

**STATE OF NEW JERSEY**  
**BOARD OF PUBLIC UTILITIES**  
**BPU Docket No. EM05020106**  
**OFFICE OF ADMINISTRATIVE LAW**  
**OAL Docket No. PUC-1874-05**

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**In The Matter of the Joint Petition of  
Public Service Electric and Gas Company  
and Exelon Corporation  
For Approval of a Change in Control of  
Public Service Electric and Gas Company  
and Related Authorizations**

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**Surrebuttal Testimony  
on Behalf of the  
New Jersey Division of the Ratepayer Advocate**

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December 27, 2005

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**Biewald-Fagan-Schlissel Surrebuttal Testimony**

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1   **I. INTRODUCTION**

2   **Q. Mr. Biewald, please state your name, position and business address.**

3   A. My name is Bruce E. Biewald. I am the President of Synapse Energy Economics,  
4   Inc., 22 Pearl Street, Cambridge, MA 02139.

5   **Q. Mr. Fagan, please state your name, position and business address.**

6   A. My name is Robert M. Fagan. I am a Senior Associate at Synapse Energy  
7   Economics, Inc., 22 Pearl Street, Cambridge, MA 02139.

8   **Q. Mr. Schlissel, please state your name, position and business address.**

9   A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy  
10   Economics, Inc., 22 Pearl Street, Cambridge, MA 02139.

11   **Q. On whose behalf are you testifying in this case?**

12   A. We are testifying on behalf of the New Jersey Division of the Ratepayer Advocate  
13   (“Ratepayer Advocate”).

14   **Q. Have you previously submitted testimony in this proceeding?**

15   A. Yes. We submitted Direct Testimony on November 14, 2005.

16   **Q. What is the purpose of this Surrebuttal Testimony?**

17   A. The purpose of this Surrebuttal Testimony is to respond to comments made in the  
18   Rebuttal Testimony submitted on behalf of the Petitioners by Rodney Frame,  
19   Gary Sorenson and William Hogan.

20   **Q. Please summarize the conclusions of this Surrebuttal Testimony.**

21   A. None of the claims or comments made by the Petitioners’ rebuttal witnesses  
22   causes us to change the conclusions presented in our Direct Testimony.

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1      **II.    MR. FRAME'S MODELING UNDERSTATES THE LEVEL OF**  
2      **CONCENTRATION IN THE PJM EAST ENERGY MARKET**

4      **Q.    Does Mr. Frame's "apples to apples" comparison demonstrate that he has**  
5      **accurately modeled the pre-merger levels of concentration in the PJM East**  
6      **Energy Market?**<sup>1</sup>

7      **A.** Not at all. At most, Mr. Frame's "apples to apples" comparison shows that the  
8      results of his PJM East Capacity Market analysis are comparable to the lower end  
9      of the PJM MMU's range of market concentrations in the PJM East region.

10     Moreover, as our Direct Testimony explained, Mr. Frame's PJM East Capacity  
11    Market analysis, Exhibit RF-8 (revised), did not accurately reflect the pre-merger  
12    levels of concentration for a number of reasons, the most significant of which is  
13    that he unrealistically and unreasonably assigns none of the 7,300 MW of  
14    transmission import capability across the PJM Eastern Interface to any current  
15    market participants, including Exelon or PSEG.<sup>2</sup> Thus, there is no significance to  
16    the fact that Mr. Frame's conclusions are comparable to the results of a PJM  
17    MMU analysis which makes a similar omission. What is far more significant is  
18    that Mr. Frame's pre-merger HHI results would be higher if he properly assigned  
19    the 7,300 MW of transmission import capability across the PJM Eastern Interface  
20    to current market participants, including Exelon and PSEG. As we have  
21    demonstrated in Table 2 on page 36 and in Exhibits BFS-4 and BFS-5 of our  
22    Direct Testimony, Exelon and PSEG, in fact, do bring, and can be expected to  
23    bring, substantial amounts of power into PJM East over this Interface. For this  
24    reason, Mr. Frame's "apples to apples" comparison does not prove that he has  
25    accurately modeled the pre-merger levels of concentration in the PJM East  
26    Energy Market.

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<sup>1</sup>     Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 31, line 8, to page 32, line 6.  
<sup>2</sup>     Biewald-Fagan-Schlissel Direct Testimony, at page 51, line 17, to page 53, line 18.

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2       **III. MR. FRAME MISCHARACTERIZES THE CONCLUSIONS AND**  
3       **FINDINGS OF THE PJM MMU'S MERGER ANALYSIS REPORTS**

4       **Q. Does Mr. Frame accurately characterize the conclusions and findings of the**  
5       **PJM Market Monitoring Unit's October 2005 Merger Analysis Report?**

6       A. No. Mr. Frame claims that the PJM Market Monitoring Unit's ("MMU") October  
7       2005 Merger Analysis verifies his conclusions about the competitive effects of the  
8       merger.<sup>3</sup> However, Mr. Frame's characterization of the MMU's October 14  
9       analysis is highly misleading. In fact, the MMU repeatedly conditions its  
10      conclusions about the merger's potential impact on competition with critical and  
11      strict assumptions. For example:

- 12       ▪ Consistent with its previous conclusion, the MMU states that "it is not  
13       possible to determine whether divestiture will in fact mitigate the issues  
14       without knowing the exact units and their distribution factor impacts on  
15       the identified constraints."<sup>4</sup> The MMU also qualifies that "a supplemental  
16       analysis must be performed once a definitive declaration of divested assets  
17       has been developed."<sup>5</sup>
- 18       ▪ The MMU repeatedly asserts that the identity of the purchasers of the  
19       divested units is necessary for evaluating the adequacy of the proposed  
20       mitigation for the energy markets.<sup>6</sup> In the October 2005 update, the MMU  
21       qualified that its conclusion about the adequacy of the proposed energy  
22       market mitigation "is based on the strong assumption that the sale of  
23       divested units is made to a company that currently has no position in the  
24       identified locational energy markets."<sup>7</sup> This report goes on to say,  
25       "In fact, the conclusions about the required level of divestiture in the  
26       Energy Market depend on the nature of the companies purchasing the  
27       divested assets. The initial analysis assumes that the purchasing company

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<sup>3</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 2, line 15.

<sup>4</sup> PJM MMU "Exelon/PSEG Merger Analysis, Part Two," dated October 14, 2005, at page 3. See also pages 15, 20, 23, 28-29, 30 and 56.

<sup>5</sup> Ibid. at pages 20, 23, 29, 30, and 57; and PJM MMU "Exelon/PSEG Merger Analysis," dated May 24, 2005, at pages 19, 21, 25 and 26.

<sup>6</sup> PJM MMU "Exelon/PSEG Merger Analysis, Part Two," dated October 14, 2005, at pages 3, 4, 15, 20, 21, 23, 28, 29, 30, 56-57.

<sup>7</sup> Ibid. at page 3.

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1           has no capacity ownership in the relevant market. If the divested assets are  
2           sold to a company with a market share of from 16 percent to 35 percent,  
3           the proposed divestiture results in HHI levels that exceed the levels  
4           reached when the divested assets are sold to a company with a market  
5           share closer to five percent. In some cases the results after divestiture are  
6           worse than the results without divestiture. Conclusions about the required  
7           level of divestiture in the locational energy markets also depend on the  
8           nature of the companies purchasing the divested assets.”<sup>8</sup>

- 9           ▪ The MMU did not attempt to evaluate the virtual divestiture portion of the  
10          divestiture. It treated divestitures in an undifferentiated manner in its  
11          analysis and qualifies that “to the extent that virtual divestiture results in  
12          different incentives than does actual divestiture, the conclusions drawn in  
13          this analysis would need to be modified in a consistent manner.”<sup>9</sup>

14          Aside from the fact that the Applicants’ proposed “virtual divestiture” is unproven  
15          and unprecedented, our Direct Testimony lays out the significant ways that virtual  
16          divestiture differs from actual divestiture, such that virtual divestiture has little or  
17          no value as a mitigation measure.

18          In each of its Reports, the MMU finds that the proposed merger would  
19          significantly increase concentration in the Energy, Capacity and Regulation  
20          markets and, therefore, would likely create potential adverse competitive effects,  
21          absent mitigation.<sup>10</sup> Given that it did not evaluate the effects of virtual divestiture  
22          as mitigation, and that the failure of any of the previous three assumptions to hold  
23          would likely invalidate a finding that the merger would not have adverse  
24          competitive effects, the MMU’s conclusions clearly do not constitute an  
25          endorsement.

26          **Q. Does Mr. Frame misrepresent the MMU reports in any other ways?**

27          A. Yes. Mr. Frame implies that the Applicants’ proposed mitigation is identical to  
28          the MMU’s definition of appropriate mitigation. For example, he testifies that:

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<sup>8</sup>         *Ibid*, at page 3.

<sup>9</sup>         *Ibid*, at page 5.

<sup>10</sup>         *Ibid*, at page 3. See also pages 15, 19, 22, 28, 29, 42, and 56.

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1           The overall conclusions of the PJM MMU's reports are  
2           substantially the same as my own, namely that the merger does not  
3           raise any competitive issues that cannot be addressed by the  
4           *proposed* mitigation. Thus, page 5 of the October 14, 2005 PJM  
5           MMU report states: "It appears that *appropriate* mitigation, if  
6           structured in ways to address the issues identified in this report,  
7           can resolve the concerns about competitive impacts."<sup>11</sup> (Emphasis  
8           added)

9           The merger analyses provided by the PJM MMU use a different  
10          analytical approach than I used, and different data sets, but  
11          nevertheless reach an overall conclusion that is substantially the  
12          same as mine. That overall conclusion is that, with an appropriate  
13          mitigation package, *within the parameters already accepted by the*  
14          *Joint Petitioners*, the merger will not create market power  
15          concerns.<sup>12</sup> (Emphasis added)

16          The PJM MMU found that the merger will have no adverse  
17          competitive effects so long as *the merging parties' mitigation*  
18          *proposal* is properly implemented.<sup>13</sup> (Emphasis added)

19          Crucially, however, the MMU states that *appropriate* mitigation, which may or  
20          may not be synonymous with the Applicants' proposed mitigation, can resolve the  
21          concerns about competitive impacts.<sup>14</sup> As discussed by the MMU, "appropriate  
22          mitigation" could take a number of forms, such as an agreement by the merged  
23          company to offer units only at marginal cost as defined in the offer capping  
24          rules.<sup>15</sup> The MMU does not put conditions on the effectiveness of these  
25          alternative mitigation plans, suggesting that it has a much higher degree of  
26          confidence in these measures. In contrast, the MMU's many caveats on the  
27          adequacy of the Petitioners' proposed mitigation, which has left so many  
28          variables open as to make analysis impossible, implies that the Applicants have  
29          yet to put forth "appropriate mitigation" in this filing. For reasons discussed

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<sup>11</sup>       Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 11, lines 5-10.

<sup>12</sup>       *Ibid*, at page 6, lines 12-17.

<sup>13</sup>       *Ibid*, at page 2, lines 15-17.

<sup>14</sup>       PJM MMU "Exelon/PSEG Merger Analysis, Part Two," dated October 14, 2005, at page 5.

<sup>15</sup>       *Ibid*, at pages 19, 22, 28, 30, and 56.

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1       herein and in our Direct Testimony, we believe that the Applicants' proposed  
2       mitigation falls quite short of being "adequate."

3   **Q. What have the Petitioners proposed for mitigation in the capacity market**  
4   **pending implementation of the new capacity market paradigm proposed by**  
5   **PJM before the FERC?**

6   A. "On an interim basis, the merging parties have proposed that the merged firm will  
7       offer its entire "net long" position into PJM's daily capacity market at a price of  
8       zero. Thus, it will be a "price taker" with no ability or incentive to influence the  
9       market price."<sup>16</sup>

10   **Q. If the New Jersey Board of Public Utilities ("the Board") approves the**  
11   **merger, is it likely that the interim capacity market mitigation would go into**  
12   **effect?**

13   A. Yes. The interim mitigation would be necessary until the new capacity market  
14       structure is approved. PJM wants to implement the new Reliability Pricing Model  
15       ("RPM") beginning on June 1, 2006. However, as discussed in our Direct  
16       Testimony and acknowledged by Mr. Frame,<sup>17</sup> an implementation date  
17       approximately six months from now seems unlikely. Should FERC grant a fully  
18       contested proceeding or require substantial revisions to the proposed RPM,  
19       substantial delays could result. Even after FERC issues an Order, implementation  
20       of the new capacity market designs, features, and rules could be delayed for a  
21       significantly longer period.

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<sup>16</sup>       Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 48, lines 12-15.

<sup>17</sup>       "The future capacity paradigm for PJM is not now known. PJM has made its RPM filing with  
         FERC, but it is not now known when or even if FERC will approve it or, if approved, precisely  
         what will be approved." Rebuttal Testimony of Rodney (Frame, Exhibit JP-24, rebut at page 48,  
         lines 10-12.)

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1   **Q. How does Mr. Frame characterize the MMU's conclusions about the**  
2   **effectiveness of the proposed interim capacity market mitigation?**

3   A. He states that “the merging parties’ interim capacity market mitigation proposal,  
4   which has been *endorsed* by the PJM MMU and which involves bidding the  
5   merged firm’s net unforced capacity (“UCAP”) position into PJM’s daily UCAP  
6   market at a price of zero, eliminates any merger-related competitive concerns in  
7   the near term.”<sup>18</sup> Likewise, he claims that the “PJM MMU agrees that the merging  
8   party’s interim capacity market mitigation proposal is likely to be effective.”<sup>19</sup>

9   **Q. Has the MMU in fact “endorsed” the companies’ interim capacity market**  
10   **mitigation proposal?**

11   A. No. Mr. Frame misrepresents the MMU’s conclusions about the interim capacity  
12   market mitigation proposal. Critically, the MMU conditions its conclusions on  
13   mitigation that is “properly structured”<sup>20</sup> and on an “appropriate” definition of the  
14   capacity for sale.<sup>21</sup> In the June 2005 supplement to its original merger analysis,  
15   the MMU sheds light on how the companies’ proposed mitigation may fall short  
16   of being “properly structured”:

17                 The Applicants in fact propose to offer only their “net” capacity at  
18                 zero cost and only until such time that PJM implements locational  
19                 capacity markets for various submarkets within PJM. The  
20                 Applicants then intend to propose their own mitigation plan but  
21                 only following approval of their merger application. It is thus  
22                 impossible to evaluate whether the mitigation plan, as proposed,  
23                 would resolve the market power issues created by the merger.”<sup>22</sup>  
24                 (PJM MMU, Supplemental Report June 16, 2005)

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<sup>18</sup> *Ibid.*, at page 7, lines 12-16. Emphasis added.

<sup>19</sup> *Ibid.*, at page 57, lines 22-23.

<sup>20</sup> For example, PJM MMU “Exelon/PSEG Merger Analysis, Part Two,” dated October 14, 2005, at page 44.

<sup>21</sup> *Ibid.*, at page 4.

<sup>22</sup> PJM MMU “Exelon/PSEG Merger Analysis, Supplemental Report”, dated June 16, 2005, at page 5.

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1   **Q. Has the MMU changed its position on the effectiveness of the proposed**  
2   **interim capacity market mitigation?**

3   A. No. The PJM MMU Merger Analyses do not reflect any material shift in  
4   conclusions. The MMU analyses (May 2005, June 2005 and October 2005)  
5   qualify that its conclusions about the adequacy of the interim mitigation proposal  
6   only apply “if properly structured.”<sup>23</sup>

7   **Q. Have the Companies modified their capacity market mitigation proposal**  
8   **based on the MMU’s finding that it does not have sufficient data to evaluate**  
9   **the effectiveness of the proposed mitigation plan?**

10   A. No. Mr. Frame claims that there are no important capacity market issues with the  
11   merger that should be considered at this time, and that “it is neither necessary nor  
12   appropriate to do so until the details of the new capacity paradigm are known.”<sup>24</sup>

13   **Q. Have you noted other instances where Mr. Frame’s description of the MMU**  
14   **Analyses is misleading?**

15   A. Yes. The MMU states that its conclusions related to the markets defined by the  
16   Eastern Interface and by the Keeney transformer, which are the locational markets  
17   most relevant to the BGS auction, apply to the impact on the BGS auction.<sup>25</sup>  
18   According to the October report, the MMU’s analysis of the market formed by the  
19   Eastern Interface finds that a screen failure would result if an existing company  
20   with a market share of only 6% purchases the divested capacity.<sup>26</sup> Its results about  
21   the markets formed by these constraints do not inspire confidence in the proposed  
22   mitigation. Despite this, Mr. Frame suggests that the MMU found no issues with  
23   the proposed merger’s impacts on the BGS auction:

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<sup>23</sup> PJM MMU “Exelon/PSEG Merger Analysis,” dated May 24, 2005, at page 36; and PJM MMU “Exelon/PSEG Merger Analysis, Part Two,” dated October 14, 2005, at page 44.

<sup>24</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 48, lines 20-21.

<sup>25</sup> PJM MMU “Exelon/PSEG Merger Analysis, Part Two,” dated October 14, 2005, at pages 9 and 19.

<sup>26</sup> Ibid, at page 20.

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1 [The PJM MMU and Frame] analyses demonstrate that the merger,  
2 with the proposed mitigation appropriately implemented, will not  
3 adversely affect competition. *As explained in both the PJM MMU*  
4 *report and in my testimony, this conclusion applies as well to the*  
5 *BGS auction and to PJM's proposed Reliability Pricing Model*  
6 ("RPM").<sup>27</sup> [Emphasis added]

**IV. FLAWS AND WEAKNESSES IN MR. FRAME'S HHI MODELING**

**Q. Mr. Frame has made a number of claims in response to your criticisms of his HHI modeling. Do any of these claims cause you to change your ultimate conclusion that the results of his market power modeling are rendered unrealistic by a number of serious flaws that cause him to underestimate the post-merger and post-mitigation levels of concentration in the PJM East Energy Market?**

**A. No.**

**Q. Is your criticism that Mr. Frame inappropriately assumed that all generating capacity in the study area would be available to serve the market "unfounded and incorrect," as Mr. Frame has claimed?<sup>28</sup>**

**A. Not at all. Mr. Frame's PJM East Energy Market Economic Capacity analyses all assume that all of the capacity inside PJM and that can be imported into PJM from outside would be available to serve load in PJM East. As we discussed in our November 14, 2005 Testimony, this is an unrealistic assumption. In the real world, much of the capacity that Mr. Frame assumes would be available to compete to serve load in PJM East might not be available because of planned or forced outages or because it will serve load outside PJM East.<sup>29</sup>**

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<sup>27</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 2, line 23 to page 3, line 4.

<sup>28</sup> *Ibid*, at page 15, line 3, to page 16, line 17.

<sup>29</sup> See the Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005, at page 35, lines 12-18.

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1    Q.    **Do Mr. Frame's adjustments for load obligations in his Available Economic  
2       Capacity analyses fully compensate for his failure to reflect in his Economic  
3       Capacity analyses the likely destination markets for the capacity located  
4       outside of PJM East?**<sup>30</sup>

5    A.    No. As Mr. Frame acknowledges, the Petitioners' mitigation plan is based on the  
6       results of his Economic Capacity analyses.<sup>31</sup> For this reason, those analyses need  
7       to be as realistic as possible.

8       Moreover, Mr. Frame's reliance here on his Available Economic Capacity  
9       analyses conflicts with the market power testimony filed at the FERC by Dr.  
10      William Hieronymus on behalf of the Petitioners in which Dr. Hieronymus  
11      concluded that:

12     In any event, Available Economic Capacity is a questionable  
13       metric for defining market share in PJM. All capacity must be bid  
14       into the PJM market and selected to run before it can generate.  
15       Hence, irrespective of retail load commitments, all of a supplier's  
16       Economic Capacity is relevant to setting market prices. Thus,  
17       while I have presented an Available Economic Capacity analysis  
18       as required by the Commission's regulations, I have focused  
19       primarily on the Economic Capacity analysis in determining the  
20       effects of the merger on competition and in assessing the efficacy  
21       of mitigation.<sup>32</sup>

22     Dr. Hieronymus also noted that developing a comprehensive Available Economic  
23       Capacity analysis is quite difficult, given the status of retail access in PJM:

24     Utilities in New Jersey, Maryland, Pennsylvania and elsewhere in  
25       the mid-Atlantic generally still have [Provider of Last Resort]  
26       responsibilities, but tend to serve load through [Power Purchase  
27       Agreements] or, as in the case of New Jersey, through the BGS  
28       auction that effectively results in the sale of load obligations to

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<sup>30</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 15, line 1, through page 16, line 7.

<sup>31</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 15, lines 20-22.

<sup>32</sup> Prepared Direct Testimony and Exhibits of William H. Hieronymus on behalf of Exelon Corporation, Petitioners' Exhibit No. J-1, FERC Docket No. EC05-43-000, at page 51, lines 20-26.

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1           third-parties. Retail access also exists in other PJM states (e.g.,  
2           Ohio) and in states from which power is exported to PJM. The real  
3           analytic difficulty arises because there are no publicly-available  
4           data identifying which generation is committed to serving load.  
5           The BGS auction, for example, reflects that the winning bidders  
6           include marketers, and it is impossible to determine from available  
7           data which generation they may have procured to serve the load or  
8           for what period. A further complication is that some of the retail  
9           load commitments that will be in effect in 2006 and beyond will be  
10          determined in procurements that have not yet occurred.<sup>33</sup>

11         For these reasons, Dr. Hieronymus concluded that the HHIs produced by his  
12         Available Economic Capacity analyses were “somewhat suspect.”<sup>34</sup> These same  
13         weaknesses raise serious questions about the validity of Mr. Frame’s Available  
14         Economic Capacity HHIs.

15       **Q. Do you agree with Mr. Frame that because the amount of capacity outside of**  
16       **PJM East that potentially might be able to compete in PJM East far exceeds**  
17       **the 7,300 MW limit of PJM’s Eastern Interface, it matters very little for**  
18       **purposes of the Delivered Price Test analysis whether some portion of that**  
19       **very large amount of external capacity might be unavailable due to other**  
20       **commitments?**<sup>35</sup>

21       A. No. The amount of capacity outside of PJM East that is competing for access  
22       across the PJM Eastern Interface is a significant factor, particularly under the  
23       proportional allocation methodology used by Mr. Frame in his HHI analyses.

24       Mr. Frame calculates how much of the capacity that the Petitioners own outside of  
25       PJM East actually makes it through PJM’s Eastern Interface by dividing the  
26       amount of capacity owned by the Petitioners outside of PJM East by the total  
27       amount of capacity that he assumes is competing for access through the Eastern  
28       Interface. For example, if the total amount of capacity competing for access to the

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<sup>33</sup> *Ibid*, at page 50, lines 8-18.

<sup>34</sup> *Ibid*, at page 51, line 12.

<sup>35</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 16, lines 8-17.

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1       PJM Eastern Interface is reduced by 50 percent because some of the capacity is  
2       serving loads outside of PJM East, under Mr. Frame's proportional methodology,  
3       the amount of capacity owned by the Petitioners that would make it into PJM  
4       would increase by a factor of two. That would have a significant impact on the  
5       PJM East Energy Market HHIs calculated by Mr. Frame.

6       **Q. Do the difficulties and weaknesses identified by Dr. Hieronymus at the FERC**  
7       **also apply to the new Available Economic Capacity analysis that**  
8       **incorporates the merging parties' FTR holdings that Mr. Frame has**  
9       **presented in his Rebuttal Testimony?**<sup>36</sup>

10      A. Yes. The results of Mr. Frame's new Available Economic Capacity analysis are  
11       suspect for the very reasons that Dr. Hieronymus articulated on behalf of the  
12       Petitioners at the FERC.

13      **Q. Does Mr. Frame adequately address your criticism that his analytic**  
14       **methodology unrealistically models generator outages?**<sup>37</sup>

15      A. No. Mr. Frame avoids addressing the main point of our criticism of the manner in  
16       which he models generating unit outages. Mr. Frame's model represents an  
17       idealized and over-simplified world that doesn't accurately represent conditions in  
18       the real world or the market behavior of participants in the system being modeled.  
19       As we explained in our Direct Testimony:

20                  In the real world, planned outages sometimes occur, at least in part,  
21       during the summer and winter months. At the same time, forced  
22       outages do not occur in a smooth manner throughout the year. In  
23       other words, capacity availability on the actual PJM system is far  
24       more "lumpy" than Mr. Frame's model reflects. In the real world,  
25       generating units are often completely out of service for planned or  
26       forced outages – although in some circumstances units may be  
27       partially derated for maintenance. In Mr. Frame's modeling, all  
28       generating units are represented as running at lower than maximum

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<sup>36</sup>       Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 35, line 6, to page 39.

<sup>37</sup>       Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 16, line 19, to page 18, line 13.

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1                   capacity in all hours to reflect planned and forced outages, and are  
2                   never assumed to be off line completely.<sup>38</sup>

3                   The overall effect of Mr. Frame's smooth and unrealistic representation of  
4                   outages is that his model tends to overstate system reliability and not consider at  
5                   all situations that are "worse than average." However, the real world does not  
6                   operate like that. Generating units do fail and go off-line entirely; outages do  
7                   sometimes bunch in terms of timing and location. This lumpiness has very  
8                   important implications for the ability of generators to exercise market power and  
9                   for analysis of market power.

10          **Q. Are you talking about "extreme" outage scenarios, as Mr. Frame has  
11                 claimed?**<sup>39</sup>

12          A. Not at all. We just believe that the modeling of outages should more closely  
13                 reflect real world conditions than the idealized and over-simplified approach used  
14                 by Mr. Frame. Or, if a model does not represent forced generator outages (and  
15                 other uncertain inputs) in a probabilistic manner, then its results should be  
16                 interpreted and applied with that limitation in mind.

17          **Q. Is it possible to reflect the "lumpiness" of real world generating unit outages  
18                 in market power modeling?**

19          A. Yes. As we discussed in our Direct Testimony, simulation models can be used to  
20                 analyze market power.<sup>40</sup> Some of the simulation models can represent generating  
21                 unit outages probabilistically rather than as simple deratings of capacity.

22                 Alternatively, sensitivity cases can be examined with models in order to consider  
23                 reasonably likely circumstances that are somewhat worse than average conditions.

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<sup>38</sup> Biewald-Fagan-Schlissel Direct Testimony, at page 42, lines 18-26.

<sup>39</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 17, line 5.

<sup>40</sup> Biewald-Fagan-Schlissel Direct Testimony, at page 26, line 3, to page 28, line 4.

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1    Q.    **Are all power plant outages relatively short-lived events?**

2    A.    No. Power plant outages can last days, weeks, months or, in certain  
3        circumstances, years.

4    Q.    **Do you believe that the 7,300 MW import figure used by Mr. Frame is an  
5        upper limit on the amount of capacity that can be imported across the PJM  
6        East interface, as Mr. Frame testifies that you “appear” to do?<sup>41</sup>**

7    A.    No. Mr. Frame first mischaracterizes our testimony and then argues that the  
8        resulting mischaracterization is wrong. In fact, the results of our analysis are  
9        robust and wouldn’t be expected to change significantly if the amount of capacity  
10      that can be imported into PJM East were higher than the 7,300 MW figure used  
11      by Mr. Frame.

12      In addition to approximately 10,000 MW of Exelon-owned nuclear assets in  
13      Illinois, Exelon and PSEG currently own more than 5,500 MW of nuclear,  
14      baseload coal and hydro capacity west of the PJM Eastern transmission interface  
15      and would continue to own approximately 4,400 MW of this capacity under the  
16      revised mitigation plan proposed by the Petitioners. Thus, it is reasonable to  
17      expect that the amount of this baseload power that the Petitioners could bring into  
18      PJM East would increase as the import capability across the PJM Eastern  
19      interface is raised.

20      For this reason, the Petitioners’ market shares in the PJM East energy and  
21      capacity markets likely would be higher if an import figure higher than 7,300 MW  
22      were used in our analyses. As a result, the concentration of the PJM East market  
23      would be higher, which would be reflected in higher HHI figures.

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<sup>41</sup>

Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 20, lines 13-16.

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1   **Q. Was your criticism that Mr. Frame failed to consider transmission outages  
2       and deratings meant to address only the PJM Eastern Interface?**

3   **A.** No. Mr. Frame does not reflect **any** transmission system outages or deratings in  
4       his modeling. This is unrealistic. Transmission systems do experience outages and  
5       deratings that impact the ability to import or export power across interfaces or to  
6       deliver power from individual generating units. These outages and deratings will  
7       limit the amounts of capacity that can be imported into any constrained areas, not  
8       only PJM East.

9   **Q. Are transmission outages or deratings always “transient, rare and  
10      unpredictable” as Mr. Frame claims?<sup>42</sup>**

11   **A.** No. Many line and transformer elements make up a large interface such as the  
12      PJM East interface. It is not unusual for these elements to experience problems or  
13      require maintenance that can lead to outages and deratings. These outages and  
14      deratings may be transient, rare and unpredictable, as Mr. Frame asserts.  
15      However, they also can be planned and of substantial duration. For example, the  
16      amount of power that could be transmitted through PSEG’s Branchburg  
17      Switching Station was reduced by approximately 400 MW for more than twelve  
18      months during 2004 and 2005 due to the reduced rating of the Station’s original  
19      transformers.

20   **Q. Is it a repeated theme in your testimony that random, rare and transitory  
21      events might result in screen failures as opposed to the exercise of market  
22      power, as Mr. Frame has claimed?<sup>43</sup>**

23   **A.** No. We agree with Mr. Frame that competition policy should prevent sustainable  
24      and non-transitory increases in price. It is not reasonable to require that market  
25      power analyses consider every possible situation or even highly unlikely

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<sup>42</sup>      Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 21, lines 5-9.

<sup>43</sup>      Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 21, lines 12-15.

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1       conditions, so long as those highly unlikely conditions can be addressed through  
2       some other means (e.g., bid capping) in order to avoid adverse outcomes. On the  
3       other hand, it is not sufficient to consider, as Mr. Frame has done, only average  
4       conditions (e.g., in terms of power plant outages) and conclude, as Mr. Frame  
5       does, from that limited analysis of average conditions that market power will not  
6       be a problem.

7       **Q. If actual conditions can be both better and worse than average conditions,  
8       then would an analysis of average conditions provide reasonable predictions  
9       of the likely ability of the merged company to exercise market power?**

10      A. No. While at first blush, one might think that an analysis using average  
11       conditions for inputs would produce results that are, on average, correct, this is  
12       not generally the case for electric power systems. Many of the relationships  
13       between inputs and outputs are non-linear and/or asymmetrical.  
  
14       Consider, for example, generating unit forced outages. At any particular time, the  
15       system will experience an amount of forced outages that is greater or less than the  
16       average. When less than the average amount of generating capacity is out of  
17       service, the ability of a market participant to exercise market power will tend to  
18       be less than it would be under average conditions.<sup>44</sup> When more than the average  
19       amount of generating capacity is out of service, the ability to exercise market  
20       power will tend to be greater than it would be under average outage conditions.  
21       Mr. Frame has not provided any analysis or evidence showing that the effects of  
22       these two non-average circumstances offset each other. Indeed, for market power  
23       analyses, the ability of a market participant to exercise market power during  
24       periods when a greater than average amount of capacity is out of service would  
25       more than offset the reduced ability during periods when a less than average  
26       amount of capacity is out of service.

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<sup>44</sup> We say “tend to be” because the ability to exercise market power actually will depend on which units are out of service, who owns those units, and other factors.

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1       The supply curve can be described mathematically as having a convex shape. This  
2       means that the slope of the curve becomes greater further along the curve. One  
3       factor that influences the extent of market power potential at any load level is the  
4       slope of the resource curve at that point, i.e., when the curve is steeper, any  
5       change in the available resources produces a greater price change. If one looks at  
6       any given load level, and adds or removes resources, the price increase of  
7       removing resources is greater than the price decrease of adding the same amount  
8       of resources.

9       Analyzing only “average conditions” in terms of generator outages will tend to  
10      overlook common system conditions in which the supply curve is significantly  
11      steeper than average and thereby tend to underestimate the extent of market power.

12     **Q. Do you have any comment on Mr. Frame’s claim that you have only  
13      presented “to a limited extent” revised HHI analyses that attempt to correct  
14      for the computational deficiencies you have identified in his modeling  
15      analyses?**<sup>45</sup>

16     A. Yes. We have corrected for four of the flaws that we have identified in Mr.  
17      Frame’s modeling: (1) his use of a proportional methodology to allocate the  
18      limited transmission import capability across the PJM East Interface; (2) his  
19      failure to reflect the improved operating performance at Salem and Hope Creek  
20      that the Petitioners claim will result from the proposed merger; (3) his failure to  
21      reflect the planned 125 MW uprate at Hope Creek; and (4) his failure to reflect  
22      the recent operating performance of Exelon’s nuclear units.

23      As we have explained in our Direct Testimony, the use of just these four  
24      corrections to Mr. Frame’s input assumptions results in the proposed merger  
25      failing the FERC Appendix A Screening Analysis due to HHI changes of greater  
26      than 100 in six of the ten hours studied in Mr. Frame’s Mitigation Scenario 1; in

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<sup>45</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 32, line 8, to page 33, line 2.

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1 all ten of the hours studied in Mr. Frame’s Mitigation Scenario 2; and in seven of  
2 the ten hours studied in Mr. Frame’s Mitigation Scenario 3.<sup>46</sup> In addition, the  
3 proposed merger fails the FERC Appendix A Screening Analysis in all ten hours  
4 studied in each of our three additional Mitigation Scenarios.<sup>47</sup>

5 Therefore, even when we accept many of Mr. Frame’s questionable input  
6 assumptions, the proposed merger can be shown to significantly increase the  
7 levels of concentration in the PJM Energy Market in almost all of the hours  
8 examined in each of the mitigation scenarios postulated by Mr. Frame and  
9 Synapse. Accordingly, there is no need for us to correct for the remainder of Mr.  
10 Frame’s incorrect input assumptions and methodologies.

11 **Q. Do you have any response to Mr. Frame’s claim that your criticism that he**  
12 **fails to reflect the improved performance of the Salem and Hope Creek**  
13 **plants that the Petitioners expect as a result of the proposed merger is**  
14 **“misguided?”<sup>48</sup>**

15 A. Yes. We do not believe that our criticism of Mr. Frame is misguided. We believe  
16 that his HHI analyses should reflect, to the extent possible, the most realistic  
17 assessment of conditions after the proposed merger. The Petitioners have claimed  
18 that the merger will lead to significantly improved performance at Salem and  
19 Hope Creek. For this reason, Mr. Frame’s HHI analyses should reflect that  
20 improved performance.

21 However, it appears that Mr. Frame and the Petitioners want it both ways. They  
22 want the BPU to accept the merger based on their claim that it will lead to  
23 improved operations at Salem and Hope Creek but they don’t want to reflect that  
24 improved performance in their analyses of the impact of the merger on  
25 competition.

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<sup>46</sup> Biewald-Fagan-Schlissel Direct Testimony, at page 78, lines 4-15.

<sup>47</sup> *Ibid*, at page 79, lines 4-15.

<sup>48</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 22, line 15, to page 23, line 5.

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1    Q.    **Do you have any comments on Mr. Frame's claim that the expected merger-  
2       induced increase in output at Salem and Hope Creek is a pro-competitive  
3       event and this is true notwithstanding what effect it may have on HHI  
4       computations?**<sup>49</sup>

5    A.    Yes, we have several comments on Mr. Frame's claim. First, the additional output  
6       from Salem and Hope Creek will increase EEG's market shares in many hours  
7       and, consequently, will not be pro-competitive, no matter what Mr. Frame may  
8       claim. Second, Mr. Frame's claim that "increased output from low cost nuclear  
9       generators will lower the market clearing prices during all seasons and time  
10      periods" depends on factors such as the ability of market participants to exercise  
11      market power. Also, whether ratepayers will benefit from the increased output of  
12      Salem and Hope Creek will depend on the prices at which that increased output is  
13      sold. Indeed, contrary to what Mr. Frame claims, the ability to increase its profits  
14      by selling the increased output from Salem and Hope Creek at the higher prices  
15      will provide an additional incentive or motive for EEG to exercise market power.

16      Finally, reflecting the additional merger-induced output from Salem and Hope  
17      Creek will result in a higher HHI, a fact that Mr. Frame acknowledges. However,  
18      Mr. Frame is willing to ignore this result and to claim instead that the increased  
19      output will be pro-competitive. This is very disturbing. Either Mr. Frame should  
20      rely on the results of his analytical method or not. He should not rely on his model  
21      only where it supports the merger sought by his clients and ignore those results  
22      that are contrary to that goal.

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<sup>49</sup>

Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 22, lines 19-21.

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1   **Q. Please comment on Mr. Frame's claim that the proposed power uprate of the**  
2   **Hope Creek plant is not scheduled to occur until the end of November 2007.**<sup>50</sup>

3   A. Mr. Frame's claim is contrary to public statements by PSEG and the Petitioners'  
4   responses to data requests.<sup>51</sup> However, it is possible that the Petitioners have  
5   decided to delay the uprate until Hope Creek's 2007 refueling outage.

6   **Q. Would it be reasonable for Mr. Frame to ignore this planned uprate if it**  
7   **were not scheduled to occur until November 2007?**

8   A. No. As we noted earlier, analyses of the effects of proposed mergers should be  
9   based on representative future conditions. Significant changes, such as the  
10   addition of another 121-125 MW of nuclear capacity, above and beyond that  
11   currently owned by PSEG or Exelon, clearly should be reflected in any analysis of  
12   the effect of the proposed merger on competition, including the HHI analyses  
13   presented by Mr. Frame.

14   There is nothing magic about the year 2006. Mr. Frame could as easily have  
15   prepared analyses for 2007, 2008 or subsequent years. Such analyses could then  
16   reflect planned generation additions and retirements, uprates at other plants,  
17   transmission upgrades, revised fuel prices, revised market-clearing prices, and  
18   revised load obligations, as Mr. Frame claims.<sup>52</sup>

19   Indeed, we believe it certainly would be appropriate to examine the effects of the  
20   proposed merger over a number of years, not solely in the first year in which the  
21   merger would be closed. That would give the Board insights into the possible  
22   impact of the merger on competition over time.

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<sup>50</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 23, lines 10-12.

<sup>51</sup> For example, see footnote no. 43 on page 47 of the Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005.

<sup>52</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 23, lines 14-21.

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1 Q. Mr. Frame dismisses as “specious” your criticism that he failed to reflect  
2 forward capacity purchases that EEG will make from other PJM market  
3 participants when performing his HHI analyses. Do you agree?<sup>53</sup>

4 A. No. Mr. Frame claims that our criticism is “specious” particularly since, he says,  
5 we provide no guidance on how we believe it is appropriate to take into account  
6 unidentified purchases that the merged firm may or may not make in the future.  
7 This claim is absurd on its face. All that Mr. Frame had to do was to ask his  
8 clients what purchases they have already made for 2006 or that they intend to  
9 make during 2006. [

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]<sup>54</sup> In the alternative, Mr. Frame could average the forward capacity purchases that the Petitioners have made in recent years.

## V. ECONOMIC VERSUS PRO-RATA ALLOCATION OF LIMITED TRANSMISSION IMPORT CAPABILITY

**Q. Does Mr. Frame support his contention that “the economic allocation [of scarce transmission import capability] procedure is conceptually inferior [to a pro-rata allocation]?”<sup>55</sup>**

A. No. Mr. Frame *defines* “proportional allocation” by stating that it recognizes the presence of all competing suppliers in the market, but nowhere does he explain why he believes it is conceptually superior to an “economic allocation” procedure. The fact that the proportional allocation methodology produces a greater number of competing suppliers for the HHI test is a direct result of applying the methodology, not a supporting explanation for the conceptual basis of the alleged superiority. In fact, his contention in his rebuttal statement (above) is directly at

<sup>53</sup> Ibid, at page 24, lines 1-7.

<sup>54</sup> Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005, at page 51, lines 10-13 and Exhibit BFS-7, at page 9 of 14.

<sup>55</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 24, lines 21-22.

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1        odds with his direct testimony in this proceeding, where he states that economic  
2        allocation is “more realistic in terms of which suppliers ultimately will gain  
3        access to limited transmission capability...”<sup>56</sup> Indeed, economic allocation is a  
4        more realistic methodology in this instance, due to the way in which PJM operates  
5        its system and allocates its transmission rights.

6        **Q. Is economic allocation conceptually superior to pro-rata allocation in this  
7        instance?**

8        A. Yes, absolutely. The intent of the transmission allocation procedure is to  
9        determine the reasonably likely users of the interface in question in an attempt to  
10        sufficiently define the world of competing suppliers, not to figure out a theoretical  
11        way to maximize the number of suppliers in order to demonstrate a more  
12        competitive market. The use of a centralized economic dispatch approach in PJM  
13        places all potential “users” of the interface in an economic auction; and the  
14        existence of the auction-based FTR issuing process completes the way in which  
15        the PJM East interface allocation is, *in actuality*, based on economics. Given the  
16        wholly economic framework defining PJM’s transmission use policies, any claim  
17        that a pro-rata methodology is conceptually superior must include evidence of  
18        how it is superior and not just a self-serving assertion, if it is to be rationally  
19        considered.

20        For example, if Mr. Frame could describe how suppliers from his expanded pool  
21        of suppliers (based on pro-rata) are able to secure economic dispatch and  
22        essentially obtain PJM East market prices, then that would be evidence of perhaps  
23        equal merit for the pro-rata and the economic allocation method. However, Mr.  
24        Frame does not describe any such process, likely because it is not possible in the  
25        PJM market if a supplier does not hold an FTR. Thus Mr. Frame’s rebuttal and

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<sup>56</sup>

Direct Testimony of Rodney Frame, at page 36, lines 13-15.

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1 direct testimony contain no such evidence of conceptual superiority of the pro-  
2 rata method.

**3 Q. Does FERC require the use of a pro-rata allocation methodology?**

4 A. No. FERC's Order No. 642 (Docket No. RM98-4-000, November 15, 2000,  
5 FERC's revised filing requirements under the Merger Policy Statement) states:

6           Applicants must describe and support the method used and show  
7           the resulting transfer capability allocation. We will not at this time  
8           specify particular rules or require a single method for transmission  
9           allocation. However, since transmission allocation is a key  
10          parameter in defining relevant markets, there are benefits to  
11          sensitivity analysis using different allocation methods. We  
12          encourage such analysis.<sup>57</sup>

13 In Appendix A to the Merger Policy Statement itself (Order No. 592, December  
14 18, 1996) FERC said essentially the same thing:

In these cases [transmission path limitation] the ATC must be allocated among the potential suppliers for analytic purposes. There are various methods for accomplishing this allocation. Applicants should support the method used.

19 The FERC Order in Docket ER96-2495-016 et al. (107 ¶ FERC 61,018, Order on  
20 Rehearing and Modifying Interim Generation Market Power Analysis and  
21 Mitigation Policy, April 14, 2004) states:

22 Since there is usually more generation capable of supplying a  
23 destination market than available transmission, access to the  
24 critical interfaces must be allocated. Either an economic (least  
25 cost) or pro-rata (shares based on share of supply) can be used.<sup>58</sup>

<sup>57</sup> At pages 56-57.

<sup>58</sup> Appendix F, footnote 217.

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**OAL Docket No. PUC-1874-05**

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1   **Q. Are the results of your economic allocation of the 7,300 MW of transmission**  
2   **import capability across the PJM Eastern Interface subject to “knife edge”**  
3   **effects, as Mr. Frame claims, in which small changes in either fuel costs or**  
4   **market clearing prices could produce large changes in the results?**<sup>59</sup>

5   **A.** No. In our economic allocation of resources across the PJM Eastern Interface, we  
6   started with the resources in the “Rest of PJM Pre-2004” area as specified in Mr.  
7   Frame’s model and ordered these resources by the unit’s marginal cost. However,  
8   we excluded the hydro resources, which had been priced at zero cost but whose  
9   offer prices would be much higher (based upon some recognition of water  
10   limitations and opportunity costs). This produced a supply curve with a sharp  
11   discontinuity at about 7,300 MW, which happens to be the PJM Eastern Interface  
12   limit.

13       [

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18                          ] This  
19       sharp cost disparity also means that there are no “knife edge” effects resulting  
20       from this economic application.

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<sup>59</sup>

Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 25, lines 8-11.

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1   **Q. Please comment on Mr. Frame's claim that you have used inconsistent**  
2   **modeling techniques to determine the amount of interface capacity that**  
3   **would be assigned to the merging parties under an economic allocation**  
4   **procedure and, as a result, have greatly increased the amount of interface**  
5   **capacity assigned to the merging parties.<sup>60</sup>**

6   **A.** Mr. Frame's claim that we have somehow greatly increased the amount of  
7   interface capacity assigned to the merging parties is misleading. In performing  
8   our analysis of the generating units that would use the PJM Eastern Interface  
9   under an economic allocation methodology, we used Mr. Frame's figures for the  
10   capacity that was available in the "Rest of PJM Pre-2004" area shown in the  
11   figure on page 26 of his Rebuttal Testimony. This capacity included 4,600 MW  
12   of capacity that Mr. Frame had assumed was imported into this area from the  
13   "Rest of PJM Expanded" area. Mr. Frame had allocated this 4,600 MW of import  
14   capability using a pro-rata methodology.

15   Our use of Mr. Frame's figures was conservative. If we had made an economic  
16   allocation of the 4,600 MW of import capability into the "Rest of PJM Pre-2004"  
17   area from the "Rest of PJM Expanded" area, more of Exelon's approximately  
18   10,000 MW of low-cost nuclear capacity in Illinois would have made it into the  
19   "Rest of PJM Pre-2004" area and from there across the PJM Eastern Interface into  
20   PJM East. This would have increased, not reduced (as Mr. Frame claims), the  
21   amount of the PJM Eastern Interface import capability assigned to the merging  
22   parties.

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<sup>60</sup>   Rebuttal Testimony of Rodney Frame, at page 25, line 14, to page 26, line 2.

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1      **VI. THE NORTHERN NEW JERSEY MARKET**

2      **Q.** Mr. Frame testifies in his Rebuttal Testimony that “My direct testimony  
3      indicates that the merger-created screen violations in [Northern New Jersey]  
4      will be eliminated if the merging parties’ mitigation package includes the  
5      divestiture of 100 MW that is either coal-fired or nuclear and that is either  
6      located within [Northern New Jersey] or is deliverable there.<sup>61</sup> Do you see  
7      any evidence that he actually made this statement in his Direct Testimony?

8      **A.** No. Mr. Frame’s Direct Testimony is silent on this point.

9      **Q.** Does Mr. Frame’s analysis of the Northern New Jersey market suffer from  
10     the same problems you identified in your Direct Testimony concerning his  
11     analyses of the PJM East market?

12     **A.** Yes.<sup>62</sup>

13     **Q.** Is it reasonable to expect that additional capacity might have to be divested  
14     within Northern New Jersey to bring the HHI changes from the proposed  
15     merger to within the 50 points permitted by the FERC Merger Guidelines?

16     **A.** Yes. As we discussed in our Direct Testimony, because of the flaws that we have  
17     identified in Mr. Frame’s assumptions and analytic methodology, we are  
18     concerned that the 100 MW of divested capacity will be inadequate even to  
19     satisfy the FERC Merger Guidelines.<sup>63</sup>

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<sup>61</sup>     Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 41, line 22, to page 42, line 2.

<sup>62</sup>     Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005, at page 63, lines 1-9.

<sup>63</sup>     Ibid, at page 63, lines 10-17.

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1    Q.    **Do you have any comment on Mr. Frame's claim that the competitive**  
2    **analysis of a merger focuses upon the change in competitive conditions that**  
3    **will occur as a result of a merger, not on whether Northern New Jersey will**  
4    **remain an extremely concentrated market after the merger and that the**  
5    **merged firm will be the dominant firm?**<sup>64</sup>

6    A.    Yes. Even with the divestiture of 100 MW of capacity, the Northern New Jersey  
7    energy market will be more concentrated after the proposed merger than before.  
8    This is an adverse impact that violates the positive benefits standard that the  
9    Board is applying to evaluate the proposed merger.

10   Q.    **Does Mr. Frame present any analysis to support his claim that PJM's**  
11   **existing offer caps will adequately protect against the exercise of market**  
12   **power in the Northern New Jersey market?**<sup>65</sup>

13   A.    No. Mr. Frame does not present any evidence to support his claim that PJM's  
14   existing offer caps will adequately protect ratepayers against the exercise of  
15   market power.

16   **VII. MR. FRAME'S CRITICISMS OF THE SYNAPSE ELMO MODELING**  
17   **ARE MISLEADING AND INCORRECT**

18   Q.    **Please respond to Mr. Frame's claim that your ELMO modeling predicts**  
19   **only a very small merger related price increase due to strategic bidding.**<sup>66</sup>

20   A.    Mr. Frame's claim is simply wrong. As we discussed in our Direct Testimony, the  
21   \$12 million average annual electric merger-related savings for New Jersey  
22   ratepayers claimed by the Petitioners for the years 2006-2009 would be  
23   eliminated by just a 0.20 percent increase in wholesale prices from the exercise of

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<sup>64</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 43, lines 1-8.

<sup>65</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 43, lines 10-14.

<sup>66</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 8, line 18, to page 9, line 4, and at page 66, lines 1-16.

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1 market power.<sup>67</sup> Using our corrected input assumptions, the potential increases in  
2 market prices from the exercise of market power range from 0.7 percent to 2.3  
3 percent.<sup>68</sup> Even using all of Mr. Frame's assumptions, the potential increases in  
4 market prices from the exercise of market power range from 0.2 percent to 1.2  
5 percent.<sup>69</sup> Using just the lower end of the range of these increases would fully  
6 offset the \$12 million average annual electric merger-related savings that the  
7 Petitioners claim for New Jersey ratepayers.

8   **Q. Would taking load obligations into account eliminate the incentives to  
9 increase prices through strategic bidding, as Mr. Frame has claimed?<sup>70</sup>**

10 A. No. The new analysis, presented in Exhibit RF-19, that Mr. Frame has prepared  
11 to demonstrate this claim is misleading and based on faulty assumptions. In fact,  
12 contrary to what Mr. Frame has assumed, it is not reasonable to expect that EEG's  
13 load serving subsidiaries PSE&G and PECO would have to pay the higher market  
14 prices for the energy they obtain – in many situations the load serving entities  
15 could have contractual arrangements of various types that would protect them  
16 from the full spot market prices. However, over time those contractual prices  
17 would change to reflect the increased market prices.

18 Nor is it reasonable to expect that the load serving entities would be unable to  
19 pass along market price increases to their ratepayers. There may be some delay in  
20 doing so but ratepayers would eventually pay the higher market prices. If not  
21 immediately through paying for purchases in the spot market, then later as new  
22 supply contracts are priced at the new market levels.

23 Therefore, we agree with the figures for Increased Generator Profits from  
24 Withholding shown in Mr. Frame's Exhibit RF-19. However, Mr. Frame's figures

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<sup>67</sup> Biewald-Fagan-Schlissel Direct Testimony, at page 89, line 14, to page 90, line 6.

<sup>68</sup> *Ibid*, at page 85, lines 5-11.

<sup>69</sup> *Ibid*, at page 84, line 22, to page 85, line 4, and Exhibit BFS-9, Table 5, at page 4.

<sup>70</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 9, lines 1-4, and page 60, lines 15-23.

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1       for Increased Costs of Serving Load do not represent the real costs to the load  
2       serving entities. Rather, they would not occur because of existing supply  
3       contracts, or they would be passed onto customers as market costs.

4       For all of these reasons, Mr. Frame's conclusion that consideration of load  
5       obligations would eliminate the incentive for EEG to exercise market power is  
6       wrong.

7   **Q. Does Mr. Frame provide a persuasive argument that there is no need for**  
8       **simulation modeling to reflect the behavior of market participants?**<sup>71</sup>

9   A. No. Basically, all that Mr. Frame does is to state his opinion that the results of a  
10      simulation analysis would not be useful to the Board. We disagree.

11   **Q. Has Mr. Frame presented market power testimony in any other proceeding**  
12       **that was based on the use of a simulation model?**

13   A. Yes. In testimony submitted to the Missouri Public Service Commission in  
14      February 1998 and the Mississippi Public Service Commission in August 1998,  
15      Mr. Frame used production cost analyses to conduct a behavioral analysis which  
16      sought to assess whether a company acting unilaterally might be able to exercise  
17      market power in energy markets.<sup>72</sup> The simulation model that Mr. Frame used in  
18      that case was quite detailed and was able to represent transmission constraints  
19      between various locations on the grid as well as randomly occurring generating  
20      units outages on a probabilistic basis.

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<sup>71</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 58, line 19, to page 59, line 6.

<sup>72</sup> *Report of Ameren to the Public Service Commission of Missouri on Market Power Issues*, dated February 27, 1998, at pages 64-67, and , dated February 27, 1998, at pages 64-67, and *Report to the Mississippi Public Service Commission on Retail Market Power Issues*, dated August 1998, at page 65-69. Both of these documents were provided in PSEG's response to RAR-MKT-81(b).

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1   **Q. Do the conclusions and findings of the PJM MMU Merger Analyses provide**  
2   **evidence that a simulation model is not needed, as Mr. Frame has claimed?**<sup>73</sup>

3   **A.** No. As we have noted earlier, Mr. Frame has misrepresented the findings and  
4   conclusions of the PJM MMU Merger Analyses. Rather than support Mr. Frame's  
5   claim that simulation modeling is not needed for the Board to evaluate the  
6   proposed merger, the PJM MMU Merger Analyses show the need for such  
7   modeling.

8   **Q. Is Mr. Frame's criticism that your ELMO modeling did not model the hourly**  
9   **behavior of the market under a wide variety of conditions and bidding**  
10   **behavior correct?**<sup>74</sup>

11   **A.** No. ELMO simulates the market at a number of load levels for 8,760 hours of the  
12   year. This is far more than the 10 periods examined in Mr. Frame's analyses.

13   **Q. Mr. Frame has pointed out your failure to conduct all of the specific**  
14   **simulation analyses that you have identified as being necessary to assess the**  
15   **competitive impacts of a proposed merger.**<sup>75</sup> Please explain why you have not  
16   undertaken all of the simulation analyses that you identified in your Direct  
17   Testimony as being necessary.

18   **A.** ELMO is designed as a screening model to identify the potential for market  
19   power. The simulation analyses that we described in our Direct Testimony  
20   indicate the next steps that could be taken to analyze in more detail the potential  
21   impacts of the proposed merger on competition.<sup>76</sup> Given the results of our ELMO  
22   modeling, we believe that it is the responsibility of the Petitioners to present such  
23   a simulation analysis.

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<sup>73</sup> *Ibid*, at page 59, lines 6-14.

<sup>74</sup> *Ibid*, at page 59, lines 16-20.

<sup>75</sup> *Ibid*, at page 59, line 22, to page 60, line 3.

<sup>76</sup> Biewald-Fagan-Schlissel Direct Testimony, at page 26, line 3, to page 28, line 4.

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1    Q.    **Do the use of a single resource curve representing complete units and the  
2       absence of operational limits related to unit commitment and ramping limit  
3       the applicability of the ELMO analysis and bias the results, as Mr. Frame  
4       has claimed?<sup>77</sup>**

5    A.    No. ELMO does use a single supply curve and does not impose any restrictions  
6       on dispatching resources. However, this likely under represents the potential for  
7       exercising market power compared to a more realistic system, where competing  
8       resources might not be available or could not ramp fast enough to meet load and  
9       resource changes. The more restrictions placed on the supply options, the fewer  
10      resources are effectively available at any given time and location and, therefore,  
11      one could reasonably expect, the greater the potential for the exercise of market  
12      power.

13    Q.    **Please comment on Mr. Frame's claim that generators in PJM East are  
14       frequently subject to cost-based offer caps and therefore cannot engage in  
15       the type of strategic bidding you envisaged in your ELMO analysis.<sup>78</sup>**

16    A.    Although the existence of cost-based offer caps may limit the incentive for market  
17       participants to exercise market power, they don't eliminate this incentive. A ten  
18       percent cap thus provides a substantial incentive because additional profit can be  
19       gained where the cap is set at 10 percent above marginal cost, relative to the  
20       situation where offers are closer to marginal costs. Also, there are instances when  
21       the cost capping does not apply, for example when the binding constraint is the  
22       PJM East Interface itself.

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<sup>77</sup>

Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 62, lines 2-16.

<sup>78</sup>

Ibid, at page 63, lines 5-8.

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1   **Q. Please comment on Mr. Frame's claim that your analysis effectively assumes**  
2   **that the PJM Eastern Interface is constrained 100 percent of the time and,**  
3   **therefore, ignores the price protections that customers in PJM East have**  
4   **during the 97.5 percent of the year when they have access to a much broader**  
5   **market.<sup>79</sup>**

6   **A.** First we have assumed, as did Mr. Frame, that PJM East is the relevant market to  
7   study.

8         Second, the price increases we have identified do not occur uniformly in all hours  
9         of the year. The 2.5 percent price increase due to market power that we found in  
10        Synapse Mitigation Scenario 4 is the average increase over the entire year.  
11        However, the increases in individual hours may be substantially higher or lower  
12        than 2.5 percent. Consequently, substantial profits can be earned by generators  
13        during only a limited number of hours in the year.

14         Moreover, historical PJM data shows that during 2004, the price at the PJM  
15        Eastern Hub was greater than that at the Western Hub for 3,952 hours of the year.  
16        The average price difference was \$8.56/MWh. Consequently, Mr. Frame's  
17        implication that the Board should only be concerned about the potential for the  
18        exercise of market power during a mere 2.5 % of the hours of the year is wrong.

19   **Q. Mr. Frame has criticized your ELMO modeling because you failed to treat**  
20   **external supplies as price takers.<sup>80</sup> Is he correct that you failed to treat**  
21   **external supplies as price takers?**

22   **A.** No. The external supplies are never on the margin in ELMO. Thus, these  
23        resources are treated as price takers, not price setters. Mr. Frame's criticism is  
24        simply wrong – we do treat the external supplies in the manner in which he  
25        suggests they should be treated.

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<sup>79</sup>         *Ibid*, at page 63, lines 9-21.

<sup>80</sup>         *Ibid*, at page 63, line 22 to page 64, line 13.

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1   **Q.**   **Mr. Frame has cited a number of factors which he claims cause ELMO to**  
2   **overstate the price impacts that are likely to result from the merger.<sup>81</sup> Are**  
3   **there any assumptions that cause your ELMO modeling to understate the**  
4   **price impacts that are likely to result from the merger?**

5   **A.**   Yes. There are a number of assumptions that cause our ELMO modeling to  
6   understate the price impacts that are likely to result from the merger:

- 7           ▪ We use Mr. Frame's data in which outages are represented by derated  
8           capacity rather than probabilistically. This means that we have ignored  
9           situations in which greater amounts of capacity than average are out of  
10          service.
- 11          ▪ We have represented PJM East as a single market with no internal  
12          transmission constraints. This means that we have ignored the potentially  
13          higher profits from the exercise of market power in those smaller  
14          constraints within PJM East (such as Northern New Jersey) that are  
15          sometimes binding.
- 16          ▪ We have not assumed any operational limits related to unit commitment or  
17          ramping, or any operational restrictions related to grid stability  
18          requirements.
- 19          ▪ We have assumed independent pricing behavior, that is, no implicit or  
20          explicit collusion among generation suppliers.

21   **VIII. WEAKNESSES IN THE PETITIONERS' MITIGATION PROPOSAL**

22   **Q.**   **Is Mr. Frame correct when he claims that “concerns about adverse merger**  
23   **related effects on competition in capacity markets are fully mitigated?”<sup>82</sup>**

24   **A.**   No. The Petitioners have proposed an interim capacity market mitigation plan, as  
25    Mr. Frame testifies. However, there is no permanent Petitioner capacity  
26    mitigation proposal. Indeed, at the present time, there is not even an approved  
27    long-term design for the PJM capacity markets, as the PJM RPM proposal is still  
28    pending before the FERC. Therefore, it is not accurate to claim that concerns

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<sup>81</sup>       *Ibid*, at page 62, line 1, to page 65, line 21.

<sup>82</sup>       *Ibid*, at page 7, lines 11-20.

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1       about merger-related effects on competition in capacity markets are “fully  
2       mitigated.”

3   **Q. Do you agree with Mr. Frame that it is not necessary for the merging parties**  
4   **to identify the particular generating units that they will divest under their**  
5   **market power mitigation proposal or the identity of the purchasing parties?**<sup>83</sup>

6   A. No. As we noted in our Direct Testimony, the location, fuel type, marginal  
7       operating costs, operating characteristics, age, and economic viability of the  
8       divested units will have a significant impact on the ability of the merged company  
9       to exercise market power in both the short-term and the long-term.<sup>84</sup>

10      At the same time, the post-mitigation market concentration indices will be very  
11       different if the purchasers of the divested capacity are new participants in the  
12       market or already own substantial generating assets.

13   **Q. Should the Board be satisfied because the Petitioners have committed to**  
14   **making a post-divestiture filing at the FERC?**<sup>85</sup>

15   A. No. We believe that it is essential for the Board to consider which specific  
16       generating units will be divested by the merged company and who will be  
17       purchasers of those units before it can conclude that the merger will provide net  
18       benefits for ratepayers.

19   **Q. Mr. Frame also argues that the Board should be satisfied because he**  
20   **examined the concentration effects of the merging parties’ proposed**  
21   **mitigation under a range of plausible scenarios.**<sup>86</sup> **Do you agree?**

22   A. No. As we have explained in our Direct Testimony, Mr. Frame examined only a  
23       very limited range of mitigation scenarios.<sup>87</sup> The effect of the proposed merger

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<sup>83</sup> *Ibid*, at page 7, line 21, to page 8, line 5 and page 49, line 5, to page 50, line 7.

<sup>84</sup> Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005, at page 65, lines 15-20.

<sup>85</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 8, lines 1-5.

<sup>86</sup> Rebuttal Testimony of Rodney Frame, Exhibit JP-24, at page 49, lines 11-12.

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1       on HHI concentration indices is very different if you consider other realistic  
2       scenarios in which the divested capacity is assumed to be purchased by parties  
3       that already are significant participants in PJM.<sup>88</sup> In these scenarios, the proposed  
4       merger fails the FERC Appendix A screens by substantial margins in each hour  
5       studied even if we use Mr. Frame's input assumptions concerning future nuclear  
6       performance and the allocation of the limited import capability across the PJM  
7       Eastern Interface.<sup>89</sup>

8   **Q. Does Mr. Frame's Rebuttal Testimony successfully address your concerns  
9       about the Petitioners' novel virtual divestiture of the energy from their  
10      nuclear plants?**

11   A. No. Our concerns about the weaknesses in the Petitioners' untried virtual  
12      divestiture remain.<sup>90</sup> The Petitioners still will retain operational control over their  
13      nuclear plants even though the energy output of those units will be sold to other  
14      parties.

15   **IX. FTR ANALYSES**

16   **Q. Mr. Sorenson states that your testimony claims FTR ownership is essentially  
17      equivalent to generation resource ownership within a constrained zone.<sup>91</sup>  
18      Did you state that FTR ownership is equivalent to ownership of a generation  
19      resource within a constrained zone?**

20   A. No. In our direct testimony at page 39, we stated that holding FTRs places a  
21      generator "financially" into the PJM East market. This is not equivalent to

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<sup>87</sup> Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005, at page 75, lines 6-20.  
<sup>88</sup> See Table 11 on page 79 of the Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005.

<sup>89</sup> Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005, at page 78, line 16, to page 79, line 3.

<sup>90</sup> See page 68, line 19, to page 70, line 21, of the Biewald-Fagan-Schlissel Direct Testimony, dated November 14, 2005.

<sup>91</sup> Rebuttal Testimony of Gary Sorenson, at page 19, lines 5-9.

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1       owning a generator in the constrained zone, and we make no such claim. At this  
2       point, we clarify that we are referring to the PJM East energy market.

3   **Q. Mr. Sorenson claims that you make the above statement “without support”.**  
4   **How do financial transmission rights place a generator west of the PJM**  
5   **Eastern Interface “financially” into the PJM East energy market?**

6   A. A generator dispatched on by PJM will receive the spot price at that generator bus  
7       or pricing point, for either the day-ahead or real-time spot market. If that same  
8       generator also holds an FTR between that same generator pricing point and a load  
9       point or zone within the PJM East market area, then that generator will receive a  
10      separate payment for that FTR, which when added to the revenues received for  
11      generation injection, will roughly be equal to the revenues a generator dispatched  
12      on in the PJM East market area would receive (assuming equally paired quantities  
13      of generation and FTR holdings, and assuming generation sale into the Day  
14      Ahead market). Thus a generator located west of the PJM East interface could  
15      financially guarantee “delivery” of its generation to the PJM East market area in  
16      the Day Ahead market by holding an FTR to hedge against congestion costs  
17      between the generation pricing point and the PJM East market area.

18   **Q. Does Mr. Sorenson address your evidence that demonstrates the limited**  
19   **transmission import capacity across the PJM East interface is being allocated**  
20   **economically via the FTR auctions, and that PSEG and Exelon hold a**  
21   **substantial share of that capacity?**

22   A. No, he does not. His rebuttal testimony addresses the fundamental nature of  
23      FTRs, and discusses their use as a hedging instrument, but he does not dispute the  
24      notion that FTR ownership across the PJM East interface represents an economic  
25      allocation of the limited transmission capacity.

**Biewald-Fagan-Schlissel Surrebuttal Testimony**

**BPU Docket No. EM05020106**

**OAL Docket No. PUC-1874-05**

**REDACTED VERSION**  
**Protected Information Removed**

1   **X. THE BGS AUCTION**

2   **Q.** Petitioner Rebuttal Witness Hogan has testified that “Simply put, if a  
3   generator could not exercise market power by physical withholding or  
4   excessive bids in the real-time spot market then the generator could not  
5   successfully increase its ability to exercise market power in the forward  
6   contract markets.”<sup>92</sup> Has Dr. Hogan prepared any analyses of the ability of  
7   the new merged company EEG to exercise market power in the wholesale  
8   markets?

9   **A.** No.<sup>93</sup>

10   **Q.** Has Mr. Hogan testified that a party who is able to exercise market power in  
11   the wholesale markets would not be able to exercise market power or affect  
12   prices in the BGS auction?

13   **A.** No.

14   **Q.** Does this complete your Surrebuttal Testimony?

15   **A.** Yes.

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<sup>92</sup>                  Rebuttal Testimony of William Hogan, at page 12, lines 1-4.

<sup>93</sup>                  Ibid, at page 5, lines 1-8.