

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Centralized Capacity Markets in)
Regional Transmission Organizations and)
Independent System Operators)

Docket No. AD13-7-000

**WRITTEN STATEMENT OF EDWARD D. TATUM, JR.
ON BEHALF OF OLD DOMINION ELECTRIC COOPERATIVE**

Old Dominion Electric Cooperative (ODEC) greatly appreciates the opportunity to participate in this forum. These comments are provided per the Commission's Supplemental Notice of Technical Conference in this proceeding, in lieu of an opening statement for Panel Three.

A. OVERVIEW AND INTRODUCTION

ODEC is a not-for-profit power supply cooperative, organized and operating under the laws of the Commonwealth of Virginia and subject to Commission jurisdiction as a public utility. ODEC supplies capacity and energy to its eleven electric distribution cooperative members, all of which are located within the PJM control area. These cooperatives formed ODEC as a power supply cooperative to acquire power supply resources, typically through the construction of generating facilities or the development of other purchase power arrangements, at a lower cost than if they were acquiring these resources individually. ODEC was organized for the sole purpose of supplying power to its member distribution cooperatives on a reliable and cost-effective basis. ODEC is operated on a cooperative non-profit basis for the mutual benefit of its members.

ODEC's long-term relationship with its members requires ODEC to undertake long-term commitments for power supply. ODEC has Wholesale Power Contracts with each member distribution cooperative which will continue through at least January 1, 2054 absent early termination. These "all requirements" contracts obligate ODEC to sell and deliver power to its member distribution cooperatives on a bundled basis, and obligate ODEC's member distribution cooperatives to receive from ODEC virtually all of their power supply requirements.

ODEC is a member of PJM Interconnection, L.L.C. ("PJM"). In addition to periodic power purchases from third party suppliers, ODEC owns its own generation and is a network transmission customer of PJM under PJM's Open Access Transmission Tariff ("Tariff"). ODEC is also a PJM Transmission Owner.

ODEC has been an active participant in the PJM stakeholder processes regarding capacity constructs and has also participated in the various proceedings before the Commission regarding PJM's Reliability Pricing Model ("RPM"). While initially opposed to the centralized capacity construct and administratively determined demand curve, ODEC was able to join in the original settlement that established RPM because RPM was explicitly established as a residual construct that accommodated self-supply as well as state resource adequacy decisions.

The Supplemental Notice for the Technical Conference in this proceeding describes the third panel, "adapting to industry changes", as discussing "the impact of state and federal policy considerations and emerging technologies on the goals and objectives of centralized capacity markets." At the outset, ODEC believes the goal of capacity constructs and markets should be resource adequacy at all times to maintain reliability. Capacity constructs in the various regions should, as the Commission has previously described, provide a "last resort" for load-serving

entities ("LSEs") to meet their capacity obligation.¹ The goal of the capacity constructs to provide a backstop forum to obtain capacity in order to maintain reliability should also act as a limitation on the Commission's policies and prescriptions for such constructs. The Commission should not, for example, approve or adopt rules which will unduly hamper or inhibit the critical and bedrock principle of honoring legitimate self-supply by LSEs with an obligation to serve, nor should the Commission entertain proposals which will inhibit investment in new capacity resources from both traditional and innovative technologies. The Commission's inquiry here, and in its review of capacity constructs in each region, should adhere to this bedrock principle that such mechanisms are intended as a last resort source of capacity procurement for LSEs and, correspondingly, must not be regarded as the sole source of capacity revenues for generators.

Capacity constructs should not focus on monetary outcomes for one particular class of generator or one particular entity legal structure (i.e. type of corporate entity). Rather, the focus should be on clear definitions of LSEs' obligations based on well-defined, reliability-based criteria, such that the LSE can then choose among a portfolio of previously-determined acceptable capacity products to meet its peak load obligations ("PLO"). Any centralized auction should be residual to whatever owned resource an LSE might have, through physical plant ownership or bilateral agreements. The individual LSE PLO and acceptable capacity products should be designed such that when aggregated they meet the resource adequacy requirement of the entire region.

As context for these comments, it is essential to have a clear perspective on what we currently have in place. The capacity procurement mechanisms which are referred to as "centralized capacity markets" are not markets at all. Instead, they are administrative "resource

¹ *PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,079 at P 71 (2006 (In discussing the PJM RPM, the Commission stated that "after LSEs have had an opportunity to procure on their own, it is reasonable for PJM to procure capacity in an open auction . . . This, however, should be a last resort.")).

adequacy constructs” that hope to mimic competitive results. Unlike a competitive market, there are not “...many competing buyers and sellers in an environment with low barriers to entry and no glut or extreme deficit of supply.”²

This is not to say that a resource adequacy construct is not useful or beneficial. But it is essential to recognize which components are market-like and which are not, as well as the degree the construct departs from the theory of free market competition. If the constructs become more complex to accommodate new technologies or a plethora of new capacity products, the rules and lack of certainty will likely continue to serve as barriers to new entry.

For example, in PJM's RPM there is the administratively-determined demand curve and mitigated supply offers to determine the clearing price in the Base Residual Auction and Incremental Auctions. Since the inception of RPM, the PJM Independent Market Monitor ("IMM") has consistently determined the aggregate and local market structure to be uncompetitive based on the Three Pivotal Supplier Test.³ Nonetheless, market performance was deemed competitive as a result of the application of the market power mitigation rules.⁴

B. PRELIMINARY RESPONSES TO QUESTIONS IN FINAL AGENDA FOR TECHNICAL CONFERENCE

The following are preliminary responses to the questions posed in the Final Agenda. I look forward to further discussion during the Technical Conference.

² August 23, 2013 Commission Staff Report at page 26.

³ “The PJM Capacity Market is unlikely to ever approach a competitive market structure in the absence of a substantial and unlikely structural change that results in much more diversity or ownership.” 2012 State of the Market Report for PJM at page 25

⁴ “Explicit market power mitigation rules in the RPM construct offset the underlying market structure issues...results were competitive in 2012”. 2012 State of the Market Report for PJM p 26.

1. Do centralized capacity markets effectively accommodate various federal and state policies, such as state resource planning policies, renewable portfolio standards, and compliance with environmental regulations? If not, how can such policy considerations be better accommodated in centralized capacity market design?

The PJM RPM auctions do not *per se* discriminate between resources built to meet federal and state policies such as RPS, and those built for other reasons. However, some of the rules for the auctions, such as buyer-side mitigation mechanisms, might inhibit the ability to construct such policy-compliant resources. See FERC's August 23, 2013 Staff Report in this proceeding, at 26-27. In PJM, the Minimum Offer Price Rule ("MOPR") restrictions on resources apply to combustion turbines, combined cycles and integrated gas combined cycles and presumably would not apply to an RPS facility. And it seems RPM has not dampened the enthusiasm of units to retire due to environmental concerns. Between 2003 and 2013, over 15,000 MWs have retired in PJM.⁵ Currently, the PJM generation deactivation report shows over 13,000 MWs of additional announced retirements by October, 2015. Additionally, per Part V of the PJM Tariff,⁶ a generation owner need provide only 90 days' prior notice for generator deactivation, even if PJM determines there will be a transmission reliability violation as a result of the deactivation.

However, the success of capacity constructs like RPM in accommodating state jurisdiction and policy over resource adequacy is less clear and has generated contentious litigation and debate. The limitations on the Commission's Federal Power Act jurisdiction over rates, terms and conditions of wholesale service leaves states with authority over resource

⁵ See PJM Generator Deactivations: <http://pjm.com/~media/planning/gen-retire/generator-deactivations.ashx>

⁶ PJM Tariff, Section 113.1.

planning and adequacy, as FERC has recognized.⁷ However, these lines are increasingly blurred as FERC's policies impact the states' ability to pursue their resource adequacy and policy mandates, and vice versa.

The original RPM design clearly recognized states' rights under certain circumstances to make their own resource decisions and continue to participate in the PJM capacity construct. The state mandate exception in the initial MOPR recognized that this could occur with little or no overall impact to the clearing price. And, where there was a market impact over a certain threshold, the mechanism provided a targeted single year adjustment to the market outcome where the consequences (differences between the two clearing scenarios) were distributed to both load and supply rather than only to load. However, this and many other essential components favorable to load interests have been swept away during the changes to the RPM MOPR subsequent to the actions of New Jersey and Maryland to ensure capacity adequacy in their states.

Getting back to basics and a simpler construct could help. There may be opportunities to resolve the inherent jurisdictional tension if we reaffirm the core and limited purpose of these administrative constructs to be residual, including providing an option for efficient short-term trades by those who want to use it. The centralized capacity mechanism should not be the only game in town to ensure resource adequacy. As with the PJM energy market, RPM was clearly contemplated as a residual construct⁸. Additionally, we could consider a different approach than

⁷ See, e.g., *New York State Reliability Council*, 118 FERC ¶ 61,179 at P 31 (2007), *order on reh'g*, 122 FERC ¶ 61,153 (2008) ("In regard to the New York Commission's concerns with respect to its jurisdiction, the Commission acknowledges those concerns and respects the traditional role of state and local entities over resource adequacy. Our goal is to appropriately recognize state and local jurisdiction over resource adequacy while at the same time fulfilling our statutory mandate under the FPA to ensure that rates, terms, and conditions of jurisdictional sales of electric energy and of jurisdictional transmission are just, reasonable and not unduly discriminatory or preferential.").

⁸ See, e.g., *PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,079, at P 71 (2006) (emphasis added) ". . . after LSEs have had an opportunity to procure capacity on their own, it is reasonable for PJM to procure capacity in an open

a market design focusing on revenue adequacy outcome for one particular asset but rather concentrate on properly defining reliability- based contributions of the various capacity product(s) and then let the market work. And clearly, another useful enhancement would be to resist significantly modifying the construct on an annual basis.

Finally, to the extent the Commission adopts general policies through a rulemaking proceeding, the Commission should consider whether it needs to direct that capacity procurement mechanisms in FERC-jurisdictional tariffs and agreements must make explicit accommodation for resources constructed pursuant to federal and/or state policy objectives, similar to the directives for transmission planning in Order No. 1000. As an example, RTOs and ISOs should consider whether the analysis for exemption from mitigation sufficiently accommodates such resources even if they might not be deemed "economic" based on a cost-only analysis.⁹

2. Are there specific aspects of capacity market design or specific capacity market design elements that create barriers to effective implementation of federal or state resource procurement, planning, energy or environmental policies?

There are aspects of capacity market or resource adequacy construct designs that can have negative impacts on development of resources pursuant to policy objectives such as RPS.

auction at a time when further delay in procurement could jeopardize reliability. *This, however, should be a last resort.*" and at P 55 (emphasis added) (The purpose of the BRAs is "to enable commitment of capacity resources to satisfy remaining capacity needs of LSEs *after taking into account their owned and contracted resources.*"; Statement by Michael J. Kormos, PJM Senior Vice President of Operations, June 24, 2010 Technical Conference in New Jersey Board of Public Utilities Docket No. EO09110920: "I would offer that RPM was never meant to be an end-all and be-all for the capacity markets. We always envisioned [it] to be a piece of it. We envisioned that there would be longer term contracts. There are ways to be self supply. There are ways to literally pull yourself out of RPM. *Those options were always, always built in there.*"

⁹ See, *PJM Interconnection, L.L.C.*, 137 FERC ¶ 61,145 (2011) at P 90 ("RPM itself, however, has no feature to explicitly recognize, for example, environmental or technology goals, nor does it contemplate reliability concerns beyond a three-year forecast.") In the Order, FERC suggested that PJM and its stakeholders should begin a process to consider such issues if they deem reasonable.

For example, overbroad and unnecessary application of market power mitigation measures could create a barrier to renewable resource development. Also, the lead time for development of resources that participate in the capacity auctions can also serve as a barrier to meeting federal or state policies. And, as the Commission Staff Report notes, longer forward periods can be difficult for resources like demand response which have shorter lead times¹⁰

In general, the more complicated a design, the more opportunities there will be for barriers or unintended adverse consequences. The less administrative interventions in a resource adequacy construct, the more amenable it is to accommodating different market results.

In PJM, the MOPR expressly does not apply to wind and solar resources. Consistent with the reliability contribution of the particular resource which can vary by the asset type, PJM rules can accommodate renewables and demand response in the capacity auctions even where there are different rules among the states that define the types and amounts of renewable resources which must be utilized, including restrictions around the geographic areas.

Regarding resource procurement and planning, there appear to be unresolved discrepancies or inconsistencies between FERC and state action in restructured states. The collateral policy impacts to date, frequent rule changes, and the risk around future policy changes might have a chilling effect on new entry.

3. Are there aspects of centralized capacity market designs that create barriers to entry for new and emerging technologies to participate in centralized capacity markets? If so, how can those barriers be addressed?

¹⁰ PJM has addressed this for demand response by withholding 2.5% of the resource requirements from each Base Residual Auction to accommodate the shorter-term nature of demand response

Presumably, the same aspects of capacity market or construct design which can create barriers to entry for public policy resources can also create barriers for new entry by new and emerging technologies. Without specifically targeting new and emerging technologies, the continuous creep away from reliance on self-supply in a residual construct with well-defined obligations and capacity products, and toward capacity auctions as the sole source of capacity procurement at a price based on an administratively determined construct can potentially have a chilling effect on creative new entry. ODEC notes, however, that not all resources are created alike. To the extent a resource is less able to be relied upon for capacity by virtue of its physical characteristics, such differences must be taken into account. These differences can more readily be taken into account in a bilateral market rather a centralized model.

The primary barrier centralized capacity constructs present for new and emerging technologies is the concept that all technologies provide the same capacity value. Clearly each conventional technology has a different capability to produce energy over time. However, to define and differentiate capacity products or to make them have similar “must offer” requirements or even expand into ancillary service markets will quickly lead us to an even more complicated administrative construct.

Alternatively, to address new and emerging technologies we could develop a solid and common basis of what we are hoping to achieve via a resource adequacy construct.

First, as discussed above, the critical principle of capacity construct design must be that the capacity market is residual to self-supply, so that neither buyers nor sellers depend on the capacity construct to either satisfy the bulk of their capacity obligation or provide the majority of the return on their investment. When capacity markets are returned to their founding purpose of a residual, "last resort" source for capacity, LSEs will be able to meet their PLO, taking into

account an engineering-based determination of the required reserve margin, based on their long-term resource portfolios.

Second, in order to accommodate the fact that a greater class of resources beyond traditional capacity resources, such as emerging technologies, might be viable to meet capacity obligations, the methodology for developing the LSE PLO should perhaps be reconsidered. In PJM, PLO is determined by the highest five hours over five discrete (and possibly non-contiguous) days over the entire RTO. But what capability must I have to meet obligations the other 8,755 hours in the year? Given forecast uncertainty and weather variability, what ability to operate at nameplate capacity must a capacity resource have to assure the LSE is capable of meeting its PLO? Should each LSE be able to fashion its capacity portfolio in accordance with its market view and risk profile or should firm requirements be dictated? Is the average of the top 5 hours in a year the best metric for PLO or should seasonal and monthly obligations be considered?

There does need to be a place for new and emerging technologies, but I wonder what these technologies do. Are they capable of consuming non-electrical fuel and providing sustainable dispatchable energy? Or do they ebb and flow in accordance with other non-capacity construct signals (ancillary services)? Can I light my house with them? Should some new technologies (as well as existing capacity "resources" like DR) be on the demand side, avoiding costs as opposed to setting prices? Are these fly wheels and batteries, or technologies beyond my imagination? Regardless, each technology's sustainable energy delivery capability should be considered to inform its relative value as a capacity product.

PJM's stakeholders are currently evaluating the role of demand response in the capacity market. Among those considerations are issues including: (1) which demand response product

is best; (2) whether various products should each have different monetary value; and (3) whether there should be an upper limit on the use of certain demand response products in the auctions in order to maintain reliability. We should expect similar debates regarding the use of new and emerging technologies in the capacity construct. Adopting a residual approach with a more accommodating view of PLO and acceptable capacity product operational aspects would be a simpler and more sustainable approach.

4. How does the changing resource mix (i.e., increased reliance on natural gas-fired generation, increasing market share for variable energy resources and emerging technologies such as distributed resources, and demand response) impact the centralized capacity markets?

A resource adequacy construct should be sufficiently robust to accommodate a changing resource mix as well as be able to include emerging technologies. The most robust design should be the simplest and would have the following characteristics:

- Residual construct
- A less prescriptive design
- Clear definitions of an LSE's PLO
- Penalty structures which incentivize performance without unduly punishing circumstances over which LSEs do not have control

ODEC's experience with RPM in general and the MOPR in particular has led us to realize a one-size-fits-all approach does not work. Clearly some participants invest with shorter time horizons while others invest long-term. Resource lead times can vary. And the capacity market value can have either a small or large role in an investment decision or policy. A

merchant investor will have a different return expectation and risk tolerance than an investor self-supplying its needs or an investor expanding or retrofitting a plant. The differences can (and have) led to year-over-year swings in the supply and demand balance and resulting capacity price in PJM.

The current PJM RPM MOPR provides separate exemptions for self-supply and competitive entry, which ODEC supported as an improvement over the status quo once the Commission allowed elimination of guaranteed clearing for self-supply. This is a vast improvement, yet still not as robust as the original MOPR design, to reasonably excluding entities with neither incentive, intent nor ability to artificially depress capacity clearing prices. Emerging technologies could require revisiting the MOPR reference resource.

A less complex design where an LSE's obligation is well defined to reflect the capacity required over the course of the delivery period necessary to meet its overall energy needs and where the construct is residual would address any changes to the resource mix.

With respect to penalties for non-performance, centralized capacity constructs and markets should include penalties which incentivize performance in order to maintain reliability. However, as the fuel and resource mixes change, the penalty provisions should be reconsidered to ensure that they do not create barriers to entry. As an LSE with ownership of gas-fired electric generation, ODEC has personal experience with gas-electric coordination issues, and has participated in Commission proceedings on those issues. ODEC has also supported the comments filed by the National Rural Electric Cooperative Association ("NRECA")¹¹ urging the Commission to improve upon such coordination efforts, including synchronization of the gas and

¹¹ See, e.g., NRECA's Comments filed on the Notice of Proposed Rulemaking on Communication of Operational Information Between Natural Gas Pipelines and Electric Transmission Operators, Docket No. RM13-17 on August 26, 2013; *Comments of [NRECA] in Response to Commissioner Moeller's and Commissioner LaFleur's Inquiries Regarding Natural Gas-Electric Interdependence*, filed in Docket Nos. AD12-12 and RM96-1 on March 30, 2012.

electric day schedules and flexibility in services offered by natural gas pipelines in order to facilitate use by gas-fired electric generators. As the Commission has seen with the recent proceedings in ISO-NE regarding the possible imposition of penalties for failure of gas-fired generators to take firm natural gas pipeline service, changes in fuel mix can be expected to cause us to revisit the rules of the markets, including penalty provisions. In this regard, ODEC urges transparency and flexibility.¹²

C. CONCLUSION

ODEC appreciates the opportunity to provide these comments. I look forward to discussing them further during the September 25 Technical Conference.

/s/ Edward D. Tatum, Jr.

Edward D. Tatum, Jr.

Vice-President, RTO & Regulatory Affairs

Old Dominion Electric Cooperative

4201 Dominion Boulevard

Glen Allen, VA 23060

(804) 968-4007

etatum@odec.com

Dated: September 9, 2013

¹² See e.g., *New England Power Generators Association, Inc. v. ISO New England, Inc.*, 144 FERC ¶ 61,157 (2013).