

Comments on Resource Adequacy Modeling and Program Design Track 2 – Revised Straw Proposal

Department of Market Monitoring

August 6, 2026

Overview

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *Resource Adequacy Modeling and Program Design Track 2 Revised Straw Proposal* published on July 15, 2026.¹ In these comments, DMM adds to our previous comments dated June 4, 2026, and includes additional comments on the following four issues:²

- **Penalty incentive prices.** The ISO has not yet demonstrated that the proposed two-tier assessment framework would provide sufficient incentive to limit the amount of RA capacity sold based on expected availability of the resource. Resource adequacy availability incentive mechanism (RAAIM) penalties should be calibrated so that expected non-availability costs are commensurate with bilateral resource adequacy (RA) prices and discourage the sale of RA capacity that is unlikely to be available. The ISO should clearly articulate the inputs used in the tiered trigger approach, and empirically assess how well the proposed two-tier assessment incentive meets this design objective.
- **Bounding RAAIM penalty.** DMM supports bounding the RAAIM penalty exposure, and recommends the ISO clearly articulate the bounds from empirical analysis. Minimum and maximum penalty bounds should preserve effective availability incentives while providing reasonable certainty regarding financial exposure. Simply ensuring the minimum bound does not incentivize resources trading off revenues between RAAIM penalties and RA revenues is crucial to achieving RAAIM reform.
- **RAAIM payments and cost causation.** Payments to load during a tier 2 RAAIM event (extended day-ahead market resource sufficiency evaluation failure) should not dilute the incentive of a load serving entity (LSE) to provide sufficient RA to the market.
- **Outage substitution.** DMM recommends the ISO demonstrate how the proposed “shopping cart” framework would improve upon existing bilateral outage substitution processes and address barriers that currently limit replacement capacity procurement.

¹ *Resource Adequacy Modeling and Program Design – RAAIM and Outage Substitution (Track 2) – Revised Straw Proposal*, California ISO, July 17, 2026: <https://stakeholdercenter.caiso.com/InitiativeDocuments/Revised-Straw-Proposal-Resource-Adequacy-Modeling-and-Program-Design-Track-2-Jul-17-2026.pdf>

² *Comments on Resource Adequacy Modeling and Program Design Track 2 – Straw Proposal*, Department of Market Monitoring, June 4, 2026: <https://www.caiso.com/documents/dmm-comments-on-resource-adequacy-modeling-and-program-design-track-2-straw-proposal-jun-04-2026.pdf>

Comments

The ISO has not yet demonstrated that the two-tier assessment framework would provide sufficient incentive to limit the sale of RA capacity to the expected availability of the resource

DMM continues to recommend RAAIM incentive prices be designed to ensure that resources do not have an incentive to sell RA capacity in excess of what they can reasonably expect to make available to the market.³ To align RA supply with expected operational capabilities, RAAIM penalty pricing should be aligned with market conditions such that expected penalties for non-availability meet or exceed any potential gains from selling RA capacity that cannot reliably perform.

As discussed in previous comments, DMM highlighted that under the proposed tier 1 RAAIM assessment framework, a resource supplying unavailable RA capacity would need to be assessed RAAIM for approximately 300 to 500 hours within that month (at the average 2025 day-ahead system marginal energy cost) for the total penalties to be commensurate with RA prices. Under the tier 2 penalty, unavailable RA capacity would need to be assessed penalties for approximately 15 to 25 hours for the total penalty to be commensurate with the RA payment received. However, since the CAISO balancing authority area (BAA) rarely fails the Western Energy Imbalance Market RSE, there is a low expectation of the CAISO BAA failing the extended day-ahead market BAA and triggering the tier 2 penalties.⁴ Taken together, it is unclear whether the proposed two-tier assessment framework will provide sufficient incentive to limit the sale of RA capacity to the expected availability of the resource.

In the revised straw proposal, the ISO did not provide any analysis demonstrating that the two-tiered approach will lead to RAAIM penalties that are aligned with the bilateral RA prices or be an improvement on the financial incentives of the existing RAAIM framework. However, the ISO indicated a need to perform a historical assessment of the tiered event methodologies to understand the financial exposure resulting from the revised RAAIM framework. DMM supports this historical assessment and recommends the ISO compare the resulting penalty exposure to historical RA prices. Such a comparison would provide an empirical basis for evaluating whether the event triggers and penalty bounds (discussed below) produce financial exposure that is aligned with bilateral RA prices.

DMM recommends the ISO clearly define the required timing and magnitude of the tier 1 RAAIM assessment to ensure it provides incentives for resources to be available during tight grid conditions and maintain a reliable system. As noted in previous comments by DMM, for the tier 1 penalties, the uncertainty buffer used in the calculation of the trigger will be an important design component to ensure RAAIM meets the policy reform goals.⁵ Given the importance of the uncertainty buffer, DMM continues to recommend the ISO more precisely define the uncertainty buffer for the tier 1 penalties and explain how the selected value supports the objectives of the RAAIM reform initiative.

³ *Ibid.*

⁴ *Comments on Resource Adequacy Modeling and Program Design Track 2 – RAAIM Reform Presentation*, Department of Market Monitoring, March 23, 2026: <https://www.caiso.com/documents/dmm-comments-on-rampd-track-2-raaim-reform-mar-02-2026-input-session-ahead-of-straw-proposal-mar-23-2026.pdf>

⁵ *Ibid.*

In summary, the ISO should demonstrate that the proposed framework results in expected penalties for non-availability that are sufficient to discourage the sale of RA capacity that is not reasonably expected to be available.

DMM supports bounding the RAAIM penalty exposure, and recommends the ISO clearly articulate the bounds from empirical analysis

While establishing an appropriate penalty price is critical, the effectiveness of the RAAIM framework will also depend on how penalty exposure is bounded. The proposed minimum and maximum bounds should effectively preserve incentives for availability while providing reasonable certainty regarding financial exposure.

The minimum bound is proposed to be a number of hours for which the availability mechanism must be triggered each month. The maximum is proposed to either be a cumulative number of event-hours, or a cap on the level of penalties to which a resource could be exposed to during the month. DMM supports bounding RAAIM penalty exposure. A minimum penalty framework will address the RAAIM penalty pricing incentives recommended in the above section, and a maximum bound will provide cost containment to ensure RAAIM penalties are not excessively punitive.

In the revised straw proposal, the ISO indicated it will use a historical assessment of the tiered event methodologies to aid in creating the RAAIM penalty bounds. As discussed above, DMM supports this empirical assessment and recommends the ISO pursue this exercise to set the bounds such that they are commensurate with RA price benchmarks. DMM continues to recommend using RA price benchmarks for the availability mechanism, including when establishing the minimum and maximum RAAIM bounds.⁶

RA benchmarks reflect bilateral RA market values and provide a penalty signal aligned with the market the policy is intended to influence. In contrast, real-time energy prices reflect short-term energy conditions rather than capacity value and may not provide a consistent incentive for RA availability. Setting the minimum and maximum RA bounds against RA price benchmarks would ensure the RAAIM incentive will be appropriately calibrated to improve RA market incentives and support reliability.

DMM requests the ISO further detail the interactions of RAAIM payments to load, and the interplay with the EDAM RSE

In addition to the level of penalties assessed, the effectiveness of the RAAIM framework depends on whether payment allocations preserve the intended incentives for both resources and load serving entities (LSEs). DMM previously recommended, and continues to request, the ISO clearly specify the tier 1 and 2 RAAIM payments to load, focusing on the cost causation with tier 2 triggers during extended day-ahead market (EDAM) RSE failures.⁷

⁶ *Comments on Resource Adequacy Modeling and Program Design Track 2 – Straw Proposal*, Department of Market Monitoring, June 4, 2026: <https://www.caiso.com/documents/dmm-comments-on-resource-adequacy-modeling-and-program-design-track-2-straw-proposal-jun-04-2026.pdf>

⁷ *Ibid.*

The ISO has proposed tier 1 payments be allocated *pro rata* across the RA and load allocation bases. For tier 2 penalties resulting from EDAM RSE failures, the ISO has proposed the same allocation structure used for tier 1 events. DMM recommends the ISO reconsider the design for tier 2, since RAAIM incentives should ensure that entities are not insulated from the consequences of interrelated policies, such as the EDAM RSE, through offsetting payments. Because EDAM RSE penalties are intended to incentivize adequate forward resource procurement and discourage reliance on neighboring BAAs, entities that contribute to an EDAM RSE shortfall should not receive offsetting RAAIM payments that materially reduce their exposure to those charges.

DMM recommends the proposal includes a two-by-two matrix detailing the allocations of payments when an LSE is or is not RA-sufficient, and when RA is available or unavailable. The overall goal of the design should be to ensure RAAIM payments defray EDAM RSE failure costs to LSEs with sufficient RA supply and availability, and not provide payments that offset the penalty imposed on an LSE with insufficient RA supply during an EDAM RSE failure. The goal of the payment design is to ensure the FERC-approved cost causation principles underlying the EDAM RSE program is not weakened by RAAIM payments.

DMM requests the ISO demonstrate the value of a “shopping cart” outage substitution solution

DMM continues to support development of an outage substitution mechanism that reduces search and coordination frictions, mitigates market power concerns, and disincentivizes strategic behavior.⁸ While DMM has recommended a reverse second price auction, the ISO has instead proposed a “shopping cart” approach. Given the resources required to develop this approach, DMM recommends the ISO demonstrate how the shopping cart would improve upon existing bilateral outage substitution processes and address barriers that currently limit replacement capacity procurement.

⁸ *Comments on Resource Adequacy Modeling and Program Design Track 2: Outage and Substitution Straw Proposal*, Department of Market Monitoring, September 19, 2026: <https://www.caiso.com/documents/comments-on-resource-adequacy-modeling-and-program-design-track-2-outage-and-substitution-straw-proposal-sep-19-2025.pdf>