

Comments on Resource Adequacy Enhancements Revised Straw Proposal

Department of Market Monitoring

July 24, 2019

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *Resource Adequacy Enhancements Revised Straw Proposal*.¹ In these initial comments, DMM provides comments and analysis relating to two main aspects of the *Revised Straw Proposal*:

- Analysis which CAISO contends “indicates that non-delivery of RA is not a significantly large or overly concerning magnitude, and therefore may not represent as substantial a reliability concern as CAISO’s initial analysis had suggested.”²
- The CAISO’s proposal to require specification of the Source BA for all RA imports, but no longer consider extension of any type of the RA must-offer requirement beyond the day-ahead market and into the real-time market.

DMM will submit comments on other aspects of the *Revised Straw Proposal* in separate comments.

Background

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

² *Revised Straw Proposal*, p. 43.

³ *2018 Annual Report on Market Issues and Performance*, Department of Market Monitoring, May 2019, p. 269:

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

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

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

\$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.

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. DMM has also 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.

Analysis of Resource Adequacy Imports

In the *Revised Straw Proposal*, the CAISO presents results of analysis performed “to determine if there is a problem with non-delivery of import RA when awarded in the CAISO real-time market.” As indicated in the Straw Proposal:

Looking at actual data from July 2017 to June 2018, CAISO observed that in any given hour the maximum amount of import RA classified as RA import non-deliveries does not exceed more than 1,000 MW. When comparing this value to the maximum hourly import RA showings, the amount of non-delivery is a relatively small fraction of the RA imports the CAISO anticipated [sic]. The data shows that the worst case scenario for every month (the one hour of the month with the most non-delivery of RA imports), is approximately 10% of the RA showing (i.e., maximum monthly non-delivery observed in a single hour averages approximately 10%).⁴

Based on this analysis, the CAISO goes on to conclude that:

Observations of around 10% average non-delivery of RA imports is comparable to WECC-wide average forced outage rates. For this reason, CAISO believes the potential reliability impact of RA import non-delivery may be less a concern than previously thought. The analysis indicates that non-delivery of RA is not a significantly large or overly concerning magnitude, and therefore may not represent as substantial a reliability concern as CAISO’s initial analysis had suggested.⁵

The results and conclusions put forth by the CAISO in the revised straw proposal (including Figure 10) are being submitted and cited by numerous suppliers in two ongoing CPUC proceedings addressing the CPUC rules relating to RA imports.⁶ Specifically, the CAISO’s results

⁴ *Revised Straw Proposal*, p. 42.

⁵ *Revised Straw Proposal*, p. 43.

⁶ *Assigned Commissioner’s Ruling Seeking Comment on Clarification to Resource Adequacy Import Rules*, R.17-09-020, California Public Utilities Commission, July 3, 2019.

and conclusions are being cited by these suppliers as indicating that CPUC should not make significant revisions to rules regarding RA imports aimed at increasing the reliability and amount of RA imports actually available and scheduled in the CAISO's markets.⁷

However, DMM believes the CAISO's analysis and conclusions in the Revised Straw Proposal is flawed and is being misused by participants in these other important CPUC proceedings. The CAISO's analysis only measures the "non-delivery" of RA imports based on the amount of RA import that are cleared in the CAISO real-time market, but are then not delivered (i.e. e-tagged). The issue highlighted by DMM involves the fact that RA imports can simply bid at or near the \$1,000/MWh bid cap in the day-ahead market to ensure they are not accepted, and then have no obligation to offer the supply into the real-time market. The CAISO analysis completely ignores this fact and only considers RA imports which are cleared in the real time market.

Information on the portion of RA imports which are offered in the real-time market during the 210 hours with the highest load is reported each year in the DMM's annual report.⁸ As illustrated in Figure 1 (yellow bars), these data show that during high load hours, only 59 percent to 70 percent of RA imports are offered in the real-time market.

Moreover, as illustrated by the CAISO's analysis in the Revised Straw Proposal, not all of the RA imports offered and cleared in the real-time are actually delivered, with non-delivery reaching 10 percent in many hours. While 59 percent to 70 percent of RA imports have been offered in the real-time market, CAISO operators may only be able to count on 90% of this to be delivered in the real-time market if dispatched. Thus, a net total of only 53 percent to 63 percent of RA imports may actually be deliverable in the real-time market (as shown by the green bars in Figure 1).⁹

Assigned Commissioner and Administrative Law Judge's Ruling Initiative Procurement Track and Seeking Comment on Potential Reliability Issues, R.16-02-007, California Public Utilities Commission, June 20, 2019.

⁷ For example, see:

Comments by Morgan Stanley Capital Group Inc. on Assigned Commissioner's Ruling Seeking Comment on Clarification to Resource Adequacy Import Rules, R.17-09-020, Morgan Stanley Capital Group Inc., July 19, 2019, p. 12.

Comments in Response to Assigned Commissioner's Ruling Seeking Comment on Clarification to Resource Adequacy Import Rules, R.17-09-020, Bonneville Power Administration, July 19, 2019, p. 2.

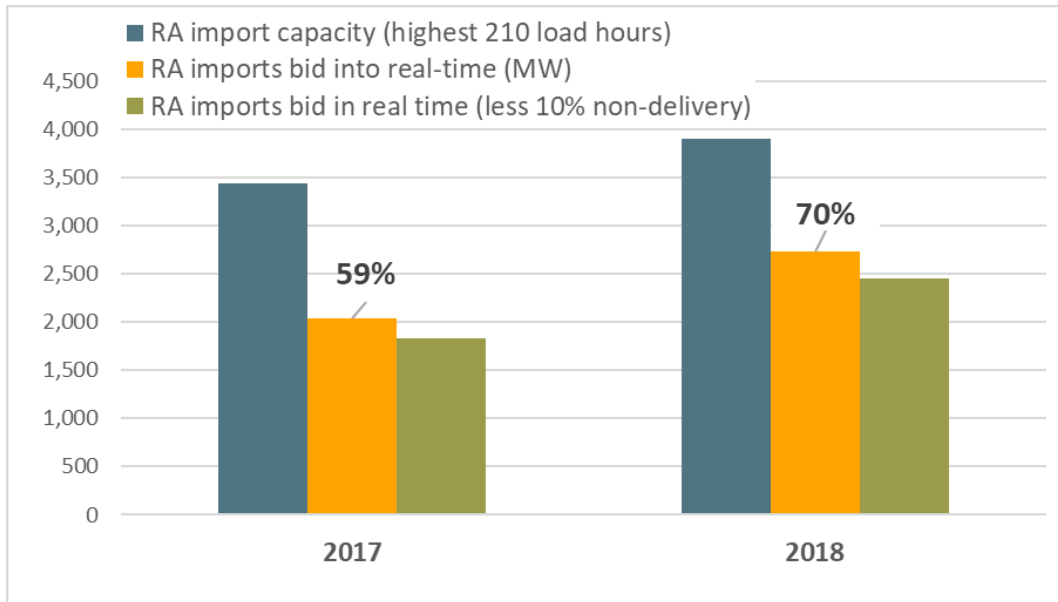
Comments of the Public Generating Pool on Ruling Seeking Comment on Clarification to Resource Adequacy Import Rules, R.17-09-020, Public Generating Pool, July 19, 2019, p. 3.

⁸ *2018 Annual Report on Market Issues and Performance*, DMM, Table 10.1, p. 234.

2017 Annual Report on Market Issues and Performance, DMM, Table 10.1, p. 229.

⁹ 59% x 90% = 53% and 70% x 90% = 63%.

Figure 1. Resource Adequacy Imports Offered in Real-time Market during 210 Highest Load Hours



Resource Adequacy Rule Changes

In the Revised Straw Proposal, the ISO is proposing to require specification of the Source BA for all RA imports.¹⁰ However, the ISO is no longer considering extension of the RA must-offer requirement beyond the day-ahead market and into the real-time market.¹¹ The ISO’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.¹²

¹⁰ *Resource Adequacy Enhancements Revised Straw Proposal*, California ISO, July 1, 2019, pp.44-45. <http://www.caiso.com/Documents/RevisedStrawProposal-ResourceAdequacyEnhancements.pdf>

¹¹ *Resource Adequacy Enhancements Revised Straw Proposal*, pp.46-47.

¹² *Resource Adequacy Enhancements Revised Straw Proposal*, pp.46-47.

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, without resulting in any actual increase in system reliability or market benefits. By requiring specification of a source balancing area, this additional rule would likely decrease the supply that could be offered as RA imports thereby increasing costs. However, if RA imports can submit high priced bids which do not clear in the day-ahead market and then have no obligation to offer the supply into the real-time market, it is unclear what additional reliability or market benefits will result from this rule change.

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 CAISO system reliability and market competitiveness, DMM recommends further consideration of options by the CPUC, CAISO and stakeholders that would increase the supply and availability of energy from RA imports beyond the day-ahead market into real-time. Such options need not be an all-hours must-offer for all RA imports, such as exists in other RTO/ISO's, as described in the following section. Options might include mechanisms to increase the amount of RA imports clearing the day-ahead market in tight supply conditions or high load uncertainty, and/or a more targeted means of ensuring sufficient RA imports are offered into real-time through the residual unit commitment process. Options may involve a combination of RA rules for imports established by the CPUC as well as CAISO market rules.

Benchmarking of other ISO/RTO Rules

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 (see attached tables).

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.

DMM believes the ISO, CPUC and stakeholders should continue to consider whether other additional rules and qualifications for import RA similar to those in other ISOs should be adopted to better ensure that RA import capacity will be available to the CAISO during critical operating days and market conditions. As previously noted, such options need not be an all-hours must-offer for all RA imports, such as exists in other RTO/ISO's. Other options may also involve a combination of RA rules for imports established by the CPUC as well as CAISO market rules.

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 ¹³	Yes	No	<ol style="list-style-type: none"> 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 ¹⁴
MISO ¹⁵	Yes	Yes	<ol style="list-style-type: none"> 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 	<p><u>Day-ahead:</u> Must bid into the day-ahead market and day-ahead reliability processes in all hours¹⁶</p> <p><u>Real-time:</u> No offer obligation for capacity not scheduled day-ahead, but must respond to emergency operating procedures¹⁷</p>

¹³ 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

¹⁴ ISO New England Market Rule 1 Section III.13, Forward Capacity Market, Section 13.6.1.2.1.

¹⁵ 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

¹⁶ 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

¹⁷ 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 ¹⁸	Yes ¹⁹	Yes ^{20*}	<ol style="list-style-type: none"> 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 	Day-ahead: Must bid into the day-ahead market ²¹ Real-time: 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 ²²
PJM ^{23 24}	Yes ^{25*}	Yes	<ol style="list-style-type: none"> 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 ²⁶

¹⁸ NYISO Market Services Tariff, Section 5.12.2.

¹⁹ 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

²⁰ 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.

²¹ NYISO Installed Capacity Manual, March 2019, Section 4.8

²² 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.etariff.biz/ViewerDocLibrary//Filing/Filing1483/Attachments/20190611%20NYISO%20External%20ICAP%20SRE%20Pen%20Filing%20Ltr.pdf>

²³ Reliability Assurance Agreement Among Load Serving Entities in the PJM Region, p.17:

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

²⁴ 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>

²⁵ PJM requires external capacity resources to be pseudo-tied into PJM

²⁶ 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 ²⁷	Yes	Yes	<ol 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-time²⁸</p>

²⁷ *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>

²⁸ *Southwest Power Pool Open Access Transmission Tariff*, Attachment AE Must-Offer Requirement, Sections 2.11.1-2.11.2