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December 14, 2009

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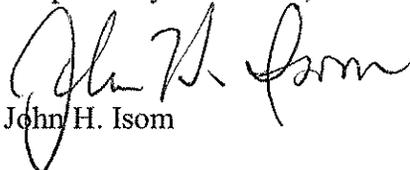
RE: Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the Pennsylvania Portion of The Proposed Susquehanna-Roseland 500 kV Transmission Line in Portions of Lackawanna, Luzerne, Monroe, Pike and Wayne Counties, Pennsylvania - Docket Nos. A-2009-2082652, et al

Dear Secretary McNulty:

Enclosed for filing please find the original Replies of PPL Electric Utilities Corporation to the Exceptions of Other Parties in the above-referenced proceeding

As indicated on the certificate of service, copies are being provided to the parties in the manner indicated.

Respectfully Submitted,



John H. Isom

JHI/jl

Enclosures

cc: Honorable Susan D. Colwell
Cheryl Walker Davis
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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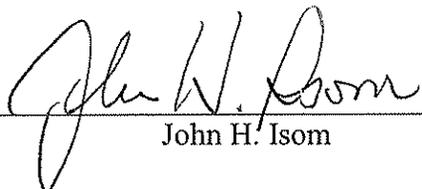
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**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of PPL Electric Utilities :
Corporation Filed Pursuant to 52 Pa. Code :
Chapter 57, Subchapter G, for Approval of the : Docket Nos. A-2009-2082652;
Siting and Construction of the Pennsylvania : A-2009-2082832; A-2009-2088297;
Portion of The Proposed Susquehanna : A-2009-2088337; A-2009-2088327
Roseland 500 kV Transmission Line in : A-2009-2088340; A-2009-2088359;
Portions of Lackawanna, Luzerne, Monroe, : A-2009-2088312; A-2009-2088360
Pike and Wayne Counties, Pennsylvania, *et al.* :

**REPLIES OF PPL ELECTRIC UTILITIES CORPORATION
TO THE EXCEPTIONS OF OTHER PARTIES**

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I. INTRODUCTION

After a thorough review of the applicable law and a massive evidentiary record, and after hearing and judging the credibility of 27 expert witnesses and 105 public input hearing witnesses, Administrative Law Judge Susan D. Colwell (“ALJ”), in a well-reasoned and compelling Recommended Decision (“R.D.”), concluded that PPL Electric Utilities Corporation’s (“PPL EU”) Susquehanna-Roseland 500 kV Transmission Line (“S-R Line”) and related facilities are needed to provide reliable service to customers and that PPL EU has chosen the best available route for the project. The Office of Trial Staff (“OTS”), the Office of Consumer Advocate (“OCA”), the Energy Conservation Council of Pennsylvania (“ECC”) and Saw Creek Estates Community Association (“SCECA”) have filed extensive Exceptions to the Recommended Decision. These parties essentially contend that PJM (the largest and most highly regarded RTO in the United States), PPL EU (a highly regarded Pennsylvania electric utility with an outstanding record for service to its customers and to the public), and ALJ Colwell (an experienced and highly regarded ALJ) all got it completely wrong on the law, the facts and the policy. PPL EU submits that these Exceptions are simply not credible and should be rejected.

The need for the S-R Line is essentially uncontested. ECC and SCECA presented no expert evidence on need; OTS’ need testimony focused almost exclusively on the clearly erroneous argument that the need for this line should be judged solely on its impact in Pennsylvania and not on a regional basis; and OCA’s primary need witness testified that based on the record presented the S-R Line is clearly needed. Having failed to present any credible case on need, the parties instead criticize the ALJ for applying the wrong legal standard and PPL EU for failing to meet its burden of proof. These arguments seriously misstate the law, simply ignore large portions of the factual record, and quite frankly are a poorly framed attempt to avoid

the fact that these parties failed to present any credible expert evidence in opposition to the need for the line. Even then, the parties do not contend that the line is not needed, but only propose that it be studied further through a collaborative process based on more updated information. The need for this line is clear and robust and has been for many years, and there is no basis in the record to conclude that further updating will make any material difference in the need for the line. Moreover, prompt approval of the line is critical, if there is to be any possibility that the line can be completed when it is needed to provide reliable service, *i.e.*, June 1, 2012. PPL EU, however, will not start construction of the line until: (1) it has been approved by the PUC; (2) the New Jersey portion of the line has been approved; and (3) until there is reasonable assurance that any necessary permits to go through the Delaware Water Gap National Recreation Area (“DEWA”) can be obtained.¹

With regard to siting, PPL EU’s proposed 101-mile route is largely unopposed except for the three-mile portion that extends through Saw Creek. SCECA’s opposition is understandable, but the record is clear that PPL EU carefully and appropriately balanced all of the competing siting considerations and chose the best available route for this project. Moving the line somewhere else will simply cause greater impacts on the environment and the public in areas where there is no transmission line today. On the facts of this case, building the line along an existing transmission line route through Saw Creek is clearly the most reasonable choice.

For these reasons, PPL EU’s applications should be approved.

¹ In its Exceptions (pp. 8-25), PPL EU requests approval to start the Bushkill-Wallenpaupack segment as soon as it is approved by the PUC because it must be replaced whether or not the S-R Line is constructed.

II. REPLIES TO EXCEPTIONS

A. THE ALJ CORRECTLY CONCLUDED THAT THE EVIDENCE FULLY SUPPORTED APPROVAL OF THE S-R LINE.

1. The S-R Line Is Required To Resolve 23 Violations Of NERC Reliability Standards And To Provide Reliable Service to Customers.

Pursuant to Section 1501 of the Public Utility Code, PPL EU is required to provide safe, adequate, and reliable service to its customers. 66 Pa. C.S. § 1501. PJM, PPL EU and other PJM members and stakeholders have determined, through the FERC-approved Regional Transmission Expansion Plan (“RTEP”) process, that the S-R Line is required in order for PPL EU and PJM to provide reliable service and to address the identified multiple violations of NERC Reliability Standards.² These multiple violations have been identified in three consecutive RTEPs.³ The parties in this proceeding have not challenged PJM’s RTEP process or the analytical approach used in the annual RTEP. Further, the parties have not challenged the results of the 2008 RTEP or the March 2009 Retool, based on the assumptions used in those analyses. OCA St. 1, p. 12.

As explained by Mr. Herling, the continued existence of such a large number of identified reliability violations requires a robust solution like the S-R Line. PPL EU St. 7-R, pp. 7-8. OCA witness Lanzalotta, the only other expert need witness, agreed:

If we assume that the March 2009 PJM Retool Study models the most up-to-date projected loads and other relevant planning assumptions, then the Study results show that there is a need for a transmission system reinforcement starting somewhere around 2012-2013. Under these assumptions, there are so many 230 kV system violations projected for the next ten years that reinforcement at the 500

² The NERC Reliability Standards relevant to this proceeding are summarized and explained in PPL EU’s application, testimony and briefs. PPL EU Ex. 1, A-7; PPL EU St. 8, PPL EU M.B. pp. 27-30.

³ PJM’s 2007 RTEP identified numerous reliability violations beginning as early as 2013. The 2008 RTEP identified the need for the S-R Line in order to address 23 NERC Category A and B violations projected to occur beginning in 2012. PPL EU Initial Brief (“I.B.”), p. 37. Further, the 2008 RTEP analyses identified 27 NERC Category C.5 violations. PPL EU St. 7-RJ, pp. 1-2. Despite the largest reduction in demand in PJM history, the March 2009 Retool continued to identify 23 NERC Category B and C violations.

kV voltage level is a reasonable approach to dealing with the projected violations.⁴

OCA St. 1, p. 14.

It is also important to note that PJM had already approved over 130 upgrades in RTEPs prior to 2007 for lower voltage facilities (230 kV or lower) in New Jersey. PPL EU St. 7-R, pp. 7-8. These upgrades were made prior to identifying the S-R Line to address the violations of NERC Reliability Standards. As a result, it had become more and more difficult to find facilities that could be upgraded short of a complete tear-down and re-build and that the scope and magnitude of the identified NERC reliability violations required the robust solution provided by the S-R Line. *Id.* Moreover, the failure to address the planning criteria violations would violate NERC's mandatory Reliability Standards and could result in fines of \$1 million per day, per violation. PPL EU St. 7, pp. 32-33.

2. The ALJ Properly Considered All Available And Credible Alternatives And Rejected Them As Inadequate.

The parties contend that PJM failed to consider other alternatives to the S-R Line, primarily the impact of future demand response and energy efficiency programs, smaller transmission upgrades and potential reductions in peak demand. For the reasons previously addressed by PPL EU in its Initial (pp. 37-41) and Reply Briefs (pp. 27-35) and for the reasons set forth below, the parties' arguments are without merit.⁵

⁴ In its main brief, OCA attempted to qualify this statement by suggesting that its witness had stated that the S-R Line made sense from an "engineering perspective" due to the large number of identified reliability violations. OCA Main Brief, p. 24. However, Mr. Lanzalotta made no such qualification in his testimony.

⁵ The parties also argue briefly in exceptions that the PJM RTEP process failed to properly consider all existing or new generation solutions as an alternative to the proposed S-R Line. ECC Exceptions, p. 16; OCA Main Brief, pp. 58-60. This argument is not correct. PJM models new generation once the generator has executed an Interconnection Service Agreement due to the low drop out rate of generators following the execution of that Agreement (approximately 4%). This provides reasonable certainty that the new generation will ultimately go into service by the future date that is projected. PPL EU St. 8, pp. 9-11.

a. **PJM Appropriately And Reasonably Considered Demand Response And, In Any Event, Demand Response Will Not Affect Category C Violations**

The parties assert that PJM did not adequately consider the effect of future demand response and energy efficiency as part of the solution to the identified reliability violations. OTS Exc., pp. 11-12; OCA Exc., pp. 9-10; ECC Exc., pp. 5-9. These arguments are without merit. *See*, PPL EU I.B., pp. 56-66; PPL EU Reply Brief (“R.B.”), pp. 37-41, R.D. pp. 122-129.

The RTEP process reflects PJM’s expectations for future system conditions based upon a number of assumptions, including programs to reduce demand in peak periods (“demand response”). PPL EU Ex. 1, p. A-7. PJM’s RTEP includes demand response when it is bid into and cleared through the Reliability Pricing Model (“RPM”) capacity auction because it is then a committed source to reduce demand under emergency peak load conditions. PPL EU St. 7, p. 43. This approach is necessary to coordinate the RPM auction with the RTEP process and provides PJM with the assurance that the demand response and any peak demand reductions resulting from energy efficiency programs will actually be available when needed to offset the peak demands under emergency peak load conditions used in the transmission planning process.

The parties request that another “retool” be undertaken to reflect demand response resources that cleared in the May 2009 RPM auction and to reflect the potential for new demand response resources in response to Pennsylvania Act 129 and the New Jersey EMP. OCA Exc., pp. 6-11; OTS Exc., pp. 7-12; ECC Exc., pp. 3-9. PPL EU has explained that the increase in demand response resources in the May 2009 RPM auction will not have any significant effect on the need for the S-R Line in 2012. PPL EU I.B., pp. 54-66; R.B., pp. 37-41. Demand response cannot be relied upon to resolve the 10 NERC Category C.5 violations (*i.e.*, double circuit tower line contingencies) identified in the March 2009 Retool because demand response is **only** available during **emergency** peak load conditions and PJM analyzes NERC Category C events

under **normal** summer peak load conditions (*i.e.*, 50/50 load forecast).⁶ PPL EU St. 7-R, p. 10.

The ALJ accepted this conclusion in rejecting the need for a further retool, quoting Mr. Herling's testimony on cross:

Q. As we sit here today, we don't really know whether a further retool would change the need for the Susquehanna-Roseland line, do we? If a retool were done to reflect the amount of DR that cleared the RPM auction, we don't know how it would change it, do we?

A. Well, No, actually, I can tell you right now that it wouldn't change anything. It would potentially delay some of the load deliverability violations. It would have no impact on -- I believe there were five category C violations in 2012 and 13, it would have no effect on those. So, I can tell you with absolute certainty that it wouldn't change the in-service date.

Tr. 1297; R.D., p. 121.

OCA incorrectly contends that it provided "unrebutted" evidence that load curtailment was a potential solution to the NERC Category C.5 violations identified in the PJM RTEPs. OCA Exc., pp. 12-14. On the contrary, the record clearly establishes that NERC Category C violations cannot be resolved by curtailing load. R.D., 114-117, PPL EU St. 7-RJ, p. 3. NERC criteria for Category C events allow only for **planned** loss of load, which must be a function of system design, not operator action. *Id.* This is a critical distinction. Where system design provides for the automatic loss of customer load as a consequence of a NERC Category C event, that loss of load is modeled by PJM in assessing compliance with NERC Reliability Standards for that event.⁷ The record clearly demonstrates that unplanned load shedding does not solve

⁶ In its exceptions OCA incorrectly states that PJM's RTEP does not take into consideration the fact that NERC Category C violations are less likely to occur than single contingencies. OCA Exc., p. 13. PJM tests for Category C violations under summer peak load conditions and not emergency peak load conditions. This reflects PJM's recognition that NERC Category C events are less likely to occur than single contingency events. Tr. 1312.

⁷ PJM's planning process has established a limit of 300 MW for consequential load, *i.e.*, planned, loss and has designed its system accordingly. Tr. 1307; R.B., p. 26. However, NERC Reliability Standards do not permit PJM or its operators to take actions to shed additional load in response to these violations. Tr. 1310; PPL EU R.B., p. 26. The record evidence in this proceeding is clear that PJM, other powerpools and the PUC agree that "load shedding" is not an appropriate planning mechanism. See PPL EU R.B., pp. 23-27.

NERC Category C.5 violations. *Id.* Further, the PUC already has rejected this contention in a prior case and concluded that it is inconsistent with appropriate transmission planning.⁸

Both the Act 129 energy programs and the New Jersey EMP are largely new in concept and have no track record. These newly proposed programs raise a number of concerns, including whether targets that have been set by the states for demand response resources and energy efficiency are attainable, whether the levels that are attainable may be slower in coming than anticipated and whether peak demand reductions that do result initially will be sustainable over time. *See* PPL EU St. 7-R, p. 10; PPL EU I.B., pp. 56-66; PPL EU R.B., pp. 37-41.⁹

More broadly, demand response and energy efficiency programs are fundamentally designed to reduce price by reducing consumption during high cost periods. Transmission line planning, by contrast, is designed to assure reliable service to customers during extreme peak load conditions. PJM cannot control or mandate demand response. If anticipated demand response and energy efficiency reductions in usage do not occur, then the price for peak period electricity will increase. However, if these estimates of future demand and energy response usage reductions were to be included in the transmission line planning process and then fail to occur, the lights will go out.

b. Alternative Lines Were Identified And Were Demonstrated To Be Inadequate

Several parties also contend that PJM failed to adequately consider transmission alternatives to the S-R Line. OCA Exc., pp. 7-8; OTS Exc., pp. 3-7; ECC Exc., pp. 14-19. The other parties incorrect.

⁸ *In re Trans-Allegheny Interstate Line Co.*, Docket No. A-110172 (order entered December 12, 2008), p. 31. (“*TRAIL Order*”); *See* PPL EU Exceptions, p. 39.

⁹ Moreover, as explained above, any increase in demand response will have no effect on the need for the S-R Line in 2012 because demand response will not resolve the identified NERC Category C.5 violations.

PJM and its stakeholders considered 30 alternative transmission combinations in the 2007 RTEP analysis and the PJM Board selected the S-R Line as the solution. PPL EU St. 7, p. 26. During the course of the 2007 RTEP, consideration also was given to installing new conductors on various 230 kV lines, so that the overloaded facilities were capable of transporting more power. PPL EU St. 8, p. 26. However, this approach was dismissed given the number of facilities that would need to be upgraded, the significant number of prior upgrades (130) that had already been performed on these facilities, and because it would not provide a long-term solution to the reliability issues that had been identified. *Id.*

PJM's RTEP process also includes continuing evaluation of the transmission system to identify potential reliability violations and to check whether previously approved projects, like the S-R Line, are still required. Tr. 1379. Subsequent RTEPs and "retools" test the transmission system, using updated assumptions, to identify potential reliability violations. Tr. 1377. Such an analysis was completed relative to the S-R Line in the 2008 RTEP and in the March 2009 Retool. These studies again identified numerous reliability violations in northeastern Pennsylvania and northern New Jersey and re-confirmed that the S-R Line was required to remedy these violations. Tr. 1381.

The results of the 2008 RTEP and the March 2009 Retool were presented to PJM's members for review and the opportunity to present other alternatives. Tr. 1384-85. No new alternatives were presented. Therefore, these subsequent evaluations confirmed that the S-R Line was the best solution to address the identified reliability violations. Tr. 1379, 1381. All potential alternatives have been considered and rejected.

Moreover, the parties are simply wrong in their assertion that PJM's RTEP process disregards all other possible solutions following the initial approval of a particular transmission

solution. OTS Exc., pp. 13-18; ECC Exc., pp. 17-19. As an example, Mr. Herling cited the Mid-Atlantic Power Pathway. As part of an RTEP retool, new alternatives for this line were suggested and were fully analyzed. Tr. 1385. The fact that no new alternatives were suggested during the course of the 2008 RTEP or March 2009 Retool relative to the S-R Line does not prove that other alternatives were disregarded. Instead, it simply proves that the line continues to be needed and that there is no other available solution.¹⁰ *Id.*

c. The PUC Should Reject Other Parties' Contentions That A Further Retool Is Required To Consider Reductions in Peak Demand Not Reflected In The March 2009 Retool

Several parties assert that the PUC should order that another "retool" to determine if there have been further reductions in the peak demand forecast. OCA Exc., pp. 6-14; ECC Exc., pp. 3-9; OTS Exc., pp. 7-12. These contentions must be rejected for two principal reasons: (1) PJM did in fact update the load forecast information during the course of this proceeding (through the March 2009 Retool), and this new forecast, prepared in the midst of the recession, reaffirmed the need for the S-R Line; and (2) in response to the OCA's concerns, PJM also provided the results of the July 2009 update to the revised 2012 peak load forecast, and those results continue to support the need for the S-R Line in 2012.

The parties have seriously mischaracterized the March 2009 Retool. PJM used its January 2009 Peak Load Forecast in preparing the March 2009 Retool. PPL EU St. 8-R, p. 2. This forecast represented the largest reduction in demand in PJM history. PPL EU St. 7-RJ, pp. 8-9. However, OCA suggests that this fact is immaterial because PJM's January 2009 Peak Load Forecast was developed in the 4th quarter of 2008 which, according to OCA, "represented

¹⁰ OTS points to these ongoing analyses as evidence that changing conditions have resulted in the delayed need for the Potomac Appalachian Transmission Highline Project. OTS Exc., p. 11. However, OTS fails to acknowledge that the same analysis has not shown any delay in the need for the S-R Line.

only a fraction of the [economic] downturn that was developed in 2009.” OCA Main Brief, p. 39. OCA’s argument should be rejected for the following reasons.

PJM’s January 2009 Peak Load Forecast included actual data up to and including the 4th quarter of 2008. It therefore is a forecast of future conditions – based on actual data through the end of 2008. The 4th quarter of 2008 was the second quarter, and the worst quarter, of the current recession. The parties have offered no evidence that the forecast does not accurately reflect the recession. They simply state that the recession continued into 2009, but have not presented any evidence that the effects of the continuing recession were not fully reflected in the January 2009 forecast. Moreover, the U.S. Government has taken unprecedented steps in response to the recession, and there is no record evidence indicating that these efforts will not result in improving the Nation’s economy in future quarters.¹¹ Finally, and perhaps most importantly, it is simply not appropriate policy to plan critical transmission systems on the assumption that this country will continue to experience an unprecedented recession for the next 20 years.

Second, the un rebutted record evidence demonstrates that further updating at this time would not change the need for the S-R Line. Mr. Herling explained that, as of the end of July 2009, the 2012 PJM peak load forecast for EMAAC decreased by only 118 MW as compared to the 2009 Load Forecast Report used in the March 2009 Retool. PPL EU St. 7-R, p. 8. The 118 MW (0.3 percent) is substantially less than the assumption suggested by OCA and substantially less than the 1.75 percent decline in peak load already reflected in the March 2009 Retool. *Id.* at 8-9. Based on the above evidence, Mr. Herling concluded that it is highly unlikely that this

¹¹ Indeed, OCA’s witness Lanzalotta admitted on cross-examination that the potential exists for additional reliability violations to be identified due to an increase in the peak load forecast. Tr. 1828.

limited additional reduction in peak load will have any impact in resolving the violations that would be resolved by the S-R Line in 2012. PPL EU St. 7-R, p. 9.

d. A Retool Is Not Necessary And Would Prevent Actions Necessary to Provide Reliable Service

PJM's RTEP is dynamic and integrates a wide range of factors beyond those identified by the parties in their exceptions. PPL EU St. 7-R, p. 6. Moreover, the RTEP is an on-going process with analyses performed each year, updating **all** data and assumptions together to provide the most up-to-date assessment of the reliability of the grid and the state of compliance with NERC Reliability Standards. *Id.* at 6-7. Nevertheless, the parties request that PJM prepare yet another retool before the PUC approves the S-R Line. This request is simply an attempt to postpone approval of the line in the hope that "something" will happen to avoid its necessity. This is not good planning because the violations that must be resolved are imminent.

A new RTEP, the 2009 RTEP, will be released in 2010. The ALJ properly concluded that there is no credible record evidence in this proceeding which supports a conclusion that the analysis in the 2009 RTEP will materially change the date by which the S-R Line will be needed. The S-R Line has been evaluated through three years of RTEP analyses, commencing with identification of violations in 2006, the original approval of the project in the 2007 RTEP and confirmation of the need in the 2008 RTEP and March 2009 Retool. PPL EU St. 7-R, p. 6. Even with a wide range of changing system conditions since 2006, the project is still required to be in service by June 1, 2012. This on-going review of past decisions regarding the need for new infrastructure is at the core of the RTEP process, addressing the year-to-year changes in planning assumptions.¹²

¹² In this regard, OCA's suggestion that the PUC would cede its authority to PJM by approving the S-R Line subject to further updates by PJM is erroneous. The record in this proceeding clearly establishes that the line should be

B. THERE IS NO BASIS FOR A COLLABORATIVE TO FURTHER CONSIDER A TRANSMISSION LINE THAT HAS BEEN FULLY JUSTIFIED

The parties recommend that the PUC direct the formation of a collaborative involving all affected parties to review alternative solutions to the construction of the proposed S-R Line, citing the *TrAILCo* decision. OCA Exc., p. 15; ECC Exc., pp. 12-14. This argument should be rejected.

It is apparent that the parties are seeking a collaborative to overcome the fact that they failed to present any record evidence that the S-R Line is not needed. No party presented evidence to undermine the fact that the **reliability** violations supporting the need for the S-R Line were first identified in PJM 2006 RTEP and **all** subsequent RTEP analyses have reaffirmed this need. PJM's RTEP analysis that resulted in the identified need for the S-R Line was not conducted by PJM in isolation. Instead, all of the RTEP processes related to S-R Line were completed via an open and transparent stakeholder process approved by the FERC. The need for the S-R Line is clear, and no more "band-aid" solutions exist as over 130 such solutions have already been implemented. PPL EU St. 7-R, p. 7. Under these circumstances, a collaborative would serve no useful purpose.

The parties' reliance on the PUC's decision in the *TrAILCo* proceeding is also unfounded. Unlike the *TrAILCo* line, the S-R Line is a fully integrated line that is required to

approved. Further, review for changing circumstances by PJM under the FERC-approved RTEP process after PUC approval is simply good planning.

The parties also suggest that PPL EU agree to waive the 12-month decision time frame established under the Energy Policy Act of 2005 in order to permit an updated retool. OCA Exc., p. 15; ECC Exc., p. 12. PPL EU opposes both a further retool and the suggestion to extend the 12-month deadline because either alternative will prevent a timely PUC decision and unnecessarily delay construction of the S-R Line to address the identified reliability violations in 2012. The evidentiary record clearly supports PUC approval of the S-R Line **now**. No additional retool analyses are required, and a waiver of the 12-month decision timeframe is inappropriate. The S-R Line is required to address numerous and persistent NERC reliability violations that will begin to occur as early as 2012. PPL EU and PSE&G will already be very hard pressed to meet this in-service date. Further delay will defeat any reasonable chance of completing the line on time.

address numerous identified violations of NERC Reliability Standards. In contrast, the *TrAILCo* line was composed of two independent segments that could be separated and that addressed both reliability and transmission congestion. Ultimately, the PUC in the *TrAILCo* proceeding approved the 502 Junction facilities based upon the fact that these facilities were needed to resolve the 12 NERC reliability violations identified by PJM's RTEP process. *TrAILCo* Order, pp. 30-31. However, the PUC approved a partial settlement whereby the PUC stayed its consideration of the Prexy portion of the line to allow parties to consider alternatives to the facilities proposed by *TrAILCo*. The record evidence in support of the Prexy portion of the *TrAILCo* included only **four** identified NERC Category C.3 violations.¹³ Unlike the Prexy line in *TrAILCo*, the S-R Line is required to address numerous and persistent identified violations that are imminent and require an in-service date of June 1, 2012.

C. THE ALJ APPLIED CORRECT LEGAL STANDARDS.

Several parties contend that, in approving the S-R Line, the ALJ applied an incorrect standard to the environmental impacts of the Line. ECC Exc., pp. 19-20; OCA Exc., pp. 22-29. PPL EU presented extensive environmental analyses of the alternative routes considered for the S-R Line consisting of 170 pages of single spaced text plus numerous tables, charts and maps and substantial testimony covering the selection process. PPL EU Exs. 1B and 1C; PPL EU St. Nos. 1, 3. PPL EU has proposed the route with the least environmental impacts.

OCA and ECC contend that PPL EU should have presented detailed environmental analyses of all 30 alternative projects that were considered by PJM but ultimately rejected because they did not resolve the NERC reliability violations. PPL EU R.B., p. 3. These contentions are completely impractical on their face. The environmental impacts of a project

¹³ NERC Category C.3 violations involve the loss of one system element **followed by system readjustments**, and then the loss of a second system element.

cannot be identified until the project is sited – that is, to determine environmental impacts, one must know where it will be located. To meet the ECC and OCA standard PPL EU would have to conduct a complete siting and routing analysis for each of the 30 rejected routes in order to demonstrate that the proposed project will have the least environmental impact. OCA’s and ECC’s contention also makes no sense because it contemplates constructing projects that will not fully resolve reliability issues. Therefore, if such projects were selected and constructed, another additional project (with additional environmental effects) would still be needed.

OCA’s and ECC’s contentions are not only totally impractical, but also contrary to governing legal requirements. The applicable PUC regulations are found at 52 Pa. Code §§ 57.71 – 57.77. These regulations require prior PUC approval for the siting and construction of aerial high voltage transmission lines. These regulations clearly apply only to projects proposed by an electric utility and not to rejected projects which the utility does not propose to construct.¹⁴ 52 Pa. Code § 57.71.

The PUC’s regulations further provide that it will accept evidence and will consider impacts on the environment of the **proposed** high voltage transmission line and reasonable alternative routes. 52 Pa. Code § 57.75(e)(3)–(4). Again, information is required regarding the **proposed** line route and the availability of alternative routes for the **proposed** project. Rejected projects are not mentioned. PPL EU has provided information regarding the proposed route and alternative routes for the proposed project in great detail. *See, e.g.*, PPL EU Ex. 1B and 1C.

¹⁴ The PUC’s regulations also specify the information to be included in an application. Specifically, 52 Pa. Code § 57.72(c)(5) requires a general statement of the need for the **proposed** high voltage transmission lines. There is no mention of rejected projects. Section 57.72(c)(7) requires descriptions of projected environmental impacts of the **proposed** line and the efforts to minimize the environmental impact of the **proposed** line. There is no requirement for environmental assessments of rejected projects or descriptions of efforts to minimize the impacts of rejected projects. Similarly, Sections 57.72(c)(8) and (9) require information on efforts to locate archeological, geologic, historic, scenic or wilderness areas within two miles of the **proposed** right-of-way and airports within two miles of the right-of-way of the **proposed** high voltage line. No information is required regarding rejected projects.

In applying utility siting principles, the PUC has made it clear that the evidence of environmental impacts of utility facilities must pertain to the effects of the proposed facilities, not off-site effects, such as effects of rejected projects. In *Philadelphia Suburban Water Co.*, Docket No. A-99126, 54 Pa. P.U.C. 127, 135 (1980), the PUC stated that evaluations of environmental impacts would be based on “environmental incursions at the site ... which is the subject of the application.” The PUC refused to consider effects of a pump house and reservoir on possible future development of a tract of land in an adjoining township.

The Commonwealth Court has reached similar conclusions. The Court held that the PUC’s environmental review is limited to the impacts at the site of the proposed facilities. In *Del-AWARE Unlimited, Inc. v. Pa. P.U.C.*, 513 A.2d 593, 596 (Pa. Cmwlth. 1986), the Court considered and rejected arguments that the construction of a pump house would adversely affect a nearby tract of land. The Court held that:

[T]he PUC is empowered only to decide whether the proposed site of [a] ... pump house is reasonably necessary for the public convenience and welfare. Therefore we hold that it may evaluate only the environmental impacts of placing the pump house at the proposed location. (Emphasis in original.)

OCA and ECC rely on the PUC’s order in *TrAILCo*. (ECC Exc., p. 19; OCA Exc., pp. 25-27). Such reliance is misplaced. *TrAILCo* was different from this case and other prior cases because parties other than the applicant produced expert testimony suggesting alternative projects that would have, in their view, resolved all of the reliability issues presented. *TrAILCo*, p. 31. Here, in contrast, no party presented any alternative project that would have resolved the NERC reliability violations. As such, there is no “available” alternative project to consider.

OCA’s and ECC’s reliance upon *TrAILCo* is misplaced for the further reason that, in a subsequent transmission line proceeding, the PUC ruled that no environmental evaluation of projects that have not been proposed is required. In *Application of PPL EU Utilities Corporation*

for Approval of the Siting and Reconstruction of the Proposed Coopersburg #1 and #2 138/69 kV

Tap, Docket Nos. A-2008-2022941, et al., p. 31 (Pa. P.U.C. July 24, 2009), the PUC stated:

Springfield, in its Exceptions, has focused on one part of one of our regulations when, as the ALJ correctly determined, a comprehensive application of Section 57.76 is required. Further, we do not accept the proposition implicit in this Exception that PPL EU or any public utility applicant must perform an environmental analysis on every alternative route that might be available. Again, we agree with the ALJ that emphasis of Section 57.76 goes to the *proposed* HV line, not to *possible* HV lines. (Emphasis in original.)

OCA's and ECC's contention should be rejected.

D. THE S-R LINE SHOULD NOT BE REROUTED AROUND SAW CREEK.

OCA and SCECA contend that PPL EU should reroute the S-R Line around Saw Creek. OCA Exc., pp. 15-22; SCECA Exc., pp. 11-13. Such contentions ignore the facts that PPL EU gave substantial attention to possible reroutes around Saw Creek Estates and that each possible reroute presented substantial difficulties. PPL EU I.B., pp. 140-145; PPL EU R.B., pp. 45-50, 54-57. PPL EU considered a route west of Saw Creek, but that route would have required clearing a new 200-foot right-of-way over an additional 20 miles of forest, crossing at least 25 streams and bodies of water and "threading" the new transmission line through densely developed residential areas near Bushkill. This route would have caused far more environmental impacts and increased costs compared to the proposed route. PPL EU St. 3-R, pp. 1-2.

PPL EU also considered two potential reroutes east of Saw Creek, which would have avoided a portion of Saw Creek. PPL EU rejected SCECA's Route A because, to use it, PPL EU would have had to purchase easements across areas where PPL EU has no facilities, constructed a new 200-foot wide right-of-way through forested lands and cleared additional vegetation for construction of access roads. Alternative A also would have visual impacts to residents along the eastern portion of Saw Creek, Tamiment, and other developments to the east, thereby affecting different properties within Saw Creek and properties outside Saw Creek. Further, it would re-

enter Saw Creek at a location near residences along Greenwich Drive and Stafford Drive, areas with a particularly good view. Tr. 509-11. This route also would interfere with development of the Tamiment property.

SCECA, for the first time in surrebuttal testimony, proposed two alternative routes. SCECA's alternate Route A, however, would directly cross over the Tamiment Golf Course and, more importantly, would traverse approximately 1.5 miles of the DEWA, where no transmission line presently exists. In addition, it would cross Bushkill Falls, one of the premiere scenic attractions in the region. PPL EU St. 3-RJ, p. 5.

SCECA's alternative Route B is no better. It is approximately two miles longer than the portion of proposed route it would replace. It would travel through approximately two miles of the Delaware State Forest and approximately 0.8 miles of the DEWA, where no transmission line presently exists. It would travel close to Bushkill Falls, potentially crossing picnic pavilions near the Welcome Center and the Welcome Center parking lot. It also appears to cross lands that may be non-condemnable due to curtilage restrictions. PPL EU Statement No. 3-RJ, p. 5. SCECA's proposed alternative routes were properly rejected by PPL EU; in fact, they demonstrate the difficulty of rerouting the S-R Line away from Saw Creek.

E. OCA'S EXCEPTION REGARDING A REBUILD OF THE EXISTING 230 KV TRANSMISSION LINE THROUGH SAW CREEK SHOULD BE REJECTED.

The existing 230 kV transmission line through Saw Creek was constructed in the late 1920s; it is 80 years old and in a deteriorated condition. It needs to be replaced regardless of whether the 500 kV S-R Line is constructed. PPL EU St. 1-R, pp. 24-25; PPL EU St. 5-R, pp. 10-13. If the 500 kV S-R Line is not constructed and the 80-year-old 230 kV transmission line is rebuilt, the necessary structures will be 140 feet high, substantially higher than the existing structures. PPL EU St. 5-R, pp. 12-13. OCA incorrectly contends that, if PPL EU were to

replace the existing 230 kV transmission line through Saw Creek, much shorter structures could be used. OCA Exc., pp. 11-13.

Initially, it must be noted that, if the PUC approves the 500 kV transmission line, OCA's exception is moot. OCA's exception arises only if the existing, old 230 kV transmission line is replaced with a new 230 kV transmission line and the 500 kV line is not built. OCA's exception should also be rejected because it is based upon a flawed analysis. OCA's proposal to use shorter poles in Saw Creek for a 230 kV transmission line, improperly ignores all other factors. If PPL EU used shorter structures with a horizontal design, 50 additional feet of vegetation would have to be cleared. EMF levels would increase, noise levels would increase, and additional construction would be required when a second circuit was required to meet future load growth. PPL EU St. 1-RJ, pp. 5-6; PPL EU St. 1-R, pp. 22-23. Proper transmission line structure design balances many interests and does not focus on height to the exclusion of all other factors.

F. SCECA'S CONCERNS ABOUT REAL ESTATE VALUES ARE MERITLESS.

SCECA contends that S-R Line would substantially diminish property values in Saw Creek. SCECA Exc., pp. 13-18. SCECA's contentions are meritless. PPL EU I.B., pp. 146-52; R.B., pp. 57-60. In support of its contentions, SCECA relies primarily on the testimony of a purported expert. SCECA St. No. 3. SCECA's witness' opinion was based on interviews with recent buyers, one recent seller, five real estate sales people, appraisers and representatives of SCECA. In addition, SCECA's witness cited a single two-page journal article. Neither the survey nor the article, however, support SCECA's testimony.¹⁵

¹⁵ SCECA surveyed 14 recent buyers of residences. Two stated no opinion; two agreed that the S-R Line would diminish values, but ten stated that the S-R Line would make no difference. Tr. 1929-30. SCECA surveyed five real estate professionals – one expressed no opinion, but four opined that the S-R Line has had no effect on sales.

In addition, PPL EU presented four case studies prepared to determine the effect of high voltage transmission lines on real estate values, based on actual market data instead of interviews, including a study of Saw Creek transactions. All of these case studies showed no significant effect on real estate values. PPL EU St. 21-R.

G. PPL EU DID NOT “PRE-SELECT” ROUTE B.

ECC contends that PPL EU’s routing selection should be rejected because it was selected prior to the independent siting analysis. ECC Exc., pp. 21-24. ECC’s contention is based on an incomplete and misleading review of the evidence. Tr. 880-82. PPL EU R.B., pp. 76-77. The preferred route was selected based on an independent siting analysis conducted by The Louis Berger Group. Tr. 992. And, in any event, ECC’s contentions are irrelevant because PPL EU demonstrated throughout PPL EU Exhibits 1B and 1C, and PPL EU Statement No. 3, that Route B is superior to the alternatives, regardless of when it was selected.

H. SCECA’S EXCEPTIONS ON VIEWSHED SHOULD BE REJECTED.

SCECA contends that the ALJ did not give sufficient consideration to the effect of the S-R Line on the viewshed of Saw Creek. SCECA Exc., pp. 18-20. SCECA’s exception is baseless. PPL EU I.B., pp. 161-64; PPL EU R.B., pp. 69-70. SCECA contends that a visual depiction of the viewsheds with the transmission line is required, citing 52 Pa. Code § 57.75(e)(3)(x) and (4). No such requirement for a photographic simulation exists. Instead, the

Tr. 1931-32. Nor was the survey scientifically conducted. SCECA contacted only one seller who was selected because SCECA knew in advance that, in his opinion, the S-R Line had adversely affected the sale of his residence. Tr. 1928-29. Further, the single real estate journal article cited by SCECA states that many studies conclude high voltage transmission lines have no significant effect on residential property values and that some lots adjacent to transmission lines sell at a premium. PPL EU Ex. MFB-2. SCECA did not identify any real estate journal article that concluded that high voltage transmission lines have a significant, adverse effect on real estates values. Conversely, PPL EU identified numerous studies that all conclude that high voltage transmission lines have little or no effect on real estate values. PPL EU St. 20-R.

regulations require that the PUC consider the impact and the efforts to mitigate the impact of the line on scenic areas.

Further, contrary to SCECA's contentions, PPL EU has considered many factors in designing structures for the S-R Line, including viewshed. Obviously, the height of structures affects the viewshed. The height was selected, however, for valid reasons. The design balances safety considerations and the public's concerns about the number of structures, the amount of right-of-way clearing, electric and magnetic fields and height.

The structures will average 185 feet in Saw Creek. To reduce viewshed impacts, PPL EU will use monopole structures wherever practical and thereby avoid the increased visual impact of two and three-pole structures. PPL EU St. 1-R, p. 23. If PPL EU used 155 foot poles with a compact design, there would be more structures, and vegetation would have to be cleared to the full 200-foot width of the right-of-way. EMF levels would increase because the conductors would be closer to the ground and noise would increase. PPL EU St. 1-R, pp. 23-24. Thus, PPL EU has taken into consideration many factors in designing the structures, including their impact on the viewshed.¹⁶

I. PPL EU'S TRANSMISSION STRUCTURES ARE SAFE.

SCECA contends that PPL EU's proposed S-R Line structures are unsafe to the public. SCECA Exc., pp. 4-7. SCECA's exception is without merit. PPL EU I.B., pp. 94-97.

¹⁶ SCECA also complains that one of its statements was not moved into evidence. SCECA complains that the ALJ ruled that a resident of Saw Creek could not both be a complainant and represented by SCECA. The ALJ's ruling is correct as she explained in her Pre-Hearing Order No. 4 that was issued on March 10, 2009, six months before hearings began. Thus, SCECA and its witness had notice to proceed in a manner consistent with the Order. SCECA has only itself to blame for the witness's decision not to move the proposed testimony into evidence on his own behalf.

SCECA also curiously complains about the ALJ's ruling, again in Pre-Hearing Order No. 4, that it had to produce its member list. Again, the ALJ's ruling was correct in sorting out which persons were represented by themselves or by one of the several associations participating in the proceeding. In any event, as SCECA concedes, the ALJ's decision did not affect the final outcome of the proceeding. SCECA Exc., p. 20.

PPL EU's tubular steel transmission structures are safe. PPL EU owns 19,600 tubular steel structures. In the last 36 years, there have been only two instances where such structures failed, and those failures resulted from erosion during floods. PPL EU has learned from this experience to avoid foundations that are subject to washouts and to protect foundations with a protective barrier of gravel to stop erosion. PPL EU St. 5-R, pp. 1-2. National experience with tubular steel transmission structures is also very favorable. There have been only a very few failures of such structures and those were caused by tornados. In such instances, there would be little chance that a nearby residence would independently withstand the tornado. PPL EU St. 19-R, p. 10.¹⁷

Tubular steel transmission structures are durable and stable. In 1998, a tornado struck one of PPL EU's transmission lines supported by tubular steel structures, but it caused no damage. PPL EU St. 5-R, p. 2. Modern foundation design makes foundation failure even more unlikely. Foundations are custom designed by geotechnical engineers after extensive soil boring and testing. PPL EU St. 5-R, pp. 3-4.

Further, even in the unlikely event of a tubular steel transmission structure failure, conductors would constrain the fall within the right-of-way, without damage to nearby residences. PPL EU St. 5-R, pp. 4-5. Significantly, OCA's expert witness on transmission lines did not know of a single personal injury due to a failure of a tubular steel transmission tower. PPL EU Cross Examination Ex. No. 8.

¹⁷ Saw Creek cited two examples of transmission structure failures. Some structures failed in Florida during Hurricane Wilma in 2005. These failures, however, resulted from inadequate, manual tightening of crossbar bolts. Structures proposed by PPL EU do not have crossbraces, and therefore, are not subject to this type of failure. (Tr. 1057-58). In addition, there were failures during a 1980 ice storm. Those structures, however, were lattice type structures, similar to those in Saw Creek Estates today, which will be replaced by modern, safer structures if the S-R Line is approved. Tr. 1056.

It is important to note also that residences within fall zones of transmission structures are not unusual. It is standard for PPL EU to construct transmission structures that are taller than half the width of the right-of-way. Nevertheless, residences are built up to the edges of rights-of-way, especially in congested, urban areas. PPL EU St. 5-R, p. 6. The structures do not present valid safety concerns.

J. SCECA’S CONTENTIONS REGARDING EMFS ARE MERITLESS.

SCECA’s attack on the sufficiency of the R.D. related to electric and/or magnetic fields (“EMF”) is without merit. The ALJ’s extensive 19-page discussion of EMF issues includes a detailed evaluation of all the EMF evidence proffered by the parties. *Recommend Decision*, pp. 199 – 218. SCECA does not identify any EMF evidence that was not duly considered by the ALJ. Contrary to SCECA’s claims, the ALJ’s conclusions were not based solely on evidence from laboratory studies, but also on the results of epidemiology research. *Id.* pp. 204-208 (addressing testimony of Dr. Lee and Dr. Carpenter); *see also* PPL EU I.B., pp. 116-124. The ALJ considered all of the scientific evidence, and based on a careful evaluation of that evidence and the credibility of the expert witnesses, reached the well-founded conclusion that the scientific research does not provide a reliable basis to find that exposure to EMF causes or contributes to adverse health effects in adults or children.¹⁸ *Id. at 210.*

SCECA’s argument that Saw Creek residents will be “guinea pigs” if the proposed line is constructed is disingenuous. SCECA Exc., p. 9. As was made evident at the hearing, the EMF

¹⁸ Fundamentally, SCECA seeks to have the PUC second-guess the ALJ based on SCECA’s rehashing of very small and carefully selected portions of the factual record. The shortcomings of this approach are amply illustrated by SCECA’s quoting out of context a partial sentence from a National Research Council (NRC) Report. SCECA Exc., p. 7. Cross-examination revealed that this sentence (limited to “wire code” studies) was contradicted by an adjacent sentence that emphasized the lack of association for actual measured EMF. Further, SCECA’s expert was forced to admit that the NRC Report concluded that “**no conclusive and consistent evidence shows that exposures to residential electric and magnetic fields produce cancer**, adverse neurobehavioral effects, or reproductive and developmental effects,” a conclusion totally contrary to his and SCECA’s claims about EMF health effects. PPL EU I.B., pp. 120-21.

levels which SCECA's expert claimed would be dangerous are far below the levels of EMF along the right-of-way of the existing line in Saw Creek and far below the EMF levels that are found throughout daily environments in homes, schools and businesses across the United States. R.D., pp. 200-01, 208, 212-14. These levels are also far below all existing exposure standards for EMF. R.D., p. 213; PPL EU I.B., p. 126. PPL EU, based on its long-standing Field Management Program, has proposed a line design that will reduce EMF levels from the proposed line where that can be done practically and at low additional cost. R D., p. 215; PPL EU I.B., pp. 104-05. This is a well-reasoned and highly responsible approach to the EMF issue and one that has previously been viewed favorably by the PUC.

K. CRITICISMS OF PPL EU'S SITING PROCESS DISREGARD THE EVIDENCE.

SCECA contends that PPL "apparently categorically rejected" all potential links that it did not physically inspect. SCECA Exc., pp. 10-11. SCECA's contentions are contrary to the record and ignore explanations provided previously. PPL EU I.B., pp. 55-56. PPL EU provided a substantial explanation of the "link" process that it used to identify the three routes that it ultimately selected for detailed examination. PPL EU Ex. 1B. The process included identification of "links" that could be combined to produce alternative routes. Links that had the potential to produce alternative routes were field inspected over 16 days in March-April, 2008. PPL EU Ex. 1B, p. 13. In the process, PPL EU reviewed approximately 100 links. It is correct that PPL EU did not physically inspect private property of hundreds of landowners who owned land traversed by a potential link, except to the extent that inspection was possible from public places or places where PPL EU had the right to enter. Obtaining permission from hundreds of landowners would be impractical, and physical inspection where PPL EU did not have access rights could be trespassing.

PPL EU nevertheless has substantial information regarding such tracks of land. For example, PPL EU presented aerial exhibits of the proposed route in Exhibit 1., Vol. 3. Further, the collection of data used by PPL EU in the link and route selection process was summarized at pages 8-10 of PPL EU Ex. 1B. PPL EU had available to it and utilized substantial and detailed information about areas under consideration, even where field inspection was not practical. SCECA seriously misrepresented PPL EU's link selection practices.

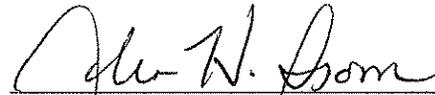
L. CONTRARY TO SCECA'S CONTENTIONS, PPL EU'S CONSTRUCTION PROCESSES WILL BE SAFE.

PPL EU has provided detailed explanations of procedures and plans that will be followed to protect everyone, PPL EU employees, construction contractor employees and the public, from construction hazards. PPL EU I.B., pp. 165-68; PPL EU St. 1-R, p. 7-19; PPL EU Ex. GJS-1 and GJS-2.

III. CONCLUSION

Wherefore, for all the foregoing reasons, PPL EU Utilities Corporation respectfully requests that the Pennsylvania Public Utility Commission deny the exceptions of the Office of Trial Staff, the Office of Consumer Advocate, the Energy Conservation Council of Pennsylvania and Saw Creek Estates Community Association, Inc.

Respectfully submitted,



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