California ISO

Resource Adequacy Modeling & Program Design (RAMPD)
Track 2: RAAIM & Outage Substitution
Second Revised Straw Proposal

Stakeholder Meeting

October 23, 2026

9:00 am – 2:00 pm

Housekeeping

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The meeting is structured to stimulate dialogue and engage different perspectives.

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Please remember to state your name and affiliation before making your comment.

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CAISO Policy Initiative Stakeholder Process

Learn more in the Stakeholder Process Guide

Objectives and Agenda

Objectives:
1. Review October 2 RAMPD Track 2 Second Revised Straw Proposal
2. Hear feedback and answer questions from stakeholders

Agenda

Topic	Presenter	Time
Opening and housekeeping	Christina Guimera	9:00 – 9:05 AM
I. Outage definitions	Ansel Lundberg	9:05 – 9:50 AM
II. Bidding Requirements (MOO)	Matt Fulton	9:50 – 10:15 AM
Break		10:15 – 10:20 AM
V. Outage Substitution for RA Resources	Ansel Lundberg	10:20 – 11:05 AM
VI. CESA Stakeholder Presentation	CESA	11:05 – 11:50 AM
IX. Next Steps	Christina Guimera	11:50 AM – 12:00 PM

Track 2: RAAIM & Outage Substitution
Second Revised Straw Proposal

I. INTRODUCTION

Track 2 strengthens the ISO's ability to rely on RA capacity during stressed conditions.

The July 17th revised straw proposal further developed a package of operational RA reforms focused on availability, market visibility, and outage substitution.

The October 2nd second revised straw proposal includes:

- Clarified resource-type RAAIM application rules
- Refined RAAIM Tier 1 timing and assessment inputs, with supporting historical and pricing analysis
- Proposed framework to limit cumulative RAAIM penalty exposure
- Modified MOO formula to account for partial deliverability
- Detailed review of potential substitution "shopping cart" design options
- Three new outage definitions to fully align with RC West definitions

Note: Draft 2027-2029 ISO Market Policy Catalog & Roadmap Update

Context & feedback: RA Modeling & Program Design Track 2

- Substantial stakeholder feedback requested closer coordination with the CPUC's UCAP framework development.
- Taking additional time to fully consider stakeholder feedback and ensure stakeholders have clarity on RA functions under UCAP.
- Track 2 addresses both the must-offer obligation and RAAIM redesign in light of coordination concerns.

What changed from the July draft roadmap

- Pushing back RAMPD Track 2 board decision and seeking to resolve CPUC UCAP uncertainties with stakeholders to keep Track 2 reform moving.

Path forward

- Near term milestone: Second revised straw proposal in October. Board decision in Q1 2027.

Design Element	Today's RAAIM	Proposed RAAIM Reform
Criterion	Status quo: assess **availability** by comparing a resource's shown RA to its day-ahead (and in some cases, real-time) energy offers and outage status	
Assessment period	AAH (5 consecutive clock hours on each weekday – hours determined for each season based on CAISO annual study)	Two assessment triggers: Tier 1 – Elevated Reliability Risk Condition Tier 2 – Critical Capacity Insufficiency Condition (CAISO BAA EDAM RSE upward-capacity insufficiency failure)
Price	$4.40/kW-month (set to 60% of CAISO's CPM soft offer cap)	Tiered pricing: Tier 1 – day ahead LMP Tier 2 - $2,000/MWh
Assessment frequency	Netted across each calendar month – resources that are bidding between 94.5% and 98.5% of intervals are not paid or penalized	"Per event" – assess energy offers in each day-ahead hourly or real-time interval individually
Bounded Penalty Exposure	N/A	Assessment of each resource's monthly Tier 1 and Tier 2 charges at full rates up to 100% of the CPM soft-offer cap, then at 20% of the applicable rate up a 200% hard cap. Exposure resets monthly with no carry over
Exemptions	Numerous (resource-based; contract-based; outage-based; MOO-based; and flex-only capacity)	• Thermal, storage, VER, hydro, and DR assessed using technology-specific availability • Retain current treatment for Participating Load & MSS • Eliminate <1MW exemption
Allocation of charges	Charges collected from unavailable resources is allocated back to resources that demonstrate a reasonable level of availability and to load	

The proposal retains its shown RA assessment basis and resource-type treatment for RAAIM.

Core approach carried forward from July

- Revised RAAIM remains an event-based availability assessment against shown RA, using applicable bids, schedules, and outage information
- RAAIM and substitution exposure remains capped at shown RA, even where the applicable bidding obligation is higher

Resource-type treatment and areas for further feedback

- Hydro: The ISO seeks feedback on how assessments should recognize water and operating constraints while maintaining accountability for unavailability
- DR: Assessments would apply only where Tier events overlap applicable AAHs
- Exemptions: PL and Load-following MSS would remain exempt; while the blanket under-1 MW exemption would be removed

Flex RA and real-time performance

- Flex RA showing and bidding requirements remain; while separate Flex RAAIM penalties would be suspended during the transition
- A new real-time performance incentive remains scoped in a future phase

RAAIM: Tier 1 is further developed, while Tier 2 retains its trigger and price.

The two-tier structure carries forward

- Tier 1 continues to address forecasted reliability risk, with day-ahead LMP as the proposed penalty price
- Tier 2 continues to apply following an upward EDAM RSE failure, at a fixed $2,000/MWh rate

The October proposal develops the Tier 1 approach

- Advisory notices would run from T-7 through T-4, with binding confirmations at T-3, T-2, and T-1
- The Paper adds explanation of Available RA and the uncertainty adder, historical forecast-alert information, and supporting pricing analysis

Tier 1 pricing analysis to advance the discussion

- The external supply premium analysis builds on stakeholder pricing feedback and provides a reference for discussing the appropriate Tier 1 incentive level and potential adjustments

The RAAIM revenue allocation proposal is retained, with new exposure limits and an alternative for discussion.

The Common per-MW allocation remains the proposal

- Tier 1 and Tier 2 revenues would be allocated to load and eligible available RA using a common per-MW allocation rate
- A partially available resource could receive a payment on its available shown RA while incurring a charge on its unavailable portion

October adds a defined monthly exposure framework

- Combined Tier 1 and Tier 2 charges would move from full rates to a reduced-rate stage, subject to a hard monthly cap and monthly reset

An additional allocation option is presented for feedback

- Tier 1 revenues would go to eligible available generation, while Tier 2 revenues would go to load, recognizing the different functions of the two tiers

Key outage substitution & definitions changes: seeking detailed feedback on shopping cart tool design, new outage types.

Substitution shopping cart

- No change: high-level shopping cart approach
- New: seeking stakeholder feedback on specific attributes for offered substitute capacity in illustrative tool design mockup

Outage definitions

- No change: defining clear planned, forced, and urgent outage definitions and RAAIM exposure. Short-notice opportunity outage RAAIM exemption to be eliminated; off-peak opportunity outage RAAIM exemption to be preserved
- New: three new outage types introduced (opportunity, informational, operational). Would achieve full RC West RC0630 alignment and ensure flexible outage management

Stakeholder feedback to July Straw Proposal: CPUC UCAP coordination raises different views on bidding obligations and RAAIM assessments.

Implementation sequencing

- Several stakeholders seek clearer CPUC UCAP implementation framework before broader RAAIM reform
- SDG&E supports coordination without delaying event-based reform; AReM seeks timely Track 3B coordination

Bidding quantities and LRA roles

- AES, WPTF, MRP, and Vistra favor deliverable capability; CDWR, NCPA, and Six Cities favor limiting MOO to shown RA
- The CPUC Energy Division and Cal Advocates favor LRA-provided MOOs

Consistency across LRA programs

- PG&E and SDG&E emphasized consistent translation between accreditation values and bidding obligations across LRA programs
- Cal Advocates and Vistra highlighted how the framework should account for resources shown under multiple LRA programs and their combined RA commitments

Track 2 development continues alongside the ISO's broader CPUC UCAP review.

CPUC's UCAP and revised RAAIM serve related but distinct functions

- CPUC's UCAP reflects historical availability in forward RA counting values; revised RAAIM addresses the availability of shown RA during identified assessment hours
- The ISO proposes to retain an operational availability incentive that complements accreditation

Stakeholder perspectives will inform the ISO's UCAP coordination work

- The ISO continues Track 2 MOO and RAAIM development while reviewing how capacity values are used across RA showings, bidding obligations, RAAIM, local requirements, bid insertion, exports, and deliverability studies
- The ISO welcomes stakeholder perspectives on how these processes interact with CPUC's UCAP, including the commercial and policy implications of alternative approaches
- The review remains ongoing. Continued engagement with stakeholders will help guide the ISO's next steps and coordination as Track 2 and the CPUC's framework evolve

Track 2: RAAIM & Outage Substitution
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II. CALPINE PRESENTATION & DISCUSSION

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III. REVISED RAAIM AND RESOURCE TYPE APPLICATION

Stakeholder feedback to July Straw Proposal: Resource owners seek manageable rules that reflect operating limitations.

Generators & Suppliers

- Several suppliers favor capacity-based penalty prices and limits on cumulative exposure to make financial risk more predictable
- AES and NextEra support retaining shown RA as the assessment basis; NextEra and Vistra favor payments to resources exceeding their assessment benchmarks
- View differ on the extent of reform, with MRP preferring targeted improvements to the existing mechanism rather than a broader redesign

Storage, VERs, & Hybrids

- AES and CESA commented that storage modeling and operations may have an interplay with current RAAIM rules
- ACP and AES questioned the additional reliability benefits of applying RAAIM to VERs, citing existing production incentives and contractual impacts.
- Terra-Gen sought clarity on revised RAAIM treatment across different hybrid configurations

Revised RAAIM keeps shown RA as the common exposure cap, while recognizing different resource type obligations and operating limits.

Common foundation

- Revised RAAIM assesses whether shown RA was available during applicable Tier events
- Cap assessed unavailable MW at shown RA, with the method for determining unavailability varying by resource type

Resource type treatment

- Recognizes applicable obligations and operating limits
- Distinguishes controllable from non-controllable unavailability

Exemptions

- Retains targeted exemptions
- Applies resource type rules to resources below 1 MW

Thermal resources establish the baseline dispatchable assessment.

Proposed RAAIM treatment

- Assess availability during Tier events using applicable day-ahead bids or schedules and reported outages or derates
- Apply charges to unavailable shown RA, subject to substitute capacity and applicable outage treatment
- An equipment derate may leave enough availability to meet the resource's full RA commitment

Equipment derate examples

Assume 100 MW Pmax and 80 MW shown RA

Assessment	10 MW equipment derate	30 MW equipment derate
Availability after accounting for the derate	90 MW	70 MW
Unavailable shown RA	0 MW	10 MW

Stand-alone storage: remains accountable for shown RA while the market respects modeled feasibility.

Availability assessment

- Storage providing System RA must submit energy bids covering its RA capacity in the discharging range
- Assess availability during Tier events using required bids and reported outages, subject to substitution and applicable outage treatment

Energy and performance considerations

- Separate SOC, charging sufficiency, duration or energy-performance assessments require further policy design and would be addressed in future policy development efforts

Modeled operating limits

- The modeled solution the ISO will implement would allow full bid curve while accounting for physical limits, without an outage solely for modeled nonlinearity
- No interim RAAIM exemption is proposed. Current rules continue until the relevant changes are approved and implemented.

Example: 100 MW discharge capability and 80 MW shown RA. A 25 MW equipment derate leaves 75 MW available, resulting in **5 MW of unavailable RA.**

Co-located and hybrid resources: storage configuration determines the level of revised RAAIM assessment

Configuration	Proposed RAAIM treatment
Co-located resources	Retain separate resource IDs, bids, outage information and RA showings. Assess each resource against its own shown RA using applicable resource type rules
Hybrid resources	Assess one resource ID against combined shown RA as a dispatchable resource, using day-ahead bids and applicable outages. Charges apply to a shortfall, subject to substitution and outage treatment

Operating limits and component management

- Existing market tools manage co-located dispatch within shared POI limits, without combining their RAAIM assessments
- Each hybrid manages its components to support its RA commitment, including solar availability, stored energy and charging arrangements.
- Solar-plus-storage is the predominant configuration in the hybrid fleet, and the ISO does not believe that technology mix warrants separate treatment. The ISO appreciated feedback on this distinction

Hybrid example: 100 MW aggregate capability, a 100 MW POI limit and 80 MW combined shown RA. A 35 MW aggregate derate leaves 65 MW available, resulting in **15 MW of unavailable RA**

VERs: vary the obligation with wind and solar conditions

Consistent treatment across the RA fleet

- The current RAAIM blanket exemption recognizes that wind and solar output depend on weather, but also excludes equipment unavailability from RAAIM
- Replacing the blanket exemption would promote more consistent accountability across the RA fleet and incentives to maintain and restore equipment

Proposed assessment (example on the following slide)

- Assess documented, qualifying forced or urgent equipment outages during applicable Tier-event hours. Weather variability, ambient conditions and forecast error would **not** create RAAIM exposure
- Apply the equipment-outage derate percentage of Pmax *to shown RA*, with assessed unavailable MW capped at shown RA

Alternatives considered

- The ISO considered an outage-free forecast or a “proxy resource” using comparable resources. The necessary outage-free forecast is currently unavailable, and the proxy approach adds complexity and may not reflect the affected resources
- The ISO recognizes the limitations of the proposed approach and seeks feedback on alternative pathways for VER treatment

Prorating shown RA by the equipment derate creates a workable VER availability measure.

The approach:

- Assess only documented equipment-related outages
- Convert the reported outage into a percentage of the resource's physical capability:

$$Outage\ \% = \frac{Forced\ outage\ MW}{Pmax}$$

- Apply that percentage to the resource's Shown RA:

$$Unavailable\ RA\ MW = Shown\ RA * Outage\ \%$$

Worked example

- Pmax: 500 MW
- NQC: 100 MW
- Shown RA: 80 MW
- Forced outage: 150 MW

Physical Derate: $\frac{150\ MW\ outage}{500\ MW\ Pmax} = 30\%$

Apply Derate to shown RA: $80\ MW\ shown\ RA * 30\% = 24MW$

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IV. OUTAGE DEFINITIONS

Problem Statements

- Stakeholders asked questions and gave feedback during the RAMPD working group regarding clarity of existing outage definitions and timing requirements for submitting different outage types
- CAISO received feedback during PRR 1122 process on updating outage definitions for clarity
- There is a need to distinguish different outage types based on:
  - Operating condition of the resource
  - Reason for the outage
  - Ability for the resource to remain in service while outage is coordinated

Stakeholder Feedback: Outage Definitions

Theme	Stakeholder Feedback
Definition clarifications	Requests for clearer distinctions between different outage types and how their timelines differ
Short-notice opportunity outage exemption	Support for retaining the short-notice opportunity outage RAAIM exemption to preserve maintenance flexibility and reliability
Treatment of outages on RA capacity	Requests for greater clarity on substitution obligations, and RAAIM consequences
Support for clarity and alignment	Support for portions of the proposed outage definition reforms to provide clarity on RAAIM exposure and substitution requirements

Proposal: Outage Definitions

Reason for going out of service or reducing capability	if notice can be given…	.. then..	Proposed RAAIM and substitution treatment
The resource is out of service for routine maintenance or new construction	in time to meet the RC short notice study window submission deadline	it is a planned outage.	Must provide substitution via RASC to be approved
	only after the RC short notice study window submission deadline (no sooner)	it is an opportunity outage.	Must provide substitution via RASC to be approved (except if off-peak opportunity outage)
The resource carries an increased risk of forced outage and needs to go out of service when conditions allow	Prior to taking the outage with as much advance notice as possible	it is an urgent outage.	May provide substitution, otherwise exposed to RAAIM
The resource needs to go out of service with little to no notice	N/A	it is a forced outage.	May provide substitution, otherwise exposed to RAAIM

Proposal: Outage Definitions

New outage types proposed to achieve full RC West alignment and preserve operational flexibility for outage management:

- **Opportunity outage**: when a unit can be derated or taken out of service due to favorable system conditions, weather, or staffing availability to perform routine maintenance or construction work after the short-range planned outage study deadline has passed. Should be submitted 48 hours before outage begins to allow for substitute capacity to be applied.
  - Note: Eliminating short-notice opportunity outage RAAIM exemption. However, retaining off-peak opportunity outage (nights weekends and holidays) RAAIM exemption.
- **Informational outage**: no impact on RA Capacity
- **Operational outage**: transmission only, no impact on RA Capacity

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V. RAAIM TIER ASSESSMENT

Stakeholder feedback to July Straw Proposal: Stakeholders sought clearer Tier 1 assessments and a balance of incentives and exposure

Generators and suppliers

- AES, Calpine, Vistra, and WPTF favored capacity-price references. AES and WPTF sought cancellation if forecasted stress subsided. ACP, Calpine and NextEra suggested CPM-based exposure limits

LSEs and IOUs

- CalCCA, CDWR, NCPA, and SDG&E sought clearer uncertainty inputs and historical analysis. SDG&E supported T-3 confirmation and DA LMP. SCE favored reduced charges after an initial threshold

CPUC and customer perspectives

- The CPUC Energy division preferred T-1 confirmation and ICAP less outages for available RA. Cal Advocates favored existing assessment hours. The Energy Division and Six Cities favored all penalty revenues to load

DMM

- Penalties should discourage RA sales beyond expected availability, and revenues should preserve LSE incentives to procure sufficient RA

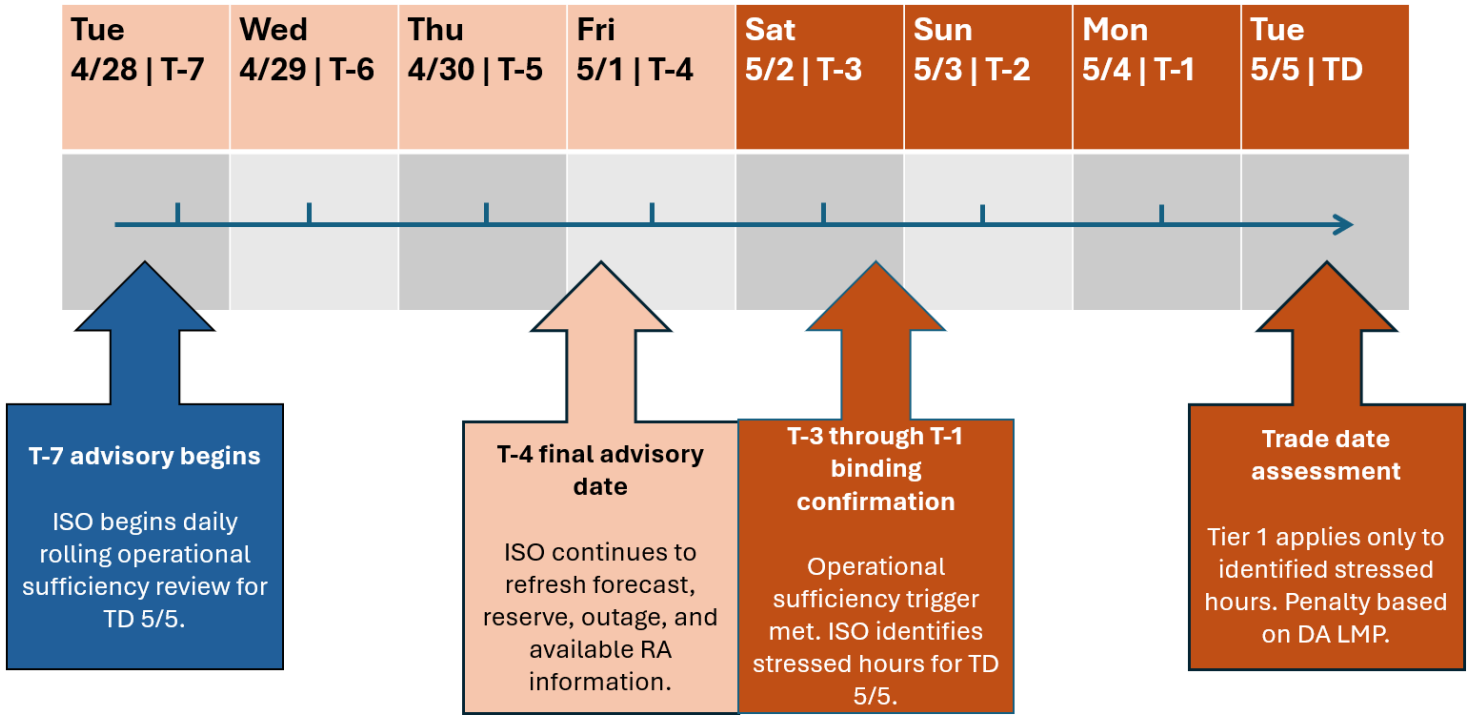
Tier 1 retains the structure from the July proposal while defining the uncertainty adder.

Tier 1 trigger formula

$$Forecast\ Demand + Reserves + Uncertainty\ Adder > Available\ RA$$

Input	Role in the assessment
Forecast demand and reserves	The ISO's demand forecast and operational reserve requirements for the assessed hours
Available RA	RA capacity expected to be available for the assessed hour, accounting for the reported outage, derates and substitute capacity. Builds on the Today's Outlook assessment, which compares RA capacity after outage derates with forecast demand and reserve requirements
Uncertainty adder	Reflects historical uncertainty in demand, wind and solar generation, and RA availability, including potential additional outages or derates as the trade date approached.

Tier 1 example: assessment is run daily, for each day, looking 7 days out.



Event timing

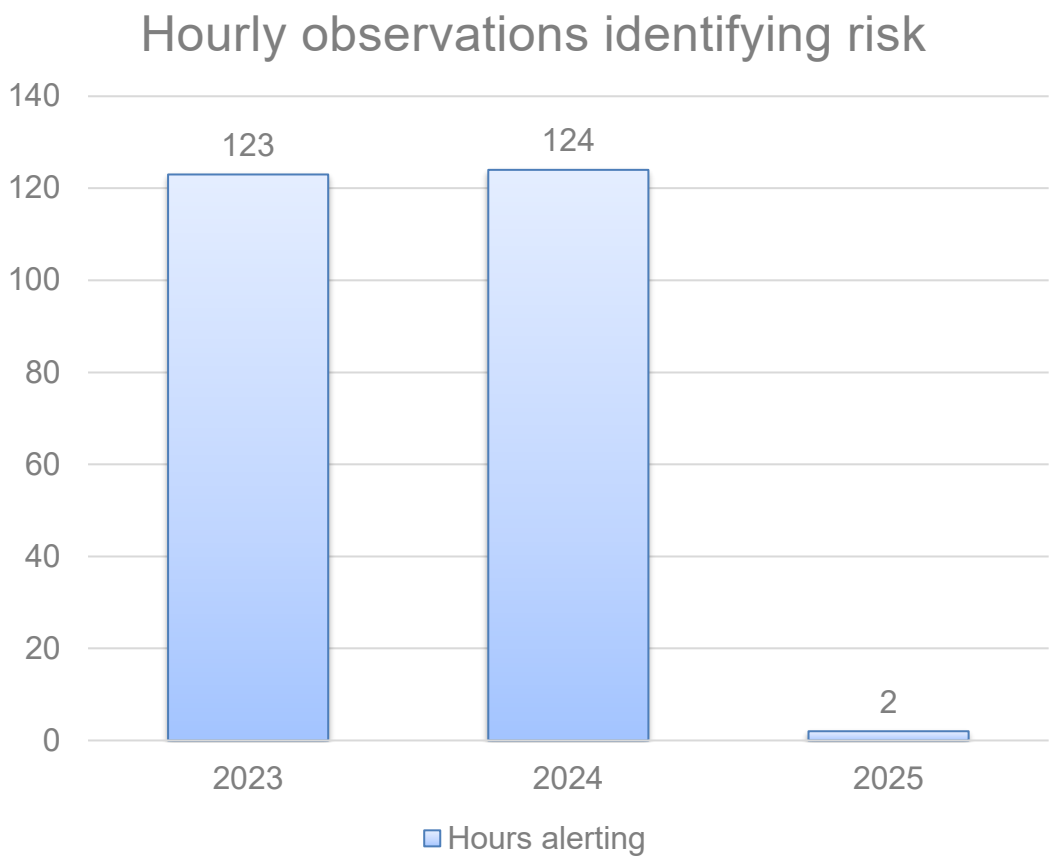
T-7 through T-4 – Advisory period

- Provides advance notice of potential stressed upcoming trade date, allowing resources to plan to return from outage or seek substitute capacity

T-3 through T-1 – Binding confirmation

- Identifies the specific hours subject to Tier 1 settlement; confirmed hours remained fixed after being designated as trade date approaches

Historical forecasts provide context for potential Tier 1 frequency



Unique Operating Dates

Year	Alerted T-1 – T-7	Also appeared in 1-3 days ahead
2023	22	18
2024	23	20
2025	2	2
Total	47	40

- 40 of 47 dates also appeared 1-3 days ahead
- Frequency varied substantially by year. Confirmed assessment hours would determine actual Tier 1 exposure
- The same operating hour may appear in multiple forecast assessments. Each operating date is counted once in the table

Differences between external hub prices and CAISO day-ahead prices provide a benchmark to assess Tier 1 pricing.

The ISO compared external bilateral hub prices with matched CAISO day-ahead prices on the 100 highest-load days since 2022.

$$External\ supply\ premium = external\ bilateral\ hub\ price - matched\ CAISO\ DA\ price$$

- Average premiums were approximately $12/MWh in the North and $16/MWh in the South, with relatively modest central values and some negative spreads
- Large positive outliers highlight periods when external supply carried a much higher premium over CAISO prices
- The comparison provides an indicative reference for short-term availability value, allowing discussion of both typical premiums and the much larger premiums observed in some periods.

The ISO continues to propose the day-ahead LMP and seeks feedback on how these findings should inform the choice of full LMP, a percentage of LMP, or a scaled capacity-value approach to provide an effective Tier 1 incentive.

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VI. RAAIM REVENUE ALLOCATION & BOUNDED PENALTY EXPOSURE

Revenue allocation and an alternative under consideration.

The ISO proposes sharing penalty revenues between load and available RA resources

- Allocate Tier 1 and Tier 2 revenues to load and eligible available RA using a common per-MW rate
- A partially available resource pays its charges on unavailable shown RA and remains eligible for payments on its available shown RA

An alternative approach: direct revenues by tier

Revenue	Recipient	Purpose
Tier 1	Eligible available generation	Reinforce availability during forecasted stressed conditions
Tier 2	Load	Recognize RSE-related costs borne by load

The ISO seeks feedback on whether this alternative better aligns revenue allocation with each tier's function.

Bounded penalty exposure proposal and summary table.

Monthly penalty limits balance predictable RAAIM exposure with incentives to restore availability

- Each resource's combined Tier 1 and Tier 2 charges accumulate toward one set of monthly thresholds, using the CPM soft-offer cap as a reference

Stage	Cumulative assessed monthly charges	Rate applied
Full rate	Up to 100% of the CPM-based monthly amount	100% of the applicable Tier 1 or Tier 2 rate
Reduced rate	Above 100% and below 200% of the CPM monthly amount	20% of the otherwise applicable rate
Hard Cap	At 200% of the CPM-based monthly amount	No additional charges for the rest of the month

- The reduced rate preserves an incentive to restore availability between the initial threshold and the hard cap
- Exposure resets monthly with no carryover

Bounded exposure illustrative example:

Assume a 50 MW resource with its full capacity shown as RA throughout the month. All 50 MW is unavailable during 10 Tier 1 hours with an assumed day-ahead LMP of $100/MWh, and during 24 *separate* Tier 2 hours assessed at $2,000/MWh. Assume a CPM reference of $7.34/KW-month.

Calculation step	Calculation	Amount
Tier 1 charges before exposure limits	50 MW * $100/MWh * 10 hours	$50,000
Tier 2 charges before exposure limits	50 MW * 2,000/MWh * 24 hours	$2,400,000
Combined charges before exposure limits	$50,000 + $2,400,000	$2,450,000
Charges assessed at the full rate	Up to 100% CPM threshold	$367,000
Reduced-rate charges before applying the hard cap	20% * ($2,450,000 - $367,000)	$416,600
Total after the rate reduction, before the hard cap	$367,000 + $416,600	$783,600
Final monthly charge	Limited to the 200% CPM hard cap	$734,000

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VII. BIDDING REQUIREMENTS (MOO)

Stakeholders raised questions about deliverability, bidding obligations and RAAIM exposure in comments to the July Proposal.

Operating capability and deliverability

- DMM supported a MOO tied to operating capability associated with shown RA. AES, WPTF, MRP, Vistra, and others favored using deliverable capability

Contractual commitments

- CDWR, NCPA, and Six Cities favored limiting MOO to shown RA, citing contractual commitments

Consistency across LRA programs

- PG&E and SDG&E sought consistent treatment across LRAs. Cal Advocates and CPUC Energy Division supported an LRA role in providing MOO values

RAAIM when MOO exceeds shown RA

- AES, NextEra, and SDG&E supported assessment vs shown RA. CalCCA favored assessment against the full MOO. The Energy Division supported that approach if other measures provide insufficient incentives

The October proposal uses deliverable capability in the proportional MOO calculation

October refinement

- Retain July's proportional treatment of full and partial RA showings, using deliverable portion in place of unrestricted Pmax
- The calculated MOO would be unchanged where deliverable portion equals Pmax

Value	Role
Deliverable Portion	Output deliverable to aggregate load on the CAISO-controlled grid under applicable reliability and deliverability criteria
NQC	Maximum capacity that may be shown as RA capacity. Accreditation can reduce NQC without reducing the deliverable portion
Shown RA	Amount of the resource's NQC committed as RA capacity

The proposed MOO scales with shown RA and accounts for deliverability.

$$MOO\ (MW) = Shown\ RA(MW)\ * \frac{Deliverable\ Portion\ [Pmax(MW) * Deliverable(\%)]}{NQC(MW)}$$

Resource	Pmax(MW)	Deliverable Portion (MW)	NQC (MW)	Shown RA (MW)	MOO (MW)
Plant 1	100	100	90	90	100
Plant 2	100	100	90	45	50
Plant 3	100	50	45	45	50

- Plant 1: Full showing makes the MOO equal to the 100 MW deliverable portion
- Plant 2: Showing half of NQC makes the MOO half of the deliverable portion
- Plant 3: Partial deliverability limits the MOO to 50 MW despite 100 MW Pmax

The MOO sets the bidding obligation while RAAIM and substitution remain tied to shown RA.

Bidding Obligation

- The MOO establishes the quantity required through applicable bids or schedules, subject to outage and resource-type bidding rules
- The full MOO remains a tariff bidding obligation for physically available RA capacity, including any MW **above** shown RA

Revised RAAIM and Substitute Capacity

- Revised RAAIM generally reassesses shortfalls below **shown RA** during the applicable assessment hours, subject to outage, substitution and resource-type treatment
- Applicable outage substitution requirements remain tied to shown RA

Application

- Applies to dispatchable system RA resources. Separate rules continue for VERs and resource with tariff, forecast, or program-specific requirements
- For resources shown under multiple LRA programs, the current design establishes a single monthly NQC based on the LRA with the highest QC

BREAK

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VIII. OUTAGE SUBSTITUTION FOR RA RESOURCES

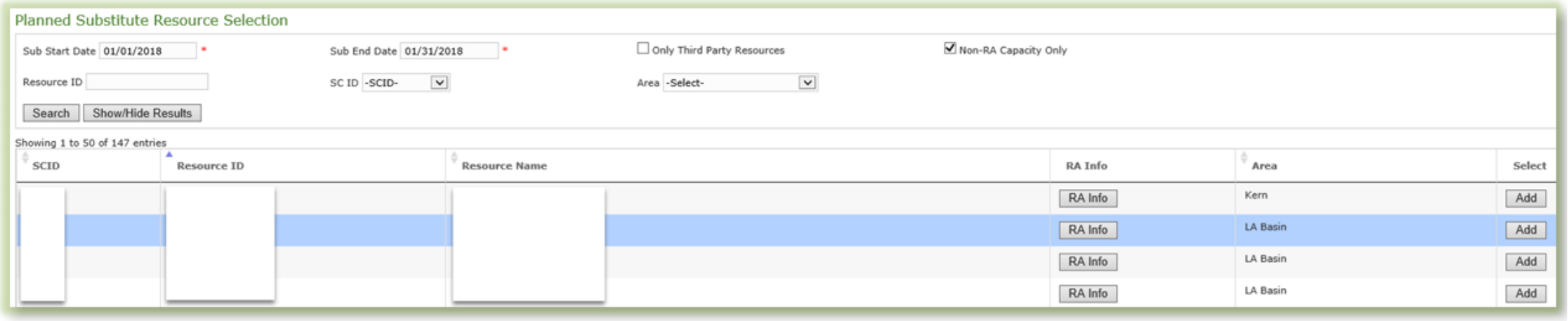
Problem Statements

The ISO's existing outage substitution mechanisms should be reassessed. Both initial analysis and working group feedback indicate that the current processes and procedures likely result in:

- Inefficiencies as multiple SCs hold back RA capacity for outage substitution for a partial-month outage
- Artificial tightness in the RA bilateral market due to holding back capacity for outage substitution
- Potential maintenance delays if substitute capacity is not available
- Higher forced outage rates because planned outages cannot be scheduled and the resource ultimately experiences a forced outage

Theme	Stakeholder Feedback
Support for reforms	Broad agreement that substitute capacity procurement should be improved and that visibility into available capacity should increase. CPUC Energy Division and various LSEs generally support development of a voluntary substitute capacity pool
Concerns with shopping cart approach	Vistra, CESA, and Middle River Power questioned whether the proposed shopping cart workflow would materially reduce search and coordination frictions
Centralized vs decentralized design	CESA and WPTF encouraged the ISO to evaluate a more centralized, ISO-administered procurement mechanism. WPTF indicated greater visibility into available capacity could improve efficiency
Align proposal with problem statements	DMM requested clearer explanation of how the proposed tool would address barriers that currently limit outage substitution transactions
Confidentiality concerns	SDG&E cautioned that additional transparency could reveal commercially sensitive procurement information
Market scarcity concerns	Vistra and AES questioned whether transparency improvements would meaningfully address periods when substitute capacity is unavailable

Background: current planned substitute resource selection screen



Provides: SCID, Resource ID and name, RA Info, Local Area

Source: CIRA User Guide, caiso.com

Illustrative shopping cart tool screen

Shopping Cart Screen

Sub Start Date	1/1/2026		Sub End Date	1/15/2026
Area	-Select-			

Showing 1-4 of 4 entries

A	B	C	D	E	F	G	H	J
First Available	**Last Available**	**SCID**	**Resource ID**	**Resource Name**	**Contact Info**	**Offered MW**	**Price ($/kW-mo)**	**Area**
1/1/2026	1/15/2026	ABCD	ABCD_1_UNIT3	ABCD 1 Power Plant Unit 3	*View*	25	$4.00	LA Basin
1/1/2026	1/7/2026	WXYZ	WXYZ_2_UNIT1	WXYZ 2 Generation	*View*	100	$3.90	LA Basin
1/7/2026	1/15/2026	HIJK	HIJK_BESS_UNIT1	HIJK Energy Storage 1	*View*	50	--	--
1/3/2026	1/3/2026	QRST	QRST_1_QX12	QRST Geothermal Plant 1	*View*	250	$6.20	Greater Bay
…	…	…	…	…	…	…	…	…

The ISO is seeking feedback on which attributes should be displayed in the shopping cart tool. Why or why not?

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IX. NEXT STEPS

Next Steps

- Stakeholder comments on today's meeting (and the Oct 9th meeting) are requested by November 6, 2026 via the comments tool on the Resource adequacy modeling and program design webpage.
  - All meeting materials are posted there, and the meeting recording will be posted there soon.
- If you have any additional questions feel free to email us at ISOStakeholderAffairs@caiso.com.

This Week at the ISO – 10/19/26

Stakeholder Meetings-*For an overarching view of where each initiative is in the development process, view the Policy Initiatives Timeline.*
All public stakeholder meetings are also listed on the CAISO Calendar

- Monday, October 19, 2026 – Large Loads - Draft Tariff Language
  - 1:00pm – 3:00pm PT (link)
- Monday, October 19, 2026 – Business Practice Manual (BPM) Change Management Resource Interconnection Standards - Session 1
  - 12:00pm – 1:00pm PT (registration link)
- Tuesday, October 20, 2026 – WEM Governing Body General Session (Mountain Time)
  - 2:00pm – 3:30pm MT (link)
- Wednesday, October 21, 2026 – Joint ISO Board of Governors and WEM Governing Body General Session (Mountain Time)
  - 8:30am – 11:15am MT (link)
- Wednesday, October 21, 2026 – Settlement User Group
  - 1:00pm – 2:00pm PT (link, meeting number: 961 854 046)
- Thursday, October 22, 2026 – Joint Market Seams Workshop
  - 8:00am – 1:30pm MT (registration link, link)
- Friday, October 23, 2026 – Resource Adequacy Modeling and Program Design (RAMPD) Track 2
  - 9:00am – 4:30pm PT (registration link, link)

Comment Submission Deadlines

- None scheduled for the week

This Week at the ISO continued

DAME/EDAM Resources

FAQ & Training:

- EDAM FAQ Guide - Designed to address general EDAM related questions
- EDAM Training Resources - A comprehensive set of EDAM training materials is available, offered in both instructor-led and computer-based training (CBT) formats. These resources include courses covering:
  - Bids and Base Schedule
  - EDAM Bidding Basic Concepts
  - Scheduling Infrastructure Business Rules (SIBR)
  - EDAM Scheduling Coordinator responsibilities
  - Intertie Scheduling
- EDAM Business Requirements Specifications - Describes EDAM's business processes and the associated business requirements.
- DAME Business Requirements Specifications - Describes DAME's business processes and the associated business requirements.
- EDAM Scheduling Coordinator Decision Matrix

Settlements:

- Settlements BPM Walkthrough
- Known Issues List

BPMs:

- Extended Day-Ahead Market BPM
- Market Instruments BPM
- Reliability Requirements BPM
- Market Operations BPM
- BPM Change Management Process (PRRs)

EDAM Stakeholder Initiative:

- Meeting materials and recordings can be accessed through the stakeholder initiative page here.

This Week at the ISO continued

Trainings

- Thursday, October 22, 2026 – Training for DAME Transitional Measures and Overlapping Capacity
  - 1:30pm – 3:30pm PT (registration link)

Who should attend?

- This course is designed for EDAM and WEIM market participants, particularly entities impacted by the Washington State GHG changes. The intended audience includes policy staff, marketers responsible for submitting GHG bids, and staff responsible for resource modeling.

What topics will be covered?

- This training will include the following topics:
- Describe the GHG Market Model and upcoming geographic boundary changes.
- Explain the purpose and role of the GHG Handbook.
- Summarize GHG bid eligibility, verification, mapping, and submission requirements.
- Identify initial modeling and technical preparations for implementation.
- Recognize upcoming outreach and opportunities for continued engagement.

Market Simulations

Please refer to our Release Schedule for the most recent updates of initiatives scheduled for MAP- and Production- stage market sims

To participate in the DAME and EDAM Implementation pre-Market Simulation meeting series, please follow these steps:

Submit a CIDI Request:

- Log in to the CAISO Customer Inquiry, Dispute, and Information (CIDI) system.
- Create a new request with the 'Functional Environment' set to "Market Simulation."
- In the request, specify your intent to participate in the DAME & EDAM Market Simulation.
- Include the following information:
  - Market Simulation initiative(s) you will participate in.
  - Any specific resources or systems you plan to test.
  - Contact names and email addresses for coordination.

Email Option:

- If you do not have access to CIDI, you may send an email to marketsim@caiso.com with the subject line "DAME & EDAM Market Simulation Registration."

Business Practice Manual (BPM) Updates

- The status of all PRRs and updated BPMs in the BPM Library are published on the BPM Change Management Website.

Listen and subscribe:

FREQUENCY BAND

The *Energy Matters* blog provides timely insights into ISO grid and market operations as well as other industry-related news and a new energy podcast, *Frequency Band*.

Story | Western Energy Markets, Markets, Extended Day-...

CAISO and Portland General Electric prepare for EDAM Go-Live

By Dr. Khaled Abdul-Rahman

09/29/2026

Story | Transmission

SWIP-North construction underway; provides key link in Western transmission connectivity

By ISO Staff

09/16/2026

Story | Leadership

ISON: A valuable network for international information sharing, innovation and best practices in grid management

By Elliot Mainzer

09/03/2026

Subscribe to the Energy Matters blog and Frequency Band podcast

Announcing the launch of a new publication series:

Western Energy Markets Observations

This new periodical offers concise and accessible insights into notable developments across the western power markets. Read the first issue for highlights on market performance during the first weeks of Extended Day-Ahead Market (EDAM) operations.

The document will be posted on the EDAM Overview page of WesternEnergyMarkets.com website.