

RESPONSE TO STOP THE LINES  
REQUEST: STL-1  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
GENERATION SOURCES

QUESTION:

Direct, p. 1,1. 17-18, refers to generation sources. How were queued projects in NJ, NY and North East region considered to determine whether project was needed, and distinctly, renewable generation?

ANSWER:

Models for systems external to PJM are provided each year, by those regions, for inclusion in the PJM RTEP analysis. These models included queued generation based on the criteria employed within each of those external systems. Within PJM, queued generation projects are included in RTEP analyses as described in the direct testimony of Steven R. Herling at pages 38-41.

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REQUEST: STL-2  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
PJM QUEUE PROCESS

QUESTION:

What are the various stages in the PJM queue process, and how many MW are at each stage, i.e., Feasibility Studies, System Impact Studies, etc., identified by location (county and state) and fuel type?

ANSWER:

The various stages of the PJM interconnection queue process are described in PJM Manual 14-B, which can be found on the PJM web site at <http://www.pjm.com/documents/manuals.aspx> . The generation projects active in the queue can be found at <http://www.pjm.com/planning/generation-interconnection/generation-queue-active.aspx>

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
RTEP PROCESS

QUESTION:

Re: Regional Transmission Expansion Plan (RTEP). Explain the term "Expansion" as used in this context.

ANSWER:

“Expansion” in the context of the Regional Transmission Expansion Plan refers to new transmission facilities and/or enhancements to existing transmission facilities.

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WITNESS(S): HERLING / MCGLYNN  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
NON-TRANSMISSION SOLUTIONS

QUESTION:

Direct, p. 4, regarding determining transmission solutions needed to assure meeting NERC Reliability Standards. What non-transmission solutions were considered and what was relative timeline of each alternative considered? Conservation? Local Generation? Efficiency and load shifting? Reconductoring? SmartGrid?

ANSWER:

See direct testimony of PSE&G witness Steven R. Herling at page 32 which describes non-transmission solutions. See also Mr. Herling's Direct Testimony at page 34 which explains PJM's authority with respect to generation and demand resources. PJM does not discretely study non-transmission solutions. However, PJM included in its analyses all non-transmission solutions which were forwarded through the market or through the TEAC process. Specifically, this included generation provided through the Generation Interconnection process and demand response provided through the RPM process which met the criteria identified in Mr. Herling's testimony. PJM then determined if there were reliability criteria violations projected for the system which includes the above non-transmission solutions. When violations were identified, PJM then proposed transmission solutions to address those violations.

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WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
NERC PLANNING CRITERIA

QUESTION:

Direct, p. 4, are any areas/lines affected by the Susquehanna-Roseland in violation of NERC n-1 criteria at present that the Susquehanna-Roseland will address?

ANSWER:

Assuming that the question refers to the NERC n-1 criteria as it relates to NERC Planning Standard TPL-002, there are no violations of the n-1 criteria in the current planning period (2008/09) or the coming planning period (2009/10) that the Susquehanna – Roseland line is intended to address.

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WITNESS(S): HERLING / MCGLYNN  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
NERC CRITERIA

QUESTION:

Direct, p. 4, for those areas with NERC n-1 reliability violations, what other options exist for correcting these violations, were they considered, and if so, why rejected? If not considered, address feasibility of these alternatives. Include options such as reconductoring, VAR compensation, targeted siting of generation, SmartGrid, etc.

ANSWER:

See response to STL-4. See also direct testimony of PSE&G witness Paul McGlynn at page 24.

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WITNESS(S): HERLING / MCGLYNN  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
PJM PLANNING PROCESS

QUESTION:

Direct p. 4, regarding stakeholder review and participation and the open, transparent forum. List the stakeholders, and identify by company or association and whether stakeholders are agency, public advocacy or environmental groups.

ANSWER:

All PJM Members are able to participate in the stakeholder review process. All planning meetings are scheduled in advance, with notice posted on the PJM website and dial in capability provided. A list of PJM Members can be found at: <http://www.pjm.com/about-pjm/member-services/member-list.aspx>

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WITNESS(S): HERLING  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
PREVIOUS TESTIMONY

QUESTION:

Direct, p. 3, 1. 5-6, you state you testified in the Wva, Va, and PA TrAIL proceedings.

a) In your testimony in that proceeding, did you reveal information regarding a FERC conference which you attended in 2005, in Charleston, West Virginia, the subject of which was moving large amounts of coal generation to the east?

Direct, p. 3, 1. 5-6, you state you testified in the Wva, Va, and PA TrAIL proceedings.

b) Did you attend this meeting?

Direct, p. 3, 1. 5-6, you state you testified in the Wva, Va, and PA TrAIL proceedings.

c) What were your contributions to this meeting, i.e., preparations, comments, testimony, statements, initiatives, etc.?

Direct, p. 3, 1. 5-6, you state you testified in the Wva, Va, and PA TrAIL proceedings.

d) Following this meeting, what follow up actions were taken by you and/or PJM?

Direct, p. 3, 1. 5-6, you state you testified in the Wva, Va, and PA TrAIL proceedings.

e) Please describe PJM's efforts to address the issue of moving large amounts of coal generation to the east.

ANSWER:

(a) Under cross examination in those hearings Mr. Herling responded to questions about the 2005 FERC Technical Conference.

(b) Mr. Herling did not attend the conference.

(c) Mr. Herling reviewed the testimony of Mr. Karl Pfirrmann prior to filing.



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(d) Following the Technical Conference, PJM formed the Project Mountaineer Working Group to discuss issues raised through the Technical Conference. The Working Group met once and took no actions.

(e) See response to STL-8(d).

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WITNESS(S): MCGLYNN  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
BENEFITS

QUESTION:

Direct p. 7, regarding benefits accrued to PJM members through economic dispatch. Please elaborate on economic benefits, including dollar figures for each of the PJM members and benefits outside of PJM membership.

ANSWER:

See response to STL-D-8.

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WITNESS(S): MCGLYNN / HERLING  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
ECONOMIC DISPATCH

QUESTION:

Direct, P. 7, regarding economic dispatch:

a) what is energy import and export status of state of New Jersey and what is energy surplus/deficit of New Jersey without import/export from/to other states?

Direct, P. 7, regarding economic dispatch:

b) what is New Jersey energy price without import/export from/to other states?

Direct, P. 7, regarding economic dispatch:

c) what is generation capacity surplus/deficit of New Jersey without import/export from/to other states?

ANSWER:

(a) Please refer to Exhibit STL-D-9 which contains information regarding import/export data for the State of New Jersey for the years 2005 to present.

(b) PJM does not calculate energy prices for circumstances such as are described in this question.

(c) The forecasted peak for the State of New Jersey for Summer 2009, based on the sum of the non-coincident peak load forecasts of the four transmission zones within New Jersey, is 20,342 MW. The generating capacity within the State of New Jersey is currently 17,020 MW.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
DEMAND RESPONSE

QUESTION:

Direct, p. 9, where increase of demand response provides an additional 1,800MW:

a) What is the total MW of demand response including this 1,800MW?

Direct, p. 9, where increase of demand response provides an additional 1,800MW:

b) What percentage of total PJM generation does total demand response represent?

ANSWER:

(a) The total demand response projected for the 2009 summer period is 3,742 MW.

(b) The total PJM installed generation capacity is 165,200 MW. Demand response is equal to approximately 2.27% of that figure.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
RESERVE MARGINS

QUESTION:

Direct, p. 9, how is reduction in operating reserve costs as described here different from reduction in operating reserves described under "Reliability Savings?" Identify PJM reserve margins and reserve margin requirements from 2002-2008, and projections for 2009-2020.

ANSWER:

The section of the Direct Testimony on page 8 with the heading "Reliability Savings" does not discuss operating reserves. PJM assumes the reserve margins referred to in the remainder of the question are Installed Reserve Margins. The required Installed Reserve Margins for 2002 – 2012 are as follows:

2002/03 – 19.0%  
2003/04 – 17.0%  
2004/05 – 16.0%  
2005/06 – 15.0%  
2006/07 – 15.0%  
2007/08 – 15.0%  
2008/09 – 15.0%  
2009/10 – 15.0%  
2010/11 – 15.5%  
2011/12 – 15.5%  
2012/13 – 16.2%

PJM does not establish a required Installed Reserve Margin beyond three years in the future. The actual Installed Reserve Margins for the historic periods are as follows:

2002/03 – 15.1%  
2003/04 – 27.9%  
2004/05 – 36.9%  
2005/06 – 23.4%  
2006/07 – 12.4%  
2007/08 – 15.1%  
2008/09 – 27.2%

It should be noted, that these values are based on the actual metered peak load and cannot be compared, directly, to the required Installed Reserve Margin, which is based on a probabilistic load forecast. The metered peak load may be substantially higher or lower than the forecast. PJM does not calculate a projected Installed Capacity Margin for future planning periods. A possible range of future Installed Capacity Margins is provided on the PJM web site at: <http://www.pjm.com/planning/resource-adequacy-planning/~//media/planning/res-adeq/res-reports/20090427-forecasted-reserve-margin.ashx>

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
GRID EFFICIENCY

QUESTION:

Direct, p. 11, addresses the efficiency of the grid.

a) Explain how PJM addresses line loss. What is cost of line loss in PJM annually, in dollar figure and MW?

Direct, p. 11, addresses the efficiency of the grid.

b) How will the addition of the Susquehanna-Roseland line affect line loss in PSE&G, New Jersey and PJM territories?

Direct, p. 11, addresses the efficiency of the grid.

c) How will addition of the Susquehanna-Roseland line affect reactive power requirements in PJM?

ANSWER:

(a) See response to STL-D-13.

(b) PJM has not evaluated the impact of the Susquehanna – Roseland line on system losses. It is expected that the addition of the Susquehanna – Roseland line will result in a small reduction in system losses.

(c) PJM has not evaluated the specific impact of the Susquehanna – Roseland line with respect to the reactive power requirements in PJM. However, the addition of the Susquehanna – Roseland will reduce reactive power requirements and eliminate the need for reactive reinforcements that would otherwise be required.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
RELIABILITY STANDARDS

QUESTION:

Direct, p. 13 addresses NERC reliability standards.

a) Where does NERC get its information regarding PJM?

Direct, p. 13 addresses NERC reliability standards.

b) Where is the NERC reliability assessment of the PJM territory as of the most recent reliability assessment?

Direct, p. 13 addresses NERC reliability standards.

c) What is the NERC reserve margin requirement?

Direct, p. 13 addresses NERC reliability standards.

d) What is actual reserve margin for 2008 Winter and Summer Peak?

ANSWER:

(a) While this question is phrased in an overly broad manner, with respect to compliance with NERC Planning Standards, periodic audits of PJM are performed by ReliabilityFirst Corporation (RFC) and by the Southeastern Electric Reliability Council (SERC), the Regional Reliability Councils of NERC within which PJM resides.

(b) See response to STL-D-14.

(c) NERC does not mandate a reserve margin requirement.

(d) Assuming that the question refers to the PJM Installed Reserve Margin, the actual margin at the time of the 2008 summer peak was 27.2% and the actual margin at the time of the 2007/08 winter peak was 37.1%.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
WHOLESALE MARKETS

QUESTION:

Direct, p. 14 addresses PJM responsibility for wholesale markets.

a) Since 2005, what has been the impact of institution of wholesale markets in terms of "benefits" to members, expressed in dollar figure?

Direct, p. 14 addresses PJM responsibility for wholesale markets.

b) What has been the impact of institution of wholesale markets in terms of percentage of MWhr of generation by coal plants?

Direct, p. 14 addresses PJM responsibility for wholesale markets.

c) Compare MW of coal capacity in PJM as percentage of all generation.

ANSWER:

(a) See response to STL-D-8.

(b) PJM has not attempted to quantify the impact of the institution of wholesale markets in terms of percentage of MWhr of generation by coal plants.

(c) Coal fired generation makes up 40.2% of the installed capacity of all PJM generation.



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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
LOAD

QUESTION:

Direct, P. 15, claims that forecasted load growth is a primary factor considered in PJM planning. Provide month by month actual demand figures for 2005-present, including as much 2009 information as possible.

ANSWER:

See response to STL-D-22.

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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
ENERGY MASTER PLAN

QUESTION:

Direct, p. 15-16, explain how energy policy issues are factored into PJM planning and proposals, specifically including the New Jersey Energy Master Plan.

ANSWER:

As specific programs are developed in response to recently enacted energy policy, operational and market requirements and obligations are defined, and specific customers commit to participate for defined periods, they will be integrated into the PJM planning process. See the direct testimony of PSE&G witness Steven R. Herling at pages 38 and 42 which describes when generation and demand response programs become known and verifiable and are included in RTEP analyses.

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WITNESS(S): HERLING / MCGLYNN  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
RTEP PROCESS

QUESTION:

Direct, p. 18, addresses "RTEP projects ordered by PJM Board." What is the origin, nature, and reach of authority of PJM board to "order" transmission? Compare PJM authority to "order" transmission with FERC authority to order transmission.

ANSWER:

The authority of the PJM Board with respect to ordering transmission through the RTEP is set forth in the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (OA). The Board's authority to order transmission is described in Schedule 6 of the PJM OA. The obligation of the PJM Transmission Owners to construct transmission facilities ordered by the PJM Board is set forth in the PJM OA and in the Consolidated Transmission Owners Agreement. FERC has the authority to order transmission service under the Federal Power Act.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
RELIABILITY

QUESTION:

Direct, p. 18, states that TrAIL, PATH, Susquehanna-Roseland, MAAP, taken together, will enhance reliability and economic benefits. Describe with specificity how these projects will enhance reliability and specify type of reliability impact and the economic benefits these projects will provide.

ANSWER:

These backbone projects will resolve numerous reliability criteria violations as noted in the 2007 and 2008 RTEP Reports which can be accessed at:

<http://www.pjm.com/documents/reports/rtep-report.aspx>

<http://www.pjm.com/documents/reports/rtep-report/2007-rtep.aspx>

These backbone projects are needed for reliability, but also provide for some level of economic benefits. However, to establish a baseline for the market efficiency analysis, PJM did perform simulations comparing the 2008 system with and without the 2012 RTEP baseline upgrades.

The results of this analysis can be accessed at:

<http://www.pjm.com/Media/committees-groups/committees/teac/20080820-market-efficiency-analysis-update.pdf>

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
FERC TARIFF CHANGES

QUESTION:

Direct, p. 18-19 addresses role of FERC. What tariff changes had FERC authorized regarding the Susquehanna-Roseland project?

ANSWER:

FERC has accepted rate changes under Schedule 12 of the PJM Tariff related to the Susquehanna-Roseland Project.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
RELIABILITY STANDARDS

QUESTION:

Direct, p. 18-19 regarding FERC reliability standards.

a) How is reliability defined by NERC?

Direct, p. 18-19 regarding FERC reliability standards.

b) Given this definition, what type of reliability concerns does Susquehanna-Roseland line address and how does it address them?

Direct, p. 18-19 regarding FERC reliability standards.

c) From 2005 to present, identify reliability standards violation, identified by violating element/infracton and category of violation.

ANSWER:

(a) In the context of the bulk power system, NERC defines reliability as “the ability to meet the electricity needs of end-use customers, even when unexpected equipment failures or other factors reduce the amount of available electricity. NERC breaks down reliability into adequacy and security.”

(b) NERC has developed a wide range of Reliability Standards for the industry. These Reliability Standards can be accessed at: <http://www.nerc.com/page.php?cid=2|20> .

As Mr. Herling describes at page 20 of his Direct Testimony, PJM has developed reliability criteria and then performs tests to see if the transmission system meets those criteria. Mr. McGlynn’s Direct Testimony at pages 7-9 describes how PJM applies those tests to determine compliance with NERC Reliability Standards. Mr. Herling describes at pages 20-21 of his Direct Testimony what PJM must do to address reliability criteria violations. The Susquehanna-Roseland Project resolves a number of reliability criteria violations in Pennsylvania and New Jersey by providing an additional electrical path over which electrical energy can flow. See Table 3.2 on page 60 of the 2007 RTEP Report which provides information on how overloads are reduced due to the addition of the Susquehanna-Roseland Project. See response to 19 for a link to this report.

(c) See response to STL-D-17.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
TRANSMISSION COSTS

QUESTION:

Direct, p. 21, you state that PPL and PSE&G are respectively allocated 5.37% and 7.61% of transmission costs.

a) Identify allocation of balance of these transmission costs (utility and percentage).

Direct, p. 21, you state that PPL and PSE&G are respectively allocated 5.37% and 7.61% of transmission costs.

b) Are these costs assessed upon energization of line and upon use, or immediately, or some other time?

Direct, p. 21, you state that PPL and PSE&G are respectively allocated 5.37% and 7.61% of transmission costs.

c) Until that time of assessment, identify source of capital for this project.

ANSWER:

(a) The most recent cost allocation filing with respect to the Susquehanna – Roseland line was made by PJM to FERC on December 30, 2008. The allocations to the transmission zones other than PPL and PSEG for the Susquehanna – Roseland line are as follows:

Atlantic City Electric Company – 1.89%  
AEP East Operating Companies – 17.30%  
Allegheny Power – 6.02%  
Baltimore Gas & Electric – 4.95%  
Commonwealth Edison – 14.97%  
Dayton Power & Light Company – 2.50%  
Duquesne Light Company – 2.02%  
Delmarva Power & Light Company – 2.85%  
Virginia Electric & Power Company- 13.61% (Dominion)  
Jersey Central Power & Light – 4.50%  
Metropolitan Edison Company – 2.18%  
Neptune Regional Transmission System – 0.49%  
PECO Energy Company – 6.31%  
Pennsylvania Electric Company – 2.06%  
Potomac Electric Power Company – 4.82%  
Rockland Electric Company – 0.31%

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East Coast Power – 0.24%

(b) The forecast 2008 costs were assessed beginning on October 1, 2008, which is when PSE&G's transmission formula rate became effective after it was approved by FERC on September 30, 2008. On April 22, 2008, the FERC granted PSE&G's request for authorization for 100% of prudently incurred Construction Work in Progress for the Susquehanna-Roseland Transmission Line Project to be included in rate base with a current return.

(c) The source of capital for the project is newly borrowed long-term debt and funds from retained earnings and additional equity.



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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
CONSTRUCTION COSTS

QUESTION:

Direct p. 21-22, identify any state, PJM or utility mechanism for recovery of construction costs prior to or in tandem with FERC recovery, such as statutory recovery of construction work in progress, and/or some other recovery scheme?

ANSWER:

FERC governs recovery of transmission construction costs from transmission customers. There are no PJM or utility mechanisms for recovery of such costs other than through the FERC approved Tariff mechanisms. Any state mechanisms would be related to the recovery, at a retail level, of the costs borne by transmission customers through the FERC Tariff.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
GENERATION

QUESTION:

Direct, p. 23, states that the planning process has enabled more than 22,000MW of generation to be interconnected. Provide breakdown of MW of generation interconnection based on fuel type, and location, year by year from 2004 to present.

ANSWER:

See response to STL-D-19.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
NEED

QUESTION:

Direct p. 23 refers to construction of transmission "earlier than would have been required based on reliability needs" if justified by benefits derived through greater efficiency in energy and capacity markets. Provide examples of transmission projects built prior to reliability need based on a market justification. Is Susquehanna-Roseland a project "justified by benefits derived through greater efficiency in energy and capacity markets?"

ANSWER:

Since the approval, by FERC, of the market efficiency component of the RTEP planning process, PJM has not justified the acceleration of any reliability-based transmission upgrades based on market efficiency. The Susquehanna – Roseland Project was included in the RTEP to resolve violations of reliability criteria, as discussed in the direct testimony of PSE&G witness Paul McGlynn, and was not justified based on market efficiency criteria.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
MARKET EFFICENCY

QUESTION:

Direct, p. 23 refers to market efficiency studies and northern Pennsylvania coal projects:

a) Is the Susquehanna-Roseland projected supported with economic/market analysis?

Direct, p. 23 refers to market efficiency studies and northern Pennsylvania coal projects:

b) What marketing benefits does the project provide to northern Pennsylvania coal projects?

Direct, p. 23 refers to market efficiency studies and northern Pennsylvania coal projects:

c) What additional marketing options do northern Pennsylvania coal projects have?

ANSWER:

(a) Economic/market analysis is not part of the justification for the Susquehanna – Roseland Project.

(b) PJM has no knowledge of any marketing benefits that the Susquehanna – Roseland Project might provide to northern Pennsylvania coal projects.

(c) PJM has no knowledge of the marketing options that northern Pennsylvania coal projects may have.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
OVERLOADS

QUESTION:

Direct, p. 24, refers to studies showing overloads of lines in 2012-2013 time frame. What did model identify as cause of these overloads.

ANSWER:

The flows on certain lines exceed their respective ratings due to the combination of demand, generation, firm transactions, demand response and transmission topology existing at a point in time (Summer Peak load) and under the critical system conditions described in the PJM Manuals with respect to demonstrating compliance with NERC Planning Standards. PJM does not identify which specific inputs into a study contribute to or cause a specific line overload.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
GENERATION

QUESTION:

Direct, p. 25, refers to clusters of baseload generation to be served by new transmission lines.

a) Provide listing of baseload coal generation facilities and identify which new transmission lines are to serve these new generators.

Direct, p. 25, refers to clusters of baseload generation to be served by new transmission lines.

b) Provide listing of wind generation facilities and location, including PJM rated MW.

Direct, p. 25, refers to clusters of baseload generation to be served by new transmission lines.

c) Identify which transmission projects are proposed to serve these generators.

ANSWER:

(a) See the Generation Interconnection Queue website at:

<http://www.pjm.com/planning/generation-interconnection/generation-queue-active.aspx> . Select a fuel type of “Coal”. For a specific generation project, select the green “Imp” dot for the Impact Study which will identify any transmission upgrades necessary to serve the project.

(b) See the Generation Interconnection Queue website at:

<http://www.pjm.com/planning/generation-interconnection/generation-queue-active.aspx> . Select a fuel type of “Wind”.

(c) For a specific generation project, select the green “Imp” dot for the Impact Study which will identify any transmission upgrades necessary to serve the Project.

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
FLOW OF ELECTRICITY

QUESTION:

Direct, p. 25, refers to increasing west to east load flows. Does electricity ever flow east to west? If so, how often and at what times, under what conditions.

ANSWER:

Electricity can flow from east to west under circumstances where load is high in the west with relatively lower generation availability and generation availability is high in the east with relatively lower load levels. PJM does not track the frequency of such flows, but it is relatively rare for the general pattern of flow on the PJM system to be from east to west.

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REQUEST: STL-30  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
TRANSMISSION COSTS

QUESTION:

Direct, p. 26, states that new transmission must be constructed to grow robust energy markets. How is capital cost of transmission factored into transactions under economic dispatch?

ANSWER:

The capital cost of transmission is not factored into economic dispatch decisions made by PJM. PJM has no knowledge of how decisions are made by participants with respect to transactions in the energy market.



RESPONSE TO STOP THE LINES  
REQUEST: STL-31  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
LOAD FORECASTS

QUESTION:

Direct, p. 28, regarding load forecasts and changing assumptions, many utilities have reported significantly declining demand for electricity, substantive declining demand such that infrastructure projects are being reconsidered?

a) Has PJM updated demand forecasts based on reduced actual demand of 2008 and 2009?

Direct, p. 28, regarding load forecasts and changing assumptions, many utilities have reported significantly declining demand for electricity, substantive declining demand such that infrastructure projects are being reconsidered?

b) Has PJM altered size, type and/or timing of Susquehanna-Roseland line based on reduced demand, and if so, how? If not, why?

Direct, p. 28, regarding load forecasts and changing assumptions, many utilities have reported significantly declining demand for electricity, substantive declining demand such that infrastructure projects are being reconsidered?

c) Direct, p. 29, states that additional supplemental analysis will need to be completed. Please provide this supplemental analysis.

ANSWER:

(a) The most recent PJM Load Forecast report is available on the PJM web site at: <http://www.pjm.com/~media/documents/reports/2009-pjm-load-report.ashx> . Load history from 2008 was included in the model used to develop the forecast. However, the primary driver for the forecast is future econometric projections, not recent load history. It should be noted that the projection of future economic conditions does reflect lowered economic expectations.

(b) No. RTEP analysis performed in 2009 indicates the continuing need for the Susquehanna – Roseland line in 2012.

(c) Supplemental analysis was presented to the TEAC at their January 21, 2009 meeting (page 2-6) and their March 13, 2009 meeting (pages 22-24). These presentations can be accessed at: <http://www.pjm.com/committees-and-groups/committees/teac.aspx> . Select “Past Meeting Material”.

RESPONSE TO STOP THE LINES  
REQUEST: STL-32  
WITNESS(S): HERLING / MCGLYNN  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
NEED

QUESTION:

Direct, p. 30, raises the issue of need for Susquehanna-Roseland based on congestion. Are market transactions a cause of congestion?

ANSWER:

The term “market transactions” lacks definition. Fundamentally, all power flow occurs within the RTO rubric of markets. Congestion arises in situations where power flows on transmission facilities exceed established limits causing the PJM system operator to take corrective action, including dispatch of generation out of merit order to control power flows. This can happen under system load levels other than the peak load conditions which PJM modeled in its studies that justified the need for the Susquehanna – Roseland Transmission Project. Thus, Mr. Herling’s statement that congestion is often a precursor for the need for future upgrades for reliability which are based on peak load conditions. PJM RTEP studies make no distinction as to the “identity” of the power flows on the overloaded facilities driving the need for the Susquehanna – Roseland Project. See also response to STL-27.

RESPONSE TO STOP THE LINES  
REQUEST: STL-33  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
CAPACITY COSTS

QUESTION:

Direct, p. 30, are energy and capacity costs to PJM customers costs based on instances where less costly power available but not deliverable due to congestion? What fuel type is lower congestion-provide scale.

ANSWER:

Energy costs paid by LSEs are a function of locational marginal price (LMP). Moment to moment energy prices are based on the lowest cost energy that can be delivered to load from anywhere in PJM. LMPs in one area of PJM may be higher than another due to congestion. Capacity costs are a function of Reliability Pricing Model (RPM) forward market auctions based on the availability of generating capacity in defined areas of PJM, considering future import limitations.

The cost of generation is based on many factors. PJM presumes that the question refers to the merit order dispatch of generation in real time operations under LMP. Merit order dispatch of generation can change daily as driven by the cost of the fuel powering each generator within the PJM footprint. Statistics on annual energy production by fuel source can be found in annual State of the Market Reports published by PJM's Market Monitor, Monitoring Analytics. Those reports are accessible via the following URL link to the Monitoring Analytics web site:

[http://www.monitoringanalytics.com/reports/PJM\\_State\\_of\\_the\\_Market/2008.shtml](http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2008.shtml)

RESPONSE TO STOP THE LINES  
REQUEST: STL-34  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
CRITERIA VIOLATIONS

QUESTION:

Direct, p. 31, regarding NERC requirements to address criteria violations.

a) Does NERC have a policy regarding generation solutions?

Direct, p. 31, regarding NERC requirements to address criteria violations.

b) Does NERC have a policy regarding distributed generation as solution for criteria violations?

Direct, p. 31, regarding NERC requirements to address criteria violations.

c) Has NERC made any statements regarding ability of local generation to address reactive power, congestion and local load serving issues? Provide citations.

ANSWER:

(a) No, NERC does not have a policy regarding generation solutions.

(b) No, NERC does not have a policy regarding distributed generation as solution for criteria violations.

(c) PJM is not aware of any statements made by NERC regarding these issues.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
CAPACITY TRANSFER

QUESTION:

Direct, p. 32, raises increased transfer capacity as a criteria for selection of the Susquehanna-Roseland option.

a) Identify interface(s) where Susquehanna-Roseland will increase transfer capacity.

Direct, p. 32, raises increased transfer capacity as a criteria for selection of the Susquehanna-Roseland option.

b) What is current transfer capacity of each individual interface?

Direct, p. 32, raises increased transfer capacity as a criteria for selection of the Susquehanna-Roseland option.

c) By how many MW is the transfer capacity increased by S-R?

Direct, p. 32, raises increased transfer capacity as a criteria for selection of the Susquehanna-Roseland option.

d) For each option considered, what was expected transfer capacity increase for each of the interfaces affected?

ANSWER:

(a) The term “transfer capacity” is not used in the direct testimony of PSE&G's witness Steven R. Herling page 32. If, however, the question intended to refer to “transfer capability” in the context as mentioned in Mr. Herling’s testimony, the term refers to the ability to transfer power into the Eastern Mid-Atlantic area of PJM. This area encompasses the State of New Jersey, the Delmarva Peninsula and southeastern Pennsylvania, including the major metropolitan areas of Philadelphia, Pennsylvania, Newark, New Jersey and Wilmington, Delaware. See also direct testimony of PSE&G witness Paul McGlynn at p 20.

PJM is unclear as to which individual interfaces are being referenced. If the question means the transfer interfaces used in PJM operations and described in PJM Manual M-03, it should be noted that the RTEP planning process did not use these interfaces in justifying the need for the Susquehanna-Roseland Project.

RESPONSE TO STOP THE LINES

REQUEST: STL-35

WITNESS(S): HERLING / MCGLYNN

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SUSQUEHANNA-ROSELAND

(b) See response to STL-35(a).

(c) See response to STL-35(a).

(d) See response to STL-35(a).

RESPONSE TO STOP THE LINES  
REQUEST: STL-36  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
ALTERNATIVES

QUESTION:

Direct, P. 32, regarding non-transmission solutions:

a) What options were considered?

Direct, P. 32, regarding non-transmission solutions:

b) Was off-shore wind considered?

Direct, P. 32, regarding non-transmission solutions:

c) Was off-shore wind with gas backup (dispatchable), as selected by Delaware PSC, considered?

ANSWER:

(a) See response to STL-D-4.

(b) No. No off-shore wind projects had progressed to the point of executing an Interconnection Service Agreement. See also response to STL-36(a).

(c) No. No off-shore wind projects with gas backup (dispatchable) had progressed to the point of executing an Interconnection Service Agreement. See also response to STL-36(a).

RESPONSE TO STOP THE LINES  
REQUEST: STL-37  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
DEMAND

QUESTION:

Direct, p. 32, suggests that new generation has been slow to develop. What is PJM's need projection, annually, for next 15 years, and how many MW are in the PJM queue, listed in the various queue stages?

ANSWER:

By "need projection", we assume that PJM's demand is requested. See the 2009 PJM Load Forecast at: <http://www.pjm.com/~media/documents/reports/2009-pjm-load-report.ashx> for the demand to be served in the future. See the Generation Interconnection Queue at: <http://www.pjm.com/planning/generation-interconnection/generation-queue-active.aspx> for MW in the PJM queue.



RESPONSE TO STOP THE LINES  
REQUEST: STL-38  
WITNESS(S): HERLING / MCGLYNN  
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
ALTERNATIVES

QUESTION:

Direct, p. 32, Alternatives:

a) What reconducting options were considered, specifically, and what was the cost?

Direct, p. 32, Alternatives:

b) Could reconducting obviate some or all of the need for the S-R?

Direct, p. 32, Alternatives:

c) Given many state's conservation mandates, when compared with PJM's anticipated MW need forecast, what part of PJM's MW need could be met by DSM and conservation?

ANSWER:

(a) See the direct testimony of PSE&G witness Paul McGlynn's at page 24.

(b) See response to STL-38(a).

(c) PJM has not performed any analysis of the possible impacts of various State mandates related to DSM and conservation, as PJM does not know what the outcomes of various State mandates will be. For PJM planning purposes, PJM models generation that is either in-service or has executed an ISA (and thus, has a reasonable likelihood of being placed in service), and models demand response and energy efficiency programs that are known, measurable and verifiable (they have cleared in an RPM auction).

RESPONSE TO STOP THE LINES  
 REQUEST: STL-39  
 WITNESS(S): MILLIES / CROUCH / KHADR  
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 SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
TRANSMISSION CAPACITY

**QUESTION:**

Direct, p. 33, addresses the transmission capacity. Provide specifications of Susquehanna-Roseland line with specificity, i.e., identify whether ACSS or ACSR, size of conductor, whether bundled, whether double circuit, anticipated current to flow over line, SIL and MVA, etc.

**ANSWER:**

PSE&G will be installing both a 230kV circuit and a 500kV circuit on the proposed double circuit transmission structures. Both the proposed 230kV and 500kV circuits will be utilizing 1590 kcmil 54/19 Aluminum Conductor Steel Reinforced (ACSR) "Falcon" conductor that is 1.545 inches in diameter, weighs 2.044 lb/ft and has a rated breaking strength of 54,500lbs. For the 230kV and 500kV conductors on the same structure, there will be two (2) conductors per electrical phase on the 230kV circuit and four (4) conductors per phase on the 500kV circuit, resulting in 18 conductors total. The surge impedance loading for the quad bundled 1590ACSR is 1288MW.

The anticipated flows over these lines will be as follows:

	<b>Lackawanna -To- Jefferson 500kV</b>		<b>Jefferson -To- Montville 500kV</b>	
<b>2013</b>	<b>MW</b>	<b>Amps</b>	<b>MW</b>	<b>Amps</b>
<b>Average</b>	1075	1306	693	843
<b>Highest</b>	1432	1741	979	1190
<b>Lowest</b>	535	650	331	402

RESPONSE TO STOP THE LINES  
REQUEST: STL-40  
WITNESS(S): HERLING / MCGLYNN  
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SUSQUEHANNA-ROSELAND

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
REGIONAL TRANSMISSION ORGANIZATIONS

QUESTION:

Direct, p. 35, states that FERC believed there would be competitive advantages resulting from RTO's.

a) In PJM's experience, have competitive advantages been realized?

Direct, p. 35, states that FERC believed there would be competitive advantages resulting from RTO's.

b) If there are competitive advantages, from 2007 to present, what parties have realized these advantages and in what dollar amount?

ANSWER:

(a) PJM makes no determination of competitive advantages.

See also response to STL-D-8, which addresses benefits of RTOs.

(b) PJM makes no determination of competitive advantages or dollar amounts. See response to STL-40(a).