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March 1, 2017

VIA ELECTRONIC FILING

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: Letter of Notification of PPL Electric Utilities Corporation, Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G, for Approval to Rebuild Approximately 10.6 Miles of the Blooming Grove - Honesdale 138/69 kV Line in Pike and Wayne Counties, Pennsylvania - Docket No. A-2017-2583625

Dear Secretary Chiavetta:

Enclosed for filing please find the responses of PPL Electric Utilities Corporation to the Bureau of Technical Utility Services Data Requests in the above-referenced proceeding. Should you have any questions or require any further information regarding the above-referenced matter, please do not hesitate to contact the undersigned.

Respectfully submitted,

Christopher T. Wright

CTW/jl

Enclosure

cc: Yasmin Snowberger (*via electronic mail*)

Letter of Notification of PPL Electric Utilities Corporation, Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G, for Approval to Rebuild Approximately 10.6 miles of the Existing Blooming Grove – Honesdale 138/69 kV Line in Pike and Wayne Counties, Pennsylvania
Docket No. A-2017-2583625

Response to Technical Utility Staff Data Requests
(Response dated 3/1/2017)

1. On February 8, 2017, PPL Electric provided a correction to the application indicating that the correct PJM project ID should be s0962. The proposed project does not match the details or cost information of any of the s0962.1-3 projects on the PJM website. Please provide a description of the project as submitted to the TEAC. If this project is part of a larger project, summarize the larger project of which the LON is a part. Please describe how this project may mitigate potential planning criteria violations.

A. In the Letter of Notification (“LON”) filed on January 6, 2017 at Docket No. A-2017-2583625, PPL Electric Utilities Corporation (“PPL Electric”) requested approval from the Pennsylvania Public Utility Commission (“Commission”) to rebuild approximately 10.6 miles of the existing Blooming Grove – Honesdale 138/69 kV Line (the “Project”). The LON incorrectly states on page 1-6 of Attachment 1 that the proposed Project was submitted to the PJM Interconnection, LLC (“PJM”) Mid-Atlantic Sub-Regional Regional Transmission Expansion Plan (“RTEP”) stakeholder meeting and approved as a supplemental project in PJM’s RTEP. Rather, the proposed Project is a small part of a larger project that was approved as supplemental projects s0962.1-3 in PJM’s RTEP.

The proposed Project is one part of a large comprehensive plan, called the “Blooming Grove Line Project,” designed to improve the reliability of service to approximately 36,289 customers in Pike and Wayne Counties. The comprehensive plan consists of four parts:

- A) Rebuild the Blooming Grove – West Damascus 69 kV line
- B) Rebuild the Blooming Grove – Jackson 69 kV line
- C) Install second circuit on Blooming Grove – West Damascus 69 kV line
- D) Rebuild the Blooming Grove – Honesdale 138/69 kV Line line (the proposed Project).

Each part of the comprehensive plan is necessary to address system asset health pursuant to PPL Electric Transmission System Development Standards. They do not address planning criteria violations identified by PJM.

Parts A, B, and C were presented at a PJM Mid-Atlantic Sub-Regional RTEP stakeholder meeting and were approved as supplemental projects s0962.1-3 in PJM’s RTEP. Although Part D is one part of the large comprehensive plan, it was not submitted to PJM as a supplemental project because it does not change the electrical characterization of the transmission system (*i.e.*, line topology or ratings). Typically, only non-baseline projects that result in a change to the electrical characterization of the transmission system are submitted as supplemental projects.

Further, Part D was identified after the rest of the comprehensive plan had been submitted to PJM. PPL Electric typically presents a project as early in the RTEP process as possible. However, PPL Electric typically does not re-present projects when the scope changes unless there are changes to line topology or ratings. In this case, Part D of the comprehensive plan was added after Parts A, B, and C had been submitted to PJM.

The fact that the proposed Project was not submitted to PJM to be included as supplemental project is not dispositive or otherwise changes the clear need for the Project. As explained in the LON and the supporting attachments, the existing Blooming Grove – Honesdale 13/69 kV Transmission Line has reached the end of its useful life and must be replaced in order to continue to provide safe and reliable service to approximately 9,200 customers. (See LON, ¶¶ 15-16.)

The Project is part of PPL Electric's Asset Optimization Strategy. As explained in Attachment 1 to the LON, PPL Electric has developed an Asset Optimization Strategy that is incorporated into its Transmission System Development Standards. A significant portion of the PPL Electric system infrastructure is either approaching the end of or has exceeded its expected or useful life. The Asset Optimization Strategy was developed to systematically identify and modernize these aging facilities. The measures used to identify and prioritize the equipment and lines that qualify for this work include, but are not limited to, age, condition, operational issues, maintainability of the equipment, criticality of the equipment or line, line loading, and circuit performance. Once equipment has been identified and assessed under the above measures, it is put into the Capital Budget for replacement under the Asset Optimization Strategy. (See LON, Attachment 1, p. 1-5.)

The purpose of the proposed Project is to rebuild aging and deteriorated transmission line facilities. The Blooming Grove – Honesdale 138/69 kV Transmission Line has been in service since 1973 (approximately 44 years). As stated in Attachment 1 to the LON, PPL Electric determined that the conductors, hardware, splices, and tower structures of the existing Blooming Grove – Honesdale Transmission Line are nearing the end of their useful lives and must be rehabilitated or replaced. (See LON, Attachment 1, p. 1-9.) If these aging facilities are not replaced, there is substantial risk that they could fail, which could cause significant safety and reliability concerns for the public and employees.

PPL Electric evaluated the cost to rehabilitate the Blooming Grove – Honesdale Line, and concluded that the total cost to rehabilitate the line would be greater than the cost to rebuild the line. Therefore, rebuilding the existing 10.6-mile Blooming Grove – Honesdale Line was identified as the most prudent option. (See LON, Attachment 1, p. 1-10.)

A major factor in the determination to rebuild the Blooming Grove – Honesdale 138/69 kV Transmission Line was the need to replace 138 cello wood poles.¹ Cello treated

¹ Cello treated wood poles are pressure-impregnated with a wood preservative, such as pentachlorophenol (penta), through a process commonly known as the cello process.

wood poles have been found to have insufficient penetration of wood preservatives. This type of wood preservative treatment has shown to accelerate internal decay of the pole, specifically near the bottom half of the wood pole structure. This can result in premature pole failures, resulting in catastrophic damage or complete failure of the transmission structure. Wood pole manufacturers have determined that cellon treated wood poles do not last as long as wood poles with alternative treatments and have recommended the replacement of all cellon treated wood poles that are near the end of their useful life. While most other wood poles with alternative treatments have a life expectancy in excess of 50 years, cellon treated wood poles are being replaced across the industry after service lives of approximately 30 years.

As part of the proposed Project, PPL Electric is also installing two overhead optical ground wires. These overhead optical ground wires will increase the lightning protection of the line. They also will allow communications between the substations and protections network, which will reduce the frequency and duration of momentary outages experienced by customers. (See LON, ¶¶ 24-25.)

Finally, PPL Electric notes that it has previously submitted and received Commission approval for numerous similar projects also needed to replace aging infrastructure, including, but not limited to:

Letter of Notification of PPL Electric Utilities Corporation, filed pursuant to 52 Pa. Code §57.72 57 Subchapter G for Approval to Rebuild Approximately 3.2 Miles of the Hosensack – South Allentown #1 and #2 Tap Lines in the City of Allentown and Salisbury Township, Lehigh County, Pennsylvania, Docket No. A-2016-2553843 (Order entered Aug. 11, 2016) (conductors, hardware, splices and tower structures reached the end of their reliable service life and must be rehabilitated or replaced).

Letter of Notification of PPL Electric Utilities Corporation, Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G, for Approval to Reconstruct Approximately 2.6 Miles of the Existing Elliot Heights #1 and #2 138/69 kV Tap Line in the City of Bethlehem, Salisbury Township, Lehigh County, Pennsylvania, Docket No. A-2015-2505749 (Order entered Nov. 5, 2015) (addressed and modernized deteriorated aging facilities that exceeded their useful life and could not be relied upon to continue to provide reliable service).

Letter of Notification of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, with respect to the Reconstruction of the St. Johns - Freeland 69 kV Transmission Line in Butler and Foster Townships, Luzerne County, Pennsylvania, Docket No. A-2013-2352732 (Order entered July 9, 2014) (undertaken to replace a transmission line that is in a deteriorated condition, has structures with outdated design, and cannot be relied upon to continue to provide reliable service in the future).

Letter of Notification of PPL Electric Utilities Corporation, Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G, for Approval to Reconductor and Reconstruct the Existing Quarry-Seidersville #1 & #2 138/69 kV Transmission Line and Homer Research 69 kV Tap in the City of Bethlehem, Freemansburg Borough, and Lower Saucon Township, Northampton County, Pennsylvania, Docket No. A-2013-2385016 (Order entered Jan. 9, 2014) (needed to replace aging transmission infrastructure to help improve electric reliability of the Quarry-Seidersville #1 & #2 138/69 kV Transmission Line).

Letter Of Notification of PPL Electric Utilities Corporation, Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G, for Approval of the Replacement of the Hauto – Siegfried #1 & #4 69 kV Line & the Siegfried – East Palmerton #1 & #2 69 kV Line with the Siegfried – Hauto #1 & #2 138/69 KV Transmission Line and the Treichlers 138/69 kV Taps, Docket No. A-2013-2372112 (Order entered Sept. 12, 2013) (rebuild of a double-circuit line to replace the existing aging, deteriorated transmission infrastructure).

Letter of Notification of PPL Electric Utilities Corporation filed pursuant to 52 Pa. Code Chapter 57 with reconstruction of a portion of the Martins Creek-Siegfried #2 230 kV Transmission Line in Moore, Lehigh and Allen Townships, Northampton County, Pennsylvania, Docket No. A-2011-2260201 (Order entered Mar. 29, 2012) (transmission line needed to be replaced due to substantial deterioration since it was initially placed in service).

Letter of Notification of PPL Electric Utilities Corporation filed pursuant to 52 Pa. Code Chapter 57 with reconstruction of the Whitpain-Buxmont respect 230 kV Transmission Line in Montgomery County, Pennsylvania, Docket No. A-2011-2249368 (Order entered Oct. 28, 2011) (needed to replace old and deteriorated transmission lines that require reinforcement in order to continue to provide safe and reliable service to customers).

Letter of Notification of PPL Electric Utilities Corporation filed pursuant to 52 Pa. Code Chapter 57 for approval of the reconstruction of the Pennsylvania portion of the Otter Creek-Conastone 230 kV transmission line in Chanceford, East Hopewell and Hopewell Townships in York County, Pennsylvania, Docket No. A-2011-2228595 (Order entered Oct. 17, 2011) (replaced because it has deteriorated substantially since it was placed in service, and the foundations, structure members, hardware, insulators, conductors and lightning protection could not be relied upon to continue to provide dependable service).

Letter of Notification of PPL Electric Utilities Corporation filed pursuant to 52 Pa. Code Chapter 57 for approval of the reconstruction of the Pennsylvania portion of the Manor-Graceton 230 kV transmission line in Manor Township, Lancaster County and in Chanceford, Lower Chanceford and Peach Bottom Townships in York County, Pennsylvania, Docket No. A-2011-2219913 (Order entered Oct. 14, 2011) (replaced because it has deteriorated substantially since it

was placed in service, and the foundations, structure members, hardware, insulators, conductors and lightning protection could not be relied upon to continue to provide dependable service).

Letter Of Notification Of PPL Electric Utilities Corporation, Filed Pursuant o 52 Pa Code Chapter 57, Subchapter G, For Approval Of The Reconstruction Of The Hosensack -Wescosville 230 kV Transmission Line In Upper Macungie, Lower Macungie, Upper Milford And Lower Milford Townships In Lehigh County, Pennsylvania, Docket No. A-2011-2237599 (Order entered July 6, 2011) (replaced because it has deteriorated substantially since it was placed in service, and the foundations, structure members, hardware, insulators, conductors and lightning protection could not be relied upon to continue to provide dependable service).

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Response to Technical Utility Staff Data Requests
(Response dated 3/1/2017)

2. Provide a breakdown of project costs. The cost provided in the application does not match any of the costs associated with the s0962.1-3 projects. Please explain who will own, finance and build the proposed project.
- A. As stated in response to Technical Utility Staff Data Request No. 1, the proposed Project is a small part of a larger comprehensive plan submitted to and approved by PJM as supplemental projects S0962.1-3. However, as explained above, although the proposed Project is a small part of the overall comprehensive plan, it was not submitted to PJM. Therefore, the estimated cost of the proposed Project is not included with or a part of the costs associated with the PJM supplemental projects s0962.1-3.

The estimated cost was \$18.5 million at the time the proposed Project was initially developed. However, as stated in the LON, the estimated cost for the proposed Project is an order-of-magnitude estimate developed using averages of recent costs for similar projects and without an in-depth analysis of field investigation. The estimated cost is subject to change as the constructability of the Project, sequence of construction, and other factors that may affect cost are identified and analyzed as the Project progresses. (See LON, p. 6, n. 4.)

Upon Commission approval, the Project has a scheduled construction start date of April 2017 to support the in-service date of May 2018. As such, PPL Electric is actively working to identify the many factors that impact the overall cost of the proposed Project. As of the date of this response, PPL Electric's most current estimate of the proposed Project is \$26.9 million based on additional analyses, filed investigations, and engineering that have been conducted to date. A breakdown of the current estimate of the proposed Project is provided below:

	Labor	Equipment	Material	Total
Engineering	\$ 429,781	\$ -	\$ -	\$ 429,781
Site Preparations/Environmental	-	\$ -	\$ 4,930,131	\$ 4,930,131
Foundations	\$1,562,870	\$ 1,933,381	\$ 5,792,471	\$ 9,288,722
Tower Erection	\$2,175,878	\$ 1,265,097	\$3,274,023	\$6,714,998
Conductor Stringing	\$1,927,629	\$ 1,470,906	\$1,002,147	\$ 4,400,682
Construction Management	\$1,169,157	\$ -	\$ -	\$1,169,157
			\$	
TOTAL ESTIMATED COSTS	\$7,265,315	\$4,669,384	14,998,772	\$26,933,471

However, it must be noted that this estimate is not a final estimate and may change as additional factors that impact the overall cost of the proposed Project are identified and addressed.

Finally, PPL Electric will own, operate, finance and rebuild the Blooming Grove – Honesdale 138/69 kV Transmission Line. Because it is a transmission line, rather than a distribution line, the recovery of the costs to rebuild the Blooming Grove – Honesdale 138/69 kV Transmission Line through PPL Electric transmission rates is subject to the regulatory jurisdiction of the Federal Energy Regulatory Commission.

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3. PPL Electric provided information regarding a 10 year plan for transmission upgrades at the PJM Mid-Atlantic Sub-regional TEAC meeting on 7/29/15 (see page 12 of the meeting notes). Please provide information regarding the 10 year plan.

A. The PPL Electric 10-year plan referenced in the July 29, 2015 PJM Mid-Atlantic Sub-Regional TEAC meeting is identified on page 12 of the same report. The “10-year plan” is a general statement of PPL Electric’s intent to identify and develop transmission line projects over a ten-year period to improve the service and reliability to customers. Specifically, over the period of 2015 through 2024, PPL Electric plans to identify and develop projects designed to:

Maintain power system performance pursuant to PJM and PPL Electric planning criteria.

Replace Aging Infrastructure - A majority of PPL Electric’s transmission system was installed during expansion periods and it is now approaching the time where structures should be replaced to maintain integrity

Increase System Reliability - Using latest PPL Electric specifications in rebuilds to decrease the frequency and duration of outages due to failed components, lightning, and other weather-related events. Rebuilding facilities to current standard designs to eliminate line tapped transformers at regional substations.

Reduce Maintenance Costs

Combat Specific Line Failure Concerns - Repair/replace particular assets that were industry standards at the time of installation that are now prone to increase in degradation, such such as cellon treated poles, wood upswept arms, and conductor splices.

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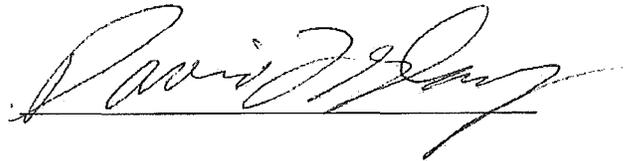
4. Please provide outage information for this circuit.
 - A. The proposed project is not needed to resolve the outage history of the existing Blooming Grove – Honesdale 13/69 kV Transmission Line. As explained in the LON and the supporting attachments, the existing Blooming Grove – Honesdale 13/69 kV Transmission Line has reached the end of its useful life and must be replaced in order to continue to provide safe and reliable service to approximately 9,200 customers. (See LON, ¶¶ 15-16.) The purpose of the proposed Project is to rebuild aging and deteriorated transmission line facilities. (See LON, Attachment 1, p. 1-9.) If these aging facilities are not replaced, there is substantial risk that they could fail, which could cause significant safety and reliability concerns for the public and employees. Thus, the outage history of the existing Blooming Grove – Honesdale 13/69 kV Transmission Line is not the driver for the proposed project.

Notwithstanding, the existing Blooming Grove – Honesdale 138/69 kV Transmission Line has experienced 12 interruptions since 2006, which were mostly caused by lightning. This transmission line experiences an average of about 1-2 interruptions per year. The existing Blooming Grove – Honesdale 138/69 kV Transmission Line is number 24 of out 324 on PPL Electric's Worst Performing Transmission Circuits list. The rebuild of the Blooming Grove – Honesdale 138/69 kV Transmission Line will include two overhead optical ground wires, which will also increase the lightning protection of the line and reduce the frequency of momentary outages experienced by customers. (See LON, ¶¶ 24-25.)

VERIFICATION

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

Date: 3/1/2017

A handwritten signature in black ink, appearing to read "David Gladey", written over a horizontal line.