# Comments on Resource Adequacy Modeling and Program Design Revised Discussion Paper and Final Recommendation Plan

# **Department of Market Monitoring**

August 12, 2024

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *Resource Adequacy Modeling and Program Design Revised Discussion Paper and Final Recommendation Plan* dated July 26, 2024.<sup>1</sup> DMM supports the developments and stakeholder engagement in the working group process, and recommends the ISO move Tracks 1-3 out of the working group process and into the policy process.

DMM supports resource adequacy (RA) enhancements as the generation mix evolves on the CAISO system. Resource planning frameworks in California and the West must meet the needs of variable supply conditions and new technologies, while improving the economic incentives for market participants to procure sufficient and operationally available capacity for the ISO markets. Below, DMM adds to our previous comments.<sup>2</sup>

As discussed further in these comments, DMM includes additions to (1) modeling and interdependencies, (2) UCAP and state-of-charge, (3) RAAIM reform and outage substitution, and (4) long-term solutions to EDAM RSE failures and backstop procurement.

# Track 1: Modeling and default standards

DMM supports Track 1 moving into the policy process. The modeling effort, and the incorporation of default standards through default planning reserve margins (PRM) and resource accounting, will increase the efficiency and equity of the CAISO market. Regardless of modeling results, having a vetted process in place for backstop, a default PRM, and default resource accounting provides for greater transparency moving forward.

DMM sees the modeling effort as a good step forward but recommends the ISO consider the interdependencies of unforced capacity (UCAP), outage substitution, the resource adequacy availability incentive mechanism (RAAIM), and capacity procurement mechanism (CPM). These policies are important as inputs and assumptions to the modeling effort, and should be treated as such in the timing of the forthcoming policy track.

<sup>&</sup>lt;sup>1</sup> Resource Adequacy Working Group: Revised Discussion Paper & Final Recommendation Plan, CAISO, July 26, 2024: <u>https://stakeholdercenter.caiso.com/InitiativeDocuments/Revised-Discussion-Paper-and-Final-Recommendation-Plan-Resource-Adequacy-Modeling-and-Program-Design-Working-Group-Jul-26-2024.pdf</u>

<sup>&</sup>lt;sup>2</sup> Comments on Resource Adequacy Modeling and Program Design, CAISO DMM, May 21, 2024: https://stakeholdercenter.caiso.com/Common/DownloadFile/9fc0d2a4-f615-41f0-812d-707c14f12ae4

#### UCAP and ambient derates

DMM continues to support resource adequacy accounting based on UCAP.<sup>3</sup> DMM further recommends particular attention be given to storage resources and their state-of-charge (SOC) limitations.<sup>4,5,6</sup> Limitations that prevent a storage resource from accessing its full SOC range may lead the resource to not have the requisite four-hours of deliverability to provide their shown resource adequacy. UCAP adoption and SOC limitations will have important interactions with outage reporting and RAAIM, which are discussed below.

# Track 2: Outage and substitution, availability and incentive mechanisms

# Changes to RAAIM

DMM continues to support changes to RAAIM, including modification of the RAAIM structure to assess penalties and payments on a daily basis to approximate a performance standard by creating short-term incentives for resource availability.<sup>7</sup> The daily RAAIM assessment will incentivize resources to be available on rare stressed system condition days, as opposed to the monthly averaging that is the current policy.

Consider for example, a resource that is completely unavailable for two extreme load days in a month, but otherwise fully available. The current monthly RAAIM framework would assess an approximately 1.2 percent penalty on that resource.<sup>8</sup> This penalty provides little incentive for the resource to be available on the most extreme days. However, it is precisely those days that the system most needs the capacity. Thus, the RAAIM design should be revised to better incentivize resources to be available when needed most.

Storage represents an increasing share of resource adequacy capacity. Therefore, DMM recommends the ISO consider improving RAAIM to better capture attributes of storage resources. One enhancement would be for RAAIM storage availability to be a function of SOC. Such an approach would more appropriately capture limitations on storage resource SOC that would not currently incur RAAIM

<sup>&</sup>lt;sup>3</sup> Comments on Resource Adequacy Modeling and Program Design, CAISO DMM, May 21, 2024: <u>https://stakeholdercenter.caiso.com/Common/DownloadFile/9fc0d2a4-f615-41f0-812d-707c14f12ae4</u>

<sup>&</sup>lt;sup>4</sup> Comments on Resource Adequacy Enhancements Sixth Revised Straw Proposal – Phase 2A, CAISO DMM, February 1, 2021: <u>https://www.caiso.com/Documents/DMMCommentsonResourceAdequacyEnhancements-SixthRevisedStrawProposal-Feb12021.pdf</u>

<sup>&</sup>lt;sup>5</sup> Comments on Resource Adequacy Modeling and Program Design, CAISO DMM, January 30, 2024: https://www.caiso.com/Documents/DMM-Comments-on-the-Resource-Adequacy-Modeling-and-Program-Design-Jan-16-2024-Working-Group-Jan-30-2024.pdf

<sup>&</sup>lt;sup>6</sup> 2022 Annual Report on Market Issues and Performance, CAISO DMM, July 11, 2023, p 253: <u>https://www.caiso.com/Documents/2022-Annual-Report-on-Market-Issues-and-Performance-Jul-11-2023.pdf</u>

<sup>&</sup>lt;sup>7</sup> Comments on Resource Adequacy Modeling and Program Design, CAISO DMM, May 21, 2024: <u>https://stakeholdercenter.caiso.com/Common/DownloadFile/9fc0d2a4-f615-41f0-812d-707c14f12ae4</u>

<sup>&</sup>lt;sup>8</sup> This hypothetical assumes a 30-day month. If the resource is 100 percent available but for two days, the monthly average unavailability is 6.7 percent. Outside of the lower end of the RAAIM band at 94.5 percent implies that over the month, the resource falls below the RAAIM band by only 1.2. percent

penalties, but may impact the resources' ability to deliver their full resource adequacy capacity for four hours as required.

DMM also supports the improved storage outage reporting requirements recommended by Vistra to complement these RAAIM changes. Because they impact incentives for resource availability, these modifications share interdependencies with UCAP, and should be worked on in tandem.

# Outage substitution

Modifying outage substitution rules will improve the efficiency of planned outages, as discussed in the Final Recommendation Plan. DMM suggests the ISO further consider the possibility of developing a substitution capacity pool. The fungibility and low transaction costs of the substitution pool could increase the efficiency of outage substitutions, eliminate the need for individual entities to hold surplus capacity to cover potential short-term outages, and decrease the reliability risk of planned-to-forced outages and resources on outages without RA substitution.

The substitution pool could be a workable solution worth exploring further, but the effectiveness and efficiency of this approach may depend heavily on the specific details of the design. Should the ISO further consider developing a substitution capacity pool, an outline of the design should be presented for discussion in the policy process, with the full details developed and presented for stakeholder consideration before concluding the policy process.

# Track 3: Backstop mechanisms

### Capacity Procurement Mechanism

DMM continues to support Track 3 moving to the policy process, as discussed in previous comments on the RAMPD working group.<sup>9</sup> DMM reiterates our understanding that under the current tariff language, the CPM soft-offer cap is set using an annual estimate of the going forward fixed cost of a 550 MW combined cycle natural gas plant. DMM analysis cannot find similar cost estimates as the California Energy Commission's (CEC), which is used to set the CPM soft-offer cap. We find the costs are below the CEC estimates of the actual going forward fixed costs of gas-fired resources. DMM asks the ISO to assess the accuracy of the calculation of the CPM soft-offer cap.<sup>10,11</sup>

<sup>&</sup>lt;sup>9</sup> Comments on Resource Adequacy Modeling and Program Design, CAISO DMM, May 21, 2024: <u>https://www.caiso.com/documents/dmm-comments-on-resource-adequacy-modeling-and-program-design-april-29-and-30-2024-workinggroup-may-21-2024.pdf</u>

<sup>&</sup>lt;sup>10</sup> DMM Comments on Capacity Procurement Mechanism Enhancements Track 2 - Final Proposal, CAISO DMM, August 31, 2023: <u>https://www.caiso.com/Documents/DMM-Comments-on-CPM-Final-Proposal-Aug-31-2023.pdf</u>

<sup>&</sup>lt;sup>11</sup> Memorandum: Department of Market Monitoring comments on capacity procurement mechanism enhancements track 2, DMM, September 13, 2023, p 3: <u>https://www.caiso.com/documents/departmentofmarketmonitoringcommentscapacityprocurementmechanismenhancementstrack2-memo-sep2023\_final.pdf</u>

DMM recommends that the ISO (1) ensures the forthcoming policy issue paper addresses market power mitigation in the CPM process when considering the CPM soft-offer cap, and (2) elaborates on the opportunity cost of resources that would bid into the CPM competitive solicitation process.

### Long-term EDAM RSE options

DMM understands that under the extended day-ahead market (EDAM) design, costs associated with failing the resource efficiency evaluation (RSE) will be allocated to metered demand. DMM continues to recommend that, to the extent possible, RSE failure costs should be allocated on a principle of cost causation.<sup>12</sup> Costs associated with failing the RSE should be allocated to those who can act to avoid the cost by preventing RSE failures.

DMM supports exploring potential long-term options related to RSE shortfalls within Track 3, and will work with the ISO and stakeholders to formulate principles of cost causation for exceptional dispatch and CPM that may be the result of RSE failures.

<sup>&</sup>lt;sup>12</sup> Comments on Day-Ahead Sufficiency Issue Paper, CAISO DMM, January 5, 2024: <u>https://www.caiso.com/Documents/DMM-Comments-on-EDAM-Resource-Sufficiency-Evaluation-Issue-Paper-Jan-5-2024.pdf</u>