



March 5, 2021

VIA ELECTRONIC SUBMITTAL

Ms. Aida Camacho-Welch
Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue
Trenton, NJ 08625

Re: Post Work Session Comments of PSEG

**Investigation of Resource Adequacy Alternatives
BPU Docket No. EO20030203**

Dear Secretary Camacho-Welch,

Pursuant to the January 21, 2021 notice in this matter, PSEG respectfully submits these post work session comments regarding the presentation made by The Brattle Group (“Brattle”) at the New Jersey Board of Public Utilities’ (“Board”) workshop held on February 19, 2021. PSEG looks forward to further discussion of the Integrated Clean Capacity Market (“ICCM”) proposal as well as other proposals that have been brought forth in this proceeding.

A. Introduction

PSEG commends the Board for taking a leadership role in stimulating a discussion of ways to achieve New Jersey’s clean energy goals while maintaining reliability and affordability to New Jersey’s residents. PSEG believes that the ICCM can serve as a catalyst for developing the construct we need to address the challenge of reducing the emission of greenhouse gases in New Jersey and throughout the PJM Interconnection, L.L.C. (“PJM”) footprint. Indeed, the Board’s investigation and the introduction of ICCM may already have borne fruit: PJM has initiated a process intended to undertake a comprehensive review of the current PJM capacity construct. Similarly, FERC is initiating a discussion of resource adequacy in the evolving electricity sector.¹ Both of these efforts, along with the Board’s efforts, should

¹ *Notice of Technical Conference on Resource Adequacy in the Evolving Electricity Sector*, Docket No. AD21-10 (issued February 18, 2021).

be viewed as pieces in a long-term process to address one of the most important issues of our time, addressing climate change.

PSEG supports many of the key concepts and elements of the ICCM:

- Minimize costs to consumers of achieving environmental goals by employing a market-driven construct to procure clean resources
- Maximize efficiencies by employing a regional or at least a multi-state approach
- Allow individual states to carve-out programs needed to meet particular state goals or legal requirements
- Eliminate the coverage of the Minimum Offer Price Rule (“MOPR”) as applied to resources receiving state support designed to further environmental goals
- Maintain reliability and resource adequacy

But applying these concepts and integrating them into a workable construct will not be easy. This will be a years’ long process requiring a balancing of interests among many different constituencies. Further, the best construct for reaching or maintaining the end state desired by New Jersey and other states of having a completely zero-carbon resource base, after high penetration levels of renewable resources have already been achieved, is not necessarily what is needed (or best) for the present while penetration levels are still low. Consideration should be given to a phased approach. Simple “no regrets” reforms may be the best approach for the present without attempting to foresee what may be ideal one or two decades hence. Not only will this allow more time to develop thoughtful approaches but it will also allow more time for public awareness and understanding of climate change challenges to grow. PSEG is hopeful that there can be a national debate on the potential for measures having impacts across the entire country such as a single price on carbon emissions throughout the United States. However, if there is one item that most participants in this proceeding agree on, it is that we are years away from any form of carbon pricing solution.

In the spirit of promoting a constructive discussion of potential mechanisms and approaches, PSEG offers the following observations and questions regarding the ICCM proposal. These observations are styled as being responsive to particular areas that require additional discussion, but in actuality, they do not exist in isolation. Many components are intertwined with other components and changes in one area may have positive (or negative) impacts on others.

B. The Goals and Impacts of Co-Optimization

An area that could use additional explanation and analysis concerns the goals and impacts of co-optimization under the ICCM. PSEG supports the concept of simultaneously co-optimizing the costs of achieving two desired goals when they have a nexus. But PSEG questions if this concept is fully realized in the current ICCM proposal. Additional specificity and clarity as to how capacity procurement and attributes procurement will be achieved is needed.

PSEG notes that Brattle offered to make a model available to enable simulation of outcomes under ICCM. PSEG has taken Brattle up on this offer and may be in a better position to comment on co-optimization after it has had the opportunity to run modeling simulations. For the present, however, PSEG offers some preliminary observations.

First, although styled as “co-optimization,” the ICCM construct seems to be directed mainly towards determining the optimal mix of the clean resources that need to be procured rather than determining an economically optimal equilibrium between the procurement of capacity and clean attributes. As PSEG understands its operation, the co-optimization mechanism procures the necessary clean attributes to meet each state’s goals and awards a capacity commitment to the resources that supply them. Effectively, this adds the capacity from the clean resources procured to meet the attribute demand curve to the bid stack comprising the capacity supply curve at a value equal to or below the bid of the marginal fossil resource needed to meet the residual capacity obligation. There apparently would be no benefit to allowing a clean energy unit to be the price-setting resource in the capacity market, because this would result in higher than necessary customer payments for fossil capacity-only resources. This pricing outcome would appear to be similar to what would be expected if the clean energy resources were allowed to bid in the capacity market at zero, until no fossil capacity is necessary to meet the capacity obligation.

Steep attribute demand curves derived from the exogenous environmental goals set by the states, in particular, would seem to drive pricing outcomes in which there is little co-optimization between attributes and capacity. The adoption of price ceilings or volume caps as part of the attribute demand curves could have an ameliorating impact by placing limits on how much would be paid for attributes.² However, it is not clear how states would set such limits in order to achieve effective co-optimized outcomes.³ If limits are set program-by-program by the states themselves, as seems to be contemplated, the impact on the capacity procurement would be about the same as if the states were to implement environmental programs as they do at present and resources receiving payments were permitted to bid as price-takers in the capacity market.

Second, it is not clear to PSEG whether there would be significant optimization efficiencies realized even among clean resources in many circumstances. On one hand, given that there likely will be a proliferation of clean resource types in the ICCM due to the varying characteristics for clean energy resources determined under state programs, attributes often will not be fungible. Substitution of one clean energy resource for another renewable resource will be limited in this circumstance. To the extent there are program carve-outs, no substitution can occur at all. On the other hand, to the extent that clean products are fungible and liquid across states, it is not clear why organic bilateral markets cannot clear them as efficiently or, potentially, even more efficiently. In fact, PSEG believes that there is a robust bilateral market in Class 1 RECs under Electric Discount and Electric Competition Act (“EDECA”) that exists at present.

Third, PSEG does not believe that co-optimization of resources receiving long-term contracts has been adequately explained. The ICCM proposal includes the option of 7 to 12 year contracts for new

² PSEG notes that the ICCM does contemplate that states may impose caps based on “volumes or program costs.” Brattle ICCM Report, p. 8. The ICCM report also states that “The specific price and quantity parameters of the curve could be pre-approved by each state’s policymakers and adjusted over time,” and that the example at Figure 6 includes a “price cap.” Brattle ICCM Report, p. 11. These features would represent a judgement by the state to limit the amounts paid for clean attributes and thereby potentially fail to clear some attribute offers.

³ One area that PSEG believes should be explored is whether the attributes demand curves can be designed to have a maximum price based on the social cost of carbon or a derivative of the social cost of carbon. A cap of that type might yield more co-optimization benefits.

renewable resources. PSEG agrees that long-term contracts can lower development costs for new clean resources. But since the capacity market clears only one year at a time, it is not clear how the ICCM can co-optimize capacity and clean energy attributes due to the lack of alignment in the term of the procurements, i.e., one year for capacity versus 7 to 12 years for attributes. Further, given that current penetration levels of renewables are currently well below what will be needed to achieve many state goals, there would appear to be the potential for a large share of new renewables opting for long-term contracts. Presumably, resources with long-term contracts would be included in the capacity supply curve at zero for all years of the contract term after the first year. Finally, PSEG believes that consideration should be given to providing long-term contracts to existing resources. For example, nuclear plants would benefit from longer term arrangements as they regularly need to make significant capital expenditures. Such contracts could help states achieve clean energy goals at lower cost just as much as long-term contracts for new facilities.

The main justification for adopting the ICCM proposal would be to achieve co-optimization between capacity and attributes procurements. At the present juncture, however, given the concerns discussed above, it is difficult to envision how the dual procurement structure will realize significant co-optimized efficiencies beyond what is already achieved by simply relying on bilateral transactions and new entrants' expectations for future attributes and capacity clearing prices. In sum, based on our initial review, it appears that state attribute programs are satisfied against their respective demand curves, and if those resources want to participate as capacity, their supply is factored into the capacity procurement as price taking resources. There does not appear to be a meaningful economic tradeoff between the value of attributes and the value of capacity as we currently understand the proposal. Evaluation of modeling results will be helpful in determining whether implementing ICCM results in a more efficient outcome than simpler and more transparent approaches such as running the procurements separately and sequentially.

C. Elimination of the Minimum Offer Price Rule

The ICCM proposal indicates that its adoption by PJM would enable the MOPR to be eliminated as applied to resources receiving state support for their environmental characteristics. As stated in the report, "Because the ICCM procures the specified percentage of clean energy in a competitive fashion, there is no longer any need for a MOPR; all clean energy resources are eligible to clear the ICCM auction without mitigation."⁴ PSEG is fully supportive of MOPR reform and is currently arguing on appeal that FERC's determination expanding the MOPR was not justified and should be reversed or remanded. But PSEG believes that additional explanation is needed regarding how, accepting FERC's rationale for expanding the MOPR, adoption of the ICCM would address the concerns that FERC identified.

FERC's rationale for expanding the application of the MOPR to resources that receive state support because of their environmental characteristics is the claim that such resources will have the ability to offer into the capacity market as price-takers. FERC states that this could suppress prices below competitive levels for resources that do not receive state support. As asserted in the MOPR

⁴ Brattle ICCM Report at 7.

rehearing order, “The Commission rested its conclusions regarding subsidies causing price distortions on the economic theory that resources receiving subsidies will be able to offer below their costs.”⁵

The ICCM proposal may be susceptible to the same concern identified by FERC in that states have the ability to carve out their own programs from the competitive procurement mechanism. The quantities of capacity obtained through these programs are then included in the capacity supply curve used to derive capacity prices as price-takers. Arguably, this would be of even greater concern to FERC than the concern identified in its MOPR orders in that not only are state supported resources “able” to offer as price takers in the capacity market but, effectively, they become obligated to do so. Further, for the reasons discussed above, assuming that the curves used for the procurement of attributes are determined by the states, it would appear that the potentially suppressive impact of state programs identified by FERC as support for the MOPR expansion would be formalized within the co-optimization mechanism.

The rules governing the MOPR and FERC’s rationale for expanding the MOPR as expressed in its orders may present problems for well-intentioned market design proposals like ICCM that seek to integrate capacity and attributes procurements as a PJM program. However, even if this issue cannot be addressed as a construct within the PJM tariff, the option for implementation of the ICCM within the FRR framework by interested states would still be viable. Because, at least initially, the ICCM may not solve the double payment issues created by the MOPR as a PJM program, its consideration should be evaluated simultaneously with a potential FRR⁶.

D. Market Power Mitigation

An area that was not addressed during Brattle’s presentation of the ICCM proposal is whether there will be a need for market power mitigation in the attributes procurement and, if so, how will mitigation be performed. As noted above, the ICCM contemplates that price caps could be determined for particular resources. However, the potential need for bid caps or a “must offer” requirement is not mentioned. If the owner of a particular resource type is pivotal within a particular procurement attribute category, it apparently could bid at the price cap and clear, or determine that its broader economic interests are best served by not offering. This will especially be a concern for procurements of resource categories have specific characteristics as to technology type or location. Consideration should be given to including mitigation procedures for the attribute procurements.

E. Inefficiencies Associated with Multiple “Products”

While PSEG supports the ICCM goal of allowing states to retain control over how they achieve their clean energy goals, the inclusion of this flexibility may limit efficiency gains in the procurement of attributes. If states create narrow “products,” i.e., impose specific requirements for resources supplying clean attributes related to parameters such as technology type, location and date of construction, the

⁵ *Calpine Corp., Dynegy Inc., E. Generation, LLC, Homer City Generation, L.P., NRG Power Mktg. LLC, Genon Energy Mgmt., LLC, Carroll Cty. Energy LLC, C.P. Crane LLC, Essential Power, LLC, Essential Power Opp, LLC, Essential Power Rock Springs, LLC, Lakewood Cogeneration, L.P., Gdf Suez Energy Mktg. Na, Inc., Oregon Clean Energy, LLC & Panda Power Generation Infrastructure Fund, LLC*, 171 FERC ¶ 61,034, P 34 (2020).

⁶ This issue is complicated by the current PJM capacity reform issue and FERC process addressing evolving markets, which are running simultaneously with the Board’s resource adequacy investigation. Interim reforms at PJM or FERC may impact these determinations.

market for supplying such resources can be expected to be smaller and less competitive. Further, as discussed above, market power concerns are more likely to arise.

An aspirational goal apparently underlying the ICCM proposal is that states will agree to procure more generic “products,” not limited to particular technologies, location or with other eligibility restrictions. However, the ICCM lacks any incentives to make that occur and, in fact, “homogenization” of resource characteristics may be antithetical to the achievement of particular state goals. For example, New Jersey has specific policy objectives around various resources types such as solar, offshore wind, energy efficiency and storage. Finally, as noted above, it is not clear why, if product definitions were inclusive, robust bilateral markets could not offer similar efficiencies.

F. Administrative Complexity

The ICCM proposal appears to entail a great deal of administrative complexity. There would apparently need to be many different demand curves for attributes used in the procurement process. The results for each of these curves would then have to be integrated into the capacity market curves and cleared by their respective Locational Delivery Areas. In addition, there would apparently need to be several iterations of this process. This would appear to require a significantly larger administrative efforts in a clearing process that already takes a week just for the capacity procurement. Further, the auction outcomes are likely be more opaque to market participants. PSEG does not believe that complexity alone should thwart the adoption of an economically sound program but PSEG does believe that complexity should be taken into account in deciding among options.

G. Potential Impact of the Dormant Commerce Clause

The so-called “dormant commerce clause” of the United States Constitution prevents states from taking actions that inappropriately limit interstate commerce. Clearly, not all limitations imposed by states are prohibited and the application of the doctrine in any particular case is very fact specific. The Brattle report, however, seems to gloss over any potential concerns saying, seemingly, that states can simply direct PJM to implement procurements in which the resources are located in specific state.⁷ If the ICCM program is implemented, any such procurement restrictions would need to be evaluated carefully.

H. Conclusion

Implementation of the ICCM proposal would be an ambitious, but complex undertaking. If adopted in this form or even in a significantly revised form, it would likely take years to implement throughout the PJM footprint or even among several states. Likely, if New Jersey were committed to doing so, it could implement some version of ICCM relatively quickly as a New Jersey state-wide FRR. However, even this would be not be simple.

The ICCM proposal is certainly worthwhile for consideration and, at a minimum, provides a useful vehicle for discussing the issues surrounding how New Jersey can best achieve its clean energy goals. PSEG believes that the state should take all options into consideration, and evaluate what

⁷ The Brattle ICCM report states, for example, “ZECs: Each state determines whether in state and out-of-state nuclear qualifies.” Brattle ICCM Report at 15, Table 1. PSEG further notes that the New Jersey ZEC program is not limited to instate resources. Rather the New Jersey program provides for eligibility criteria and a ranking process in which all nuclear resources may participate regardless of the state in which they are located.

approach (or approaches) through time will help the state meet its objectives in the most efficient manner for its residents. At present, renewables penetration is relatively low. Even if ICCM could realize significant efficiencies in world in which renewables are a predominate source of electric power, a comprehensive and complex approach such as the ICCM may not be the best choice for now. As discussed above, the impact of adopting the ICCM at present may be not much different than if MOPR reforms were implemented – which appears to be a possibility. Finally, if the main concern the Board wishes to address at present is the risk of “double payment” in the capacity market for state supported resources that might fail to receive capacity commitments due to MOPR, there are simpler FRR approaches that could be employed.⁸

In closing, PSEG again commends the Board for its leadership role in addressing climate change and looks forward to working with the Board and other stakeholder in addressing this important issue.

Very truly yours,

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⁸ See e.g., *Investigation of Resource Adequacy Alternatives*, BPU Docket No. EO20030203, “Post-Technical Conference Comments of PSEG,” (October 2, 2020) (available at https://publicaccess.bpu.state.nj.us/DocumentHandler.ashx?document_id=1226722).