Exhibit B – Necessity Statement: Table of Contents

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1.0 Introduction

PPL Electric Utilities Corporation (PPL Electric), in order to maintain reliable electric service to its customers, is required to monitor and when appropriate reinforce both its Transmission and Distribution power systems. The electrical system in the Sun Valley/Jonas area is heavily loaded and has been subject to an above average number of outages. Moreover, as loads continue to grow, these distribution lines are currently and/or are projected to exceed their normal and/or emergency thermal guidelines. To address this problem, PPL Electric has developed an overall reinforcement plan for the Sun Valley/Jonas area. A central part of this plan, and the subject of this filing, requires building approximately 5.7 miles of new 138 kV transmission line which will provide service to a new 138-12 kV substation. Completion of this project will relieve overloading conditions on the neighboring Meckesville 69-12 kV substation and its 12 kV circuits which serve the Sun Valley/Jonas area and permit the company to continue to provide reliable service to customers in this area.

The estimated cost to site, design and construct this transmission project is approximately $5,721,000. The total estimated cost of Effort Mountain Substation project including transmission, distribution, and substation work is $8,755,000. Construction of this project is scheduled to begin in October 2010 to meet an in-service date of November 2011. A PPL Electric system map showing existing transmission facilities and the proposed new facilities with a design voltage of 35 kV or greater is included in the **B-Map pocket**. This filing seeks approval for the proposed new 138 kV transmission taps that will be located in Chestnuthill Township and Polk Township, Monroe Country. To provide a full understanding for the need for this project, supplemental information is included for the proposed Effort Mountain 138-12 kV Substation and related distribution facilities. In addition, by separate contemporaneous filing, the company is seeking a finding that the substation cubical building is reasonably necessary for the convenience or welfare of the public.

2.0 System Planning Process

System Planning is the process which assures that both the Transmission and Distribution power systems can supply electricity to customers in a reliable and economic manner. This process assures that these systems:

- are able to supply load reliably during summer and winter peak conditions;

- provide service at an acceptable voltage level throughout the daily load cycle.

The proper reinforcement of Transmission and Distribution supply facilities requires a set of defined planning standards. PPL Electric's planning standards are set forth in the Reliability Principles and Practices (P&P) manual. PPL Electric developed the Reliability P&P to ensure adequate and appropriate levels of service consistent with good utility practice. The principles upon which these planning guidelines are based recognize:

- the necessity of maintaining proper balance between service reliability and the cost of providing that service; and
- that large-scale, long term, or frequent interruptions are to be avoided due to the adverse effects on the general public.

In accordance with these guidelines, the power distribution system is planned so that, under normal operating conditions:

- loadings on all facilities are within normal guidelines;
- adequate voltage levels are maintained as specified by the PUC at 52 Pa. Code 57.14;
- loadings on underground network facilities are within single contingency limitations.

At times, reinforcement of distribution facilities requires the expansion of the regional transmission system. Such is the case when a new distribution supply substation is necessary to adequately service load in compliance with the Reliability P&P manual. This filing, for example, seeks approval for a new transmission tap which is required to energize the new substation, which in turn is required to relieve overloading on the distribution system in the Sun Valley/Jonas area.

The distribution planning process begins with a review of line loadings at each substation across the system. Summer and winter peak loads are projected for four future years based on current year's load and the six previous years' loads. The load profile, duration of peak loads, and load level are analyzed at circuit and substation level. These analyses identify the distribution facilities that exceed the planning guidelines. Following the identification of problems on a circuit or at a substation, various options to reinforce the area of concern are considered. The options are weighed in terms of how and over what time period they address load and reliability concerns and at what cost. These options are considered over a 10 – 20 year time frame. The option that best resolves

load and reliability issues for the time frame considered and that is economically optimal is then chosen to be constructed in a timely manner to mitigate overload concerns on the system.

3.0 Existing Supply

The area of concern in this Application currently receives its distribution service from the Meckesville 69-12 kV Substation. The Meckesville Substation has two 69-12 kV transformers with ratings of 11.2 MVA and 15 MVA[1] . Currently two 12 kV lines distribute electricity to meet the substation's load. The Meckesville 69-1 12 kV line extends south from the substation and serves more than 2,350 customers. The Meckesville 69-2 12 kV line extends east from the substation and serves more than 2,700 customers. The functional arrangement of the distribution facilities in the area is shown in **Figures B-1 and B-2**.

The Meckesville 69-12 kV Substation is supplied from a single circuit 69 kV line which taps both the East Palmerton-Wagners #1 and #2 69 kV lines. The substation is normally supplied from the East Palmerton-Wagners #1 line. The East Palmerton-Wagners #2 69 kV line can be used as an alternate supply to the substation during maintenance or unplanned outages of the East Palmerton - Wagners #1 line.

[1]All ratings and loads in this filing are expressed in Megavolt Amperes (MVA)

4.0 Definition of the Problem

Load growth due to housing developments in the Sun Valley/Jonas area has placed greater demand on the existing electrical facilities. Load growth on the existing Meckesville 69-2 12 kV Line has averaged more than 5% per year which is more than double the PPL system average of 2.5% (see **TABLE B-1**). Since 2004 the number of customers served from the Meckesville 69-1 line has increased by 300 customers, an average of 3% per year, and Meckesville 69-2 line has increased by 650 customers, an average of 6% per year. As a result of this load growth, the electrical system is heavily loaded and has been subject to an above average number of outages. In fact, this area is one of the poorest performing areas in PPL Electric's system. As explained in more detail below, as load continues to grow, these distribution lines are currently and/or are projected to exceed their normal and/or emergency thermal guidelines. To meet the expected future power requirements of this area, PPL Electric has performed a planning analysis to determine the most appropriate long range system reinforcement plan for the area.

This reinforcement plan addresses the limited capability of the existing Meckesville 69-12 kV Substation and the 12 kV lines supplied from it. Specifically, the Meckesville 69-1 12 kV line uses a 336 XLP conductor, which has normal/emergency/thermal planning guidelines of 10 MVA/12 MVA/12.8 MVA. The winter 2011 load on the Meckesville 69-1 line is projected to be 10.2 MVA which exceeds the normal planning guideline. The Meckesville 69-2 12 kV line uses a 477 XLP conductors, which has normal/emergency/thermal planning guidelines of 11 MVA/13 MVA/17 MVA. The winter 2008 load on the Meckesville 69-2 line was 13.4 MVA which exceeded the emergency planning guideline. The winter 2011 load on the Meckesville 69-2 12 kV lines is projected to be 15.2 MVA. The Meckesville 69-2 is projected to approach the thermal guideline in 2013. Exceeding the normal guidelines is a deviation from the planning guidelines in the Reliability P&P manual (see **TABLE B-1**).

Continuing to operate the Meckesville 69-1 and 69-2 12 kV lines beyond their planning ratings will overheat the lines and anneal the conductor which could result in an outage of the facilities. Due to the arrangement of the lines (see **Figure B-1**), (There are only two ties, and the ties have very limited transfer capability), a failure of the Meckesville 69-1 line would leave more than 1,100 customers out of service for an extended period of time until the line is repaired or replaced. Likewise, failure of the Meckesville 69-2 12 kV line would interrupt service to approximately 2,000 customers for extended periods of time due to limited transfer capability.

The transfer capability is limited at peak times because the loads on neighboring circuits, to which load otherwise could be transferred, also are approaching emergency planning guidelines. If addition load was transferred to the neighboring lines, their emergency planning guidelines would be exceeded. Loading circuits over the emergency ratings will overheat the lines and anneal the conductor which could result in failure.

Similar conditions would exist in the event of a transformer failure at the Meckesville 69-12 kV Substation. In the event of a loss of a Meckesville 69-12 kV transformer, not all the load can be transferred away to neighboring substations because their loads are approaching their maximum capacity. Therefore, a transformer failure et the Meckesville Substation would lead to an extended outage for more than 3,000 customers until repairs could be made.

Additionally, maintenance of the Meckesville Substation cannot be performed during most of the year due to lack of adequate transfer capability. When load is transferred away, voltage on the lines

to which the load is transferred cannot be adequately maintained. Therefore, due to load and voltage concerns, the entire load on neither the Meckesville 69-1 nor the Meckesville 69-2 lines can be transferred to other substations.

TABLE B-1: HISTORICAL AND PROJECTED PEAKLOADS

Facility	Conductor Size / Transformer Nameplate Rating	Planning Guideline (MVA) Normal / Emergency	Actual Winter Load Checks[2] (MVA) Cold[3] 2004	Mild[4] 2005	Cold 2006	Normal[5] 2007	Normal 2008	Average Yearly Load Growth[6] (MVA/year) (%/year)	Projected Winter Peak (MVA) 2009	2010	2011	2012
Meckesville 69-01 12 kV line	336 AL	10.0 12.0	9.8	8.3	9.4	9.5	9.9	0.1 (1%)	10.0	10.1	10.2 (4.7)	10.3 (4.8)
Meckesville 69-02 12 kV line	477 AL	11.0 13.0	10.9	11.0	12.4	12.4	13.4	0.6 (5%)	14.0	14.6	15.2 (6.8)	15.8 (7.1)
Meckesville 12kV Transformers	1-11.2 1-15	25.0[1]	20.1	19.1	21.7	21.7	23.2	0.7 (3%)	23.9	24.6	25.3 (11.5)	26.0 (11.9)
Gilbert 78-4 12kV line	477 AL	11.0 13.0	12.4	8.9	9.1	9.2	9.5	0.2 (2%)	9.7	9.9	10.1 (9.1)	10.3 (9.2)
Effort Mountain XX-01 12 kV line	477 AL	11.0 13.0									(8.4)	(8.7)
Effort Mountain XX-02 12 kV line	477 AL	11.0 13.0									(6.5)	(6.6)

Legend
( ) With Effort Mountain Substation, tap and proposed reinforcements
[1] Represents the 6 hour rating of smaller transformer plus emergency transfers
[2] Represents the peak loads for winter season i.e. 2004 winter season is from December 2004 through March 2005.
[3] Relatively cold winter temperatures
[4] Relatively mild winter temperatures
[5] Relatively normal winter temperatures
[6] Load growth was calculated by taking the average of the year to year percent growth from 2004 to 2008
MVA= Megavolt Amperes
AL= Aluminum conductor
Exceeds Normal Planning Guidelines
Exceeds Emergency Planning Guidelines

5.0 Proposed Solution

To improve the integrity of the distribution system and address the load and reliability concerns in the area, PPL Electric proposes a new 138 kV transmission tap to a new 138-12 kV substation in the Jonas/Sun Valley area. The new distribution substation, named Effort Mountain 138-12 kV Substation, will relieve the line loading on the Meckesville 69-1 and 69-2 12 kV lines. The new substation will also relieve the neighboring Gilbert 78-4 line. One line from Effort Mountain Substation will go to the north and serve a portion of the Indian Mountain Lakes development thereby relieving the Meckesville 69-2 line. This new line will serve approximately 1,400 customers. The second line from Effort Mountain Substation will go to the south and serve the residential developments along Jonas Rd and State Route 534 and relieve the Meckesville 69-1 and Gilbert 78-4 lines. This new line will serve approximately 1,500 customers. See **Figures B-3 and B-4** for a functional arrangement of the distribution facilities in the area with the proposed solution.

Transferring load from the Meckesville 69-1, 69-2, and Gilbert 78-4 12 kV lines to the new Effort Mountain 138-12 kV Substation will reduce the number of customers served from these lines. The location of the new Effort Mountain 138-12 kV Substation will provide a source more central to the load it will serve. Locating the substation central to the load it serves will increase reliability and operating flexibility. It will also reduce the number of customers affected by a line outage and reduce restoration times. Additionally, creating more 12 kV circuits from the proposed Effort Mountain substation will reduce the length of line per existing circuit, thereby reducing the amount of exposure for all three existing lines.

The transmission tap that will serve the new Effort Mountain 138-12 kV Substation, will be known as the Effort Mountain #1 & #2 138 kV Taps. This tap, which is the subject of this filing, will be designed for future 138 kV double circuit operation, but will initially operate as a single circuit 138 kV line. The new Effort Mountain 138-12 kV Substation must be connected to the regional 138 kV system via a transmission tap. The existing Siegfried-Jackson #1 138 kV line will be tapped to supply power for the new Effort Mountain Substation. The Siegfried-Jackson 138 kV line was chosen due to its proximity to the proposed site for the new Effort Mountain Substation and because it is a high capacity transmission line capable of handling additional load as the proposed substation load expands. The new tap will be approximately 5.7 miles in length.

6.0 Functional Alternatives

PPL Electric examined several functional alternatives to the proposed project. Initially, the company reviewed the possibility of enhancing the capabilities of the existing facilities in the area. This option involved building two new lines out of Meckesville substation to relieve the 69-1 and 69-2 lines. Due to limited routes exiting the substation the new lines would have to be attached to the existing poles of the 69-1 and 69-2 lines. This is an expensive construction method and does not improve reliability due to fact that two distribution circuits installed on the same poles are susceptible to outages on both lines. Adding additional load to Meckesville substation will overload the substation transformers. Therefore the transformers at Meckesville would need to be replaced with larger units to accommodate the load growth. An additional substation to the east of the existing Meckesville substation would still be needed in the future. After the new substation is built the two new lines out of Meckesville would no longer be needed and would represent a stranded asset. This option was rejected because upgrading the existing facilities does not provide the reliability benefits, load relief, and operating flexibility that a new substation would provide.

In terms of new facilities, the company also considered building two substations at different locations. Under this alternate solution, a new substation would be built north of the existing Meckesville 69-2 12 kV line and an additional substation would be built approximately 1.5 miles south of the proposed Effort Mountain 138-12 kV substation.

The first substation, to the east of the existing Meckesville substation, would relieve the heavily loaded Meckesville 69-2 12 kV line. New 12 kV lines from this new substation would also provide a tie with the Meckesville 69-2 12 kV line. This new substation would be supplied by extending the existing Meckesville 69 kV tap which is supplied from the East Palmerton-Wagners #1 69 kV radial line. The East Palmerton-Wagners #1 69 kV line is currently loaded to approximately 75% of its normal rating during the winter peak load period. Building a new distribution substation that is supplied from this line is not preferred because this adds more load to an already heavily loaded transmission line. In addition, voltage at the end of the East Palmerton-Wagners #1 69 kV line is approaching PPL Electric's Reliability P&P standard of 62 kV. Adding more load to this line would further degrade the voltage. Building a new 138 kV tap off the Siegfried-Jackson # 1 138 kV line to the proposed Effort Mountain 138-12 kV Substation is preferred because it utilizes a high capacity transmission line which is capable of accepting future load increase as the substation expands.

Further, the Siegfried-Jackson #1 138 kV line is a network line that will provide a more reliable source than the East Palmerton-Wagner #1 69 kV which is a radial line. See the PPL Electric system map provided in the **B-Map Pocket**.

The second substation, to the south of the Meckesville 69-2 line, would relieve the heavily loaded Meckesville 69-1 12 kV line. This new substation would be supplied by tapping the Siegfried-Jackson #1 138 kV line. Load from the Meckesville 69-1 12 kV line would be transferred to new 12 kV lines at the new substation. This would reduce the number of customers fed from the Meckesville 69-1 12 kV line and create an additional tie for this line.

PPL Electric rejected this "two substation" alternative for the reasons explained above and because over 7.7 miles of transmission facilities would be needed as well as a second new substation and additional distribution facilities. The estimated total cost of this alternative is $12,000,000. The total cost of the preferred solution described in Section 5.0 above is estimated to be $8,755,000. The preferred alternative provides greater reliability, load relief, and operating flexibility, while building fewer facilities at a lower cost.