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

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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<br><br>(SUSQUEHANNA- ROSELAND) | **BPU DOCKET NO. EM09010035** |

# STOP THE LINES!
# REPLY BRIEF
# regarding the
# PETITION OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY
# for the
# SUSQUEHANNA-ROSELAND TRANSMISSION PROJECT

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## INTRODUCTION

Stop the Lines! offers this Reply Brief to address concerns and issues raised by the parties to this Susquehanna-Roseland transmission line project docket. The briefs of Petitioner PSE&G and Intervenor Exelon further demonstrate that the Petitioner have not met either their burden of production or their burden of proof. Reliance on the RTEP and PJM's 2007 declaration of "need" based on its 2006 historical peak electrical demand is foolhardy and misplaced – even in its retoolings, PJM has not adjusted for the dramatic drop in demand over the last several years.

The Susquehanna-Roseland transmission project is not "reasonably necessary for the service, convenience or welfare of the public." N.J.S.A. 40:55d-19. Stop the Lines! supports the analysis, argument, conclusions and recommendations of the Division of Rate Council, the Joint Environmental Intervenors, and the Municipal Intervenors, and requests that the Petition be denied outright. In the alternative, Stop the Lines! requests that the Petition be dismissed as not ripe because the burden of production has not been met. There have been too many last minute material changes, disclosures and unknowns. Should the Board not deny the Petition, Stop the Lines! requests the Board require a sensitivity analysis prior to any decision that includes updates for changes in available generation, load forecast, energy efficiency and demand response. If that sensitivity analysis demonstrates a need for the project sufficient for approval, Stop the Lines! requests that the Board attach conditions to protect landowners, nearby residents, the environment and New Jersey ratepayers, and also attach conditions which limit the purpose of the transmission line to that claimed in the Petition.

## STOP THE LINES REPLY TO ARGUMENTS OF THE PARTIES

Stop the Lines! reiterates the concerns of Intervenors about the purpose of this project, that it puts the public in harms way, and that it is not technically feasible to build this project as proposed. More importantly, this project, like the other "backbone" projects proposed in the 2007 RTEP, is not reasonably necessary for the service, convenience or welfare of the public.

## POINT I

## TRANSMISSION FOR COAL IS CONTRARY TO PUBLIC POLICY

The Susquehanna-Roseland transmission project is transmission for coal. In addition to the location of the Susquehanna-Roseland transmission line as the northeasterly part of "Line 1" in the Project Mountaineer map, Rate Counsel notes that RTEP acknowledges that extension of this project is contemplated for transmission for coal:

> In addition, the line could also be extended from Susquehanna at its western end to integrate with a cluster of new coal-fired generation resources in central Pennsylvania, currently under development through PJM's interconnection process.

NJRC Brief, p. 2, quoting Exhibit 395, S-100, 2007 RTEP, p. 10, 57. RETP goes on to state:

> *In contrast, the Susquehanna – Lackawanna – Jefferson – Roseland 500 kV line will provide more robust access to existing generation in north-central and northeastern Pennsylvania and to additional queued generation projects also under development in northeastern Pennsylvania. The Susquehanna – Roseland line may also provide future opportunity to be integrated into a backbone transmission project that is under consideration to connect this area to the AEP 765 kV transmission system in eastern Ohio.*

2007 RTEP, p. 60-61. Put another way:

> *From a market efficiency perspective, alternatives that connect back to the AEP 765 kV system provide the greatest opportunity for eastern load centers to access additional economical energy from western generating resources.*

2007 RTEP p. 54.

Rate Counsel also correctly notes that going eastward, the electricity will not stop at Roseland – "the recently PJM approved latest 500kV transmission line from Branchburg to Roseland to Hudson will move the power further east." Id. at 10, Khadr, TR at 774, l. 7-13. From Roseland, the Susquehanna-Roseland FERC cost apportionment tariff and BPU leakage modeling assumptions show firm transmission withdrawal rights for three merchant transmission projects, Neptune Regional transmission System (Neptune), East Coast Power (ECP) and Hudson Transmission Partners (Hudson), that the Susquehanna-Roseland transmission project is committed to move at least 1,670MW into New York. Exhibit 146, STL-12, FERC Compliance Filing, p. 8; Exhibit 391, S-96, SRTT-114 (updated). Leakage is a concern because there would be additional coal generated CO2 for electricity to cover these exports. Leakage, as Khadr testified, will get worse. Testifying regarding the existence of firm transmission withdrawal rights of three merchant transmission entities, and impacts Khadr stated:

> And one more thing, okay, the more we study out of … the more we add transmission lines to New York, the more it's going to cause congestion which would make the leakage even worse.

Testimony of Khadr, TR. at 1263, l. 10-13.

> *Q: So looking at essentially 1,670 megawatts with firm transmission withdrawal rights soon?*
>
> *A. The study that we are doing does not looking to firm. These are energy analysis… It does not look at the capacity for firm withdrawal rights. However, the way we modelling it, is we're modeling the withdrawal – the maximum withdrawal every hour of the year. And that, again, is going to make the – the leakage worse.*

Testimony of Khadr, TR. at 1265-1266.

> The Goals of the New Jersey Energy Master Plan are:
>
> GOAL 1: Maximize the State's energy conservation and energy efficiency to achieve reductions in energy consumption of at least 20% by 2020.

> GOAL 2: Reduce peak demand for electricity by 5,700 MW by 2020.
>
> GOAL 3: Strive to surpass the current RPS goals with a goal of achieving 30% of the State's electricity needs from renewable sources by 2020.
>
> GOAL 4: Develop a 21st century energy infrastructure that supports the goals and action items of the Energy Master Plan, ensures the reliability of the system, and makes available additional tools to consumers to manage their energy consumption.
>
> GOAL 5: Invest in innovative clean energy technologies and businesses to stimulate the industry's growth in New Jersey

Exhibit 110, BKS-46, New Jersey Energy Master Plan, at pp. 54, 60, 67, 75, 81. The Susquehanna-Roseland line, which increases leakage, which can facilitate coal development, does nothing to further the goals of the New Jersey Energy Master Plan. As an example, there are other conceptualizations of transmission which could further these goals, such as the backbone transmission anticipated in the Memorandum of Understanding between Delaware, Maryland and Virginia, which states, in part:

> The Parties will coordinate potential common electric transmission strategies that recognize the benefits of regional planning and deployment of transmission services and which could reduce cost for the Parties' ratepayers.

… and…

> The Parties will develop strategies to encourage sustainable market demand for offshore wind power, including state and regional policies and incentives that can be used across state boundaries for the benefit of the industry as a whole.

Exhibit A, Memorandum of Understanding Between the States of Delaware and Maryland and the Commonwealth of Virginia Related to Common Interests Associated with Offshore Wind Energy Development, p. 2, Certification of Overland.

Alternatives that do not facilitate coal and production of greenhouse gas are available. As a coastal state, New Jersey could and should work to further the goals of the Energy Master

Plan, and, for example, join with Delaware, Maryland and Virginia and work towards backbone support of wind, and not coal.

## POINT II

## UP-TO-DATE DEMAND AND LOAD ANALYSIS IS REQUIRED

Petitioner and Exelon make reliability claims and threaten blackouts, but fear-mongering based on unrelated utility operation errors does not demonstrate need, nor does it refute the demonstration in the record that any claims to "need" for reliability have evaporated with plummeting demand. There is no factual basis to support approval of the PSE&G Petition. As with the MAPP and PATH projects, Petitioners should be required to produce updated sensitivity studies as was ordered with the PATH transmission line, and in all probability, a sensitivity analysis with similar assumptions would lead to the same conclusion – it's not needed.

Exelon and PSE&G raise the specter of horrors if this transmission project is not approved.

> The existence of criteria violations on a transmission line creates a substantial risk that in overloaded operating conditions, customer load, or generating plants, or both, would be subject to immediate, unannounced curtailment by system operators as a means to temporarily alleviate dangerous, overloaded conditions. This procedure, commonly referred to as a brownout, is initiated by PJM system operators as an emergency measure to prevent the ultimate catastrophe: uncontrolled, cascading system blackouts.
>
> The 2003 Northeast blackout stands as a vivid reminder of the tremendous economic and social toll that can be exacted when the interstate bulk power system does not perform properly in stressed conditions… the procedures and standards that were utilized by PJM in approving the Susquehanna-Roseland line, was enacted to assure the future reliability of the transmission system and to prevent futhrer blackouts from occurring.

Exelon Initial Brief, p. 3. However, they doth protest too much.

With each iteration of RTEP and/or "retooling," the claimed contingencies have lessened in number and severity. Exhibit 240, MI-46, S-PP-5, Reynolds Demand Response; Exhibit 51,

PJM-1; Exhibit 126, PFM-2; Exhibit 127, PFM-3. Along with the decline in contingencies and their severity, demand, congestion, price and other indicators of potential for system overload have also lessened. Exhibit 72, BKS-9, PJM 2008 Annual Report; Exhibit 160, STL-25, Monitoring Analytics PJM 2Q Quarterly Report, August, 2009; Exhibit 154, STL-19, Monitoring Analytics PJM 3Q Quarterly Report, November, 2009. PJM peak load for 3rd Quarter 2009 was down 2, 676 MW, 2.1%, from 3rd Quarter 2008; real-time load was down 4.5%, day ahead load dropped 8%, and prices dropped 48% to $37.42/MWh. Exhibit 154, STL-19, Monitoring Analytics PJM 3Q Quarterly Report, November, 2009, p. 5, 7. That drop is also reflected in the just released 2010 PJM Load Forecast, which shows that the historic peak demand was in 2006, base year for the 2007 RTEP and the basis for the claim of need for the Susquehanna-Roseland, PATH and Mid-Atlantic Power Pathway:

| YEAR | NORMALIZED TOTAL | UNRESTRICTED PEAK |
|---|---|---|
| 1998 | 111,120 | 114,966 |
| 1999 | 116,970 | 121,655 |
| 2000 | 116,380 | 114,178 |
| 2001 | 121,070 | 131,116 |
| 2002 | 125,260 | 130,360 |
| 2003 | 124,350 | 126,332 |
| 2004 | 130,645 | 120,235 |
| 2005 | 133,550 | 134,219 |
| 2006 | 134,905 | 145,951 |
| 2007 | 136,095 | 140,948 |
| 2008 | 136,315 | 130,792 |
| 2009 | 133,780 | 126,944 |

Exhibit B, PJM 2010 Load Forecast, p. 70 (selected pages), Certification of Overland.

The full chart (p. 70) is on the next page. The PJM 2010 forecast (p. 24) is inexplicable, and is contradicted by the 2009 NERC Reliability Assessment:

**TABLE F-1**

**PJM RTO HISTORICAL PEAKS**
**(MW)**

**SUMMER**

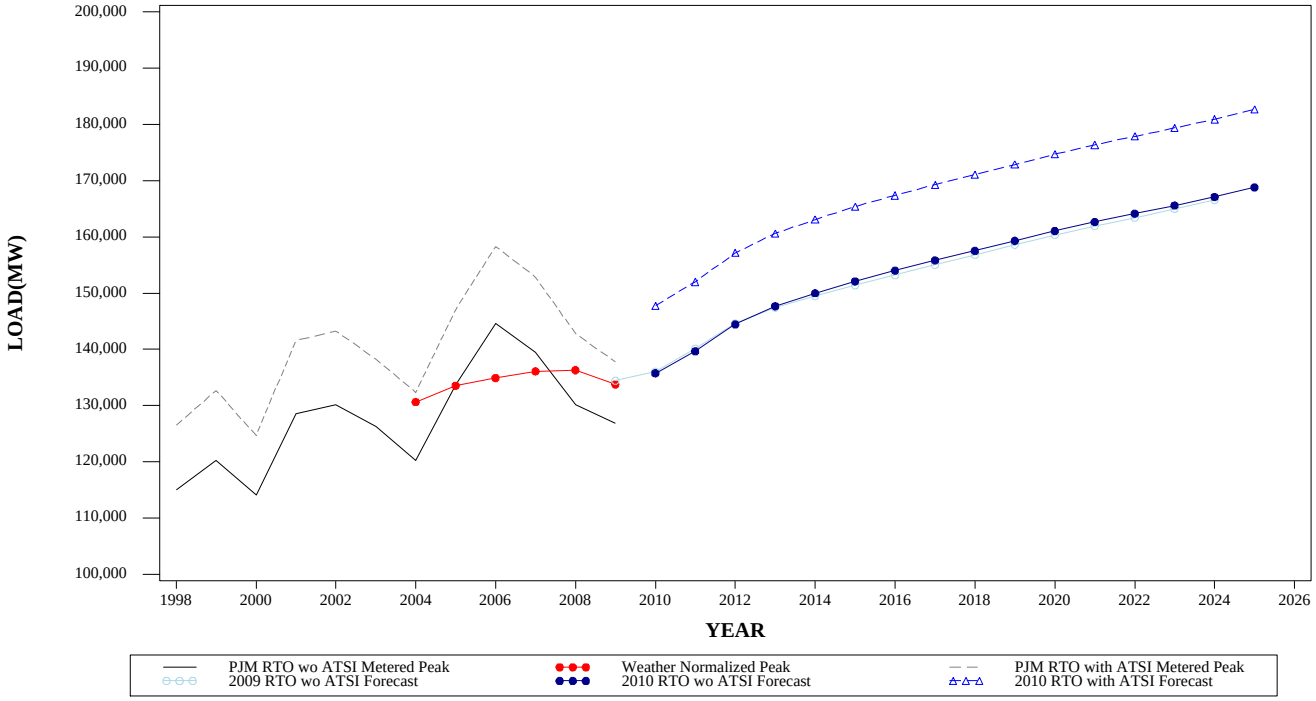
| YEAR | NORMALIZED BASE | NORMALIZED COOLING | NORMALIZED TOTAL | UNRESTRICTED PEAK | PEAK DATE/TIME | |
|---|---|---|---|---|---|---|
| 1998 | 72,950 | 38,170 | 111,120 | 114,996 | Tuesday | 07/21/1998 17:00 |
| 1999 | 73,990 | 42,980 | 116,970 | 121,655 | Tuesday | 07/06/1999 17:00 |
| 2000 | 76,300 | 40,080 | 116,380 | 114,178 | Wednesday | 08/09/2000 17:00 |
| 2001 | 75,990 | 45,080 | 121,070 | 131,116 | Thursday | 08/09/2001 16:00 |
| 2002 | 77,140 | 48,120 | 125,260 | 130,360 | Thursday | 08/01/2002 17:00 |
| 2003 | 77,650 | 46,700 | 124,350 | 126,332 | Thursday | 08/21/2003 17:00 |
| 2004 | | | 130,645 | 120,235 | Wednesday | 06/09/2004 17:00 |
| 2005 | | | 133,550 | 134,219 | Tuesday | 07/26/2005 16:00 |
| 2006 | | | 134,905 | 145,951 | Wednesday | 08/02/2006 17:00 |
| 2007 | | | 136,095 | 140,948 | Wednesday | 08/08/2007 16:00 |
| 2008 | | | 136,315 | 130,792 | Monday | 06/09/2008 17:00 |
| 2009 | | | 133,780 | 126,944 | Monday | 08/10/2009 17:00 |

**WINTER**

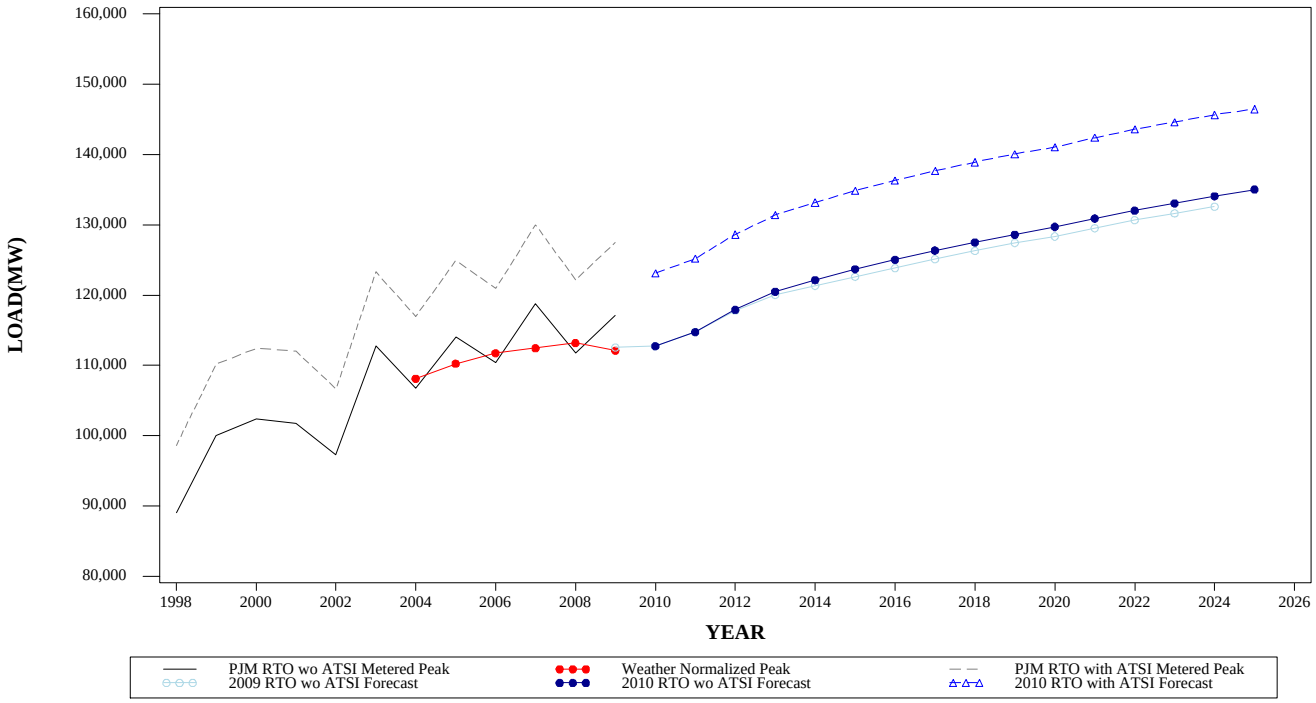
| YEAR | NORMALIZED BASE | NORMALIZED HEATING | NORMALIZED TOTAL | UNRESTRICTED PEAK | PEAK DATE/TIME | |
|---|---|---|---|---|---|---|
| 97/98 | | | | 88,970 | Wednesday | 01/14/1998 19:00 |
| 98/99 | | | | 99,982 | Tuesday | 01/05/1999 19:00 |
| 99/00 | | | | 102,359 | Thursday | 01/27/2000 20:00 |
| 00/01 | | | | 101,717 | Wednesday | 12/20/2000 19:00 |
| 01/02 | | | | 97,294 | Thursday | 01/03/2002 19:00 |
| 02/03 | | | | 112,755 | Thursday | 01/23/2003 19:00 |
| 03/04 | | | 108,110 | 106,760 | Monday | 01/26/2004 19:00 |
| 04/05 | | | 110,250 | 114,061 | Monday | 12/20/2004 19:00 |
| 05/06 | | | 111,745 | 110,415 | Wednesday | 12/14/2005 19:00 |
| 06/07 | | | 112,455 | 118,800 | Monday | 02/05/2007 20:00 |
| 07/08 | | | 113,185 | 111,724 | Thursday | 01/03/2008 19:00 |
| 08/09 | | | 113,150 | 117,169 | Friday | 01/16/2009 19:00 |

Notes: Normalized values for 1998 - 2003 are calculated by PJM staff using the bottom-up coincident peak weather-normalization methodology.
Normalized values for 2004 - 2009 are calculated by PJM staff using a methodology consistent with the PJM Load Forecast Model.
All times are shown in hour ending Eastern Prevailing Time.
All historic peak values reflect the membership of the PJM RTO as of December 31, 2009.

**SUMMER PEAK DEMAND FOR PJM RTO**
**GEOGRAPHIC ZONE**




**WINTER PEAK DEMAND FOR PJM RTO**
**GEOGRAPHIC ZONE**



NERC paints a very different picture for this timeframe:

> *RFC – A five percent drop in peak demand compared to last-year's forecast for 2009. In 2011 and 2012, the annual growth rates increase and then decline through 2018.*

Exhibit 152, STL-17, STL-D-14, 2009 NERC Reliability Assessment, p. 14. The projection of NERC, the reliability entity for the nation, does not support a claim of need for the Susquehanna-Roseland transmission project.

Deeming the Susquehanna-Roseland project is "needed" using the 2007 RTEP based on 2006 demand figures is not sufficient basis to justify a project of this magnitude. Exelon argues that this is a time for a "cautious and conservative approach ", and to a point, Stop the Lines! agrees -- it is foolish to go forward without intense analysis of historical demand and new forecasts based on up-to-date demand data. Petitioner pledges that "[i]f a subsequent RTEP analysis revises the need for or timing of the Project, the Company and PJM will abide by that determination. PSE&G Initial Brief, p. 2, fn. 3. Exelon cautions that "any issues, and any uncertainties regarding how best to plan for the near and longer term requirements of the transmission system must be resolved in favor of a cautious, conservative approach to the reliability of our energy supply." Exelon Initial Brief at 4. Stop the Lines! couldn't agree more with Exelon's call for a conservative approach. Other backbone projects are being delayed and cancelled. This project deserves a cautious and conservative approach – it's time for a closer look.

Three "backbone" transmission projects were recommended in the 2007 RTEP:

1. Susquehanna – Lackawanna – Jefferson – Roseland 500 kV Circuit
2. Amos – Bedington – Kemptown 765 kV and 500 kV Circuit (PATH)
3. Possum Point – Burches Hill – Chalk Point – Calvert Cliffs – Vienna – Indian River – Salem 500 kV Circuit: the Mid-Atlantic Power Pathway (MAPP) project

Ex.395, 2007 RTEP, p. 54.

The Susquehanna-Roseland and PATH projects were linked in their cost apportionment tariff filings at FERC. Exhibits 144-147, STL 10-13, FERC cost docket ER07-1186.

These three projects are not moving forward as expected, and are instead appropriately being delayed or withdrawn. The MAPP project has been delayed, and one leg of it, from Indian River in Delaware to Salem, New Jersey, has been eliminated entirely.

> The portion of a planned 500-kilovolt, multi-state power line that is to run through Delaware from Indian River to a river crossing to Salem, N.J., has been shelved because power demand is lower due to the economic recession.
>
> Pepco Holdings Inc., the parent company of Delmarva Power also announced that the portion of the Mid-Atlantic Power Pathway running from southern Maryland to Indian River has been delayed by a year, changing the projected in-service date from 2013 to June 1, 2014.
>
> The decision came on recommendations by the staff of PJM Interconnection, which manages the regional power grid, after the organization ran computer models and found that reliability issues in Delaware have eased due to the downturn in electricity usage.
>
> The projections show it will take longer to arrive at previously forecast levels of congestion on the grid, making the need for the new line less pressing, PJM officials said.

Exhibit 81, BKS-18, Aaron Nathans, News Journal, MAPP's Va.-to-Del. Section put off a year; Del. To N.J. leg is put on hold indefinitely.

The PATH project was also first delayed, and now the promoters have petitioned to withdraw completely, and the application will not be resubmitted in early 2010 as proposed earlier. Exhibit C, PATH Press Release, December 29, 2009, Certification of Overland; Exhibit D, PATH-VA Motion to Withdraw (amended), Certification of Overland. A sensitivity analysis was performed after an order from the Hearing Examiner presiding over the PATH docket in Virginia.

> The detailed results of the reactive analyses are shown in the Table 2 below. Note that there were no voltage criteria violations identified for Scenarios 3 through 6 that would require the path project in 2014. Although there are no voltage criteria violations in 2014 for Scenarios 3 through 6, the additional analysis that is

> described below suggests voltage criteria violations could occur as early as 2016, based on observed CETO margins and forecasted load growth. A more comprehensive analysis of these issues will be completed as part of the 2010 RTEP.

Exhibit E, Cover Letters and Sensitivity Analysis, p. 3. In the introduction, the wider applicability of these results to other projects is noted:

> Only the results of a comprehensive analysis in the context of the 2010 RTEP Process can be used to determine and support a definitive assessment as to the future need and in-service date for the PATH Project. While the results of these sensitivity analyses apply directly to the need date for the PATH Project, they suggest that the potential for delays to other projects as well. In addition these sensitivity analyses did not integrate any of the transmission system upgrades approved as part of the RTEP during 2009.

Id., p. 1.

Based on the changes in demand, the resultant changes in congestion, line loading, and expected changes in forecasts, and delays, cancellation, and withdrawal of projects proposed with the Susquehanna-Roseland project in the 2007 RTEP, a sensitivity analysis is necessary. PSE&G must waive any claim to FERC "backstop" authority during the time necessary to perform this sensitivity analysis and Board deliberation.. The sensitivity analysis must include, but should not be limited to those scenarios ordered in the PATH docket. Without this information, there is not enough information in the record to support any decision on the Susquehanna-Roseland project.

## POINT THREE

## THE BOARD'S MANDATE IS TO PROTECT THE PUBLIC WELFARE AND SAFETY

Stop the Lines! also reiterates Rate Counsel's focus on the importance of the Board's protection of the public, environment and oversight of the public welfare, and more importantly, that the "Petitioner must establish that its Project protects the welfare of the public." NJRC Brief at 10. PSE&G argues that:

> PSE&G has chosen the most appropriate route and has taken reasonable steps to minimize the impacts to the public. Therefore, pursuant to N.J.S.A. 40:55D-19, the BPU should find that this Project is reasonably necessary for the service, convenience, or welfare of the public.

PSE&G Brief, pps. 1, 18, 56, 57.

PSE&G admits that it has unitarily chosen the route and has taken the steps it deems appropriate to minimize impacts to the public. However, approval of a project does not necessarily follow from those steps. The Board still must find that the project "is necessary for the service, convenience or welfare of the public. N.J.S.A. 40:55D-19.

PSE&G has provided no alternatives for the Board to choose from, no options that may have varying impacts or mitigation potential – any alternatives were eliminated by PSE&G based on PSE&G criteria. Exhibit 45, JH-1, Alternative Route Identification Report for the Susquehanna to Roseland Project (ARI). PSE&G claims it has chosen "the most appropriate route." PSE&G Initial Brief at 57. Perhaps PSE&G has indeed selected the most appropriate route for its purposes, but PSE&G purposes and PSE&G route criteria are not necessarily in the public interest, not necessarily for the service, convenience or welfare of the public.

What criteria were used? That was a subject of discussion early in the hearing:

> 4 Q Page 12, it states that the use
> 5 transmission line design criteria were developed for
> 6 this project jointly by CAI and PSE&G.
> 7 What specifically were those criteria, I
> 8 don't see a section marked "Criteria" in the report,
> 9 what was that criteria?
> 10 MR. HALPERN: What we were talking about
> 11 was span distances from, what we knew in terms of
> 12 distances between towers that we would be looking
> 13 at, the heights of towers, expansion of towers,
> 14 those were the key criteria that we were looking
> 15 for, rights-of-way.
> 16 Q Others?
> 17 A Those are good examples.
> 18 Q And is any of that written, is any of that

19 conveyed in this report somewhere, is there a list
20 of that criteria, or is there somewhere that I can
21 find that?
22 MR. HALPERN: Give me a moment, I think it
23 is somewhat referenced in the back, just give me a
24 moment.
25 Q Sure.
0070
1 (Pause.)
2 MR. HALPERN: No, it is not. It was part
3 of the assumptions that we used and discussed in the
4 report so it is inherent in the writing of the
5 report.
6 Q The criteria that you listed were span and
7 distances?
8 MR. HALPERN: Approximate height of
9 towers, right-of-way width, we were working with the
10 engineers on that to help us guide us.

Testimony of Halpern, TR. at 69-70. Rough route selection criteria is listed in the Alternative Route Identification Report:

- Maximize the use of, or paralleling of, existing rights-of-way;
- Minimize impacts to the natural and human environment;
- Minimize route length, circuitry, and cost;
- Use transmission line design criteria developed for this project jointly by CAI and PSE&G;
- Minimize the removal of existing residences;
- Minimize the removal of barns, garages, or other structures;
- When not following existing rights of way, maximize the separation distances from residences, schools, cemeteries, historical resources, recreation sites, and other important cultural sites;
- Minimize crossing designated natural resource lands such as state forests, national and state parks, wildlife management areas, designated game lands and wildlife areas, and conservation areas; and
- Avoid new crossings of large lakes.

Exhibit 45, JH-1, ARI, p. 12. The criteria used by PSE&G and its contractors and resulting choice has not been vetted by the National Park Service, which must issue a permit for the crossing of the Delaware Water Gap. That environmental review is "in its infancy." Testimony of Pollock, TR. at 75-77. Scoping has not yet begun, and only internal scoping is completed. Id.

at p. 79. Some other agencies have commented, but not in the New Jersey docket, and others have not commented at all. Id. The New Jersey Department of Environmental Protection application has been made for a wetlands permit, and the Highlands Agreement has been signed although neither document has been entered into the record of this proceeding.

How is transmission siting regarded in the industry? At the FERC "Transmission for Coal" workshop in 2005, siting was acknowledged as a primary issue:

> The second area is in regard to environmental issues. We need to be especially proactive to address the land-use challenges that will arise with construction of this magnitude.
>
> We need to collectively find routes that are the least damaging to the environment in this region. In short, we just need to build out this process as wisely as we can, with considerable planning and foresight, including consideration of advanced technology options that could help mitigate the environmental side of the impacts.

Exhibit 150, STL-15, STL-D-6b, FERC Transcript "Promoting Regional Transmission Planning and Expansion to Facilitate Fuel Diversity Including Expanded Uses of Coal-Fired Resources, p. 67, l. 8-17.

> It's not at the state level typically that we see the issues, it really becomes local and you're right, it's getting it sited. That's why you start having to look at, are there other ways we can approach this.
>
> Running it along highways, you know, where you already have a path and doing things that way, rather than trying to go through peoples' farms, through developments or whatever, we ought to start looking at ways to minimize the siting aspect of it.

Id. at p. 124, l. 7-15.

> So our technologies and improvements that can be made in our existing rights of way ought to be looked at first.
>
> They may not answer all the questions with respect to remote coal, there will be some big siting issues with regard to that, but it really is, we think, more of a cost issue than a no go issue.

Id, at p. 126, l. 17-23.

Use of existing Right of Way proved the most important consideration in selection of options, despite PSE&G's stated preference for a 200 foot right of way:

> Moreover, PSE&G's preferred right-of-way widths for 500kV transmission lines are 200 feet. Rights-of-way less than 200 feet in width result in additional design and maintenance restrictions, which may affect the number of structures, type, spacing and height of the structures and the conductor size and number.

Exhibit 6, P-5, Crouch Direct, p. 7, l. 16-19.

PSE&G has done everything it can to cram the quad-bundled 500kV project into the existing 230kV 150 foot right of way, but it has not demonstrated that the welfare of the public is protected, and instead, the record demonstrates that the public is at significant risk, risk that is magnified by the small right of way. From the dangers of exposure to EMF to financial risks of living near a transmission line, this transmission line poses a physical danger to those who live adjacent to the line, a financial risk to landowners, and an economic risk to ratepayers who will be saddled with its cost.

There are public welfare and safety issues related to the width of the easement. PSE&G has proposed putting a quad-bundled double circuited 500kV line with a 230kV line in a pre-existing 150 foot right of way – yet PSE&G states that the preferred right of way width for a 500kV line is 200 feet. Exhibit 6, P-5, Testimony of Crouch, p. 10, l. 16. Even at just 150 feet, PSE&G admits that it does not have the land rights necessary to move forward with this project. Testimony of Franklin, TR. at p. 0044-0049. PSE&G will require that at least 22 landowners provide new easements if the project is to be built with the 150 foot right of way. Testimony of Franklin, TR. at p. 0047. The easement is not wide enough for the project.

PSE&G argues that "the project will not impact property values." PSE&G Initial Brief, p. 64-67. PSE&G, like its witnesses, has no basis whatsoever for this statement:

*Q: In your opinion will this transmission line have any adverse effect on real estate values or properties within a line-of-sight of the structures.*
*Mr. Franklin: No, I do not feel it will.*
*Q: What is the basis for that opinion?*
*Mr. Franklin: The Right-of-way is an existing right-of-way, it's been there, all of the properties have existed, the line pre-exists most of the home that were built so I feel it will not have an adverse impact on the properties.*
*Q: Do you have any studies that bear that out?*
*Mr. Franklin: No, I do not.*

Testimony of Franklin, TR. at p. 0044, l. 7; see also 0051, l. 12. PSE&G claims that "the record is devoid of any evidence which in any way contradicts the evidence presented by PSE&G," but PSE&G has presented no evidence that demonstrates that the line will have no impact on property values. PSEG Initial Brief, p. 65.

PSE&G also claims that "the project will not impact the ability of homeowners to obtain an FHA Mortgage." PSEG Initial Brief, p. 65. PSE&G claims that Exhibit P-24 is an "Engineering Fall-Distance Letter) when in fact it is not. Nowhere in this letter did it state, as is required in a legitimate "fall distance letter" that her home was beyond the fall distance.

24 Q If you look at this letter of November 12,
25 2009, does this letter say anywhere that the tower
1000
1 is not within the engineering fall distance?
2 That's just a yes or no.
3 A I'm still reading.
4 Q Thank you.
5 A No, it doesn't.

Testimony of Jaros, p. 999-1000.

At 190 feet, with a right of way of 150 feet, 75 feet each side of the centerline, the fall zone extends 115 feet beyond the edge of the right of way. Nothing PSE&G argues obviates this simple mathematic fact – the right of way is too narrow to protect the safety of the public.

The change in the design of the conductors is at issue. PSE&G Initial Brief, p. 84-85. To utilize that narrow existing right of way, PSE&G had to use very tall towers to move the

conductors farther away from the easement line and to move them further from structures as required by code. It also utilized tall towers to move the conductors further away from the ground to comply with New Jersey Audible Noise Requirements. Id., N.J.A.C. 7:29-1 et seq. During the hearing, at the last minute, PSE&G revealed that it was cutting one conductor from the quad bundle because the structures could not handle the load. Crouch, TR. p. 0309, 0318.

> 8 Q Mr. Crouch, there were some changes that I
> 9 would like to talk to you about. First there was a
> 10 change to the quad bundled 500 kV line. Can you
> 11 explain what that change is?
> 12 MR. CROUCH: We reduced bundle size from
> 13 quad-bundle to tri-bundle.
> 14 Q Why was that?
> 15 MR. CROUCH: We were pushing the
> 16 manufacturing limits of monopoles so it took those
> 17 out of consideration, and there was a a very large
> 18 interest from the public about the use of monopoles
> 19 for aesthetic reasons, and in order to consider
> 20 those we took a look at whether or not we could
> 21 reduce the bundle size so that it would be less
> 22 impact on the structure and we could consider using
> 23 monopoles; that's why we did that.
> 24 Q How would that affect opacity?

Id. The size of the bundle has been reduced, but the same claimed 3005MVA capacity will be spread over three conductors per phase. PSE&G Initial Brief at 85. Is it safe now?

EMF levels are an important factor of public welfare and public safety. PSE&G argues that "PSE&G witness William H. Bailey, Ph.D. has established that there is no causal link between EMF and health effects to humans based on the weight of the evidence in the scientific community." PSE&G Initial Brief, p. 68-79. However, the argument used by PSE&G is off point. The issue is not whether causation has been established – there is no question that at this time causation has not been established. The issue of causation is not before this Board, this is

not a personal injury case where causation is at issue and where a causal link between EMF and harm must be established.

The Board's policy regarding EMF is not one that requires establishment of a causal link. The Board's policy regarding EMF is consistent with that of Dr. Martin Blank, who recommends prudent avoidance and the precautionary principle. Rate Counsel points out that prudent avoidance includes "avoiding highly populated concentrations of residential development…" Id. at 11 (quoting In the Matter of the Petition of Atlantic City Electric, BRC Docket No. EE90121362 (1991). The issue is one of public safety and the general welfare of the public. The record reflects that not one of the witnesses testified that this project or any specific level of EMF is safe.

Not only is there no evidence in the record to support a finding by the Board that EMF is safe, but the EMF levels expected from this transmission project are not known. The EMF levels for this project are unclear because magnetic field levels are based on amperage. The amperage levels used by PSE&G for EMF modeling is misleadingly low because it is not that of the normal rating planned for the Susquehanna-Roseland transmission project -- several witnesses testified that the "peak" for the 500kV line would be 1,657 amps. Testimony of King, TR. p. 1037, l. 20. Thermal limits are far above that, 1,838 amps per conductor wire, for a total of 7,352 amps if quad-bundled and 5,514 amps if tri-bundled. Testimony of King, TR. at 1254, l. 10-18. The expected range of amps is easily over that claimed as "peak" and could be three or more times that level. The resultant EMF levels could also be greater, even three or more times that level. The EMF modeling is using artificially low assumptions of amperage ratings, and these low inputs are inadequate to provide any reasonable measure of what expected levels might be. The easement is too narrow, and too many people live too close to the easement, to let this

issue go unanswered. Modeling must be performed with a wider range of amperage inputs to reflect the range expected on this line and produce a representative range of magnetic fields.

The public welfare is also affected by the sound of the transmission line and substation. As above, PSE&G designed the towers to move the conductors away from the ground to comply with New Jersey sound regulation. N.J.A.C. 7:29-1 et seq. The new tri-bundled 500kV line configuration will increase noise levels:

> 1 The new design on the top line, it is
> 2 higher than the existing.
> 3 I don't know, is it safe to say that with
> 4 the new line the noise is higher, is greater than
> 5 the existing line?
> 6 MR. KING: Calculated levels of the radio
> 7 noise will be slightly higher but well below the PJM
> 8 guidelines and well below the Federal
> 9 Communications Commission requirements so as not to
> 10 interfere with other signals.

Testimony of King, TR at 1125. The new line design will have higher noise levels, and we have no information as to what noise levels to expect. There also is no information about substation noise, and no modeling has been performed – we are asked to accept Mr. King's word that it will not exceed the state noise limits, based on his experience, however:

> 3 Q How many 500 kV substations have you done
> 4 noise modeling on?
> 5 MR. KING: This is just an approximation
> 6 of what the transformer noise would be.
> 7 Q My question is, how many substations have
> 8 you done noise modeling on?
> 9 MR. KING: Zero.

Testimony of King, TR at 1136. Noise modeling for the new line configuration and the substations is necessary to assure it will be within New Jersey noise limits.

Another aspect of public welfare is the safety issue reflected in the narrowness of the easement and that blowout would extend beyond that easement. See chart on next page.

# Blowout Summary

K-1019

| Structure | | Structure | Case | Dist Blown fr CL | Min Clear fr CL (this case) | Violation Dist of: | Span Length | 80% Span Length | Span Compared with: | Blowout of the 80% Span | Violation @ 80% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 41/4 | to | 41/3 | Extreme Wind | 184.23' | 90' | 94' | 2665' | 2132' | 61/1 - 61/2 (2148) | 111' | 21' |
| | | | Blowout | 84.96' | 76' | 9' | | | | | 35' |

T-2298

| Structure | | Structure | Case | Dist Blown fr CL | Min Clear fr CL (this case) | Violation Dist of: | Span Length | 80% Span Length | Span Compared with: | Blowout of the 80% Span | Violation Dist of: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 44/5 | to | 45/1 | Extreme Wind | 132.45' | 75' | 57' | 2347' | 1878' | 74/4 - 75/1 (1783) | 84' | 9' |
| 45/2 | to | 45/3 | Extreme Wind | 103.11' | 90' | 13' | 1997' | 1598' | 71/2 - 71/3 (1591) | 70' | -20' |
| 48/4 | to | 49/1 | Extreme Wind | 114.27' | 75' | 39' | 2120' | 1696' | 64/5 - 65/1 (1688) | 81' | 6' |

N-2214

| Structure | | Structure | Case | Dist Blown fr CL | Min Clear fr CL (this case) | Violation Dist of: | Span Length | 80% Span Length | Span Compared with: | Blowout of the 80% Span | Violation Dist of: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 57/1 | to | 57/2 | Extreme Wind | 111.78' | 75' | 37' | 1640' | 1312' | 41/2 - 41/1 (1300) | 61' | -14' |
| 58/1 | to | 58/2 | Extreme Wind | 104.77' | 88' | 17' | 2077' | 1662' | 61/4 - 62/1 (1688) | 73' | -14' |
| 60/4 | to | 61/1 | Extreme Wind | 129.25' | 100' | 29' | 2277' | 1822' | 74/4 - 75/1 (1783) | 84' | -16' |
| 61/1 | to | 61/2 | Extreme Wind | 110.52' | 95' | 16' | 2150' | 1720' | 59/1 - 59/2 (1724) | 81' | -14' |
| 64/5 | to | 65/1 | Extreme Wind | 80.65' | 75' | 6' | 1985' | 1588' | 71/2 - 71/3 (1591) | 70' | -5' |
| 65/1 | to | 65/2 | Extreme Wind | 126.52' | 75' | 52' | 2305' | 1844' | 74/4 - 75/1 (1783) | 84' | 9' |
| 65/3 | to | 66/1 | Extreme Wind | 100.72' | 75' | 26' | 2003' | 1602' | 71/2 - 71/3 (1591) | 70' | -5' |
| 66/3 | to | 66/4 | Extreme Wind | 112.56' | 75' | 38' | 2179' | 1743' | 62/4 - 63/1 (1737) | 82' | 7' |
| 72/2 | to | 72/3 | Extreme Wind | 81.58' | 75' | 7' | 1755' | 1404' | 63/2 - 63/3 (1413) | 60' | -15' |
| 74/1 | to | 74/2 | Extreme Wind | 81.93' | 75' | 7' | 1760' | 1408' | 63/2 - 63/3 (1413) | 60' | -15' |

N-2205

No Violations

| | 100% Span Length | | 80% Span Length |
|---|---|---|---|
| Total Unique Spans in Violation: | 14 | Total Unique Spans in Violation: | 6 |

Blowout is the distance the conductor cables can blow away from the centerline in wind. For the majority of the length of this project, the right of way is 150 feet, with just 75 feet on each side of the centerline. However, the blowout[1] distance reported ranges from 84.96 feet to 184.23 feet. This means that in extreme winds, the conductor could extend beyond the edge of PSE&G's right of way, in distances ranging from just under 10 feet to nearly 115 feet past the edge of the right of way. A PSE&G exhibit shows that at a 100% span length, 14 are in violation, and at a 80% span length, 6 are in violation. Exhibit 135, STL-2, S-ENR-35, "Blowout Summary." In addition, NESC code requires clearance between the conductor and structures or other hazards, and this distance must also be taken into account. Based on this predicted blowout encroachment beyond the right of way, plus an additional distance necessary under NESC code, this project cannot be approved by the BPU without further investigation, additional right-of-way, elimination of the blowout violations and verification of safety.

The cost of this project to ratepayers is an issue of public welfare, and is one over which the Board has an obligation.

## I. CONCLUSION – REQUESTED RELIEF

For the forgoing reasons, the Intervenors request that the Board dismiss the Petition without prejudice, or in the alternative, deny the Petition for failure to meet the burden of production and burden of proof.

**Forecasting must be updated.**

A sensitivity analysis similar to that performed for the PATH project is necessary and should be ordered by the board. Specifically:

[1] "Blowout" is the distance the conductor moves longitudinally in high wind.

- PSE&G must waive any claim to FERC "backstop" authority in the pendancy of this sensitivity analysis and Board deliberation.
- The sensitivity analysis must include, but is not limited to those scenarios Ordered in the PATH docket:

    1. Susquehanna-Roseland load flow analyses updated to reflect the following changes in generation: (i) all existing generation as of January 7, 2010, which is not scheduled to be retired before 2014; (ii) all proposed generation that cleared the May 2009 PRM Auction; and (iii) all proposed generation with a signed ISA as of January 7, 2009 ("Scenario 1 generation");

    2. Susquehanna-Roseland load flow analyses updated for the changes in Scenario 1 generation, and updated to reflect PJM's 2010 load forecast ("Scenario 2");

    3. Susquehanna-Roseland load flow analyses updated for the changes in Scenario 1 generation, and updated to reflect the demand response and energy efficiency resources that cleared the May 2009 RPM Auction;

    4. Susquehanna-Roseland load flow analyses updated for the changes in Scenario 1 generation, and PJM's 2010 load forecast (i.e., Scenario 2) and updated to reflect the demand response and energy efficiency resources that cleared the May 2009 RPM Auction;

    5. Susquehanna-Roseland load flow analyses updated for the changes in Scenario 1 generation, PJM's 2010 load forecast, and to reflect the demand response and energy efficiency resources that cleared the May 2009 RPM Auction (i.e. Scenario 4), and updated to reflect the forecasted additional demand response and energy resource reasonably available for 2014, 2015 and 2016 (i.e. using MW from PATH of 367, 420, and469 respectively); and

    6. Susquehanna-Roseland load flow analyses updated for the changes in Scenario 1 generation, PJM's 2010 load forecast, the demand response and energy efficiency resources that cleared the May 2009 RPM Auction, the forecasted additional demand response and energy resource reasonably available for 2014, 2015 and 2016; and updated to reflect additional demand response and energy efficiency projected (i.e. using MW from path of 1,825, 2,140 and 2,403 respectively).

These results shall be distributed to the parties as soon as possible and shall be subject to limited discovery and cross examination, after which the Board shall consider them together with the balance of the record in this matter.

Should the Board instead choose to approve the Petition, Stop the Lines! requests the following conditions to protect landowners, nearby residents, and environment:

**Conditions regarding permits:**

- Petitioners shall not begin actual construction unless and until it receives all necessary federal and state approvals, including those required by federal law and regulations necessary to route the line through the Highlands and the Delaware Water Gap National Recreation Area;

- Not begin actual construction unless and until it receives all necessary state approvals.

**Conditions to protect landowners, residents and the environment:**

- Petitioner shall construct the proposed Project in accordance with all environmental guidelines including, but not limited to, the Avian Protection Plan and Mitigating Bird Collisions with Power Lines Guidelines;

- Petitioner shall relocate or realign any portion of the Project to minimize any electromagnetic effects upon humans, i.e. route lines further away from residences wherever possible, provide sufficient RoW to allow for a safe "fall zone" for 195' high structures.

- Petitioner shall assure magnetic field levels at ROW edge at all times are at or lower than PSEG produced Exhibit 135, S-ENR-35.

- Petitioner shall provide modeling for substations and transmission lines and assure that noise shall at all time be below limits set by New Jersey code through continuous monitoring.

- Petitioner shall address adjacent resident's requests to slightly move towers, and/or move out of neighborhoods where possible.

- Petitioner shall locate any portion of the Project so as to minimize its appearance with the topography;

- Petitioner shall paint all structures of the Project the "Valley Green"28 color so as to camouflage their appearance as much as possible;

- Petitioner shall establish an escrow account, or require a bond be posted, sufficient to assure that if landowners suffer any structural damage, drainage, well problems or other issues during construction or afterward, attributable to PSEG and/or its contractors, that those issues be addressed promptly through correction, rehabilitation and compensation.

- PSE&G must offer a choice of at least the following alternatives to homeowners that have an easement with PSE&G or have a home, business or other structure located within 200' of the edge of the ROW. These options would give landowners a choice to either stay or if they wish, try to sell their homes, without the financial risk and harm if no compensation were offered.

    - One option for landowners who want to leave, PSE&G would offer to purchase the homes of any people along the line at "fair market value" plus 25%, and PSEG would resell the home within two years. PSE&G would purchase the home; or modify/update the easement language to include specifics regarding EMF encroachment onto property, and resell the home with full disclosure regarding EMF. Property value should be based on the same formula PSE&G used when purchasing the house on Route 94 under the lines and the homes on Larikat Lane. There should also be a relocation premium set at 25% of the value of the home.

    - Another option for landowners who want to leave is for PSE&G to find a "like kind and quality" home for willing sellers, which may be less cumbersome in some instances, but difficult in rural areas.

    - For landowners who do not wish to relocate and are willing to stay, PSE&G shall offer to compensate them for the drop in property value that would occur if this project is built – 25% or more. As above, value would be based on the formula PSE&G used in purchasing home on Rt. 94 and Larikat Lane.

        - The premium payment of "value" + 25% is to provide all, including those who are upside down on their mortgage, a down-payment for another home.

- A formal complaint process shall be established at the Board of Public Utilities to hear and address any problems with PSE&G related to this transmission line.

**Conditions pertaining to disclosure of costs:**

- Provide all parties with a detailed itemized listing of all costs related to this proceeding for review by the Board.

**Cost allocation related conditions to protect ratepayers:**

- Approval shall be conditional on FERC approved cost allocation.
- Permit shall be held in abeyance until such cost allocation is approved.
- Petitioners shall submit a revised petition if FERC's cost allocation increases the amount allocated to New Jersey ratepayers for New Jersey and/or Pennsylvania portion of project.

**Conditions to assure purpose remains as proposed:**

- Petitioner shall withdraw Petition if the 2010 Load Forecast and 2009 State of Market Report shows continued decreases in load in 2010.

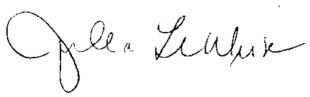
- Susquehanna-Roseland capacity shall not exceed 1,700 amps and/or 3,005 MVA, roughly that declared in record of proceeding.

- Petitioner shall conduct an analysis based on the next RTEP using updated econometric data to demonstrate that the line and the projected in-service date remains unchanged.

- Petitioner shall conduct a proper leakage analysis, for a time-frame at least as far into the future as the useful life of this project (35-50 years), in accordance with the Board's Order to allow the State to better ascertain how the construction of the line will affect its ability to comply with RGGI requirements.

**Such other conditions as the Board deems reasonable and prudent for protection of the service, convenience or welfare of the public.**

Respectfully submitted,

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