

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**Maryland Public Service** )  
**Commission, et al.,** )  
 )  
**Complainants,** )  
 )  
**v.** )  
 )  
**PJM Interconnection, L.L.C.,** )  
 )  
**Respondent.** )

**Docket No. EL08-67-000**

**PROTEST OF THE ELECTRIC POWER SUPPLY ASSOCIATION**

Pursuant to Rule 211 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“FERC” or the “Commission”),<sup>1</sup> the Electric Power Supply Association (“EPSA”)<sup>2</sup> hereby protests the complaint filed in the above-captioned proceeding<sup>3</sup> on May 30, 2008, by the so-called “RPM Buyers”<sup>4</sup> against PJM

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<sup>1</sup> 18 C.F.R. § 385.211 (2008).

<sup>2</sup> The comments contained in this filing represent the position of EPSA as an organization, but not necessarily the views of any particular member with respect to any issue.

<sup>3</sup> EPSA previously filed a timely motion to intervene in this proceeding. See Joint Motion to Intervene and Support for Extension of Time of the Electric Power Supply Association and the Electric Power Generation Association, Docket No. EL08-67-000 (June 6, 2008).

<sup>4</sup> The “RPM Buyers” include: the Maryland Public Service Commission (the “Maryland PSC”), the Delaware Public Service Commission (the “Delaware PSC”), the Pennsylvania Public Utility Commission (the “Pennsylvania PUC”), the New Jersey Board of Public Utilities (the “NJBPUC”), the Public Power Association of New Jersey (“PPANJ”), the Maryland Office of People’s Counsel (the “Maryland OPC”), the Office of the People’s Counsel of the District of Columbia, the Southern Maryland Electric Cooperative, Inc. (“SMECO”), Blue Ridge Power Agency (“Blue Ridge”), Allegheny Electric Cooperative, Inc. (“AEC”), Office of the Ohio Consumers’ Counsel, New Jersey Department of the Public Advocate, Division of Rate Counsel (the “NJ RC”), the Pennsylvania Office of Consumer Advocate (the “PA OCC”), PJM Industrial Customer Coalition (“PJMICC”), the American Forest and Paper Association (“AF&PA”), the Portland Cement Association (“PCA”), the Duquesne Light Company, and the United States Department of Defense and other affected Federal Executive Agencies.

Interconnection, L.L.C. (“PJM”).<sup>5</sup> The Complaint challenges the results of the transitional Base Residual Auctions (“BRAs”)<sup>6</sup> for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years conducted pursuant to PJM’s Reliability Pricing Model (“RPM”). For the reasons set forth herein, the Commission can and should reject the Complaint. Indeed, as discussed herein and in the attached affidavit of Jonathan Falk, Vice President of NERA Economic Consulting (the “Falk Affidavit”), unless the Complaint is promptly and summarily denied, it threatens to undermine the effectiveness of RPM, as well as similar mechanisms in other markets, and thereby to discourage much-needed investment in existing and new generation infrastructure, as well as demand response and other forms of infrastructure that depend on revenue streams from these markets, in PJM and in FERC-jurisdictional markets generally.

## **I. BACKGROUND**

### **A. RPM and the RPM Settlement**

#### **1. The RPM Proposal**

In an August 31, 2005 filing pursuant to Sections 205 and 206 of the Federal Power Act (the “FPA”),<sup>7</sup> PJM submitted its initial RPM proposal in Docket Nos. ER05-1410-000 and EL05-148-000 (the “RPM Proceeding”).<sup>8</sup> PJM argued that the capacity construct then in place, under which each load-serving entity (“LSE”) had to procure capacity resources, from anywhere in PJM, equal to its peak load, plus a 15 percent

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<sup>5</sup> Complaint of the RPM Buyers, Docket No. EL08-67-000 (May 30, 2008) (the “Complaint”).

<sup>6</sup> Except as otherwise provided herein, this and other capitalized terms have the same meaning as provided in PJM’s Open Access Transmission Tariff (the “Tariff”).

<sup>7</sup> 16 U.S.C. §§ 824d, 824e (2000 & Supp. V 2005).

<sup>8</sup> Reliability Pricing Model Proposal, Docket Nos. ER05-1410-000, *et al.* (Aug. 31, 2005) (“August 31, 2005 Filing”).

Installed Reserve Margin (“IRM”) in order to avoid a deficiency charge,<sup>9</sup> was unjust and unreasonable. PJM identified a number of specific flaws in the pre-RPM capacity construct. First, because that construct failed to reflect the locational value of different resources, PJM had seen few generation additions, and high rates of generation retirements, in the areas with the highest load growth rates.<sup>10</sup> Second, PJM’s capacity rules resulted in volatile capacity prices, and net revenue to generators from all sources since the PJM market started in 1999 had been insufficient to cover the replacement cost of the most efficient marginal generator (*i.e.*, a gas turbine peaking unit).<sup>11</sup> Third, PJM’s then-effective capacity rules did not require long-term forward commitment or provide forward price signals, which PJM argued was fundamentally inconsistent with the need to preserve system reliability in the longer term.<sup>12</sup> As a consequence of these deficiencies, PJM reported, there had already been multiple reliability criteria violations in New Jersey, and other parts of Eastern PJM (*i.e.*, the Delmarva Peninsula and the Baltimore-Washington area) were trending toward similar violations.<sup>13</sup>

PJM’s initial RPM proposal sought to address these and other deficiencies by, among other things, (1) introducing a locational element under which a load-serving entity (“LSE”) would be required to procure capacity resources deliverable to the Locational Delivery Area (“LDA”) in which it is located;<sup>14</sup> (2) adding a forward element in the form of Base Residual Auctions (“BRAs”), four-year forward auctions through which

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<sup>9</sup> August 31, 2005 Filing, Transmittal Letter at 8.

<sup>10</sup> *See id.* at 5-6.

<sup>11</sup> *See id.* at 7.

<sup>12</sup> *See id.* at 8-9.

<sup>13</sup> *See id.* at 5, 40-42.

<sup>14</sup> *See id.* at 10, 55-60.

an LSE would need to procure, for one-year periods commencing with June 1 of a given year (*i.e.*, Delivery Years), such remaining capacity, in addition to owned and contracted resources, as was needed to satisfy regional reliability requirements;<sup>15</sup> (3) incorporating a downward-sloping demand curve, the Variable Resource Requirement (“VRR”) curve, to address price volatility and to increase the stability of the capacity revenue stream over time;<sup>16</sup> and (4) adopting bid caps on suppliers found to have market power and imposing a must-offer requirement on all existing generator capacity resources.<sup>17</sup>

In an April 20, 2006 order on PJM’s initial RPM proposal, the Commission agreed with PJM that the then “existing capacity construct is unjust and unreasonable,”<sup>18</sup> and concluded that, unless that construct was replaced, PJM would “fail to achieve the intended goal of ensuring reliable service.”<sup>19</sup> For example, the Commission noted “widespread agreement among the parties that the lack of a locational element in the existing capacity construct contributes to the current and projected shortfalls” of capacity in various regions,<sup>20</sup> and further observed that inadequate capacity revenues and capacity price volatility were preventing needed investment and failing to encourage units needed for reliability to remain in the market.<sup>21</sup>

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<sup>15</sup> See *id.* at 75-78.

<sup>16</sup> See *id.* at 11-13.

<sup>17</sup> See *id.* at 84-88.

<sup>18</sup> *PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,079 at P 29 (2006) (“April 20, 2006 Order”).

<sup>19</sup> *Id.* at P 29.

<sup>20</sup> *Id.* at P 34.

<sup>21</sup> See *id.* at PP 35-36.

The Commission established paper hearing procedures with respect to the RPM proposal and directed Staff to convene a technical conference.<sup>22</sup> It also encouraged the parties to seek a negotiated resolution.<sup>23</sup>

## 2. The RPM Settlement

On September 29, 2006, PJM and over 30 other parties to the RPM Proceeding, including many of the RPM Buyers,<sup>24</sup> filed a joint offer of settlement (the “RPM Settlement”),<sup>25</sup> intended to resolve all issues in the RPM Proceeding. The RPM Settlement retained the central elements of PJM’s initial RPM proposal, but made a number of changes, including (1) modifications to the VRR curve and the formula for calculating the net cost of new entry (“CONE”) designed to yield lower capacity prices;<sup>26</sup> (2) reduction of the forward procurement period from four years to three years;<sup>27</sup> (3) modification of certain provisions relating to LDAs;<sup>28</sup> and (4) certain modifications to the market power mitigation provisions.<sup>29</sup>

Over the objections of 11 contesting parties, including three of the RPM Buyers (the NJBPU, the Maryland OPC and the NJ RC), the Commission conditionally

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<sup>22</sup> See *id.* at P 1.

<sup>23</sup> See *id.*

<sup>24</sup> SMECO, Blue Ridge, AEC, the PA OCC, PJMICC, AF&PA and PCA were parties to the RPM Settlement. PJMICC and PCA withdrew from the settlement after the Commission required certain changes. The Maryland PSC, the Delaware PSC, the Pennsylvania PUC, and PPANJ did not join or oppose the RPM Settlement. See Complaint at 23 n.39.

<sup>25</sup> Settlement Agreement and Explanatory Statement of the Settling Parties Resolving All Issues, Docket Nos. ER05-1410-000, *et al.* (Sept. 29, 2006) (the “RPM Settlement”).

<sup>26</sup> See RPM Settlement, Explanatory Statement at 7-8.

<sup>27</sup> See *id.* at 11-12.

<sup>28</sup> See *id.* at 14-15.

<sup>29</sup> See *id.* at 29-36.

approved the contested RPM Settlement.<sup>30</sup> The Commission approved the VRR, as modified by the settlement, because it concluded that, relative to the pre-RPM capacity construct, the VRR would reduce capacity price volatility, better reflect the incremental value of capacity at different capacity levels,<sup>31</sup> and reduce the incentive for sellers to withhold capacity.<sup>32</sup> The Commission further found that the mitigation provisions would limit the exercise of market power.<sup>33</sup> The Commission also approved the RPM Settlement's use of a multi-year average of historical energy and fuel prices to calculate the net energy and ancillary services revenue offset (the "E&AS Offset") used in determining Net CONE.<sup>34</sup>

In a June 25, 2007 order, the Commission denied rehearing with respect to all aspects of its December 22, 2006 Order, except one discrete issue relating to market power mitigation.<sup>35</sup> Notably, the Commission affirmed its finding that "the RPM market design is a just and reasonable method of managing resource adequacy and ensuring reliable energy supplies within PJM."<sup>36</sup> At the same time, the Commission rejected PJMICC's request that the Commission order refunds for the 2005/2006 and 2006/2007 Delivery Years on the grounds that "there is no basis for establishing a refund mechanism and that ordering refunds would not be equitable or appropriate."<sup>37</sup>

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<sup>30</sup> *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,331 at P 1 (2006) ("December 22, 2006 Order").

<sup>31</sup> *See id.* at P 75.

<sup>32</sup> *See id.* at P 76.

<sup>33</sup> *See id.* at P 101.

<sup>34</sup> *See id.* at PP 118-119.

<sup>35</sup> *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,318 at P 4 (2007) ("June 25, 2007 Order").

<sup>36</sup> *Id.* at P 1.

<sup>37</sup> *Id.* at P 240.

## B. Transitional BRAs

Because there was not sufficient time available to have the full three-year forward period for BRAs for Delivery Years prior to the 2011/2012 Delivery Year, the RPM Settlement provided for shorter forward periods for the four transitional BRAs. Specifically, PJM was to conduct the BRA for the 2007/2008 Delivery Year in April 2007, the BRA for the 2008/2009 Delivery Year in July 2007, the BRA for the 2009/2010 Delivery Year in October 2007, and the BRA for the 2010/2011 Delivery Year in January 2008.<sup>38</sup> Prior to each of the transitional BRAs, PJM's Market Monitoring Unit (the "MMU") applied the Preliminary Market Structure Screen (the "PMSS"), as provided by the RPM rules,<sup>39</sup> and determined that the PJM region as a whole and any defined LDAs failed the PMSS.<sup>40</sup> As a result, all capacity sellers' offers in the transitional BRAs were mitigated based on avoidable costs.<sup>41</sup>

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<sup>38</sup> See Tariff, Attachment DD, § 17.2(a), Original Sheet No. 632.

<sup>39</sup> See *id.*, Attachment DD, § 6.3 (a)(i), Substitute Original Sheet No. 605-Original Sheet No. 605A.

<sup>40</sup> See PJM Market Monitoring Unit, *Preliminary Market Structure Screen* at 1 (Feb. 2, 2007) (reporting the PMSS results for the BRA for the 2007/2008 Delivery Year), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/pmss-results-02022007.pdf>; PJM Market Monitoring Unit, *Preliminary Market Structure Screen* at 1 (Apr. 2, 2007) (reporting the PMSS results for the BRA for the 2008/2009 Delivery Year), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/pmss-results-2008-2009.pdf>; PJM Market Monitoring Unit, *Preliminary Market Structure Screen* at 1 (July 13, 2007) (reporting the PMSS results for the BRA for the 2009/2010 Delivery Year), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/pmss-results-2009-2010.pdf>; PJM Market Monitoring Unit, *Preliminary Market Structure Screen* at 1 (Oct. 1, 2007) (reporting the PMSS results prior the BRA for the 2010/2011 Delivery Year), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/pmss-results-2010-2011.pdf>.

<sup>41</sup> See PJM Market Monitoring Unit, *Analysis of the 2007/2008 RPM Auction* at 3-5 (Aug. 16, 2007) ("2007/2008 MMU Analysis"), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/20070820-analysis-2007-2008-rpm-auction.pdf>; PJM Market Monitoring Unit, *Analysis of the 2008/2009 RPM Auction* at 3-5 (Nov. 30, 2007) ("2008/2009 MMU Analysis"), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/20082009-rpm-review-with-att-a.pdf>; PJM Market Monitoring Unit, *Analysis of the 2009/2010 RPM Auction* at 4-7 (Feb. 11, 2008) ("2009/2010 MMU Analysis"), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-presentations/20092010-rpm-review.pdf>; PJM Market Monitoring Unit, *Analysis of the 2010/2011 RPM Auction* at 4-7 (May 6, 2008) ("2010/2011 MMU Analysis"), available at <http://www.pjm.com/markets/market-monitor/downloads/20080506-20102011-rpm-review.pdf>.

Following each of the transitional BRAs, the MMU reviewed various inputs to, and the results of, the BRA. Specifically, the MMU:

- “Verified that the avoidable costs, opportunity costs and net revenues used to calculate offer caps were reasonable and properly documented;”
- “Calculated actual unit-specific net revenue from PJM energy and ancillary service markets for each PJM capacity resource for the [applicable mult-year] period . . . ;”
- “Verified that capacity resources exported from PJM had firm external contracts or made documented opportunity cost offers;”
- “Verified the specific reasons that capacity resources were excused from offering into the auction;”
- “Verified that the maximum equivalent demand forced outage rate (EFORd) used in base offer segments was the [ ] EFORd [for the appropriate time period];”
- “Verified that the EFORd offer segments were calculated per the [T]ariff . . . ;”
- “Verified that the auction clearing prices were accurate, based on submitted offers and the [VRR] curves;” and
- “Verified that the market power test was properly defined using the three pivotal supplier (TPS) test, that offer caps were properly applied and that the TPS test results were accurate.”<sup>42</sup>

After performing this analysis, the MMU concluded, in each instance, that “the results of the [ ] RPM auction were competitive.”<sup>43</sup>

## **C. Subsequent Examination and Discussion of the Results of the Transitional BRAs**

### **1. The Wilson Report**

On March 14, 2008, the American Public Power Association (“APPA”) released a report prepared by James F. Wilson of LECG, LLC (“LECG”), author of the affidavit

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<sup>42</sup> 2007/2008 MMU Analysis at 5-6; 2008/2009 MMU Analysis at 6; 2009/2010 MMU Analysis at 7-8; 2010/2011 MMU Analysis at 8.

<sup>43</sup> 2007/2008 MMU Analysis at 1; 2008/2009 MMU Analysis at 1; 2009/2010 MMU Analysis at 2; 2010/2011 MMU Analysis at 2.

attached to the Complaint, on the results of the first four BRAs.<sup>44</sup> The Wilson Report's central conclusion is that the results of the first four BRAs "call into question whether RPM is working as expected and intended, and suggest that changes, perhaps fundamental changes, may be needed to address design flaws, protect consumers, and ensure that resource adequacy is achieved at reasonable cost."<sup>45</sup> In support of this conclusion, Mr. Wilson points to the fact that prices in the transitional BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years were high in comparison to pre-RPM capacity clearing prices and to the results of PJM simulations from December 2006.<sup>46</sup>

Mr. Wilson pointed to a number of alleged "design flaws" that, in his view, caused RPM to inflate prices by understating actual supply<sup>47</sup> and overstating actual demand through the use of overly-conservative reliability criteria.<sup>48</sup> According to Mr. Wilson, these "design flaws" make capacity clearing prices highly sensitive to small changes in supply, which supposedly gives sellers an incentive to withhold capacity from the BRAs.<sup>49</sup> The Wilson Report concludes that RPM is not a cost-effective way to attract new generation or to retain existing generation since nearly all payments will be directed

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<sup>44</sup> James F. Wilson, *Raising the Stakes on Capacity Incentives: PJM's Reliability Pricing Model* (Mar. 14, 2008) (the "Wilson Report"), available at <http://www.appanet.org/files/PDFs/RPMreport2008.pdf>.

<sup>45</sup> *Id.* at 7.

<sup>46</sup> *See id.* at 5.

<sup>47</sup> *See id.* at 7-8.

<sup>48</sup> *See id.* at 8-9, 58.

<sup>49</sup> *See id.* at 9-10.

to existing resources, which, in his view, do not require payments of this magnitude to remain in service.<sup>50</sup>

## 2. The RPM Buyers' Motion for Technical Conference

The Wilson Report was the primary basis for the RPM Buyers' March 19, 2008 motion in the RPM Proceeding for a technical conference "to assess RPM's performance and cost to date and to consider customers' analyses and proposals for significantly changing or completely replacing RPM."<sup>51</sup> They argued that holding such a technical conference promptly was "imperative" in light of "RPM results that have already set capacity payments for four years,"<sup>52</sup> and to permit the Commission to assess "possible changes to RPM on a going-forward basis, beginning as soon as the 2008/2009 Delivery Year."<sup>53</sup>

In its answer to the RPM Buyers' March 19, 2008 Motion, PJM urged the Commission to await the outcome of a review of RPM by PJM and its stakeholders before deciding whether to hold a technical conference.<sup>54</sup> PJM indicated that it had engaged independent consultants from the Brattle Group ("Brattle") to perform an analysis of, and to prepare a report regarding, RPM's performance that "will commence an open stakeholder process to discuss the report's findings and recommendations, and

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<sup>50</sup> See *id.* at 72-78.

<sup>51</sup> RPM Buyers' Motion for Technical Conference at 2, Docket No. ER05-1410-000, *et al.* (Mar. 19, 2008) (the "March 19, 2008 Motion").

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* at 3.

<sup>54</sup> Answer of PJM Interconnection, L.L.C. to Motion for Technical Conference, Docket Nos. ER05-1410-000, *et al.* (Apr. 2, 2008) (the "April 2 Answer").

to consider any other matters related to RPM that stakeholders wish to address.”<sup>55</sup> EPISA and others also filed answers opposing the March 19, 2008 Motion.<sup>56</sup>

In an April 17, 2008 order, the Commission concluded that it was “premature” to convene a technical conference before PJM and its outside consultants have completed their evaluation of the BRA results.<sup>57</sup> The Commission also agreed that the outcome of the BRA for the 2011/2012 Delivery Year, being held in May 2008, should provide additional information that would be helpful in considering the issues raised by the RPM Buyers.<sup>58</sup> The Commission did, however, direct PJM to ensure that the consultants’ report addresses the issues raised by the RPM Buyers and to file the report in the RPM Proceeding.<sup>59</sup>

### **3. PJM’s April 18, 2008 Substantive Response to the Wilson Report**

On April 18, 2008, PJM issued a substantive response to the Wilson Report, categorically rejecting the allegations in the Wilson Report.<sup>60</sup> PJM stated that Mr. Wilson’s “main points – that capacity sellers are withholding and that the demand and

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<sup>55</sup> April 2 Answer at 3.

<sup>56</sup> See Answer of the Electric Power Supply Association, Docket Nos. ER05-1410-000, *et al.* (Apr. 4, 2008); Answer of the PPL Parties to RPM Buyers’ Motion for Technical Conference, Docket Nos. ER05-1410-000, *et al.* (Apr. 4, 2008); Motion to Intervene and Response of PJM Power Providers Group to RPM Buyers’ Motion for Technical Conference, Docket Nos. ER05-1410-000, *et al.* (Apr. 4, 2008); Answer of Duke Energy North America, LLC in Opposition to Motion for Technical Conference, Docket Nos. ER05-1410-000, *et al.* (Apr. 4, 2008).

<sup>57</sup> *PJM Interconnection, L.L.C.*, 123 FERC ¶ 61,037 at P 11 (2008) (the “April 17, 2008 Order”).

<sup>58</sup> *Id.*

<sup>59</sup> *Id.* at P 12.

<sup>60</sup> *PJM Interconnection, L.L.C., PJM Interconnection’s Comments on “Raising the Stakes on Capacity Incentives: PJM’s Reliability Pricing Model”* (Apr. 18, 2008) (“PJM Response”), available at <http://www.pjm.com/documents/downloads/20080418-pjm-response-to-appa-paper.pdf>.

supply curves overstate the need for capacity – are both incorrect and not supported.”<sup>61</sup> PJM observed that comparisons with pre-RPM capacity prices are “misleading and irrelevant,” because the pre-RPM capacity construct “did not result in prices that reflected the true value and/or cost of capacity” and had been found unjust and unreasonable.<sup>62</sup> PJM likewise rejected Mr. Wilson’s reliance on RPM simulations that, as PJM had previously made clear and as Mr. Wilson acknowledged in the Wilson Report, “were ‘illustrative only’ and [‘]not intended as a forecast or prediction of RPM results.”<sup>63</sup>

PJM explained that RPM’s market monitoring and mitigation eliminate the possibility for economic or physical withholding like that alleged in the Wilson Report.<sup>64</sup> In particular, PJM indicated that the must-offer requirement negates Mr. Wilson’s withholding arguments, and emphasized that the MMU has enforced and upheld this requirement for each of the transitional BRAs.<sup>65</sup> PJM stated: “There has been no withholding, economic or otherwise, in any RPM auction.”<sup>66</sup>

While agreeing with Mr. Wilson that it is too early to draw definitive conclusions on RPM’s performance,<sup>67</sup> PJM enumerated a number of encouraging observations that

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<sup>61</sup> *Id.* at 1.

<sup>62</sup> *Id.* at 2.

<sup>63</sup> *Id.* at 3 (quoting Wilson Report at 35). See also PJM Interconnection, L.L.C., *Reliability Pricing Model Updated Prototype Simulation* (Jan. 2006) (presentation materials with the following disclaimer on each page: “The data reflected herein is provided by PJM solely as a sample of the operation of [RPM]. These results are preliminary and are for illustration purposes only, and do not represent past, current or future actual market data, results or conditions.”), available at [http:// www.pjm.com/committees/working-groups/pjmramwg/postings/updated-rpm-prototype-simulations.pdf](http://www.pjm.com/committees/working-groups/pjmramwg/postings/updated-rpm-prototype-simulations.pdf).

<sup>64</sup> See *id.* at 4.

<sup>65</sup> See *id.*

<sup>66</sup> *Id.*

<sup>67</sup> See *id.* at 10.

are “unmistakably rooted in the actual data from the auctions already completed.”<sup>68</sup> Among other things, PJM stated that “RPM has been effective in attracting new capacity,”<sup>69</sup> and has, to date, increased capacity by 10,000 MW as a result of increased new generation and demand response, postponed or delayed retirements, unit reactivations, and reduced exports.<sup>70</sup>

#### **D. The Complaint**

In the Complaint, the RPM Buyers largely repeat the arguments made in the Wilson Report in support of their contention that RPM, “as implemented through [BRAs], has produced unjust and unreasonable capacity prices.”<sup>71</sup> The Complaint includes an affidavit from Mr. Wilson,<sup>72</sup> who largely reiterates his earlier conclusions. First, the RPM Buyers argue that both the supply curve and the VRR curves were steep and inelastic, so that small shifts in either (*i.e.*, due to supplier withholding or changes in the administratively-determined parameters of the VRR curve) resulted in large changes in capacity prices.<sup>73</sup> The RPM Buyers assert that various RPM rules permitted suppliers to reduce the amount of capacity offered into the BRAs and thereby increase prices<sup>74</sup> and that PJM’s mitigation was inadequate to restrain this exercise of market power.<sup>75</sup> The RPM Buyers also complain that PJM used overly-conservative reliability standards

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<sup>68</sup> *Id.* at 10.

<sup>69</sup> *Id.* at 10.

<sup>70</sup> *See id.* at 11.

<sup>71</sup> Complaint at 2.

<sup>72</sup> Complaint, Attachment A, Affidavit of James F. Wilson in Support of Complaint of the RPM Buyers (the “Wilson Affidavit”).

<sup>73</sup> *See* Complaint at 41-47.

<sup>74</sup> *See id.* at 49-52.

<sup>75</sup> *Id.* at 4-5.

and that PJM made various errors in calculating the administratively-determined parameters underlying the VRR curve and thereby increased prices unnecessarily.<sup>76</sup> Consequently, the RPM Buyers argue, RPM has failed to produce any increase in reliability.<sup>77</sup>

As relief, the RPM Buyers request that the Commission find that the clearing prices produced by the transitional BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years are unlawful and may not be charged to capacity buyers or paid to capacity sellers.<sup>78</sup> The RPM Buyers further request that the Commission eliminate locational price differentials,<sup>79</sup> and administratively determine the value of capacity using PJM-wide capacity prices resulting from the transitional BRAs starting with the 2008/2009 Delivery Year, using the PJM-wide prices from the transitional BRA for the 2007/2008 Delivery Year as a starting point.<sup>80</sup>

## II. PROTEST

The Commission can and should promptly and summarily deny the Complaint. The Complaint is an impermissible collateral attack on the Commission's orders in the RPM Proceeding. Even if the Commission could disregard that fact, it should deny the Complaint, because the RPM Buyers have failed to make a *prima facie* case.

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<sup>76</sup> See *id.* at 55-63.

<sup>77</sup> See *id.* at 69-72.

<sup>78</sup> See *id.* at 76-81. Although neither their objections nor their proposed remedies appear limited to the 2008/2009 Delivery Year, the RPM Buyers express concern about the effect of the 15-month limitation set forth in Section 206(b) of the FPA, 16 U.S.C. § 824e(b) (2000 & Supp. V 2005), and "reserve the right to file additional complaints to address Delivery Years 2009-2010, 2010-2011, or 2011-2012 to ensure that all Delivery Years will be covered by a refund obligation." *Id.* at 73. The Commission has made clear, however, that a complainant may not "evade the strictures of the [] 15-month refund protection period" by filing multiple complaints on the same issue. *Allegheny Generating Co.*, 67 FERC ¶ 61,288 at 62,000 (1994).

<sup>79</sup> See Complaint at 76-77.

<sup>80</sup> See *id.* at 78-79.

Moreover, denial of the Complaint would be consistent with the Commission's practice of not disturbing market outcomes. Unless promptly and summarily denied, the Complaint threatens to impair the ability of RPM to encourage much-needed investment in existing and new generation and other capacity resources, such as demand response, and also to undermine the functioning of similar capacity markets, as well as faith in FERC-jurisdictional markets in general.

**A. The RPM Buyers Have Failed To Carry Their Burden Under Section 206 Of The FPA**

**1. The Complaint Is An Impermissible Collateral Attack On The Commission's RPM Orders**

The Complaint is an impermissible – and utterly transparent – collateral attack on the Commission's orders in the RPM Proceeding and should be rejected as such. The RPM Buyers' contention that the results of the BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years are unjust and unreasonable rests entirely on alleged "core deficiencies" in the RPM rules.<sup>81</sup> But such alleged "core deficiencies" are matters that the RPM Buyers could and should have raised – and, in some cases, did raise – in the RPM Proceeding.

The Commission need look no further than the three "primary factors" alleged by the RPM Buyers to have "converged to produce [] unlawful rates"<sup>82</sup> to recognize the Complaint as an impermissible collateral attack on prior Commission orders. The first of these factors is the alleged absence of competition from new resources that the RPM

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<sup>81</sup> *Id.* at 6.

<sup>82</sup> *Id.* at 3.

Buyers attribute to the shorter forward periods associated with the transitional BRAs.<sup>83</sup> As the RPM Buyers know full well, these shorter forward periods were a feature of both PJM's initial RPM proposal and the RPM Settlement approved in the December 22, 2006 and June 25, 2007 Orders. Indeed, one of the principal RPM Buyers, the Maryland PSC, objected to this very feature of RPM in its comments on the initial RPM proposal on much the same grounds as do the RPM Buyers in the Complaint.<sup>84</sup>

The second of the RPM Buyers' primary factors, the purported failure of RPM's market power mitigation measures,<sup>85</sup> is another issue that was squarely within the scope of the RPM Proceeding and that was addressed, at length, in the Commission's orders and the RPM Settlement. In the April 20, 2006 Order, the Commission expressly directed the parties to the RPM Proceeding to address the issue of mitigation,<sup>86</sup> and the settling parties devoted a large portion of the RPM Settlement to this issue.<sup>87</sup> In approving the RPM Settlement, the Commission addressed various objections to the mitigation provisions of the RPM Settlement, including objections that are substantively indistinguishable from those in the Complaint and objections by several of the RPM Buyers (*e.g.*, the Maryland OPC, PJMICC, and the NJBPU).<sup>88</sup>

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<sup>83</sup> See *id.* at 3-4.

<sup>84</sup> See Initial Comments of the Public Service Commission of Maryland at 5, Docket Nos. ER05-1410-000, *et al.* (Oct. 19, 2005). For whatever reason, the Maryland PSC elected not to renew that objection when the RPM Settlement was filed.

<sup>85</sup> See Complaint at 4-5.

<sup>86</sup> See April 20, 2006 Order at P 125.

<sup>87</sup> See RPM Settlement at 11-19. See also Tariff, Attachment DD, § 6, First Revised Sheet No. 604-First Revised Sheet No. 618.

<sup>88</sup> See December 22, 2006 Order at PP 94-108; June 25, 2007 Order at PP 135-197.

The third of the RPM Buyers' primary factors, the alleged failure of the LDAs to produce benefits for consumers,<sup>89</sup> was likewise thoroughly litigated and negotiated in the RPM Proceeding. The RPM Settlement expressly provided for the phase-in of LDAs during the transition period,<sup>90</sup> and the Commission previously considered – and rejected – objections by certain of the RPM Buyers and others to this approach.<sup>91</sup> The Commission expressly held that “the locational pricing phase-in provisions of the settlement as proposed are just and reasonable.”<sup>92</sup>

As the Commission and the courts have repeatedly explained, “[c]ollateral attacks on final orders and relitigation of applicable precedent, especially by parties that were active in the earlier case, thwart the finality and repose that are essential to administrative efficiency, and are therefore strongly discouraged.”<sup>93</sup> The RPM Buyers were active in the RPM Proceeding, and previously challenged, or had the opportunity to challenge, the rules for the transitional BRAs that they now challenge in the

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<sup>89</sup> See Complaint at 5-6.

<sup>90</sup> See RPM Settlement at 8.

<sup>91</sup> See December 22, 2006 Order at PP 59-73; June 25, 2007 Order at PP 66-87.

<sup>92</sup> December 22, 2006 Order at PP 68.

<sup>93</sup> *NSTAR Elec. Co. v. ISO New England, Inc.*, 120 FERC ¶ 61,261 at P 33 (2007) (“*NSTAR*”) (citations omitted). See also, e.g., *Sacramento Mun. Util. Dist. v. FERC*, 474 F.3d 797, 801 (D.C. Cir. 2007); *Sacramento Mun. Util. Dist. v. FERC*, 428 F.3d 294, 299 (D.C. Cir. 2005); *City of Nephi, Utah v. FERC*, 147 F.3d 929, 934 (D.C. Cir. 1998). The *NSTAR* order is particularly instructive, inasmuch as it involved a collateral attack on ISO New England Inc. (“ISO-NE”) market rules governing the Forward Capacity Market (“FCM”), which, like RPM, is a new forward capacity construct that was the subject of a contested settlement approved by the Commission. In response to a complaint by NSTAR Electric Company (“NSTAR”) concerning treatment of Hydro Québec Interconnection Capacity Credits (“HQICCs”) under FCM, the Commission stated:

The Commission notes that NSTAR participated in the FCM Settlement proceeding, but chose not to raise concern with regard to HQICCs. Further, NSTAR chose not to participate in the transition rules proceeding in which the Commission conducted its review of the HQICC transition rules under section 205 of the FPA. We will not allow NSTAR to attack provisions on complaint when it failed to raise its concerns in the two prior relevant proceedings.

*NSTAR* at P 33.

Complaint. The Commission should reject their attempt to relitigate those issues through the Complaint.<sup>94</sup>

Collateral attacks are particularly disfavored where settlements like the RPM Settlement are involved, because such settlements “represent ‘difficult compromises among the diverse [settling] parties . . . that, if found just and reasonable, should be honored.’”<sup>95</sup> As the Commission recognized, the RPM Settlement was the product of “extensive negotiations to resolve [] many difficult questions,” and the parties “went to great lengths to arrive at compromises that were acceptable to the majority of PJM members.”<sup>96</sup> EPSA notes that the Commission has been especially strict in upholding settlement provisions relating to CONE, like those which the RPM Buyers collaterally attack by arguing for E&AS Offsets based on “actual 2007 market conditions,”<sup>97</sup>

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<sup>94</sup> The RPM Buyers rely on the Commission’s order in *American Elec. Power Serv. Corp. v. Midwest Indep. Transmission Sys. Operator, Inc.*, 122 FERC ¶ 61,083 (2008) (“AEP”), in an attempt to distinguish the Complaint from a long line of complaints rejected as collateral attacks on prior orders. See Complaint at 39 n.96. The AEP order is inapposite, however, because the complaint in that case raised issues that were beyond the scope of the prior proceeding. See *id.* at P 69. As discussed above, the issues presented by the Complaint were squarely within the scope of the RPM Proceeding. As a result, the Complaint is indistinguishable from a long line of complaints rejected as collateral attacks on prior Commission orders. See e.g., *Niagara Mohawk Power Corp. v. Huntley Power LLC, et al.*, 109 FERC ¶ 61,169 at P 45 (2004), *reh’g denied*, 111 FERC ¶ 61,120 (2005); *Suncor Inc. et al. v. Pacific Gas Transmission Co., et al.*, 67 FERC ¶ 61,352 at 62,226 (1994).

<sup>95</sup> NSTAR at P 33 (quoting *Devon Power LLC*, 115 FERC ¶ 61,340 at P 66 (2006)).

<sup>96</sup> December 22, 2006 Order at P 51.

<sup>97</sup> Complaint at 64. The Tariff provisions adopted as part of the RPM Settlement unambiguously provide for such offsets to be based on “the six consecutive calendar years preceding the relevant BRA for the first three years of the Transition Period,” and “the three consecutive calendar years preceding the relevant BRA” thereafter. Tariff, Attachment DD, § 5.10(a)(iv)(B)(7)(v)(B), Original Sheet No. 589. In approving this element of the RPM Settlement, the Commission rejected the argument, which RPM Buyers reprise here, that the use of a multi-year average would understate E&AS Offsets. See December 22 Order at P 77. The factual premise for the RPM Buyers’ argument – that use of data for a single year is preferable to use of multiple years of historic data – is, at best, dubious, because, as Robert B. Stoddard of CRA International, Inc. observes, there is no way of knowing whether higher energy and ancillary services revenues will persist in coming years. See Robert B. Stoddard, CRA International, Inc., *Reliability at Stake: PJM’s Reliability Pricing Model* at 35 (May 5, 2008) (“*Reliability at Stake*”), available at [http://www.crai.com/uploadedFiles/RELATING\\_MATERIALS/Publications/BC/Energy\\_and\\_Environment/files/CRA-P3%20Reliability%20at%20Stake.pdf](http://www.crai.com/uploadedFiles/RELATING_MATERIALS/Publications/BC/Energy_and_Environment/files/CRA-P3%20Reliability%20at%20Stake.pdf). The RPM Buyers’ preference for “actual 2007 market conditions,” Complaint at 64, appears to be more driven by their desired result than any interest in

emphasizing that such provisions “represent an important, if not critical, element of the bargain struck by the parties to the RPM Settlement.”<sup>98</sup>

Finally, the RPM Buyers have not shown materially changed circumstances that would merit revisiting the Commission’s holdings in its orders in the RPM Proceeding. Importantly, they do not even allege that PJM failed to administer the BRAs in accordance with the RPM rules or that there is some flaw in the auction results. Rather, the Complaint is directed entirely to purported “core deficiencies” in the RPM rules<sup>99</sup> that were part of the settlement package approved in the December 22, 2006 and June 25, 2007 Orders.

## 2. The RPM Buyers Have Failed To Make A *Prima Facie* Case

As complainants under Section 206 of the FPA, the RPM Buyers bear the burden of proof in this case,<sup>100</sup> and they have utterly failed to meet that burden. The Complaint consists entirely of rank speculation and unsupported allegations,<sup>101</sup> and thus fails to

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obtaining a more reliable estimate of energy and ancillary services revenues in the Delivery Year. As Dr. Stoddard remarks: “Had 2007 been a particularly bad year for [energy and ancillary services revenues], it seems unlikely that Wilson would be advocating *increasing* Net CONE. . . .” *Id.*

<sup>98</sup> *PJM Interconnection, L.L.C.*, 123 FERC ¶ 61,015 at P 28 (2008) (agreeing with the RPM Buyers and other protestors and rejecting a filing by PJM that was deemed inconsistent with provisions of the RPM Settlement relating to re-setting CONE on the grounds that those provisions “represent an important, if not critical, element of the bargain struck by the parties to the RPM Settlement”). See also *ISO New England Inc.*, 123 FERC ¶ 61,290 at P 17 (2008) (“*ISO New England*”) (rejecting protests to the filing of results of ISO-NE’s first auction under FCM as a “collateral attack on past Commission orders accepting the FCM Settlement and FCM rules”).

<sup>99</sup> Complaint at 6.

<sup>100</sup> See 16 U.S.C. § 824e(b) (2000 & Supp. V 2005). See also, e.g., *Ontelaunee Power Operating Co., LLC v. Metropolitan Edison Co.*, 119 FERC ¶ 61,181 at P 25 (2007) (finding that the complainant in a proceeding under Section 206 of the FPA bears the burden of proof); *Wis. Pub. Serv. Corp., et al. v. Midwest Indep. Transmission Sys. Operator, Inc., et al.*, 118 FERC ¶ 61,089 at P 35 n.24 (2007) (“The burden of proof in a section 206 proceeding is on the complainant.”); *Wholesale Customers of Ohio Edison Co. v. Ohio Edison Co.*, 22 FERC ¶ 61,314 at 61,545 (1983) (“The burden of proof that the present rates, terms, or conditions of service are now unjust, unreasonable, or otherwise unlawful rests with” the complainant.).

<sup>101</sup> *BP West Coast Prods. LLC v. SFPP, L.P.*, 121 FERC ¶ 61,239 at P 35 (2007). See also, e.g., *Woolen Mill Assoc. v. FERC*, 917 F.2d 589, 592 (D.C. Cir. 1990); *Cerro Wire & Cable v. FERC*, 677 F.2d

make the *prima facie* case necessary to avoid summary rejection.<sup>102</sup> The RPM Buyers have raised no material issue of fact with respect to the threshold issue of whether results of the transitional BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years are unjust and unreasonable, and the Commission would be fully justified in rejecting the Complaint as it seeks summary relief that is completely unsupported by the Complaint and the record in this case.<sup>103</sup>

As PJM observed with respect to the Wilson Report, the Complaint and the Wilson Affidavit consist of little more than “premature, speculative conclusions drawn using inaccurate or insufficient information,” and arguments that are “not backed with any supporting analysis, or are based on a comparison and historical view of PJM’s previous capacity construct which did not accurately value capacity and has been

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124, 129 (D.C. Cir. 1982). The fact much of the speculation and unsupported evidence has been packaged in the form of an affidavit (*i.e.*, the Wilson Affidavit) does not transform those it into reliable evidence. See *Southern Cos. Servs., Inc.*, 95 FERC ¶ 61,078 at 61,234 n.6 (rejecting the contention that an affidavit consisting of “allegations with little or no supporting explanation or documentation” provided “a sufficient basis to take any further action”).

<sup>102</sup> See *Texas Eastern Trans. Corp.*, 37 FERC ¶ 61,260 at 61,706 (1986) (“But even viewed in this light [accepting witness testimony as true] we cannot find that Narragansett has made out a *prima facie* case that entitles it to relief or even a threshold showing that entitles it to a hearing.”); *Olympic Pipe Line Co.*, 100 FERC ¶ 63,005 at PP 39, 53 (2002) (if a party fails to present a “sufficiently reliable” *prima facie* case, this does not “justify going forward with a hearing”), *aff’d*, 101 FERC ¶ 61,245 (2002).

<sup>103</sup> See *Blumenthal v. ISO New England, Inc.*, 118 FERC ¶ 61,205 at P 16 (2007) (denying a complainant’s request for rehearing that alleged the Commission had erred in failing to order a hearing before denying its complaint, because “the complaint did not request a hearing” but instead “sought summary revisions”). Like the complainant in *Blumenthal*, the RPM Buyers have not requested a hearing. At most, the Complaint could be construed as impliedly requesting an evidentiary hearing with respect to just and reasonable rates that should be imposed if the Commission agreed that the transitional BRA results were unjust and unreasonable. See Complaint at 75 n.195, 82. But that question is irrelevant unless the RPM Buyers can establish that the transitional BRA results are unjust and unreasonable. See 16 U.S.C. § 824e(a) (2000 & Supp. V 2005) (only after the Commission finds that a rate or charge is “unjust, unreasonable, unduly discriminatory or preferential” is it to “determine the just and reasonable” rate “to be thereafter observed”). See also *Dominion Cove Point LNG LP*, 119 FERC ¶ 61,110 at P 8 (2007) (explaining that “the burden is on the party seeking the change to first show that the existing provision is no longer just and reasonable, and then [to] show what replacement provision would be just and reasonable”).

shown to produce results that were unjust and unreasonable.”<sup>104</sup> Among the “primary factors [that] have converged to produce [] unlawful rates” in the transitional BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years cited by the RPM Buyers are allegedly insufficient “competition from new resources . . . [to] discipline conduct and prices,” and a failure of “the administrative apparatus that is RPM’s hallmark . . . to restrain the exercise of market power by withholding capacity to increase prices.”<sup>105</sup> As discussed below and in greater detail in the PJM Response to the Wilson Report and the response of PJM’s Market Monitor, Joseph R. Bowring, to the April 17, 2008 Order,<sup>106</sup> these and other allegations in the Complaint are unsupported and without merit.

The bottom line is that the transitional BRAs were competitive and were conducted in accordance with the RPM rules, and the RPM Buyers have not offered a shred of reliable evidence to the contrary. In fact, as independent consultants from Brattle confirm in their June 30, 2008 report, “the five [BRAs] conducted to date have been successful in achieving the stated reliability and economic objectives of RPM.”<sup>107</sup>

#### **a) The Transitional BRAs Were Competitive**

The PJM Response and the Bowring Response confirm the critical finding that the MMU already made after verifying inputs to, and results of, the transitional BRAs:

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<sup>104</sup> PJM Response at 1.

<sup>105</sup> Complaint at 3-4.

<sup>106</sup> Informational Filing, Attachment B, Response of Joseph E. Bowring, Docket Nos. ER05-1410-000, *et al.* (June 30, 2008) (the “Bowring Response”).

<sup>107</sup> Informational Filing, Attachment A, The Brattle Group, *Review of PJM’s Reliability Pricing Model (RPM)*, Docket Nos. ER05-1410-000, *et al.* (June 30, 2008) (the “Brattle Report”).

**“the results of the [] RPM auction[s] were competitive.”**<sup>108</sup> PJM and the MMU have already examined the allegations of physical and economic withholding in the Complaint and found them to be “incorrect and not supported.”<sup>109</sup> As noted in the PJM Response, the MMU previously verified suppliers’ adherence to the must-offer requirement,<sup>110</sup> which negates Mr. Wilson’s withholding arguments.<sup>111</sup> Speaking directly to the allegations in the Wilson Affidavit, Dr. Bowring states unequivocally: “In no case does the evidence support Mr. Wilson’s claim that market power was exercised in the RPM auctions.”<sup>112</sup>

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<sup>108</sup> 2007/2008 MMU Analysis at 1 (emphasis added); 2008/2009 MMU Analysis at 1 (emphasis added); 2009/2010 MMU Analysis at 2 (emphasis added); 2010/2011 MMU Analysis at 2 (emphasis added). In light of the fact that all suppliers’ offers were mitigated, the RPM Buyers insist that the transitional BRAs “were not ‘competitive’ in the sense that the results reflected actual rivalry among capacity suppliers seeking to obtain capacity payments.” Complaint at 4-5. But this assertion misses the point. The Commission has consistently recognized that a market will be competitive where sellers either lack market power or such market power as they do possess has been adequately mitigated. See, e.g., *Market-Based Rates for Wholesale Sales of Elec. Energy, Capacity & Ancillary Servs. by Pub. Utils.*, Order No. 697, FERC Stats. & Regs. ¶ 31,252 at P 409 (2007), *on reh’g*, Order No. 697-A, 123 FERC ¶ 61,055 (2008). As Dr. Bowring explains:

The market design for capacity leads, almost unavoidably, to structural market power in the capacity market. The capacity market is unlikely ever to approach a competitive market structure in the absence of a substantial and unlikely structural change that results in much greater diversity of ownership. Nonetheless a competitive outcome can be assured by appropriate market power mitigation rules. Detailed market power mitigation rules are included in the RPM tariff. This represents a significant advance over the prior capacity market design. Reliance on the RPM design for competitive outcomes means reliance on the market power mitigation rules.

Bowring Report at 2.

<sup>109</sup> PJM Response at 1. See also Bowring Response at 5.

<sup>110</sup> See PJM Response at 6. See also 2007/2008 MMU Analysis at 5 (stating that the MMU “[v]erified the specific reasons that capacity resources were excused from offering into the auction”); 2008/2009 MMU Analysis at 6 (same); 2009/2010 MMU Analysis at 7 (same); 2010/2011 MMU Analysis at 8 (same).

<sup>111</sup> See PJM Response at 4.

<sup>112</sup> Bowring Response at 5.

The RPM Buyers' allegations of economic withholding through the submission of offers alleged to be in excess of "true avoidable costs" are doubly invalid.<sup>113</sup> First, **by definition**, a supplier's Avoidable Cost Rate **includes** costs, such as Avoidable Project Investment Recovery Rate, that the RPM Buyers are alleging to be in excess of "true avoidable costs."<sup>114</sup> As explained by the MMU:

Avoidable costs are the costs that a generation owner would not incur if the generating unit did not operate for one year, in particular the delivery year. In effect, avoidable costs are the costs that a generation owner would not incur if the generating unit were mothballed for the year. In the calculation of avoidable costs, there is no presumption that the unit would retire as the alternative to operating, although that possibility could be reflected if the owner documented that retirement was the alternative. **Avoidable costs also include annual capital recovery associated with investments required to maintain a unit as a capacity resource.** . . . The specific components of avoidable costs are defined in the PJM Tariff.<sup>115</sup>

Thus, the premise for the RPM Buyers' argument – that suppliers were offering in excess of "true avoidable costs"<sup>116</sup> – is plainly wrong. To the contrary, as Dr. Bowring states, "[t]he MMU reviewed the offers in detail and the offers were not above avoidable costs."<sup>117</sup>

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<sup>113</sup> Complaint at 51.

<sup>114</sup> See Tariff, Attachment DD, § 6.8(a), Second Revised Sheet No. 612-First Revised Sheet No. 617.

<sup>115</sup> 2007/2008 MMU Analysis at 3 (emphasis added); 2008/2009 MMU Analysis at 3 (emphasis added); 2009/2010 MMU Analysis at 4; 2010/2011 MMU Analysis at 4 (emphasis added). See also Bowring Response at 4.

<sup>116</sup> Complaint at 51.

<sup>117</sup> Bowring Response at 6. See *id.* at 8.

Second, the allegation that differences in avoidable costs from one BRA to another are evidence of economic withholding is unsupported and illogical. As PJM explained:

The fact that resources within [the Southwest MAAC (“SWMAAC”) area] have elected to utilize the capital cost recovery provision in the PJM Tariff and therefore have a higher resource-specific avoidable cost rate than in a previous year does not mean they are economically withholding capacity or intentionally attempting to increase prices in the SWMAAC area. In reality, this scenario is an example of how the transparency of the market, and the application of a demand curve that caps the clearing price at a predetermined price, provides an incentive to capacity sellers to offer their capacity at the lowest possible cost to clear as much as possible.<sup>118</sup>

In other words, what the RPM Buyers characterize as a failure of RPM is, by any reasonable measure, evidence that RPM is working and benefiting consumers.

Again, in alleging that suppliers engaged in economic withholding, the RPM Buyers fail to offer any credible evidence to support their claims. As Dr. Bowring explains, “Mr. Wilson’s claim that market power was exercised by offers greater than avoided cost is unsupported by the evidence.”<sup>119</sup>

**b) The Transitional BRAs Were Conducted In Accordance With The RPM Rules**

Significantly, the RPM Buyers do not even allege that PJM or any market participant violated the RPM rules or any other provision of its Tariff in connection with

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<sup>118</sup> PJM Response at 2.

<sup>119</sup> Bowring Response at 8. The same is true of Mr. Wilson’s allegations that increased forced outage rates and a reduction of capacity offered were “consistent with the incentives RPM creates” to withhold. Wilson Affidavit at ¶ 85. Dr. Bowring explains: “This does not constitute a claim of market power and it does not constitute evidence. The deratings of units were consistent with the physical facts at the units.” Bowring Response at 5.

the transitional BRAs or that there is some error in the auction results.<sup>120</sup> To the contrary, Chairman Larsen of the Maryland PSC freely admits: “Under the rules that were established for the auctions by RPM, the companies didn't do anything that was inappropriate.”<sup>121</sup> Instead, as discussed above, the Complaint’s focus is on alleged “core deficiencies” in the rules.<sup>122</sup>

**c) The Benchmarks Against Which The RPM Buyers Attempt To Measure The Transitional BRA Results Are Irrelevant And Misleading**

The RPM Buyers and their witness, Mr. Wilson, critique the results of the transitional BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years by comparison with simulations performed by PJM prior to the first transitional BRA, the pre-RPM capacity prices, and the results of the BRA for the 2011/2012 Delivery Year. As PJM observed with respect to Mr. Wilson’s earlier comparison with pre-RPM capacity prices, these comparisons are “irrelevant and misleading.”<sup>123</sup>

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<sup>120</sup> The closest that the RPM Buyers come to questioning PJM’s conduct is the claim that “[t]he lack of filed, transparent, objective criteria” for establishing the Capacity Emergency Transfer Limit (“CETL”) and the Capacity Emergency Transfer Objective (“CETO”) values used to determine reliability requirements “violates the filed rate doctrine and permits PJM to exercise excessive discretion in determining the inputs that ultimately set the RPM clearing price.” Complaint at 60. Significantly, the RPM Buyers’ objection is to what the RPM rules “permit[]” PJM to do, *id.*, and not to any alleged violation of those rules. Admittedly, the process by which PJM actually calculates the CETL and CETO values is largely set forth in un-filed PJM manuals and is not always as transparent as one would hope. See Tariff, Attachment DD, §§ 2.8, 2.9, Third Revised Sheet No. 564 (defining CETL and CETO by reference to definitions in PJM’s Reliability Assurance Agreement (the “RAA”)); RAA, §§ 1.6, 1.7, Original Sheet No. 2 (defining CETL and CETO, in each case as values to be “determined in accordance with the PJM Manuals”). But it is well-established that the FPA does not dictate that every scrap of paper affecting or relating to FERC-jurisdictional rates be on file and that the determination of what documents must be filed is governed by a “rule of reason.” *Town of Easton v. Delmarva Power & Light Co.*, 24 FERC ¶ 61,251 at 61,531, *reh’g denied*, 25 FERC ¶ 61,407 (1983).

<sup>121</sup> Danielle Ulman, *Maryland regulators say 'reliability pricing model' at fault for \$2B*, Daily Record (Jun 3, 2008) (quoting Steven B. Larsen).

<sup>122</sup> Complaint at 6.

<sup>123</sup> PJM Response at 2.

Like the Wilson Report, the Complaint and the Wilson Affidavit place inordinate significance on the fact that prices in the transitional BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years were higher than the results of RPM simulations that PJM released in December 2006.<sup>124</sup> But, as Mr. Wilson concedes, the simulation results were for “‘illustrative purposes only’ and [were] not intended as a forecast or prediction of RPM results.”<sup>125</sup> As PJM stated in response to the Wilson Report, relying on the simulation results for this purpose “misrepresent[s] the intent of these simulations.”<sup>126</sup>

Although the comparison with pre-RPM prices is less explicit than it was in the Wilson Report, both the Complaint and the Wilson Affidavit continue to suggest that the Commission should be concerned that capacity prices resulting from the transitional BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years are higher than pre-RPM prices.<sup>127</sup> But even assuming that pre-RPM prices and RPM prices are

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<sup>124</sup> See Complaint at 66-68; Wilson Affidavit at ¶ 47-50.

<sup>125</sup> Wilson Affidavit at ¶ 48. See *also* Complaint at 66 (acknowledging that “the simulations were [n]ot intended to predict or forecast any potential RPM auction results” (alteration in the original)). That PJM was using “the most accurate data available at the time,” Complaint at 66, does not alter the fact that the data were out of date and the simulations were not intended to predict actual auction results. See PJM Response at 3 (stating that “the simulations involved sample input data that were created based on a 2004 resource adequacy model”).

<sup>126</sup> PJM Response at 3. EPSA shares PJM’s concern about the misuse of results from simulations that “were intended to illustrate how the various features of the RPM design functioned,” and not “to be predictive of future auction outcomes,” RPM Response at 3, and hopes that the RPM Buyers’ actions do not discourage PJM from engaging in similar exercises intended to aid stakeholders in understanding the operation of new market designs in the future.

<sup>127</sup> See, *e.g.*, Complaint at 40 (stating that capacity prices “soared beginning with the very first auction”); Wilson Affidavit at ¶ 46 (alleging that the prices from the transitional BRAs reflect “an increase of \$22 billion relative to the same cost calculated based on the highest annual average PJM capacity price of the prior four years”).

comparable,<sup>128</sup> such comparisons are meaningless, because, as the Commission has repeatedly and consistently recognized, the pre-RPM capacity construct was “unjust and unreasonable” by virtue of its “fail[ure] to set prices adequate to ensure energy resources to meet [PJM’s] reliability responsibilities.”<sup>129</sup> As PJM observed, “it was the intent of the RPM to reflect the true cost of long-term reliability through accurate capacity prices and as a result, ***the RPM prices were expected to be higher than those resulting from the previous capacity construct.***”<sup>130</sup>

Comparisons with the results of the BRA for the 2011/2012 Delivery Year are equally irrelevant. To be sure, the results of this first post-transition BRA will “provide additional informational that would assist the Commission in considering the issues” about the effectiveness of RPM raised by the RPM Buyers.<sup>131</sup> Such results do not, however, say anything about the justness and reasonableness of the results of the transitional BRAs.

The difference between prices resulting from the transitional BRAs and prices in the BRA for the 2011/2012 Delivery Year may also reflect the effect of factors unique to the transition period (e.g., the shorter forward periods), but this is a natural incident of a transition period. The Commission recognized just this possibility in approving the RPM Settlement, finding that “any temporary discrepancy” in prices during the transition period “is an unavoidable part of any phased mechanism” and affirming that the use of a

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<sup>128</sup> Dr. Stoddard notes that “it is deceptive to compare old [pre-RPM] capacity prices – which were region-wide with no locational component – to a weighted zonal average” of RPM prices.” *Reliability at Stake* at 6.

<sup>129</sup> April 20, 2006 Order at P 5. See also December 22, 2006 Order at P 44 (affirming the Commission’s finding that “the current capacity market [is] unjust and unreasonable”).

<sup>130</sup> PJM Response at 3 (emphasis added).

<sup>131</sup> April 17, 2008 Order at P 11.

transition period “is a just and reasonable balancing of the many benefits the transition will provide to all market participants.”<sup>132</sup>

More broadly, the RPM Buyers suggest that the success or failure of RPM turns entirely on its ability to attract new generation.<sup>133</sup> Not only do the RPM Buyers fail to recognize that even measured by this inappropriate yardstick, the transitional BRAs have been successful;<sup>134</sup> they also fail to recognize that keeping existing generation needed for reliability in the market is equally vital to preserving reliability.<sup>135</sup> As Chairman Kelliher explained in a recent letter responding to an inquiry from a member of Congress about RPM:

The goal of capacity markets is to ensure resource adequacy in the most economically efficient manner, which may not necessarily be through procurement of new resources. For example, it may sometimes be more cost-efficient to retain existing generation facilities that would otherwise be retired or mothballed through capacity payments that are sufficient to cover their going-forward costs (including necessary capital expenses).<sup>136</sup>

Moreover, as Dr. Falk explains, “the operation of a credible system of capacity payments might well be a precursor to allowing capacity market revenues to be factored in as a reliable source of returns.”<sup>137</sup> In other words, prospective investors may be

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<sup>132</sup> See December 22, 2006 Order at P 87.

<sup>133</sup> See Complaint at 5-6.

<sup>134</sup> See PJM Response at 7.

<sup>135</sup> See *id.*

<sup>136</sup> Letter from Chairman Joseph T. Kelliher to the Honorable Joseph R. Pitts at 3, Docket Nos. ER05-1410-000 (June 4, 2008). See also, e.g., December 22, 2006 Order at P 77 (rejecting a proposal to provide for additional payments to new generators, but not to existing generators, because it “will not provide incentives to existing capacity to stay in the market”); *Reliability at Stake* at 26 (“[T]he goal of capacity market mechanisms is to ensure resource adequacy; this may, or may not, be best accomplished by attracting new resources. Consequently, a capacity market must not only attract new resources, when economic, but retain existing resources, again, when economic.”).

<sup>137</sup> Falk Affidavit at 5.

waiting to see how reliably RPM performs as a source of revenue **before** they will commit capital to new generation.

In point of fact, as the Brattle Report confirms, the BRAs conducted to date, including those for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years, “have been successful in achieving the stated reliability and economic objectives of RPM.”<sup>138</sup> Brattle estimates that, even accounting for changes attributable to factors other than RPM, “almost 14,500 MW of added and retained capacity are reasonably attributable to RPM.”<sup>139</sup> While the most significant commitment of new generation was for the 2011/2012 Delivery Year, “even the[] early auctions did attract and retain a significant amount of resources.”<sup>140</sup> Moreover, Brattle notes that “[t]he impact of RPM reaches significantly beyond the additional or retained resources in excess of 14,500 MW that have been committed through the five [BRAs] since April 2007.”<sup>141</sup> Specifically, Brattle points to the “enormous increase in development activities since RPM was proposed,” as evidenced by the fact that, even excluding renewable resources not necessarily attributable to RPM, “there are approximately 28,000 MW of RPM-eligible resources [under development] that have not been committed in RPM auctions to date.”<sup>142</sup>

### **3. The Commission Should Follow Its Practice Of Respecting Market Outcomes**

The Commission has consistently recognized the dangers of second-guessing prices determined in accordance with market rules, even where it arguably has the legal

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138 Brattle Report at 2.

139 *Id.* at 19. See also *id.* at 33 (table summarizing capacity attracted and retained since 2006).

140 *Id.* at 17.

141 *Id.* at 37.

142 *Id.* See also *id.* at 38 (chart illustrating additions to, and status of, PJM interconnection queues).

authority to do so “without running afoul of the rule against retroactive ratemaking. . . .”<sup>143</sup> The Commission has been properly reluctant to disturb market outcomes that, like the results of the transitional BRAs, reflect a proper application of the then-effective market rules in recognition of the “substantial uncertainty” and the loss of “confidence” in the markets that would result.<sup>144</sup> Indeed, as noted, despite having held that PJM’s pre-RPM capacity construct was “unjust and unreasonable” and having had the legal authority to re-set capacity prices for at least some retroactive period, the Commission rejected calls to do so. The Commission declared:

[R]efunds would not be appropriate in this case because ***PJM fully complied with the terms of its tariff in operating its capacity market*** for the 2005-2006 and 2006-2007 year[s]. ***Undoing that determination would thus upset the settled expectations of the parties based on past auctions as well as contractual commitments made on the basis of those allocations.***<sup>145</sup>

Precisely the same is true of the BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years.

Similarly, in declining to require that the New York Independent System Operator, Inc. implement new market power mitigation measures for its installed capacity market retroactively to the refund effective date in the relevant proceeding, the Commission explained:

On numerous occasions, the Commission has denied refunds out of concern over the creation of market

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<sup>143</sup> Complaint at 75.

<sup>144</sup> *New York Indep. Sys. Operator, Inc.*, 92 FERC ¶ 61,073 at 61,307 (2000) (“NYISO”). See also, e.g., *Midwest Indep. Transmission Sys. Operator, Inc.*, 117 FERC ¶ 61,113 at P 95 (2006) (“MISO”) (declining to order refunds for transactions undertaken in reliance on the published, but un-filed, business practices of the Midwest Independent Transmission System Operator, Inc. (the “MISO”), because doing so “would create substantial uncertainty and undermine faith in the [M]ISO’s markets”).

<sup>145</sup> June 25, 2007 Order at P 241 (emphasis added).

uncertainty and the possible inequities that could arise from retroactively resettling the market. We find that granting refunds here would create substantial uncertainty in the market[s] and undermine confidence in them. Further, given the impossibility of predicting and restoring what might have happened in the market under an alternative set of circumstances, and as market participants can neither revisit economic decisions nor retroactively alter their conduct, refunds should not be granted in this instance.<sup>146</sup>

Generators and others participated in the transitional BRAs based on the existing rules, and neither they nor other market participants can revisit the economic decisions they made in and around the BRAs or retroactively alter their conduct. Indeed, the RPM Buyers will undoubtedly insist that suppliers fulfill the obligations that they undertook pursuant to those rules prospectively during the 2008/2009, 2009/2010 and 2010/2011 Delivery Years even if the Complaint is successful in depriving them of prices determined in accordance with those same rules. While unable to revisit past economic decisions or to alter their conduct retroactively or even prospectively for the affected Delivery Years, what market participants can – and inevitably will – do is take what the Commission does in this proceeding into account when they consider future BRAs and other forward auctions.

#### **B. Granting the Complaint Would Inject an Unacceptable Level of Uncertainty Into PJM and Other Markets**

Ironically, even as they bemoan the alleged failure of RPM to deliver “any appreciable benefit” to consumers during the transition period,<sup>147</sup> the RPM Buyers urge

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<sup>146</sup> *New York Indep. Sys. Operator, Inc.*, 122 FERC ¶ 61,211 at P 147 (2008) (internal footnote omitted). *See also, e.g., ISO New England Inc.*, 124 FERC ¶ 61,013 at n.30 (explaining that the Commission “generally exercise[s its] discretion and do[es] not order refunds that require re-running a market”); *MISO* at P 95 (noting that “market participants cannot revisit economic decisions” taken in the past); *NYISO* at 61,307 (explaining that market participants “cannot effectively revisit their economic decisions” or “retroactively alter their conduct”).

<sup>147</sup> Complaint at 41.

the Commission to pursue a course of action that will greatly diminish the ability of RPM to deliver enormous benefits to consumers, in the form of needed investment in existing and new electric generation and other capacity resources, following the transition period. Indeed, unless promptly and summarily denied, the Complaint threatens not only to impair the ability of RPM to deliver such benefits but also to undermine confidence in revenue streams from similar markets, such as ISO-NE's FCM, and, indeed, from all markets subject to this Commission's jurisdiction. Such a loss of confidence will inevitably work to the detriment of consumers, both in the form of higher prices needed to account for increased regulatory risk and reduced reliability as investors take their money elsewhere.<sup>148</sup> This problem is all the more acute given the current state of the economy, because, as Commissioner Kelly observed recently, "[i]t is not easy to build expensive, long-lived assets today in a constrained and uncertain world."<sup>149</sup>

To be clear, EPSA understands and appreciates the RPM Buyers' concerns about rising energy costs. But, as Chairman Kelliher explained at the Commission's most recent open meeting, "FERC regulatory policy must be based on reality," including "[t]he reality [] that upward pressure on electricity prices . . . will continue for some

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<sup>148</sup> See Falk Affidavit at 2 (observing that "[c]apital is free to move anywhere in the world so any decision to invest capital in a particular form must pay sufficiently well, or at least carry the expectation of sufficient payment, to allow that capital be invested in that form rather than any other").

<sup>149</sup> Statement of Commissioner Suedeen G. Kelly on Cost of Electric Generation Staff Presentation (June 19, 2008), *available at* <http://www.ferc.gov/EventCalendar/Files/20080622130114-A-3-kelly.pdf>. Commenting on the impact of the current economic climate on investment in electric infrastructure, Commissioner Kelly observed:

We have a weak dollar. We have an economic slowdown - some would call it a recession. We have the prospect of inflation. We have a financial sector that has been battered by financial crises, and credit is tight. This makes the whole notion of building more electricity infrastructure a difficult one.

*Id.*

time.”<sup>150</sup> In this environment, regulators “must accept the U.S. cannot make the massive investments necessary to assure security of our electricity supply, make additional large investments to confront climate change, and lower electricity prices at the same time. If we try to do all three, the result will likely be failure.”<sup>151</sup> In considering the Complaint, EPSCA urges the Commission to continue to pursue policies grounded in reality and to resist the temptation to pursue regulatory policies founded on fantasy, such as the notion that the RPM auctions can be expected to promote needed investment if market participants and investors believe auction prices are subject to arbitrary and retroactive modification.<sup>152</sup>

As the Commission knows, there is a pressing need for additional investment in electric infrastructure, especially new electric generation, and the costs of such infrastructure are increasing substantially.<sup>153</sup> Indeed, it has been estimated that, even with substantial improvements in energy efficiency, the U.S. power sector will require an additional 150,000 MW of new and replacement generation plant at an approximate

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<sup>150</sup> Chairman Joseph T. Kelliher's Statement on Cost of Electric Generation Staff Presentation (June 19, 2008), *available at* <http://ferc.gov/news/statements-speeches/kelliher/2008/06-19-08-kelliher-A-3.asp>

<sup>151</sup> *Id.*

<sup>152</sup> Consistent with Chairman Kelliher's observations about the nature of the reality facing federal and state regulators, Dr. Falk explains:

In the long run, efficiently constructed units must pay for themselves with proceeds from this market. Chronically deficient cash flows either: (a) cause capital to leave the market, *i.e.* shortages with disastrous public consequences, though none to generators; or (b) raise capital costs, creating even higher capacity market costs. ***There is no other alternative.***

Falk Affidavit at 10 (emphasis added).

<sup>153</sup> See Federal Energy Regulatory Commission Office of Enforcement, Increasing Costs in Electric Markets (June 19, 2008) *available at* <http://ferc.gov/legal/staff-reports/06-19-08-cost-electric.pdf>.

cost of \$560 billion.<sup>154</sup> The Commission has consistently and repeatedly recognized the specific need for additional generation investment in PJM in its orders in the RPM Proceeding.<sup>155</sup>

The Commission and the courts have long recognized that “the stability of supply arrangements” is “essential to the health” of an industry that requires “substantial investments” and “long term commitments.”<sup>156</sup> Such stability “ultimately benefits consumers, even if short-term rates for a subset of the public might be high by historical standards. . . .”<sup>157</sup> As a multi-agency task force on competition noted, “[p]otential entrants to generation markets must be able to convince capital markets that generation is a viable profitable undertaking.”<sup>158</sup> RPM and other capacity payment mechanisms provide a “way to ensure that investors recover fixed costs,” “because “capacity payments can provide a regular payment stream that, when added to power market income, can make a project more economically viable.”<sup>159</sup> As explained in the Falk

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<sup>154</sup> See The Brattle Group, *Transforming America’s Power Industry: The Investment Challenge* at 4 (Apr. 21, 2008), available at <http://www.edisonfoundation.net/events/2008-04-21/BrattlePresentation.pdf> (presentation regarding the results of a study prepared for the Edison Foundation Conference).

<sup>155</sup> See, e.g., April 20, 2006 Order at P 30 (stating that various “areas within PJM – especially New Jersey, the Baltimore-Washington area, and the Delmarva Peninsula – are failing to attract adequate infrastructure to assure local reliability” and “that this situation is projected to worsen”); December 22, 2006 Order at P 46 (noting that “there have been few generation additions, but high rates of generation retirements, in the portions of PJM where load is growing the fastest”).

<sup>156</sup> *United Gas Pipe Line Co. v. Mobile Gas Serv. Corp.*, 350 U.S. 332, 344 (1956).

<sup>157</sup> *Morgan Stanley Capital Group Inc. v. Pub. Util. Dist. No. 1 of Snohomish County*, 554 U.S. \_\_\_\_, No. 06-1457, slip op. at 22 (June 26, 2008) (“*Morgan Stanley*”).

<sup>158</sup> The Electric Energy Market Competition Task Force, *Report to Congress on Competition in Wholesale and Retail Markets for Electric Energy*, at 4 (Apr. 2007) (“*Competition Report*”), available at <http://www.ferc.gov/legal/fed-sta/ene-pol-act/epact-final-rpt.pdf>.

<sup>159</sup> *Id.* at 71.

Affidavit, capacity payments thus provide a solution to “boom-and-bust” cycles that characterize electricity markets.<sup>160</sup>

Unfounded meddling in capacity markets like that sought by the RPM Buyers will inevitably “limit their effectiveness in promoting investment and ultimately new generation.”<sup>161</sup> As one of Mr. Wilson’s colleagues from LECG, John Chandley, put it: “Regulatory certainty is [] critical to the success of RPM or any capacity mechanism.”<sup>162</sup> Such intervention will always be tempting, because, as Mr. Falk explains, a disconnect between price and marginal cost is inherent in the RPM construct, with the consequence that, at times of relatively slack capacity, loads will pay more than they might in a pure market system during periods of relative capacity surplus and less during periods of relative capacity shortage.<sup>163</sup> This disconnect invites opportunistic behavior like that of the RPM Buyers.<sup>164</sup>

Rewarding opportunistic behavior by failing to dispose of the Complaint promptly and summarily will prevent RPM and similar mechanisms from fulfilling their promise. As Mr. Falk observes:

[A] credible first auction would go a long way toward convincing the financial markets that loads are serious about paying for capacity in advance of need. Unfortunately, the RPM Buyers’ complaint will not only undermine efforts to convince the financial community of the credibility of this

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<sup>160</sup> Falk Affidavit at 3-4.

<sup>161</sup> *Competition Report* at 71.

<sup>162</sup> John Chandley, *PJM’s Reliability Pricing Mechanism (Why It’s Needed and How It Works)* at 21 (Mar. 1, 2008) (“*PJM’s Reliability Pricing Mechanism*”), available at <http://www.pjm.com/documents/downloads/pjms-rpm-j-chandley.pdf>. See also *Reliability at Stake* at 28 (“If a resource adequacy construct were unstable or to invite frequent out-of-market intervention by regulators, many investors would simply look elsewhere to invest or require a significant premium.”).

<sup>163</sup> See Falk Affidavit at 4.

<sup>164</sup> See *id.* at 7-8.

market, it may well undermine the notion that loads are really serious about paying for capacity in advance of need at all.<sup>165</sup>

Members of the financial community have already confirmed Mr. Falk's observation in reacting to the Complaint, stating: "Given that capital allocation decisions have already occurred under the auspices of the agreed-upon market structure, a rollback or refund would likely undermine market credibility and impair subsequent capital investment in the region."<sup>166</sup> They have emphasized that merely setting the Complaint for hearing, "*independent of the actual outcome,*" is likely to have negative investment consequences.<sup>167</sup> Unless the Commission promptly and summarily denies the Complaint, the three-year forward period that is intended to facilitate investment in new generation will instead become a three-year "second-guessing" period that serves to discourage investment in both existing and new generation to the ultimate detriment of consumers.

In considering the Complaint, the Commission needs to remain focused on the flinty reality of the matter and not be distracted by the RPM Buyers' unpersuasive efforts to minimize the consequences of what they seek. Contrary to what is implied in the

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<sup>165</sup> *Id.* at 5. See also *PJM's Reliability Pricing Mechanism* at 21 ("[T]he core of RPM is that RPM payments will, year after year, be based on the concept of paying Net CONE, so that the demand curve that determines payments will continue to be constructed around a central point that is logically related to investment revenue requirements. If this concept were abandoned or compromised, it is not clear how major investments could occur, since investors would have no assurance that the markets would support the level of investments needed to meet the region's reliability standards.").

<sup>166</sup> Citigroup Global Markets, *Capacity Markets Update: RPM Complaint Could Be An Overhang For Merchants & Integrated Utilities In PJM* at 5 (June 15, 2008), available at <https://www.citigroupgeo.com/pdf/SNA20797.pdf>.

<sup>167</sup> *Id.* at 6 (emphasis in the original). See also Falk Affidavit at 1-2 ("Reliability markets are themselves a regulatory creation, and a fragile one. There is genuine concern that the mere pendency of the RPM Buyers' Complaint runs the risk of damaging the market that was developed in order to balance the commitment to ensuring reliability between load and generators.").

Complaint,<sup>168</sup> the review that the RPM Buyers are seeking here is radically different from that which ISO-NE's FCM rules contemplate with respect to the results of the FCM auctions held thereunder. ISO-NE's filings of the FCA results do not provide a vehicle for second-guessing market outcomes as the RPM Buyers imply. As illustrated by the Commission's order accepting the FCA results, the scope of its review of such filings is quite narrow and does not extend to the adequacy of the FCM rules themselves.<sup>169</sup> For example, because demand resources "have participated in the auction according to the FCM rules, and ISO-NE [has] conducted the auction consistent with the FCM rules," the Commission declined to address issues relating to the FCM rules' treatment of demand resources in connection with ISO-NE's FCA filing and directed generators instead to "raise their concerns . . . in the New England stakeholder process."<sup>170</sup>

The Commission should also be wary of the RPM Buyers' casual assertion that suppliers have "little reliance interest in prices" from the BRAs for the 2008/2009, 2009/2010 and 2010/2011 Delivery Years.<sup>171</sup> In the first place, this statement is simply incorrect, inasmuch as suppliers, other market participants and investors have been

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<sup>168</sup> Complaint at 38 (asserting that the FCM market rules requiring that ISO-NE file auction results with the Commission "provide[s] an instructive contrast to the absence of a review process for RPM").

<sup>169</sup> *ISO New England* at P 65. See also Motion to Strike and Request for Shortened Answer Period and Expedited Consideration of ISO New England Inc. at 2, Docket No. ER08-633-000 (Apr. 28, 2008) (such filings afford interested parties an opportunity to "allege an error in the way the auction was administered, or a flaw in the auction results," but do not serve "as a means to challenge the design and implementation of the FCM market in circumvention of the New England stakeholder process or Commission orders that have approved the elements of the FCM market design"); Motion for Leave to Answer and Answer of the New England Power Pool Participants Committee at 11, Docket No. ER08-633-000 (May 1, 2008) (stating that the purpose of the FCA filing is to evaluate the auction results "with reference to the existing F[orward Capacity Market] rules, determinants and inputs, *not* alternative rules, inputs and determinants that movants might prefer or propose").

<sup>170</sup> *ISO New England* at P 65.

<sup>171</sup> Complaint at 75.

acting in reliance on those results for between five and 11 months.<sup>172</sup> Moreover, suppliers rely on prices being determined in accordance with the RPM rules when they submit their bids, because, if accepted, those bids subject them to substantial and costly obligations under the Tariff.<sup>173</sup> The RPM Sellers would deprive suppliers of the benefits of the RPM rules while leaving them subject to all the burdens thereunder, offering only the exceedingly cold comfort of being able to seek reliability must run (“RMR”) contracts.<sup>174</sup>

The asymmetry of making suppliers’ burdens under RPM binding but their benefits “negotiable” will be exacerbated by the perception that relief is likely to be more readily available for buyers than for sellers that would result if the Commission fails to deny the Complaint promptly and summarily. For example, given the Commission’s rejection of PJM’s proposal to increase CONE *prospectively* starting with the BRA for the 2011-2012 Delivery Year,<sup>175</sup> it is safe to assume that the Commission would be unreceptive to a complaint by suppliers seeking to increase CONE *retroactively* for the BRA for the 2008-2009, 2009-2010 and 2010-2011 Delivery Years. And yet the

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<sup>172</sup> See Falk Affidavit at 1 (noting that granting the Complaint will “wreak havoc with already signed contracts”).

<sup>173</sup> See, e.g., Tariff, Attachment DD, § 8.1 (describing the Capacity Resource Deficiency Charge to be assessed on any Capacity Resource for a Delivery Year that is unable or unavailable to deliver Unforced Capacity for all or any part of such Delivery Year for certain specified reasons that does not obtain replacement Unforced Capacity); *id.*, Attachment DD, § 9 (describing penalties for Capacity Market Seller that commits a Generation Capacity Resource for a Delivery Year that failed to ensure available sufficient Unforced Capacity during the Peak Season); *id.*, Attachment DD, § 10 (setting for charges and credits based on peak-hour availability).

<sup>174</sup> See Complaint at 80. It is hard to take much comfort from the availability of an RMR contract given the Commission’s stated distaste for RMR agreements. See, e.g., *Norwalk Power, LLC*, 120 FERC ¶ 61,048 at P 28 (2007) (describing RMR agreements as “tools of last resort”). In fact, the Commission expressed that distaste in responding to arguments by the Maryland OPC that only new generators should be entitled to payments, stating that it “is more likely to force suppliers to seek [RMR] contracts, which the Commission disfavors.” December 22, 2006 Order at P 77.

<sup>175</sup> See April 4, 2008 Order.

inadequate CONE value was, and remains, an obvious flaw in the RPM rules,<sup>176</sup> and, as Mr. Wilson has conceded, suppressed prices in the BRAs for the 2008-2009, 2009-2010 and 2010-2011 Delivery Years.<sup>177</sup>

The relief sought in the Complaint represents a textbook example of a form of “regulatory opportunism” described in a recent report prepared for APPA, sponsor of the Wilson Report, whereby regulators are asked to “adjust price ex post explicitly for the benefit of a favored party. . . .”<sup>178</sup> As the author of the APPA report explains, “the probability of such unforeseeable and, in the view of business, arbitrary actions raises the risks of doing business in the[ affected] markets.”<sup>179</sup> Such risks, along with other risks of shifts in regulatory policies, “impose an additional cost for which investors will, at a minimum, insist on being compensated. For these reasons, investors may even choose to wait out the period of regulatory transformation of the market.”<sup>180</sup>

Unless the Commission promptly and summarily denies the Complaint, market participants and investors will inevitably question the stability of rules for similar

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<sup>176</sup> See *id.* at P 28 (noting that none of the parties, including the RPM Buyers, disputed PJM’s claim that “the cost of constructing a new gas turbine facility has increased significantly since PJM last calculated the CONE in 2005”). See also Brattle Report at 51. Dr. Stoddard suggests that an inadequate CONE value may help explain why capacity additions did not increase in the SWMAAC region. See *Reliability at Stake* at 6 (noting evidence that an increase in CONE greater than that proposed by PJM was needed to make new plant construction viable).

<sup>177</sup> See Wilson Report at 8 (acknowledging that “the impact of the low E&AS Offset may be balanced to some extent by a low, outdated CONE value”).

<sup>178</sup> John Kwoka, *Barriers to New Competition in Electricity Generation* at 27 (June 2008) (“*Barriers to New Competition*”), available at <http://www.appanet.org/files/PDFs/BarrierPaper0604.pdf>. It may very well be advisable to consider changes to both CONE and the other factors used to calculate Net CONE prospectively through the stakeholder process, see Brattle Report at 52, but that is an altogether different matter from the selective, retroactive “fixes” that the RPM Buyers are proposing.

<sup>179</sup> *Barriers to New Competition* at 27.

<sup>180</sup> *Id.* at 26. Dr. Kwoka’s observation that investors may opt not to invest until the regulatory transformation of the market is complete is consistent with Dr. Falk’s comment that some investors may be waiting to whether the BRAs operate as a “credible system of capacity payments” before committing substantial capital in reliance on RPM. See Falk Affidavit at 5.

markets, such as ISO-NE's FCM, and markets more generally. As the Commission has long recognized, "[c]ompetitive power markets simply cannot attract the capital needed to build adequate generating infrastructure without regulatory certainty. . . ."181 Inadequate investment will ultimately harm the same parties the RPM Buyers purport to represent: consumers.182

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181 *Nevada Power Co. v. Duke Energy Trading & Mktg., L.L.C.*, 99 FERC ¶ 61,047 at 61,190 (2002).

182 *Cf. Morgan Stanley*, slip op. at 22 (quoting with approval the Commission's statement that "uncertainties regarding rate stability and contract sanctity can have a chilling effect on investments and a seller's willingness to enter into long-term contracts and this, in turn can harm consumers in the long run" (internal citation omitted)).



**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document via e-mail upon each person designated on the official service lists compiled by the Secretary in this proceeding.

Dated at Washington, DC, this 10th day of July, 2008.

/s/  
David G. Tewksbury

**Attachment A**

**Falk Affidavit**

<b>Maryland Public Service Commission,</b>	)	
<b><i>et al.</i></b>	)	
<b>Complainants,</b>	)	
	)	
<b>v.</b>	)	<b>Docket No. EL08-67-000</b>
	)	
<b>PJM Interconnection, L.L.C.,</b>	)	
	)	
<b>Respondent.</b>	)	

**AFFIDAVIT OF JONATHAN S. FALK**

**I. Introduction**

My name is Jonathan S. Falk. I am a Vice President of NERA Economic Consulting and have been employed by NERA for the last 24 years. Most of my work over that period has revolved around various aspects of restructured electricity markets, both in the United States and abroad.

Of particular relevance to this task, I have participated at various stages in the development and understanding of capacity markets. I served as an adviser to loads in the settlement conference regarding ISO New England’s capacity construct. In addition, I have advised many private parties planning asset purchases on the operation of capacity markets, so I am well familiar with the thinking of the financial community with regards to capacity payments. Finally, I served on the team advising regulators in Ireland on market power and the interaction of energy markets and capacity markets. My complete *curriculum vitae* is provided in Attachment 1.

I have been asked by counsel for the Electric Power Supply Association to discuss the complaint filed in the above-captioned proceeding by the so-called “RPM Buyers” (the “RPM Buyers’ Complaint”) challenging the results of Base Residual Auctions (“BRAs”) conducted by PJM Interconnection, L.L.C. (“PJM”) under its Reliability Pricing Mechanism (“RPM”) construct.

**II. Overview**

Regulation can be compatible with competition, but it also has the ability, and some might argue, the tendency, to undermine competition. The RPM Buyers’ Complaint, purely as a regulatory matter, represents an extreme threat to the competitive process. As will be detailed in this Affidavit, it threatens the financial underpinnings of the electricity market – the ability to finance new construction by credibly committing to lenders that they can be confident of cash flows from the market. Unless promptly rejected, the complaint will wreak havoc with already signed contracts and put increasing pressure on loads to guarantee costs, undoing one of the signal achievements of competition, the elimination of risks to loads for the obligation to pay for capacity which turns out to be unwanted, unneeded, or otherwise unsound.

Worse, undoing the results of the initial RPM would place PJM firmly on a path which undermines the goals of reliability markets. Reliability markets are themselves a regulatory

creation, and a fragile one. There is genuine concern that the mere pendency of the RPM Buyers' Complaint runs the risk of damaging the market that was developed in order to balance the commitment to ensuring reliability between load and generators.

Finally, the RPM Buyers' Complaint comes at a time which is predictable from a regulatory economics point of view, but critical from a societal point of view. The Complaint is predictable because loads understandably feel that they are paying for something they would have gotten anyway, and, examined myopically enough, they may be correct. But new capacity will be needed soon and existing generation needs to remain on the system until certain transmission upgrades are operational. The notion that anyone would invest in existing or new generation in PJM under the uncertainty which could be created by the Complaint is difficult to sustain.

This Affidavit will explore and justify these conclusions. In the next section, we will discuss the creation of capacity markets from a regulatory and social perspective. We will then discuss the problem of regulatory opportunism in these markets. Finally, I will apply these observations to the specific PJM circumstances.

### **III. Capacity Market**

#### **A. Boom-and-Bust Markets**

In any industry, if you want people to put iron in the ground, you have to give them a chance to earn a return of and on their investment. Capital is free to move anywhere in the world so any decision to invest capital in a particular form must pay sufficiently well, or at least carry the expectation of sufficient payment, to allow that capital to be invested in that form rather than any other.

This creates a predictable phenomenon in capital-intensive industries. The modern theory of finance stresses the so-called "real options" problem. The cash flows required to pay the return of and on capital are uncertain. To compete with other uses of capital which are more flexible, *i.e.*, capable of being flexibly diverted to their highest uses, investing capital in real equipment requires a higher expected return to compensate for the lack of flexibility. This added capital cost creates a hurdle rate before which anyone will commit funds.<sup>1</sup>

This added capital requirement creates a "boom-and-bust" pattern in most capital-intensive industries. Capital will not be forthcoming until the supply-demand balance is tight, allowing higher prices and substantial margins in the short run. The uncoordinated flow of capital eventually leads to the "bust" phase in which there is excess capacity. On average, if the market is allowed to work, plants will receive a required return to capital over the course of the booms and busts.

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<sup>1</sup> See, for example, Dixit and Pindyck, *Investment Under Uncertainty*, Princeton University Press, 1994

This dynamic has been observed in almost all capital-intensive industries<sup>2</sup>. This phenomenon is a fundamental part of the landscape and both suppliers and buyers make the accommodations they are willing to accept based on that landscape. In many industries, buyers simply tolerate the price swings, and suppliers simply tolerate the cash flow swings. In other industries, we see extensive contracting to smooth out the cash flows, or, in some cases, integration of the supply and demand side to make the swings in cash flow a transfer price, not an external cash flow to the firm. These solutions create a new sharing of risk between buyers and sellers. In contracting, for example, buyers trade price risk for the inability to quickly move to new, cheaper sources of supply, or take other risks in allocating particular needs to particular plants or firms, while sellers trade price risk for an inability to shift supply to other buyers who might be willing to pay more. There are many other dimensions of risk: credit risk, litigation risk, quality risk, etc. Industry evolves to craft solutions which place the portfolio of risks on that party most willing to accept it.

## **B. Application to Electricity Generation**

Before industry restructuring, there was little chance of a “boom-and-bust” phenomenon. So long as a utility’s rate of return was set at the appropriate cost of capital, utilities had no incentive to wait until shortages loomed to build the next unit. In fact, traditional cost-of-service ratemaking presented the opposite of the boom-and-bust problem, as evidenced by the fact that some states had “need for power” hearings to ensure that utilities didn’t build *too early*. In return for avoiding the boom-and-bust problem, of course, ratepayers paid for all committed capital, or at least gave utilities a reasonable opportunity to recover them.<sup>3</sup> While this was far from the sole reason for traditional rate-of-return regulation, it was an important feature, and an important example of one of the risk accommodations made in the presence of a capital-intensive industry.

This industry arrangement unravelled in a number of regions in the 1990s. Loads were looking for a way around paying average prices for power when marginal prices were much lower, owing largely to the development of new, efficient technology (the combined cycle combustion turbine) and the development of natural gas as a feasible year-round fuel source. The smaller scale of efficient generating units and reductions in IT cost to model security-constrained dispatch made competitive markets feasible.

While these factors made it feasible to institute competitive wholesale electric markets, they did nothing to address their “boom-and-bust” nature, an investment pattern that would be intolerable to loads. The reason is simple. Electricity is a commodity whose marginal value is orders of magnitude lower than its average value.<sup>4</sup> If the “boom” phase were presaged by shortages, the

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<sup>2</sup> A simple search of “boom-and-bust” “capital intensive” on Google Scholar reveals over 1,300 articles covering industries as diverse as shrimp farming, aluminum, computer chips, electricity, venture capital, and railroads in countries all over the world in time periods from the 19<sup>th</sup> century through today.

<sup>3</sup> It would take us too far afield to discuss the necessary caveats to this point, namely the “used and useful” doctrine and the prudence doctrine. For our purposes, it is sufficient to note that whatever the vagaries of traditional regulatory practice, cash flows were considerably more certain than they are today.

<sup>4</sup> Estimates vary, but few studies place the value of a blacked-out kWh at much less than \$5.00, while the marginal cost of such a kWh is rarely more than 15 cents. For a somewhat dated survey, see the special issue of *The Energy Journal on Reliability*, 1988. Estimates I have seen since then go as high as \$12 per lost kWh.

social cost of the incentives to induce construction, *i.e.*, blackouts, are simply too high a price to pay. Even if blackouts can be avoided, extremely high prices may be needed to avoid them. There is thus a compelling reason for loads and generators to make an intertemporal trade: loads will make incentives available to build more uniformly through capacity payments by paying more than they otherwise would during the “bust phase” in order to avoid blackouts, and generators will forego high energy payments that would otherwise prevail during the “boom” phase by virtue of retaining excess capacity to avoid blackouts<sup>5</sup>.

These markets must be centrally organized to be efficient because reliability is efficiently provided systemwide. As the system is currently configured, loads cannot, except at much higher costs to themselves, guarantee reliability. These facts were not widely appreciated at the transition to competitive wholesale electric markets, so all of them began without functional capacity markets.<sup>6</sup> Since reliability is a system phenomenon, it requires a systemwide market to provide it efficiently.

While this explanation fully supports why we need capacity markets, I should note that it is not incompatible with the most commonly proffered justification, that the combination of caps on energy prices and various market power mitigation efforts in energy markets may make recovery of capital costs impossible for new generators. But that is only part of the boom-and-bust story. If energy market revenues are chronically short of remunerative payments at times of “normal” capacity levels, this simply means that the system will naturally fall into shortage. We know that society will not long tolerate a systematic period of shortage, which is exactly when the boom period would develop, however it is accomplished. In any case, we understand that the reason for capacity markets is to bring new capacity to the market before the normal economics of markets would call for it. If that fails to occur, capacity markets have failed, and loads will face shortages.

### **C. Achieving the Goals of Capacity Markets**

If the goal of capacity markets is to induce the construction of new capacity, we need to ask why capacity payments need to be made to existing generators and why they need to be paid to these generators before new capacity could even be built. The answer to the first question is simple: existing generators and new generators provide exactly the same service -- capacity. Paying two entities that provide exactly the same service two different amounts is the most direct form of discrimination. Further, neighboring markets in New York and New England have their own

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<sup>5</sup> In theory, reliability can be maintained by having prices rise. If prices rise sufficiently and customers see the impact of those prices demand will shrink to the level of capacity and reliability will be maintained. This would be more efficient than curtailing demand involuntarily in times of shortage. However, society has been unwilling to tolerate price increases of the type needed to maintain reliability in times of tight supply and demand balances. Hence, while a price based solution may be preferable from an efficiency point, it does not appear practical from a political perspective.

<sup>6</sup> While markets in the Northeast had capacity markets, neither they nor any of the other organized markets had *functional* capacity markets when they commenced operations. Critically, none had markets in which the price paid was designed to incentivize new construction in anything like the time period that it takes to construct such plants. This is of course true of the initial BRA auctions as well, but this time it is part of a longer-run design to align the BRA timing with the ability to construct new capacity.

capacity markets which allow imports to provide capacity. Failure to make any payments to existing generators will simply provide reasonable arbitrage opportunities that result in fewer megawatts available in PJM.

One part of the RPM Buyers' Complaint suggests the following logic:

1. Capacity markets exist to get new capacity built;
2. No new capacity had the capability to come on line in time for the first auction; therefore,
3. The payments made in the first capacity auction had no purpose.

This syllogism is false. It ignores the fact that the operation of a credible system of capacity payments might well be a precursor to allowing capacity market revenues to be factored in as a reliable source of returns. Asking investors to pour capital into a new market with the expectation that that market will generate adequate returns is dependent on the credibility of that market. Simply announcing the existence of a capacity market will accomplish nothing. Funding sources will want to know:

1. Is the capacity market here to stay?
2. Are the revenue flows predictable?
3. If they are not perfectly predictable, is there a reliable level of revenues to support debt repayment?
4. Will high capacity prices induce regulatory retribution?

While it is certainly true that the first capacity auction would not be capable of answering all of these questions fully, a credible first auction would go a long way toward convincing the financial markets that loads are serious about paying for capacity in advance of need. Unfortunately, the RPM Buyers' complaint will not only undermine efforts to convince the financial community of the credibility of this market, it may well undermine the notion that loads are really serious about paying for capacity in advance of need at all.

Functional capacity markets are not an established part of the landscape. Furthermore, the three RTOs which have moved the farthest in implementing capacity markets have three different implementations. All of the capacity market formulations are the result of intense multi-party negotiations between and among loads, generators, ISOs, and other stakeholders. Some parties who did not sign on to the settlements have nevertheless been required to participate. This situation understandably makes the financial community nervous. The ability of disgruntled parties to hold these markets up and extract changes through continued filings may well be the primary reason why more supply has not already been forthcoming in these markets.

## IV. Regulatory Credibility

Capacity markets are administered markets. This gives them additional problems with the appearance of credibility that are not apparent in more traditional markets. First, the quantity of required capacity is determined by the ISO. In settlement negotiations, the amount required was a highly contentious issue. Although settled in the negotiation, the RPM Buyers seek to reopen the issue here. Without a clear and set number of MWs which will be purchased, it is difficult to forecast expected revenues from the capacity market, or, for that matter, from the energy market. Without an ability to forecast revenues, the financial community cannot rely on this source of funds.

A basic principle of regulation is that if you give a participant the right to complain, they will do so when they perceive that the costs will exceed the expected benefits. An effective regulatory regime needs not only to assess the claims put forward, but needs to assess what sorts of claims it is willing to hear.

In particular, market participants who made an argument which was not upheld by regulators should not be allowed to repeatedly rephrase that argument under another rubric. In some sense, the first transitional auctions in these markets were run as much to establish a stable market mechanism for investors as to add capacity. Regardless, there is some new capacity already in the pipeline. It is impossible to know to what extent those units must rely on capacity revenues to justify construction.<sup>7</sup> What is certain is that negative experiences in this nascent market will ripple quickly through the financial community.

FERC has a vital role to play in the process of establishing credibility in these markets. Every question that capital sources ask (as outlined above) can be either helped or hurt by FERC activity. FERC must monitor and approve settlements regarding the capacity needs methodology, the methodology for price-setting and the market power preconditions of these markets. And it has done so, but it must be equally careful not to insert itself as *post hoc* assessor and repairer of market *outcomes* it doesn't like. Every market outcome has disgruntled parties, particularly when there are parties who didn't much like the market mechanism in the first place yet must participate. To allow them extra "bites of the apple" does not simply delay the process – it undermines the credibility of the process.

As Anne Krueger pointed out over 30 years ago:

If the market mechanism is suspect, the inevitable temptation is to resort to greater and greater interventions, thereby increasing the amount of economic activity devoted to rent seeking. As such, a political "vicious circle" may develop. People perceive that the market mechanism does not function in a way compatible with socially approved goals because of

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<sup>7</sup> The Brattle Group Report for PJM argues that the BRA has both spurred the addition of capacity and forestalled exit. I have not made a detailed study of this question and have no opinion on it. Whether it is true or not, however, is irrelevant to the argument I am making here. Either way, regulatory re-opening of contentious issues will lead to instability.

competitive rent seeking. A political consensus therefore emerges to intervene further in the market, rent seeking increases, and further intervention results.<sup>8</sup>

FERC has the opportunity through a strong statement of the costs and benefits of implementing capacity markets to break the “vicious circle” here.

## V. The Efficiency of Capacity Markets and Opportunistic Behavior

Capacity markets are designed to get commitments of capital before it would be optimal for generators to commit this capital. Loads are willing to make this commitment due to an asymmetry in costs to them that is not mirrored by an asymmetry of returns to generators, because the costs of blackouts are so much higher than the financial returns which might be conceivably earned by generators. Such a market will work, however, only if loads act together; otherwise, some loads will free-ride on the reliability investments made by others.

But just as loads must act together to induce a commitment of capital before generators would commit based on financial considerations alone, they must similarly act together to keep the market stable. Interventions by loads in the process of price creation and the creation of commitments form another opportunity for free-riding – an attempt to back out of commitments and achieve, for them, the best of both worlds – reliability at the desired level without having to make the necessary payments to ensure it. Generators have made a bargain to accept less than the social value of their capacity in times of shortage, but they should not have to renegotiate that bargain *ex post* in regulatory hearings.

We know that the capacity needed will eventually be built – electricity is too important a commodity and shortages in electricity are too costly. Should the RPM Buyers effectively kill the capacity market mechanism by making it infeasible to finance, there will be an alternative mechanism to assure adequacy of supply.

As the recent *Morgan Stanley v. Snohomish* decision makes clear, albeit in discussing the importance of private contracts under the Federal Power Act (the “FPA”), stability and the investment it facilitates are essential to protecting the long-run interests of consumers, even if that means some consumers must bear relatively high rates in the short run. As the decision states:

The FPA recognizes that contract stability ultimately benefits consumers, even if short-term rates for a subset of the public might be high by historical standards—which is why it permits rates to be set by contract and not just by tariff. As the Commission has recently put it, its “first and foremost duty is to protect consumers from unjust and unreasonable rates; however, ... uncertainties regarding rate stability and contract sanctity can have a chilling effect on investments and a seller’s

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<sup>8</sup> “The Political Economy of the Rent Seeking Society,” *American Economic Review*, 1974, pp. 291-303.

willingness to enter into long-term contracts and this, in turn, can harm customers in the long run.”<sup>9</sup>

Although the RPM Buyers are not challenging contract rates, the problem here is largely the same, if not worse, than in the *Morgan Stanley v. Snohomish* case. It is not just that these capacity market rates should stand: an extended inquiry into these rates themselves set off the very problems in a nascent market about which FERC should be vigilant. I have advocated in the past that all market-based processes which produce rates that do not impose a “serious harm to the public interest” ought to be *per se* reasonable.<sup>10</sup> This is not because all market-based rates are perfect – it is because the injection of regulatory scrutiny as a final stage of scrutiny undermines the market-based nature of the rate. This is the very part of Ninth Circuit *Morgan Stanley v. Snohomish* logic that the Supreme Court rejected in the contract rate setting:

A presumption of validity that disappears when the rate is above marginal cost is no presumption of validity at all, but a reinstatement of cost-based rather than contract-based regulation....The Ninth Circuit’s standard would give short shrift to the important role of contracts in the FPA, as reflected in our decision in *Sierra*, and would threaten to inject more volatility into the electricity market by undermining a key source of stability.<sup>11</sup>

The analogy with the PJM capacity market should be clear. The auctions held to date have a purpose: to give credibility to the addition of capacity payments to smooth cash flows to generators and thereby achieve capacity adequacy. The RPM Buyers’ Complaint, if taken more seriously than it deserves, destabilizes the expectation of cash flows and therefore itself creates, at least potentially, a “serious harm to the public interest.”

## VI. Potential Serious Harms to Public Interest

Generators can construct plants supported by various levels of support from ratepayers. Under self-provision, ratepayers can assume all the risk. Under traditional cost-of-service regulation, they are assured an opportunity for return of and on capital expenditures for all investments deemed prudent at the time the capital was committed, assuming that volumes of usage are as forecast in the test period.

Under the most sweeping restructured markets, ratepayers assume only the risk of purchase in a spot market of energy from whoever happens to have built a plant that is willing to service them for the lowest price whatever level of competitive bidding obtains is able to secure. While that risk may seem intolerable for ratepayers (and indeed probably is in the final analysis), it is vital to note that in assuming that risk, ratepayers gave up a corresponding risk on the other side – that if too much generation is built, or generation of an *ex post* suboptimal fuel type is built, ratepayers

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<sup>9</sup> *Morgan Stanley Capital Group Inc. v. Pub. Util. Dist. No. 1 of Snohomish County*, No. 06-1457, slip op. at 22 (June 26, 2008) (“*Morgan Stanley*”) (internal citation omitted).

<sup>10</sup> “Retroactive Retrograde Retreat: Keeping FERC in the Generation Pricing Business Forever,” *Electricity Journal*, August/September 2003, pp. 38-49

<sup>11</sup> *Morgan Stanley*, slip op. at 22.

bear the risk of paying those prices nonetheless. It is unclear whether one of these risks is worse than the other in fact, but the history of deregulating electric rates is a history of “coveting thy neighbors’ rate,” in which utility ratepayers who were shackled for one reason or another with rates far above those of their neighbors sought a system in which, subject to the exigencies of the transmission systems, the cheapest power was shared by all.

In the intermediate case in which PJM ratepayers find themselves, they have rejected responsibility for what gets constructed and how the financial returns for that construction are ensured, seeking only to provide sufficient capital inducement to get *something* built.

In this world, the generator bears a host of risks:

- That others will build and erode returns;
- That the wrong type of capacity will be built and the market price will not support the return of and on capital;
- That *force majeure* or other unforeseen events will block the generator’s access to the market;
- That technological change or environmental regulations will render the plant useless, inefficient or prohibitively expensive.

This is of course only a partial set of downside risks, most of which have upsides associated with them as well. But all of these risks, however quantified by the entity preparing to enter the PJM market, will be embedded in a set of calculations which include all revenues which can be reasonably *relied* upon.

In markets for goods and services not subject to “just and reasonable” rate regulation like that imposed by the Federal Power Act (FPA), reliance has only a few components: volatility of prices, creditworthiness of counterparties, and the ultimate reliance on the Uniform Commercial Code and the court system to adjudicate disputes. If and to the extent that “just and reasonable” rate regulation is applied asymmetrically to deem rates determined in accordance with FERC-approved rules and Tariffs to be “unjust or unreasonable,” there will develop a strong presumption that such rates cannot be relied upon, and revenue streams associated with such rates will be discounted, if not disregarded altogether, in the investment calculus, which will defeat the principal purpose of the RPM scheme.

It might be argued that if threat of regulatory intervention were symmetric, then the stability of potential cash flows would be enhanced, not undermined. Thus, we would allow loads to complain whenever they deem that capacity market rates were too high and allow generators to complain whenever they deem rates were too low, assuring that the revenue stream could somehow turn out always “just right.” But the asymmetry here is inevitable. After all, low rates determined in a market must be satisfactory to those *choosing to build*. They may be subject to the “winners’ curse,” in which only the most optimistic build and end up losing their money, but it was theirs to lose, freely offered into the system. It is difficult to imagine a system in which the

returns paid are too low, sufficient capacity is nonetheless forthcoming, and the generators have any case at all.

The asymmetry of reliance is what causes the public harm. If rates are too low, the standard result is that capacity will not be forthcoming. The result of this is capacity shortage – exactly the public interest nightmare that the capacity scheme was intended to avert. If at these low (*ex post*) rates, capacity is nonetheless forthcoming, then it is those generators who chose to commit who bear the loss. In neither case is regulatory intervention needed.

Capacity markets which function asymmetrically through regulatory intervention create a strong possibility of ratepayers getting the benefit of the bust without paying for the boom. This may sound like a good deal for ratepayers, but it is unsustainable. In the long run, efficiently constructed units must pay for themselves with proceeds from this market. Chronically deficient cash flows either: (a) cause capital to leave the market, *i.e.* shortages with disastrous public consequences, though none to generators; or (b) raise capital costs, creating even higher capacity market costs. There is no alternative.

## VII. The Necessity for Capacity Additions

The PJM Buyers' Complaint is premised on the assumption that capacity is not needed for these initial auctions. While, as I have demonstrated above, this is not logically connected to the need for these auctions to have been run, it would be odd if markets generated extraordinarily high prices in times of substantial excess supply. There are at least three explanations:

- Observed market prices aren't high at all – it's the expectation of the Buyers which are too low;
- Market power was exercised;
- Supply is not substantially in excess.

We have good indications that the first of these explanations has some validity. As PJM has demonstrated, the Cost of New Entry, the vital anchoring point on the curve which determines capacity payments, is not even close to the current actual cost of new entry.<sup>12</sup> Indeed, even the PJM-filed value is almost certainly too low, particularly by reference to the similar process in New York.<sup>13</sup> If this is the case, "correcting" the RPM price further downward is a guarantee that new capacity will not be built, at least not by those with the costs of the proxy entrant specified in the approved Settlement.

I cannot add to the discussion of the concerns over market power beyond what PJM and its Market Monitor have already explained, except to note that the RPM Buyers' Complaint stresses the fact that all of the rates were mitigated rates. If the mitigation process is inadequate, then it should of course be modified, but that is a prospective determination.

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<sup>12</sup> See the PJM Filing in ER08-516

<sup>13</sup> See the filing by the PJM Power Producers in ER08-516, particular my affidavit therein.

Finally, there is the question of how close PJM is to actually needing capacity. The sooner new capacity is needed, the more vital it is that these initial auctions be allowed to stand as run, since the financial community will require some credible results before they are willing to commit. The closer this comes to the required date of capacity additions, the more difficult it will be to ensure that this capacity actually gets built.

What is not well appreciated under the PJM calculation of need is that the actual extent to which capacity is needed is a random variable. No level of anticipated capacity can guarantee capacity adequacy; after all, demand might exceed forecasts or realized capacity might fall short. The RPM Buyers' Complaint takes as given the fact that capacity has not been needed in the 2007-2011 planning years. In fact, there have been a number of narrow escapes which suggest that the need for capacity is imminent. My evidence on this point is a bit peripheral to the central concern of this Affidavit, so I will cite the details in Attachment 2.

I have read the Brattle Group report suggesting that the BRA already held have both brought new capacity online and have forestalled retirements. While I have not studied the report in sufficient detail to assess the validity of these claims, it is clear that the amount of capacity which has actually been delivered to PJM ought to be affected at the margin by the capacity prices already established. What remains to be seen is, even if the auctions held to date have in fact induced new construction or forestalled exit, whether these changes represent "low hanging fruit," *i.e.* units which are really inframarginal. Only time will tell, and only if these markets are allowed to proceed as envisioned.

I have looked at the PJM Interconnection queue and note, that as in all ISO markets, some of these plants will be built and others will not as economic conditions warrant. A critical part of "economic conditions" is the reliability of capacity revenues. Plants in the interconnection queue are often deferrable. It is this instability, *i.e.* the ability to wait for the boom, that capacity markets are an attempt to circumvent. When I say that the pendency of the RPM Buyers' Complaint will wreak havoc with already signed contracts, I simply mean that whatever the financial conditions under which the contracts to develop these units were signed, unless the contract *anticipated* the sorts of retroactive changes anticipated here by the RPM Buyers, those contracts will have shifted the benefit of the bargain one way or the other in an unanticipated way. At that point, legal maneuvering to better the terms of the contract are inevitable. What such processes guarantee is more delay and a greater probability of shortage.

## **VIII. Regulatory Responsibilities in Nascent Markets**

Capacity markets are new. It has taken years of hard work and hard thinking by FERC and others, and difficult negotiations and settlement procedures, to get these markets off the ground at all. Markets which result from FERC's settlement conferences will likely require modifications – the exigencies of the settlement conference process preclude a perfect functional structure not influenced by compromise.

FERC's role in approving the settlement could be easily vitiated here. The Settlement anticipated Base Rate Auctions where no imminent capacity need was forthcoming. It anticipated mitigation

of observed prices by the market monitor. It anticipated a process of rule modification going forward, acknowledging its own probable imperfection.

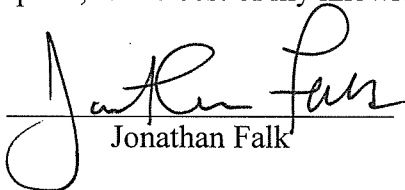
FERC has an important role to play in reforming the *rules* of these markets so that the outcomes are likely to achieve the goals of these markets. Legislating *outcomes* on the other hand, simply replaces competition with regulation. While there may be a number of parties who might prefer that result, I respect FERC's commitment to fostering functional competitive markets and the investment in infrastructure necessary to meet looming future energy needs.

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

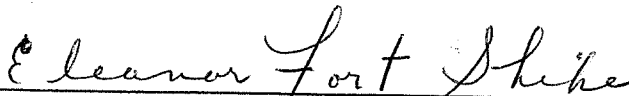
Maryland Public Service Commission, *et al.*, )  
)  
Complainants, )  
)  
v. ) Docket No. EL08-67-000  
)  
PJM Interconnection, L.L.C., )  
)  
Respondent. )

**AFFIDAVIT OF  
JONATHAN FALK**

I, the undersigned, being duly sworn, depose and say that the contents of the foregoing Affidavit are true, correct, accurate and complete, to the best of my knowledge, information and belief.

  
Jonathan Falk

Subscribed and sworn to before me,  
this 7<sup>th</sup> day of July, 2008.  
Notary Public



**ELEANOR FORT SHIKE**  
Notary Public, State of New York  
No. 01SH8974420  
Qualified in New York County  
Commission Expires March 30, 2010

# ATTACHMENT 1

Mr. Falk is a Vice President in NERA's Energy Practice. He received his B.A., *cum laude*, and M.A. in Economics from Yale University. While completing Ph.D. examination requirements at Yale, he taught courses in microeconomic theory and the history of economic thought.

In NERA's electricity practice, Mr. Falk has consulted with a wide variety of electricity industry participants on a number of issues involving the statistical modeling of investment, industry structure, and both short- and long-run pricing questions. He has substantial experience in dispatch modeling for complex electric systems, especially the development of software for large linear programming-based marginal cost models. He has been involved in the creation of novel insurance products to transfer price risk in electric markets. Mr. Falk has also statistically estimated the value of reliability in restructured electric markets. In addition, he has studied market power questions in emerging electricity markets and has estimated the social benefits of real-time pricing options for electricity. His work has also addressed questions of valuation, optimization, and the financial risks associated with restructured electric markets. He has advised on the structure of market rules, including the benchmarking of contracts between affiliated entities. Finally, he has created a number of models to value flexibility in utility planning. Mr. Falk has lectured and written as well on game-theoretic strategies in electric market bidding for both energy and capacity. Mr. Falk has appeared before both state commissions, Canadian provincial commissions and the Federal Energy Regulatory Commission.

As a statistical expert, Mr. Falk has specialized in statistical estimation for both liability and damages and the creation of models to simulate economic processes. He has testified as an expert witness on both general statistical issues and industry-specific studies in electricity and telecommunications.

In NERA's Communications Practice, Mr. Falk has participated in studies on residential access demand to the telephone system, choice of service among telephone company offerings, optimal pricing structures, and estimation of the short- and long-run marginal costs of telephone service.

In environmental economics, Mr. Falk has estimated benefits in recreational activity and increased property values resulting from tighter discharge standards for paper mills and for nuclear power plants.

Mr. Falk has worked on several cases involving credit discrimination in automobile and housing markets. He has also performed statistical analyses to predict credit decisions.

Finally, in labor economics, Mr. Falk has testified both on statistical estimations of liability in termination and promotion processes and in calculations of lost earnings in both wrongful termination and wrongful death cases. In addition, he has testified in several cases on contract damages and has extensive experience in the estimation of damages arising from contract disputes.

## Education

### **Yale University**

M.Phil., Economics, 1982

M.A., Economics, 1980

B.A., Economics, 1978

## Professional Experience

### **NERA Economic Consulting**

1984- Vice President (current position)

### **Independent Consultant**

1981-1983 Worked for various firms including PM Industrial Economics and MRR Associates on the development of econometric models in energy and financial analysis. Also consulted on installation of microcomputer systems.

### **Yale University**

1980-1981 Teaching Assistant

Taught introductory micro-economics and history of economic thought.

### **US Department of Transportation**

1980 Summer Research Assistant, Energy Policy Division

Analyzed energy related transportation issues, including diesel automobiles, coal slurry pipelines, fuel allocation regulations, and coal export policies.

## Professional Activities

Faculty, Practising Law Institute, Employment Law Seminar

Member, American Statistical Association

## Publications

“Why You Should Plan to Build a Nuclear Power Plant,” in Voll and King, eds., *The Line in the Sand: The Shifting Boundary Between Markets and Regulation in Network Industries*,” 2007

“Too Many Cooks And No Recipe Make A Bad Broth: Antitrust in the US Electric Industry,” in Voll and King, eds., *The Line in the Sand: The Shifting Boundary Between Markets and Regulation in Network Industries*,” 2007

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Testimony on behalf of WE Energies in re: Application of Wisconsin Electric Power Company for Authority to Install Wet Flue Gas Desulfurization and Selective Catalytic Reduction Facilities and Associated Equipment for Control of Sulfur Dioxide and Nitrogen Oxide Emission at its Oak Creek Power Plant Units 5, 6, 7 and 8, Docket NO. 6630-CE-299, regarding cost-benefit analysis of the decision to install equipment. Prefiled Rebuttal Testimony, January 17, 2008. Live Surrebuttal testimony and Cross Examination, February 5, 2008, Madison, WI

Affidavit on behalf of Pike Electric regarding admission of expert testimony in Pike Electric Corporation & Pike Electric, Inc., Plaintiffs, v. T&D Solutions, Ltd., T&D Solution Managers, L.L.C., Cory Close & Chad Dubea, Defendants (Civil Action No. M-05-410), September 5, 2007

Testimony on behalf of Gould Publications in Matthew Bender and Co. v. Gould Publications, *et al.* (AAA No. 13 489 Y 02155 05) regarding interpretations of results of a telephone survey and damage estimates prepared by Matthew Bender witnesses, August 29-30, 2007, New York, NY.

Testimony on behalf of the IESO regarding cost-benefit test of rule changes in the Ontario Electric market in Ontario Energy Board Docket EB-2007-0040. Prefiled testimony: March 9, 2007. Live Testimony: Toronto, Ontario, March 30, 2007.

Deposition on behalf of Pike Electric in *Pike Electric, et al. v. T&D Solutions, et al.*, US District Court for the Southern District of Texas, McAllen Division, Civil Action No. M-05-410, regarding lost profits from the violation of a noncompete agreement, New York City, November 13, 2006.

Reply Affidavit on behalf of PSEG Parties and PP&L Companies regarding modification to the Hobbs model in FERC Dockets ER05-1410-000, ER05-1410-001, EL05-148-000, and EL05-148-001, November 8, 2006.

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7/9/08

# ATTACHMENT 2: REALIZED SUPPLY/DEMAND MARGINS

## **April 2007 Auction – Supply-Demand Forecast for 2007-2008 planning year**

For the 2007-2008 planning year, NERC and PJM expected capacity to be sufficient to meet peak demand in the summer 2007 period. The projected reserve margin for the planning year was 19 percent, well over the required reserve margin of 15 percent. I calculated market-implied heat rates at the PJM Western Hub that confirm that market participants were not anticipating extreme conditions. These are shown in Exhibit 1.

There were nevertheless concerns in the marketplace regarding tightness for the upcoming summer and winter seasons. The 2006 summer heat wave had just resulted in record-setting loads and the reserve margin in 2006 had dropped below the 15% target, sounding alarms. The actual reserve margin observed in 2006 was 14%, while the forecast of reserve margin going into the 2006 summer was 28%. The decrease in the actual reserve margin in 2006 versus the projection was due to the combination of a greater than expected decrease in capacity relative to projections (2.5% down from 2005 levels) and a greater than expected increase in demand (almost 9% over 2005).

In addition, while load was growing, installed capacity fell slightly in PJM during 2006. The market concerns about tightness were expressed in the trade press. [cite trade press articles]

The PJM State of the Market Report noted:

“While net revenue in PJM has been almost sufficient to cover the costs of new peaking units in some years and was sufficient to cover the costs of a new coal plant in 2005 and close to covering those costs in 2006 in some eastern zones, net revenue has generally been below the level required to cover the full costs of new generation investment for several years and below that level on average for all unit types for the entire market period. The fact that investors’ expectations have not been realized in every year could be taken as a reflection of cyclical supply-demand fundamentals in PJM markets. However, it is also the case that there are some units in PJM, needed for reliability, that have revenues that are not adequate to cover annual going forward costs and that their owners, therefore, wish to retire. This suggests that market price signals and reliability needs are not fully synchronized.”<sup>14</sup>

## **July 2007 Auction – Supply-Demand Forecast for 2008-2009 planning year**

As for the prior planning year, NERC and PJM expected capacity to be sufficient to meet peak demand in the 2008-2009 period. The projected reserve margin at the time of the PJM RPM auction was 20 percent, well over the required reserve margin of 15 percent. Further, market

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<sup>14</sup> 2006 PJM SOM, page 19.

implied heat rates suggest that market participants were not anticipating extreme conditions. These are shown in Exhibit 2.

However, the 2006 NERC Reliability Assessment expresses concern that reserve margins could tighten significantly beyond 2007: “The ReliabilityFirst Corporation (RFC) region is expected to have sufficient resources to satisfy a 15 percent reserve margin through at least 2007. Proposed capacity additions and existing capacity that is undeliverable, uncommitted, or energy-only resources, could satisfy the 15 percent reserve margin through 2012, if the transmission system is capable of fully delivering those resources.”<sup>15</sup>

While load was expected to grow by over 3000 megawatts from 2007 peak to 2008 peak, very few new capacity additions were expected to come online in PJM prior to or during the 2008-2009 peak period. These additions are shown in the table below from PJM’s 2006 Load, Capacity and Transmission Report:

Plant Name	Capacity (MW)	Original Effective Date	Current Effective Date	New Prime Mover	Energy Source	New or Change to Existing?
Hatfield's Ferry 500 kV	525.0	2008-08	2008-08	ST	BIT	New
Karthaus 230 kV	290.0	2008-06	2008-06	ST	BIT	New
Susquehanna	111.0	2008-03	2008-03		NUC	Existing
Susquehanna	107.0	2008-03	2008-03		NUC	Existing

Note that Karthaus is a waste coal cogeneration facility whose target commercial operation date was delayed due to a delay in boiler delivery.

**October 2007 Auction – Supply-Demand Forecast for 2009-2010 planning year**

For the 2009-2010 planning year, PJM and NERC still expected capacity to be sufficient to meet peak demand, but, at the time of the PJM RPM auction, the projected reserve margin was only 17 percent. This was closer to the required reserve margin of 15 percent than the projected reserve margin for the previous planning year (which was 20 percent). However, market implied heat rates did not suggest that market participants were anticipating extreme conditions. These are shown in Exhibit 3.

Load was again expected to grow by over 2000 megawatts from 2008 peak to 2009 peak, but no new capacity additions were expected to come online in PJM during the 2009-2010 peak period. In the 2006 PJM State of the Market Report, PJM expressed concern about the pattern of new generation capacity: “If current trends continue, it is expected that older steam units in the east will be replaced by units burning natural gas and the result has potentially significant implications

<sup>15</sup> 2006 NERC Reliability Assessment, page 18.

for future congestion, the role of firm and interruptible gas supply and natural gas supply infrastructure.”<sup>16</sup>

Furthermore, over 800 megawatts of generation capacity was expected to be retired prior to the 2009 peak period. These changes are shown in the table below from PJM’s 2006 Load, Capacity and Transmission Report:

Plant Name	Capacity (MW)	Original Effective Date	Current Effective Date	Energy Source
Sewaren	(104.0)	2008-09	2008-09	NG
Sewaren	(107.0)	2008-09	2008-09	NG
Sewaren	(118.0)	2008-09	2008-09	NG
Sewaren	(124.0)	2008-09	2008-09	NG
Hudson	(383.0)	2008-09	2008-09	NG

**January 2008 Auction Supply-Demand Forecast for 2010-2011 planning year**

Once again, for the 2010-2011 planning year, PJM and NERC expected capacity to be sufficient to meet peak demand, but continuing the trend of the forecasts for the previous planning year, the projected reserve margin was 16 percent. Similar to the October 2007 auction, the market implied heat rates did not indicate expectations of extreme conditions for the 2010-2011 planning year, but greater time between the auction and the start of the planning period could have affected the market-implied heat rates. The implied heat rates are shown in Exhibit 4.

Similarly, while load was again forecast to increase by over 2,000 megawatts, there were few significant expected capacity additions to PJM. These additions are shown in the table below from PJM’s 2007 Load, Capacity and Transmission Report:

Plant Name	Capacity (MW)	Original Effective Date	Current Effective Date	New Prime Mover	Energy Source	New or Change to Existing?
Fort Martin 500 kV	600.0	2010-11	2011-03 <sup>17</sup>	ST	BIT	New
Susquehanna	111.0	2009-05	2009-05		NUC	Existing
Susquehanna	107.0	2010-05	2010-05		NUC	Existing

<sup>16</sup> 2006 PJM SOM, page 17

<sup>17</sup> “Group Challenges Longview's Discharge Permit” Kasey, Pam, March 23, 2007, *State Journal*, Volume 23; Issue 12

In addition, both PJM and NERC expressed increasing concern that the required reserve margin would not be met if all known scheduled reductions in capacity occurred. The 2007 NERC Reliability Assessment states:

Summer reserve margins in RFC range from a high of 23.3 percent in 2007, declining to 9.6 percent in 2016. These reserve margins are based on forecast net internal demand and potential capacity resources. The comparable reserve margins from the 2006 forecast declined from 22.1 percent in 2007 to 11.7 percent in 2015. The amount of potential capacity resources is sufficient through 2012. These reserve margins include over 7,800 MW of projected capacity additions, and existing capacity that is currently categorized as energy-only or uncommitted capacity. Starting in 2013, additional capacity resources are needed to maintain an overall RFC target 15 percent reserve margin. The amount of needed capacity resources ranges from 1,500 MW in 2013 to 11,100 MW in 2016.<sup>18</sup>

PJM's 2007 State of the Market report also contains the same concerns as the 2006 SOM regarding the planned new generation in PJM: "If current trends continue, it is expected that older steam units in the east will be replaced by units burning natural gas and the result has potentially significant implications for future congestion, the role of firm and interruptible gas supply and natural gas supply infrastructure."<sup>19</sup>

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<sup>18</sup> NERC 2007 Reliability Assessment, page 171.

<sup>19</sup> PJM State of the Market Report, Volume 1, page 14.

**Exhibit 1. Implied Heat Rates on 4/2/2007 for 2007/2008 Planning Year**

	<b>PJM Forward Price (\$ / MWh)</b>	<b>VO&amp;M</b>	<b>Henry Hub Forward Price (\$ / MMBtu)</b>	<b>Transco Zone 3 Basis (\$ / MMBtu)</b>	<b>Implied Heat Rate</b>
Jun-07	74.69	4.00	7.8090	0.1575	8,873.41
Jul-07	101.73	4.00	7.9510	0.1575	12,052.78
Aug-07	101.73	4.00	8.0510	0.1575	11,905.95
Sep-07	73.40	4.00	8.0960	0.1575	8,408.55
Oct-07	68.50	4.00	8.2040	0.1575	7,713.93
Nov-07	70.50	4.00	8.8490	0.1500	7,389.71
Dec-07	75.25	4.00	9.5090	0.1500	7,376.54
Jan-08	86.71	4.00	9.8340	0.1500	8,284.25
Feb-08	86.71	4.00	9.8190	0.1500	8,296.72
Mar-08	75.72	4.00	9.5890	0.1500	7,364.21
Apr-08	75.72	4.00	8.0590	0.0850	8,806.48
May-08	69.36	4.00	7.9390	0.0850	8,145.56

**Exhibit 2. Implied Heat Rates on 7/2/2007 for 2008/2009 Planning Year**

	<b>PJM Forward Price (\$ / MWh)</b>	<b>VO&amp;M</b>	<b>Henry Hub Forward Price (\$ / MMBtu)</b>	<b>Transco Zone 3 Basis (\$ / MMBtu)</b>	<b>Implied Heat Rate</b>
Jun-08	77.71	4.00	7.9730	0.0725	9,161.64
Jul-08	101.12	4.00	8.0480	0.0725	11,959.85
Aug-08	101.12	4.00	8.1010	0.0725	11,882.30
Sep-08	71.63	4.00	8.2180	0.0725	8,157.53
Oct-08	68.03	4.00	8.6930	0.0725	7,304.77
Nov-08	68.03	4.00	9.1780	0.1050	6,897.55
Dec-08	68.03	4.00	9.4530	0.1050	6,699.10
Jan-09	87.30	4.00	9.4480	0.1050	8,719.77
Feb-09	87.30	4.00	9.1980	0.1050	8,954.10
Mar-09	76.31	4.00	7.9380	0.1050	8,990.43
Apr-09	76.31	4.00	7.8280	0.0875	9,135.24
May-09	67.71	4.00	7.9130	0.0875	7,963.25

**Exhibit 3. Implied Heat Rates on 10/1/2007 for 2009/2010 Planning Year**

	<b>PJM Forward Price (\$ / MWh)</b>	<b>VO&amp;M</b>	<b>Henry Hub Forward Price (\$ / MMBtu)</b>	<b>Transco Zone 3 Basis (\$ / MMBtu)</b>	<b>Implied Heat Rate</b>
Jun-09	79.88	4.00	7.8630	0.0350	9,607.50
Jul-09	105.63	4.00	7.9230	0.0350	12,770.80
Aug-09	105.63	4.00	7.9730	0.0350	12,691.06
Sep-09	74.25	4.00	7.9980	0.0350	8,745.18
Oct-09	68.00	4.00	8.0680	0.0350	7,898.31
Nov-09	68.00	4.00	8.3880	0.0400	7,593.74
Dec-09	68.00	4.00	8.7030	0.0400	7,320.14
Jan-10	78.75	4.00	8.9280	0.0400	8,335.19
Feb-10	78.75	4.00	8.9280	0.0400	8,335.19
Mar-10	78.75	4.00	8.6730	0.0400	8,579.13
Apr-10	78.75	4.00	7.6830	0.0550	9,660.12
May-10	78.75	4.00	7.5980	0.0550	9,767.41

**Exhibit 4. Implied Heat Rates on 1/18/08 for 2010/2011 Planning Year<sup>20</sup>**

	<b>PJM Forward Price (\$ / MWh)</b>	<b>VO&amp;M</b>	<b>Henry Hub Forward Price (\$ / MMBtu)</b>	<b>Transco Zone 3 Basis (\$ / MMBtu)</b>	<b>Implied Heat Rate</b>
Jun-10	83.75	4.00	7.9210	0.0600	9,992.48
Jul-10	83.75	4.00	7.9860	0.0600	9,911.76
Aug-10	83.75	4.00	8.0360	0.0600	9,850.54
Sep-10	83.75	4.00	8.0460	0.0600	9,838.39
Oct-10	83.75	4.00	8.1010	0.0600	9,772.09
Nov-10	83.75	4.00	8.3110	0.0600	9,526.94
Dec-10	83.75	4.00	8.5810	0.0600	9,229.26
Jan-11	83.00	4.00	8.7860	0.0600	8,930.59
Feb-11	83.00	4.00	8.7940	0.0600	8,922.52
Mar-11	83.00	4.00	8.5610	0.0600	9,163.67
Apr-11	83.00	4.00	7.8010	0.0600	10,049.61
May-11	83.00	4.00	7.7810	0.0600	10,075.25

<sup>20</sup> The January 2008 Auction began on 1/21/08, which was a NYMEX holiday.