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January 6, 2010

**VIA E-MAIL AND HAND DELIVERY**

Honorable Kristi Izzo, Secretary  
New Jersey Board of Public Utilities  
Two Gateway Center, 8<sup>th</sup> Floor  
Newark, NJ 07102

Re: **IN THE MATTER OF THE PETITION OF PUBLIC  
SERVICE ELECTRIC AND GAS COMPANY FOR A  
DETERMINATION PURSUANT TO THE PROVISIONS OF  
N.J.S.A. 40:55D-19**

**(SUSQUEHANNA-ROSELAND)**

**BPU DOCKET NO. EM09010035**

Dear Secretary Izzo:

Enclosed for filing are an original and two (2) copies of the Reply Brief of Public Service Electric and Gas Company in the above-referenced matter. Electronic copies have also been sent to all counsel of record.

Thank you for your consideration of this matter.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jodi L. Moskowitz", written over a printed name.

Jodi L. Moskowitz

cc: Service List (via e-mail)

**STATE OF NEW JERSEY  
BOARD OF PUBLIC UTILITIES**

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**X**

**IN THE MATTER OF THE PETITION OF  
PUBLIC SERVICE ELECTRIC AND GAS  
COMPANY FOR A DETERMINATION  
PURSUANT TO THE PROVISIONS OF  
N.J.S.A. 40:55D-19**

**(SUSQUEHANNA-ROSELAND)**

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**REPLY BRIEF FOR PETITIONER,  
PUBLIC SERVICE ELECTRIC AND GAS COMPANY**

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Dated: January 6, 2009

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## I.

### **INTRODUCTORY STATEMENT**

Public Service Electric and Gas Company (“PSE&G” or the “Company”) files this reply brief in further support of its petition (“Petition”) filed pursuant to N.J.S.A. 40:55D-19 requesting that the New Jersey Board of Public Utilities (“Board” or “BPU”) determine that the construction of the proposed 500,000 volt (“500 kV”) Susquehanna-Roseland transmission system upgrade (“Project”), which is necessary to address 23 projected reliability criteria violations in the region, is reasonably necessary for the service, convenience or welfare of the public and, in furtherance thereof, issue an order that the zoning, site plan review and all other municipal land use ordinances or regulations promulgated under the auspices of Title 40 of the New Jersey Statutes and the Municipal Land Use Act of the State of New Jersey shall not apply to the siting, construction or operation of the Project.

As a general matter, the intervenor briefs<sup>1</sup> are replete with unsupported allegations and mischaracterizations that ignore the actual record created in the BPU proceeding. To a large degree, the contentions advanced by the intervenors contain no more than unfounded and conclusory assertions about the Project. Because there is little or no evidence to support their positions, which are refuted by the preponderance of the record evidence, the intervenors had little choice but to attempt in their initial briefs to create smokescreens in the hope of obscuring the clear and compelling record support for PSE&G’s Petition.

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<sup>1</sup> Initial briefs were filed by the Municipal Intervenors, the Environmental Intervenors, Stop the Lines! (“STL”), the Montville Township Board of Education (“Montville BOE”) and the Department of the Public Advocate, Division of Rate Counsel (“Rate Counsel”).

The record in this proceeding overwhelmingly supports the conclusion that the proposed Project is required to maintain reliability of the regional transmission grid and, as independently identified and supported by PJM Interconnection, L.L.C. (“PJM”), is the best solution to address the multiple reliability criteria violations that, if the Project is not placed in service, are forecasted to commence in the summer of 2012. Thus, PSE&G seeks unconditional authority to begin construction of the Project as of the date of BPU approval in all areas of the proposed Project route that do not require receipt of a certificate, license, consent or permit to construct or disturb land from another state or federal agency with jurisdiction over aspects of the Project.

## II.

### DISCUSSION

#### A. MOTION TO DISMISS

The interveners' motion to dismiss should be denied on both procedural and substantive grounds.

Although PSE&G will not devote significant time in this reply brief to a discussion of the motion to dismiss filed jointly by the Municipal Intervenors, STL and the Environmental Intervenors, to the extent intervenors are deemed to have renewed the motion in their initial briefs, it is important to document PSE&G's opposition, both on procedural and substantive grounds.

As a motion for summary decision, even when initially filed on November 9, 2009, it was simply out of time under N.J.A.C. 1:1-12.5(a), which requires such motions to be filed "no later than 30 days prior to the first scheduled hearing date." Moreover, there is absolutely no basis to circumvent the time limitation for filing a motion for summary decision, simply by labeling it a motion to dismiss and citing N.J.A.C. 1:1.3(a). Lastly, and most significantly, the proceeding is quite clearly now ripe to be decided on the merits based upon the record and upon the full and proper briefing that is to be completed with the filing of reply briefs, as opposed to pursuing an untimely and improper attempt to short circuit the process that would prevent the Board from making a fully-informed decision. The clearly identified "genuine issues" of material fact in dispute, which would preclude the granting of even a timely-filed motion for summary decision or motion to dismiss in any event (see, e.g., Brill v. Guardian Life Insurance Co. of America, 142 N.J. 520, 540 (1995); Dolson v. Anastasia, 55 N.J. 2, 5-6 (1969)), were the subject of volumes of pre-filed testimony and supporting exhibits submitted by

PSE&G, as well as a week of comprehensive testimony comprising over twelve hundred transcript pages and which included the introduction of over four hundred exhibits.

Accordingly, the motion to dismiss must be denied and a decision should be rendered on the merits.

**B. NEED**

**Given the extent of the planning violations that have been fully identified and documented in the record (1) need for this Project has been conclusively demonstrated in accordance with N.J.S.A. 40:55D-19; and (2) there is no reason or support in the record for the Board to wait for any further PJM analysis or updated information.**

The interveners argue this important Project should be delayed pending yet another update and analysis by PJM, notwithstanding the fact that “need” has already been amply demonstrated through three analyses, including one that fully reflected the effects of the economic downturn that commenced in 2008.

PSE&G’s Petition is ripe for a full decision on the merits. There is simply no reason to wait for any further PJM analysis or updated information regarding need for the Project. To do so, is not only inconsistent with the record in this proceeding, but wholly unnecessary. As was discussed at length in the Company’s initial brief (Pb at 24-56<sup>2</sup>), the need for the Project has already been demonstrated through the course of three different independent analyses. By the very nature of the RTEP process, up-to-the-minute data will never be available at the time a decision must be made, as the available data will always relate to a period some number of months in the past. This is because, after collecting the data, the process of conducting the extensive analyses and simulations

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<sup>2</sup> References to initial briefs (“b”) are generally made in this reply brief by use of letters designating a party (“Pb” for Petitioner (PSE&G); “Mib” for the Municipal Intervenors; “Eib” for the Environmental Intervenors; “STLb” for STL; “MBOEb” for Montville BOE; and “RCb” for Rate Counsel) followed by “at” and a page reference.

that make up the RTEP process, and vetting the results through the Transmission Expansion Advisory Committee (“TEAC”), necessarily takes several months. Indeed, if up-to-the-minute data were required, the Board could never act, because there is always another PJM analysis just “over the horizon.” The long-term planning that is essential to the reliability of the critically important transmission system requires that, at some point, decisions must be made and essential projects must “move forward.” Exhibit P-11 (Direct Testimony of Steven R. Herling) at 31-1. Moreover, given the extent of the planning violations that have been identified, there is no basis to suggest that another analysis will impact the need or timing of the Project. However, in the unlikely event that another analysis demonstrates that the Project can be safely delayed or is no longer needed, PJM and PSE&G have specified throughout this proceeding that they would abide by that determination. The Board could certainly indicate in its approval of the Project that such approval is dependent on the continued need for the Project to maintain reliability in the region as identified in the PJM RTEP. Petition at 14, ¶29; Exhibit P-11 (Direct Testimony of Steven R. Herling) at 27; Exhibit P-15 (Rebuttal Testimony of Esam A.F. Khadr) at 7; Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 4.

The interveners’ “need” arguments can generally be grouped into the following broad categories: (1) the allegation that impact of the economic downturn that began in 2008 was ignored by PJM (see, e.g., Mb at 13, 29, 61; Elb at 1-2, 10, 13; STLb at 13-14; RCb at 6); (2) the allegation that insufficient consideration was given to demand response (“DR”), including the results of the May 2009 Reliability Pricing Model (“RPM”) auction, energy efficiency (“EE”), new generation, including distributed generation, and state policies such as those reflected in New Jersey’s Energy Master Plan (“EMP”) (see,

e.g., Mb at 26-27, 60, 65-68; Eib at 33-45; STLb at 13, 33-37; RCb at 7-8); (3) the allegation that succeeding PJM analyses reflect changes in the number and types of planning criteria violations and therefore the Project is somehow unnecessary (see, e.g., Mb at 1, 59; Eib at 14, 19, 46, 52; STLb at 12); (4) the allegation that reactive power somehow cause, rather than solve, reactive power issues (see, e.g., Mb at 27-28, 32; Eib at 46-52); and (5) miscellaneous other matters. These points will be addressed in turn below.

(1) Economic Downturn

The interveners continue to falsely allege that PJM and the Regional Transmission Expansion Planning (“RTEP”) process somehow overlooked or intentionally ignored the impact of the recent economic downturn. While the repetitions of this argument are too numerous to review individually in this reply brief, perhaps the starkest example of this approach is reflected in the claim of the Environmental Intervenors that the January 2009 peak load forecast “was created prior to the current economic recession,” a recession that they claim resulted in a “sea change” as to the demand for electricity.<sup>3</sup> Eib at 13. However, as discussed in PSE&G’s initial brief (Pb at 51), PJM’s most recent analysis, referred to as the “March 2009 Retool,” occurred well after the onset of the economic crisis. Indeed, PJM witness John M. Reynolds made clear at the hearing that:

[S]tarting with the load forecast report which was released in January 2009 [and used in the March 2009 Retool] [the forecast] did fully reflect the impact of a recession that began in 2008, deepened in 2009 . . . and reflected the largest load drop that anyone at PJM has ever seen and that

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<sup>3</sup> At the same time, the Environmental Intervenors, perhaps inadvertently, acknowledge that the “January 2009 load forecast report reflects significantly lower PJM zonal peak demands than the January 2008 load forecast report.” Eib at 24.

analysis . . . was used to confirm the need for the Susquehanna-Roseland line . . . .

4T:813-20 to 814-1.<sup>4</sup>

The interveners not only fail to acknowledge this crucial fact, but they also seek to obscure the significance of the March 2009 Retool, which was based on the January 2009 forecast, by proffering a substantial amount of irrelevant, so-called “load” data in an attempt to suggest that “load” has dropped during 2009 to levels that were wholly unanticipated in the January 2009 load forecast. See, e.g., Mib at 61, where it is noted that “[i]n the first nine months of 2009, demand in the PJM region was down 3.2%, following a first half of 2009 in which demand decreased 4.45[%].”<sup>5</sup> However, this data relates to energy usage, not peak load, and is therefore irrelevant to the RTEP process because PJM must plan the transmission system based on weather normalized peak load, not energy usage. See, e.g., Exhibit P-1 (Direct Testimony of Esam A.F. Khadr) at 13; Exhibit P-13 (Direct Testimony of John M. Reynolds) at 4; 3T:587-1 to 587-4. As to peak load, which *is* relevant to system planning, the January 2009 load forecast projected a 1.4% decline in the 2009 weather normalized peak load,<sup>6</sup> which is in line with the actual 2009 weather normalized peak reduction of 1.9%.<sup>7</sup> The Environmental Interveners’ similar attempt to discredit the January 2009 load forecast is also without

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<sup>4</sup> Consistent with PSE&G’s Initial Brief, transcripts of the hearings in this matter are identified as follows:  
1T = transcripts from the November 16, 2009 hearing  
2T = transcripts from the November 18, 2009 hearing  
3T = transcripts from the November 19, 2009 hearing  
4T = transcripts from the November 20, 2009 hearing  
5T = transcripts from the November 23, 2009 hearing  
followed by page-line references.

<sup>5</sup> Other such irrelevant statistics are cited by STL (STLb at 13-19).

<sup>6</sup> See Exhibit BKS-6 (2009 load forecast report), Table B-1.

<sup>7</sup> See [http://www.pjm.com/planning/resource-adequacy-planning/~/\\_/media/planning/res-adeq/load-forecast/summer-2009-pjm-seps-and-w-n-zonal-peaks.ashx](http://www.pjm.com/planning/resource-adequacy-planning/~/_/media/planning/res-adeq/load-forecast/summer-2009-pjm-seps-and-w-n-zonal-peaks.ashx).

merit because it refers to actual 2009 data that has *not* been weather normalized. See EIB at 23, n.6.<sup>8</sup>

In another attempt to suggest that the recession remained an unanticipated event through the March 2009 Retool, the Environmental Interveners point not to peak demand, or even to energy usage, at all, but instead focus on a decline in Gross Domestic Product (“GDP”) (EIB at 32). The January 2009 load forecast, of course, took into account the anticipated decline in GDP in projecting peak load, as discussed above. But perhaps just as significant, the interveners ignore the recent upturn in GDP, with real GDP growing by 2.8% in the third quarter of 2009.<sup>9</sup> This recent growth in GDP is of particular interest in light of Mr. Reynolds’ testimony that the reduced load reflected in the January 2009 load forecast remained nearly flat in 2010 and did not show growth beginning to return until 2011.<sup>10</sup> 3T:589-12 to 589-19.

Certain of the interveners point to other extraneous data related to congestion, energy prices, energy company earnings, transmission loading relief (“TLR”), reserve margins and similar data. See, e.g., MIB at 57, 61-63; STLb at 16-25. The perceived significance of this data to the issues at hand is never made clear because there is no

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<sup>8</sup> The Environmental Interveners also point to certain comments made at one of the public input hearings in an attempt to substantiate their claims about declining electricity demand (EIB at 23-24). As noted in the text, there is no dispute that the economic downturn has impacted demand, which impact has been fully factored into the RTEP process. However, PSE&G must note that, while the public’s perspectives and input are important in proceedings like this (and, indeed, PSE&G has made adjustments to the Project in response to such input), such material, as cited by the interveners (*id.* at 23-24, 63-64, 70; MIB at 72) does not constitute “substantial evidence.” See, e.g., In re Hackensack Water Company, 41 N.J. Super. 408, 418 (App. Div. 1956) (“[a]ny review of the facts must be confined to the question of whether they are supported by substantial evidence, i.e., such evidence as a reasonable mind might accept as adequate to support a conclusion”); Omnipoint Corp. v. Zoning Hearing Bd., 181 F.3d 403, 409 (3d Cir. 1999) (generalized concerns voiced by residents about aesthetics, property values and the like do not constitute “substantial evidence” on which an administrative agency may base a decision, particularly in the face of contradictory evidence in the record from expert witnesses).

<sup>9</sup> See <http://www.bea.gov/scb/index.htm>.

<sup>10</sup> In this light, there is no significance to Rate Counsel’s observation, without citation, that the 2010 load forecast “is expected to show slowing load growth” (RCb at 3). All of this was reflected in the January 2009 load forecast.

relevance.<sup>11</sup> First, none of this information impacts reliability assessments, nor is any of it used in the process that determined the need for the Project.<sup>12</sup> Second, if the interveners' point is, once again, to suggest that there has been a recession that was somehow left out of PJM's analysis, that argument has been debunked in the record, as the economic downturn was fully reflected in the January 2009 load forecast underlying the March 2009 Retool.

The interveners also inexplicably point to delays in, or, in one case, cancellation of a portion of, other RTEP projects as a result of the decline in the load forecast to suggest that the Project should also be cancelled or delayed. MIB at 30; STLb at 16. As explained in PSE&G's initial brief (Pb at 52), these circumstances only demonstrate the *bona fides* of the RTEP process, as those actions substantiate the validity of PJM's and PSE&G's assurances that, when subsequent analyses demonstrate that a project can be delayed without impacting reliability, or is no longer needed, that conclusion is recognized. Petition at 14, ¶29; Exhibit P-11 (Direct Testimony of Steven R. Herling) at 27; Exhibit P-15 (Rebuttal Testimony of Esam A.F. Khadr) at 7; Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 4. Moreover, the very same reduced load forecast that caused delay and/or cancellation of other RTEP projects continues to demonstrate a need for the Project, as evidenced by the 23 criteria violations identified in the March 2009 Retool, which only serves to underscore the need for this particular Project.

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<sup>11</sup> It may, however, be relevant that lower energy prices may impede the retention of existing generation or the development of new generation. See EIB at 13, n.3, noting that Exelon has announced the closing of four plants in the Philadelphia area due to decreased energy demand.

<sup>12</sup> Even though the RTEP process, in general, considers congestion, the Project is intended only to address reliability issues and is not being proposed for economic reasons (3T:699-14 to 700-1; 3T:765-5 to 765-13; 3T:766-2 to 766-9), notwithstanding the Environmental Interveners' unsupported protestations to the contrary (EIB at 79-80). Therefore, congestion, whether increasing or decreasing, is not relevant here.

The fundamental point is that the March 2009 Retool, which reflected the effects of the economic crisis and factored in the “largest load drop that anyone at PJM has ever seen,” still identified 23 planning criteria violations and confirmed the need for the Project. Exhibit P-15 (Rebuttal Testimony of Esam A.F. Khadr) at 4; Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 5; Exhibit P-20 (Rebuttal Testimony of Paul F. McGlynn) at 3-4; 3T:590-10 to 590-23.

(2) DR/EE/New Generation/EMP

The interveners’ initial briefs contend that the RTEP process does not appropriately or sufficiently factor in DR, EE, new generation or the policies reflected in the EMP, all of which was discussed in PSE&G’s initial brief (Pb at 45-50). However, the indisputable record in this proceeding reflects that the RTEP process in fact includes proper recognition of known and verifiable DR, EE and new generation initiatives.

Both PJM and PSE&G agree that DR, EE, smart grid technology and distributed generation are beneficial and both are supportive of the continuing development of these technologies and initiatives. See Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 10-11; Petition at 3-4, ¶6; 3T:723-23 to 724-7; see also footnotes 43 and 51 in the Company’s initial brief (Pb at 46, 55) for a description of the various PSE&G programs in these areas. Moreover, these technologies are modeled in the RTEP process to the extent appropriate (*i.e.*, when they are verifiable and can be counted on for planning purposes) in light of the significance of the reliability issues that must be addressed through that process. However, because PJM bears ultimate responsibility for compliance with North American Electric Reliability Corporation (“NERC”) planning

criteria and for the reliability of the transmission grid, it can reasonably take into account only the DR, EE and other resources that have been firmly committed through the RPM process, or through the execution of an Interconnection Service Agreement (“ISA”) with respect to generation resources, to ensure that a sufficient amount of such resources is actually in place at the time and at the locations needed. Exhibit P-11 (Direct Testimony of Steven R. Herling) at 32-42; Exhibit P-12 (Direct Testimony of Paul F. McGlynn) at 9-10; Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 7-8; 3T:601-8 to 19; 3T:668-23 to 669-5; 3T:712-24 to 713-8; 3T:727-2 to 727-16.

No matter how much the interveners may wish otherwise, prudent transmission planning simply does not permit aggressive assumptions about the availability of these resources without strong assurances that they will be there in the quantities, at the times and in the locations needed. The fact that neither PJM nor PSE&G has the authority to require that these resources be made available at the appropriate times and in the appropriate locations (Exhibit P-11 (Direct Testimony of Steven R. Herling) at 34-36; 3T:672-1 to 672-3; 4T:794-17 to 794-22) also precludes reliance on them for planning purposes without firm commitments from suppliers.<sup>13</sup>

Although committed and verifiable DR is included in PJM’s RTEP analysis because it can be counted on and is in a position to reduce peak demand (which is what transmission planning is based on), uncommitted DR simply cannot be relied upon in transmission planning because DR is not mandatory and relies on the voluntary actions of individual customers, which can never be assured, particularly on a sustained basis.

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<sup>13</sup> It is interesting to note that even the Environmental Intervenors could bring themselves to go no further in their initial brief than to speculate that these resources, as promoted by policies in New Jersey and Pennsylvania, “could” bring about peak load reductions, “could” help relieve stress on the transmission system and “could” lead to fewer transmission upgrades. EIB at 41.

Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 7-8. Perhaps more importantly, DR cannot in any event resolve the ten Category C double circuit tower line contingency violations identified in Exhibit PFM-3 to Exhibit P-20 (Rebuttal Testimony of Paul F. McGlynn), because DR is not available under the non-emergency conditions under which Category C violations are modeled, and there would not be sufficient time to invoke DR anyway, even if available.<sup>14</sup> Exhibit P-15 (Rebuttal Testimony of Esam A.F. Khadr) at 6; Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 6-7; 3T:661-21 to 663-14; 3T:664-6 to 664-9; 3T:709-19 to 710-3; 3T:740-7 to 741-2. For essentially the same reasons, certain interveners' focus on the May 2009 RPM auction results (see, e.g., EIB at 14, 33-37; RCB at 7) is similarly misplaced. The resources from that auction, even after they are factored into the analysis, cannot resolve Category C violations and, in addition, they are simply not sufficient in any event to address the substantial number of identified violations in the locations where the violations occur and in the time frame required. 3T:740-11 to 740-20; Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 6.

Certain interveners (who have no responsibility for transmission planning) have objected to PJM's recognition of the "burdens" of new generation prior to its recognition of the associated "benefits" and advocate, instead, that the reliability "benefits" of new generation be taken into account at the same time that the associated "burdens" are considered. MIB at 30; EIB at 44-45. However, PJM must also take a prudent approach to new generation in planning a reliable transmission system. In light of the difficulties in developing new generation (Exhibit P-11 (Direct Testimony of Steven R. Herling) at 32-

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<sup>14</sup> The Environmental Intervenors' assertion that these resources could be activated "automatically" (EIB at 21, n.5) is proffered without any record support whatsoever and is directly contradicted by the evidence cited in the above text.

33) and the fact that the overwhelming majority (85%-88%) of projects that enter the interconnection queue are ultimately abandoned and never placed into service (id. at 38-41; Exhibit P-19 (Rebuttal Testimony of Steven R. Herling) at 7; 3T:596-4 to 597-1), new generation cannot be reasonably factored into transmission planning until it has signed an ISA. At the same time, prudent transmission planning requires that a generator's contribution to increased load on transmission facilities must be considered earlier in the interconnection process, *i.e.*, when it executes a Facilities Study Agreement, which is prior to the execution of an ISA. Id. Adoption of the interveners' approach would be imprudent and would be inconsistent with the need to take a somewhat conservative approach to planning in order to ensure that the overriding goal of maintaining a reliable transmission system is met. Id.

For all of these reasons, the sensitivity analyses and other assessments of the quantity of DR, EE or new generation that would be required to resolve the identified reliability criteria violations, which are sought by certain interveners (see, e.g., E1b at 4, 15, 37-38; STLb at 13)), would ultimately produce no meaningful data. As noted above, provision of these merchant resources cannot be compelled, and, once committed and measurable, they are fully taken into account in the RTEP process. Therefore, the sort of speculative, wholly theoretical analyses of the type proposed by the interveners, which would be considerably complicated by the need to consider the precise location of each such theoretical resource (3T:628-5 to 628-8), would ultimately produce nothing of value for transmission planning purposes.

Also as discussed in PSE&G's initial brief (Pb at 47-48), while PSE&G has been fully supportive of the aggressive goals set in the EMP and the achievement of its

laudable goals -- goals primarily geared to 2020, not 2012 when the Project is needed -- it would be imprudent to expose customers to the potentially catastrophic consequences of transmission failures based on goals that the EMP itself recognizes are “aggressive,” “experimental” and “untested” (EMP (Exhibit BKS-36) at 6, 67).<sup>15</sup> To the extent the EMP is successful going forward in moving towards achievement of its goals, the resulting resources will be appropriately taken into account in future RTEPs. 4T:851-20 to 852-16. In the meantime, New Jersey is at the very beginning of its attempts to implement the EMP, which is why the EMP itself recognizes the continuing need for traditional utility infrastructure, including new transmission (EMP (Exhibit BKS-36) at 7, 27, 51, 75), and models the Project as in-service (Exhibit EAK-8 (EMP Modeling) at 15 and Appendix A thereto at 40 and 65).<sup>16</sup> Prudent transmission planning demands no less.

Cutting through to the substance of all of the interveners’ arguments along these lines, it becomes clear that they would prefer an entirely different approach to transmission planning than the one PJM has developed and implemented through its FERC-approved tariff. Rather than rely on the RTEP process, which focuses on what is known about the future condition of the system, based, in part, on reasonable and data-driven assumptions and forecasts, the interveners would, instead, prefer to engage in theoretical debates and speculate about what may (or may not) happen in the future with respect to various aspects of the energy delivery system, plan the system accordingly and then hope that their speculations pan out. No one can expect those with actual

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<sup>15</sup> In this light, Rate Counsel’s unwavering confidence as to what “will result” from the EMP (RCb at 7) cannot form the basis for a transmission planning decision that must be made at this time.

<sup>16</sup> It ultimately does not matter whether or not the EMP “endorsed” or “supported” the Project as such (Eib at 42). What matters is that the EMP does not, as it cannot, assume that there will be no new transmission.

responsibility for “keeping the lights on” to approach transmission planning in such a fashion.

(3) Evolution of Identified Criteria Violations

Several of the interveners suggest that some negative inferences should be drawn from the fact that the number and type of reliability criteria violations have evolved through the course of the three PJM analyses discussed in the record. MIB at 1, 59; EIB at 14, 18, 46; STLb at 12. The Municipal Intervenors and STL, inexplicably, go so far as to complain that the successive analyses have made this proceeding overly confusing by creating a “moving target” (MIB at 56; STLb at 7, 9, 11), while at other times complaining that the data on which PJM and PSE&G rely is “outdated” (see., e.g., MIB at 1; STLb at 1), without ever explaining how one updates supposedly outdated data without undertaking new analyses based on updated data or how one provides the new analyses before they have been completed.<sup>17</sup> In any event, for several reasons, these arguments constitute no more than another smoke screen in an effort to confuse the issues before the Board.

First, the interveners mischaracterize the record by generally stating that the 23 criteria violations identified in the initial RTEP analysis have been reduced to 13 in the March 2009 Retool (see., e.g., MIB at 1, 59 (“projected violations [have been] cut almost in half”); EIB at 14 (based on the March 2009 Retool, “the 23 potential violations had shrunk to only thirteen”), 19, 46, 52; STLb at 12 (referring to 13 “remaining”

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<sup>17</sup> The Municipal Intervenors also incorrectly claim that PJM has made “shifts in methodology” (MIB at 58), when all PJM has done is use updated data input with its existing models, with perhaps a few tweaks identified through the TEAC to improve the process (Exhibit P-11 (Direct Testimony of Steven R. Herling) at 12-13).

violations)).<sup>18</sup> However, in making these assertions the interveners appear to willfully ignore the ten Category C violations identified in the March 2009 Retool (see Exhibit P-20 (Rebuttal Testimony of Paul F. McGlynn) at 5 and Exhibit PFM-3 thereto), although at least the Environmental Intervenors acknowledge their existence, albeit in a somewhat dismissive manner (EIB at 19-22).<sup>19</sup> They also refuse to acknowledge that determinations of any changes in reliability criteria violations are precisely the point of these succeeding analyses.

Second, and more importantly, while the evolution of the identified violations may be of some minor historical interest, the simple fact is that, *after* taking into account the effects of the economic recession and all committed DR, EE and new generation, ***there remain 23 criteria violations***, albeit of a different mix than identified in the initial analysis. In fact, this very history, and the resulting evolution of the identified violations, only serves to demonstrate both the robustness of the RTEP process and the severity of the reliability concerns driving the need for the Project. Yes, things change over time, and the ongoing RTEP process takes those changes fully into account, but, in the case of the Project, the need, nonetheless, remains overwhelming.

Perhaps recognizing the weakness of their “changing violations” argument, the interveners try to tie it to unfounded assertions about the supposed lack of consideration given to alternative solutions in light of these changes. MIB at 59; EIB at 28, 52, 55;

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<sup>18</sup> The significance of the intervener’ focus on the elimination of the single 500 kV-related violation identified in the initial analysis (MIB at 59; EIB at 28; STLb at 12) is never made clear. Any violation that would threaten the reliability of the transmission system, whether on a 230 kV line or a 500 kV line, must be addressed under NERC’s reliability standards.

<sup>19</sup> As discussed in PSE&G’s initial brief (Pb at 39), Category C criteria require that the system be tested with two elements of the system out of service. In this case, only contingencies involving the loss of two circuits on a single tower line, also known as “double circuit tower line contingencies,” are relevant. Exhibit P-12 (Direct Testimony of Paul F. McGlynn) at 6-13 to 7-2; Exhibit P-20 (Rebuttal Testimony of Paul F. McGlynn) at 4-6; Exhibit MI-13.

STLb at 12-13. This approach, too, falls short. As explained in the Company's initial brief (Pb at 43, 53), the other alternatives, including a different 500 kV line or a 230 kV line or reconductoring, are simply not robust enough to address the myriad violations at issue here, whether the initially-identified violations or those remaining after the March 2009 Retool. Exhibit P-11 (Direct Testimony of Steven R. Herling) at 32-35; Exhibit P-12 (Direct Testimony of Paul F. McGlynn) at 24; Exhibit P-15 (Rebuttal Testimony of Esam A.F. Khadr) at 9-10; Exhibit S-51 (response to S-PP-17); Exhibit S-75 (response to SRTT-26); 3T:579-15 to 583-4; 3T:592-13 to 592-22. As Mr. Herling testified, with "multiple violations" it is "practically impossible to upgrade all of the related facilities. . . to insure reliability for the long term." 3T:582-18 to 582-24.

(4) Reactive Power

Certain of the interveners also continue to advance the arguments about reactive power initially contained in the written testimony of Benjamin K. Sovacool (at 23-29), asserting that the Project will somehow exacerbate reactive power concerns. MIb at 27-28, 32; EIb at 46-52. Not only are these convoluted arguments based on the testimony of a non-engineer with no experience in operating or planning a transmission system (4T:879-1 to 879-19; 4T:882-14 to 883-7; 4T:934-4 to 935-16; Exhibits Exelon-2, 3 (responses to PSEG-Sovacool-1, 2), but they also simply have no bearing on this Project, and neither the cited briefs nor Dr. Sovacool ever attempted to explain how these issues relate to the Project. Moreover, the arguments, in fact, have no merit even in the abstract, as they are directly contradicted by the clear and unequivocal expert testimony of Mr. Khadr and the PJM witnesses.

As explained in PSE&G's initial brief (Pb at 54), the Project will reduce the need for reactive power, will add charging to the system that will increase reactive power and contribute to voltage stability and, in general, like other 500 kV projects, is viewed as a solution to any reactive power issues that may exist. Exhibit P-15 (Rebuttal Testimony of Esam A.F. Khadr) at 8-9; 3T:622-16 to 622-20; 3T:672-20 to 673-14; Exhibit S-101 (2008 RTEP -- Reliability Analysis Updated, dated October 15, 2008 (TEAC meeting) at 2) (noting the severe reactive problems identified for MAAC and EMAAC load deliverability in 2013, and that all three alternatives identified to address those issues were 500 kV backbone projects). Notwithstanding these considerable reactive power benefits from the Project, it is also important not to lose sight of the fact that none of the planning violations at issue here relate to reactive power or involve voltage stability issues. 3T:678-23 to 678-25; 3T:687-6 to 687-8.

(5) Miscellaneous

Intervener briefs contain a broad litany of other extraneous, largely irrelevant material that presumably is intended somehow to create doubt about the Project. It would be impossible, and ultimately consume many pages of text, to address each such item in detail. Therefore, this reply brief will touch on only a few of them at a high level:

- (i) In the face of unequivocal testimony that the Project is proposed to address only reliability issues, and not for economic reasons (3T:699-14 to 700-1; 3T:765-5 to 765-13; 3T:766-2 to 766-9), certain interveners persist in making baseless assertions that the Project is not a reliability project, but is, instead, market driven or driven by economic considerations (see, e.g., MIB at 49, 56; EIB at 4; STLb at 6-7). The Municipal Interveners incredibly go so far as to suggest that PJM, notwithstanding its FERC-approved status as an independent Regional Transmission Organization ("RTO"), has some nefarious economic or other motives, claiming that PJM "wants to generate and sell [power] to merchant transmission stations" (MIB at 27), that PJM "wants" to discourage new

generation in order to develop a project to transmit power from west to east (id. at 28), and that PJM is trying to implement its “business plan” (id. at 56), all the while apparently ignoring the fact that PJM operates on a not-for-profit basis (3T:700-14 to 701-7).<sup>20</sup>

- (ii) Discussions of the number of hours in the past during which certain thresholds have been exceeded (see, e.g., MIB at 25) are of no significance, as the RTEP process is a forward-looking process that, by design, is geared to resolving future reliability concerns, not historical problems.
- (iii) The continuing attempts to impugn PJM’s load forecasting (see, e.g., MIB at 25-26, 31) are without merit, as they continue to ignore, among other things, distinctions between weather normalized and unrestricted (i.e., highly temperature dependent) load. See Pb at 52-53.
- (iv) The implicit suggestions that the violations at issue are supposedly “nominal” (STLb at 12) or that only a “handful” of lines are impacted (EIB at 46) or that there are only a limited number of “problematic circuits” (id. at 28, 30) also carry no weight. First, in their desire to advance these concepts, the interveners have ignored the Category C violations. Second, even if there were merit in these suggestions (which there is not), **no** violation can be ignored, because NERC requires **all** violations to be resolved regardless of their magnitude (4T:851-2 to 851-9).
- (v) Assertions about merchant transmission (RCb at 8-9; MIB at 27) and attempts to cast negative insinuations about PSE&G’s unregulated power affiliate (RCb at 9-10) are equally without merit, as the structure of today’s energy markets allows for merchant transmission (which this Project is not), a fact that neither PJM nor PSE&G can change. Moreover, PSE&G is not involved in decision-making with its affiliates to provide power outside (or inside) the PJM region. Notwithstanding, PSE&G affiliates have consistently incurred obligations to supply basic generation service (“BGS”) load within New Jersey and have committed generation output as part of the RPM Auction process. (3T:774-13 to 775-21).
- (vi) In yet another attempt to cast in a negative light what the record quite clearly demonstrates is a reliability-based Project, (3T:699-14 to 700-1; 3T:765-5 to 765-13; 3T:766-2 to 766-9), STL (STLb at 26) and the Environmental Intervenors (EIB at 5, 76-78) have raised unsubstantiated allegations that the Project is part of some grand PJM conspiracy theory to expand transmission under the code name “Project Mountaineer.” This argument completely disregards the testimonies of Mr. Khadr and Mr. Herling that the PJM Project Mountaineer initiative was totally unrelated to the Project and, in fact, was never advanced beyond one working group meeting resulting from a FERC Technical Conference held over

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<sup>20</sup> In this connection, STL’s spurious claim that the Project is not intended for “local load service” (STLb at 5, 8) is also without merit, as it flies in the face of essentially all the evidence in the case.

four years ago. See 4T:838-25 to 839-6; 4T:844-2 to 844-14; 4T:844-24 to 845-5. Moreover, it disingenuously fails to acknowledge that the “Project Mountaineer” initiative was in response to a request from FERC, who, in 2005, specifically asked that PJM and other RTOs explore the promotion of regional transmission planning and expansion to facilitate fuel diversity, “including expanded uses of coal-fired resources.” See STL-14 (Transcript of Testimony from FERC Technical Conference – *Promoting Regional Planning and Expansion to Facilitate Fuel Diversity Including Expanded Uses of Coal-Fired Resources*) at 2-3 (remarks of FERC Chairman Wood). As demonstrated by the record evidence in this proceeding, the FERC efforts that spawned the “Project Mountaineer” concept announced during the 2005 technical conference were not substantially advanced either by FERC or PJM. In fact, both Mr. Khadr and Mr. Herling categorically denied any relationship between Project Mountaineer and the current reliability Project. The incontrovertible evidence in the record reflects that Project Mountaineer has no relation to the S-R Project and is not relevant to the Board’s determination in this proceeding. Not only was no evidence in any way presented during the current proceeding which would contradict the testimonies of Mr. Khadr or Mr. Herling, but there also was absolutely no evidence presented to support an allegation that this Project is anything but the most appropriate solution to address a legitimately identified threat to the provision of safe, adequate and proper electric service in New Jersey.

- (vii) Although there is absolutely no evidence in the record questioning the merits of PSE&G’s leakage analysis and no other party exercised their rights to perform a leakage analysis of their own, in yet another attempt to try to delay the Project, the Environmental Interveners raise for the first time in brief the idea that somehow PSE&G did not conduct a proper leakage analysis and should be required to do so. EIB at 82.<sup>21</sup> PSE&G’s analysis was uncontested in the record and, in fact, was the subject of only very limited Board Staff discovery requests during the discovery phase of the proceeding and minimal cross-examination during the evidentiary hearings, neither of which called into question the analysis performed. Moreover, although PSE&G performed the leakage analysis at the behest of Board Staff, PSE&G maintained its objections on relevancy grounds as well as the lack of any kind of established regulatory leakage analysis standard. PSE&G made quite clear that it was providing the analysis for informational purposes only and that it should not serve as precedent or establish a standard with respect to leakage or any methodology to assess the impact on leakage of a proposed transmission reinforcement project. Notwithstanding that PSE&G performed what it believes to be a sufficient leakage analysis, even assuming

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<sup>21</sup> In fact, PSE&G’s leakage analysis, the only analysis of this issue in the record, showed a net increase of CO<sub>2</sub> resulting from the Project of only 0.03% based upon PJM’s Load Forecasts for 2013. See Exhibit S-96 (PSE&G’s Leakage Analysis). Even assuming a 5% increase or decrease in PJM’s 2013 Load Forecast, PSE&G’s leakage analysis yielded an increase in CO<sub>2</sub> emissions from the Project of only 0.04% and 0.05%, respectively. Given that an analysis of this nature is highly speculative, PSE&G also evaluated leakage assuming that Congress enacts national carbon legislation capping CO<sub>2</sub> emissions nationwide. Under that scenario, PSE&G’s analysis yielded an increase in CO<sub>2</sub> emissions resulting from the Project of only 0.01%. Id.

*arguendo* there was evidence in the record contradicting the PSE&G analysis (which, undeniably, there is not), there is no legal support for the Board to deny its approval of an application under N.J.S.A. 40:55D-19 based upon such information or the lack thereof. See e.g., In the Matter of Centex Homes, LLC Petition for Extension of Service and/or for Exemption from Main Extension Rules N.J.A.C. 14:3-8.1 et seq. Pursuant to N.J.S.A. 48:2-27 and N.J.A.C. 14:3-8.8(a)(4) or (a)(6), \_\_\_ N.J. Super. \_\_\_ (App. Div. Docket No. A-2207-07T3, 2009) (slip op. at 31) (recognizing that BPU was intended by the Legislature to have the widest range of regulatory power over public utilities but that power has been cast in economic terms and never been cast in environmental terms).

### C. COST ALLOCATION

**The Seventh Circuit’s decision in *Illinois Commerce Commission, et al. v. Federal Energy Regulatory Commission* has been mischaracterized and has no bearing on this proceeding.**

The Municipal Interveners (Mib at 40), the Environmental Interveners (Eib at 72) and STL (STLb at 28) allege that the decision in Illinois Commerce Commission, et al. v. Federal Energy Regulatory Commission, 576 F.3d 470 (7th Cir. 2009), rehearing and rehearing en banc denied (Oct. 20, 2009) should delay Board action on this matter.<sup>22</sup> However, that decision has been mischaracterized and, for several reasons, should have no bearing on this matter in any event. First, the issue of cost recovery is not relevant to the assessment of the need for the Project, which is based on all of the reliability concerns set forth in the record and discussed in PSE&G’s initial brief and in this reply brief. Second, the determination of the appropriate cost recovery mechanism for the Project is within the exclusive jurisdiction of the Federal Energy Regulatory Commission (“FERC”). Nantahala Power & Light Co. v. Thornberg, 476 U.S. 953, 966-67 (1986). Third, PJM’s existing cost allocation method has not been “dismantled” as suggested by the interveners. (Mib at 43; Eib at 72). Rather, it remains “valid” (STLb at 30) and “in place” (Mib at 40; Eib at 73), pending FERC’s action in the remand proceeding ordered by the Seventh Circuit. Indeed, the Illinois Commerce Commission decision requires “only that [FERC] have made a reasoned decision based upon substantial evidence in the record” supporting FERC’s initial determination (576 F.3d at 478), and there is no reason to believe that FERC will not provide such a reasoned decision in the remand proceeding.

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<sup>22</sup> PSE&G vehemently rejects the Municipal Interveners’ baseless assertion that PSE&G breached any obligation to affirmatively “advise” the Board or the parties of the Illinois Commerce Commission decision (Mib At 45). As discussed in the text, the cost allocation scheme remains in effect and, in any event, the decision is a matter of public record.

As a result, PJM Schedule 12 remains a currently valid tariff. Moreover, PSE&G has been collecting, and continues to collect, Project-related construction-work-in-progress (“CWIP”) under its FERC-approved formula transmission rates.<sup>23</sup>

#### **D. ROUTING**

- 1. Contrary to the allegations expressed in the intervenor briefs, the record reflects that the route for the Project was carefully determined and that utilizing the existing right-of-way proved to be the best alternative for minimizing impacts to the public in addition to being wholly consistent with the Board’s governing regulations.**

The interveners’ briefs have argued that PSE&G’s route selection process was a “sham” and that Route B was “preordained” as the preferred route. Eib at 56. However, this is contrary to the clear and uncontroverted evidence in the record. The evidence shows that PSE&G hired the Louis Berger Group (“Berger”) to perform an extensive review of the area and to select the most appropriate route for this Project. Berger prepared the Alternative Route Investigation Report (“ARI”). Exhibit P-8 (Direct Testimony of Jack Halpern) and Exhibit JH-1 thereto. The ARI clearly identified the goal of the routing team as follows:

to select the most suitable route for a new 500-kV electrical transmission line between the Susquehanna and East Hanover/Roseland switching stations. The most suitable route was defined as the route minimizing the effect of the transmission line on all factors of the natural and human environment, while avoiding unreasonable and circuitous routes, extreme costs, and non-standard design requirements to the maximum extent possible.

Id. at 9. The unassailable evidence in the record demonstrates that Berger attained this goal in choosing the route for this Project. See generally Exhibit P-8 (Direct Testimony of Jack Halpern).

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<sup>23</sup> See *Public Service Electric and Gas Company*, 124 FERC ¶ 61,303 (2008).

Indeed, the record is entirely devoid of any support for the notion that Route B was *not* the most appropriate route for this Project. In fact, the interveners do not even attempt to argue that there was a better alternative to the existing right-of-way or that the existing right-of-way was not the most appropriate route for this Project. Instead, they simply argue that PSE&G was interested in using the existing right-of-way from the beginning. MIB at 16-17.

The interveners are in fact correct on this point, as PSE&G was interested in using existing right-of-way from the beginning of the process as much as reasonably possible. This approach comports with the Board's regulations, which require an electric utility company to use existing rights-of-way wherever feasible when constructing a new transmission facility. N.J.A.C. 14:5-7.1(a)(1). It would have been imprudent, and inconsistent with New Jersey regulations, for PSE&G to ignore an existing right-of-way as it prepared to design a new transmission line. However, although PSE&G was always interested in utilizing the existing right-of-way, it hired Berger to determine the most appropriate route – irrespective of whether that turned out to actually be the existing right-of-way. 1T:187-12 to 187-22. In fact, Mr. Halpern testified on cross examination that, although the existing right-of-way was of “higher interest” to PSE&G, Berger was not pre-disposed to the use of the existing right-of-way and PSE&G's interest in such a route did not factor into Berger's routing analysis. The cross-examination on this point went as follows:

- Q. Did PSE&G ever tell you at any time or anywhere along the process that they were predisposed to a particular route?
- A. [T]here was a strong interest in what is called Route B. They did not tell us they were predisposed, but it was one of higher interest for them.

Q. So do you think then in the preparation of your report, do you think that you may have leaned yourself more favorably to Route B as the recommended route?

A. Absolutely not.

Id.

Although none of the interveners propose a better alternative route than Route B, the Municipal Interveners allege that, since Route A has a fewer number of residences within 200 feet of the centerline of the right-of-way, PSE&G did not minimize the impacts to surrounding residences by choosing Route B. MIB at 17. However, this contention fails to recognize that if PSE&G constructed the 500 kV line on Route A, the existing 230 kV line would remain on Route B. 2T:525-17 to 526-2. Stated another way, utilization of Route A would not mean that the existing right-of-way, which Route B would have capitalized on, would disappear. Instead, in certain locations, use of Route A would have resulted in two sets of residents impacted by two different transmission lines. Specifically, by constructing the line on virgin right-of-way associated with Route A, PSE&G would significantly impact an additional number of residences within 200 feet from the new right-of-way over and above the existing residences which would continue to be impacted by the existing 230kV transmission line on Route B. Furthermore, as Mr. Halpern testified, Route A intersects with Route B. Therefore, use of Route A would still have impacted a number of residences in common with Route B. As clearly indicated by Mr. Halpern:

Route A actually, besides the 20 miles of greenfield, does connect into what is existing Route B and actually a large number of homes that you're seeing listed under Route A [in the ARI] – for example – seven homes within 75 feet . . . 34 residen[ces], are really mostly part of the section where it would be common with Route B. And why we're able to avoid that and have less numbers on A was because it was greenfield and we

were able to adjust the route in the field. So we were able to adjust to avoid houses on that portion of Route A that is greenfield.

Q. So it looks better because most of it was greenfield?

A. When we were in the field and saw houses, we were able to do adjustments to the route.

1T:135-18 to 136-8.

The Municipal Interveners also argue that PSE&G has failed to adjust the existing right-of-way to maximize distances to residences and to the Lazar Middle School, and therefore failed to meet the goals of the ARI.<sup>24</sup> M1b at 17. However, as noted in Mr. Halpern's testimony quoted above, such adjustments are only feasible in the context of creating a new right-of-way. He stated, "We attempt to avoid existing residences which were not on an existing right-of-way." 1T:84-18 to 84-20. Since Route B was an existing, established right-of-way with no development within the right-of-way, PSE&G did not attempt to revise this right-of-way. 1T:130-11 to 130-20.

The Environmental Interveners argue extensively that Route B runs through the New Jersey Highlands which is an area of "exceptional importance to the current and future residences of New Jersey." E1b at 59. Yet, what the Environmental Interveners fail to address in their brief is that Route B has the least impact on the Highlands Preservation and Planning Areas. As Mr. Halpern testified:

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<sup>24</sup> Similarly, STL makes the unprecedented request that, should this Project be approved, PSE&G should purchase homes of anyone within 200 feet of the ROW at a cost above fair market value. STLb at 49. Furthermore, STL requests that PSE&G compensate all residences for property value impacts. Id. As set forth in PSE&G's initial brief, the record is completely devoid of any evidence suggesting that this Project will have any impact on property values. Furthermore, PSE&G strenuously objects to any condition of approval requiring PSE&G to purchase homes adjacent to the right-of-way. As the evidence clearly shows, this right-of-way pre-exists virtually all of the residences within 200 feet of the right-of-way. Exhibit S-6 (S-ENR-32).

Q. We have the Highlands Preservation and Highlands Planning Area and would you agree of these two categories total, Route B has the least impact on these areas?

Q. Let me rephrase that. Would you agree that Route B has the fewest feet within the Highlands?

A. Yes, I would.

1T:116-11 to 116-21. In addition, the Environmental Interveners fail to note that the use of the existing right-of-way clearly limits the environmental impacts of this Project. In fact, Mr. Halpern's undisputed testimony in the record is that the use of the existing right-of-way:

- Impacts the least forested land on the right-of-way (0.3 miles).
- Impacts the least amount of forested wetland on the right-of-way (0.1 miles), thus minimizing the potential change in wetland functions.
- Impacts the least number of C-1 streams crossed (10) which are not already crossed by an existing 230-kV transmission line on the same alignment.
- Results in essentially no change in the existing land use because the line could be constructed in the existing right-of-way.
- Crosses the Appalachian Trail on an existing 230-kV transmission line right-of-way.
- Is likely to have the least incremental impact on historic and archaeological resources compared to the other two Alternative Routes because the existing right-of-way would not need to be expanded, and existing structures would be replaced with new, albeit taller, structures, minimizing new ground disturbance.

Exhibit P-8 (Direct Testimony of Jack Halpern) at 9-9 to 10-2.

Given the above, the incontrovertible testimony clearly evidences that PSE&G's use of the existing right-of-way is the most suitable route for this Project and comports with the N.J.A.C. 14:5-7.1 requirement to use existing rights-of-way for new transmission projects, wherever feasible. The interveners fail to point to any evidence in the record establishing that the use of the existing right-of-way was not the most

appropriate route for this Project or to even suggest an alternative route. Accordingly, the BPU should approve the route selection performed by PSE&G.

2. **The Project has not changed despite interveners’s allegations to the contrary, and all refinements have been made to minimize impacts of the Project and promote the welfare of the public.**

Although interveners continue to portray PSE&G’s efforts to work with municipalities, state agencies and the public to refine the Project wherever possible as turning the Project into a project that is not yet “ripe,” PSE&G should not be penalized for looking for ways to address public concerns that will in fact promote the “welfare of the public” consistent with N.J.S.A. 40:55D-19. Furthermore, these refinements have not changed the fundamental nature of the Project. In fact, when the Municipal Intervenors first raised this “ripeness” issue with Commissioner Fiordoliso at the start of the evidentiary hearings, the Commissioner stated:

I would like to address Ms. Tamasi[k]’s letter of November 13, 2009, wherein she requests that the Board reject the petition because it is unfinished and not ready to be heard due to updated discovery responses filed by PSE&G on Thursday November 12, 2009 and Friday, November 13, 2009. I understand the Intervener’s concerns with respect to last minute updates and changes to the routing and/or construction of the project and updated information on the issues. Nonetheless, I am not going to penalize the Company for continuing to work with the affected municipalities throughout this process to try and minimize the impact of the proposed project.

1T:8-3 to 1T:8-16.

The Municipal Intervenors argue that the revised tower and access road locations (as shown on Exhibit RFC-3A) violate certain evidentiary rules due to their late submission and equate these revisions to a surprise witness at trial. MIB at 53. The Municipal Intervenors, in fact, argue that PSE&G should be required to amend its

application and start over with the process. MIB at 50 to 54. However, what the Municipal Interveners fail to recognize is that it is entirely appropriate during the process of obtaining approval under N.J.S.A. 40:55D-19 for the utility to continually work to minimize impacts associated with the project wherever and whenever appropriate. In re Public Service Electric and Gas Company Pursuant to N.J.S.A. 48:3-17.6 for the right to exercise eminent domain, 100 N.J. Super. 1, 10 (App. Div. 1968) (“Public Service II”). In fact, requiring a utility to amend its application every time it seeks to make a refinement to the Project in response to public input would have a chilling effect on the applicant’s willingness to incorporate public input into the Project in the first place. Furthermore, the adjustment of tower locations and access roads should not have come as a surprise to the interveners, as Richard Crouch, PSE&G’s Senior Project Manager – Transmission, clearly classified the access roads as preliminary during his direct testimony and indicated that further analysis would be needed to finalize these locations. Exhibit P-5 (Direct Testimony of Richard Crouch) at 16-18 to 16-23.

In fact, in Public Service II, the BPU did not even require the entire route to be finalized before granting the utility condemnation authority for a new 500kV line. Id. at 10. In summarizing the Board’s analysis under the predecessor to N.J.S.A. 40:55D-19, the Appellate Division approvingly stated:

At the time of the hearing the exact location of the Branchburg-New York route was still tentative. Selection of the terminal point in Suffern was predicated upon the plan to connect with an inter-area tie at that point with the New York system. Since a straight line from Branchburg to the Suffern terminal passes through heavily congested areas, some deviation was necessary to meet the practicalities of acquisition of rights-of-way. Originally the tentative route passed east of Lake Hopatcong and Lake Mohawk. However, after a number of meetings were held between Public Service and various municipalities, planning boards and citizens' groups, the tentative route was changed to pass west and north of the lakes.

Id. at 10. The Appellate Division further noted that the BPU did not require exact locations of towers or access roads when it approved condemnation authority for the 500kV project. The Court stated:

At the conclusion of the hearings, the Board granted Public Service authority to condemn the properties required for its right-of-way and upheld the propriety of overhead transmission construction, as well as the feasibility of the route from Holland Township to Branchburg and the tentative route from Branchburg to New York (except for possible deviations to comply with conditions imposed in the order). **In addition, it ordered Public Service to locate its towers, wherever practicable and feasible, so as to conform with the topography, thereby minimizing their effect upon the surrounding areas.**

Id. (emphasis added). Based on the BPU’s analysis noted above, the Appellate Division held that “that there was more than sufficient credible evidence to support the Board's findings and conclusion. We conclude that its determination may not be disturbed.” Id.

Furthermore, although all of the interveners allege that the suggested alternative locations of the switching stations have somehow changed the Project, thereby requiring PSE&G to amend its application, none of them take issue with PSE&G’s characterization of these alternative locations as better alternatives. In fact, none of the parties to this proceeding have argued that PSE&G should locate the stations anywhere but the Boroughs of Hopatcong and Roseland. That is because the interveners cannot contradict the clear and convincing evidence in the record that locating the stations in the Borough of Hopatcong and the Borough of Roseland, rather than the Township of Jefferson and Township of East Hanover, would minimize impacts to the environment and to the public.

a. Borough of Hopatcong Alternative

In connection with the Borough of Hopatcong switching station alternative, the evidence clearly establishes that building the switching station in the Borough of Hopatcong rather than the Township of Jefferson would significantly reduce the impacts to the environment. Exhibit MI-2 (PSE&G's Amended Highlands Applicability Determination Application). Nevertheless, in their brief, the Environmental Interveners attempt to imply that the Hopatcong switching station would be inconsistent with protection of the resources located in the Highlands. In so doing, the Environmental Interveners note the qualifications of the Highlands Planning and Protection Council and the Council's work in preparing a Regional Master Plan that is to "protect and enhance the significant values of the resources in the Highlands by protecting critical environmental areas, protecting water quality, and determining appropriate land use patterns for the areas within the Highlands." E1b at 61. Yet, the Environmental Interveners fail to mention that this same Council, in its press release supporting PSE&G's request for an exemption from the Highlands Act for the Project, stated that, by moving the station from Jefferson to Hopatcong, PSE&G is minimizing impacts on ecologically sensitive land in Jefferson Township. The Council stated:

The switching station will be moved to a site in Hopatcong Borough and the utility has agreed to construct a smaller station utilizing Gas Insulated Switchgear technology. This relocation also means 13 fewer towers will have to be constructed.

Highlands Council Press Release, May 19, 2009.

Furthermore, the evidence in the record unequivocally establishes that the alternative site in Hopatcong reduces environmental impacts. Exhibit MI-2 (PSE&G's Amended Highlands Applicability Determination Application). In Table 2 of its

application to the New Jersey Department of Environmental Protection (“NJDEP”) for a Highlands Applicability Determination, PSE&G calculated the reduction in environmental impacts by building the station in Hopatcong as follows:

<b>Table 2</b>			
<b>Impact Comparison</b>			
<b>Jefferson vs Hopatcong Switch Station Location</b>			
<b>Resource</b>	<b>Jefferson</b>	<b>Hopatcong</b>	<b>% Reduction</b>
Upland Forest	20.4 acres	6.62 acres	68%
Wetland Forest	0.5 acres	0.5 acres	0%
ROW Extension	4,650 feet	1,150 feet	75%

Id. Thus, the only evidence in the record in this matter shows that, by locating the switching station in Hopatcong rather than Jefferson, PSE&G can reduce environmental impacts by as much as 75%. Id.

b. Borough of Roseland Alternative

Although the Municipal Interveners allege that the alternative location of the eastern terminus station on an existing station site in the Borough of Roseland has not been thoroughly explained and that final detailed engineering drawings have not been supplied, none of the parties argue that the station should not be located in Roseland. In fact, East Hanover Township, one of the Municipal Interveners who has been the most vocal opponent to the switching station location in East Hanover, has expressly stated that it does not take issue with locating the station in Roseland rather than East Hanover. MIB at 14.

The undisputed testimony in the record reflects that locating the new switching station equipment at the existing PSE&G Roseland facility would be an appropriate action in reducing Project impacts. In fact, in his direct testimony, Richard I. Jacober, an electrical engineer from Black and Veatch who is in charge of designing the stations,

indicated that the East Hanover location was in a residential area surrounded by residential homes. Exhibit P-6 (Direct Testimony of Richard I. Jacober) and Exhibit RIJ-1 thereto. However, when describing the surrounding properties of the existing station in Roseland, Mr. Jacober stated:

The Roseland site today is an existing operating 230 to 130kV substation. If you look to the east side of the substation, it is bordered by Eisenhower Parkway; to the south it is bordered by an existing asphalt plant and a railroad track; to the north it is bordered by a – I'll refer to it as a strip mall type development; and to the west it is bordered by the Passaic River.

2T:526-21 to 527-2.

The uncontroverted testimony in the record demonstrates that locating the station in Roseland rather than East Hanover not only reduces impacts to the surrounding residents but also reduces environmental impacts. Mr. Jacober and PSE&G's environmental expert, Robert Pollock, clearly established this during the evidentiary hearings. Mr. Jacober testified that:

Number one - Roseland is an existing station in our switching station facility so rather than having another facility on the other side of the River, we have been able to leverage the Roseland site to install it in that location. And in addition to that, Mr. Pollock can probably address this a little bit further, but it is environmentally better because there are some wetland areas on the East Hanover site that we can avoid and not disturb.

5T:1241-12 to 1241-21. To which Mr. Pollock added:

Yes, the impacts associated with the Roseland Switching Station would be far less from a wetlands perspective and a natural resource perspective because it will be located on a site with an existing switch – existing switching station.

5T:1241-22 to 1242-1.

From the original filing of PSE&G's application in this proceeding to the present, the record has clearly indicated that two switching stations are needed for this Project –

one in the western portion of the transmission line and one in the eastern portion. See, e.g., 2T:527-6 to 528-2. Although PSE&G still remains willing to build the switching stations in the Townships of Jefferson and East Hanover, the record reflects the significant efforts PSE&G undertook in response to concerns expressed by the Highlands Council, East Hanover and others to find engineering design solutions to concerns raised by the originally proposed switching station locations. PSE&G respectfully submits that it should not be penalized for working with the public in an effort to minimize impacts associated with the Project. To do so would chill an applicant's willingness to work with the public to minimize impacts of a project seeking N.J.S.A. 40:55D-19 approval. Accordingly, the Board should approve this Project with the switching stations located in the Borough of Hopatcong and the Borough of Roseland.<sup>25</sup>

3. **Although the record contains significant evidence reflecting that PSE&G has minimized environmental impacts associated with the Project, environmental issues will be fully addressed by environmental regulatory agencies**

The interveners allege that PSE&G has not significantly evaluated environmental impacts, and that therefore the Board cannot approve this Project. However, the test under N.J.S.A. 40:55D-19 is whether this Project is reasonably necessary for the service, convenience or welfare of the public. For a project of this size, it is unavoidable that

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<sup>25</sup> The Municipal Intervenors also argue that the Board should hold further public hearings associated with these new station locations. However, this represents another attempt to improperly delay this Project. Commissioner Fiordaliso required several PSE&G witnesses to return on the last day of the hearings for further cross examination associated with the switching station locations (1T:8-17 to 8-25). Moreover, there was substantial discussion of the Hopatcong location at the public meeting held in connection with the Highland Council's determination. Thus, there is clearly no need to hold further public hearings. Furthermore, the two municipalities affected by the proposed switching station locations, Hopatcong and Roseland, have not requested any such public hearings. As Commissioner Fiordaliso stated, PSE&G should not be penalized for working with the municipalities. 1T:8-13 to 8-16. To require an applicant to amend its application under N.J.S.A. 40:55D-19 and hold further public hearings would limit an applicant's willingness to listen to the public and to incorporate changes into a project of this size.

there will be certain environmental impacts. However, it is well-established that the Board does not need to understand all of those impacts before rendering a decision under N.J.S.A. 40:55D-19. Public Service II, supra, 100 N.J. Super at 10. For example, in Public Service II, the BPU approved condemnation for a 500kV line without finalizing the route or the location of towers. Id.

Moreover, the interveners fail to address the fact that (1) to the extent environmental impacts associated with Project construction have been included in this proceeding, the indisputable record demonstrates that PSE&G has taken every measure to minimize those impacts; and (2) using the existing right-of-way greatly reduces environmental impacts. Exhibit P-8 (Direct Testimony of Jack Halpern) at 9-9 to 10-2. Furthermore, the only environmental testimony on the record at all comes from PSE&G's environmental expert, Robert Pollock. Mr. Pollock, who has been working in the environmental field since 1995 and who has worked on other transmission projects, testified that:

it is my opinion that the selected route is the most reasonable alternative. The Project will be located within an existing ROW, which has been in existence and maintained since the 1920's. It will require the least amount of new disturbance to natural resources, in contrast to a new virgin or modified linear right-of-way.

Exhibit P-3 (Direct Testimony of Robert Pollock) at 9-17 to 9-21.

Similarly, by relocating towers and access roads and proposing alternative locations for the two switching stations, PSE&G has greatly reduced environmental impacts associated with the Project. In fact, during cross examination by the attorney for the Environmental Intervenors, Mr. Crouch testified at length that several access roads were revised or eliminated and helicopter access would be used in order to minimize

environmental impacts and respond to property owner concerns. 5T:1210-4 to 1225-6.

Moreover, during construction, PSE&G plans to minimize environmental impacts by:

utilizing protective measures such as matting or the use of low profile vehicles designed for distributing weight so as not to cause unnecessary soil compaction in wetland areas. Matting can be made of steel, timber or plastic. Silt fencing and other soil erosion and sediment control measures will be utilized in accordance with approved plans from the respective Soil Conservation District.

Exhibit P-3 (Direct Testimony of Robert Pollock) at 6-5 to 7-9.

Therefore, the only environmental evidence in the record demonstrates that PSE&G has taken every precaution to minimize environmental impacts where feasible. Nevertheless, as Mr. Pollock states in his testimony, evaluation of environmental impacts will be determined by the appropriate agency with expertise, such as, but not limited to the NJDEP (in conjunction with the New Jersey Highlands Council), the United States Fish and Wildlife Service or the Army Corp. of Engineers. 1T:75-7 to 75-20. These agencies, which have the appropriate expertise, are well-equipped to comment upon environmental impacts of the Project. Thus, environmental concerns will be fully and substantially protected during the construction of this Project. This comports with the Appellate Division's recent decision where it held that although the Board should ensure that utilities comply with environmental regulations, environmental considerations should not form the basis of the Board's decision-making. In the Matter of Centex Homes, LLC Petition for Extension of Service and/or for Exemption from Main Extension Rules N.J.A.C. 14:3-8.1 et seq. Pursuant to N.J.S.A. 48:2-27 and N.J.A.C. 14:3-8.8(a)(4) or (a)(6), \_\_\_ N.J. Super. \_\_\_ (App. Div. Docket No. A-2207-07T3, 2009) (slip op. at 31).

D. **EMF**

**The concerns raised about EMF, including allegations that somehow magnetic field levels above 3-4 mG pose a health issue, are not only unsupported in the record in this proceeding but are contrary to 30 years of scientific examination of EMF.**

The interveners have totally failed to (i) establish by record evidence their claim that EMF levels above the 3-4mG level poses any health concern (which is why no health agency has established an exposure limit of 3-4mG); and (ii) refute in any way PSE&G's claim, backed by 30 years of scientific evidence, that there is no demonstrable health risk associated with EMF. Moreover, contrary to interveners' allegations, PSE&G has modeled the maximum EMF levels associated with this Project.

Montville BOE's claim that EMF is a health-concern for its students is not supported by the evidence. At the present time, the southwest corner of the school is over 550 feet from the centerline of PSE&G's existing right-of-way and the northwest corner is over 600 feet away. 5T:1090-8 to 1090-15. There is also a Jersey Central Power & Light Company 34.5 kV right-of-way between PSE&G's right-of-way and the school building. 5T:1086-13 to 1086-15. Pursuant to the report issued by Kyle G. King, PSE&G's electrical engineering expert, the calculated value for EMF in 2013 at just 300 feet from the centerline of the right-of-way (which is still 250-300 feet away from the school building) is only 5 mG. Exhibit P-9 (Direct Testimony of Kyle G. King) and Exhibit KGK-2 thereto, Figure 8, page 21.

The Montville BOE and the Municipal Intervenors make baseless accusations in their briefs suggesting that the World Health Organization ("WHO") and the National Institute of Environmental Health Sciences ("NIEHS") have indicated that the standard for a safe level of EMF is 3-4mG. MBOEb at 6; MIB at 72. Surprisingly, Rate Counsel

also makes wholly unsubstantiated allegations concerning EMF “uncertainties.” RCB at 10-11. Collectively, these allegations are patently false. In fact, the WHO clearly stated that exposure limits based upon epidemiological evidence are not recommended. Exhibit P-10 (Direct Testimony of William H. Bailey, Ph.D.) at 16-6 to 16-8. In addition, on its website, the WHO clearly states that “policies based on the adoption of arbitrary low exposure limits are not warranted.” See <http://www.who.int/mediacentre/factsheets/fs322/en/index.html>. Finally, Dr. Bailey testified that the WHO has concluded that “there are no substantive health issues related to ELF [extra low frequency] electric fields at levels generally encountered by members of the public.” Id. at 15-8 to 15-10.

Dr. Bailey testified that there are two international health agencies that have issued guidelines for exposure to EMF, but that these guideline levels are significantly higher than 3-4 mG. Exhibit P-10 (Direct Testimony of William H. Bailey, Ph.D) at 18-21. Specifically, the International Committee on Non-Ionizing Radiation Protection (“ICNIRP”) recommends a screening level of 833 mG for the public, which is more than 200 times higher than the levels suggested by the Interveners. Id. at 18-21 to 18-22. The International Committee on Electromagnetic Safety (“ICES”) also recommends limiting magnetic and electric field exposures at high levels because of the risk of acute effects, although their guidelines are higher than ICNIRP’s guidelines at 60 Hz. The ICES recommends a residential exposure limit of 9,040 mG, which is nearly 3000 times higher than the levels suggested by the interveners. Id. at 9-3 to 9-8.

Moreover, the Montville BOE's conclusion that the NIEHS report to Congress suggested a standard of 3-4 mG is wholly inaccurate and misleading. As Dr. Bailey testified, the NIEHS report instead concluded:

Convincing evidence for causing effects is only available for magnetic flux densities greater than [1000 mG]... To date, there is no generally accepted biophysical mechanism by which actions of lower intensity ELF-EMF exposures, including those reported to be of concern in epidemiology studies, might be explained."

Exhibit P-18 (Rebuttal Testimony of William H. Bailey, Ph.D) at 10-16 to 10-20. In addition, Dr. Bailey unequivocally testified that, "No scientific agency has recommended that 3-4 mG be used as a magnetic-field health standard." Id. at 1-23 to 17-24.

In fact, Montville BOE ignores the fact that during cross examination, Dr. Bailey was asked directly whether it was his opinion that EMFs do not cause health disturbances. Dr. Bailey stated:

Electric and magnetic fields like everything else in life at some levels of intensity can have some health effects, at levels higher than even employees of electric utilities might encounter we can observe a direct electrical stimulation on tissues that can be painful or disturbing to neurobiological functions because of induced voltages within the body that are sufficiently high so that they interfere with the electrical functions of tissues in the body. And those levels we do not encounter in our everyday environment, so at lower levels we have looked for potential adverse effects and have not found a confirmed body of evidence that supports the idea that at the levels below that there are adverse effects.

5T:1077-17 to 1078-9. Dr. Bailey added that it would take EMF at levels of **430,000 mG** to produce painful stimulation. 5T:1079-5 to 1079-8.

The Montville BOE claims that PSE&G should relocate the line in order to provide a greater distance to the school to reduce EMF concerns. MBOEb at 12. The Montville BOE alleges that the line could be easily moved a few hundred feet to the

southwest, to property which it claims is owned by the BOE.<sup>26</sup> Id. However, as Mr. Crouch indicated, there are gas transmission rights-of-way adjacent to PSE&G's right-of-way in this area (2T:483-18 to 483-25) and, furthermore, PSE&G would only consider relocating the towers to an area that is clear "as long as we didn't impact the property owners that are adjacent to Church Lane." 2T-484-6 to 484-8. In the present case, at least four (4) additional property owners would be affected by the relocation proposed by the Montville BOE. See generally, BOE-2. In addition, the relocation would increase environmental impacts as the area suggested by Montville BOE is located in forested wetland. As explained by PSE&G's experts, it would be difficult to perform such a relocation, particularly where, as here, building the Project on the existing right-of-way poses no health risks.

As explained by Kyle King, the magnetic field levels associated with this Project are in the range of EMF levels found in everyday life. Exhibit P-9 (Direct Testimony of Kyle G. King) at 5-1 to 5-17. Mr. King testified:

Some typical median values (measured one foot from the appliance) taken from the National Institute of Environmental Health Sciences "EMF Questions and Answers" June 2002 publication include:

Fluorescent Lights – 6 mG  
Electric Pencil Sharpener – 70 mG  
Hair Dryer – 1 mG  
Electric Drill – 30 mG  
Power Saw – 40 mG  
Air Conditioner – 3 mG  
Electric Range – 8 mG  
Vacuum Cleaner – 60 mG  
Portable Heater – 20 mG

Typical levels of magnetic field in New York City Metro-North Commuter Railroad cars range from 40 to 60 mG, and increase to 90 to

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<sup>26</sup> Tax maps, however, indicate that this property is not owned by the Montville BOE but by Texas Eastern Gas Pipeline Company.

145 mG during acceleration. The earth has a static magnetic field of approximately 570 mG over its entire surface. The earth's field at any position is constant in both magnitude and direction as opposed to the constantly changing power frequency magnetic fields discussed in this testimony.

Id. at 5-1 to 5-17.

Finally, the interveners mistakenly argue that PSE&G cannot predict how high EMF levels will go with respect to the Project. STLb at 40. In fact, however, the modeling performed by Mr. King included the maximum level of EMF that would be possible with the current construction by PSE&G. Exhibit P-9 (Direct Testimony of Kyle G. King) and Exhibit KGK-2 thereto at 14. As Mr. King states:

Table 4 lists the magnetic field levels for the maximum circuit currents. The 500 kV circuit is limited to a peak current of 3000 A, and the 230 kV circuit is limited to 2000 A, because of the rating of substation equipment. Operation above these peak current levels would result in damaged or destroyed equipment in the substations.

Thus, PSE&G did not model the levels just for the actual peak current of 1657 amps, which it expects to reach in only one hour of one day in 2013. 5T:1037-18 to 1037-22. Instead, PSE&G went beyond the expected peak levels and modeled the levels of EMF to its extreme even though operations above those levels would damage the equipment installed in the substations. As Mr. King further testified on cross examination:

For [2013] the calculated maximum current was I believe 1657, but the design conditions that we calculated the maximum . . . was 3,000 amperes. So the goal in providing this information for the BPU's review was to show them what the median magnetic field would be and what it would be at the highest possible limits of the circuits.

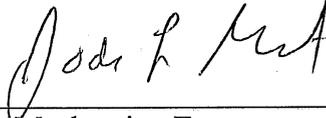
5T:1019-19 to 1020-2. Therefore, the levels of EMF could never exceed the levels modeled in Exhibit KGK-2 without significant alteration to the transmission system. 5T:1072-12 to 1072-19.

The clear and convincing evidence in the record provided in testimony from Dr. Bailey and supported by national and international health agencies establishes that EMF does not pose any risk to public health. Additionally, the evidence clearly establishes that the allegations of the interveners that the WHO has recommended a maximum level of 3-4 mG are a blatant distortion of the facts and are patently false. On the contrary, the WHO and the NIEHS, in fact, do not recommend setting any limit for exposure to magnetic fields, while the ICNIRP recommends an exposure level of 833 mG -- well above anything modeled for this Project. Lastly, since the uncontested record in this proceeding indicates that EMF levels associated with this Project are in the range of levels expected around everyday appliances, the BPU should determine that EMF is not a concern associated with this Project and EMF concerns should therefore not prevent the BPU from approving the Project.

## CONCLUSION

For all of the foregoing reasons, PSE&G respectfully urges the Board to issue a final Decision and Order under N.J.S.A. 40:55D-19 (i) determining that the construction of the Project is reasonably necessary for the service, convenience or welfare of the public; (ii) authorizing PSE&G unconditionally to commence construction of the Project while recognizing the ongoing jurisdiction of other agencies; (iii) authorizing the construction of the requisite New Jersey switching stations at the alternate locations proposed by PSE&G in the Borough of Hopatcong and in Roseland; (iv) permitting PSE&G to revise the Project as required or authorized by other agencies having jurisdiction over aspects of the Project; and (v) granting such other approvals as are necessary or appropriate under all of the circumstances.

Respectfully submitted,  
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**(SUSQUEHANNA-ROSELAND)  
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**In the Matter of the Petition of  
Public Service Electric and Gas Company  
For a Determination Pursuant to the  
Provisions of N.J.S.A. 40:55D-19**

**(SUSQUEHANNA-ROSELAND)  
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