPOSED TRANSMISSION LINE

22. In order to continue to provide adequate and reliable service in the Appenzell and Reeders area in south central Monroe County, PPL Electric proposes to construct the Appenzell Taps, approximately 2.1 miles of new 138 kV transmission line, which will supply the new Appenzell 138-12 kV Substation. Completion the Project will relieve the neighboring the McMichaels 35-2 and Tannersville 57-1 12 kV lines, which presently serve a portion of the Appenzell and Reeders area.

23. The proposed Appenzell Taps will extend from the existing Siegfried-Jackson 138 kV Transmission Line to the site of the new Appenzell 138-12 kV Substation. It will be built for double circuit 138 kV operation, but initially, only one circuit will be installed. The Appenzell Taps will be located entirely in Jackson Township, Monroe County.

24. Poles with no line angle, *i.e.*, tangent poles will be monopoles equipped with steel upswept conductor support arms. Angle structures will be either single steel poles or two-pole structures depending on the severity of the line angle. Some tangent poles will be direct embedded depending on span length, with some tangent poles requiring concrete foundations. All angle poles will be installed on concrete foundations. Some angle structures may be guyed. Approximately 19 poles with an average height of 100 feet will be needed for the construction of the Appenzell Taps. The average span length will be about 645 feet.

25. Each circuit for the Appenzell Taps will have three power conductors, The conductors will be 556.5 KCMIL (thousand circular mils) 24/7 stranding ACSR (aluminum core steel reinforced). There will be one ground wire, which will be 3/8 inch high strength steel wire.

26. Photographs and sketches showing proposed structure types are shown at the end of Exhibit E to this Application.

27. A one-line diagram of the existing facilities in the area is shown in Figure B-1.

28. A one-line diagram of the facilities in the area as altered by the Project is provided in Figure B-2. This Figure shows the proposed electrical system in the area, including the Appenzell 138 kV Taps and the Appenzell 138-12 kV Substation and the distribution lines that will be supplied by the Appenzell 138-12 kV Substation.

29. The Appenzell Taps will be designed according to and will generally exceed, all National Electric Safety Code minimum standards. Further information regarding the engineering design of the Project is provided in Exhibit E to this Siting Application.

30. The Project will be designed and constructed in accordance with PPL Electric's Magnetic Field Management Program and Electric and Magnetic Fields Policy. That policy is explained in Exhibit E and Appendix 4 to this Application.

31. PPL Electric requests specifically that the Commission approve future operation of the transmission lines described above, including the addition of a second circuit.

III. NECESSITY OF THE APPENZELL TAPS

32. PPL Electric, in order to maintain reliable service to its customers, monitors and, when appropriate, reinforces both its transmission and distribution systems. The Appenzell and Reeders area is one of PPL Electric's poorest performing areas. To address and resolve this problem, PPL Electric has developed an overall reinforcement plan for this Appenzell and Reeders area. A central part of this plan, and subject of this filing, requires approximately 2.1

miles of new 138 kV transmission line which will supply the new 138-12 kV Appenzell Substation. Completion of this Project will relieve the neighboring McMichaels 35-2 and Tannersville 57-1 12 kV lines, which presently serve a portion of the Appenzell and Reeders area.

33. In order to assure that PPL Electric's transmission and distribution systems can supply load reliably during summer and winter peak conditions and provide service at an acceptable voltage level through the daily load cycle, PPL Electric has adopted a set of defined planning standards, which are set forth in the RP&P. The RP&P recognizes the necessity of maintaining a proper balance between service reliability and the cost of service and that large, long and frequent interruptions are to be avoided.

34. At times, reinforcement of distribution facilities requires expansion of the regional transmission system. This Application presents such a situation. Here PPL Electric seeks approval of new transmission taps which will supply a new substation. The purposes of the substation are to relieve the existing distribution system in the Appenzell and Reeders area and to improve reliability of service in the Appenzell and Reeders area in south central Monroe County, which is one of PPL Electric's poorest performing areas.

35. Due to load growth in the Appenzell and Reeders area, distribution lines serving the area are operating during peak periods near their capacity. Load on the Tannersville 57-1 12 kV lines is expected to exceed its normal planning guidelines by the fall of 2014.

36. Operating the line beyond its planning ratings will overheat the lines and anneal the conductors which could result in an outage of the facilities. Exceeding normal planning guidelines violates the planning standards in the RP&P.

37. Further, PPL Electric's RP&P guidelines limit the number of customers served from a distribution line to 1,300. Presently, the McMichaels 35-2 12 kV distribution line serves more than1,500 customers, and the Tannersville 57-1 12 kV line serves more than 2,200 customers. Having an excessive number of customers on a distribution line can overload the line and can expose more customers and load to service outages when the line is damaged.

38. The McMichaels 35-2 and Tannersville 57-1 12 kV lines are among PPL Electric's worst performing lines, based on the number and duration of outages. These lines are among PPL Electric's worst performing circuits. The average outage duration for PPL Electric customers for the period from 2002 through 2009 was 151 minutes annually. The average outage duration for customers served by the Tannersville 57-1 and McMichaels 35-2 12 kV distribution lines, however, were 328 and 353 minutes annually, respectively, during the same period.

39. In order to resolve these issues, PPL Electric has developed a plan to reinforce the distribution system in the area. The principal part of the plan, and the subject of this Application, requires construction of approximately 2.1 miles of new 138 kV transmission lines, which will supply the new Appenzell 138-12 kV Substation. The new Substation, in turn, will supply new 12 kV distribution lines. Initially, there will be two new distribution lines. More lines can be added in the future as appropriate to meet load growth. Load will be transferred from the existing Tannersville 138-12 kV Substation and McMichaels 138-12 kV Substation and from the McMichaels 35-2 and Tannersville 57-1 12 kV lines to the new Appenzell 138-kV Substation and distribution lines supplied by it.

40. The Project will improve reliability of service in the Appenzell and Reeders area because load on the McMichaels 35-2 and Tannersville 57-1 12 kV lines will be reduced.

Approximately 1,000 customers will be transferred from the Tannersville 57-01 12 kV line, which will reduce load by about 5 Megavolt Amperes ("MVA"). Similarly, approximately 600 customers will be transferred from the McMichaels 35-2 12 kV line which will reduce its load by about 3.5 MVA.

41. Further, the new Appenzell 138-12 kV Substation will reduce the overall length of the McMichaels 35-2 and Tannersville 57-1 12 kV distribution lines. As a result, the need to serve customers in the Appenzell area from a distribution line which runs through a heavily wooded area will be eliminated, thereby reducing outages resulting from damage caused by falling limbs and trees.

42. The Appenzell Taps will connect the Siegfried-Jackson 138 kV lines to the new Appenzell 138-12 kV substation. The site for the new substation was selected because the location is approximately halfway between the existing Tannersville and McMichaels Substations and is located in close proximity to the existing distribution infrastructure.

43. Before selecting the preferred alternative, PPL Electric considered one alternative, which was ultimately rejected because it would be functionally inferior to the proposed solution.

44. The functional alternative considered would have involved building two new distribution lines, one from the Tannersville 138-12 kV Substation and one from the McMichaels 138-12 kV Substation and transferring portions of the load served by the McMichaels 35-2 and Tannersville 57-1 12 kV lines to the new lines. This alternative was rejected because it would not adequately address, and in fact would exacerbate the problem of the exposure of the existing lines to damage from falling limbs and trees.

IV. ENVIRONMENTAL SETTING

45. The Area of Study for the Appenzell Taps was established based upon the Project's purpose which is to connect the Siegfried-Jackson 138 kV transmission line with the

Appenzell 138-12 kV substation to relieve projected overloading of facilities and improve service in the Appenzell and Reeders area.

46. The Area of Study is located in south central Monroe County, in northeastern Pennsylvania. The Area of Study is situated in Chestnuthill, Jackson and Pocono Townships in Monroe County. Most of the Area of Study is used for agriculture or residential purposes or is forested.

47. The Area of Study contains few special use areas.

(a) The Area of Study contains no areas designated as "scenic" by the Pennsylvania Department of Conservation and Natural Resources.

(b) No portion of the Area of Study is located in the National Wilderness Preservation System.

(c) No rivers in the Project study have been designated as wild or scenic rivers pursuant to the federal Wild & Scenic Rivers Act or the Pennsylvania Scenic Rivers Act.

(d) Portions of the 5,400-acre State Game Land #38 are located in the northern portion of the Area of Study.

(e) According to the Natural Areas Inventory, there is one "Priority Natural Areas" in the Area of Study. This is a 356-acre site, which is referred to as the "Fall Creek Powerline Cut." It is located in the northern portion of the Area of Study. This site is a known habitat for two rare species of butterflies.

48. There are no railroads or airports in the Area of Study.

49. There are no federal or county parks in the Area of Study. A portion of the 1,300-acre Big Pocono State Park is located in the northern portion of the Area of Study. In addition, the 20-acre Jackson Township Park is located within the Village of Reeders. The Pohoqualine Fishing Club owns approximately 800 acres of land in McMichael, in the northwestern edge of the Area of Study. This land is preserved as open space through funds provided by Monroe County, Chestnuthill Township and Jackson Township.

50. No public or private schools are located in the Area of Study.

51. There are no industries in the Area of Study.

52. Commercial land use in the Area of Study occurs primarily as retail operations along Route 715. More concentrated commercial land use consists of retail facilities near the Village of Reeders.

53. The Area of Study contains one resort, the Mountain Spring Lakes Resort. Several group camps, including Mt. Gilead, Streamside Camp and Camp Akiba, area located in the Area of Study.

54. The Area of Study contains no natural gas or petroleum pipelines.

55. The Area of Study does not contain historic, cultural, or archeological resources. Research for these resources involved a comprehensive shovel testing program that did not reveal any prehistoric cultural assets as well as extensive background research of literature on the area. This result was expected given the poor soil drainage in the area and the absence of any moderate to large drainage line. Based upon the research and shovel testing program, the Project area offers little potential for significant prehistoric cultural resources. Any sites that might occur are likely small, geographically restricted hunting or foraging camps that can easily be avoided during construction of the proposed power line, primarily by spanning them.

56. In addition, a Phase I cultural and historic background research was also conducted within the Area of Study. No National Register of Historic Places listed or eligible buildings or districts were identified in the Area of Study. The Monroe County Open Space Plan, however, did identify two historic areas, the Village of Appenzell and McMichaels' Crossroad Village, in the Area of Study.

57. Based on a search of the Pennsylvania Natural Diversity Inventory database the consultations with the U.S. Fish and Wildlife Service, the Pennsylvania Fish and Boat Commission, the Pennsylvania Game Commission and the Pennsylvania Department of Conservation and Natural Resources, the Project Study Area may be inhabited by certain rare, threatened or endangered species. These include one reptile (the bog turtle), one plant (the Fall Dropseed Muhly) and two butterflies (the Frosted Elfin and the Persius Duskywing). Habitat assessments were conducted for the selected corridor. The assessments concluded that no appropriate habitat for any of the target species were located in the corridor. The assessments concluded there is one area of potential Bog Turtle habitat in wetlands adjacent to Fall Creek. A phase two Bog Turtle study (presence-absence) will be completed between April 15 and June 15, 2010.

58. Named streams in the Area of Study are the Appenzell Creek, Fall Creek, McMichael Creek and Reeders Run. Certain stream segments in the Area of Study have been designated as suitable for cold water fisheries or for special protections as High Quality or Exceptional Value waters. Further, Appenzell Creek and McMichael Creek are approved trout stocking streams. Although none of the streams in the Area of Study are Class A wild trout streams, which support naturally reproducing populations of trout, the Appenzell Creek has been identified as a Class A wild trout stream downstream from the Area of Study.

59. There are numerous open bodies of water in the Area of Study. Major lakes include Akiba Lake, Trout Lake, Grubers Lake and Mountain Spring Lake.

60. Considerable sections of the Area of Study are utilized for agricultural purposes. All farmlands are privately owned. The primary crops are row crops such as hay, corn and soybeans.

61. Monroe County has several mechanisms for protecting farmlands from development, including Agricultural Security Areas, Agricultural Conservations Easements and Act 319 ("Clean and Green Act") realty tax assessments.

62. The Area of Study has experienced significant growth in population. Monroe County's population grew by about 20 percent from 2000 to 2008 and by about 70 percent from 1990 to 2008. Chestnuthill Township has experienced similar growth. Chestnuthill Township's population grew by 20 percent from 2000 to 2008 and nearly doubled from 1990 to 2008. the same trend in population growth has been experienced by Jackson Township.

V. SITING ANALYSIS

63. Below, PPL Electric explains the methodology used to define the alternative routes and to select the proposed transmission line route for this Project. The siting study uses quantitative and qualitative evaluations to compare alternative transmission routes for the Project. The methodology used for the siting study provided a framework from which to select the route most suited for an overhead electric transmission line while satisfying the regulatory filing requirements for such a Project. The ultimate goal was to select a route that avoids or minimizes adverse impacts to natural, cultural and social environments to the maximum extent practical, while maintaining the economic viability and technical feasibility of the Project.

64. The siting method consists of three principal steps:

(a) Generate Macro Corridors. These macro corridors define the outer edges of the Area of Study.

(b) Generate Alternative Corridors. Alternative corridors most suitable for the transmission line are generated from three primary perspectives:

(i) protection of the natural environment;

(ii) protection of the built environment; and

(iii) engineering requirements.

(c) Identify alternative routes within the alternative corridors and select the preferred route.

65. The siting methodology used for determining the preferred route for the Appenzell Taps uses a series of grid cells on aerial photographs or maps, that are assigned a value indicating whether an area in a cell is suitable for a transmission line, *i.e.*, is an opportunity, or is less suitable, *i.e.*, a constraint. This process is repeated several times with cells of decreasing size and progressively more detailed and precise data.

66. The methodology utilized was adapted from a protocol developed by the Electric Power Research Institute ("EPRI") and the Georgia Transmission Corporation. This method incorporates Geographic Information System ("GIS") technology, statistical evaluation and stakeholder collaboration into the decision-making process. The methodology formalizes many of the methods and principles used in the industry to site transmission lines. It was developed over many years with collaboration and feedback from utility companies, federal, state and local government agencies and other key stakeholders such as private landowners. The process was tested and calibrated against existing transmission line siting projects that had been successfully completed.

67. Data used in the analysis fall into three broad categories – ecological, land use/cultural, and technical/engineering. Data were obtained from a wide variety of sources, including state and local GIS databases, field reconnoissance surveys, information supplied by public agencies, published documents, and publically available electronic information.

68. The quantitative analysis performed by PPL Electric uses a series of grid cells across the Area of Study. Values are assigned to each cell depending upon its primary use. A value is assigned representing, for example, an opportunity area such as open land or a constraint area such as a residential neighborhood. A "least impact" corridor or path can be determined by the mathematical addition of the value numbers from the value assigned to each cell between the start and end points. Opportunity areas are assigned low numbers, and constraint areas are assigned a high number. Therefore, the corridor or path with the lowest value or "least impact" is the corridor or path with the least adverse impacts.

69. Macro corridor analysis begins after the start and end points of the new transmission lines have been established. The first step in macro corridor development is to develop a land use/land cover GIS database that identifies the key opportunity and constraint areas that are traditionally reviewed in a siting study.

70. A GIS map of the Area of Study is created using land use and land cover data and other feature data that include roads, rail, and existing transmission lines. From the GIS map, a Composite Suitability Surface Map, composed of grid cells, is created. The features of each cell are identified and the features are ranked from one (most suitable) to nine (least suitable). Corridors with the cells having the lowest values have the highest overall suitability for a transmission line.

71. This composite suitability surface is used to produce a series of potential broad corridor areas for the following three scenarios:

(a) Opportunities to rebuild or parallel existing transmission lines.

(b) Opportunities to parallel existing road right-of-ways.

(c) Opportunities to cross undeveloped land (cross country).

72. These corridors represent preferred opportunity areas for developing a new transmission line. This process determines the corridor across the suitability surface that minimizes the sum of the values within that corridor. Corridors with the lowest sums have the higher overall suitability. Corridors with a larger suitability sum would be considered less optimal.

73. The starting point of the assignment of values was the EPRI/GTC Methodology, which assigned values through a collaborative outreach involving stakeholders from federal, state and local governments, environmental and engineering experts, homeowner associations and other groups. The values obtained from EPRI/GTC were then reviewed by PPL Electric's siting team. Values for certain land uses and land covers were modified to reflect circumstances presented in the Area of Study. For example, modifications and additions were made to the natural environment features related to streams and wetlands. These modifications included development of protective buffers and associated rankings that are relevant for streams and wetland types in the Area of Study.

74. The results of the macro corridor analysis are shown in Figure 1 to Exhibit D. The macro corridor includes all areas determined to be most suitable from all of the three perspectives. The outer boundary of this Macro Corridor area also effectively defines the Area of Study.

75. The next step in the process is to identify alternative corridors. In order to identify alternative corridors, additional and more detailed data are gathered. Such data are obtained from existing data clearing houses or may be specially created for the Project. For example, data on parcel lines and municipal boundaries are typically obtained from county or local municipal agencies. Other data, such as slope, is usually derived from United States Geological Services Digital Elevation Models that are acquired from federal government clearing houses. In addition, smaller cells were analyzed in order to facilitate a more detailed assessment. In order to conduct the quantitative analyses, values were assigned to each of the smaller cells for different land uses and land covers as explained above. Least impact corridors were determined by adding the values of the cells within the Project Study Area.

76. Alternative Corridors are created from three different perspectives – the Built Environment, the Natural Environment and Engineering Requirements.

(a) The "Built Environment" refers to protecting human and cultural areas by reducing potential conflicts with existing residential neighborhoods and other community-valued buildings or historic sites.

(b) The "Natural Environment" refers to protecting plants, animals and aquatic resources by minimizing the impact to ecological resources and natural habitat.

(c) The "Engineering Requirements" refer to maximizing co-location and minimizing cost and schedule challenges by seeking the shortest path or utilizing existing rights-of-way, while avoiding areas that pose significant construction obstacles such steep slopes or unique agricultural practices.

77. The same fundamental data sets are used in determining the alternative corridors for each of the above perspectives, *e.g.*, slope data and wetlands data are used in developing alternative corridors in all perspectives. For each perspective, however, weighting of data is based on the perspective. For example, a Built Environment assessment applies higher weight into features related to proximity and density of buildings in the Study Area. The Natural Environment assessment applies a higher weight to flood plain and wildlife habitat. The Engineering Assessment seeks to avoid construction obstacles such as slopes and utilize linear infrastructure features. By selecting the corridor that is optimal from each of the three perspectives, PPL Electric was able to compare environmental, social, and financial cost and benefits of each of the corridors.

78. Based on the foregoing analysis, PPL Electric determined the alternative corridors for the Appenzell Taps – one from each of the three perspectives. Each of the alternative corridors is shown on Figure 9 to Exhibit D.

79. The next phase of the process was route development, *i.e.*, determining the alternate routes within the alternative corridors. The alternative transmission line route development utilized a least impact tool similar to the one used to identify alternative corridors. The alternative route analysis, however, focuses on a single alignment rather than a broad corridor area. The alternative route analysis minimizes the least preferred areas that are crossed along a route connecting the starting and ending locations. Again, routes are selected from each of the three perspectives.

80. To assess the advantages and disadvantages of alternative routes, specific features, such as the number of residences or streams crossed per route, were considered. The quantitative feature metrics are normalized, assigned relative weights, and organized within the

three perspectives — the Built Environment, the Natural Environment and Engineering Requirements. The overall score for each alternative route was then calculated. As before, lower scores indicated less difficulty or potential impacts of the route.

81. Using the above methodology, three alternative routes were identified, one from the Built Environment prospective, one from the Natural Environment prospective, and one from the Engineering Requirements prospective. Each route connected the Siegfried-Jackson 138 kV transmission line to the proposed substation site. The routes based on the perspectives of Engineering Requirements and the Built Environment were similar and connected to the Siegfried-Jackson 138 kV Transmission Line in the northern portion of the Project Study Area. The other route connected to the Siegfried-Jackson 138 kV Transmission Line in the southern portion of the Project Study Area. The three routes initially identified are shown in Figure 10 to Exhibit D.

82. In evaluating the three routes, it was observed that two of the two northern routes, the route from the Built perspective and the route from the Engineering perspective, were very similar. Due to their similarity, the Built and Engineering alternative routes were combined into a single route. By combining the two northern routes into a single alignment, the process provided two alternative routes, the northern route, which was selected based on an Engineering and Built environment perspectives, and the southern route, which was based upon Natural environment perspective.

83. The proposed routes were adjusted for engineering considerations. Such changes included straightening of proposed alignments to avoid "zig zaging" through open fields, setting the pole sites to minimize impacts to environmental and sensitive land features, setting pole sites to span some features such as crop fields and to make turns to avoid other features such as

residential areas. The routes were modified also to align the routes along edges of open fields or farm roads, in order to decrease potential impacts on farming operations. Further, routes were adjusted to increase distances from residential properties. The routes were also modified to remove them from the edges of forests in order to decrease the transmission line's visibility.

84. The result of these processes was two routes. One route, the Northern Route, is referred to as Route A. Route A is 2.26 miles in length. It ties into the Siegfried-Jackson 138 kV transmission line north of Route 715, 1.5 miles northeast of the Village of McMichael. The tap and line route would be entirely in Jackson township.

85. Route B, the Southern Route, is 2.51 miles in length. This alternative ties into the Siegfried-Jackson 138 kV transmission line on the west side of Route 715, one mile southwest of the Village of McMichael in Jackson Township. The tap location for Route B would be located in Chestnuthill Township and would enter Jackson Township to reach the substation.

86. Route A and Route B, as adjusted, are shown on Figure 11 to Exhibit D.

87. The next phase for the Project was to obtain and incorporate public comment regarding the alternative routes. Feedback from landowners and the surrounding community was incorporated into the route selection.

88. In order to obtain public comment, PPL Electric's siting team held Open Houses to receive public feedback concerning the alternative routes. The outreach effort included meetings with, phone calls with and mailings to owners of property within 1,000 feet of the two alternate routes. In addition, PPL Electric established a website to disseminate information regarding the Project.

89. An Open House was held on April 20, 2009, at the Reeders United Methodist Church, which is located near the intersection of Route 715 and Church Road in Reeders,

Pennsylvania. Owners of property within 1,000 feet of the two routes were invited to attend. In addition, the public was invited through advertisements.

90. Based on the public input from the Open House, PPL Electric modified both routes.

(a) PPL Electric implemented the suggestion of several landowners to move Route A to the south side of Jackson Road. This change would shorten the line by about 750 feet. PPL Electric would be able to span a potentially affected wetland and stream. It would also move the route to the back of a residential property rather than through the property's front yard. The residential property owner supported the revision to the route.

(b) Several other landowners made a suggestion that would make the aerial crossing of Mountain and Frailey Roads less complicated. The modification would move Route A 50 feet to the west into a tree line rather than along the edge of agricultural fields. This modification also would reduce impacts on farm operations.

(c) An owner of land on the south side of Route 715 suggested that the line be moved further south before turning east toward the proposed substation. This modification would reduce the visibility of the line but would lengthen the line by about 200 feet.

These changes were implemented to produce Alternative route A1, which is approximately 2.13 miles in length.

91. Similarly, Route B was modified as a result of the public outreach.

(a) The line was moved near the tap location to avoid headwater streams and wetlands. The new alignment would proceed further south before crossing white Church Road and turning east.

(b) Owners of a large farm near the intersection of Sterling Road and Akiba Road requested that the route be relocated to the front of their property, which is used for grazing, rather than along the back of their property which is used for growing crops. This change moved the route within about 200 feet of the farmstead and lengthened the route by about 600 feet.

(c) Several landowners east of Sterling Road suggested that the route be relocated to the southern edge of their wooded lots to reduce forest fragmentation. The relocation reduced forest impact by 1,000 feet, but increased visibility of the line from Akiba Lake and may increase the overall impact on wetlands.

These changes were implemented to produce Alternative Route B1, which is approximately 2.63 miles in length.

92. The four alternative routes, A, A1, B, and B1 are shown in Figure 12 to Exhibit D.

93. The next step in the evaluation process was a quantitative assessment of the various advantages and disadvantages of the various routes. Then PPL Electric qualitatively assessed the routes based on less tangible criteria using team based expert judgment.

94. The quantitative assessment required calculating the evaluation metrics of the routes and summarizing them in tabular form organized within the three perspectives – Built, Natural and Engineering. The metrics used are defined in Table 1 to Exhibit D. The results of quantitative analysis are shown in Table 2 to Exhibit D, which shows the raw metric and corresponding normalized values for each of the four alternative routes.

95. The quantitative analysis was then further refined by applying appropriate weights to each of the metrics. The weighting ensures that the features requiring the most "protection"

are assigned a higher relative influence in the final ranking. The weighted metrics and weighted totals are shown in Table 3 to Exhibit D.

96. The qualitative assessment was performed by applying expert judgment to rank the alternative routes. PPL Electric's siting team qualitatively ranked the preferred routes based on several important considerations such as visual concerns, community concerns, schedule delay risk, special permit issues, and construction and maintenance accessibility. The goal of the qualitative expert judgment was to select a preferred route from the four routes through the Area of Study.

97. In regards to visibility concerns, the Routes A, B and B1 were considered most problematic. Route A would cross several open agricultural fields and two roads. Routes B and B1 would cross open fields which would make the line visible. In addition, Route B1 would cross several roads. Route A1 crosses many of the same roads as Route A, but the alignment is set back further from the roads and crosses these features at less discernible locations. The Expert Judgment Team determined that Route A1 would have the least visual impact.

98. Community concerns were similar and common for all four routes, and therefore, community concerns were considered similar for all four routes. Route B, however, borders on a residential development, and Route B caused the greatest amount of community concerns. Therefore, community concerns were regarded as greatest for Route B.

99. The potential for delay was considered greater for Routes B and B1, based primarily on the presence of a non-condemnable property that was common to both routes. The potential for delay was considered similar for Routes A and A1. Route A has a relatively higher construction complexity due to the number of road crossings and alignment turns. Route A1

would span more intricate wetland and stream networks, which may require additional environmental studies.

100. Regarding special permits, it was concluded that the northern routes, Routes A and A1, would have the most potential for special permit issues. This conclusion was based on the belief that permits that may be required for crossing a higher amount of wetland areas. Compared to each other, Route A may require more roadway crossing permits, but Route A1 may require more environmental permits for crossing Fall Creek, an exceptional value stream that is divided into two paralleling segments along this route. Relative to each other, Routes B and B1 were considered to have similar risks of special permits. Both routes cross similar landscapes and cross the same wetlands and stream valley in generally the same location.

101. The Expert Judgment Team determined that none of the four routes would be problematic with regard to constructability and maintenance concerns.

102. Based on all of the foregoing, as shown in Table 7 to Exhibit D, route A1 scored the best and Route B scored the worst of the four alternatives. Route A1 was selected for the Appenzell Taps.

103. In order to receive further comment on Route A1, a further Open House was held on June 9, 2009, at the same location as the first Open House. At the Open House, PPL Electric, among other things, expressed a willingness to listen to the concerns of interested parties and to continue to work with them to complete the Project in a way that minimizes the Project's impact.

104. PPL Electric modified the selected route in response to comments from landowners at the second Open House.

(a) A landowner on the west side of the intersection of Mountain and Jackson Roads requested that the route be moved to the northern side of his house, across Mountain

Road and into a dairy field east of the house. This change would reduce the impact on a neighboring tract of land.

(b) A landowner on the northeast corner of the intersection of Frailey and Mountain Roads requested that the route be moved to the eastern edge of his agricultural field rather than through the wooded section of the western edge. The relocation would move the route further from a house located in the woods.

(c) A landowner on the south side of Route 715 requested that he alignment be moved to the north so that it would parallel the southern edge of Route 715. The purpose of this relocation was to improve the potential for development of this property.

105. Based on all the foregoing, PPL Electric has selected the modified version of Route A1 as the route that will have the least impact on surrounding areas. A detailed description of the proposed route for the Appenzell Taps is provided at pages 42-44 of Exhibit D.

VI. RIGHTS-OF-WAY

106. The right-of-way width for the Appenzell Taps is 100 feet. The right-of-way width is determined by structure type, design tensions, span length and conductor "blowout" (the distance wires are moved by cross winds). A cross section of the proposed right-of-way is illustrated in Figure 5 to Exhibit E. PPL Electric's preferred route crosses lands of 9 property owners. To date, agreements have been secured from all of the 9 property owners.

VII. MISCELLANEOUS

107. Copies of this Application are being served in accordance with the provisions of Section 57.74 of the Commission's regulations (52 Pa. Code § 57.74).

108. As soon as practicable after the filing of this Application, PPL Electric will publish notice of the filing in a newspaper of general circulation in the area of the line for two consecutive weeks. This notice will: (a) note the filing with the Commission; (b) provide a brief

description of the Project and its location; (c) provide area locations where the complete Application may be reviewed by the public; and (d) provide the date, time and location of the initial Prehearing Conference in this proceeding.

VIII. CONCLUSION

PPL Electric respectfully requests that the Commission approve the siting and construction of the Appenzell #1 and #2 138 kV Taps in Jackson Township, Monroe County, Pennsylvania that is described herein above as soon as practical.

Respectfully submitted,

David B. MacGregor (ID # 28804)
Post & Schell, P.C.
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2808
Phone: 215-587-1197
Fax: 215-320-4879
E-mail: dmacgregor@postschell.com

John H. Isom (ID # 16569)
Post & Schell, P.C.
17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
Phone: 717-731-1970
Fax: 717-731-1985
E-mail: jisom@postschell.com

Paul E. Russell (ID # 21643)
Associate General Counsel
PPL Services Corporation
Office of General Counsel
Two North Ninth Street
Allentown, PA 18106
Phone: 610-774-4254
Fax: 610-774-6726
E-mail: perussell@pplweb.com

Of Counsel:

Post & Schell, P.C.

Date: March 10, 2010

Attorneys for PPL Electric Utilities Corporation

VERIFICATION

I, David G. DeCampli, being the President of PPL Electric Utilities 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 that 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.

David G. DeCampli

March 4, 2010

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 REQUESTED

Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120-0053
Attn: Mr. Douglas C. McLearen, Chief

Pennsylvania Department of Transportation
Commonwealth Keystone Building
400 North Street, 8th Floor
Harrisburg, PA 17120
Attn: The Honorable Allen D. Biehler, P.E.,
Secretary

Department of Environmental Protection
PO Box 2063
Market Street State Office Building
Harrisburg, PA 17105-2063
Attn: Office of Field Operations

Monroe County Planning Commission
1 Quaker Plaza, Room 106
Stroudsburg, PA 18360-2169

Monroe County Commissioners
1 Quaker Plaza, Room 201
Stroudsburg, PA 18360-2141

Jackson Township Board of Supervisors
SR RT 715
PO Box 213
Reeders, PA 18352

Jackson Township Planning Commission
SR RT 715
PO Box 213
Reeders, PA 18352

Claudette Segear
HCR 1 Box 1000
Tannersville, PA 18372

Pohoqualine Fish Association
100 Hypsie Gap Road
Stroudsburg, PA 18360

Danny H. Johnson
RD # 8 Box 8210
Stroudsburg, PA 18360

Rick S. Fraily
RD #8 Box 8181
Stroudsburg, PA 18360

Jane Bond Deiter
Barry Bond
William C. Bond, Jr.
1030 Mountain Road
Stroudsburg, PA 18360

Edward A. & Tracy L. Johnson
2013 Mountain Road
Stroudsburg, PA 18360

Karl E. Butz
206 Ponder Lane
Scotrun, PA 18355

Larry M. & Clara S. Butz
1011 Mountain Road
Stroudsburg, PA 18360

Akiba FH LLC
6161 Hollywood Avenue
Cherry Hill, NJ 08002

Date: March 10, 2010

John H. Isom

6780547v1