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November 14, 2011

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

RE: Application Of PPL Electric Utilities Corporation Filed Pursuant To 52 Pa. Code Chapter 57, Subchapter G, For Approval Of The Siting And Reconstruction Of The Brunner Island - West Shore 230 kV Transmission Line in Cumberland And York Counties, Pennsylvania - Docket No. A-2011-2230053

Gregory J. Myers v. PPL Electric Utilities Corporation
Docket No. C-2011-2227711

Dear Secretary Chiavetta:

Enclosed please find the Initial Brief of PPL Electric Utilities Corporation in the above-referenced proceedings.

Copies have been provided to the persons in the manner indicated on the Certificate of Service.

Respectfully Submitted,

David B. MacGregor

DBM/jl

Enclosures

cc: Honorable Susan D. Colwell
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).

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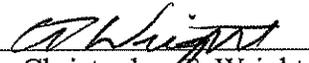
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Date: November 14, 2011



Christopher I. Wright

**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 Reconstruction Of The Brunner Island-West Shore 230 kV Transmission Line In Cumberland And York Counties, Pennsylvania	:	
	:	Docket No. A-2011-2230053
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	:	
Gregory J. Myers,	:	
	:	
Complainant,	:	
	:	
v.	:	Docket No. C-2011-2227711
	:	
PPL Electric Utilities Corporation,	:	
	:	
Respondent.	:	

**INITIAL BRIEF OF
PPL ELECTRIC UTILITIES CORPORATION**

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November 14, 2011

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LIST OF ABBREVIATIONS

ALJ	Honorable Susan D. Colwell
Commission	Pennsylvania Public Utility Commission
FERC	Federal Energy Regulatory Commission
kV	kilovolt
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NWI	National Wetland Inventory
PJM	PJM Interconnection, LLC
PPL Electric or the Company	PPL Electric Utilities Corporation
RP&P	PPL Electric's Reliability Principles and Practices
RTEP	Regional Transmission Expansion Plan
RTO	Regional Transmission Organization
Siting Application	Application Of PPL Electric Utilities Corporation Filed Pursuant To 52 Pa. Code Chapter 57, Subchapter G, For Approval Of The Siting And Reconstruction Of The Brunner Island-West Shore 230 kV Transmission Line In Cumberland And York Counties, Pennsylvania, Docket No. A-2011-2230053
USFWS	United States Fish and Wildlife Service

I. INTRODUCTION

On March 9, 2011, PPL Electric Utilities Corporation (“PPL Electric” or the “Company”), pursuant to the Pennsylvania Public Utility Commission’s (“Commission”) regulations at 52 Pa. Code §§ 57.71 through 57.77, submitted an Application for approval to reconstruct approximately 16 miles of the existing single-circuit Brunner Island-West Shore 230 kilovolt (“kV”) Transmission Line for double-circuit 230 kV operation (“Brunner Island Project”). This transmission line is being reconstructed in order to reinforce the 230 kV transmission system in Cumberland and York Counties and to resolve multiple violations of the North American Electric Reliability Corporation (“NERC”) Reliability Standards identified by PJM Interconnection, LLC (“PJM”) through its Regional Transmission Expansion Plan (“RTEP”). The preferred route would utilize the same right-of-way as the existing single-circuit transmission line. The Brunner Island Project had an initial scheduled construction start date of November 2011, in order to meet an in-service date of May 2013.

Through its transmission planning process, PPL Electric selected the electrical solution that best provides a long-term system reinforcement that will eliminate the identified reliability violations and will maintain reliable electrical service to customers within the PJM and PPL Electric service territory. The proposed route for the project was selected after a detailed siting analysis, which considered and balanced the functional requirements of the project, the environmental impacts of the alternative line routes, the social impacts and costs of the alternative line routes, and other factors identified in the Commission’s siting regulations. For these reasons, as more fully explained below, the proposed Brunner Island Project complies with each of the factors required by the Commission to grant an application for the construction and siting of a high voltage transmission line, and the Brunner Island Project therefore should be approved.

II. STATEMENT OF THE QUESTIONS

1. Has PPL Electric demonstrated that the Brunner Island Project is reasonably necessary to provide safe and reliable service to its customers?

Suggested answer: *In the affirmative.*

2. Has PPL Electric demonstrated that the preferred Route B is a reasonable and appropriate line route for the Brunner Island Project?

Suggested answer: *In the affirmative.*

III. BACKGROUND AND PROCEDURAL HISTORY

This proceeding was initiated on March 9, 2011, when PPL Electric filed and served the “Application Of PPL Electric Utilities Corporation Filed Pursuant To 52 Pa. Code Chapter 57, Subchapter G, For Approval Of The Siting And Reconstruction Of The Brunner Island-West Shore 230 kV Transmission Line In Cumberland And York Counties, Pennsylvania,” which was docketed at Docket No. A-2011-2230053 (“Siting Application”).¹ Notice of the Siting Application was published in the Pennsylvania Bulletin on March 26, 2011. *See* 41 Pa. B. 1742. On March 29 and April 27, 2011, PPL Electric filed proofs of publication of the public notices of the Siting Application.

In support of its Siting Application, PPL Electric served the following Direct Testimony: PPL Electric Statement No. 1 – Direct Testimony of Justin B. Wehr; PPL Electric Statement No. 2 – Direct Testimony of Gopi R. Kedia; PPL Electric Statement No. 3 – Direct Testimony of

¹ PPL Electric’s Siting Application, together with its supporting Attachments 1 through 16, were admitted to the record as PPL Electric Exhibit No. 1. Tr. at 106.

Peter Sparhawk; PPL Electric Statement No. 4 – Direct Testimony of Danny S. Jarrah; and PPL Electric Statement No. 5 – Direct Testimony of Debra S. Grierson.²

PPL Electric was served on February 25, 2011, with a Formal Complaint filed by Gregory J. Myers at Docket No. C-2011-222771.³ The Complaint primarily related to PPL Electric's transmission vegetation management plan. Although the Complaint did contain allegations regarding the proposed reconstruction of the Brunner Island-West Shore 230 kV Transmission Line, none of the issues raised by Mr. Myers' Complaint went to the need or route selection for the Brunner Island Project. On March 17, 2011, PPL Electric timely filed and served its Answer to the Complaint.

Notices of Intervention were filed by Thomas E. Martin, Jr., Barbara K. Martin, and Helen E. Martin (hereinafter the "Martins"); Gregory E. Black and Christy A. Black (hereinafter the "Blacks"); and the Upper Allen Township. PPL Electric ultimately reached a resolution of the issues raised by the Martins and the Blacks. Tr. 104-05. The Martins and Blacks did not further participate in the proceeding. Upper Allen Township withdrew its Intervention on June 30, 2011.

An Initial Prehearing Conference was held Monday, May 9, 2011, at 10:00 a.m. before the Honorable Susan D. Colwell (the "ALJ"). The parties agreed to a procedural schedule at the Initial Prehearing Conference, which was adopted in the ALJ's Second Prehearing Order dated May 10, 2011. An on-the-record public input hearing was held on June 13, 2011, in Upper Allen Township, Cumberland County. An on-the-record site visit of Mr. Myers' property was held on July 7, 2011.

² PPL Electric Statement Nos. 1-5 were identified and admitted to the record. Tr. 106.

³ PPL Electric also was served with a Formal Complaint filed by Gregory J. Myers at Docket No. C-2011-2227684. This Complaint is unrelated to the construction of the proposed Brunner Island Project and was not consolidated with the Siting Application.

On July 22, 2011, the ALJ issued a Third Prehearing Order granting the request of PPL Electric to consolidate the Myers Complaint with PPL Electric's Siting Application. The Third Prehearing Order further adopted a procedural schedule for the Complaint portion of the case. Pursuant thereto, Mr. Myers served comments in support of his position, and PPL Electric served PPL Electric Statement No. 6 – Direct Testimony of Philip J. Walnock in response to the issues and concerns raised by Mr. Myers.⁴

An evidentiary hearing was held before the ALJ on October 13, 2011. PPL Electric and Mr. Myers were the only parties to participate at the hearing. At the conclusion of the hearing, PPL Electric and Mr. Myers were able to reach an agreement on-the-record that resolved all of the issues and concerns raised in Myers' Complaint.⁵ On November 14, 2011, PPL Electric filed a Certificate of Satisfaction indicating that it has fully satisfied Myers' Complaint at Docket No. C-2011-222771, that Mr. Myers has acknowledged his satisfaction, and that the Myers Complaint should be withdrawn, with prejudice, and marked closed.⁶

As a result of the on-the-record agreement reached between PPL Electric and Mr. Myers, together with the Certificate of Satisfaction filed on November 14, 2011, PPL Electric's Siting Application is unopposed.⁷ This matter is now ripe for disposition. For the reasons explained below, PPL Electric respectfully requests that the ALJ and Commission approve the reconstruction of the existing Brunner Island-West Shore 230 kV Transmission Line from a

⁴ Mr. Myers' comments were identified for and admitted to the record as Myers Statement No. 1. Tr. 57, 107. PPL Electric Statement No. 6 was identified for and admitted to the record. Tr. 106.

⁵ Tr. 101-04.

⁶ The agreement reached by Mr. Myers and PPL Electric also resolved all of the issues and concerns raised in Myers' Complaint at Docket No. C-2011-2227684. A separate Certificate of Satisfaction was filed with the Commission for the Complaint at Docket No. C-2011-2227684.

⁷ The ALJ acknowledged that, if PPL Electric and Mr. Myers fully resolved the Myers Complaint, the Siting Application should proceed as an uncontested application. Tr. 104-05.

single-circuit 230 kV transmission line to a double-circuit 230 kV transmission line as explained below and in the Siting Application.

IV. SUMMARY OF ARGUMENT

The need for the Brunner Island Project is uncontested. This project is needed to resolve NERC Category C violations identified in the 2008 PJM RTEP and reconfirmed in the 2009 RTEP retool analysis, on critical 230 kV circuits in central Pennsylvania. The electrical solution proposed by PPL Electric, the Brunner Island Project, eliminates all of the identified transmission reliability violations, improves electrical system reliability, and provides enhanced reliability of electric service to the customers in the region, while minimizing construction, new transmission lines, and costs. For these reasons, the Brunner Island Project is necessary and proper for the accommodation, convenience, and safety of customers, employees, and the bulk electric system.

The selection of the preferred route, Route B, for the Brunner Island Project is uncontested. Route B was selected by PPL Electric after a detailed siting analysis that properly considered and balanced the functional requirements of the project, the environmental impacts of the alternative line routes, the social impacts and costs of the alternative line routes, and other factors identified in the Commission's siting regulations. PPL Electric's selection of Route B as the preferred route for the Brunner Island Project is reasonable and in compliance Commission's siting regulations and all applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

The engineering and safety of the Brunner Island Project is uncontested. The Brunner Island Project will be designed and constructed to meet and exceed all applicable safety requirements and standards. Further, the Brunner Island Project will be designed to minimize the

potential for electromagnetic fields. The construction of the Brunner Island Project along Route B will not create any unreasonable risk to the health or safety of the public.

The uncontested record evidence demonstrates that PPL Electric has satisfied its burden to establish that the Brunner Island Project meets each of the factors required by the Commission's siting regulations, and that it is necessary or proper for the accommodation, convenience, and safety of its customers, employees and the public. For these reasons, as more fully explained below, the ALJ and the Commission should approve the construction of the Brunner Island Project along Route B as described in the Siting Application and its attachments.

V. ARGUMENT

A. LEGAL STANDARDS

Pursuant to Section 1501 of the Public Utility Code, an electric distribution company has a statutory obligation to provide safe, adequate, and reliable electrical service to its customers. 66 Pa.C.S. § 1501. The Commission's regulations provide that an electric distribution company may not construct high voltage transmission lines, *i.e.*, electrical lines with a voltage of 100 kV or higher, without prior Commission approval. 52 Pa. Code § 57.71. As explained by the Commonwealth Court of Pennsylvania, the Commission's siting regulations set forth the following: (1) the procedures for applying for approval of high voltage transmission lines, 52 Pa. Code § 57.72; (2) the procedures for hearings on high voltage transmission line applications, 52 Pa. Code § 57.75; and (3) what the Commission will consider when deciding whether to approve or deny a high voltage transmission line application, 52 Pa. Code § 57.76(a). *Energy Conservation Council v. Pa. P.U.C.*, 995 A.2d 465, 477-78 (Pa. Cmwlth. 2010) (footnote omitted) (hereinafter "*Trailco*"). The Commission's siting regulations, and in particular 52 Pa. Code § 57.76, represent a codification of the review required by Article I, Section 27 of the

Pennsylvania Constitution. *Re Proposed Electric Regulation*, 1976 Pa. PUC LEXIS 114, 49 Pa. P.U.C. 709, 712 (March 2, 1976).

In order to grant an application for the construction and siting of a high voltage transmission line, the Commission must find and determine the following as to the proposed line:

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

52 Pa. Code § 57.76(a).

As the applicant seeking Commission approval, PPL Electric has the burden to demonstrate by a preponderance of the evidence that the Brunner Island Project meets each factor set forth in 52 Pa. Code § 57.76(a).⁸ *Energy Conservation Council of Pennsylvania v. Pa. P.U.C.*, 25 A.3d 440, 447 (Pa. Cmwlth. 2011) (hereinafter “*Susquehanna-Roseland*”). Once the party with the burden of proof produces evidence to meet its *prima facie* case on an issue, the burden to produce evidence of equal weight sufficient to refute the applicant’s evidence shifts to the party opposing the application. *Trailco*, 995 A.2d at 483, n.16.

B. NEED FOR THE BRUNNER ISLAND PROJECT

PPL Electric has sustained its burden to demonstrate that the Brunner Island Project is needed to resolve transmission reliability criteria violations identified on critical 230 kV circuits

⁸ Section 332(a) of the Public Utility Code provides that the party seeking a rule or order from the Commission has the burden of proof in that proceeding. 66 Pa.C.S. § 332(a). A preponderance of the evidence is the production of evidence that is more convincing than the evidence presented by the other parties. *Samuel J. Lansberry, Inc. v. Pennsylvania Public Utility Commission*, 578 A.2d 600, 602 (Pa. Cmwlth. 1990).

in central Pennsylvania and to ensure reliable long-term electric service to customers in Cumberland and York Counties, as well as the bulk electric system in the Mid-Atlantic region. The uncontested record sets forth the reasons why the 230 kV bulk electrical system in Cumberland and York Counties requires reinforcement, explains the electrical solutions considered to resolve these reliability issues, and describes the factors that led PPL Electric to determine, and PJM to approve, that the Brunner Island Project is the best electrical solution to ensure reliable, long-term service to customers. For these reasons, as more fully explained below, PPL Electric has met its burden to demonstrate that the Brunner Island Project is needed.⁹

The Commonwealth Court has determined that a transmission line should not be approved unless the electric utility demonstrates that the line is “necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public.” *Pa. Power & Light Co. v. Pa. P.U.C.*, 696 A.2d 248, 250 (Pa. Cmwlth. 1997) (quoting 66 Pa.C.S. § 1501). Although the Public Utility Code does not define “need,” Pennsylvania courts have recognized that there is a need for regional electric service reliability and a reliable transmission system.¹⁰ *Trailco*, 995 A.2d at 484-85 (citing *Stone v. Pa. P.U.C.*, 162 A.2d 18, 19-21 (Pa. Super. 1960); *Dunk v. Pa. P.U.C.*, 232 A.2d 231, 234-34 (Pa. Super. 1967); and 66 Pa.C.S. § 2802).

Regional transmission planning, in its broadest sense, is the process which assures that the electric transmission system can supply electricity to all customer loads in a reliable, safe, and economic manner. PJM is the Federal Energy Regulatory Commission (“FERC”) approved

⁹ None of the issues raised by Mr. Myers went to the need for the Brunner Island Project.

¹⁰ The Public Utility Code defines “reliability” as follows:

Includes adequacy and security. As used in this definition, “adequacy” means the provision of sufficient generation, transmission and distribution capacity so as to supply the aggregate electric power and energy requirements of consumers, taking into account scheduled and unscheduled outages of system facilities; and “security” means designing, maintaining and operating a system so that it can handle emergencies safely while continuing to operate.

66 Pa.C.S. § 2803

Regional Transmission Organization charged with ensuring the reliability of the electric transmission system under its functional control and coordinating the movement of wholesale electricity in all or parts of thirteen states, including most of Pennsylvania, and the District of Columbia. In order to ensure reliable transmission service, PJM prepares an annual RTEP to identify system reinforcements that are required to, among other things, meet the mandatory NERC Reliability Standards. PPL Electric Statement No. 2, p. 4; PPL Electric Ex. No. 1, Attachment 1, p. 1.

PJM's RTEP is an annual process that encompasses a comprehensive series of detailed analyses to ensure reliability under stringent reliability criteria. PJM and its transmission owners have developed planning reliability criteria to supplement the FERC-approved, mandatory NERC Reliability Standards. The NERC Reliability Standards, transmission owner criteria, and PJM reliability planning criteria are used by PJM and its members, including PPL Electric, to analyze the system and to determine the specific transmission projects that are needed to ensure reliable electric service. Based upon this analysis, PJM determines the transmission upgrades that are needed to meet NERC Reliability Standards and reliability planning criteria.¹¹ PPL Electric Statement No. 2, pp. 4-5.

PPL Electric, as a transmission owner and member of PJM, is responsible for complying with all of the NERC Reliability Standards applicable to the PPL Electric bulk electric system, as well as responsible for supporting PJM in complying with NERC planning and operating standards. In order to ensure compliance with the NERC Reliability Standards, PPL Electric

¹¹ The FERC-approved NERC Reliability Standards and the PJM RTEP process are fully described in Section 2.0 and 3.1 of Attachment 1 to the Siting Application. PPL Electric Ex. No. 1, Attachment 1, pp. 2-8.

actively participates in the PJM RTEP planning process. PPL Electric also undertakes an independent analysis of its electric transmission facilities.¹² PPL Electric Statement No. 2, p. 7.

PJM's 2008 RTEP, which was approved by the PJM Board in December 2008, identified violations of the NERC Reliability Standards for several NERC Category C contingencies on critical 230 kV circuits in central Pennsylvania beginning in 2013. Specifically, the 2008 RTEP identified thermal overloads and excessive voltage drop violations for several NERC Category C contingencies.¹³ The major NERC Category C violations identified in the 2008 RTEP relevant to the bulk electrical system in Cumberland and York Counties are summarized below:

(a) The initial loss of the Juniata-Cumberland 230 kV Transmission Line followed by the outage of the Brunner Island–West Shore 230 kV Transmission Line would cause the following overloads:

(1) The HummMJsteel Tap-Steelton H1 230 kV Transmission Line would exceed its summer emergency rating by 80%;

(2) The Steel H1-Steelton 230 kV Transmission line would exceed its summer emergency rating by 51%;

(3) The Steelton-Steel H3 230 kV Transmission Line would exceed its summer emergency rating by 5%; and

¹² PPL Electric's system planning process is fully described in Section 3.2 of Attachment 1 to the Siting Application. PPL Electric's planning guidelines are outlined in its Reliability Principles and Practices ("RP&P") document, which was developed to ensure adequate and appropriate levels of electric service consistent with good utility practice. The PPL Electric RP&P for the bulk electric transmission system is consistent with PJM reliability criteria. PPL Electric Statement No. 2, pp. 8-10; PPL Electric Ex. No. 1, Attachment 1, pp. 8-10.

¹³ NERC Category C requires that the system be stable at normal peak load conditions and within applicable equipment thermal ratings and system limits under a variety of multiple facility contingency events, *i.e.*, with two elements of the system out of service. Such events include the loss of one or more transmission facilities and/or generation facilities followed by system readjustments, and then the loss of a second system element. Category C contingencies also includes events such as the loss of two circuits on a single tower line, under which no system readjustments are permitted because both lines are removed from service at the same time. NERC Category C contingencies are referred to collectively as an "n-1-1" event. If an n-1-1 occurrence is found to cause thermal overloading in excess of a transmission facility's applicable rating or changes in voltage in excess of NERC standards, such an event is deemed to have failed the n-1-1 critical test. PPL Electric Ex. No. 1, Attachment 1, p. 6.

(4) The West Shore-Steelton 230 kV Transmission Line would exceed its summer emergency rating by 2%.

(b) The initial loss of the Brunner Island–West Shore 230 kV Transmission Line followed by the outage of the Steelton 230 kV bus would cause the Juniata-Cumberland 230 kV Transmission Line to exceed its summer emergency rating by 24%.

(c) The initial loss of the Juniata–Cumberland 230 kV Transmission Line and the loss of 230/69kV Transformer No. 2 at the Cumberland 230-69 kV Substation followed by the subsequent outage of the Steelton 230 kV bus would cause the Brunner Island–West Shore 230 kV Transmission Line to exceed its summer emergency rating by 22%.

PPL Electric Statement No. 2, pp. 5-6; PPL Electric Ex. No. 1, Attachment 1, pp. 10-12.

After these violations were identified, PPL Electric undertook an analysis to identify potential electrical solutions to address these reliability criteria violations and to ensure that the PPL Electric transmission system will meet the reliability criteria identified within its planning guidelines. Through its transmission planning process, PPL Electric developed and analyzed two potential electrical solutions to resolve the reliability problems that were identified in the PJM 2008 RTEP. PPL Electric Statement No. 2, pp. 9-10.

Electrical Solution No. 1, the Brunner Island Project, involves reconstructing approximately 16 miles of the existing Brunner Island–West Shore 230 kV Transmission Line from a single-circuit 230 kV line to a double-circuit 230 kV line. PPL Electric Statement No. 2, p. 10; PPL Electric Ex. No. 1, Attachment 1, pp. 12-13. Electrical Solution No. 1 eliminates all of the NERC Category C violations identified in the 2008 PJM RTEP. This electrical solution would improve electrical system reliability by providing additional 230 kV transmission sources into the West Shore 230-69 kV and the Cumberland 230-69 kV Substations, as well as providing enhanced reliability of electric service to the customers in the region. Electrical Solution No. 1 provides a long-term reinforcement of the PJM and PPL Electric transmission systems, and

provides requisite load carrying capacity necessary to ensure reliable electric service. The estimated cost of Electrical Solution No. 1 is \$30.2 million. PPL Electric Statement No. 2, p. 11.

Electrical Solution No. 2 involves the upgrade of four existing 230 kV transmission lines with higher capacity conductors. PPL Electric Statement No. 2, p. 10; PPL Electric Ex. No. 1, Attachment 1, p. 13. The collective upgrade of the four existing 230 kV transmission lines under Electrical Solution No. 2 would eliminate all of the NERC Category C violations identified in the 2008 PJM RTEP and would provide the capability for expected future system needs. However, Electrical Solution No. 2 would require construction at several locations, the rebuild/upgrade of approximately 49 miles of transmission lines, and upgrades to several substations. The substantial construction and upgrades required under Electrical Solution No. 2 would jeopardize the project's required in-service date of May 2013. The estimated cost of Electrical Solution No. 2 is approximately \$100 million. PPL Electric Statement No. 2, p. 11.

PPL Electric rejected Electrical Solution No. 2 and concluded that the Brunner Island Project, Electrical Solution No. 1, was the best electrical solution to resolve the reliability violations identified in the 2008 RTEP. PPL Electric submitted the proposed Brunner Island Project to PJM on July 1, 2008. The PJM Board approved the Brunner Island Project in December of 2008. PPL Electric Statement No. 2, pp. 11-12; PPL Electric Ex. No. 1, Attachment 1, p. 14.

Importantly, PJM continues to evaluate the transmission system to identify potential reliability violations and to check whether previously approved projects are still required. In 2009, PJM completed its 2009 RTEP retool analysis. The 2009 RTEP retool analysis continued to identify the NERC Category C violations discussed above, and reconfirmed the need for the Brunner Island Project. PPL Electric Statement No. 2, p. 7.

The need for the Brunner Island Project is uncontested. The record evidence in this matter clearly demonstrates that there is need to resolve NERC Category C violations identified in the 2008 PJM RTEP, and reconfirmed in the 2009 RTEP retool analysis, on critical 230 kV circuits in central Pennsylvania. The record further establishes that the electrical solution proposed by PPL Electric, the Brunner Island Project, eliminates all of the identified transmission reliability violations, improves electrical system reliability, and provides enhanced reliability of electric service to the customers in the region, while minimizing construction, new transmission lines, and costs. For these reasons, the ALJ and the Commission should find that Brunner Island Project is necessary and proper for the accommodation, convenience, and safety of customers, employees, and the bulk electric system.

C. ROUTE SELECTION FOR THE BRUNNER ISLAND PROJECT

To implement the Brunner Island Project and resolve the identified reliability criteria violations discussed above, PPL Electric proposes to construct a transmission line from PPL Electric's Brunner Island 230 kV Switchyard to PPL Electric's West Shore 230-69 kV Substation. The preferred route for the Brunner Island Project will reconstruct the approximately 16-mile existing Brunner Island-West Shore 230 kV Transmission Line from a single-circuit 230 kV transmission line to a double-circuit 230 kV transmission line using the existing right-of-way for Brunner Island-West Shore 230-69 kV Transmission Line. For the reasons explained below, PPL Electric has met its burden to demonstrate that the preferred route for the Brunner Island Project is reasonable, considering all the factors, and satisfies the requirements for Commission approval of a high voltage transmission line.¹⁴

¹⁴ None of the issues raised by Mr. Myers went to the route selection for the Brunner Island Project.

With respect to the Commission's review of a utility's proposed route for a high voltage line, the Commonwealth Court recently explained as follows:

[O]ur courts have held that, "it is settled law that the designation of the route for [a HV] line [is] a matter for determination by a [utility's] management in the first instance, and [the utility's] conclusion will be upheld unless shown to be wanton or capricious." *Stone v. Pennsylvania Public Utility Commission*, 162 A.2d 18, 21 (Pa. Super. 1960). Thus, where the record establishes that the utility's route selection was reasonable, considering all the factors, its route will be upheld. *Paxtowne v. Pennsylvania Public Utility Commission*, 398 A.2d 254, 256 (Pa. Cmwlth. 1979). The mere existence of an alternative route does not invalidate the utility's judgment. *O'Connor v. Pennsylvania Public Utility Commission*, 582 A.2d 427, 433 (Pa. Cmwlth. 1990).

Trailco, 995 A.2d at 479-480. Thus, a utility's selection of a route for a high voltage transmission line should be upheld if the proposed route is reasonable and complies with the requirements of the Commission's siting regulations.

For purposes of developing the route for the proposed Brunner Island Project, PPL Electric and its outside routing consultant, The Louis Berger Group, Inc., undertook a six-month siting program to identify potential routes between PPL Electric's Brunner Island 230 kV Switchyard and its West Shore 230-69 kV Substation. PPL Electric Statement No. 1, p. 9. The routing team conducted a detailed siting analysis to determine a location for the proposed Brunner Island Project that best balances social, environmental, engineering, and economic considerations. PPL Electric Statement No. 3, p. 4.

The routing team developed a Study Area encompassing approximately 170 square miles within Cumberland and York Counties in which line routes could be sited to feasibly meet the functional requirements of the project. PPL Electric Statement No. 3, pp. 4-5; PPL Electric Ex. No. 1, Attachment 2, Figure 2-1. Once the Study Area was identified, the routing team developed the following route selection criteria to be used in identifying potential routes:

minimize impacts to the natural and human environments; minimize route length and cost; using general line design parameters specified by PPL Electric; maximize the use of or paralleling of existing rights-of-way or easements; avoiding residences; maximize the distance from residences, schools, cemeteries, historical resources, recreation areas, and other important cultural sites where existing rights-of-way are not used or paralleled; and minimize new crossings of designated natural resource lands such as state forests, national and state parks, wildlife management areas, designated game lands and wildlife areas, and conservation areas. PPL Electric Statement No. 3, p. 5.

Using the route selection criteria, the routing team identified potential routes for the project that would avoid large area constraints to the extent practical.¹⁵ These potential routes were then adjusted, to the extent practical, to avoid small area constraints.¹⁶ Although complete avoidance of all constraints was not feasible, PPL Electric sought potential routes that would minimize intrusions into constrained areas. The potential route identification effort resulted in a network of potential links that could be considered to route the new line from the Brunner Island 230 kV Switchyard to the West Shore 230-69 kV Substation. PPL Electric Statement No. 3, pp. 6-8; PPL Electric Ex. No. 1, Attachment 2, Figure 2-2.

Through field investigations and a qualitative and quantitative screening process, PPL Electric identified certain potential routes that were not suitable for additional study and

¹⁵ The “large area constraints” include: urban areas; National Register Historic Districts and adjacent areas; large recreational sites; large wetlands; critical habitat areas; large water bodies; State Forests, State Parks, and State Game Lands; Wildlife Management Areas and other natural and conservation areas; Natural Lands Trust Preserves; and wind energy facilities or farms. PPL Electric Statement No. 3, p. 6.

¹⁶ The “small area constraints” include: individual residences (including houses, permanently established mobile homes, and multi-family buildings); barns, garages, and other outbuildings; commercial and industrial buildings; recorded, designated historic buildings and sites, including any specified buffer zone around each site; recorded threatened, endangered, and other rare species sites or unique natural areas, including any specified buffer zone around each site; small wetlands and water bodies, including transition areas/buffer zones; small recreational sites or facilities; communication towers; windmills; designated scenic areas (e.g., overlooks, vistas, trails, corridors, highways); orchards and vineyards; and active surface mines. PPL Electric Statement No. 3, pp. 6-7.

eliminated them from further consideration. The major environmental and land use factors considered in this evaluation were: steep slopes; aesthetic impact; wetlands and other stream crossings; proximity of residences and other buildings; known or suspected historic sites; threatened and endangered species sites; unique or sensitive habitat; and length of new right-of-way. Engineering factors also were considered during this evaluation, including identification of areas where rebuilding existing transmission structures to accommodate a new 230 kV line was not feasible and areas that presented engineering and construction challenges or impediments. PPL Electric Statement No. 3, p. 10.

After carefully analyzing and evaluating the potential routes, the routing team selected three alternative routes that could be used for the Brunner Island Project. The three routes selected (identified as Routes A, B, and C) represent the routing team's identification of viable route alternatives that meet the project's purpose, goals, and objectives in the most economically and environmentally responsible manner. PPL Electric Statement No. 3, pp. 10-11. The three alternative routes are as follows:

Route A: Route A begins at the Brunner Island 230 kV Switchyard along the Susquehanna River and travels west through East Manchester, Newberry, and Conewago Townships, generally on the path of the right-of-way for the existing single-circuit Brunner Island–West Shore 230 kV Transmission Line. The line then travels in a northwesterly direction along primarily virgin right-of-way through a portion of Newberry Township. In the vicinity of the intersection of Sheepsbridge Road and Kise Mill Road, Route A would double-circuit an existing Met-Ed 115 kV transmission line through Newberry Township for a short distance before it rejoins the existing Brunner Island–West Shore 230 kV Transmission Line right-of-way for a short distance in Newberry Township and then splits again to the north of the existing line. Route A continues through Newberry and Fairview Townships and then Lower Allen Township in Cumberland County to the West Shore 230-69 kV Substation. The existing single-circuit Brunner Island–West Shore 230 kV Transmission Line would remain in place if Route A is selected.

Route B (the preferred route): Route B is the existing route for the Brunner Island–West Shore 230 kV Transmission Line, which begins at the Brunner Island 230 kV Switchyard along the Susquehanna River and travels northwest through East Manchester, Newberry, Conewago, and Fairview Townships in York County and Lower Allen and Upper Allen Townships in Cumberland County along existing rights-of-way to the West Shore 230-69 kV Substation. Virtually the entire the length of Route B would utilize existing PPL Electric property or right-of-way. Route B would rebuild the existing single-circuit Brunner Island-West Shore 230 kV Transmission Line for double circuit operation.

Route C: Route C begins at the Brunner Island 230 kV Switchyard along the Susquehanna River and travels west through Conewago Township, generally on the path of the right-of-way for the existing single-circuit Brunner Island–West Shore 230 kV Transmission Line. Route C then travels northwest and would double-circuit an existing Met-Ed 115 kV transmission line. Route C then travels southwest and ultimately northwest again, a portion parallel to the Met-Ed 500 kV transmission line, to enter the West Shore 230-69 kV Substation. The existing single-circuit Brunner Island-West Shore 230 kV Transmission Line would remain in place if Route C is selected.

PPL Electric Statement No. 3, pp. 11-12; PPL Electric Ex. No. 1, Attachment 2, Figure 2-3.

Once the alternative routes were identified, PPL Electric and the routing team compiled an environmental and land use inventory for all three alternative routes. PPL Electric Ex. No. 1, Attachment 3, pp. 4-9. Based on this information, and on additional data collected during field inspections, the team prepared a comparative analysis of the environmental, cultural, and land use resources along the three alternative routes, as well as potential impacts on those resources and possible mitigation efforts. The resources evaluated and the conclusions reached during this comparative analysis are summarized below:

Geology and Soils: The amount of cleared vegetation has a direct effect on the impacts to soils along each of the alternative routes. Route B, which would use the right-of-way of the existing single-circuit Brunner Island-West Shore 230 kV Transmission line, would be preferred due to a decreased possibility for soil

erosion/degradation.¹⁷ Routes A and C would require approximately 152 and 144 acres of forest clearing, respectively. In order to reduce or mitigate potential soil and erosion impacts, PPL Electric will employ a range of soil erosion and sediment control measures during construction, operation, and maintenance of transmission lines. PPL Electric Ex. No. 1, Attachment 3, pp. 10-17; PPL Electric Statement No. 3, pp. 15-16.

Surface Water Resources and Aquatic Species and Habitat: Compared with the other alternative routes, Route B would pose the least impact to surface water quality or aquatic species due to the significantly less amount of clearing and new right-of-way needed for this route. Although all three routes have almost the same number of stream crossings, Route B would involve the rebuild of the existing transmission line and, therefore, would pose the least impact to surface water quality because an existing 230 kV line already traverses all of the identified streams. Both routes A and C primarily utilize large portions of new right-of-way and, therefore, would introduce several new stream crossings. Potential surface water impacts will be minimized through the use of best management practices specified in federal and state permit conditions, erosion and sedimentation control plans approved by County Conservation Districts, and PPL Electric's Vegetation Management practices. PPL Electric Ex. No. 1, Attachment 3, pp. 17-27; PPL Electric Statement No. 3, pp. 17-20.

Wetlands: All three routes would traverse the same National Wetland Inventory ("NWI") riverine wetlands. However, because nearly 100% of Route B would utilize existing cleared right-of-way for the Brunner Island-West Shore 230 kV Transmission Line, Route B calculations using NWI data and right-of-way approximations indicate that it has the least amount of wetland acreage in right-of-way areas that would be newly cleared for the proposed project. In all cases, PPL Electric's objective is to span or otherwise avoid all wetlands to the extent practical. Where impacts to wetlands are unavoidable, PPL Electric will acquire and adhere to the terms and conditions of all required permits. PPL Electric Ex. No. 1, Attachment 3, pp. 27-31; PPL Electric Statement No. 3, pp. 20-22.

Vegetation: Both Routes A and C require lengthy areas of new right-of-way clearing compared to Route B. Route A and C would result in PPL Electric clearing approximately 152 and 144 acres of forest, respectively. Because nearly 100% of Route B would utilize existing cleared right-of-way for the single-circuit Brunner Island-West Shore 230 kV Transmission Line, Route B would not require clearing virgin forest. PPL Electric will apply its vegetation management polices within the right-of-way to implement a settlement agreement that was entered into by PPL Electric and *ReliabilityFirst* Corporation¹⁸ in December

¹⁷ When PPL Electric filed its Siting Application, PPL Electric initially estimated that Route B would require up to approximately 4 acres of new forest clearing if the existing right-of-way was widened in areas where it is less than 150 feet. However, PPL Electric has since concluded that it will design the proposed double-circuit line to stay within the existing right-of-way. Tr. 50.

¹⁸ *ReliabilityFirst* Corporation is the Regional Entity that addresses NERC issues in the region in which the PPL Electric Utilities transmission facilities are located.

2009, which settlement was subsequently approved by NERC and FERC in 2010.¹⁹ PPL Electric Ex. No. 1, Attachment 3, pp. 31-42; PPL Electric Statement No. 3, pp. 22-25.

Wildlife: Because nearly 100% of Route B would utilize existing cleared right-of-way for the Brunner Island-West Shore 230 kV Transmission Line, forest clearing is minimized compared to Routes A and C, which require lengthy areas of new right-of-way. Both Routes A and C would require clearing more areas of uncut forest, resulting in significant forest fragmentation. The use of existing right-of-way for Route B minimizes impacts on Natural Areas and species of special concern. All three alternative routes cross through areas that potentially could support the federally threatened bog turtle. PPL Electric will conduct bog turtle surveys as necessary and submit a report to the United States Fish and Wildlife Service (“USFWS”) regarding the potential for bog turtle habitat along Route B. PPL Electric will adhere to any resulting USFWS surveying or permitting requirements. PPL Electric Ex. No. 1, Attachment 3, pp. 42-48; PPL Electric Statement No. 3, pp. 25-27.

Land Use: Many types of land uses are located throughout the project area, including suburban and rural development, forest land, farmland, open space and fields, state and local park lands, water and wetlands, and industrial lands. Of the three alternative routes, Route B would pose the least impact to land use in the Study Area, because nearly 100% of Route B would utilize existing cleared right-of-way for the Brunner Island-West Shore 230 kV Transmission Line. Routes A and C would have far greater incremental impacts because the existing Brunner Island-West Shore line would remain in service if either Routes A or C were selected. Although not required to comply with local zoning ordinances with regard to utility facilities, PPL Electric will continue to meet and work with the local planning commissions to respect adopted comprehensive land use plans and policies to the maximum extent feasible. Required federal, state, and county permits and approvals will be obtained. PPL Electric Ex. No. 1, Attachment 3, pp. 49-60; PPL Electric Statement No. 3, pp. 28-32.

Recreation Lands: None of the alternative routes under consideration would pass through or near any designated national recreational and scenic resources, forests, or parks. None of the routes traverse any designated natural lands. All three alternative routes would generally impact the same state or locally significant resources; however, Route B would utilize existing right-of-way, thereby

¹⁹ PPL Electric notes that the construction of the proposed Brunner Island Project and the application of its transmission vegetation management plan within the existing right-of-way for the Brunner Island-West Shore 230 kV Transmission Line are two separate activities. PPL Electric Statement No. 6, p. 3. Gregory J. Myers filed a complaint at Docket No. C-2011-222771, opposing the application of PPL Electric’s transmission vegetation management plan within the right-of-way across Mr. Myers’ property. However, on November 14, 2011, PPL Electric filed a Certificate of Satisfaction indicating that it has fully satisfied Myers Complaint. As a result, the application of PPL Electric’s transmission vegetation management plan within the existing right-of-way for the Brunner Island-West Shore 230 kV Transmission Line is uncontested.

minimizing the impact to recreational opportunities. PPL Electric Ex. No. 1, Attachment 3, pp. 60-65; PPL Electric Statement No. 3, pp. 33-34.

Cultural Resources: In accordance with the Commission's regulations at 52 Pa. Code § 57.72(c)(8), PPL Electric identified all cultural resources, *i.e.*, inventoried prehistoric and historic period archaeological sites and known historic architectural resources and historic districts, within a two-mile radius of the proposed route (Route B). In addition, to help better compare the three alternative routes for potential impacts, the review included identification of cultural resources within a 1-mile radius around the alternative routes, as well as archaeological resources within approximately 1,000 feet of each alternative route. PPL Electric Ex. No. 1, Attachment 14. Indicative of the relative potential effects of each alternative route is a comparison of the nature of the work required to install a 230 kV transmission line along each route. Route B will have the potential to affect the fewest archaeological sites and historic structures of the three routes because it involves the least amount of new ground disturbance and fewer new structure locations and access roads. PPL Electric Ex. No. 1, Attachment 3, pp. 66-75; PPL Electric Statement No. 3, pp. 35-37.

Aesthetics: To analyze the potential visibility and visual impact of the proposed project, the three alternative routes were reviewed through landscape character analysis, field evaluation, and environmental factor tabulations. Route B would have the least visual impact of the three alternatives studied. Route B consists of rebuilding an existing line within an existing right-of-way. Although the new structures will be taller, they will be constructed in approximately the same locations as the existing lattice structures. Some additional incremental impacts could be expected, particularly to those residents living along or near the edge of the right-of-way or those with otherwise clear views of the transmission structures. However, Routes A and C would both require the acquisition of new right-of-way, significant clearing, and the addition of new 140-160-foot structures and conduit, often in areas where no such facilities currently exist. Further, the existing Brunner Island-West Shore transmission line would remain in service if either Route A or C is constructed. PPL Electric Ex. No. 1, Attachment 3, pp. 75-89; PPL Electric Statement No. 3, pp. 37-38.

Costs: The costs of the alternative routes is an important factor because the cost of the project will be borne by customers in PPL Electric's service territory. The cost to build the project using Route A is \$33.5 million, Route B is \$30.2 million, and Route C is \$38.1 million. PPL Electric Ex. No. 1, Attachment 3, p. 89.

After evaluating and comparing all of these factors, PPL Electric, in collaboration with the Louis Berger Group, Inc., identified Route B as the most suitable route for a 230 kV electrical transmission line between the Brunner Island 230 kV Switchyard and the West Shore Substation. Overall, Route B will have substantially less impact on the natural and built

environment, land use, and citizens of central Pennsylvania than the other alternative routes considered. PPL Electric selected Route B as the preferred route for the following principal reasons:

Excluding the first 0.6 mile section across PPL Brunner Island LLC property, 100% of Route B would utilize existing right-of-way. Routes A and C would only utilize, parallel, or double-circuit existing transmission lines for approximately 26 percent and 65 percent of the total length, respectively.

Routes A or C would have required PPL Electric to build a new power line through areas that currently do not have transmission line right-of-way. Further, the existing single-circuit Brunner Island-West Shore Transmission Line would remain in service if either Routes A or C were selected. Therefore, selection of either Route A or C would result in more cumulative environmental and land use impacts as the area would be serviced by two single-circuit transmission lines instead of only one double-circuit line.

Several properties would likely need to be condemned if either Routes A or C were selected. Importantly, Route A would pass through 39 non-condemnable properties and Route C would pass through 59 non-condemnable properties.²⁰ Acquisition of these properties would be problematic and perhaps impossible at any reasonable cost.

Route B has the lowest potential to affect soils, vegetation, wildlife, aesthetics, land use, and cultural resources because it requires the least amount of new structures, is located where a transmission line presently exists, results in fewer new access roads, and requires significantly less forest land/tree clearing than Routes A or C. Routes A and C would require approximately 152 and 144 acres of forest clearing, respectively.

Route B would generally result in the least noticeable change in the visual landscape as the entire route would be located on an existing transmission line route (excluding the 0.6 mile section across PPL Brunner Island LLC property). Upgrading to single-shaft poles will reduce the footprint and visual impact of the existing lattice towers.

The overall cost of building the Brunner Island Project using the Route B is substantially less than using Routes A or C.

PPL Electric Statement No. 3, pp. 38-40.

²⁰ A non-condemnable property includes, among other things, a dwelling house. *See* 15 Pa.C.S. § 1511(b)(1)(i) (restricting public utilities' power of eminent domain for purposes of condemning a dwelling house for an aerial electric transmission line).

PPL Electric announced its intent to rebuild the existing, single-circuit Brunner Island-West Shore 230 kV Transmission Line as a double-circuit 230 kV line within the right-of-way in October 2010. Since then, PPL Electric has undertaken significant public outreach efforts to provide to the public and government officials information on the project, and to collect input from those audiences. PPL Electric Ex. No. 1, Attachment 3, pp. 90-92. In addition, pursuant to Subchapters G and I of the Commission's regulations, 52 Pa. Code §§ 57.71-57.77, 57.91-57.93, and the Commission's Interim Siting Guidelines, 52 Pa. Code §§ 69.3101-69.3107, PPL Electric provided packets of information to fully notify landowners that may be affected by the proposed Brunner Island Project.²¹ PPL Electric Ex. No. 1, Attachment 16. Notably, no parties have objected to or otherwise opposed the use of Route B for the Brunner Island Project.

The selection of Route B for the Brunner Island Project is uncontested. The record evidence in this matter clearly demonstrates that Route B was selected by PPL Electric after a detailed siting analysis that properly considered and balanced the functional requirements of the project, the environmental impacts of the alternative line routes, the social impacts and costs of the alternative line routes, and other factors identified in the Commission's siting regulations. For these reasons, the ALJ and the Commission should find that PPL Electric's selection of Route B as the preferred route for the Brunner Island Project is reasonable and in compliance Commission's siting regulations and all applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

²¹ PPL Electric also has adopted an Internal Practices for Dealing with the Public on Power Line Projects. PPL Electric Ex. No. 1, Attachment 16. PPL Electric has a long-standing commitment to conducting business in an honest and ethical manner. Consistent with the expectations laid out in the PPL Standards of Conduct and Integrity, and in the Standards of Conduct and Integrity for Suppliers, PPL Electric's employees, contractors, and agents who interact with members of the public in activities such as planning, real estate transactions, and construction of power lines and other facilities are required, among other things, to act with honesty and integrity and treat people courteously and in a professional manner at all times. PPL Electric Statement No. 5, p 7.

D. ENGINEERING AND SAFETY

PPL Electric has sustained its burden to demonstrate that the Brunner Island Project will not create an unreasonable risk of danger to the health and safety of the public. The project involves the removal of existing lattice steel towers that were built to accommodate only one circuit. The tangent structures (or poles with no line angle) for the proposed new double-circuit line will consist of single-shaft steel poles equipped with steel upswept arms. Angle structures will be single-pole, two-pole, or three-pole steel structures depending on the severity of the line angle. All poles will be installed on concrete foundations. Additionally, some angle structures may be guyed. Altogether, this project requires the installation of approximately 93 structures, averaging 145 feet in height. Average span lengths will be approximately 950 feet. PPL Electric Statement No. 4, p. 5; PPL Electric Ex. No. 1, Attachment 4, Figures 4-1 and 4-2.

The proposed Brunner Island Project will be designed and constructed according to, and will meet or exceed, all applicable National Electric Safety Code ("NESC") standards. The NESC is a set of rules to safeguard people during the installation, operation, and maintenance of electric power lines. The NESC contains basic provisions considered necessary for the safety of employees and the public.²² PPL Electric has developed design specifications and safety rules that meet or surpass all the requirements of the NESC. PPL Electric Statement No. 4, pp. 3-4; PPL Electric Exhibit No. 1, Attachment 11, 1-3.

In addition to the NESC requirements, PPL Electric will incorporate relay protection systems to automatically de-energize the line in the unlikely event of a failure on the line in

²² The Commission has found in numerous cases that transmission lines that meet or exceed the NESC requirements do not create an unreasonable risk or danger to the health and safety of the public. *See, e.g., Investigation on Commission Motion of the Safety of the Cabett-Wylei Ridge 500 kV Transmission Line, I.D. 236* (Sept. 18, 1981); *Application of PP&L for Approval to Locate and Construct a 138 kV Transmission Line Between West Allentown and Salisbury Substations*, Docket No. A-00104160 (July 20, 1984); *Application of PP&L for Authorization to Locate and Construct its Hamlin 138 kV Electric Transmission Line*, Docket No. A-00101826 (April 3, 1981); *Larken v. Philadelphia Electric Co.*, 39 Pa. PUC 777 (1961).

which the line contacts the ground or a grounded object. The line will be designed for conductor-to-conductor clearances and conductor-to-ground clearances sufficient to accommodate helicopter live-line maintenance and inspections. Work procedures and tooling have been developed to allow work to be performed in a safe manner on energized facilities. Personnel are furnished with appropriate Personal Protective Equipment for the performance of construction or maintenance activities in a safe manner. PPL Electric Statement No. 4, p. 6; PPL Electric Exhibit No. 1, Attachment 11, pp. 4-6.

In order to address issues related to electromagnetic fields, PPL Electric has adopted a plan for Magnetic Field Management.²³ PPL Electric Ex. No. 1, Attachment 12. Under this Plan, PPL Electric, as a matter of policy, designs and builds transmission lines to reduce magnetic fields when such steps can be implemented at low or no cost and are consistent with the functional requirements of the transmission line. Consistent with its Plan, PPL Electric will reverse phase the proposed Brunner Island Project and increase pole heights by five feet. PPL Electric Statement No. 4, pp. 6-7.

²³ In previous proceedings, the Commission has commented favorably upon PPL Electric's Magnetic Field Management Plan:

Based on the extensive scientific evidence developed to date, which has been discussed in the preceding section, it is clear that EMF should not be regarded as a health hazard. However, the Company believes that it makes sense, as a matter of policy, to deal with customer concerns about EMF by reducing electric and magnetic fields in new and rebuilt facilities where that can be done with no-cost or low-cost design changes. Consequently, with that goal in mind, PP&L initiated its Magnetic Field Management Program in March 1991....

Magnetic fields from overhead power lines and human exposure to those fields can be reduced by a number of methods including increasing ground clearance; balancing phase currents and circuit loads; using low reactance (reverse) phasing; adopting line configurations that reduce the space between phase conductors; increasing right-of-way widths; and, in general, locating lines in less densely populated areas.... Based upon a detailed investigation of these factors, including their environmental impact, costs and benefits, PP&L developed the guidelines incorporated in its Magnetic Field Management Program

*Certification Application of Pennsylvania Power & Light Company Filed Pursuant to 52 Pa. Code Chapter 57, 1994 Pa. PUC LEXIS 65, *67-*69 (Oct. 21, 1994).*

The engineering and safety of the Brunner Island Project is uncontested. For the reasons explained above, the ALJ and the Commission should find that the construction of the Brunner Island Project along Route B will not create any unreasonable risk to the health or safety of the public.

E. RIGHT-OF-WAY STATUS

As explained above, PPL Electric, in collaboration with the Louis Berger Group, Inc., concluded that the preferred route for the Brunner Island Project would generally utilize the same right-of-way as the existing single-circuit Brunner Island-West Shore 230 kV Transmission Line. The preferred route begins at the Brunner Island 230 kV Switchyard along the Susquehanna River and travels northwest through York and Cumberland counties and ends at the West Shore 230-69 kV Substation near Mechanicsburg.

The existing right-of-way for the Brunner Island-West Shore 230 kV single-circuit line varies in width from 100 feet to 200 feet. However, PPL Electric's current standard right-of-way width for a double-circuit 230 kV transmission line is 150 feet. PPL Electric Statement No. 4, p. 5. At the time PPL Electric filed its siting application, the Company initially sought to negotiate with applicable landowners to expand the right-of-way in areas where the right-of-way is less than 150 feet to meet PPL Electric's current 230 kV standard of 150 feet. PPL Electric Statement No. 5, pp. 5, 9. However, PPL Electric has since concluded that it can design the proposed double-circuit line to stay within the existing right-of-way for the Brunner Island-West Shore 230 kV Transmission Line. Consequently, PPL Electric does not require any additional right-of-way from these landowners and has terminated its negotiations with the applicable landowners. Tr. 50.

The construction of the Brunner Island Project requires approximately 0.6-mile of new right-of-way to cross the properties owned by PPL Brunner Island LLC and Norfolk Southern

Corporation. PPL Electric is in the process of negotiating the new rights-of-way necessary to cross these properties. The new right-of-way across these properties will allow the proposed transmission line to tie into the existing Brunner Island 230 kV Switchyard. PPL Electric Statement No. 5, p. 6.

PPL Electric and PPL Brunner Island LLC are in the process of determining the optimal location to tie the proposed double-circuit 230 kV line into the Brunner Island 230 kV Switchyard without interfering with the operations and maintenance of existing structures and facilities at the PPL Brunner Island LLC plant. The ultimate location of where the proposed double-circuit line will tie into the PPL Brunner Island LLC plant will determine the location of the right-of-way needed for the aerial crossing of the property owned by PPL Brunner Island LLC and Norfolk Southern Corporation. PPL Electric Statement No. 5, p. 6.

The Commission's regulations provide that an order granting a siting application will be deemed to include the authority of the public utility to locate and construct a proposed high voltage line within a 1,000-foot wide corridor, 500 feet on each side of the centerline. 52 Pa. Code § 57.76(b). An aerial map depicting the centerline of the corridor where the line will cross the properties owned by PPL Brunner Island LLC and Norfolk Southern Corporation is provided in Aerial Map Tile 6 of 6 of Attachment 3 to the Siting Application. PPL Electric Ex. No. 1, Attachment 3, Tile 6. Regardless of the right-of-way ultimately agreed upon by PPL Electric, PPL Brunner Island LLC, and Norfolk Southern Corporation, the right-of-way will be within the designated corridor. PPL Electric Statement No. 5, p. 9.

VI. CONCLUSION

WHEREFORE, for all the foregoing reasons, PPL Electric respectfully requests that Administrative Law Judge Susan D. Colwell and the Pennsylvania Public Utility Commission find that the Brunner Island Project is necessary and proper for the accommodation, convenience, and safety of PPL Electric's customers, employees, and the public, and approve the Siting Application.

Respectfully submitted,

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APPENDIX A
Proposed Findings of Fact

PPL Electric Utilities Corporation (“PPL Electric”) proposes the following findings of fact:

A. Introduction

1. PPL Electric is a public utility and electric distribution company subject to the regulatory jurisdiction of the Pennsylvania Public Utility Commission (“Commission”). PPL Electric Exhibit No. 1, p. 1.

2. PPL Electric furnishes electric distribution, transmission, and supplier of last resort services to approximately 1.4 million customers in a service area that includes approximately 10,000 square miles covering all or portions of twenty-nine counties in eastern and central Pennsylvania. PPL Electric Exhibit No. 1, p. 2.

3. To resolve transmission reliability criteria violations identified on critical 230 kilovolt (“kV”) circuits in central Pennsylvania and to ensure reliable long-term electric service to customers, PPL Electric seeks approval from the Commission to reconstruct the existing single-circuit Brunner Island-West Shore 230 kV Transmission Line for double-circuit 230 kV operation (“Brunner Island Project”). PPL Electric Ex. No. 1.

4. The PJM Interconnection, LLC (“PJM”) Board approved the Brunner Island Project in December of 2008. PPL Electric Statement No. 2, pp. 11-12; PPL Electric Ex. No. 1, Attachment 1, p. 14.

5. The Brunner Island Project had an initial scheduled construction start date of November 2011, in order to meet an in-service date of May 2013. Tr. 83-84.

6. The estimated cost to construct the Brunner Island Project along the route selected by PPL Electric is \$30.2 million. PPL Electric Statement No. 2, p. 11; PPL Electric Ex. No. 1, Attachment 3, p. 89.

B. Need for the Brunner Island Project

7. The Federal Energy Regulatory Commission (“FERC”) certified the North American Electric Reliability Corporation (“NERC”) as the organization required to establish and enforce reliability standards for the bulk electric system. The NERC Reliability Standards are monitored and enforced by NERC and the FERC-approved Regional Transmission Organization (“RTO”). The FERC-approved NERC Reliability Standards are mandatory and failure to comply can result in penalties of up to \$1 million per day per violation. PPL Electric Exhibit No. 1, Attachment 1, p. 2.

8. PJM is the FERC-approved RTO charged with ensuring the reliability of the electric transmission system under its functional control and coordinating the movement of wholesale electricity in all or parts of thirteen states, including most of Pennsylvania, and the District of Columbia. PPL Electric Statement No. 2, p. 4; PPL Electric Ex. No. 1, Attachment 1, p. 1.

9. PPL Electric is a member of PJM. PPL Electric is responsible for complying with all of the NERC Reliability Standards applicable to the PPL Electric bulk electric system and supporting PJM in complying with NERC planning and operating standards. PPL Electric Statement No. 2, pp. 5, 7.

10. PJM’s Regional Transmission Expansion Plan (“RTEP”) is a FERC-approved annual transmission planning process that encompasses a comprehensive series of detailed analyses designed to ensure compliance with the NERC Reliability Standards, transmission

owner criteria, and PJM reliability planning criteria. The RTEP is used to determine the specific transmission projects that are needed to ensure reliable electric service. PPL Electric Statement No. 2, pp. 4-5; PPL Electric Exhibit No. 1, Attachment 1, pp. 3-8.

11. PJM's 2008 RTEP identified the following NERC Category C thermal overloads and excessive voltage drop violations on critical 230 kV circuits in central Pennsylvania beginning in 2013:

(a) The initial loss of the Juniata-Cumberland 230 kV Transmission Line followed by the outage of the Brunner Island–West Shore 230 kV Transmission Line would cause the following overloads: (1) the HummMJsteel Tap-Steelton H1 230 kV Transmission Line would exceed its summer emergency rating by 80%; (2) the Steel H1-Steelton 230 kV Transmission line would exceed its summer emergency rating by 51%; (3) the Steelton-Steel H3 230 kV Transmission Line would exceed its summer emergency rating by 5%; and (4) the West Shore-Steelton 230 kV Transmission Line would exceed its summer emergency rating by 2%.

(b) The initial loss of the Brunner Island–West Shore 230 kV Transmission Line followed by the outage of the Steelton 230 kV bus would cause the Juniata-Cumberland 230 kV Transmission Line to exceed its summer emergency rating by 24%.

(c) The initial loss of the Juniata–Cumberland 230 kV Transmission Line and the loss of 230/69kV Transformer No. 2 at the Cumberland 230-69 kV Substation followed by the subsequent outage of the Steelton 230 kV bus would cause the Brunner Island–West Shore 230 kV Transmission Line to exceed its summer emergency rating by 22%.

PPL Electric Statement No. 2, pp. 5-6; PPL Electric Ex. No. 1, Attachment 1, pp. 10-12.

12. PPL Electric actively participated in the PJM RTEP planning process. PPL Electric also undertook an independent analysis of its electric transmission facilities. PL Electric Statement No. 2, p. 7-10; PPL Electric Ex. No. 1, Attachment 1, pp. 8-10.

13. PPL Electric developed and analyzed two potential electrical solutions to resolve the reliability problems that were identified in the PJM 2008 RTEP. PPL Electric Statement No. 2, pp. 9-10.

14. Electrical Solution No. 1, the Brunner Island Project, involves reconstructing approximately 16 miles of the existing Brunner Island–West Shore 230 kV Transmission Line from a single-circuit 230 kV line to a double-circuit 230 kV line. PPL Electric Statement No. 2, p. 10; PPL Electric Ex. No. 1, Attachment 1, pp. 12-13.

15. Electrical Solution No. 2 involves the upgrade of four existing 230 kV transmission lines with high capacity conductors. PPL Electric Statement No. 2, p. 10; PPL Electric Ex. No. 1, Attachment 1, p. 13.

16. Both Electrical Solution Nos. 1 and 2 would eliminate all of the NERC Category C violations identified in the 2008 PJM RTEP. PPL Electric Statement No. 2, p. 11.

17. Electrical Solution No. 1 generally would utilize existing PPL Electric owned rights-of-way. Electrical Solution No. 2 would require construction at several locations, the rebuild of approximately 49 miles of new lines, and upgrades to several substations. PPL Electric Statement No. 2, p. 11.

18. The estimated cost of Electrical Solution No. 1 is \$30.2 million and the estimated cost of Electrical Solution No. 2 is approximately \$100 million. PPL Electric Statement No. 2, p. 11.

19. PPL Electric rejected Electrical Solution No. 2 and proposed the Brunner Island Project, Electrical Solution No. 1, to resolve the reliability violations identified in the 2008 RTEP. The PJM Board approved the Brunner Island Project in December of 2008. PPL Electric Statement No. 2, pp. 11-12; PPL Electric Ex. No. 1, Attachment 1, p. 14.

20. In 2009, PJM completed its 2009 RTEP retool analysis. The retool analysis reconfirmed the need for the Brunner Island Project. PPL Electric Statement No. 2, p. 7.

21. No party has challenged the need for the Brunner Island Project.

C. Route Selection for the Brunner Island Project

22. PPL Electric and its outside routing consultant, The Louis Berger Group, Inc., undertook a six-month siting program to determine a location for the proposed Brunner Island Project that best balances social, environmental, engineering, and economic considerations. PPL Electric Statement No. 1, p. 9; PPL Electric Statement No. 3, p. 4.

23. The routing team developed a Study Area encompassing approximately 170 square miles within Cumberland and York Counties in which line routes could be sited to feasibly meet the functional requirements of the project. PPL Electric Statement No. 3, pp. 4-5; PPL Electric Ex. No. 1, Attachment 2, Figure 2-1.

24. The routing team developed route selection criteria to be used in considering potential routes within the Study Area. PPL Electric Statement No. 3, p. 5.

25. Using the route selection criteria, the routing team identified potential routes for the project that would avoid large area constraints to the extent practical. These routes were then adjusted, to the extent practical, to avoid small area constraints. PPL Electric Statement No. 3, pp. 6-8; PPL Electric Ex. No. 1, Attachment 2, Figure 2-2.

26. Through field investigations and a qualitative and quantitative screening process, certain potential routes that were not suitable for additional study were eliminated from further consideration. This evaluation considered environmental, land use, and engineering factors. PPL Electric Statement No. 3, p. 10.

27. After carefully analyzing and evaluating the potential routes, the following three alternative routes for the Brunner Island Project were identified:

Route A: Route A begins at the Brunner Island 230 kV Switchyard along the Susquehanna River and travels west through East Manchester, Newberry, and Conewago Townships, generally on the path of the right-of-way for the existing single-circuit Brunner Island–West Shore 230 kV Transmission Line. The line

then travels in a northwesterly direction along primarily virgin right-of-way through a portion of Newberry Township. In the vicinity of the intersection of Sheepsbridge Road and Kise Mill Road, Route A would double-circuit an existing Met-Ed 115 kV transmission line through Newberry Township for a short distance before it rejoins the existing Brunner Island–West Shore 230 kV Transmission Line right-of-way for a short distance in Newberry Township and then splits again to the north of the existing line. Route A continues through Newberry and Fairview Townships and then Lower Allen Township in Cumberland County to the West Shore 230-69 kV Substation. The existing single-circuit Brunner Island-West Shore 230 kV Transmission Line would remain in place if Route A is selected.

Route B (the preferred route): Route B is the existing route for the Brunner Island–West Shore 230 kV Transmission Line, which begins at the Brunner Island 230 kV Switchyard along the Susquehanna River and travels northwest through East Manchester, Newberry, Conewago, and Fairview Townships in York County and Lower Allen and Upper Allen Townships in Cumberland County along existing rights-of-way to the West Shore 230-69 kV Substation. Virtually the entire the length of Route B would utilize existing PPL Electric property or right-of-way. Route B would rebuild the existing single-circuit Brunner Island-West Shore 230 kV Transmission Line for double circuit operation.

Route C: Route C begins at the Brunner Island 230 kV Switchyard along the Susquehanna River and travels west through Conewago Township, generally on the path of the right-of-way for the existing single-circuit Brunner Island–West Shore 230 kV Transmission Line. Route C then travels northwest and would double-circuit an existing Met-Ed 115 kV transmission line. Route C then travels southwest and ultimately northwest again, a portion parallel to the Met-Ed 500 kV transmission line, to enter the West Shore 230-69 kV Substation. The existing single-circuit Brunner Island-West Shore 230 kV Transmission Line would remain in place if Route C is selected.

PPL Electric Statement No. 3, pp. 11-12; PPL Electric Ex. No. 1, Attachment 2, Figure 2-3.

28. After identifying the three alternative routes, PPL Electric and the routing team compiled an environmental and land use inventory for all three alternative routes. PPL Electric Ex. No. 1, Attachment 3, pp. 4-9.

29. PPL and the routing team used the environmental and land use inventory, as well as additional data collected during field inspections, to prepare a comparative analysis of the impacts and possible mitigations efforts for all three alternative routes. This evaluation

considered and balanced the following factors: Geology and Soils, PPL Electric Ex. No. 1, Attachment 3, pp. 10-17, PPL Electric Statement No. 3, pp. 15-16; Surface Water Resources and Aquatic Species and Habitat, PPL Electric Ex. No. 1, Attachment 3, pp. 17-27, PPL Electric Statement No. 3, pp. 17-20; Wetlands, PPL Electric Ex. No. 1, Attachment 3, pp. 27-31, PPL Electric Statement No. 3, pp. 20-22; Vegetation, PPL Electric Ex. No. 1, Attachment 3, pp. 31-42, PPL Electric Statement No. 3, pp. 22-25; Wildlife, PPL Electric Ex. No. 1, Attachment 3, pp. 42-48, PPL Electric Statement No. 3, pp. 25-27; Land Use, PPL Electric Ex. No. 1, Attachment 3, pp. 49-60, PPL Electric Statement No. 3, pp. 28-32; Recreational Lands, PPL Electric Ex. No. 1, Attachment 3, pp. 60-65, PPL Electric Statement No. 3, pp. 33-34; Cultural Resources, PPL Electric Ex. No. 1, Attachment 3, pp. 66-75, PPL Electric Statement No. 3, pp. 35-37; Aesthetics, PPL Electric Ex. No. 1, Attachment 3, pp. 75-89, PPL Electric Statement No. 3, pp. 37-38; and Costs, PPL Electric Ex. No. 1, Attachment 3, p. 89.

30. Route B will have substantially less impact on the natural and built environment, land use, and citizens of central Pennsylvania than the other alternative routes considered. Route B is the preferred route for the following principal reasons:

Excluding the first 0.6 mile section across PPL Brunner Island LLC property, 100% of Route B would utilize existing right-of-way while Routes A and C would only utilize, parallel, or double-circuit existing transmission lines for approximately 26 percent and 65 percent of the total length, respectively.

Routes A or C would have required PPL Electric to build a new power line through an area that currently has no right-of-way. Further, the existing single-circuit Brunner Island-West Shore Transmission Line would remain in service if Routes A or C were selected. Therefore, selection of either Route A or C would result in more cumulative environmental and land use impacts as the area would be serviced by two single-circuit transmission lines instead of only one double-circuit line.

Several properties would likely need to be condemned if either Routes A or C were selected. Route A would pass through 39 non-condemnable properties and Route C would pass through 59 non-condemnable properties. Acquisition of

these properties would be problematic and perhaps impossible at any reasonable cost.

Route B has the lowest potential to affect soils, vegetation, wildlife, aesthetics, land use, and cultural resources because it would require constructing the least amount of new structures and line where a transmission line does not presently exist, resulting in fewer new access roads and significantly less forest land/tree clearing than Routes A or C. Routes A and C would require approximately 152 and 144 acres of forest clearing, respectively.

Route B would generally result in the least noticeable change in the visual landscape as the entire route would be located on an existing transmission line route (excluding the 0.6 mile section across PPL Brunner Island LLC property). Upgrading to single-shaft poles will reduce the footprint and visual impact of the existing lattice towers.

The overall cost of building the Brunner Island Project using the Route B is substantially less than using Routes A or C.

PPL Electric Statement No. 3, pp. 38-40.

31. PPL Electric undertook significant public outreach efforts to provide information on the project to both the public and government officials, and to collect input from those audiences. PPL Electric Ex. No. 1, Attachment 3, pp. 90-92.

32. PPL Electric provided packets of information to fully notify landowners that may be affected by the proposed Brunner Island Project, as require by the Commission's siting regulations, 52 Pa. Code §§ 57.71-57.77, 57.91-57.93, and the Commission's Interim Siting Guidelines, 52 Pa. Code §§ 69.3101-69.3107. PPL Electric Ex. No. 1, Attachment 16.

33. No parties objected to or otherwise opposed the use of Route B for the Brunner Island Project.

D. Engineering and Safety of the Brunner Island Project

34. PPL Electric developed design specifications and safety rules that meet or surpass all the requirements of the National Electric Safety Code ("NESC"). The Brunner Island Project will be designed and constructed according to, and will meet or exceed, all applicable NESC

standards. PPL Electric Statement No. 4, pp. 3-4; PPL Electric Exhibit No. 1, Attachment 11, 1-3.

35. PPL Electric will incorporate systems to automatically de-energize the line in the unlikely event the line contacts the ground or a grounded object. PPL Electric will employ work procedures, tooling, and equipment to allow work to be performed in a safe manner. PPL Electric Statement No. 4, p. 6; PPL Electric Exhibit No. 1, Attachment 11, pp. 4-6.

36. PPL Electric will reverse phase the proposed Brunner Island Project and increase pole heights by five feet to reduce any affects from electro magnetic fields, consistent with PPL Electric's Magnetic Field Management Plan. PPL Electric Statement No. 4, pp. 6-7; PPL Electric Ex. No. 1, Attachment 12.

37. No party opposed the engineering or safety of the Brunner Island Project.

F. Right-of-Way Status

38. The existing right-of-way for the Brunner Island-West Shore 230 kV single-circuit line varies in width from 100 feet to 200 feet. PPL Electric will design the proposed Brunner Island Project double circuit to stay within the existing right-of-way for the Brunner Island-West Shore 230 kV Transmission Line. Tr. 50.

39. No party opposed the siting and construction of the Brunner Island within the existing right-of-way for the Brunner Island-West Shore 230 kV single-circuit line.

40. The construction of the Brunner Island Project requires approximately 0.6-mile of new right-of-way to cross the properties owned by PPL Brunner Island LLC and Norfolk Southern Corporation. The new right-of-way across these properties will allow the proposed transmission line to tie into the existing Brunner Island 230 kV Switchyard. PPL Electric Statement No. 5, p. 6.

41. PPL Electric and PPL Brunner Island LLC are in the process of determining the optimal location to tie the proposed double-circuit 230 kV line into the Brunner Island 230 kV Switchyard without interfering with the operations and maintenance of existing structures and facilities at the PPL Brunner Island LLC plant. The ultimate location of where the proposed double-circuit line will tie into the PPL Brunner Island LLC plant will determine the location of the right-of-way needed for the aerial crossing of the property owned by PPL Brunner Island LLC and Norfolk Southern Corporation. PPL Electric Statement No. 5, p. 6.

42. Pursuant to 52 Pa. Code § 57.76(b), PPL Electric seeks approval of a 1,000-foot wide transmission corridor to site and construct the Brunner Island Project across the property of PPL Brunner Island LLC and Norfolk Southern Corporation.

43. An aerial map depicting the centerline of the corridor where the line will cross the properties owned by PPL Brunner Island LLC and Norfolk Southern Corporation is provided in Aerial Map Tile 6 of 6 of Attachment 3 to the Siting Application. PPL Electric Ex. No. 1, Attachment 3, Tile 6.

44. No party objected to or otherwise opposed the siting and construction of the Brunner Island within the proposed transmission corridor across the property of PPL Brunner Island LLC and Norfolk Southern Corporation.

APPENDIX B
Proposed Conclusions of Law

PPL Electric Utilities Corporation (“PPL Electric”) proposes the following conclusions of law:

1. The Pennsylvania Public Utility Commission (“Commission”) is required to evaluate whether a proposal to locate and construct high voltage transmission lines ensures the protection of the environment whenever the issue of damage to the environment is raised. *Pa. Const of 1968, Art. I § 27*. This requirement is satisfied when the Commission is able to determine that all applicable statutes and regulations relevant to the protection of the environment have been complied with, that a reasonable effort has been made to reduce the impact on the environment to a minimum, and that the environmental harm is clearly outweighed by the benefits to be derived from the facilities to be constructed. *Payne v. Kassab*, 312 A.2d 86 (Pa. Cmwlth. 1973), *aff’d*, 323 A.2d 407 (Pa. Cmwlth. 1974), *and aff’d*, 468 Pa. 226, 361 A.2d 263 (1976).

2. The Commission’s siting regulations, and in particular 52 Pa. Code § 57.76(a), represent a codification of the review required by Article I, Section 27 of the Pennsylvania Constitution. *Re Proposed Electric Regulation*, 1976 Pa. PUC LEXIS 114, 49 Pa. P.U.C. 709, 712 (March 2, 1976).

3. Section 57.76(a) of the Commission’s siting regulations, 52 Pa. Code § 57.76(a), set forth what the Commission will consider when deciding whether to approve or deny a high voltage transmission line application. *Energy Conservation Council v. Pa. P.U.C.*, 995 A.2d 465, 477-78 (Pa. Cmwlth. 2010).

4. Section 57.76(a) of the Commission's siting regulations, 52 Pa. Code § 57.76(a), provides that in order to grant an application for the construction and siting of a high voltage transmission line, the Commission must find and determine the following as to the proposed line:

(1) That there is a need for it.

(2) That it will not create an unreasonable risk of danger to the health and safety of the public.

(3) That it is in compliance with applicable statutes and regulations, providing for the protection of the natural resources of this Commonwealth.

(4) That it will have minimum adverse environmental impact, considering the electric power needs of the public, the state of the available technology and the available alternatives.

5. Section 332(a) of the Public Utility Code provides that the party seeking a rule or order from the Commission has the burden of proof in that proceeding. 66 Pa.C.S. § 332(a).

6. As the applicant seeking Commission approval of the Brunner Island Project, PPL Electric has the burden to demonstrate by a preponderance of the evidence that the Brunner Island Project meets each factor set forth in 52 Pa. Code § 57.76(a). *See Energy Conservation Council of Pennsylvania v. Pa. P.U.C.*, 25 A.3d 440, 447 (Pa. Cmwlth. 2011); 66 Pa.C.S. § 332(a).

7. A preponderance of the evidence is the production of evidence that is more convincing than the evidence presented by the other parties. *Samuel J. Lansberry, Inc. v. Pa. P.U.C.*, 578 A.2d 600, 602 (Pa. Cmwlth. 1990).

8. Once the party with the burden of proof produces evidence to meet its *prima facie* case on an issue, the burden to produce evidence of equal weight sufficient to refute the applicant's evidence shifts to the party opposing the application. *Energy Conservation Council of Pennsylvania v. Pa. P.U.C.*, 995 A.2d 465, 483 n.16 (Pa. Cmwlth. 2010).

9. A transmission line should not be approved unless the electric utility demonstrates that the line is “necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public.” *Pa. Power & Light Co. v. Pa. P.U.C.*, 696 A.2d 248, 250 (Pa. Cmwlth. 1997) (quoting 66 Pa.C.S. § 1501).

10. The construction of the Brunner Island Project is needed to reinforce the 230 kV transmission system in Cumberland and York Counties and to resolve multiple violations of the North American Electric Reliability Corporation (“NERC”) Reliability Standards identified by PJM Interconnection, LLC (“PJM”) through its 2008 Regional Transmission Expansion Plan (“RTEP”).

11. The Brunner Island Project will not create an unreasonable risk of danger to the health and safety of the public.

12. The preferred route for the Brunner Island Project, Route B, was selected after a detailed siting analysis, which properly considered and balanced the functional requirements of the project, the environmental impacts of the alternative line routes, the social impacts and costs of the alternative line routes, and other factors identified in the Commission’s siting regulations.

13. Applicable statutes and regulations relevant to the protection of the environment have been complied with, a reasonable effort has been made to reduce the impact on the environment to a minimum, and the environmental harm is clearly outweighed by the benefits to be derived from the facilities to be constructed.

14. PPL Electric’s selection of Route B for the Brunner Island Project was reasonable, considering all the factors.

15. PPL Electric has sustained its burden to demonstrate that it is entitled to reconstruct the existing single-circuit Brunner Island-West Shore 230 kV Transmission Line for

double-circuit 230 kV operation, the Brunner Island Project in Cumberland and York Counties consistent with its Siting Application.