

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

Maryland Public Service Commission,)
Delaware Public Service Commission,)
Pennsylvania Public Utility Commission,)
New Jersey Board of Public Utilities,)
Public Power Association of New Jersey,)
Maryland Office of the People’s Counsel,)
Office of the People’s Counsel of the)
District of Columbia,)
Southern Maryland Electric Cooperative,)
Inc.,)
Blue Ridge Power Agency,)
Allegheny Electric Cooperative, Inc.,)
Office of the Ohio Consumers' Counsel,)
New Jersey Department of the Public)
Advocate,)
Division of Rate Counsel,)
Pennsylvania Officer of Consumer)
Advocate,)
PJM Industrial Customer Coalition,)
American Forest and Paper Association,)
Portland Cement Association,)
Duquesne Light Company, and)
United States Department of Defense and)
affected Federal Executive Agencies,)

v.

Docket No. EL08-67-000

PJM Interconnection, L.L.C.)

**COMMENTS OF THE DEMAND RESPONSE AND ADVANCED METERING
COALITION ON THE COMPLAINT OF THE RPM BUYERS**

I. INTRODUCTION

Pursuant to Section 206 of the Federal Power Act¹ (“FPA”) and Rule 206 of the Rules of Practice and Procedure² of the Federal Energy Regulatory Commission (the

¹ 16 U.S.C. § 824e (2000 & Supp. 2005).

² 18 C.F.R. § 385.206 (2007).

“Commission”), the Demand Response and Advanced Metering Coalition (DRAM) files these comments on the complaint filed by the RPM Buyers (Complaint) that the Commission conclude that the PJM’s Reliability Pricing Model (“RPM”) has produced unjust and unreasonable capacity prices. DRAM respectfully submits that the evidence does not support that conclusion. DRAM believes that the Complaint does not acknowledge the significant capacity additions that have resulted from the RPM and the cost drivers contributing to escalated prices. DRAM also believes the Complaint does not acknowledge the time required for additional capacity to come on line.

II. PARTY

The DRAM Coalition is the non-profit trade association for the demand response industry, based in Washington, DC. Its members include the leading providers of demand response technologies and services to RTO/ISOs as well as utilities and end-use customers, including those within the PJM market. A number of DRAM members have participated in the RPM auctions at issue and will be directly impacted by the remedy proposed in the Complaint, particularly because much less Demand Response (DR) will be employed in PJM if that remedy were to be put in place.

III. CORRESPONDENCE AND COMMUNICATIONS

All correspondence and communication with respect to this docket should be addressed to the following individuals, whose names should be included on the service list that is maintained by the Secretary regarding these proceedings:

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IV. THE STATEMENT OF FACTS IN THE COMPLAINT DOES NOT INCLUDE CERTAIN INFORMATION AND TRENDS

The Complaint appropriately characterizes the PJM RPM proposal and the RPM settlement, but does not discuss any external reasons why forward electricity capacity prices have surged so dramatically since some time around 2000. The Federal Energy Regulatory Commission (Commission) Office of Enforcement has developed a complete report on the forward electricity capacity prices, related costs, and the economic drivers. This recent Commission report provides basic reasons why forward capacity prices for electric generation are escalating to unprecedented levels.³ The increase in costs in forward electricity supply markets is a result of a combination of factors, including underlying fuel prices, power plant and fuel demand, construction and material costs, labor costs, etc. The Complaint does not address these cost increases, which DRAM believes are important facts about the global and regional market forces that currently are causing increases in virtually all forward capacity prices.

A. Increased Prices for All Supply Resources

According to the FERC Office of Enforcement's assessment, electricity costs and forward electricity market prices in all regions in the United States have increased

³ FERC Office of Enforcement, Presentation to the Commission, Item No.: A-3, 19 June 2008, <http://www.ferc.gov/legal/staff-reports/06-19-08-cost-electric.pdf>.

substantially since 2000. For just July and August of 2008 the increases are between 60% (MISO) and 88% (CAISO SP-15), while Henry Hub gas prices have increased 108%. In all regions across the country, the primary factors that increase electric generation costs are increased fuel costs and increased new construction costs. Current natural gas futures prices are expected to remain between \$10.0 and \$12.8/MMBTU through 2012 (in 2008 dollars). Natural Gas fired generation in the Northeast has greatly increased from 2000, when it was 66.3 TWh, to 103.9 TWh in 2007, an increase of 37.6 TWh. Meanwhile NERC's ten year net load projections in the Northeast are 9.7 GW, an increase of 17%, the highest growth rate in the nation. As a result, owners of existing generation will seek to use opportunity cost in competitive markets to increase profits. Hence, these pressures that drive increased prices for all new generation sources and acknowledge should be acknowledged.

B. Increased Capital Costs for Generation

The largest single factor to increase generation capital costs is the cost of new construction. NIMBY (Not-In-My-Backyard) is an influence that increasingly pushes plant and transmission line siting costs skyward. The need for new plant construction comes at a time when the U.S. requires a huge amount of new investment, especially in the electricity sector. This can only increase prices for electricity futures. Since 2000, the 2008 Power Capital Cost index (PCCI) -- an index of the main cost inputs to build new generating -- increased by 78 points (to 178) or 78% for non-nuclear generation. With nuclear generation added, the PCCI increase is 123 points (to 223) or 223%. These

dramatic increases in non-nuclear and nuclear capacity costs, thus, appear to be the norm and not the exception.

C. Basic Drivers that Increase Prices

Directly related to forward prices for electricity capacity are the basic drivers of cost increases, including labor and primary materials required for plant and transmission construction. First, the Commission's most recent report explains the increased shortages of engineering and construction personnel to build plants. Second, the costs for primary materials, iron, steel, and cement follow a sharp upward trajectory, with iron and steel costs increases of more than 200% since 2000. Third, copper, nickel, zinc, and aluminum all pose major price increases. Fourth, since 2000 labor costs -- average hourly earnings -- have increased nominally by 27% for both construction labor and in non-construction utility labor, which is more than 4% over inflation. And fifth, the climate change debate and lack of clear policy direction directly impact electricity future prices, as the choice to meet increasing demands is uncertain, resulting in delays in new construction of plants and delays in building related infrastructure, including transmission lines. A related problem is that new technology to provide fossil fueled plants with CO2 sequestration is still far from certain.

Each of these factors represent critical market drivers that place substantial upward pressure on capital and operating costs for new generation capacity. DRAM believes that these factors must be acknowledged and included in any consideration of the Complaint.

C. COMPLAINT MAY INCLUDE SELECTIVE ANALYSIS

1. Analysis Under “Statement of Facts” Argues Against Market Mitigation

The Complaint moves back and forth between arguments against market power mitigation and arguments for greater market power mitigation. The point being that full-on competition is not available so market mitigation must be used, yet the Complaint seems to be adverse to both. At page 34 of the Complaint there is criticism of the use of market power mitigation, as follows:

Contrary to the Commission’s statement that mitigation measures may come into play “relatively infrequently,”⁷¹ the MMU found that each LDA failed *all* of the preliminary market structure screens, thus making *every* supply offer subject to mitigation. Indeed, each LDA failed even the *single* pivotal supplier test – *i.e.*, in each zone, there was a supplier whose capacity was essential to satisfy the region’s capacity requirement. Consequently, every existing resource had its offer capped consistent with PJM’s rules for administratively deriving mitigated “avoidable costs.”

Beyond this, the Complaint states that administrative price setting is inappropriate though administrative prices would be less than competitive prices. Moreover, the Complaint does not acknowledge the benefits of administrative price setting, particularly that this approach reflects *cost-of-service*. Specifically, the analysis in the Complaint explains as follows:

...RPM devolved to a completely administrative price determination mechanism based loosely on stipulated cost-based offer caps. As a result, the “competitiveness” of the first [Base Residual Auctions] – when there was virtually no opportunity for new entry – depends significantly on the validity of the criteria for determining the avoidable cost rate and the quantities that must be offered at these rates. If those criteria are inaccurate or ineffective, there can be no valid claim that the auctions were “competitive.”

2. The Complaint does not Adequately Address Both Competition and Cost-of-Service

The Complaint's repeated theme is that there is lack of competition and there is exercise of market power, particularly in the transition auctions, but the Complaint also complains about the use of market mitigation based on cost-of service. The Complaint appropriately supports competition and market power mitigation, however, when competition is inadequate, for example because of market thinness, market power is certainly mitigated with use of the cost-of-service mechanisms PJM has employed. Cost-of service provides market results that mimic *perfect competition*, particularly to vitiate hockey-stick bidding and attempts at mimetic pricing that disconnect market supply from demand.⁴

Thus, the Complaint could be said to be employing a *damned if you do and damned if you don't* syllogism. Either the RPM should rely on competition, which will likely produce short-run prices above cost-of-service, or cost-of-service must be relied on for market mitigation to ensure RPM prices remain low. Hence, if the basis for the Complaint is concern about high price levels, it should encourage PJM's approach, not condemn it.

V. DRAM's FURTHER RESPONSE TO THE COMPLAINT

The complaint argues that the transition auctions were unsuccessful and did not produce new capacity. However, transition auctions by their nature cannot immediately

⁴ Forms of mimetic pricing amount to tacit collusion and broader strategies including correlated equilibrium. See See, E.Woychik, R.Boland, and B. Carlsson, [Integrated Analysis Of The Electricity Market: Does More Knowledge Enable Market Manipulation?](#) 7th Global Conference on Business & Economics, Rome, 13 October 2007, (ISBN : 978-0-9742114-9-4).

jump-start the installation of new capacity, as physical construction lead-times must be met, and financial certainty was not well established as a result of the first, second, or even third auction. That is, new capacity does not simply materialize instantly and it requires financial certainty. As explained below, the arguments in the Complaint should be viewed in a time frame beyond the transition auctions in order to see that later auctions provide new capacity based on more certain financing.

A. CONTENTION OF LACK OF NEW CAPACITY

The Complaint argues that “the theory behind RPM rests on the ability of new capacity to compete with existing suppliers and thereby to restrain market power.” (Complaint at pg. 43.) Moreover, the Complaint states that new (incremental) capacity has not been provided by the RPM auction process. DRAM believes this is directly contradicted by the Brattle Review of PJM’s Reliability Pricing Model (30 June 2008) (Hereafter, *Brattle Report*). In summary, the Brattle Report explains as follows:

[W]e also find that since RPM was implemented: (1) at least 4,600 MW of capacity has been retained that otherwise would have retired; (2) almost 10,000 MW of incremental capacity has been committed; and (3) the volume of generation interconnection requests has grown to make an additional 33,000 MW of new generation projects eligible to participate in future RPM auctions. (Brattle Report at pg. 3)

Thus, while RPM is not necessarily the main driver for all PJM capacity increases, the Brattle Report estimates “that almost 14,500 MW of added and retained capacity are reasonably attributable to RPM.” (Brattle Report at pg. 19)

B. FLAT SUPPLY CURVES AND IMMEDIATE CAPACITY

The Complaint explains that relatively flat, not steeply sloped, supply curves would characterize a long-term competitive market, but that “the supply curves during the transition have generally been nearly vertical and inelastic because there could be and was little, if any, new entry” (RPM Buyer’s Complaint at pg. 44). This leads to the further claim that “the RPM transition was highly susceptible to higher prices as a consequence of the absence of competition.” DRAM respectfully wishes to address two issues with these statements (RPM Buyer’s Complaint at pg. 44).

1. Flat Supply Curves for Capacity Do Not Reflect Reality

The argument for relatively flat supply curves belies the nature of the market that an attempt is made to characterize. A capacity market must satisfy the ongoing system and regional peak demand needs that are represented by long term planning reserve margin or resource adequacy. This is the last capacity available, typically the 15 percent of total load (the resource adequacy requirement) in the longer term, and about 7% of load (the operating reserve requirement) in the short run. The desire behind the Complaint would seem to be clear in its statements that competition should produce flat supply curves for capacity. But by definition forward electricity capacity should be relatively scarce; it is a *top-end* product in the overall market, and it is likely the most expensive generation available as it must be available on call and cannot be used to supply energy. In the reality of forward capacity markets these resources are not cheap, but are essential to preserve reliability. As these resources are typically the last 15% to 17% to be added and the generation least used – as less expensive generation is used to produce energy – this capacity is relatively expensive and non-homogenous, so in

composite a forward capacity market should reflect a relatively sharp upward sloping demand curve.

2. Substantial New Capacity Cannot Materialize Immediately

A critical point that is not addressed properly in the Complaint is that new generation capacity cannot simply materialize without a lead time for generation facilities, particularly in the face of speculative price uncertainty during the initial phase of RPM. The RPM process began in 2006. The Complaint argues that new capacity should be expected to result from initial RPM transition auctions – that it should materialize immediately in essence. New generation capacity has a significant lead time, however, which requires financing, siting, environmental permits, and time for construction. DRAM does not believe that the Complaint acknowledges the practical requirements that must be satisfied to finance and build new capacity.

3. Financing of New Capacity Should Not be Expected During RPM Transition

It is difficult to finance new capacity and provide financial certainty based on capacity prices that result from a first-year, second-year, or even third year RPM transition auction. Again, it must be recalled that RPM was started in 2006. The initial aim of RPM was to secure capacity (e.g., reduce retirements and bring other existing capacity into the market), not necessarily new capacity, and to pave the way for new capacity. As the Complaint acknowledges, PJM itself did not guarantee that the RPM market would be immediately successful at obtaining new capacity (Buyers Complaint at pg. 28). Capacity prices based on a one year price for three or four years can be expected

to fall short of the certainty needed to capitalize large-scale generation. Entry of new generation capacity requires a stable financial commitment, specifically to define a track record that reflects stability on annual auctions. Accordingly, DRAM does not believe an argument that the RPM transition auctions were not successful in immediately producing major new capacity is appropriate.

C. CLAIMS OF LACK OF NEW CAPACITY ARE COUNTERED

1. Complaint Does Not Account for New Capacity That has Materialized

The statement in the Complaint that “there could be and was little, if any, new entry” (RPM Buyer’s Complaint at pg. 45) is contradicted by the Brattle Report, which explains there has been substantial new entry into the forward capacity market in PJM. It explains in significant detail that capacity additions totaling 14,500 MW have been attracted and retained and so should be credited to the implementation of RPM. (Brattle Report at pp. 2 and 13) The RPM contributions to provide additional capacity are broken out as follows:

- 4,248 MW of new gas, coal, renewable generation, and new generation to meet the Fixed Resource Requirement (“FRR”);
- 599 MW of previously retired reactivated generating units that were previously retired;
- 3,274 MW of new generation;
- 2,900 MW of uprates to existing generating capacity, which exceed derates by more than 1,260 MW;
- About 1,800 MW of demand resources (“DR”) and 1,400 MW of interruptible load;
- Reduced net exports of about 2,200 MW; and
- Withdrawn requests to deactivate 1,170 MW of existing resources and 3,500 MW of planned retirements.

Thus, RPM helped “retain over 20,000 MW of other existing resources that likely would *not* be financially viable in the absence of capacity payments.” (Brattle Report at pp. 2-3)

2. Complaint Does Not Recognize Reserve Margins and New Transmission Capacity

Criticisms in the Complaint include the fact that the RPM methodology uses a reserve margin criterion that is higher than the reserve margin criteria for planning reserves in specific regions (Buyers Complaint at pp. 59-60), and then claim that the corresponding RPM prices were greatly increased. The Complaint, however, does not address the mechanics of this or its positive implications.

As the Brattle Report explains, the increase in generation, demand response, and transmission capacity to serve specific Locational Delivery Areas (LDAs) resulted in improved reserve margins that were below previous RTO-wide targets, which reflect planned new transmission investments. (Brattle Report at pg. 3)

Furthermore, with increased reserve margins and transmission commitments Cost-of-New-Access (CONE) prices declined to reflect improved resource adequacy. This is just what price signals are supposed to do, encourage investment, increase reliability, and subsequently lower future prices. This is the way the market mechanics should work with the RPM. It is designed to provide capacity price signals that facilitate cost-effective entry, investment, retirement decisions, and competing demand-side investments.

The Complaint does not appear to recognize what DRAM believes are the basic mechanics of RPM, the effects of sequential auctions on reserve margins and transmission investments, and the results of prices and capacity on subsequent auctions.

D. COMPLAINT ASSERTS THAT MARKET MITIGATION NOT FULLY ADDRESSED

The Complaint makes numerous assertions about the exercise of market power, though the RPM market employs a set of mechanisms to reduce the exercise of market power abuse. The Complaint states as follows:

Of course, mitigation rules – applied to all existing resources in all BRAs – were intended to limit offer prices to “avoidable cost” and thereby to prevent the exercise of market power, but the rules provide numerous exceptions, and the evidence suggests that those mechanisms have not achieved their intended objectives. (Buyers Complaint at pg. 51)

The Complaint then goes on to use a set of examples to support its arguments.

1. Claim that Competition Was Not Used

The expert, James Wilson, explains that the transition auctions were not fully competitive, a condition that reduced the opportunity to provide market-based restraint on the market power of RPM participants, citing other participants in the 7 May 2008 FERC Technical Conference on Capacity Markets (Buyers Complaint at pg. 38 and footnote 93). DRAM raises the concern that again that the Complaint confuses market mitigation, which typically uses unit-based avoided costs (based on cost-of-service) with competition that does not apply market power mitigation.

DRAM believes that the market mitigation imposed by PJM’s Market Monitoring Unit (MMU) is both well founded and comprehensive (see, e.g., *PJM Analysis of the 2007-2008 RPM Auction*, July 2008, hereafter *PJM Analysis*). The RPM uses strong performance incentives for generation, explicit market power mitigation rules, and direct participation by demand-side resources to reduce the exercise of market power. PJM’s Market Monitor Joe Bowering explains that market screens are applied to all capacity resources to determine i) the market share of any capacity resource, ii) the Herfindahl-Hirschman Index (HHI), and iii) whether there are less than three jointly pivotal suppliers (*PJM Analysis*). When market screen tests are not fulfilled the capacity resource owner must provide avoidable cost data and be subject to an offer cap if it seeks to provide non-

zero offers, i.e., not be a pure price-taker. This is a classic approach to market power mitigation which has been very effective as it precludes economic withholding – bidding to intentionally increase prices.⁵

DRAM’s concern is that the Complaint seems to express a desire for full-on competition, and acknowledges that the conditions for it are not present, but yet then rejects both the analysis to determine that market power would be present, absent mitigation, and the most powerful market power mitigation available, administrative determination of avoided costs. The offer cap process used by the PJM MMU is designed to eliminate market power and to rely on a version of cost-of service, which undoubtedly lowers the RPM price levels for capacity.

2. Claim that Offers Not Cleared in 2009-10 Auction Set the Price Higher

The Complaint argues that “results in the 2009-2010 [Base Residual Auction (BRA)] demonstrate a dramatic increase in existing resources’ offers, thereby confirming suppliers’ flexibility to increase capacity offer prices” (Buyer’s Complaint at pg. 50). The logic noted is that if “the offers in the 2009-2010 BRA had been mitigated to true avoidable costs, those same generators could not have made their much lower offers for 2010-2011 without risking significant losses when they did not recover their avoidable costs” (Buyer’s Complaint at pg. 52).

DRAM does not believe there is evidence introduced in the Complaint, other than the assertions of James Wilson, that support the claim that offer prices increased. The Complaint should instead acknowledge that the dynamics are that electricity demand was

⁵ See, e.g., E. Woychik, Western Market Power Mitigation With Plant Bid-Caps, for CAISO Board of Governors, Strategy Integration, Inc., 25 June 2001.

different, the mix of entities submitting offers changed, a different set of entities chose to submit non-zero (zero) offers, the related zone (locational basis for costs) split, and new entrants, including demand response entities, submitted offers to provide capacity as well. The assertion that offer caps increased must be supported by a direct comparison of offer caps for respective resources, in each of the two auctions, an analysis that was not performed.

VI. CONCLUSION

DRAM believes the Complaint neither acknowledges nor integrates critical information about the drivers of forward capacity prices, particularly about how these drivers influence RPM prices. Dramatically increased costs for generation are the result of underlying power plant costs and plant demand, fuel prices and fuel demand, construction and material costs, labor costs, and the like. The largest of these is increased capital costs for new construction, though other basic drivers are labor and primary materials.

A second major issue relative to the arguments put forth in the Complaint is the way that it moves back and forth between claims that competition is required and the contention that market power mitigation must be applied with more rigor and specificity. These two concepts are fundamentally at odds; with full-on competition market mitigation is not needed, but if market mitigation is needed offer caps are used as are well defined avoided costs, which translate to cost-of-service. With bid-based caps RPM prices will undoubtedly be lower and yet the Complaint argues for this, at the same time it argues for more competition.

Third, the Complaint does not count the new capacity that has materialized as a result of RPM – some 14,000 plus MWs according to the Brattle Report. The Complaint also does not acknowledge that new generation capacity cannot be built without a lead time or certainty of prices that enable financing. Increased generation, demand response, and transmission capacity increased reserve margins and lowered RPM prices.

Fourth, the Complaint contends that relatively flat and not steeply sloped supply curves should result through RPM, and blame this on the lack of new entry, which does not acknowledge i) that substantial new capacity has resulted from RPM, ii) capacity is by nature an expensive and capital intensive resource, iii) that specific technologies that must be deployed to provide economic capacity, and iv) NIMBY is an extraordinary force impacting costs.

The basic problem in the Complaint is that basic market dynamics are not appropriately analyzed or represented. The specific problem is that it does not analyze the specific tradeoffs that drive market dynamics, including electricity demand, differences in submitting offers (e.g., specifics about zero and non-zero offers), zone splits, the mix of new entrants, and changes in demand response. Accordingly, the assertion of the Complaint that offer caps increased is not supported by empirical analysis. Moreover, the basic trends across the nation and in PJM point to rapidly increasing forward capacity costs for generation, a conclusion that is difficult to refute when one views the evidence.

Finally, DRAM acknowledges that the intention of the Complaint is not to adversely impact DR and DR providers, but yet DRAM stresses that the nature of the Complaint and the remedy requested will adversely impact the DR market. However, DRAM strongly believes that RPM Buyers proposed remedy will dramatically reduce the

amount of DR that is provided in PJM, to the detriment of its members, utilities, and customers.

Respectfully submitted,

Demand Response and Advanced Metering Coalition

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CERTIFICATE OF SERVICE

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

Dated at Washington, DC, this 11th day of July, 2008

/s/ Dan Delurey

Dan Delurey

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