

Comments on Resource Adequacy Enhancements Final Proposal Phase 1

Department of Market Monitoring

March 10, 2021

I. Summary

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *Resource Adequacy Enhancements Final Proposal – Phase 1*.¹ DMM provides comments on the three topics included in the final proposal:

- In RA Enhancements Phase 1, the ISO proposes to require all resource adequacy resources taking planned outages to provide substitute capacity starting in summer 2021. DMM is not certain that the potential benefits of the proposal will outweigh the potential risks and costs the proposal could create. However, given that the ISO and CPUC staff believe that this interim policy will be beneficial overall for reliability, DMM will defer to their judgment and will support this proposal. On one hand, the proposal may create stronger incentives for resource owners that are planning maintenance far in advance of the outage date to try to procure substitute capacity farther in advance. On the other hand, DMM has some concern that the proposal may increase incentives for suppliers to delay reporting intended maintenance outages to the ISO in the planned outage timeframe in situations where suppliers cannot find reasonably priced substitute capacity. DMM believes the proposal could also increase incentives for suppliers to withhold excess capacity from bilateral markets in order to reserve it for their own unforeseen maintenance needs. Therefore, the proposal could further tighten bilateral resource adequacy markets, making it more difficult for suppliers to find reasonably priced substitute capacity for important maintenance outages. DMM looks forward to working with the ISO and stakeholders on a longer term proposal under RA Enhancements Phase 2 which could address these issues.
- DMM does not oppose the ISO's revised proposal for utilizing a minimum state of charge constraint for energy storage resources. The ISO has pared this proposal down significantly, so that the functionality would only be used on days with RUC infeasibilities. On these limited days, operators would also have the option to eliminate the minimum stage of charge requirements in real-time. DMM's understanding is that in the absence of this proposal, operators would still have the authority to effectuate the exact same outcomes through less transparent manual dispatches.
- DMM supports the ISO expanding its authority to issue CPMs to ensure that local capacity resources can meet energy needs in local areas and sub-areas. While DMM supports the

¹ *Resource Adequacy Enhancements Final Proposal – Phase 1*, California ISO, February 17, 2021:
<http://www.caiso.com/InitiativeDocuments/ResourceAdequacyEnhancements-Phase1FinalProposal.pdf>

ISO extending its backstop procurement authority under this proposal, DMM suggests that the ISO continue to work on developing new cost allocation rules for CPMs issued to address energy deficiencies.

DMM provides additional comments on these issues below.

II. Planned outage process enhancements

In RA Enhancements Phase 1, the ISO proposes to require all resource adequacy resources taking planned outages to provide substitute capacity starting in summer 2021. DMM is not certain that the potential benefits of the proposal will outweigh the potential risks and costs the proposal could create. However, given that the ISO and CPUC staff believe that this interim policy will be beneficial overall for reliability, DMM will defer to their judgment and will support this proposal. DMM looks forward to working with the ISO and stakeholders on a longer term proposal under RA Enhancements Phase 2.

On one hand, the proposal may create stronger incentives for resource owners that are planning maintenance far in advance of the outage date to try to procure substitute capacity farther in advance where more substitution capacity may be available. The ISO proposal may also provide suppliers with greater certainty that planned outages submitted in advance will not be subsequently cancelled if substitution capacity is brought to the ISO up front. However, the risk of cancellation is not completely eliminated by the ISO's proposal as system conditions could still change between the outage submission and the planned outage study window.

While the ISO's proposal may introduce some benefits in terms of encouraging suppliers to contract for substitute capacity farther in advance relative to the status quo, there are also potential downsides to the ISO's proposal. Ultimately it is not clear to DMM how various changes in incentives will play out.

Under the status quo, suppliers have an incentive to submit planned outages in advance as there is a chance that outages may be approved without a substitution obligation if the ISO determines the system can accommodate the outage. The ISO's proposal may eliminate some incentives to submit planned outages early if substitution will always be required. The ISO's proposal may have the unintended result of suppliers opting to submit maintenance outages to the ISO later than they might have under the current POSO process – particularly for planned maintenance which arises closer to the outage date and requires suppliers to seek substitute capacity in a shorter timeframe.

For example, under the ISO proposal, substitute capacity available in the month ahead timeframe may be more scarce than today as it is likely that more capacity will be dedicated towards covering planned outages scheduled farther in advance. Additionally, suppliers that are long on capacity may have more incentive to hold onto, rather than sell, excess capacity to

hedge for the possibility that their resource adequacy fleet will require unforeseen planned maintenance that may arise intra-year or intra-month.

Suppliers may make an economic decision to delay procuring substitute capacity if potential RAAIM charges are less than the cost of procuring substitute capacity or if substitute capacity is not available. Suppliers may also delay procuring substitute capacity if the only reasonably priced available substitute capacity is not in the same local constrained area as the resource going on outage because with non-local substitute capacity, the supplier may still face risk that the ISO would deny the planned outage. In scenarios where substitute capacity may be expensive, unavailable, or ineffective, suppliers may have the incentive to wait until after the planned outage window to submit an outage as forced. The outcome of this effect is that the ISO's policy may result in suppliers submitting outages later, which could be detrimental to reliability if the ISO has limited lead time to plan for an increased number of forced outages.

As described above, the ISO's proposal provides certainty that suppliers will need substitute capacity which should incent suppliers thinking about taking a maintenance outage to look for substitute capacity earlier in the planning process. However, the proposal could also incent suppliers who cannot find reasonably priced substitute capacity to delay informing the ISO about an important maintenance outage. Suppliers in this situation may even have the incentive to wait until after the planned outage timeframe to submit the outage as forced (instead of submitting as planned, knowing it will be rejected without substitution and having to then submit as forced) in order to reduce the regulatory risk associated with resubmitting a planned outage as a forced outage after the ISO denies a planned outage.

DMM's understanding is that there is no explicit regulatory requirement for suppliers to notify the ISO about potential maintenance outages in the planned outage timeframe. Absent this type of explicit requirement, it is not clear that suppliers will have sufficient incentives to inform the ISO about potential maintenance outages in the planned outage timeframe, in situations where reasonably priced and effective substitute capacity is not available.

Monitoring for known planned outages submitted in the forced timeframe could become more complicated if suppliers wait to submit the outage until a point in time when the supplier determines that it must move forward with the maintenance outage.

Separately, DMM supports the ISO's proposal to make explicit that a new outage card must be submitted for planned outage extensions. This is an enhancement over the status quo. This process could help address scenarios like in August 2020 where a planned outage was extended into the August heatwave period. If requiring a separate outage card for planned outage extensions would allow the ISO to better manage outage extensions separately from the original planned outage, then DMM believes this proposal would be an improvement to current planned outage substitution processes.

III. Minimum state of charge proposal for storage resources

DMM shares the ISO's concerns that storage resources may have limited charge and thus limited energy going into peak net load hours. DMM agrees with the ISO that this issue becomes more relevant as batteries begin to comprise a larger portion of the resource adequacy fleet. DMM has observed that on most days, most batteries providing resource adequacy do not have sufficient state of charge to provide resource adequacy values across four consecutive peak net load hours. While this lack of charge may not be an issue on most days, DMM believes that it will be important that the ISO enhance its processes for issuing exceptional dispatches to storage resources to ensure resources have sufficient state of charge to deliver energy across peak net load hours when needed.

The ISO proposes to enforce minimum state of charge constraints on resource adequacy battery resources in the real-time market to ensure that batteries will have sufficient state of charge to meet day-ahead discharge schedules under limited conditions.

DMM does not oppose the ISO's revised proposal for utilizing a minimum state of charge constraint for energy storage resources.

The ISO has pared its minimum state of charge proposal down significantly, so that functionality would only be used on days with RUC infeasibilities. On these limited days, operators would also have the option to eliminate the minimum stage of charge requirements in real-time. DMM's understanding is that in the absence of this proposal, operators would still have the authority to effectuate the exact same outcomes through less transparent manual dispatches.

DMM's understanding is that CAISO operators have the authority to manually dispatch batteries such that resources are charged sufficiently to meet day-ahead schedules regardless of this proposal. Therefore, in the absence of this proposal, operators would still have the authority to effectuate the exact same outcomes through less transparent manual dispatches. From this perspective, the ISO's policy is effectively a more transparent explanation of a manual dispatch tool the operators would have at their disposal for dispatching batteries during very tight system conditions.

The ISO's proposal may not obviate the need for operators to have the flexibility to issue exceptional dispatches to storage resources in real-time. The ISO should continue to improve their processes for issuing exceptional dispatches to storage resources.

DMM continues to recommend that the ISO continue to seek ways to address shortcomings in current processes for issuing exceptional dispatches to storage resources that DMM identified in prior comments on RA Enhancements.²

Operators will continue to need the flexibility to be able to issue exceptional dispatches to storage resources in real-time, particularly if real-time conditions become more constrained than was predicted in the day-ahead market. The ISO has the ability to issue exceptional dispatches to storage resources today. However, DMM has observed that the ISO's current functionality and processes are very inflexible and could be significantly improved.

DMM has recommended that the ISO consider issuing exceptional dispatches as state of charge values instead of static megawatt values. DMM observed last summer that many exceptional dispatches were issued to battery resources with existing ancillary service awards. When static megawatt instructions were issued to these resources, this resulted in ancillary service awards becoming infeasible, forcing the ISO to procure ancillary services from other resources in real-time. Issuing exceptional dispatches as minimum or target state of charge values would allow storage resources to better maintain any existing ancillary service awards.

DMM also observed last summer that some exceptional dispatch instructions issued to storage resources were infeasible given resources' existing state of charge values. Issuing exceptional dispatches as minimum or target state of charge values would allow the market to assign resources more feasible schedules given resources' existing state of charge values.

IV. Backstop procurement for energy deficiencies in local areas

DMM supports the ISO extending its backstop procurement authority to ensure that local capacity resources can meet energy needs in local areas and sub-areas. DMM has expressed similar concerns as the ISO about an increased reliance on energy and availability-limited resources which may have limited output during hours when net loads are highest. Additionally, as storage resources begin to comprise a larger portion of the resource adequacy fleet, the energy required to charge storage resources and the storage capacity required to dispatch the energy through the night must also be accounted for in resource adequacy requirements.

Ideally, the ISO's energy requirements for local areas would be reflected in forward procurement requirements so that resources effective in meeting both the ISO's capacity and energy needs are procured in advance, and reliance on the ISO's backstop mechanisms is minimized. However, in the shorter term DMM supports the ISO expanding its backstop

² *Comments on resource adequacy enhancements draft final proposal – phase 1*, DMM, January 21, 2021, pp. 8-10: <http://www.caiso.com/Documents/DMMCommentsonResourceAdequacyEnhancements-DraftFinalProposalPhase1-Jan212021.pdf>

procurement authority to cure for potential energy deficiencies in local areas and sub areas based on local capacity technical studies.

DMM suggests that the ISO continue to work on revising cost allocation rules for CPMs used to address energy deficiencies. The ISO's existing CPM cost allocation methodology for local collective deficiencies assigns costs to load serving entities based on load serving entities' share of gross load in a TAC area.³ If the ISO issues CPMs to cure for energy deficiencies, existing cost allocation methodologies based on load serving entities' share of TAC area gross load may not follow cost causation principles.

For example, a load serving entity may have significant storage associated with its portfolio and insufficient energy from its other local resources to charge the storage resources, driving the need for a CPM. All load serving entities with a share of the local area requirement may incur CPM costs for the collective local energy deficiency based on their share of gross load, while only one load-serving entity's portfolio may have contributed to the need for the CPM.

It will be important for the ISO to continue working on developing appropriate cost allocation methodologies for CPMs used for curing energy deficiencies. Revised cost allocation rules will become even more important as the ISO seeks to extend CPM authority to cure for system energy deficiencies identified through the ISO's proposed portfolio assessments of system resource adequacy showings in its RA Enhancements Phase 2 proposal.

While DMM believes it will be important to continue developing cost allocation rules for CPMs issued to cure energy deficiencies, DMM supports the ISO expanding its authority to issue collective local deficiency CPMs to ensure reliability in local areas.

³ Tariff Section 43A.8.3