

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements

Rulemaking 16-02-007
(Filed February 11, 2016)

**COMMENTS OF THE DEPARTMENT OF MARKET MONITORING OF
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
ON ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S RULING
INITIATING PROCUREMENT TRACK AND SEEKING COMMENT ON POTENTIAL
RELIABILITY ISSUES**

The Department of Market Monitoring (“DMM”) of the California Independent System Operator Corporation (“CAISO”) submits these comments on the Assigned Commissioner and Administrative Law Judge’s Ruling Initiating Procurement Track and Seeking Comment on Potential Reliability Issues, issued June 20, 2019 (Ruling).

I. Background

The Assigned Commissioner’s Ruling provides a valuable summary of trends in the bilateral resource adequacy market as observed by Commission staff, which point to a need for additional system resource adequacy as early as 2021. The Ruling also puts forth a variety of near-term options to reduce the tightness of the resource adequacy market and address reliability concerns. DMM supports the CPUC’s efforts to examine options and move to address these concerns on an expedited basis, and appreciates the opportunity to provide comments on some of these issues and options.

As summarized in these comments, DMM shares the Commission’s concern about the tightness of the resource adequacy market and the need to address near-

term reliability concerns. In addressing these concerns, DMM encourages the Commission to also consider the implications of procurement by the state's LSEs not only on capacity and reliability, but also in terms of hedging energy costs and mitigating potential system-level market power in the CAISO's energy markets. DMM also shares the Commission's concern about increased reliance on RA imports, and encourages the CPUC, CAISO and stakeholders to consider additional changes to the RA import rules that may increase both system reliability and overall market competitiveness.

II. DISCUSSION

Role of Bilateral Procurement in the CAISO's Energy Markets

California's RA program rules are focused primarily on ensuring sufficient capacity to ensure reliability, rather than to ensure a competitive supply of energy or hedging of high energy prices by LSEs. Thus, recent discussions of RA requirements in CPUC and CAISO proceedings have focused largely on the reliability implications of RA rules during the limited number of hours when the CAISO system may face an actual scarcity of supply to meet demand.

In practice, however, the state's LSEs have traditionally met most RA import capacity requirements through some form of firm energy purchases or options. Such "bundling" of energy with import capacity used to meet RA requirements has played an important role in helping to ensure a competitive supply of energy to the CAISO day-ahead and real-time energy markets. Likewise, the bulk of RA requirements for capacity within the CAISO have been met by generation under some form of energy tolling agreement or forward energy contract with LSEs, which has also helped mitigate

potential market power in the CAISO's day-ahead and real-time energy markets. Such energy contracts or tolling agreements reduce the potential for system market power by reducing the amount of energy that must be purchased by LSEs in the CAISO's spot markets and providing LSEs with hedges against the potential for uncompetitive high energy prices.

DMM has expressed concern about a recent trend of increased reliance on capacity-only or energy limited resources to meet RA requirements. These include RA imports, as well as thermal resources within the CAISO under capacity-only RA contracts and energy limited renewable resources with limited output during the hours when net loads -- and the potential for uncompetitive supply conditions -- are highest. Such resources typically provide more limited benefits in terms of hedging LSEs' energy costs and mitigating potential system-level market power in the CAISO's energy markets.

Thus, DMM encourages the Commission to consider the implications of its procurement rules and bilateral procurement by the state's LSEs not only on capacity and reliability, but also in terms of hedging energy costs and mitigating potential system-level market power in the CAISO's energy markets.

Resource Adequacy Imports

The Ruling highlights the Commission's concern about any increased reliance on RA imports that might result from retirements or mothballing of existing thermal resources absent other action by the Commission. DMM shares this concern.

DMM has longstanding concerns that existing resource adequacy rules could allow a significant portion of RA requirements to be met by imports that may have

limited availability and value during critical system and market conditions.¹ If RA import capacity is not scheduled in the day-ahead market or residual unit commitment (“RUC”) process, these resources have no further obligation to bid into the real-time market. Thus, by simply bidding at or near the \$1,000/MWh bid cap in the day-ahead market, RA imports can receive RA capacity payments while providing no real benefits in terms of either system reliability or market competitiveness.

In 2018, DMM observed increases in both the quantity of imports used to meet RA obligations and the quantity of import RA capacity bid in at high prices in the day-ahead market during peak summer hours. DMM has recommended that the CAISO work with Local Regulatory Authorities to clarify rules for RA imports. Specifically, DMM has recommended that the CAISO and stakeholders come to an explicit policy decision on whether or not RA imports need to be backed by specific generation resources and how such requirements should be enforced in practice. In addition, DMM has recommended that the CAISO consider establishing some type of real-time bidding obligation for RA imports that are not scheduled in the day-ahead in the real-time market.

DMM notes that RA requirements met by capacity-only imports may be especially problematic from the perspective of both system reliability and energy market power. Unlike most resources within the CAISO, capacity-only imports have no real-time bidding obligation and cannot be called upon by the CAISO at any point after the

¹ *2018 Annual Report on Market Issues and Performance*, Department of Market Monitoring, May 2019, p. 269:

<http://www.caiso.com/Documents/2018AnnualReportonMarketIssuesandPerformance.pdf>

Import Resource Adequacy, Department of Market Monitoring, September 10, 2018:

<http://www.caiso.com/Documents/ImportResourceAdequacySpecialReport-Sept102018.pdf>

day-ahead market unless these resources clear in the day-ahead market. This clearly limits the value of RA imports in ensuring system reliability in real-time. Moreover, while many resources within the CAISO are subject to cost-based commitment cost bid caps and local energy market power mitigation provisions, imports used to meet RA requirements are not subject to any type of bid or price mitigation. Thus, increased reliance on such capacity-only imports to meet RA requirements may decrease both system reliability and CAISO market competitiveness.

Discounting of Resource Adequacy Imports

The discussion of potential solutions to the Commission's near-term reliability concerns in the Ruling includes discounting RA imports by 1/3 to account for the risks associated with increasing RA imports.² DMM is concerned that such discounting of RA imports would simply increase the amount and cost of RA imports procured, without resulting in any commensurate increase in system reliability or market competitiveness. Again, by simply bidding at or near the \$1,000/MWh bid cap in the day-ahead market, RA imports can receive capacity payments while providing no real benefits in terms of either system reliability or market competitiveness.

DMM encourages the CPUC, CAISO and stakeholders to instead consider other changes to the RA import rules that may increase both system reliability and overall market competitiveness. As discussed below, such changes could include rules or guidelines that require RA imports to be backed by specific resources, extending the must-offer obligation of RA imports beyond the day-ahead market into the real-time

² Ruling, p.15.

market, and encouraging RA imports capacity to be “bundled” with some type of energy sales agreement or contract.

CAISO Resource Adequacy Rules

As part of the CAISO’s current Resource Adequacy Enhancements initiative, the CAISO is proposing to require specification of the Source BA for all RA imports.³ However, the CAISO is no longer considering extension of the RA must-offer requirement beyond the day-ahead market and into the real-time market.⁴ The CAISO’s rationale for not pursuing any mechanism to ensure all import RA can be available to the CAISO when needed is as follows:

Requiring a real-time bidding obligation for all non-resource specific RA imports could have a negative impact on the efficient utilization of the transmission, potentially increasing overall costs to serve load. This could occur if an RA import resource’s bid in the real-time was priced at a level that would not clear the market, precluding the utilization of that reserved transmission capability. In this potential scenario a lower cost energy import that may have cleared the real-time market could be precluded from being awarded and overall costs to serve load could be increased in comparison. For these reasons, CAISO believes it is appropriate to maintain the current real-time bidding rules for non-resource specific RA imports.⁵

However, under the CAISO’s proposed changes, import RA could still avoid any meaningful must-offer obligation in both the day-ahead and real-time markets by bidding at or near the \$1,000/MWh bid cap in the day-ahead market. DMM is concerned that this approach may simply increase the cost of procuring RA import capacity (by requiring specification of a source balancing area), without resulting in any actual

³ *Resource Adequacy Enhancements Revised Straw Proposal*, California ISO, July 1, 2019, pp.44-45. <http://www.caiso.com/Documents/RevisedStrawProposal-ResourceAdequacyEnhancements.pdf>

⁴ *Resource Adequacy Enhancements Revised Straw Proposal*, pp.46-47.

⁵ *Resource Adequacy Enhancements Revised Straw Proposal*, pp.46-47.

increase in system reliability or market benefits. Thus, DMM encourages the CAISO and CPUC to continue consideration of options to ensure that sufficient import RA capacity is available in both the day-ahead and real-time markets to meet the reliability goals of the RA program.

Energy Delivery Requirements for RA Imports

A key aspect of the CPUC's RA import rules involves the extent to which RA imports should be "bundled" with a requirement to provide firm energy. As noted above, the fact that the state's major load serving IOUs have traditionally met most RA import capacity requirements through some form of firm energy purchases or options has helped contribute to the overall competitiveness of the CAISO day-ahead and real-time energy markets. However, given the significant increase in reliance on imports to meet RA requirements which may occur – coupled with the significant amount of solar and other renewable energy now available during many hours – DMM urges the CPUC to avoid RA import requirements that could increase the amount of self-scheduled imports, especially during the hours of peak solar production.

DMM believes it is important for the CPUC and CAISO to seek to identify options that will avoid "speculative" RA import contracts and ensure that RA imports provide value in terms of system reliability and market competitiveness, without requiring that all RA imports be scheduled as energy under all conditions. When system energy prices are lower than the marginal costs of specific RA imports which are not needed to meet system demand, it is more efficient and economical to allow higher cost RA imports to not be dispatched. Likewise, all RA imports may not need to be offered and available in the real-time market all hours to ensure system reliability and increase market competitiveness.

DMM appreciates the challenge of developing procurement rules and guidelines for RA imports that achieve all of these objectives. However, given the increasing role that RA imports are likely to play in CASO system reliability and market competitiveness, DMM recommends further consideration of options by the CPUC, CAISO and stakeholders.

Benchmarking of other ISO/RTO Rules for Imports Used to Meet System Reliability Requirements

As previously noted, DMM has recommended that the CPUC, CAISO and stakeholders consider changes in rules or guidelines that require RA imports to be backed by specific resources and extending the must-offer obligation of RA imports beyond the day-ahead market into the real-time market. DMM believes the combination of such rules could also encourage RA imports capacity to be “bundled” with some type of energy sales agreement or contract. To help address these issues, DMM has conducted benchmarking with other ISOs regarding similar rules that apply to import capacity used to meet system reliability requirements – through either a resource adequacy program or a capacity market.

DMM’s review indicates that other ISOs require that such capacity imports be tied to specific generation resources. Other ISOs’ processes require, at a minimum, that suppliers demonstrate that the import capacity has not been sold into another balancing area or resource adequacy market, and that the energy delivered by the import resource is both deliverable and not recallable or curtailable by the source balancing area. However, these other ISOs do not require that RA imports include actual delivery of firm energy to the ISO.

Summary of Other ISO/RTO Rules for Imports Used to Meet Capacity Requirements

ISO/RTO	Must be tied to a physical resource?	Firm transmission required?	Qualifications to be a capacity resource (registration processes)	Energy market Must Offer Obligation
ISO-NE ⁶	Yes	No	1) Provide proof that contract covers the capacity period 2) Provide proof of ownership or direct control of external resource(s) used to back the import resource 3) Demonstrate capacity will be supported by the control area and that energy from the external resource will be afforded the same curtailment priority as the control area native load	Must bid into day ahead and real-time markets ⁷
MISO ⁸	Yes	Yes	1) Demonstrate firm transmission service from the external resource(s) to the MISO border 2) Attest that capacity is not sold to another balancing area or in any other resource adequacy construct	<u>Day-ahead:</u> Must bid into the day-ahead market and day-ahead reliability processes in all hours ⁹ <u>Real-time:</u> No offer obligation for capacity not scheduled day-ahead, but must respond to emergency operating procedures ¹⁰

⁶ ISO New England Market Rule 1 Section III.13, Forward Capacity Market, Sections 13.1.3.5. Qualification Process for New Import Capacity Resources:

https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_3/mr1_sec_13_14.pdf

⁷ ISO New England Market Rule 1 Section III.13, Forward Capacity Market, Section 13.6.1.2.1.

⁸ MISO Tariff, Module E, Section 69A.3.1.c., External Resources:

<https://cdn.misoenergy.org/Module%20E-1108026.pdf>

Resource Adequacy Business Practices Manual, Manual No. 11, MISO, Effective November 1, 2018, Section 4.2.5.2

⁹ MISO Tariff, Module E, Section 69A.5., Capacity Resource Must Offer and Performance Requirements

Resource Adequacy Business Practices Manual, Manual No. 11, MISO, Effective November 1, 2018, Section 6.1

¹⁰ *Resource Adequacy Business Practices Manual*, Manual No. 11, MISO, Effective November 1, 2018, Section 4.1

ISO/RTO	Must be tied to a physical resource?	Firm transmission required?	Qualifications to be a capacity resource (registration processes)	Energy market Must Offer Obligation
NYISO ¹¹	Yes ¹²	Yes ^{13*}	1) Certify that capacity sold to NYISO has not been sold elsewhere 2) Demonstrate deliverability to the NYISO 3) Demonstrate that capacity will not be recalled or curtailed by an external control area and NYISO load is afforded the same curtailment priority as the control area native load	<u>Day-ahead:</u> Must bid into the day-ahead market ¹⁴ <u>Real-time:</u> No offer obligation for capacity not scheduled day-ahead, but external capacity can be called by NYISO after the day-ahead market to be available in real-time ¹⁵
PJM ^{16 17}	Yes ^{18*}	Yes	1) Demonstrate firm transmission service that has been evaluated for deliverability from the resource to the PJM border 2) Provide letter ensuring that capacity and energy is not recallable to another balancing authority	Must bid into day ahead and real-time markets ¹⁹

¹¹ NYISO Market Services Tariff, Section 5.12.2.

¹² NYISO Installed Capacity Manual, March 2019, Sections 2.7, 4.9:

https://www.nyiso.com/documents/20142/2923301/icap_mnl.pdf/234db95c-9a91-66fe-7306-2900ef905338

¹³ NYISO Installed Capacity Manual, March 2019, Section 4.9.3:

*Demonstration of firm transmission service and deliverability could vary by source balancing area. For example, suppliers selling from PJM to NYISO must verify monthly that firm transmission service supports its capacity obligation for each day of the month of its obligation.

¹⁴ NYISO Installed Capacity Manual, March 2019, Section 4.8

¹⁵ NYISO Market Services Tariff, Sections 2.19 and 5.12.1.10

Note: NYISO also filed tariff changes on June 11, 2019 to implement a penalty for non-delivery in real-time for external capacity called upon by the NYISO to provide real-time reliability (*New York Independent System Operator, Inc., Proposed Tariff Revisions to Implement Modified Requirements for External Installed Capacity Suppliers*; Docket No. ER19-____-000)

<https://nyisoviewer.eteriff.biz/ViewerDocLibrary//Filing/Filing1483/Attachments/20190611%20NYISO%20External%20ICAP%20SRE%20Pen%20Filing%20Ltr.pdf>

¹⁶ Reliability Assurance Agreement Among Load Serving Entities in the PJM Region, p.17:

<https://www.pjm.com/directory/merged-tariffs/raa.pdf>

¹⁷ Manual 18: PJM Capacity Market, Rev. 41 (January 1, 2019), Section 4.2.2 Existing Generation Capacity Resources – External:

<https://www.pjm.com/~/media/documents/manuals/m18.ashx>

¹⁸ PJM requires external capacity resources to be pseudo-tied into PJM

¹⁹ Manual 11: Energy and Ancillary Services Market Operations, PJM, Rev. 41 (May 30, 2019), Sections 2.3.3A, 2.3.3.2

ISO/RTO	Must be tied to a physical resource?	Firm transmission required?	Qualifications to be a capacity resource (registration processes)	Energy market Must Offer Obligation
SPP ²⁰	Yes	Yes	<ul style="list-style-type: none"> 1) Attest that capacity is not sold to another BAA or in any other resource adequacy construct 2) Demonstrate ownership or contractual rights to external resources 3) Demonstrate firm transmission service from external resource to load 	<p><u>Day-ahead:</u> LSEs with load obligation must offer their resource capacity (including External PPAs) into the day ahead to cover load obligations.</p> <p><u>Real-time:</u> Resources available to be scheduled in real-time have a must offer obligation into real-time²¹</p>

²⁰ Southwest Power Pool Open Access Transmission Tariff, Attachment AA Resource Adequacy, Sections 2.0, 7.3, and 7.5:
<https://www.spp.org/documents/58597/attachment%20aa.pdf>

²¹ Southwest Power Pool Open Access Transmission Tariff, Attachment AE Must-Offer Requirement, Sections 2.11.1-2.11.2

In sum, DMM believes it may be reasonable for the Commission and CAISO to consider whether additional rules and qualifications for import RA similar to those in other ISOs should be adopted to better ensure that import capacity will be available to the CAISO during critical operating days without incentivizing RA imports to self-schedule during non-critical periods.

III. CONCLUSION

DMM shares the Commission's concern about the tightness of the resource adequacy market and the need to address near-term reliability concerns. In addressing these concerns, DMM encourages the Commission to also consider the implications of its procurement rules and procurement by the state's LSEs not only on capacity and reliability, but also in terms of hedging energy costs and mitigating potential system-level market power in the CAISO's energy markets.

DMM also shares the Commission's concern about increased reliance on RA imports. However, DMM is concerned that discounting RA import capacity to 1/3 would simply increase the amount and cost of RA imports procured, without resulting in any commensurate increase in system reliability or market competitiveness.

Instead, DMM encourages the CPUC, CAISO and stakeholders to consider other changes to the RA import rules that may increase both system reliability and overall market competitiveness. Such changes could include rules or guidelines that require RA imports to be backed by specific resources, extending the must-offer obligation of RA imports beyond the day-ahead market into the real-time market, and encouraging RA imports capacity to be "bundled" with some type of energy sales agreement or contract.

Respectfully submitted,

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